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THE IMPORTANCE OF PROTOTYPING

Master the top tools for successful prototyping

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Ditch Photoshop for this powerful app

The voice of web design

net

Issue 252 : April 2014 : net.creativebloq.com

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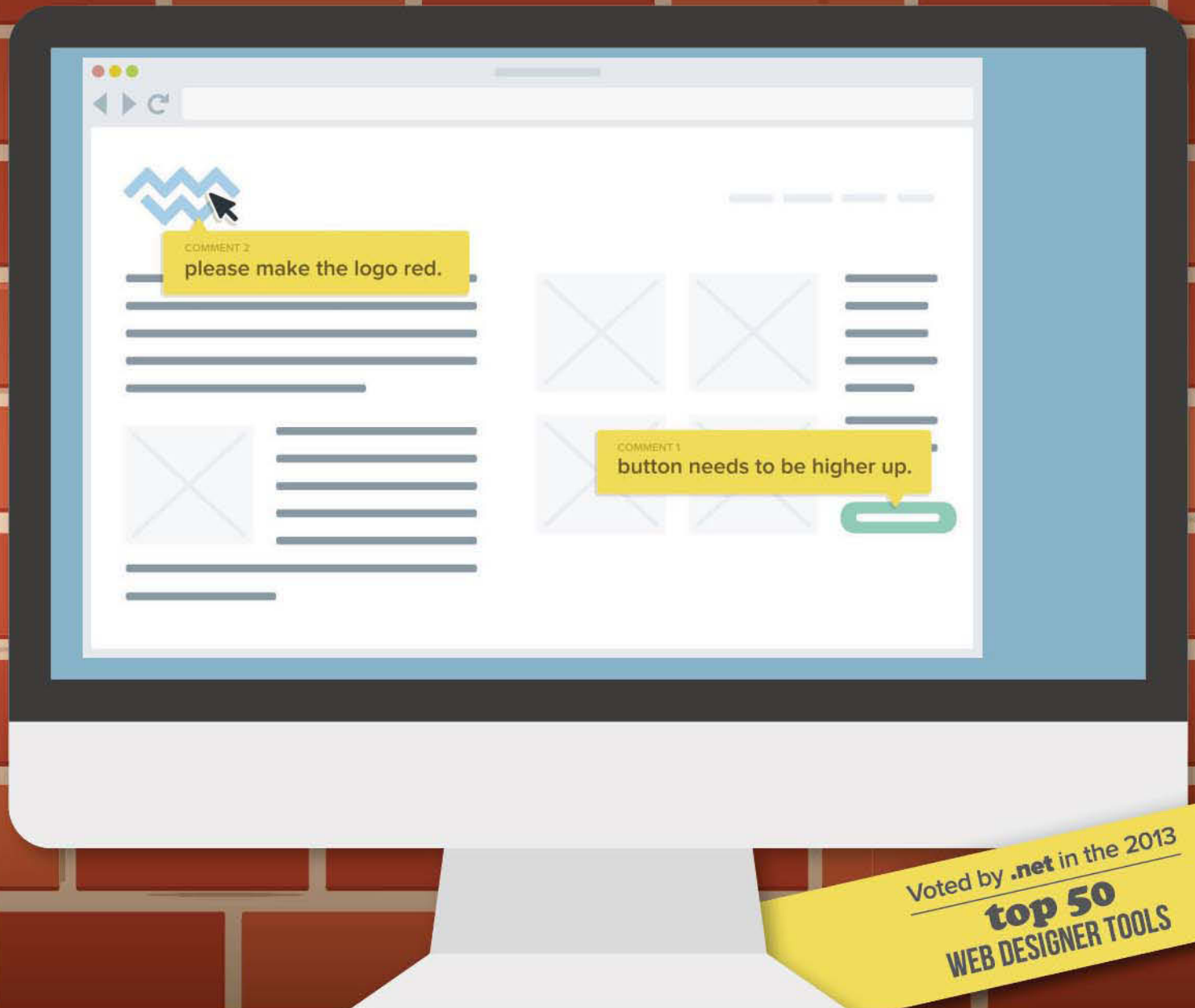
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* WELCOME

EDITOR'S NOTE

> At the end of January we revealed the longlist for the net Awards 2014 (thenetawards.com, also see page 24/25). It's based on over 2,000 nominations from the community (a new record!). The **net** editorial team reviewed every single one of them and came up with 10 nominees in each category. Congratulations to everyone and every project that made this list. It's a great achievement and you should be proud your work is being recognised.

As the vast majority of our nominees in the 'people' categories is white and male, it brought up the inevitable discussion about diversity in the web industry and you can read my thoughts about it here ([www.creativebloq.com/netmag/why-diversity-](http://www.creativebloq.com/netmag/why-diversity-matters-web-design-industry-11410554)

[matters-web-design-industry-11410554](http://www.creativebloq.com/netmag/why-diversity-matters-web-design-industry-11410554)). It's good that we're having that discourse but the issue goes further than the net Awards. We have to address it industry-wide, otherwise nothing will change. Also, please remember to be kind to one another (www.rachelandrew.co.uk/archives/2011/12/08/be-kind-to-one-another/).

Now it's over to you! You can still cast your votes until 24 March to decide on the top 5 in each category. Then it's over to the judges. Good luck!

Oliver Lindberg, editor
oliver.lindberg@futurenet.com
 @oliverlindberg

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KAREN MCGRANE



Karen is a content strategist and user experience designer. Turn to page 28 for her essay on client relationships
w: karenmcgrane.com
t: @karenmcgrane

JASON CRANFORD TEAGUE



Jason is a UX lead at Gannette Digital. Turn to page 76, where he explains his 10 principles for credibility-based design
w: www.jasonspeaking.com
t: @JasonSpeaking

SEBASTIAN GOLASCH



A software developer at Deutsche Telekom, Sebastian is the creator of DalekJS, and from page 104 he explains how to use it for UI testing
t: @asciidisco

HENNY SWAN



On page 114 accessibility specialist Henny Swan explains the evolution of an accessible mobile app
w: www.iheni.com
t: @iheni

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UK readers turn to page 14
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*REGULAR

GALLERY 44

> Kat Thompson presents this month's best sites, including top use of RWD, illustration, animation and icons



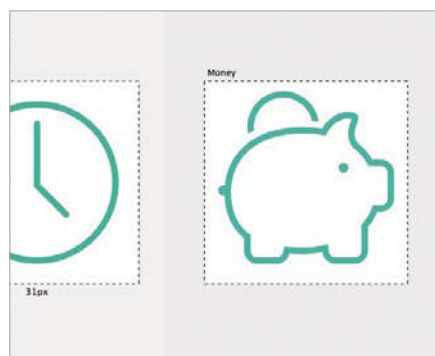
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Look out for the video icon in the tutorials for exclusive screencasts created by authors

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NETWORK

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posts & rants

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DOING IT THE OLD WAY WAS BETTER

I'm not a designer or coder but I used to really enjoy reading **net** as, for me, it really bridged the gap and helped me in managing project delivery and understanding a designer's point of view. It also had some great articles on digital marketing channels like SEO, content, social etc, which I found very useful.

Unfortunately, it's now 'too' design orientated and has little relevance for me personally. Such a shame and I'm genuinely gutted. This is not a complaint, just thought you might like to know in case any others feel the same.

Relton, UK

That's a shame. We always hate losing loyal readers. Don't think for a moment we've dropped topics like

SEO. We might not have regular columnists writing about it, but we will most certainly publish big features digging into the latest search developments (turn to page 68 for a feature all about the future of SEO). The same goes for other hot industry topics. If a topic is making waves in the industry, it'll make its way into your mag. We promise.



THE NET AWARDS AND EQUALITY

Ultimately, when it comes to any type of award ceremony, content comes first regardless of who it's coming from. Giving [under represented groups] an opportunity and exposure is important. I have two toddler daughters, and my wife and I try not to push gender-specific toys on them. They both use smartphones, and being a developer/business owner myself, I'll definitely encourage learning technology and becoming entrepreneurial spirited.

Gary Simon Temple Terrance, FL

We can't agree more.

Everybody needs to do their bit to promote, and support equality. We applaud your efforts to encourage your daughters' interests in technology. Today's kids are, after all, tomorrow's

designers and developers.

If you're looking to encourage them further, why not explore teaching about programming? We're great fans of programmes like Microsoft's Kodu (www.kodugamelab.com), which teaches through helping kids make games. Alternatively, try Scratch (scratch.mit.edu), which uses animation to foster an interest in programming. If you get really keen, why not think about setting up a Code Club class in your local school?

Visit the Code Club website for more information: (www.codeclub.org.uk).



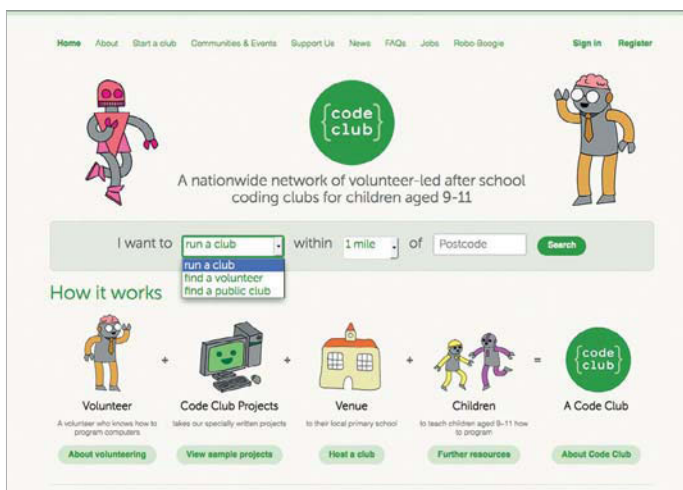
SAFE RATHER THAN SORRY

Hi folks, I've just launched my own web design company. I am looking for resources that could help me knock up my own contracts. I'd like something I can ask clients to sign prior to starting work for them. It's merely a safety precaution, should an unfortunate event ever occur.

Mark Grogan, UK

That's a brilliant idea, and something all freelance web workers should consider. Indeed, it's something we discussed on page nine in issue 251.

Andrew Clarke's open source contract is very well regarded in the industry (read more: stuffandnonsense.co.uk/projects/contract-killer). It's probably a good place to start your research.

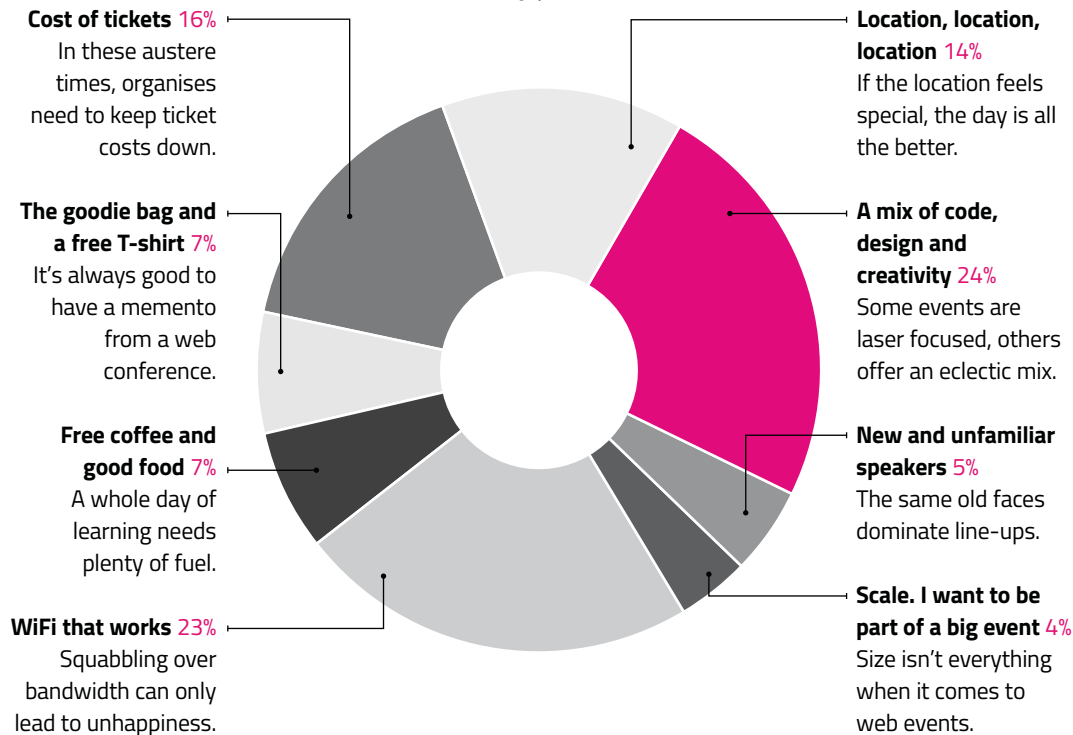


Code Club Keen to encourage the next generation of programmers? Learn how to set up a Code Club class at your local school: www.codeclub.org.uk

*THE POLL

WHAT INGREDIENTS MAKE FOR THE PERFECT WEB CONFERENCE?

netm.ag/poll-252



From our timeline

What's the best way to deal with plagiarists?



Publicly tweeted it; quickly resolved by the plagiarists.

@steve228uk



I've had images hot linked to in the past. Replacing them with pictures of cocks usually resolves it. @caledoniaman



I laughed. One of the managers suggested phoning Google to have the site removed from the internet. I laughed again.

@8bobbyanderson



An interviewer asked to use a tagline I made. I agreed hoping to help, but never got job and tagline was used. @CalEuanHopkins



@CalEuanHopkins I did a prototype in same situation, they only informed me I hadn't got job when I replaced prototype with a message! @mr_stew



We had an entire site copied. We emailed the business and they took it down @beanoleary



Three times with the @mixd website. Polite removal request (went ignored on 2 occasions), followed by DCMA and public shame.

@thecodezombie



Someone changed the text on our logo to use as a headline image for an article about dogs. A stern email saw it removed v quickly.

@Paper_Dog



I felt flattered. We all have to start/learn somewhere, I'm flattered people have chosen me to look at, as I have chosen others. @thatgibbyguy

COOL STUFF WE LEARNED THIS MONTH

GOOGLE MIGHT BE RATHER FORKED

+ Technology watchers ABI Research has been doing some sums. It's worked out that one in three Android phones shipped in the last quarter of 2013 didn't carry any Google apps. These forked versions of Android are popular in China and make it very difficult for Google to make cash from its OS. netm.ag/goofork-252

A NOT SO BRIEF HISTORY OF ASCII ART

+ Think ASCII art and you'll probably picture a barely recognisable image of the Mona Lisa, built from odd keyboard characters, all shown on a flickering green screen. And you'll be right. ASCII art's lineage can however be traced back much further than the early days of bulletin boards. It can be traced by to the late 1800s. netm.ag/ascii-252

HOW TO HOLD A BURGER

+ So, you've got your dream burger: 21 day aged Kobe beef, caramelised onions ... But, how do you shift the bulging beast to your mouth without all the filling falling out? A crack team of scientists have been researching this very (slippery) problem. netm.ag/burger-252

EXCHANGE

Send your questions to netmag@futurenet.com

Practical
advice from
industry experts

THIS MONTH FEATURING...

TOM COATES



Tom's been exploring the Internet of Things, and polite interfaces for networked objects
w: plasticbag.org

JACKIE BALZER



Jackie is a web developer at Behance, where she focuses on modular, scalable and reusable CSS
w: jackiebalzer.com

DAN SAFFER



Dan is an interaction designer and creative director at Smart Design in San Francisco
w: www.odannyboy.com

TIM MILLWOOD

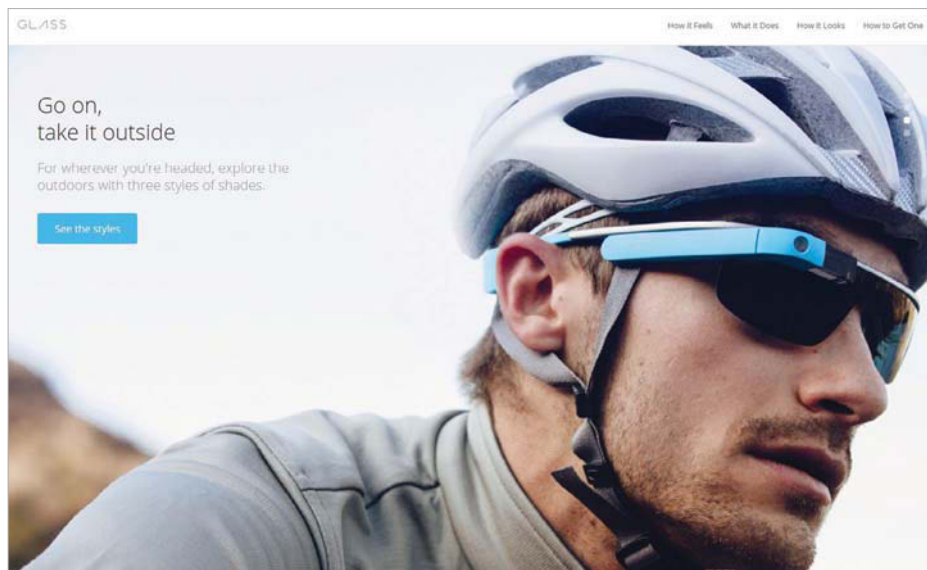


Tim is the founder of the agency Millwood Online and an onboarding engineer at Acquia
w: millwoodonline.co.uk

*QUESTION OF THE MONTH

Any thoughts on the interaction and interface design inside VR environments?

Chong Lee Khoo, Mission Viejo, US



New horizons Virtual Reality has generally failed to live up to its promises, but this could be about to change

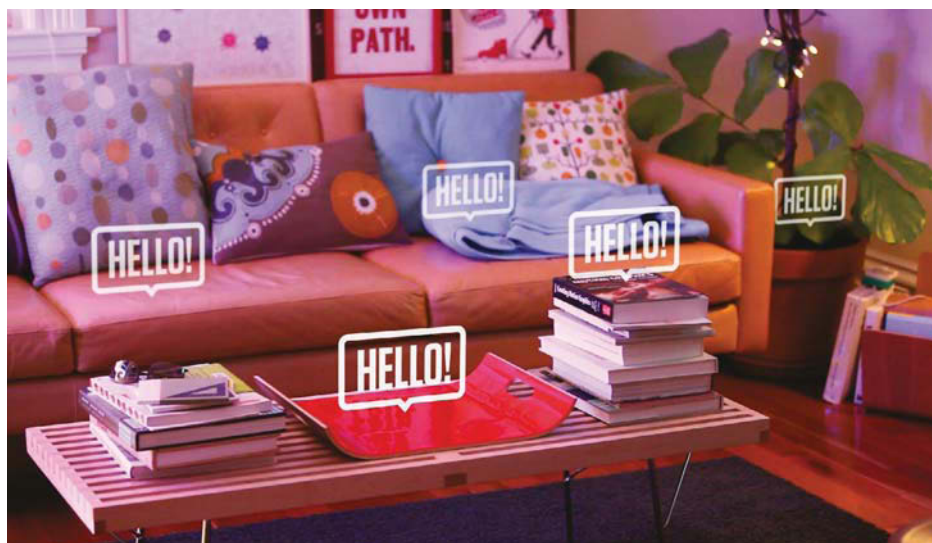
Dan Saffer: I haven't seen this done very well up until now, frequently because the displays have had limited resolution and latency was sluggish. But I have hope: supposedly the Oculus Rift headset shown at CES 2014 is a major improvement in both these areas. Like Google Glass, I think the best applications for this technology will be industrial/enterprise/specialised first. For example, with high resolution and low latency, VR environments would be perfect for surgeons to operate from afar. Of course, some sort of haptic feedback, paired with VR, would make these systems more interesting and powerful. Certainly it's interesting to tap objects in space (see Fruit Ninja), but being able to feel that will be something else. As it is now, VR environments need a lot of forgiveness.

INTERNET OF THINGS GOOGLE MONOPOLY?

Will we finally get a decentralised Internet of Things or will Google just own it all?

Jim Stogdill, Pennsylvania, US

Tom Coates: I think it's different at different levels of the stack. At the protocol level, I think there's a clear



Online objects One day plants, soft furnishings and kitchen appliances will all be networked. We can't wait

push towards interoperability and open standards. But at the user interface level? To me it looks like the internet tends towards making one or two dominant players in each area. Perhaps that's because the one that makes the most money can reinvest in their service – or maybe because you can make more interesting stuff when all the data is in the same place. It's not what I hope for, but it seems likely to happen here too.

DRUPAL

PAGE COMPOSER PLUG-IN

Any great page composer plug-in for Drupal? Customers request more control over content design easily. Thanks.

Matthieu Themans, Belgium

Tim Millwood: Other than writing a custom theme with custom regions, there are two main options for using the Drupal core block system to control page layouts: panels (drupal.org/project/panels), the older of the two options, or display suite (drupal.org/project/ds), a more modern alternative. Each have their differences, which may suit various use cases differently.

MIXINS

MONSTER SELECTORS

"Extend" creates monster selectors while mixins are very repetitive. Which one do you prefer?

Marcel Mellor, Düsseldorf, Germany

Jackie Balzer: Extends and mixins serve

different purposes. Mixins are best used to produce code that is non-static. They can accept arguments, manipulate their values and produce CSS output accordingly. An extend is better for static code. For example, code that does not change with each use. You can think of extends similar to how you would use OOCSS classes. Placeholder selectors, which don't produce code until they are extended, are a powerful way to use the extend concept with less bloat.

ACCESSIBILITY

ACCESSIBLE INTERACTIONS

Any tips for ensuring interactions offer maximum accessibility?

Jake Daniels, UK

Dan Saffer: Make sure interactive elements look interactive. Put enough space between them and add accompanying feedback so it's clear what is being selected or used. And make them large enough for ease of clicking or tapping. Ideally, provide a means to get to them and use them via a keyboard for web/desktop products for use by alternative input devices. Put any error messages alongside or below the error, not above or in a separate window. Don't put labels inside fields. If you have operations that require pointing (finger or cursor), such as drag-and-drop, you should provide some other means of accomplishing the same task.

3 SIMPLE STEPS

What's the best way to implement custom forms in Drupal?

Labeled Kreativ, US

Tim Millwood suggests using loading forms in Drupal via the `drupal_get_form` function.

```
1 function my_module_example_form($form, &&form_state) {
2   $form[name] = array(
3     '#type' => 'textfield',
4     '#title' => t('Name'),
5     '#size' => 60,
6     '#maxlength' => 128,
7     '#required' => TRUE,
8   );
9   $form['submit'] = array(
10    '#type' => 'submit',
11    '#value' => t('Submit'),
12  );
13  return $form;
14 }
15
```

HOOK FORM

+ `hook_form` is the initial function where the form is constructed as an array. All form elements and `fieldgroups` can be defined here. Drupal can also handle multi-step forms and AJAX forms through this.

```
1 my_module_example_form_validate($form, &&form_state) {
2   if (empty($form_state['values']['name'])) {
3     form_set_error('name', t('The name must be set'));
4   }
5 }
6
```

VALIDATE

+ Once the form is submitted the `_validate` function will allow you to do validation on the input. To indicate a validation error, use `form_set_error()`.

```
1 my_module_example_form_submit($form, &&form_state) {
2   variable_set('my_module_example_name', $form_state['values']['name']);
3 }
4
```

API REQUEST

+ If the data passes validation it's passed on to `hook_form_submit`. In this function, you can do the final action. This may be save to the database, send an email, make an API request or, in this example, use the `variable_set` function in order to save the data to the variable table.

► SASS PROGRAMMING STYLE SHEETS

Is Sass becoming too programme-orientated so that we now programme style sheets and waste time maybe?

Pierce McGeough, Newry, Ireland

Jackie Balzer: Since the dawn of computers, people have been writing programs to do their jobs for them because it's faster than doing tasks manually. Having the power of programming constructs like variables, math, functions, logic and more gives you the ability to do things you can't do in vanilla CSS: manipulate colours, calculate dimensions, generate CSS for icons in a sprite. The possibilities are endless! There is a learning curve to getting the most out of Sass, but once you pick it up, using Sass will save you time in the long run.

INTERACTION DESIGN

INDUSTRY INTERACTIONS

Is there any recent work out in the industry (good or bad) you believe highlights the importance of interaction?

Danny Ledger, Brighton, UK

Dan Saffer: There are more and more products that are differentiating themselves through design, especially interaction design, every day. In some

cases, the features are commodities. Take Mailbox App. Its features were nearly the same as every other email client out there, but the interaction design was what was a huge differentiator for it. Even the waiting list was cleverly designed. It was acquired before it ever really got onto the market. Or take Nest and Nest Protect: a small amount of off-the-shelf components put into a beautiful form and simple, elegant interaction design.

SASS

INTO THE FUTURE

How long before Sass is either dead and CSS becomes Sass, or browsers read Sass instead of CSS?

Pierce McGeough, Newry, Ireland

Jackie Balzer: Sass is an extension of CSS, not a replacement for it. CSS is a standard that has evolved over many years and is supported (mostly) equally by all browsers, both new and old. Even new features in CSS have to be carefully crafted not to break the CSS parser for older browsers. Although some browsers, like Chrome, are working to make Sass development more seamless in the browser, I don't think we'll see browsers reading Sass instead of CSS.

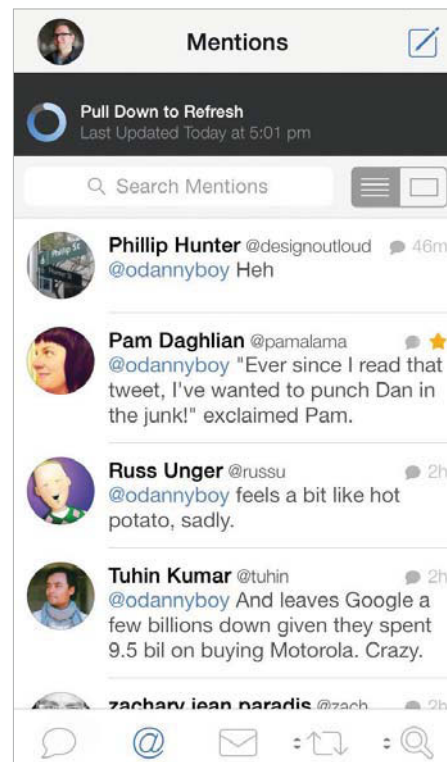
RUBY ON RAILS

ENTRY LEVEL REQUIREMENTS

I know all jobs require different skills, but what is the entry level requirements for a Ruby on Rails developer?

Launch Matt, UK

Tim Millwood: Ruby on Rails is pretty straightforward to pick-up and follows pretty common MVC (model view controller) practices. Therefore, an understanding of MVC, no matter the framework or language, is a good start. Also, as Rails is based on the Ruby language, that is something that needs a good understanding. If new to Ruby and Ruby on Rails then take a look at Sinatra as an inroad. It's not MVC and a lot simpler to get started with. Many Ruby on Rails developer roles follow a TDD (test driven development) methodology. Following this workflow for personal and side projects is a great experience.



Cross cultural It's safer to use more neutral microinteractions such as Pull to Refresh

MICRO INTERACTIONS

GOING GLOBAL

How do you manage microinteractions across international sites? Are interactions culturally specific?

Hergjerd Lærum, Norway

Dan Saffer: Certainly some microinteractions are culturally specific. Humour often doesn't translate well both because of the language translation. But many microinteractions are not culture-specific. Pull to Refresh, for just one example, works well in any culture where there are scrolling lists that go top to bottom.

NETWORKED APPLIANCES

DISHWASHER DOWN

We're fairly tolerant of outages of internet infrastructure and applications. Will we learn to tolerate it in our dishwashers?

Ian Malpass, Minnesota, US

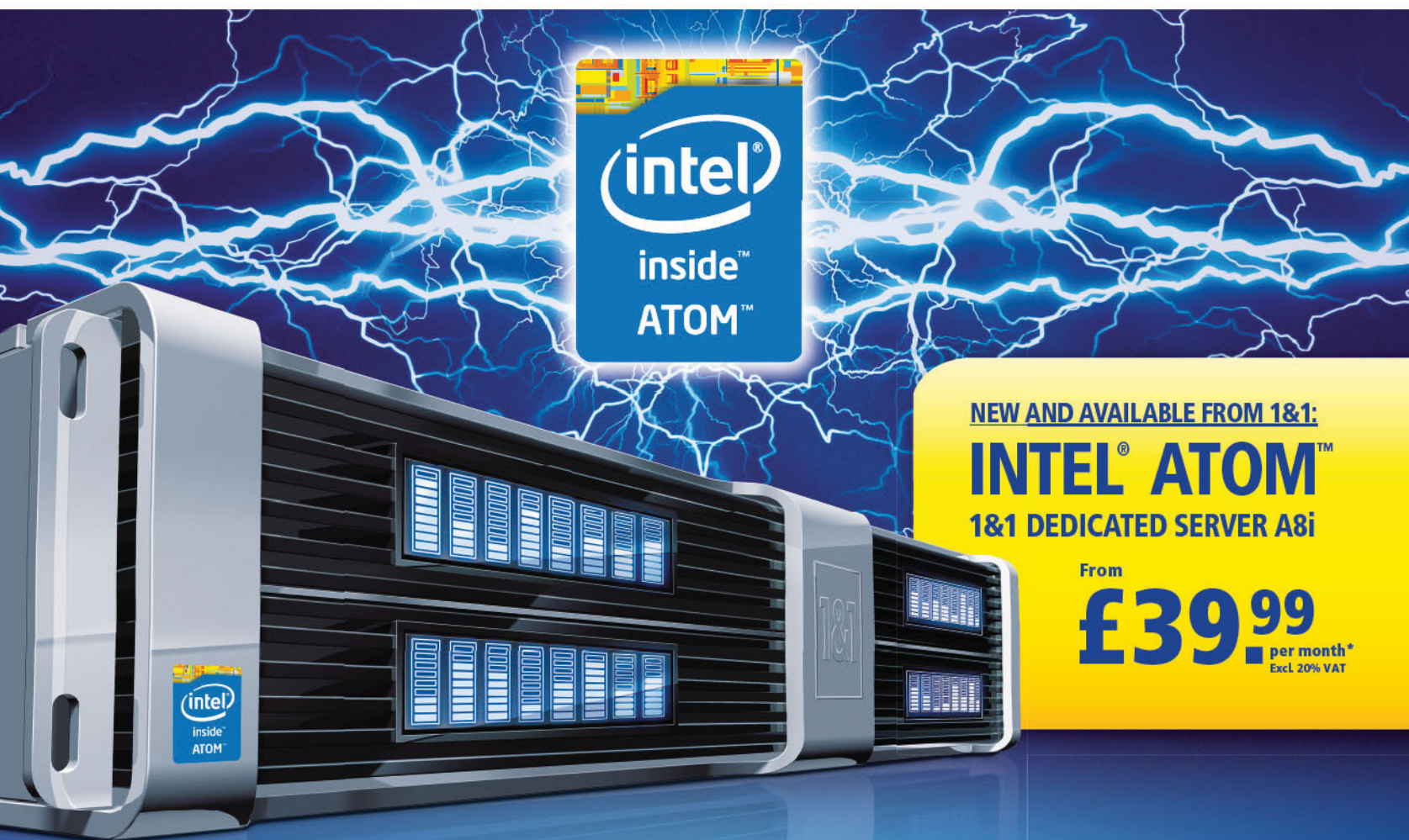
Tom Coates: No. I've talked a lot recently about networked appliances working even when they're offline, just being more useful, easy to control and valuable when they are. I think of it like progressive enhancement on the web. ■



Mailbox App Differentiating with its interactions

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FEED

People, projects
& paraphernalia

THIS MONTH FEATURING...



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Matt Johnston finds time to explain his illustration and animation project, Wrist, which celebrates varieties of wrist watches



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A designer battles with a bridezilla over lack of payment for wedding invitations in the fifth of a series of accounts of client woes



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Founder of Besquare and FoundersHub **Craig Lockwood** takes us on a tour of his open studio in Cardiff city centre



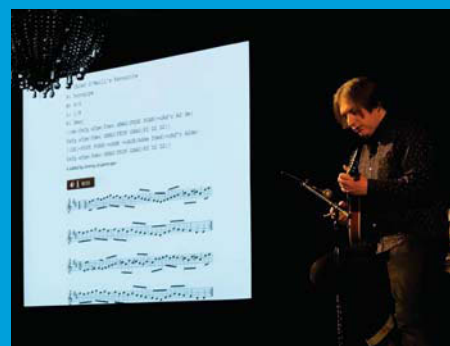
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Designer **Rob Weychert** unleashes his alter-ego Windhammer in an air guitar competition as a release from his day job



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With talks from Jeffrey Zeldman and Luke Wroblewski, **Aki Braun** reports on the An Event Apart conference in San Francisco



WRIST

Designer **Matt Johnston** finds time to explain his illustration and animation project Wrist

★ SIDE PROJECT OF THE MONTH



INFO

job: designer
company:
 Boatbound
w: tallpixels.com
t: @mattjohnston

> net: Who are you?

MJ: I'm a product designer, developer, and aspiring illustrator living in the San Francisco Bay Area. Recently, I've been working as co-founder and head of product at Boatbound, a fully insured peer-to-peer boat rental marketplace.

net: This watch thing (www.wrist.im). Why?

MJ: For 11 years I've been noodling around with Photoshop and avoiding Illustrator as much as possible. I had a friend of mine take me through all the basics last year, and since then I've absolutely loved it. I was inspired specifically by José Guizar's illustrative project, Windows of NY, to start my own project that would help develop my skills with illustration. Watches are a perfect medium for design; typography, colours, form, and function all have to meld together seamlessly and fit on someone's wrist. I started reproducing existing watches and then moved on to my own designs.

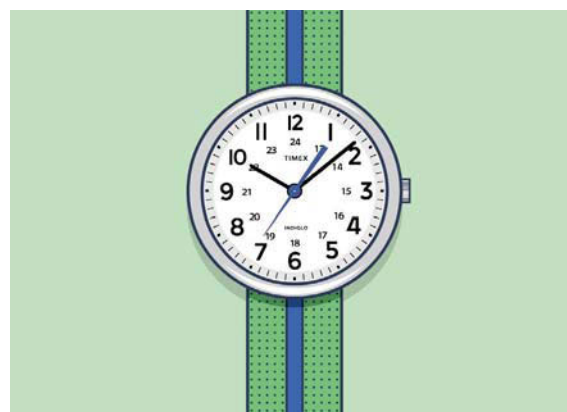
net: What's the reaction to the project been like?

MJ: I've been really humbled by the community's positive response to the project. It seems to have

really resonated with people, especially fellow watch-lovers. Even after my first illustration I was hearing from designers who wanted to contribute to the project, so I decided to accept submissions to allow the design community to participate with me. It's great having people who are excited about what you're doing, because it not only helps push me to do a great job, but it helps shape the project.

net: Should everyone have a side project?

MJ: Absolutely. Side projects are the perfect medium for self-expression and personal development. I love working on Boatbound, but this work is not so much self-expression as an expression of our brand. With Wrist I'm able to put forward my personal point of view as a designer without balancing other factors. Plus, I can broaden my skill set. **■**



Time lord Matt Johnston illustrates watches to expand his skill set



BRIDE GONE BAD

Exclusively for net: the fifth in a series of anonymous accounts of client woes

★ CLIENTS FROM HELL

> I recently started freelancing. A few months back, a girl I had worked with two years ago contacted me to have me help her design some wedding invitations. I told her my rates, she agreed, and because I personally knew her and had always considered her a nice person, I didn't make her sign a contract.

Over the next few months, I let her know the prices for envelopes and other similar things that I had to purchase to make the invitations to spec. After finishing the design, I printed them, cut them, and added a few other final touches. I then sent her some pictures to make sure the end product was to her satisfaction. She "absolutely loved them".

The next day, I mailed them to her, emailed an invoice and asked her to get in touch when they arrived. Two days after the invitations arrived (I had package tracking), I emailed to double-check she had received them. No response.

For the next four months, I repeatedly emailed her, asking if she had received everything, if there was a reason for the lack of response, and most importantly, when I could expect to get paid. A month ago, I sent a less polite email inquiry.

Client: Stop emailing me. The way you're talking to me is incredibly disrespectful.

Me: I apologise for my lack of tact. I've been frustrated and it came out in a less than professional way. However, I would still like to know what's going on with my payment.

She said she would pay me, but three weeks passed. Then she finally responded.

Client: Stop emailing me. The invitations never arrived, I owe you nothing, and I know you're just looking to take the pay cheque and run.

I emailed a copy of the receipt from the post office and the tracking information, which included a copy of her signature.

Client: I don't want to feed into your negativity. I'll pray for you.

I think that means, 'I'm not going to pay you'. 🙄

CLIENTS FROM HELL
clientsfromhell.net



★ HOW TO

DESIGN A 404 PAGE

Here are our tips on ensuring your 404 page delivers the best UX

THE BASICS

There's nothing worse than landing on a 404 page that just barks:

"You're lost! Go back!". Design Student Chris Brown (@IckleChris) says users need helpful options. Your page should offer a brief error message, a search tool and a site map. UX specialist Tom Charde (@tomcharde) also suggests linking to your most popular page.

THE USER'S HEADSPACE

It's important not to make your 404 feel like a dead-end, says developer Jak Spalding (@jaskspalding). It's important your 404 feels on-brand. Leaving a user in some kind of ghetto doesn't tell a good story. The language you use plays to communicate the problem, and possible solutions, is important too. Ensure it adheres to your brand voice. Lego's 404 pages is a perfect example: www.lego.com/404notfound.

MAKE A DELIGHTFUL EXPERIENCE

Senior visual and user experience designer Jenna Hussey (@jhussey2) says, "404s can be frustrating for the user, so I like to use content and design that will ease the frustration. This depends on the tonality of the site, but the 404 experience doesn't have to be bad if you can delight [the user] somehow." netm.ag/404-252.



OPEN HOUSE

Craig Lockwood, founder of the Handheld conference, Besquare and FoundersHub, shows us round his open studio

★ WORKSPACE

➤ After working from home for far too long, I recently opened an open studio called FoundersHub (foundershub.co.uk). It's right in the middle of Cardiff city centre and can accommodate up to 40 people at a time. I really thrive around other makers and love the collaborative nature of working alongside others.

We have long communal desks that a friend of mine built as well as some relaxed, comfortable spaces and quiet rooms.

I work exclusively from a 15" Macbook Pro (1) and love that I don't need a permanent desk; I'm

free to sit wherever my mood takes me. The Macbook is great for video editing and I am still in awe of the beautiful Retina screen.

The prints that adorn the Hub (2) are from the Do Lectures (www.dolectures.com). They help to keep me focused and on track as something from each of them will resonate with me every day. I've been learning about electronic circuitry recently so the soldering iron is never far away (3). I enjoy making stuff that can be used at the Hub. Most recently I hacked together a Raspberry Pi powered jukebox using the Spotify API.

I'm always happier when surrounded by books and have built an extensive library (4). I particularly love the Five Simple Steps pocket guides as they are great to skim through while having a coffee.

Having an open studio was a golden opportunity to have some fun when kitting the place out and the Street Fighter arcade machine (5) was one of the first things shipped in. We have weekly tournaments and it's a really great way to relax.

When I need to get my head down and concentrate on work, my Bose QC15 noise-cancelling headphones (6) are perfect for zoning out and getting into my own little world. **■**

★ PROFILE

Web developer and designer Craig Lockwood (craiglockwood.co.uk) is founder of the Handheld conference, Besquare and FoundersHub

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STUFF I LIKE



PAUL LEWIS

Developer advocate
Google Chrome

TWITTER

While some people man the firehose of the web's information, I tend to let Twitter's natural selection do my hard work for me. The people I follow only tend to retweet and share awesome stuff. Occasionally, it's cat pictures. Nothing's perfect.
twitter.com

DIGG

My wife actually put me onto Digg as a daily news source. It's not tech news typically, but they have a knack of finding super interesting and silly stuff. I tend to spend my commutes churning through its collection of latest and greatest articles.
digg.com

TOWER

My Git skills are, umm, to be honest 'satisfactory'. When I use it I can get myself out of some holes, and into even bigger ones! When things get nasty, or when I feel particularly lazy, I fire up Tower and let it deal with the grunt work!
www.git-tower.com



AIR GUITAR

This month... Rob Weychert explains how his alter-ego, Windhammer, provides a liberating contrast to his day job

★ BEYOND PIXELS

> The plush, brightly-lit green room at the House of Blues on Sunset Boulevard in Los Angeles is clean, colourful and carpeted, with two large couches, a bathroom with a shower and an abundance of mirrors. Between organisers, performers, friends and photographers, the room is at more than twice its capacity, topped off with a showgirl's ransom of glitter, rhinestones and confetti. The room is buzzing with nervous energy, but everyone is smiling as they finalise preparations: strategically snipping a T-shirt neck for easy tearing; testing the battery pack inside an LED-saturated vest; stowing blood capsules; applying eyeliner; stretching. It's August 2013 and the eleventh annual US Air Guitar National Finals are about to begin.

My alter-ego is named Windhammer. In six years of competing, this is his fifth time on the national stage, having clawed his way to the top of regional championships in Philadelphia, Boston and New York City. Windhammer's glaring, silent stoicism defines him.

More than winning and losing, Windhammer is about intensity, about harnessing musical maelstrom and expressing it with a forceful physicality. He is wild but precise, and I construct his routines in the manner I approach all creative

endeavours, making space for the spontaneous within the systematic. And yet, Windhammer's movements have an entirely different purpose than most other things shaped by my creative process.

By day, I design content and interfaces for software and websites. My work is intended to help people learn, find information and/or complete tasks. The measure for its success is its invisibility, since a conspicuous design, whether overelaborate or undercooked, will distract the user from the goal it is intended to help them achieve.

But by night, Windhammer is designed to be noticed. At his best, he can make your day or ruin it, but either way, you will remember him. Like any art form, air guitar is always ridiculous and occasionally sublime. Every performer who takes the stage at the House of Blues tonight does so with a wink, even if that wink, like their guitar, is invisible. And hopefully each performer will be a living reminder that there is no reason to resist being moved by the music you love. ■



★ PROFILE

Rob Weychert is a freelance graphic and interface designer in Brooklyn, NY and was formerly creative director at Happy Cog. He blogs at *robweychert.com*

Photo credit: Laura Kicey and Gabi Porter



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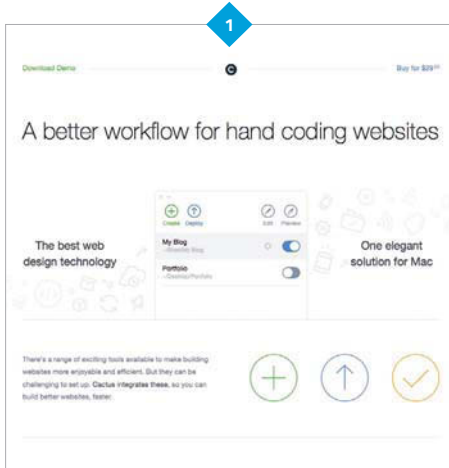
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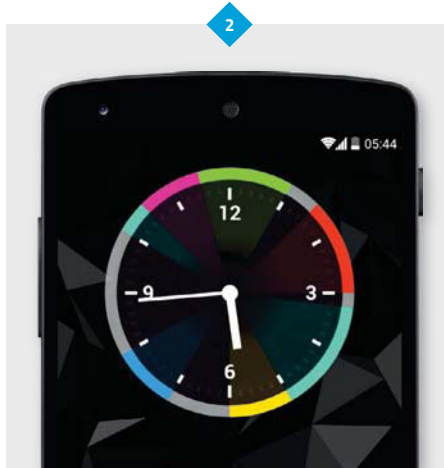
STUFF WE WANT

Small objects of web design desire: from diary pressure points to Tardis-like guides



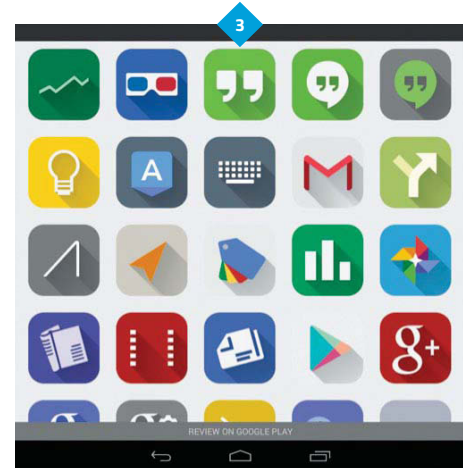
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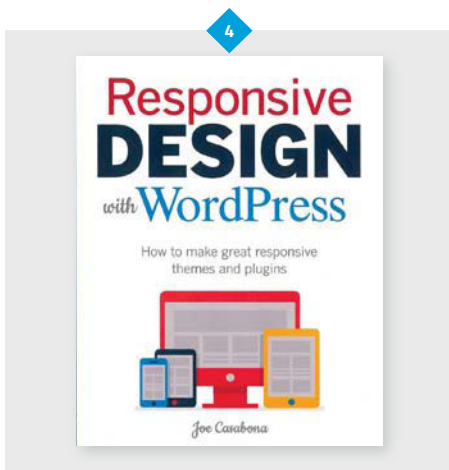
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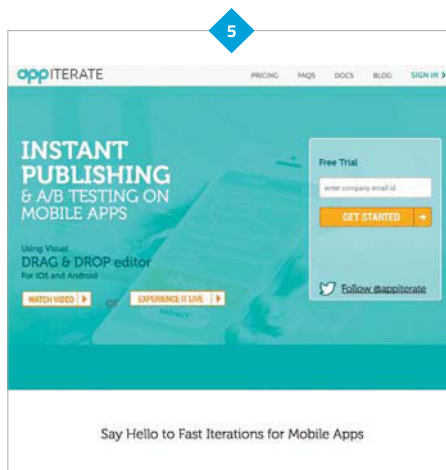


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What we think

(1) Cactus is a new workflow for hand-coding websites. Just choose a template and Cactus generates the folder, file structure and everything else (cactusformac.com). (2) 12Hours is a pretty and clever Android app that marks your diary pressure points on a clock face (netm.ag/12hours-252). (3) Lumos is an icon pack that contains over 1,450 subtle and beautiful icons (kovdev.com). (4) *Responsive Design With WordPress* by Joe Casabona is a practical and well-paced guide to building thoroughly modern websites (netm.ag/casabona-252).

(5) Appiterate bills itself as the world's only drag and drop visual app editor for iOS and Android (appiterate.com). (6) *HTML5 Pocket Reference* is like the Tardis, tiny on the outside but huge inside. It's succinct, yet very readable (netm.ag/pockref-252).



EVENT GUIDE

HTML5 DAYS 2014

DATE: 5-7 MARCH 2014

LOCATION: MUNICH, DE

Expect practical workshops about today's biggest HTML topics. A top list of speakers includes Jens Grochtdreis, and Peter Kröner.
html5-days.de

UX HONG KONG

DATE: 6-8 MARCH 2014

LOCATION: KOWLOON, HK

With talks from Kim Goodwin, Samantha Soma and Jim Hudson, if you're passionate about designing great experiences, this is the conference for you.
www.uxhongkong.com

SCOTLAND JS

DATE: 9-10 MAY 2014

LOCATION: EDINBURGH, UK

Over 30 local and international speakers will discuss experiences and share skills. Angelina Fabbro and Mikeal Rogers will present keynotes.
scotlandjs.com

JQUERY UK

DATE: 16 MAY 2014

LOCATION: OXFORD, UK

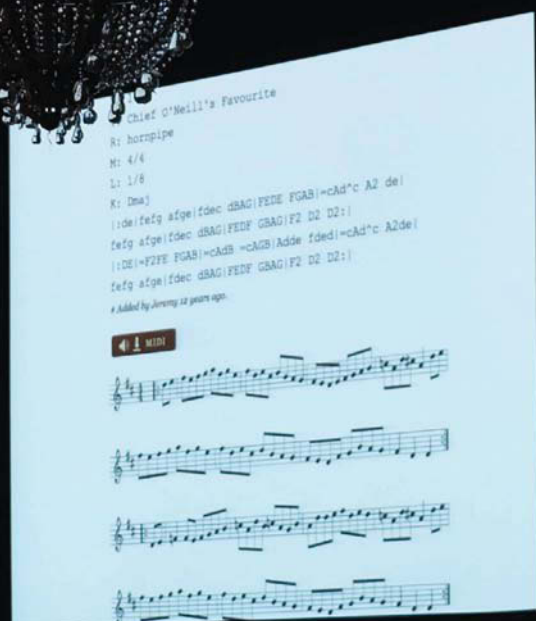
The after party jBeery sounds amazing fun. Speakers include Divya Manian, Lea Verou, Andi Smith and many more. It's the jQuery event of 2014.
jqueryuk.com

AGILE ON THE BEACH

DATE: 4-5 SEPTEMBER 2014

LOCATION: FALMOUTH

Expect two days of creative and technical thinking plus beach parties. The team behind the conference is currently asking for papers and talk submissions.
agileonthebeach.com



AN EVENT APART

An Event Apart continues to reflect on itself, the industry and the future. **Aki Braun** reports on its eighth year

* EVENT REPORT

DATE: 9-11 DECEMBER 2013

LOCATION: SAN FRANCISCO

➤ Having completed its eighth year in 2013, Jeffrey Zeldman and Eric Meyer's An Event Apart (AEA) (aneventapart.com) in San Francisco 2013 was indicative of the ever-changing and intriguing sessions on the annual eight-city tour.

Zeldman's opening keynote, 'Ten Commandments of Web Design' (netm.ag/ea-252), explained how engaging users isn't synonymous with taking advantage of them. With a steady stream of quality talks from there on in.

Luke Wroblewski pointed out we need to think not just in terms of 'mobile' and 'desktop', but in terms of users actively participating in the web, no matter how they're accessing it. Later, Karen McGrane rallied attendees to the fight against the hidden classism and racism in web content design.

While many were nursing hangovers on day two, topics ranged from a smattering of CSS treats to the use of natural language before Lea Verou took the stage and proved her brilliance when she managed to turn live coding into a captivating presentation.

In contrast, Mike Monteiro presented an unapologetic analysis of the responsibilities and

failures that designers have to a connected world. He insisted that UIs, APIs and whole systems can prevent major failures when designers speak up and use their expertise to change minds all the way up the management chain.

For day three, AEA hosted Luke Wroblewski's workshop, 'The Web Everywhere: Multi-device Web Design'. Wroblewski addressed the realities of design and development for the Internet of Things. He hit on compelling, but often disregarded, problems that can't be solved by responsive design and UI sniffing alone. Indeed, say 'hello' to IE11 on the Xbox One.

Eight years on and AEA still manages to be one of my best conference experiences each year. Zeldman and Meyer have made it one worth watching in 2014, with tough reflections on how our industry treats both itself and marginalised groups, as well as ideas and assessments of the devices and tech coming in the future. 

* PROFILE



Aki Braun (akibraun.com) is a developer for Recurly. She worked on the 2012 Obama campaign and is easily spotted as the 'character' in the room



Celebrating the best in web design and development

net magazine is excited to reveal the longlist and launch the voting phase for its biggest and best awards yet.

We have reviewed over 2,000 nominations that you sent us in December and January to come up with 10 nominees per category (a whopping 20 in Agency of the Year). The public vote will now whittle down the list to five nominees per category (who will all get an invite to our awards do). Then the final decision will be made by our panel of industry experts and we will reveal the winners at a lavish ceremony in London's Grand Connaught Rooms on 9 May.

www.thenetawards.com

THE CATEGORIES

Game Changer of the Year
Best New Web Technology
Open Source Project of the Year
App of the Year
Best Online Portfolio
Side Project of the Year
Demo of the Year
Best Collaborative Project
Redesign of the Year
Podcast of the Year
Conference Talk of the Year
Grassroots Event of the Year
Entrepreneur of the Year
Emerging Talent of the Year
Young Developer of the Year
Young Designer of the Year
Developer of the Year
Designer of the Year
Outstanding Contribution
Team of the Year
New Agency of the Year
Agency of the Year

HURRY!

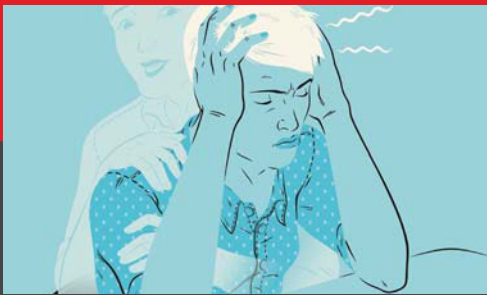
Voting phase
closes 24 March

Shortlist revealed
31 March

VOICES

Opinions, thoughts & advice

THIS MONTH FEATURING...



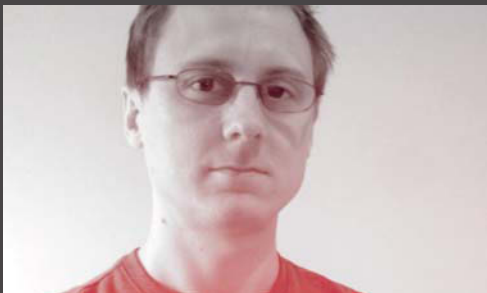
LOVE YOUR CLIENT AS YOURSELF 28

Karen McGrane urges you to learn to be kinder to yourself to improve client relationships



INTERVIEW 32

Stephanie Rieger talks to Martin Cooper about why our attitudes may be holding the web back



THE INTERNET OF THINGS 42

Dan Frost considers how the Internet of Things will impact user experience and product design

*HOW TO

MANAGE DEVELOPERS

Developers are not just a means to an end. **James Miller** shares his top tips for nurturing talent and quality among teams of developers

> As my career in web development has progressed, its focus has continued to shift ever increasingly towards management of developers. The more time I spent leading and managing developers, the more I started to recognise behaviour patterns (and foibles!) that they are particularly susceptible to. Using my experience as a developer, and learning through trial and error from those who I was tasked with managing, has allowed me to continually tailor my management style to nurture and gain the best possible results.

Here are some of my tried and tested techniques that I've used to ensure that I'm getting the most out of my developers, ensuring they're happy, creative and productive.

(Disclaimer: everyone is different. Some developers may not be receptive to these approaches, but they're a good start to improve communication and your knowledge of your team.)

Get to know your team. Never forget that every member of your team is a person continually in flux. Not only is life continually shifting their motivations, their development capabilities will always be increasing and evolving. Keeping in touch on a personal level will allow you to utilise hidden strengths that you may never have been aware of. Knowing your developers better means you can also prepare and compensate for any potential weaknesses that may have otherwise snuck up on you.

ENABLE PROGRESSION

The most successful developers are constantly learning and improving their skills, likewise the most successful managers are ones who facilitate and encourage this. There are many ways to approach this, but here are a couple that have worked for me:

- Hold weekly team training meetings to provide developers with the opportunity to share discoveries and experiences with their fellow co-workers.
- Practice makes perfect. In down time, encourage or suggest areas for research and development. This can be done more formally with a Personal Development Plan. Take an interest in your team's progression. It will ultimately benefit you and help define your technical direction.
- Outside of office hours, offer guidance and insight to further developers' personal projects. Whether it's related to their work or not, their greater knowledge and own personal growth will mean you have a happier more skilled developer.

ALLOW THEM TO FLOURISH

Restricting developers almost always causes revolt. The more you micro-manage, the more they will want to squirm out of your reach. Although not always seen in a business environment, developers on the whole are a creative bunch and want to be able to stretch their capabilities.

Whether it's through the concept, visual design, or produced code, giving your developers freedom to think outside the box will result in unexpected solutions and potentially some beautiful user experiences.

Don't take the previous point to the extreme. Make sure you outline expectations



Talking to, and learning about, your developers is key to successfully managing them. The greater your insight, the more equipped you'll be

of what is and isn't allowed within the work environment. Uncertainty is unsettling. Developers will worry less and work more when they know exactly where they stand. Make sure that rules and expectations across your team are consistent to avoid any contention between developers.

GIVE FEEDBACK

An important and often overlooked aspect of developer growth is feedback on the work they have produced. Make any criticism constructive and highlight ways to improve, including pointing to online resources to help get your point across. Don't just focus on weaknesses though. Celebrate success, too. Highlighting excellence among the team means the knowledge is more likely to be shared and remembered. It may even inspire

a healthy competition for recognition. Treating developers as just a means to an end will probably still get the work done, but the quality is never going to be as good as it could be. In the long run this approach is also likely to lead to apathy, inefficiency and the loss of that special creative spark.

Talking to, and learning about, your developers is the key to successfully managing them. The greater your insight, the more equipped you'll be to help them to be successful. And of course being supported by a motivated, thriving team is going to make you much more successful yourself! **n**

★ PROFILE

James Miller (@jimhenty) is the technical team manager for Orange Digital (www.orange-digital.co.uk). He aims to get the best possible results from both technology and people



★ BUSINESS

LOVE YOUR CLIENT AS YOURSELF

Words by Karen McGrane Illustration by Ben Mounsey

An examination of why self-criticism and defensiveness will hinder client relationships. Shake off fear and anxiety by abandoning the pressure to provide the 'right' answer and being kinder to yourself

➤ Imagine you're wrestling with a very complex, expensive and life-changing decision. Maybe it's a question about whether you should go back to school, or a choice about a risky medical procedure, or even the decision to divorce. Whatever it is, this choice promises to change the way that you relate to the people closest to you and will affect the way your life unfolds for years to come.

Imagine you're seeking advice and direction from a friend or loved one. How would you want to be treated as you make this decision? I'd want a friend who could help me logically sort through the different variables that influence my decision, and help me better understand my own goals and priorities in life. But I'd also want someone who could be sympathetic to my emotional state, who would recognise the fear, uncertainty and doubt that colour any decision of this magnitude, and who would respond with compassion and kindness. The last thing I'd want is someone who would make me feel dumb or wrong or uninformed.

Now imagine it's one of your clients making an equally complex, expensive and important change in their organisation; a decision about new technology their company may use for years to come.

It may seem facile to compare the choice to build a mobile app, implement responsive web design, or re-platform a CMS with any of these weighty personal matters, but decision-makers wrestling with these

choices face very similar outcomes. Their decision will change the way internal teams work and interact with each other, influence how customers perceive the company and may directly impact the success of the business. It will set the career trajectory for the decision-maker; the right choice may lead to more money, a promotion and more interesting work. The wrong choice may cause a setback that could take you years to recover from.

And too often, the people they turn to for advice make them feel dumb, wrong, or uninformed. I know this because I've done it.

YOU'RE DOING IT WRONG

If there's one piece of criticism I've received more than any other, it's this one: you're too hard on yourself.

Too hard on myself? What is this weak-willed nonsense? Why, there's an endless variety of ways I could – no, should – be better. I think I work hard, but there are endless productivity hacks I simply don't practice. I like to cook, but I should eat more kale. If I got up earlier, I could do yoga. Or run. But I don't. Am I following up with potential clients effectively? Probably could do better. I should blog more. The dog never learned how to read. Apparently I've been peeling eggs, tying my shoes and opening bananas all wrong, too (www.quora.com/Self-Awareness/What-are-common-activities-people-get-wrong-every-day-but-dont-know-it). ►

- Constantly judging myself gets exhausting. Seeing the world as a series of potential challenges that have a right and a wrong answer is tough, and I'm getting it wrong. What's worse, by judging myself constantly, I naturally assume other people are always judging me too. And guess what? I start judging them right back.

You may not think that being hard on yourself and judging other people would be skills that would get a person very far in life. But they provide the ideal skillset for a job in client services. So I got a job in consulting.

A DEFENSIVE STANCE

Olivia Fox Cabane, author of *The Charisma Myth* (foxcabane.com/book), reports from her research on people's relationships in the workplace that:

near-religious debates about the 'best' solution. Paul Ford writes about it on Ftrain.com (read it all here: www.ftrain.com/wwic.html):

Brace yourself for the initial angry wave of criticism: how dare you, I hate it, it's ugly, you're stupid. The internet runs on knee-jerk reactions. People will test your work against their pet theories: it is not free, and thus has no value; it lacks community features; I can't believe you don't use dotcaps, lampsheets, or pixel scirms; it is not written in Rusp or Erskell; my cat is displeased.

Defensiveness prevents people from really connecting, from tapping into the underlying emotions that make decisions so complex and so fraught.

I've learned to be a little less scared of being wrong, which opens me up to feel more compassion for the problems my clients are wrestling with, by accepting that the 'right' answer doesn't just come from my own logical analysis

Self-criticism is one of the most common obstacles to great performance in any field. It's often called the 'silent killer' of business because so many executives suffer from it, yet so few dare to speak out about it. I've heard a variety of people, from junior associates to the most senior executives, privately admit that much of their workday was consumed by negativity, their inner critics constantly pointing out their failings, or predicting disappointing outcomes for their projects and initiatives. In some cases, they (and I) were amazed that they got anything done at all.

I hate to admit it, but fear and anxiety sit at the core of many of my client relationships. They're nervous about bringing in an outsider. I feel awkward navigating their internal politics. They have significant money and resources going towards a major initiative and worry about getting it right. I give myself no margin for error, convinced that my job is to be right all the time.

And what if I'm wrong? What if my recommendations aren't accepted, or the client doesn't seem to get it? When you *must* be right, when your shaky sense of self-worth depends on getting it right, then the client must be the one making the mistake. They're dumb. They're wrong. They're uninformed.

The defensive, 'I'm more right than you', posture seems like it must be a necessary armour for technology consultants. The decisions we make or influence happen in an environment that changes quickly and lends itself to

YOU CAN'T FEEL COMPASSION IF YOU'RE DEFENSIVE

One of the benefits of maturity is that, after my nearly 20 years of technology consulting, I've learned to be a little less scared of being wrong, which opens me up to feel more compassion for the problems my clients are wrestling with, by accepting that the 'right answer' doesn't just come from my logical analysis of why to implement responsive design or which CMS is the optimal solution. I'm more able to tune into the more intangible problems of how these decisions will affect people's relationships at work, how they're perceived within the organisation, and their fears about having to learn new skills or making mistakes.

The secret to being less defensive, less scared of being wrong, is acknowledging it's OK to be kind to yourself. You can tell yourself you're good enough and you can tell yourself it's OK not to be perfect. Imagine how you'd like your kindest, most compassionate friend to help you deal with a difficult issue. If you can learn to talk to yourself that way, then you'll have an easier time talking to your clients that way. Your relationship with yourself and with other people gets better that way. ■

* PROFILE



Karen McGrane is a content strategist and user experience designer, and author of *Content Strategy for Mobile*. She's currently managing partner of Bond Art + Science

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INFO

job: director

company: yiibu

w: stephanierieger.com

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STEPHANIE RIEGER

stephanierieger.com

Designer, researcher and mobile soothsayer Stephanie Rieger taps her proprietary crystal ball app and tells Martin Cooper why our attitudes and practices may hold the web back

Photography by Gavin Roberts



➤ “I’m a designer and researcher,” says Stephanie Rieger, as she pours a cup of tea. “I’m an occasional developer, and also co-founder of yiibu, which is a mobile user experience consultancy based in Edinburgh.”

Yiibu (yiibu.com) boasts a huge number of top flight clients: Nokia, Vodafone, Microsoft, and Intel, to name just a few. “We primarily do design, but we’re also involved in frontend development, especially because of our mobile background. We do a lot of cross-browser optimisation. A lot of what we do is making sure things work everywhere. They have a big, diverse audience. They say help us make our stuff work everywhere.”

THE NUMBER TWO

Despite its name’s exotic connotations, yiibu found its name through necessity. “It was a name that was available when we were looking for a domain, a long time ago,” she laughs. “We were on dialup, and living on the island of Phuket. So, it was available and it was easy to get as we couldn’t be on the internet that long.” Yiibu, she tells us, actually translates as “the number two”. “That seemed fitting as there were two of us in the firm (me and my husband Bryan Rieger) and there are still two of us.”

Looking back at the beginnings of her career, she tells us: “Initially, I studied graphic design and illustration, and ended up in product roles. When the whole interactive thing kicked off, I drifted into project management roles, and then I moved into designing and developing my own stuff. Of course, back then it was called ‘multimedia’. It dates me, doesn’t it? But, I’ve been doing that kind of stuff ever since, though the platforms have evolved greatly.

“When I started there was no tech. If you wanted to work in tech, you became a computer scientist. It was 1997, I was working in a product management role. I convinced my boss we needed a proper computer as opposed to one of these horrible green screen terminals. I installed CorelDRAW and started being more agile about promoting their products.

From there I started making rudimentary websites. It was still very early, but even then, that ability to rapidly iterate was super valuable for businesses. You know, it’s hard to imagine how non-agile things were before computers turned into something everyone could use.”

Alternative philosophies

“It’s not a given that Western-made browsers will proliferate [...]. It’s not inconceivable that we’ll end up with local or regional variants of web standards. It’s just that, until recently, the conversation has really only included a small portion of the planet”



Left Edinburgh-based Rieger is a mobile user experience researcher, and practitioner

Below Yiibu has been working on developing and delivering mobile experiences since the days of Symbian and Flash Lite



Taking a sip of tea, she pauses and continues. “You know, if you’re a creative person who wants to be relevant, it’s inevitable that you’ll need to leverage technology, and it’s a big challenge. Everybody is moving into an environment where there is a need to understand technology.”

Moving on from 56Kb modems and multimedia, we want to know about Rieger’s view on the current standards versus native debate.

“I’m a fan of using the best tool for the job,” she says. “At yiibu, we started in mobile way back in 2003. We’ve designed for J2ME, Symbian and Flash Lite. We’re not fussy. If there’s an audience there, and an opportunity, and the project makes sense, that leads to the technology choice.”

IS NATIVE BETTER?

Expanding on her point further, she continues: “I’m not suggesting that native is better than the web. What I’m saying is that each is good at different things. It’s pretty short-sighted for a business to focus on just the web, when other technologies such as Android reach well over a billion people. And, there’s nothing to say that native technologies can’t be standards-based. They’re just not that way right now.”

Rieger’s international lifestyle prompts a question: are web standards a peculiarly Western fixation?

“Certainly, historically, the web standards movement has been driven more by Europe and Northern America, because that’s where it got started,” she tells us.

Moving to explore alternative web philosophies, Rieger confesses the subject is hard to investigate. She has one opinion though: “We’ll find out pretty soon, as the

“I’m not suggesting that native is better than the web. What I’m saying is that each is good at different things”

number of developers in Asia and Africa will probably far exceed the numbers in the West. What’s happening now in China is an interesting insight into how things might move. Right now, in China, there are several initiatives to launch a China-specific operating system. The government

is behind it.

“There are also many variants of Android that have cropped up. The average Chinese Android user doesn’t have access to Google Play. They use Chinese app stores, and the statistics that exist show that the apps they download are almost entirely Chinese. And this includes web browsers. It’s not a given that Western-made browsers will proliferate, especially given all these new users coming online. It’s not inconceivable that we’ll end up with local or regional variants of web standards. It’s just that, until recently, the conversation has really only included a small portion of the planet.”

This, of course, throws the current battle cry of ‘Mobile First!’ into sharp relief. Nations

such as China don’t necessarily have the historical baggage of desktop browsers. Many users’ first experience of the web will be a mobile one. Mobile is the first, last and maybe even always.

MOBILE ONLY

“Absolutely,” Rieger says. “I’ve been doing some research into the different types of business models and applications that are coming out of China, and to a lesser degree Africa as well. In the emerging economies, on one hand, they often replicate what we’ve done here. But, many of their apps are mobile first entirely. WeChat (www.wechat.com) is one. It started as a chatting application but now it’s a platform. You pay your bills, buy things, advertise your business and do so much with it. As far as I know, it’s mobile-only. There’s no desktop or formal web component to it. It’s just an app. And you know, given the proportion of mobile users in this market, that makes sense.”

This idea of challenging the web’s perceived norms brings us to Firefox OS. Thus far, she says, she’s disappointed. “Personally, I find it hard to function without the ability to access content offline or the ability to save significant amounts of data to the device, without thinking about it.

“Both of these things are possible but the current ecosystem of apps doesn’t quite permit it. To me, it needs to be automatic. If



Above Unlike many web proponents, Rieger doesn't see web standards as the only way to make a product. Rather she's an Android fan, and believes technology need should inform technology choice
Left Though Flash books might prop up her monitor, Rieger, tells us Yiiibu isn't averse to working with older technologies should there be a need

connectivity drops, I need to know the stuff will be there, and that I can keep working."

But, does she think the idea has legs? "I think they'll make sense for people who have constant connectivity or no big need for offline apps, but, right now, they just don't suit my needs at all. Another disappointment is that both Firefox OS and Chrome OS have a standalone browser.

"I would have liked to see more experimentation with bringing [the OS and the browser] together. Why not blur those boundaries further? Why do you still have to go to a Chrome browser, when you're in Chrome OS? It's counter-intuitive."

A LINE IN THE SAND

So what's the answer? Rieger says we should either be developing products for users who have grown up with the concept of a separate OS and a browser, or be brave, and draw a line in the sand. She says there's a case for developing products for people who haven't grown up experiencing the likes of Windows and OS X. Trying to always target both at the same time, she feels, may prevent technology from moving forward.

"We just need to experiment more. [I'm imagining] an OS with the web at its core, but one that could still let us draw on the native capabilities. Android is a neat candidate for that, as it's open and already allows a lot of offloading of capabilities between apps. I'd love to see somebody really change the way we think about applications."

We move to a more concrete topic: web standards. "I understand why we have standards," she says. "Especially as the web keeps growing. There has to be some common understanding of how to make stuff. What bothers me is that there are so many competing visions of what the web needs to be. People want so much from these standards. If we had more of an agreement of what we wanted the web to be, it could help us avoid some of the problems we have now. We need more focus on what the end vision is, or the end result could be that everyone starts building native apps."

So what trends and technologies is Rieger tracking closely? "Right now, NFC and Bluetooth LE. They're only accessible natively. What's interesting is that, until recently, it's been all about the web talking to other web services, and then maybe the web talking to an app. Once we start making things that talk with the physical world, I'm hopeful it'll help us clarify what we really want from the web and move away from this idea that the web has to do everything."

It is, of course, great fun to gaze into the future and guess about what tomorrow's world holds. Our discussion, however, returns to the here-and-now and what all these possibilities mean for business.

"What bothers me is that there are so many competing visions of what the web needs to be. People want so much"

With all these devices, platforms and possibilities, how can a brand owner go about building meaningful relationships with their customers? "I think, going forward, the key will be to really understand what each technology is good for. What opportunities does it present? What are its limitations? How many people are using it and under what context? There's too much choice now to attempt to use every technology.

"If you use one small bit of one new platform for one really good purpose, and it doesn't break the bank, that's still a good thing. You don't need to jump in and become an NFC-first business!"

"Often," she explains, "it's the culture of an organisation that holds us back. The web group is in charge of the site and the mobile group that does the app." Projects and products, she tells us, are often created in insulated silos. From a business perspective, Rieger believes, that's just crazy.

IDEAL WORLD

"In an ideal world, you want these things working together and then you'll be able to really understand which technology is best for which application. Users will show you which ones they prefer. If you don't listen, you'll be endlessly building one of everything on every platform." ■

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* CSS

IS 'HTML/CSS GURU' STILL A MARKETABLE SKILLSET?

Jeff Croft recently argued (netm.ag/croft-252) that being someone who knows all the browser quirks isn't enough to get you a job now that browsers have matured

**ANDREW CLARKE**

Designer, author and host of
Unfinished Business

stuffandnonsense.co.uk



Knowing how to write meaningful HTML and efficient CSS are skills that are going to be in demand for a long time to come. Browsers may have fewer differences between them, but those challenges have been replaced by needing to know how to implement designs for an almost infinite number of screen sizes.

Whether knowing HTML and CSS alone is enough is a different question. Alongside knowledge of the aspects of code that help me do my job, I have knowledge of aspects of design that came with me to the web. So I may not know Backbone, but I'm a devil with a Bézier curve.

**BEN CALLAHAN**

President of **Sparkbox**
seesparkbox.com



These skills are still very valuable. It's true, the web standards movement and tools like preprocessors have all but replaced our need to write CSS hacks. Yes, our jobs are changing and HTML and CSS alone are no longer enough. I challenge you to remember we are an industry made of 'I can figure that out' people. Ask around and you'll see, most people making the web came to it from something else. It's this incredible diversity that gives me hope we will adapt our skillsets as quickly as the industry itself changes.

**LEA VEROU**

Frontend engineer and web designer
lea.verou.me



As browsers matured, so did HTML and CSS. I believe that CSS is currently going through a revolution similar to the one JavaScript went through in the AJAX era (2004). It's now starting to have its own conferences, tooling, books and developer ecosystem, and it has become so big that there are currently very few people in the world that know all of it, if any. Not only do I think that CSS and HTML are still valuable on their own, but I think we will soon start seeing 'CSS developers', just like there are currently 'JavaScript developers'. However, having diverse knowledge is always a good goal.



RACHEL NABORS

Interaction developer and founder at Tin Magpie
rachelnabors.com tinmagpie.com

 In interaction development, solid HTML and CSS skills are invaluable right now. There are all sorts of new HTML5 APIs to explore and CSS animations to create, and you need to have a broad knowledge of many techniques to pick the right combination for a project. There's a lot of slack to be picked up in the wake of Flash, and there are deeper questions about how we build interactions that have yet to be addressed.



PAUL LLOYD

Design, The Guardian
paulrobertlloyd.com

 It's always easy to assume things are different to how they were previously. Yesterday's web developers had to wrestle with box-model hacks, image-replacement techniques and a thousand different ways to clear a float. IE had become so dominant, that code was attuned to its various peculiarities. Today we have a similar situation, but with WebKit. Everything changes and nothing changes all at once. Specialise or generalise, how you develop your career is up to you. Flexible freelancer or CSS consultant, as Zeldman said, the best advice is always "follow the path you love".



NICOLAS GALLAGHER

Software engineer,
frontend at Twitter

nicolasgallagher.com

 Building and maintaining large web UI systems is still a difficult task that benefits from domain specialists. It's hard to find excellent UI developers familiar with the problem space. But having general knowledge and skills beyond HTML and CSS is necessary, because you're designing and working within a larger team and technology stack. I expect the situation to change more dramatically for HTML/CSS specialists once (encapsulated) Web Components are widely supported in browsers, and combined with design tools that output HTML/CSS for you.



PAUL ANNETT

Senior designer, Twitter
paulannett.com

 It's harder to get started in the web industry than it used to be, and knowing HTML and CSS is a basic expectation for many roles these days. They're still extremely valuable skills – you're less likely to get in the door without at least a basic understanding, even though the hype around web standards has now subsided. ■

FURTHER READING

WEB STANDARDS KILLED THE HTML STAR

 Jeff Croft and Jeffrey Zeldman bounced blogs off each other, debating HTML "gurudom" (netm.ag/croft-252 and netm.ag/zeldman-252). They offer two insights into the state of Web Standards and browser evolution, and both tell us: don't rest on your laurels.

THE VALUE OF YOUR WORK

 Cole Henley is a designer and developer from an agency called Mud, in Bath. Along with his annual freelance rates survey (cole007.net), Cole also published an excellent piece about how we should think about our time - netm.ag/henley-252 - and consider very carefully the true merits of being a jack-of-all-trades.

JOB INTERVIEW QUESTIONS

 Darcy Clarke (www.darcyclarke.me) has compiled an excellent list of frontend developer job interview questions. The list is available on netm.ag/questions-252. The questions are designed for interviewers to ask interviewees, but they're equally valuable for anyone preparing for a job interview.



★ Q&A

SEAN FIORITTO

Entrepreneur Sean Fioritto talks to Martin Cooper about sketching with CSS, using Flexbox for layout and CSS humour

INFO

job: Writer, web developer, entrepreneur
company: My own
ww: www.planningforaliens.com
t: @sfioritto

net: Nice to meet you. For those that don't know, who are you and what do you do?

SF: I'm a web developer based in Chicago, currently bootstrapping my own small business. I make cool things for web designers. (Read more about it here: www.planningforaliens.com.) I've been programming since I was 12.

net: You've written a book called *Sketching with CSS* (www.sketchingwithcss.com). Sketching? Surely that's what Photoshop is for?

SF: I don't want to rag on Photoshop too much, because it has its place, but I think most of us know it would be ideal if we were working in code more and Photoshop less. This is a daunting shift in thinking and workflow for many designers and agencies.

It's one thing to sit down and recreate a completed Photoshop comp with HTML and CSS, but to create the design, in the browser, from the beginning? Many designers feel like they can't be creative when they try to write code and design at the same time.

But what if writing CSS was as easy as sketching? You can get pretty close with the right tools and the right technique, and that's what I cover in the book.

net: When it comes to designing in the browser, what's the secret of success?

SF: For years the mantra has been 'design in the browser', but plenty of web designers aren't comfortable diving right into code. Writing code kills their creativity. In the past, if you wrote code at all, it was a separate task in your workflow. When you design in the browser, all of the sudden floats and divs and forms are mixed into your creative process.

There have always been people who always go straight to the browser and have no problems, so how do they do it? The secret is to not think about the implementation, so when you wonder 'what would three columns look like here?', you can just do it and not have to switch into puzzle solving mode.

Web designers who are successful with designing in the browser have an arsenal of tools for creating the effects they are looking for in the browser. They don't have to ask Google how to do something every time, so they can get into a flow: have idea, write code, refresh browser, repeat.

net: What's key to creating very complex layouts?

SF: The key is to have a set of patterns that you can mix and match to create whatever layout you want. If you want to get really advanced, you can stuff these patterns into something like your own, custom grid system, which is something I cover in the book. This works for two reasons: the more familiar you are with a pattern, the less you have to think about it, so [you'll spend] less time puzzling over how it will work. Also, when you use patterns you avoid entire classes of bugs. You know it'll just work and you won't be stuck asking Google or a coworker to help you figure out why it's broken.

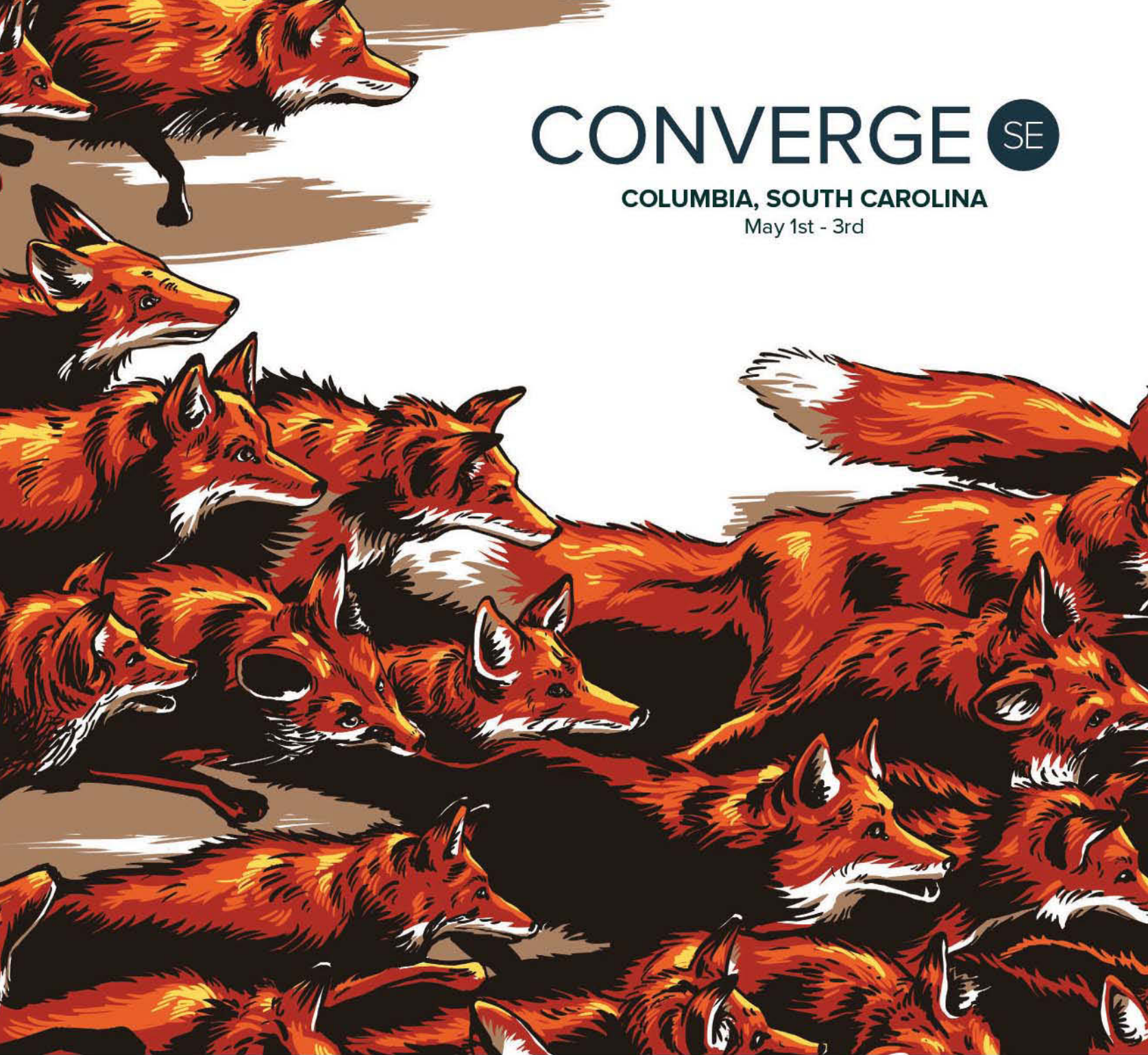
net: Looking at CSS and how it's developing, what's get you most excited?

SF: Flexbox. Layout in the browser sucks, but Flexbox fixes it. I devoted a chapter to it in the book and I also have a series of free video tutorials (www.sketchingwithcss.com/flexbox-tutorial).

Browser support isn't completely there yet, so you can't use Flexbox on every project. But for me at least, Flexbox is so easy to use I'll use it to mock up a layout and then go back and reimplement it with floats or whatever when I'm done. So I think Flexbox should have a spot in your CSS toolbox right now, and for a lucky few with customers using modern browsers, it could even make its way into production.

net: Have you heard any good CSS jokes recently?

SF: There's a Twitter account I think is pretty funny: @CSSHumor. Here's an example: `.bus > .wheel { -webkit-animation: spin; } .`



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★USER EXPERIENCE

THE INTERNET OF THINGS

Dan Frost considers how the Internet of Things will impact user experience

> Heard of the Internet of Things? If not, there's a good chance you own something that connects to your phone, Wi-Fi, car or some other digital part of your life. The Internet of Things is a world where your unconnected stuff (cars, doors, buildings, shoes) becomes connected. This is all becoming possible because the price of computing and connectivity has fallen to the point where stuff can be hooked up for a tiny additional cost. By 2015, manufacturers will be able to connect their products for less than a dollar a year.

At this falling price, anything can be connected, from shoes and tables to lamps and lights. Drugs are being tagged with RFID. Food can be tracked at the molecular level. We are going to see more than fridges connecting to the internet. But there is a problem, and this is where you, user experience designers and developers come in.

The gap between technology and users is closed by really good experience design. This goes under different names: industrial design for physical products, user experience for

digital products. Even print layout can be viewed as experience design. For example, this page is laid out and typeset to make the information easy to read and ensure it forms part of **net**.

DEFINING USE CASES

The problem is that we don't know what the use cases will be. We have a sweet shop of technology and no clear ideas what will be a great product. To compound this, we're still at the very early adopter stage where the people buying the exciting new stuff will tolerate a complex user experience because they love new stuff. To take this technology to the masses and build a next generation of connected products, the experience design has to feel beautiful. Great products just fit. Using them feels obvious. The design looks inevitable.

GOOD PRODUCT DESIGN

No one knows which use cases will take off because we don't really have the examples and content to work with, but we can learn from good product design. As this new world is the merging of digital and physical products, we need to learn from both domains. What makes a beautiful and useful physical product? What makes an engaging digital product?

You can, and should, buy and hack together simple IoT projects using a Raspberry Pi or Arduino. Once you have your connected robot or sensor, push yourself to design an experience that feels like a finished product. See if you can put it in the hands of a non-

technical user in the same way you would user-test a website. See how many people you can convert to users of your physical-digital product.

When we started designing our first product we had many conventions to challenge, especially coming from the hardware design. We kept having to push ourselves to make the experience simpler and more obvious to earn trust.

What emerged were a few rules for designing connected experiences across digital and physical products. These became our Manifesto for the Experience of Things (seamlessli.github.io/mfteot) and help frame experience design decisions, including: design

for direct, transient and shared ownership; don't carry over the experience unnecessarily; design for scale of devices, not just of users; consider the user's life with tens or hundreds of devices; and imbue ownership so users trust and use your product. You earn the right to the user's data by giving them ownership of the product.

You can read and contribute to this on GitHub (github.com/seamlessli/mfteot). We probably don't have the answers for the connected world in 10 year's time, but by learning from the best physical and digital products, we've got a start.

What do you do now? Get yourself a Raspberry Pi project, push to make the experience as polished as possible and fork the manifesto with everything you learnt about the new world of connected product design. ■

★PROFILE

Dan Frost is technical director at digital agency 3ev (3ev.com) and cofounder of IoT startup Seamless (seamless.li)



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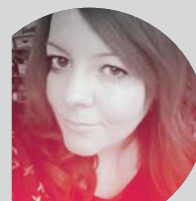
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GALLERY

Sensational design and superb development

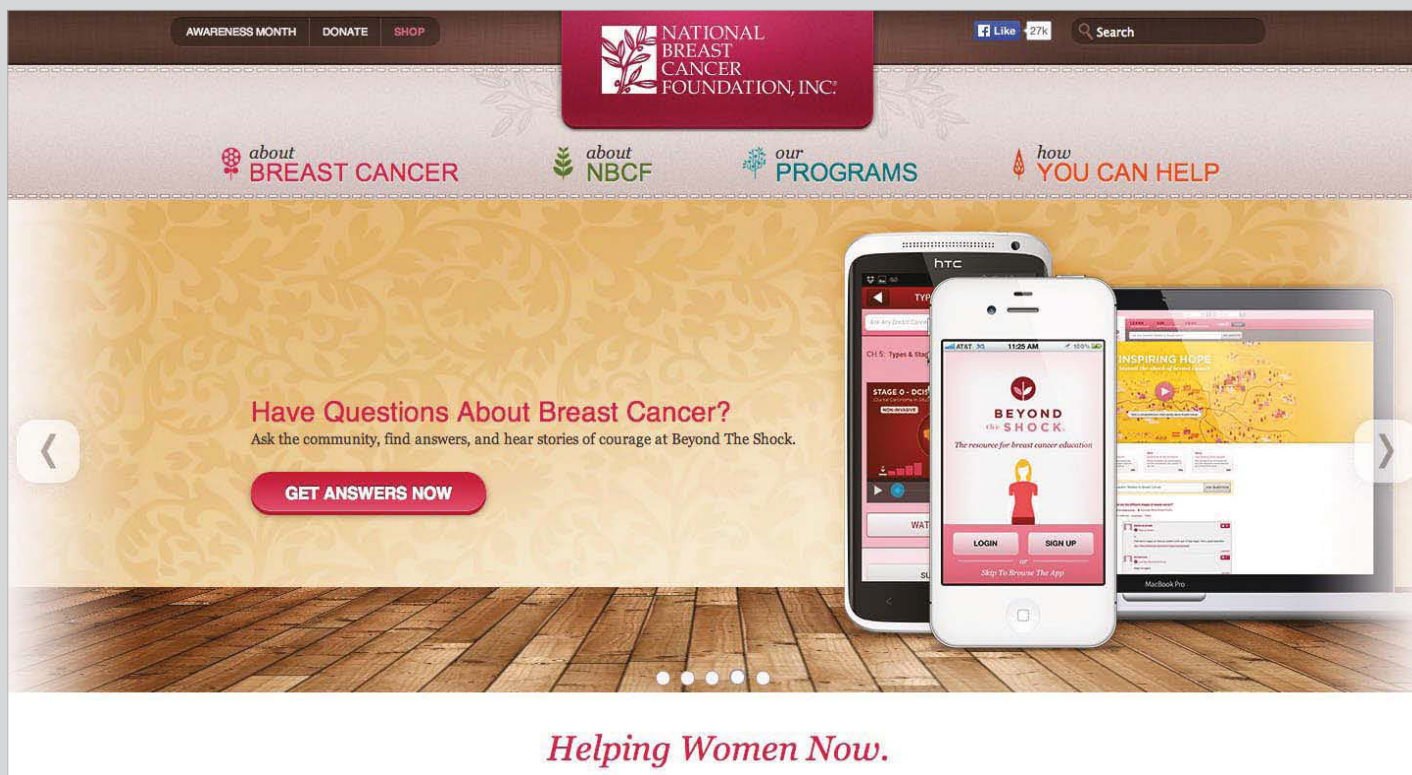
KAT THOMPSON



Kat is a UX designer at online beauty retailer FeelUnique (www.feelunique.com) by day, and a crafter by night. She's a woman of many hobbies, writes a blog, loves London and making things, and takes a lot of photos

w: www.londonkitten.com

t: @katskii



★ RWD

WWW.NATIONALBREASTCANCER.ORG

Janna Hagan jannalynnhagan.com

➤ The website and app for the National Breast Cancer Foundation of America is designed by Janna Hagan. Supported by an app using the Early Detection Plan, the website educates visitors about risks, what breast cancer actually is, the support that's available, and how you can support its work.

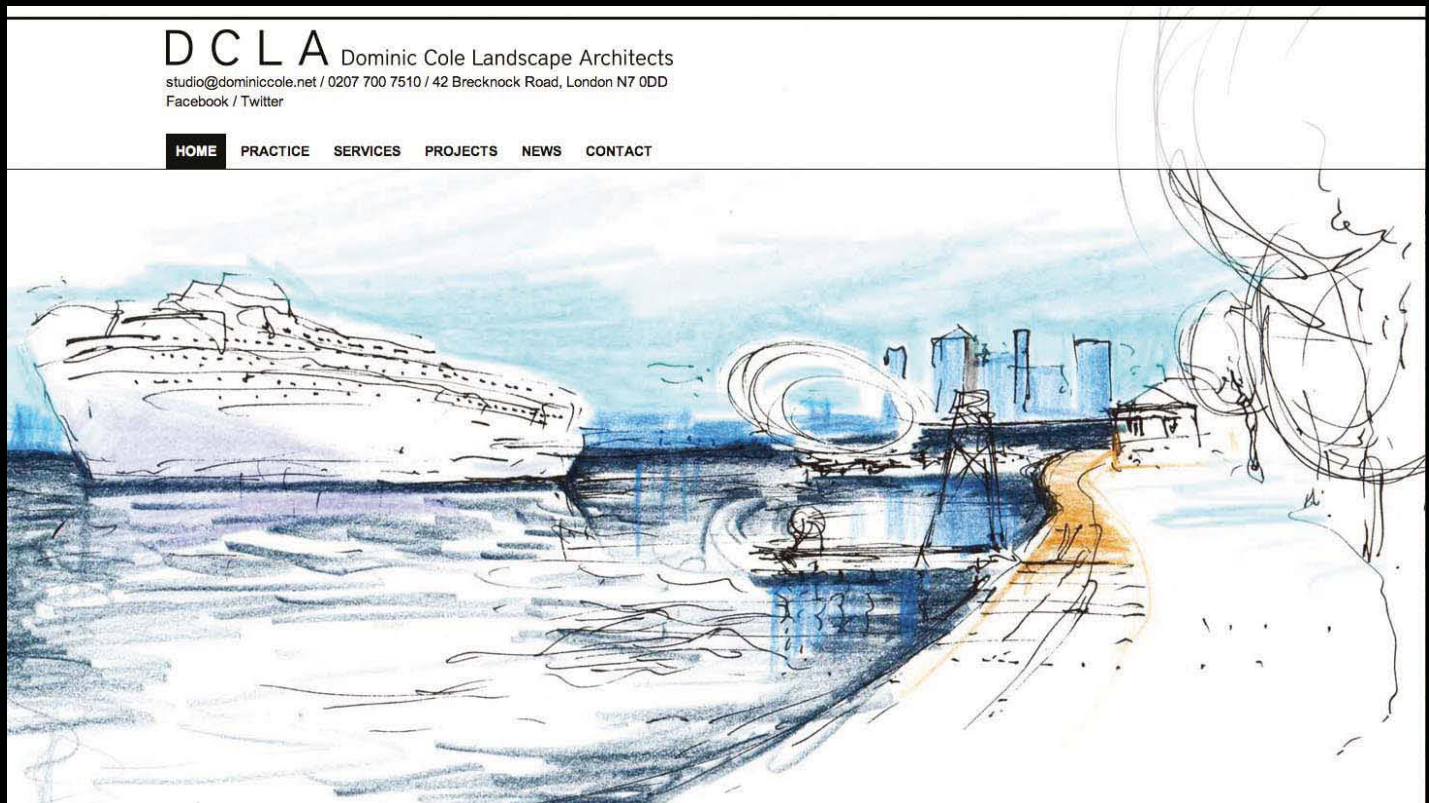
The app uses icons well, creating an elegant feel with a smooth experience and journey. Users can set reminders and log appointments, and an in-app algorithm

helps to understand their risk level. Positive imagery is used throughout to give an upbeat, positive tone to an often scary topic.

The site is responsive, taking into consideration the hierarchy of content, ensuring key information is easily accessible and touch screen users can glide through the site problem-free. Colour coding the sections, and the use of icons to represent the different aims of those sections, is a great move as this maintains the strong brand identity.

“A responsive design helps to communicate the message of this most vital of causes”

JONIC LINLEY
@JONIC



★ RWD, ILLUSTRATION

WWW.DOMINICCOLE.NET

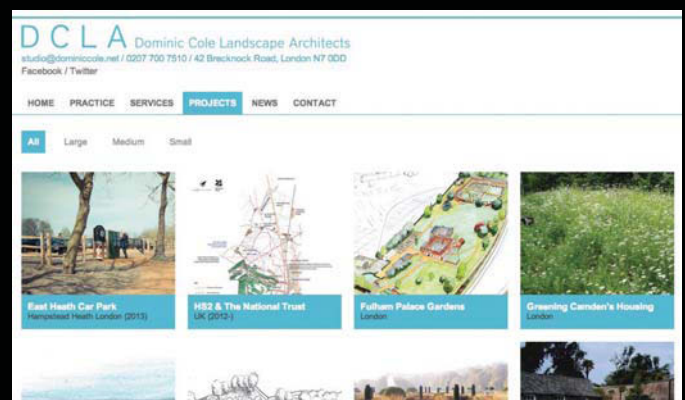
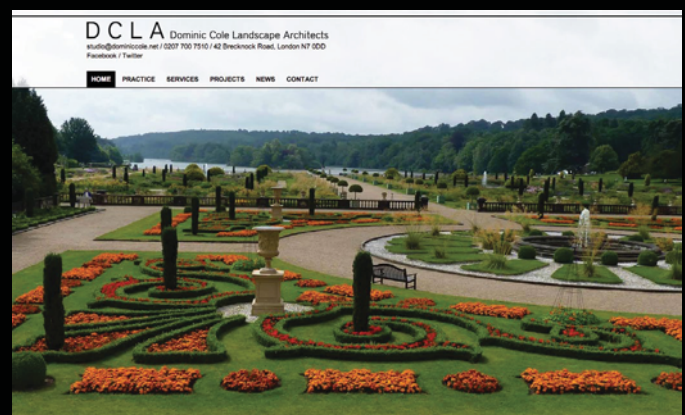
Northern Contrast www.northerncontrast.com

➤ Dominic Cole Landscape Architects wanted to find a way to reflect its offline style and elegance online. Not an unusual request, but one with exceptionally high standards.

With an aim to showcase the wide range of work they can do, but also conscious that the site would potentially be image-heavy, Simon Wiffen, managing director of Northern Contrast (www.northerncontrast.com) based in Leeds, got to know his client and the requirements of the project in order to create a light and responsive build that takes into consideration the content.

Wiffen comments, "Dominic Cole approached us with a clear vision and needing a perfect, fully responsive execution. A clean homepage showcases its featured work and powerful content management allows the company to add comprehensive case studies and photo galleries to show off what they do best."

One of my favourite elements of the site is the mix of photography and hand-drawn sketches of work. Architectural ideas can be so wide ranging and sketches, scamps and doodles can be so inspiring, so it's refreshing to see the ideas process behind the finished work. Much like web and print designers, architects can show their thought process and decision making skills to great effect.



HELPING MILITARY FAMILIES

Ben & Rosie enjoyed their first ever family holiday together in the UK after their Dad returned from a tour in Afghanistan.

★
SITE OF THE
MONTH

★ ANIMATION, PARALLAX-SCROLLING

POPPYSPEND.BRITISHLEGION.ORG.UK

Nonsense *nonsenselondon.com*

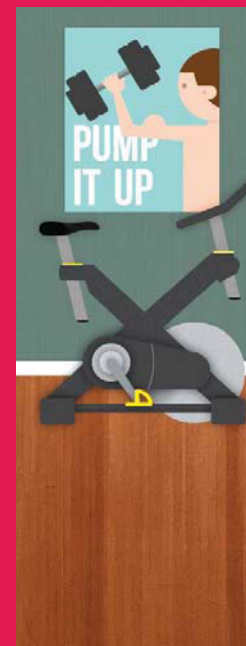
➤ The Poppy Appeal site created by the agency Nonsense (*nonsenselondon.com*) was one that really stuck out for me. I appreciate and admire the work they do for The Royal British Legion, and love that its site is so strong and full of character. I know charities have to work hard for donations, year-on-year, and the appeal site is a wonderful way to explore how the donated money is used.

The site uses illustrations and animations to educate both a young and old audience. The captivating attention to detail makes it stand out. Founder and creator of Nonsense, Robbie Greatrex, says his personal favourite element on the site is the television.

Greatrex adds, "To demonstrate the life-changing work The Poppy Appeal allows The Royal British Legion to do, we designed and developed a rich, interactive experience controlled by a simple scroll of the mouse."

There are lovely parallax-scrolling elements throughout the site that will appeal to children, and the one-page site lends itself so well to youngsters scrolling on tablets, too.

Greatrex enjoyed being part of the site, and says, "This project was a lot of fun. The concept really leant itself to us being able to add lots of playful 'easter eggs' for the user to explore and discover."



*CMS (WORDPRESS)

THISISYOURKINGDOM.CO.UK

Katie Marcus whatkatie.com

Kim Lawler www.kimlawlercreative.com

> This is Your Kingdom is a site that brings together style and substance to help visitors find activities in their local area. Simple in its concept, the site is much more complex when we start to consider all of its inner workings and potential.

Designed by Katie Marcus, and robustly developed by Kim Lawler, the site is built to handle growing levels of content. Lawler used WordPress to allow site editors and guest bloggers to update easily and regularly, giving visitors plenty of reasons to return regularly.

Under the hood, the beautiful work continues. Lawler says, "There were several challenges along the way, not least the organisation of the articles. Custom taxonomies play a huge part in making the content less linear and create a richer browsing experience for site visitors."

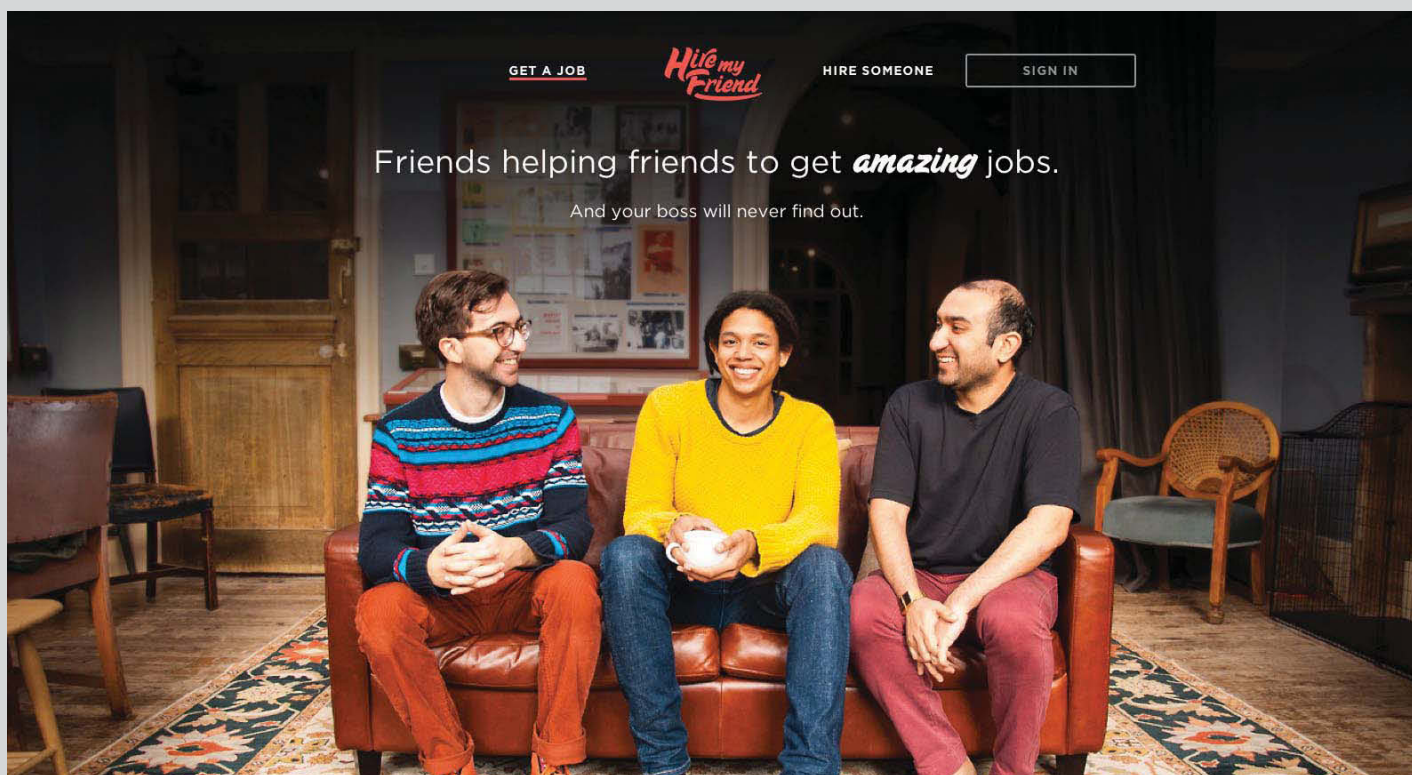
The delicate, playful design hints at a wide range of activities shared on the site, and does a great job of being appealing and eye-catching, without being stereotypically girly or niche. Illustration plays a big part in the appeal of the site, paving the way for imagination and exploration.

Lawler adds, "This is Your Kingdom is probably one of my proudest WordPress builds" – and it's easy to see why.

"TiYK have made a stylish, usable site that I kinda wish I'd made"

LAUREN THOMPSON
@LRNN





★TOOLS

HIREMYFRIEND.IO

Makeshift makeshift.io

➤ Hire My Friend is such a great concept, with an intuitive site to boot. The idea is that so many designers and developers are in jobs where they're unable to share work (NDAs. We've all signed them!). There's also a lot of empathy in the web industry and a desire to see your friends succeed. This site allows you to create an anonymous profile that describes your skills, your passions and what you're looking for, but it's stripped

back, so there's no influence or bias based on name or gender, and your boss will never find out because it's anonymous. Instead, your friends back you and endorse your skills in a genuine way.

Jon Gold, one of the creators of Hire My Friend, says, "We were tired of seeing people we love toiling away in rubbish jobs, so we made an app to help you find work at awesome startups, even when you can't publicly show off your portfolio."

The design is sleek and the illustrations combined with high-quality real photos gives the sense that you're among like-minded people rather than sales-driven recruiters.

"Hire My Friend makes me enjoy the process of looking for a new role"

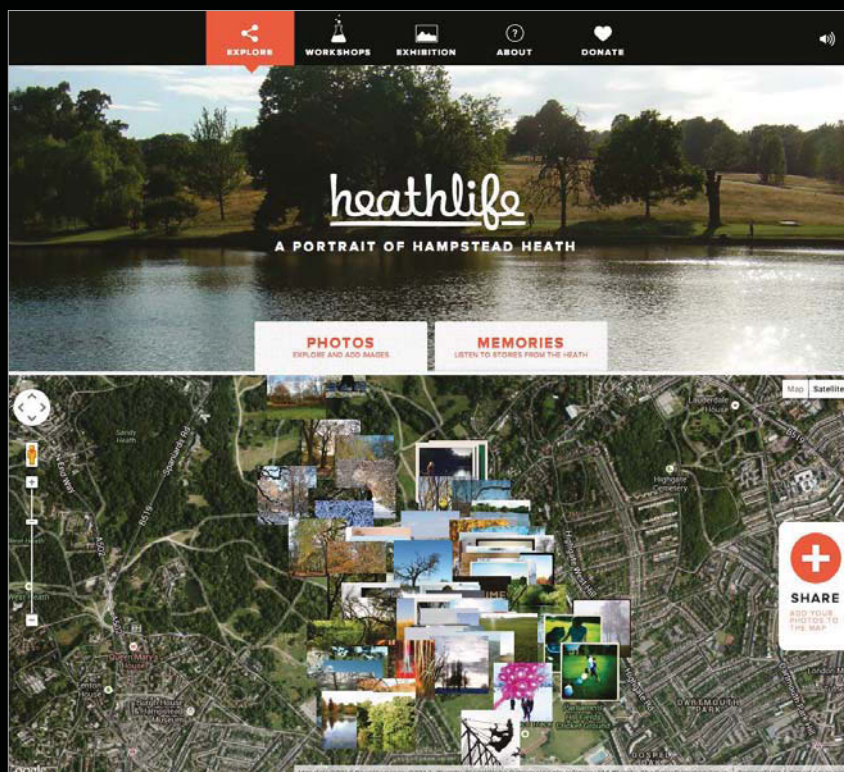
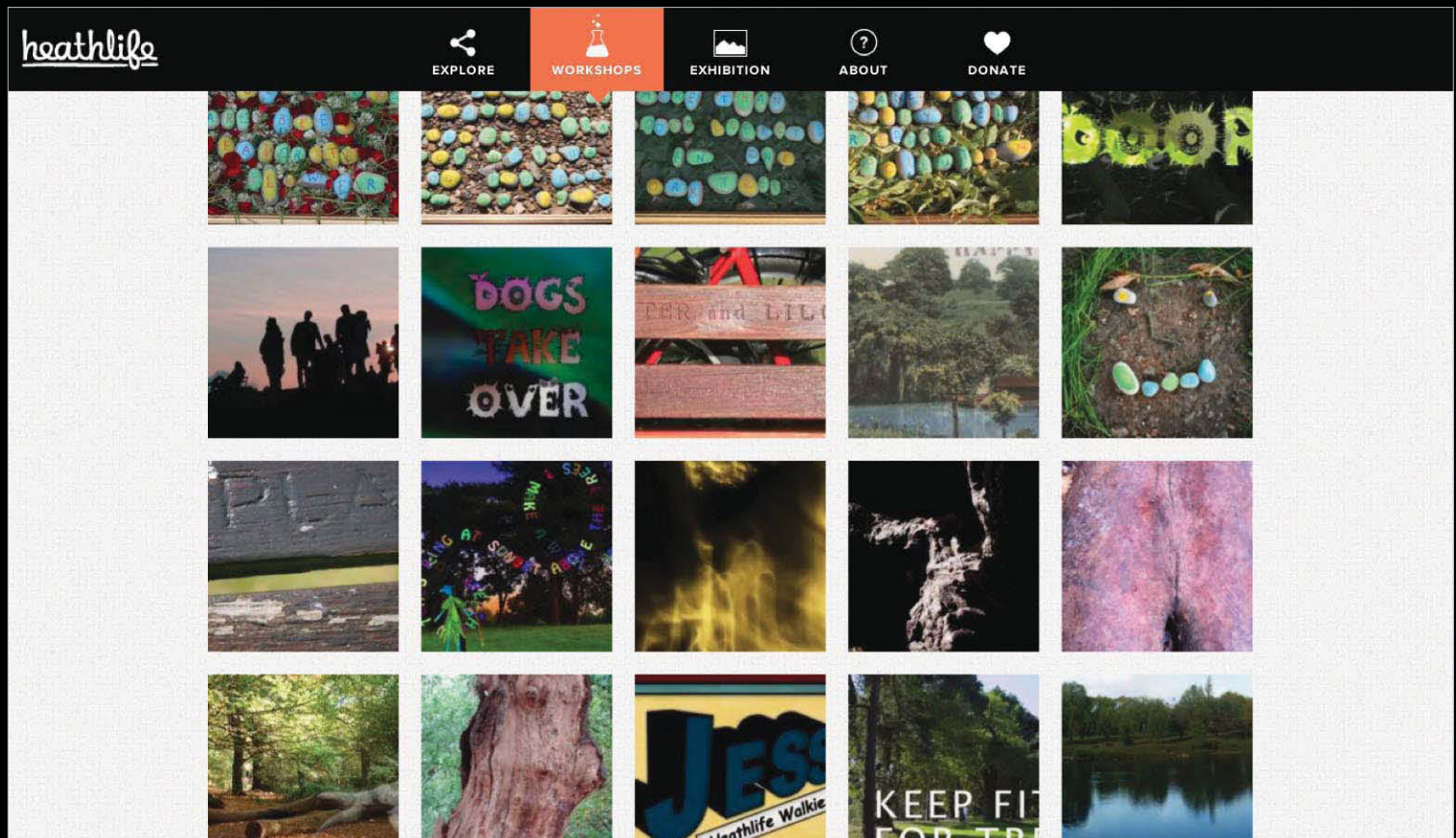
ANTHONY KILLEEN
@MRQWEST

Get a job where you make the difference

Hire my Friend is great, It was so nice to use a service that feels it was made for people like me. Even before you meet employers there's a level of trust from your recommendations and you don't get treated like just another number. I was able to find a great startup to join that really understands and values what I do.

Luke Ngakane
DESIGNER, WIGWAMM





★ CONTENT STRATEGY, ICONOGRAPHY

HEATHLIFE.CO.UK

Tim Harbour www.uc48.net

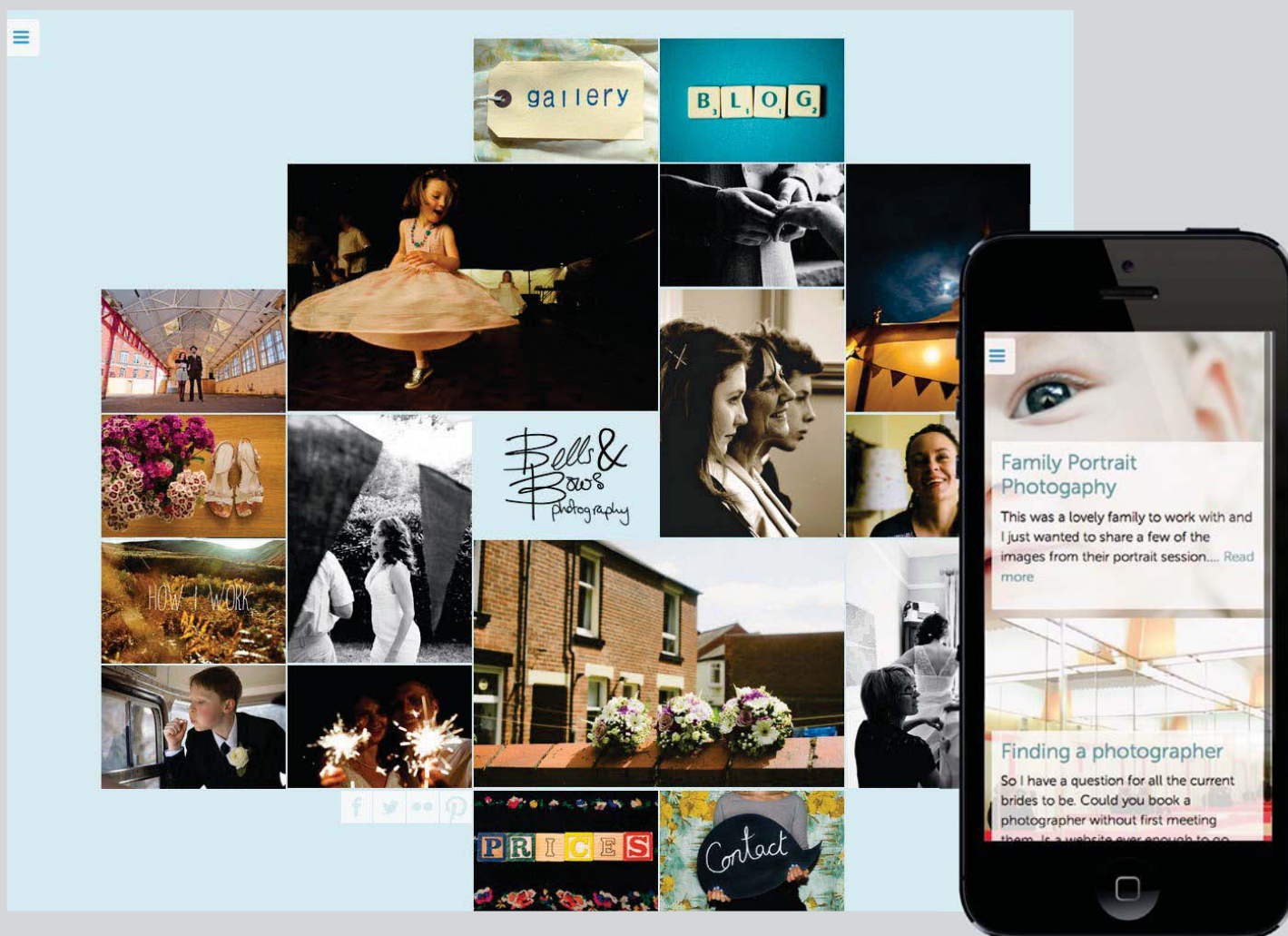
➤ Heath Life (heathlife.co.uk) is a digital portrait of Hampstead Heath. The website, created by Tim Harbour of UC48, aims to show off the best of the Heath. Incorporating videos, photographs, writing and memories, the website is a gorgeous hub of content that begs to be explored.

Great use of iconography adds charm to the site and makes it easy to navigate. As you delve in further, there are wonderfully executed transitions when you filter content.

Harbour comments: "One of the main challenges was making the site engaging in its own right while supporting the larger project. It's about the content really. The interviews are great and hopefully you get a feel for the Heath itself and the people that love it."

The layout is well thought-out to accommodate the different content types, with a clear thought process that makes the user experience of the site so subtle and intuitive.

The design has an authentic charm. It's executed well, without being glossy and polished, and gives a real sense of what the Heath, and site, are all about.



*CONTENT STRATEGY

BELLSANDBOWSPHOTOGRAPHY.CO.UK

Moogaloo www.moogaloo.com



➤ Bows and Bells is a photography portfolio created by digital agency Moogaloo (moogaloo.com) based in Sheffield. Built responsively and using the Masonry jQuery plug-in, the hierarchy of the content has been carefully considered so the content snaps into place for various browser sizes, presenting the best layout for each viewport.

Andy Marshall from Moogaloo says, “The biggest challenge I found in building a website for a photographer was showing off the images of all different proportions on any device, screen size and orientation.”

What's been created is a wonderful and lightweight way to view image-heavy content. There are blog posts packed with large, high-quality images and a wonderfully-crafted

homepage that immediately encourages you to consider the different types of photography and aspect ratios possible, while still being neat and tidy. The blocks sit so nicely together without being overwhelming or competing with each other. The imagery used on the homepage is beautiful and is a great example of the mantra 'content is king'.

Portfolio sites are there to house and display work, and the site itself is not intrusive or distracting from the content. The user is encouraged to click through the images to dig deeper into the site and, by using photography as links, it further showcases the talent of photographer Nina Petcey. Throughout, Marshall successfully maintains the quirky character of its brand. **n**

“It’s always great to see blogs that are designed to prioritise content – lets the work speak for itself”

ANDI FARR
(@SEMIBAD)



* BUSINESS

TURN A PROFIT WITH YOUR SIDE PROJECT

Start generating revenue with bet365's award-winning affiliate scheme

➤ If you work on the web, you should have a side project. A side project is a great way to refine your skills and practice new ones. A side project is also the best career shop window. Sadly, side projects seldom make money. However, there is a way to turn your passion into pounds: you can become an affiliate.

Affiliates work in partnership with bigger online businesses, sending customers their way and receiving a commission for the lead. One of the most respected and successful affiliate schemes is run by bet365, a global online bookmaker with over 10 million customers in 200 countries. Through bet365, online players can enjoy sports betting, casino games, poker, bingo and more. The bet365 affiliate programme has won an award for Best Overall Affiliate Program for the last four years and a Best Overall Affiliate Manager award for the last three. Judged by panels of industry professionals, winning just one of these awards is a real achievement.

There are two key drivers behind bet365's success. First, it offers great products that its customers love. Second, it has a large, highly-skilled, hardworking and helpful team of affiliates managers on-hand to help affiliates. Beyond providing expert marketing and technical advice, the bet365 affiliate team also attends three affiliate conferences each year. The two-day events consist of seminars covering essentials like SEO, lead generation, conversion, website development, industry trends and updates, branding, and much more. The events are also the perfect place to network and exchange ideas with fellow entrepreneurs and the bet365 team. Come along and visit bet365's impressive stand.

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SHOWCASE

Sublime design
& creative advice

THIS MONTH FEATURING...



We help you map and make meaningful connections with your customers.

FOCUS ON

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Gene Crawford considers how getting the small things right can lead to large-scale project success. The Devil's in the detail



PROFILE

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fffunction, based in Bristol and Penryn, Cornwall, talk to Martin Cooper about user-centred design, working with clients and RWD



HOW WE BUILT

64

DOMANI explain how they built a site to celebrate Stephen King's sequel to *The Shining* and answer 'what happened to Danny Torrance?'

DESIGN CHALLENGE

This month...
VISUAL ARTIST SITES

* PROFILES



BRENDAN FALKOWSKI

Brendan founded Gravity Department, a multi-device design consultancy for ecommerce. His clients include Angry Birds



BENJAMIN HOLLWAY

Benjamin is a 16-year-old freelance designer and developer. Client work includes startups and personal websites

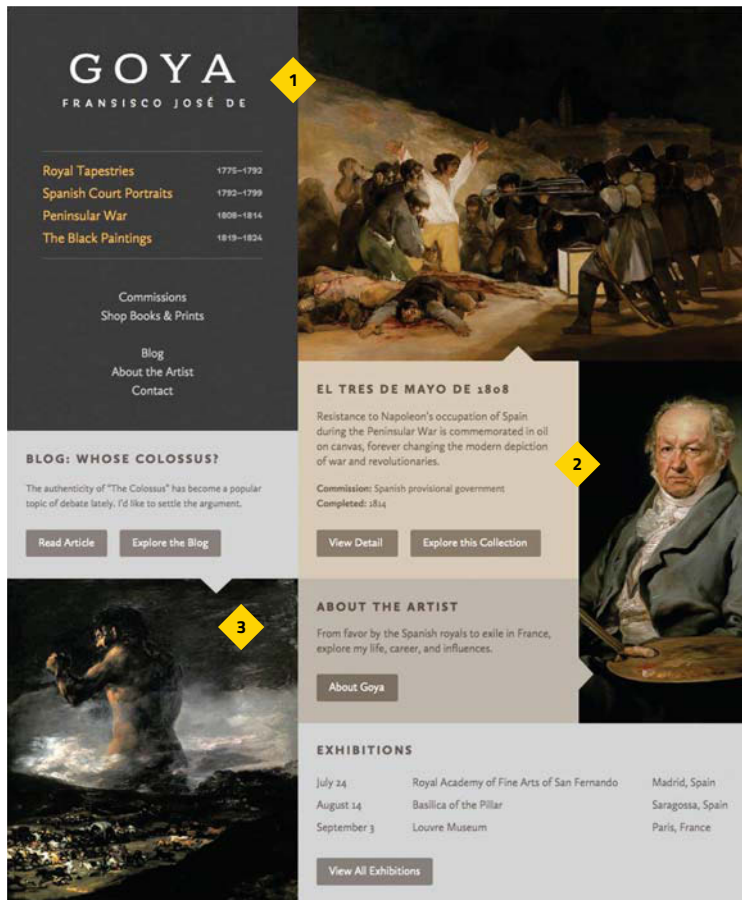


MATT WILLMOTT

Matt is a freelance designer/developer based in Herts. Working with iamVibes and currently creating custom Shopify themes

BRIEF

This month we'd like you to design a website for a visual artist. Consider that artists typically want their site to display their work, communicate information about upcoming exhibitions, sell products and provide news updates, and sometimes a blog.



* BRENDAN FALKOWSKI

FRANCISCO GOYA

Getting up close to art and reflecting a museum experience. See the full size image at netm.ag/goya-252

> The museum experience provides two things rarely afforded in artists' websites: getting really close and guided tours.

With your face inches from the canvas, you lean forward scanning the brushwork, pigments and drying properties. Even 4,000 displays won't do an oil painting justice. The site's art inspector is designed for examining detail. There are no disposable slideshows or modals here, just controls to pan/zoom into petapixels if you have them. Give command of perspective back to the observer, then help them interpret. Museum guides enrich your viewing with technical, historical and contemporary abstracts of artwork. They point and present its narrative. The freeform inspector is extended with orchestrated highlights: a sequence of purposeful commentary and directed vistas that improve the observer's appreciation of the work. This is an artist's website for the uninitiated.

Q CLOSE UP

(1) Navigation promotes the collections, services/products and artist information. Interior pages are content-first and the menu is collapsed initially. (2) Horizontal rhythm follows the golden ratio, while vertical composition is driven by the artwork. Ad-hoc grid meets art direction. (3) Text modules point to associated imagery (featured work, latest article, about the artist) and the site's colour palette adopts hues from the content. (4) Collections present curated themes with short essays and the chronological relationship to other periods. (5) Highlighted tours present a navigable commentary and visual framing to narrate a work's backstory and significance. (6) The art inspector lets the user pan/zoom freely at archival-quality resolutions without losing context or being bound by the viewport.

MY MONTH

What have I been doing this month?
Snowboarding in Idaho and designing the frontend for a \$4 billion B2B retailer.

Which two websites have I visited for inspiration?
mobify.com/blog and responsivedesign.is.

What have I been watching?
American Psycho. I just love his morning routine and monologues.

What have I been listening to?
Always film scores: *Eastern Promises*, *Oblivion*, *Home Alone*, *Casino Royale*, *The Hours*.

SCOTT PATIENCE

1

[Gallery](#) [Events](#) [Blog](#) [Contact](#)

2



PRESTON

4

Oil

29.7 x 42.0cm

[Read More](#)

3

6

I love to walk my dog along the cliff top by the vast sea or wonder through the backstreets of the urban city. I draw inspiration from the life around me. I use naturally sourced oil pigment ground from minerals such as stone and earth as my preferred medium. This creates a raw quality to my work. I am motivated to study plein air; this desire has been heavily influenced by Andrew Gifford. This fundamental tool enables me to capture surroundings, temperature and character. I've adapted San Francisco based artist, Kim Cogan's perspective on the gritty side of life and how it can be aesthetically appealing into my own practice.

* BENJAMIN HOLLWAY

SCOTT PATIENCE

Using hover effects and filters to prioritise the displaying image. See the full size image at netm.ag/scott-252

MY MONTH

What have I been doing?

I've built a profile site for a teen fantasy author and I've been learning new technologies.

Sites I've visited?

Tumblr, Behance and Pinterest.

What have I been watching?

Silent Witness and *Sherlock*. Both have been great!

What have I been listening to?

Paramore and Imagine Dragons. I've also been listening to Janet Devlin and Forerunner.

> An artist's website should have a single goal to display as much of their work as possible without distracting the visitor's attention with unnecessary details. The site needs to have visual impact and a powerful screen presence. I've used large images with hover effects and filters in order to display as much of the artist's work as possible while giving useful information.

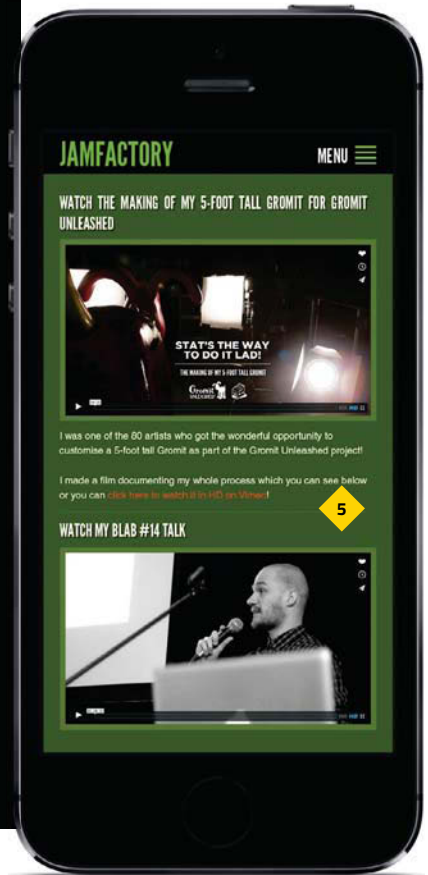
It's also important that someone viewing the art is aware of the artist who created the pieces, so I decided to display an information panel beside the artwork. It's necessary to link the artist to their work so that the visitor can understand the artist's inspiration.

The typography is simple and elegant so that it will not distract users. The mobile site's aim is to focus on the display of the artwork in the fullest form possible. The decreased screen size means that the 'About' section needs to be moved to a separate page.

CLOSE UP

(1) The artist's name remains at the top of the page throughout the visitor's experience so that the artist can always be identified. (2) The navigation menu leads on to give more information about the artist including upcoming events, a blog, and a method for contacting them.

(3) As the visitor navigates the website, the artwork scrolls under the translucent header, but the rest of the site remains fixed. (4) When hovering over images the artwork is dimmed and the visitor sees information about the artwork and has the option to find out more. (5) There is a fixed section about the artist in order to connect the artist with their work. (6) The mobile site uses wide images to display the artwork in its full form. The about section is moved to a separate page and a new navigation link is added.



★ MATT WILLMOTT

GAVIN STRANGE

Portraying personality and creativity via a flexible site. See the full size image at netm.ag/gavin-252

➤ Gavin Strange is senior designer at Aardman and also goes by the name of JamFactory. As he is constantly creating new things to shout about, the site needed flexibility rather than being flashy but rigid. Because of this, I decided to keep the site as a blog, like his current Tumblr site (news.jam-factory.com). Having this content easily accessible rather than hidden in sub-pages is important, and the sidebar allows for more to be added as and when he chooses without needing to redesign the site.

Once I chose Strange as the artist for my design, I very quickly had a style in mind. Initially I went with a brighter colour scheme but quickly found it became difficult to give emphasis to individual elements. I also wanted to make sure Strange's personality shone through, so I kept original copy from his current site. I would build it using WordPress or possibly the Perch CMS. These would both let me create custom templates for new content types. **1**

Q CLOSE UP

(1) The biography text is placed to be the first piece of copy you read, ensuring you to get a feel for Strange's personality when browsing the rest of the site. (2) These main projects needed to be prominent, and the colour allows them to stand out. (3) I used Strange's brand colours and fonts as they're fairly well established. It brings colour to contrast against the dark background. (4) I would only load the two most recent posts, with an option below to view more, taking you to an archive of posts. This prevents having to load lots of images on page load. (5) When viewed on a smaller device, it would reduce to a one column layout, showing the sidebar and removing the blog posts to speed up load times. (6) For the contact form I'd use Typeform, either embedding on a separate page or linking to the Typeform page's URL.

MY MONTH

What have I been doing?
I've been playing around with Shopify customisation and adding more new content to the iamVibes.co.uk website.

Which two websites have I visited for inspiration?
The Great Discontent is great for interviews with fantastic people. I like using niice.co.

What have I been listening to?
Rock, pop, country, anything really.

What have I been watching?
I don't watch much. It's something I'd like to change this year.

★ FOCUS ON

SMALL MOVES

Gene Crawford considers how getting the small things right can lead to large-scale project success

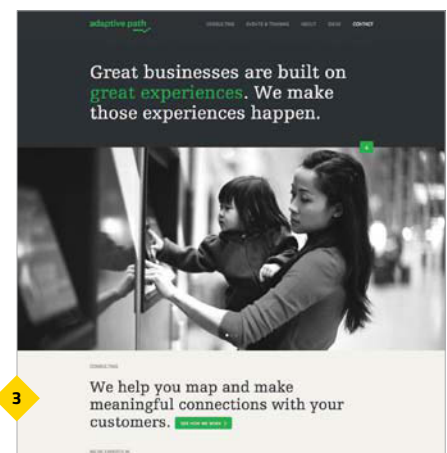
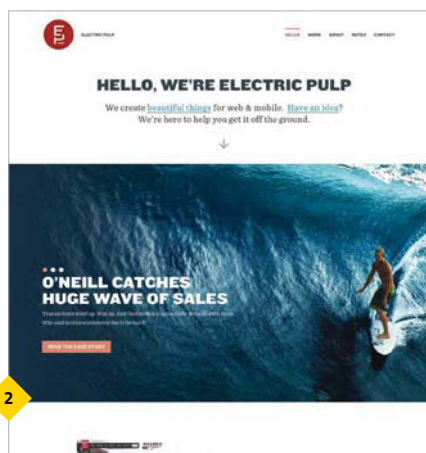
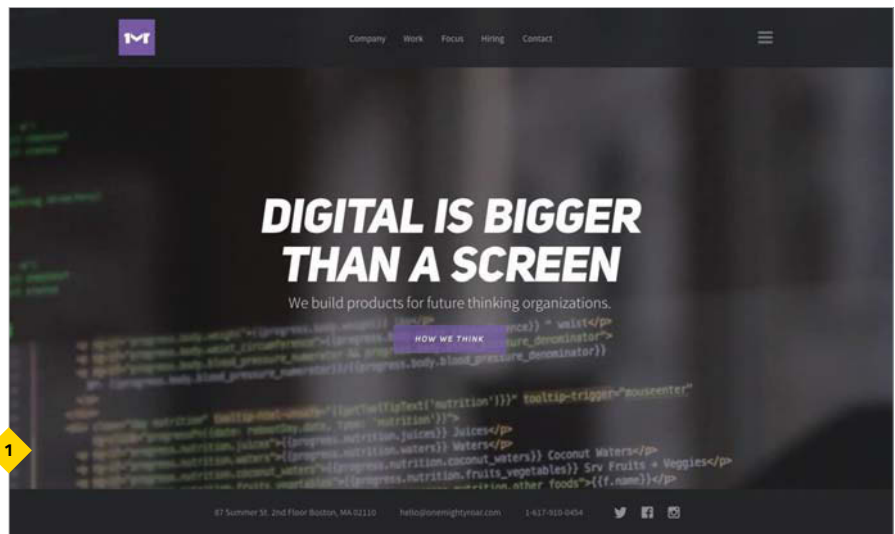
> The old saying, ‘The Devil is in the detail’, means that whatever is worth doing, is best done by paying attention to the details. This applies very well to UI and UX design. It’s important to have a high-level perspective of what you’re trying to accomplish and what the problem is that you’re trying to solve. It’s also highly imperative to make sure all the interactions are considered from a design perspective, specifically the interactions where the user will actually ‘touch’ your website or app. The user’s experience of whatever you’ve designed and built will be determined by what they need it for.

These ‘touch points’ are often small in stature but very large in outcome. For example, the way a user interacts with a single-page link on a website has the potential to be confusing or crystal clear in its purpose. There are established design patterns that people who use websites and apps understand because they’ve been established over the history of these things being used in other forms. There are also very new design patterns that are exposed every day, especially as we begin to blur the lines between mobile and desktop design, for example, using responsive web design. Make sure the touch points of your website or app are catalogued and designed as much as you can. Use existing patterns when you can and innovate when you get the chance. Test it out as much as you can using real scenarios. This all sounds easy, but if it was really that simple we’d all be out of a job. **n**

★ PROFILE



Gene’s mission is to work tirelessly at providing inspiration and insight for developers. His recent projects include *unmatchedstyle.com*



(1) The digital product design company One Mighty Roar (*onemightyroar.com*) uses the common icon ‘hamburger’ convention to denote more navigation options and, when clicked, opens up the website’s full sub navigation scheme. (2) The web design firm Electric Pulp’s (*electricpulp.com*) site loads in forwards and backwards arrows as you mouse

over the hero image slider, letting you know for sure that this is a slideshow.

(3) The website for the design firm Adaptive Path (*adaptivepath.com*) includes several brilliant details that make the experience memorable, such as the way the main header shifts slightly as you scroll past the hero image, keeping the navigation in sight.

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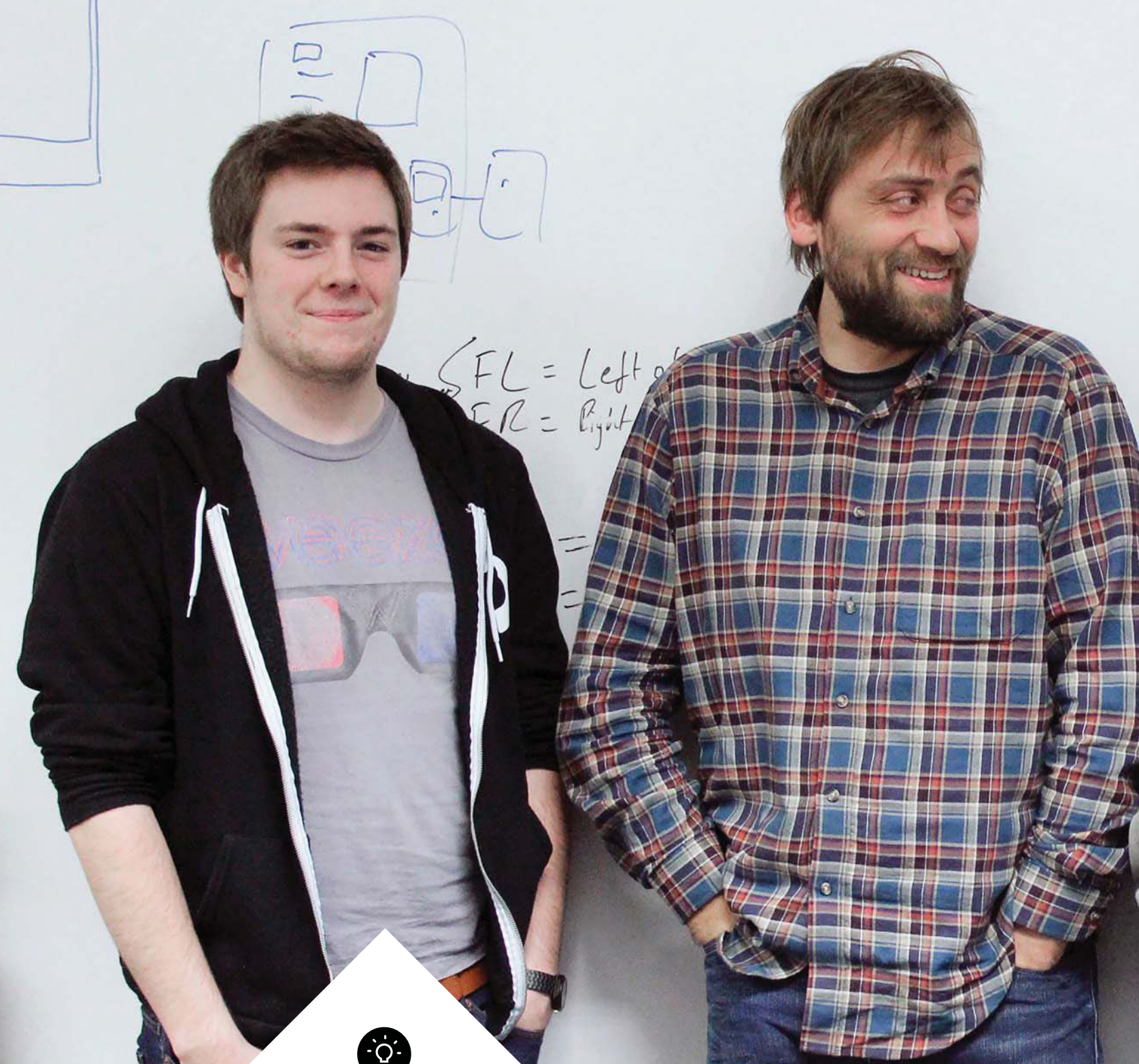
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TO PAGE 14

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* PROFILE

FFFUNCTION

fffunction.co

fffunction formed two years ago. Martin Cooper talks to the team about user-centred design, working with clients and RWD

> fffunction is a design house with hubs in Bristol and Penryn, Cornwall. Currently the team are collectively sporting five tattoos and 2.8 beards. They've drunk 2844 cups of tea and 1269 coffees (these numbers were correct at the time of publication). The friendly, and predominantly clean-shaven bunch has also turned out some cracking work. Projects include creating the 2012 Brooklyn Beta site, and building a new web-front for musical instrument



makers, Roland UK. It also produced a website for the conservation minded Global Tree Campaign. We caught up with the fffunction team and discussed life, the web and collaborative working.

net: So, fffunction. Who are you and why the liberal use of the letter 'f'?

Adam Robertson: Our business is about designing for users and the one thing that always sums that up perfectly is form follows function: fffunction.

net: You're based in Bristol and Cornwall? How does that work on a practical level? Is it easy working on projects from different locations?

Dan Goodwin: Yep, no problems here. When everybody in a team understands how they and the other team members work best, then distance and location isn't a problem. Daily stand-ups, a decent agency-wide IM chat room as well as regular office swaps and get-togethers all really help too. ►

INFO

w: fffunction.co

location: Bristol and Penryn, Cornwall, UK

established: January 2012

team size: 7

expertise: Digital design, user experience design, development, responsive design and development

clients: Roland UK, Mixture.io



* OFFICE CULTURE



ADAM ROBERTSON
UX director

What's on your desk today

Macbook Air, a monitor, a mouse along with a big pot of pens, pencils and markers for drawing on the walls. Always a cup of coffee and my headphones. It's pretty messy to be honest!

Little things that make your life worthwhile

Websites: Google, Arts & Letters Daily (www.alldaily.com), Boomkat (boomkat.com), eBay
Apps: Tweetbot, Instagram, Dropbox, Google Music (so much choice!), This American Life
Audio: Micachu & The Shapes, Alvo Noto, Shifted, Ride, Belle & Sebastian, Pavement and Sun Araw.
Reading: *The God Delusion*, *Just Enough Research*, *Flow* and *Why We Fail*.

What do you have on the walls?

We have some posters: one reads, "It will all be okay in the end. If it's not okay, it's not the end", we have a map of the world, as well as two big walls painted with idea paint, so generally it's thinking that's on the walls.

What will you do for lunch?

Due to us being located on site at Falmouth University, we're blessed with an amazing canteen, so we make an effort to eat together there a couple of times a week.

What hours do you work?

It's a mixed bag, but generally we try to work nine to five. We make up the hours where we need to be doing something else.

► **net:** Have you never been tempted to move the agency to London?
AR: Nope, never. Why do you ask?

net: Looking back through your portfolio, which pieces of work do you think best summarise your strengths and attitude as a company?

AR: I would say that work we have done with Roland best summarises our user-centred design process. We helped Roland transform from a product-led to a customer-focused business.

Our persona and user journey work became an integral part of their internal processes, which they made into a printed booklet that was distributed around the Roland organisation globally.

PC: From a more visual design perspective I'd say it's a close call between the work we did for Mixture (mixture.io) and HybridCluster (www.hybridcluster.com). Both were really keen for us to explore interesting solutions and try a few new techniques and ideas. The initial thinking and sketched ideas for Mixture in particular were certainly quite open and free-flowing.

Even if we did end up reining it in for the final version, it was great to explore some ideas.

net: You worked on the 2012 Brooklyn Beta website (brooklynbeta.org/2012). How did that come about?

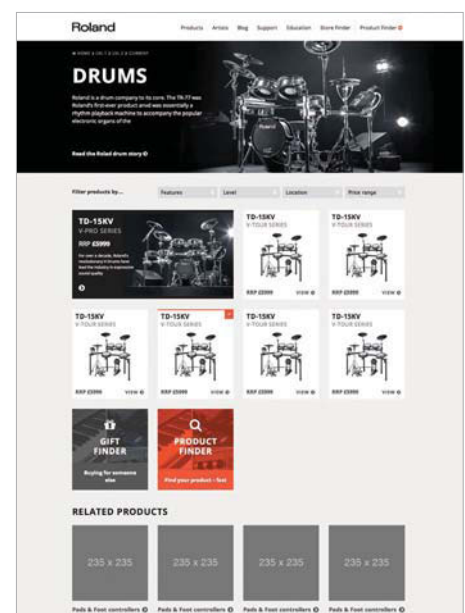
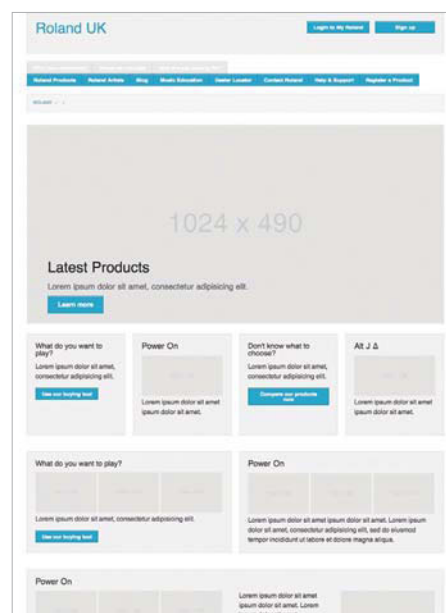
AR: Chris and Cameron from Fictive Kin (fictivekin.com) asked us if we would like to build this project and we grabbed it with both hands. Initially this was a simple build project from designs by Eli Russo. We turned this into a responsive build. We became friends with the Fictive Kin crew after being involved with the Mild Bunch (mildbunch.org) in Bristol.

net: Your site trumpets: 'good design is long lasting'. Is long-lasting design achievable in the web ephemeral world?

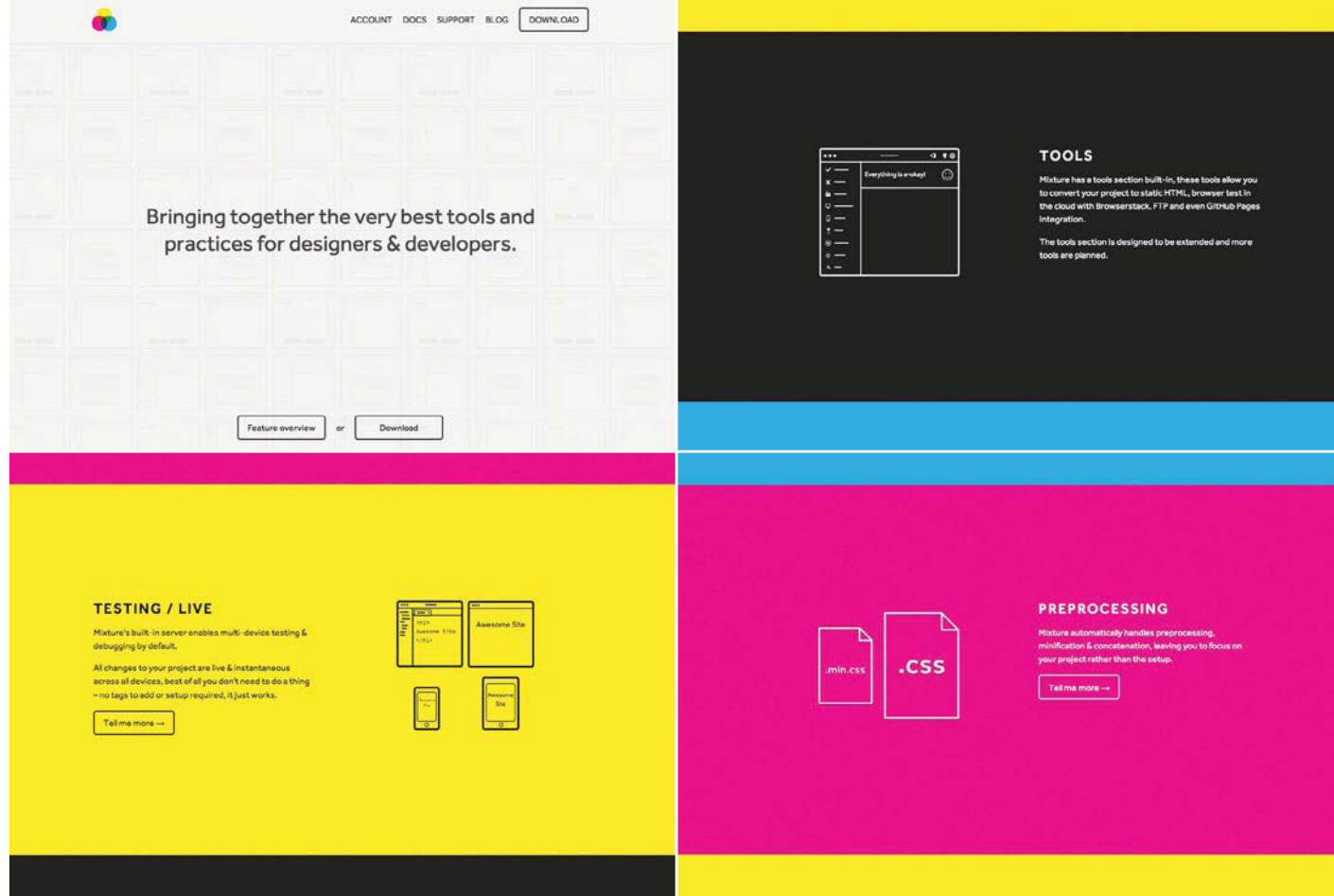
DG: Everything we do is design. If we can work with clients to help them think about users, that will outlast any project, iteration, app or other deliverable.

AR: Style isn't the only component of good design. Ideally, if we work on a project and then that design changes in the future, we hope the work we produce at each stage of the design process can and will be reused to some degree.

net: There's a fascinating write up on your site about ffunction's work on Global Legal Group (GLG)'s website (www.glgroup.co.uk). What's the key to



Roland's prototype Roland Interactive prototype showing its transition through to the visual design



Mixture app Mixture has changed the way fffunction work. Here are the defining features of the Mixture app as created in SVG and CSS animations

making the 'discovery phase' in a project work smoothly?

AR: The key to this is to have the client completely involved in the decision-making process within our team. We workshop and generate ideas together. This way there's no client isolation and they've been involved in the process from the start. Clients then trust the decisions that are made, and we lose a lot of the baggage that comes with more traditional methods of going away to do work and coming back to present.

Ben Coleman: We look at their whole business in the initial workshop. They hadn't considered the landscape that their portfolio of magazines were part of, or the similarities and differences to each other rather than the competition. The impact of looking at this was obviously good for the website. It's only by fully understanding the client's business we can start to head in the right direction.

net: What tools or techniques do you find particularly useful during the early stage of a project? (Do we spy a pack of Stephen P. Anderson's Mental Notes cards?)

AR: We do have some Mental Notes in the studio, but we definitely don't rely on these. Early on in a project is all about

talking and working through what the clients sees as problems and then looking to see what their users experience as their problems.

DG: [We use] anything that gets the client thinking and talking about their strategic aims and their users. There are a variety of workshop techniques we'll use (lots of them are described in the *Gamestorming* book (www.amazon.com/dp/0596804172), but most of them will involve a group of people, a wall, Post-its and caffeine. Having the right people in those workshops makes a big difference too; those who talk and work with users bring the best insights.

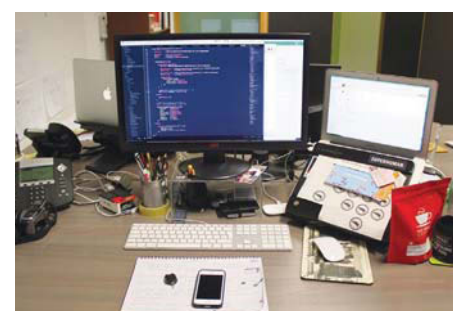
net: When it comes to early concept work are you fans of pen and paper, Photoshop or in-browser prototyping?

AR: We use all of the above but in no particular order. We definitely start with sketching and pens and paper, but we never really stop using them either. Rapid prototyping has been an amazing tool for us. We can really quickly test out interactions and present thoughts in front of the client. Mixture has been an absolute game changer for this! We do some Photoshop work but generally start by getting style guides built into the

browser and then we design onto prototypes. Generally, it's a revolving door of all of these techniques.

PC: We've also become a fan of the term 'finish in browser', [which was] first coined by Dan Mall we believe. When we heard that, we finally had a name for a design process we'd been using for ages. We still find visual tools useful for exploring the design and getting those first few wireframes worked up to a high-fidelity, but often that's all that's needed to get a system flowing.

We've also got into the habit recently of creating an SCSS settings file for things like type-sizes, baseline rhythm, suggested design breakpoints and colours as we go.



Work space Here is Adam's desk, complete with Bean Coffee and fffunction stickers



*TIMELINE

From formation to fully functional in two years

JANUARY 2012

fffunction is born out of a discussion at 2011's Brooklyn Beta conference.



FEBRUARY 2012

Work starts on responsively developing the Brooklyn Beta website for 2012.



AUGUST 2012

Russell joins as technical director.



DECEMBER 2012

Work starts on the Roland UK website



FEBRUARY 2013

Sassaparilla launches.



MAY 2013

fffunction lose to Dan Mall's SuperFriendly for Young Agency of the Year at the 2013 net awards



JUNE 2013

Dan Goodwin and Jake Giltsoff join full time as a UX developer and designer respectively. Both are worth every penny!



JULY 2013

The new Mixture site is designed and built.



SEPTEMBER 2013

The redesign for the University of Exeter's European Centre for the Environment and Human Health completes. A great responsive project with some lovely interactions.



JANUARY 2014

Dan Reeves joins as junior developer. Work starts with Bristol Museums.



Bristol office ffffunction has two offices: one in Bristol and one in Penryn, Cornwall. From left to right, the Bristol office ffffunctioneers are made up of: Pete, Jake, Ben

- **DG:** We still love pen and paper to help us think and play around but we think the power of rapid prototyping in terms of getting our work in front of clients and real users quickly is immense.

We can fling a bunch of frameworks and libraries together with something like Mixture to speed the workflow and then iterate. It's what we've been doing with paper prototyping for years, but with responsive, cross-device and easy remote testing all thrown in. We can usually use some of our code to bootstrap the build.

BC: Post-its, Muji pens, and Whitelines squared paper are our weapons of choice when we start to think about a site's architecture and wireframes. You simply cannot beat sketching for the sheer speed you can capture, visualise and evaluate your designs.

Once we're happy where we are, getting into the browser and rapid prototyping with Mixture is the next step with the aim of testing this on users.

net: Whose work is impressing you most online, right now?

PC: For design and brand, it's got to be Focus Lab (focuslabllc.com). I'm also a huge fan of Fraser Davidson's logo work (fraserdavidson.co.uk).

ALL: Maybe an obvious choice, but we'd say that the work that Government Digital Service does continues to impress and inspire. Bringing user research, content strategy, solid design principles, Agile methodologies and open source into the public sector is to be applauded. They tore up the rulebook and the end products speak for themselves.

DG: Another recent example would be the work, which Sophie Dennis (www.sophiedennis.co.uk) and John Goode (along with a stellar team) did on The University of Surrey (www.surrey.ac.uk). The way they brought the current best industry design and development processes into what must be a highly political and opinionated organisation is admirable.

net: Do you have any statistic aspirations for 2014 to add to your site?

PC: The amount of different ways ffffunction has been pronounced.

DG: We're going to try to notch up at least as many contributions to conferences and networky things as attendances.

BC: We've already added to one statistic with a new team member, Dan Reeves, joining us. We're up to seven now, and if things go to plan, then an eighth would put us in a really good place. I think then we'd be just the right size. **■**



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*HOW WE BUILT

DOCTORSLEEPBOOK.COM

What happened to Danny Torrance? DOMANI answer every fan's question with a site celebrating Stephen King's sequel to *The Shining*



BRIEF

Publisher Scribner wanted to ensure Stephen King's sequel to *The Shining*, *Doctor Sleep*, got the reception it deserves. The brief itself was pretty open: 'Create a digital campaign that will stand out and drive curiosity'.

CLOSE UP

(1) To support Stephen King's sequel to *The Shining*, the experience reflects the launch of the new book, *Doctor Sleep* and allows users to 'shine' with Danny Torrance, enabling Danny to take over the browser to tell his horrific story. (2) Site visitors can enrich the experience with complementary visuals and interactions that play out on their mobile phones.

(3) Throughout the site, ASCII art and messages drawn from code are used to infiltrate the browser and disrupt the experience. (4) By using their mobile phones, users can unlock *The Shining*'s infamous Room 217. (5) As the story progresses it gets increasingly intense, with the browser taking on a life of its own.

JONATHAN HILLS



Jonathan founded DOMANI in 2001 to dive headfirst into uncharted digital territory
w: domanistudios.com
t: @domanijon

JON LANDER



Jon leads DOMANI's creative department with an enthusiasm for digital work
w: domanistudios.com
t: @johnnyLander

MATT WILCOX



As a tech lead at DOMANI, Matt takes on challenges and brings new ideas to life.
w: domanistudios.com
t: @nanpx

> Stephen King's *Doctor Sleep* is the sequel to his 1977 novel, *The Shining*. The new book follows Danny Torrance, the focus of the previous tale of terror and telepathy. Danny is now a traumatised, yet gifted man. We chat with Brooklyn-based DOMANI about how it brought the story to life online and why no detail was too small.

net: Why don't you introduce yourselves

JH: I'm Jonathan Hills. I founded DOMANI back in 2001.

JL: I'm Jonathan Lander, creative director at DOMANI.

MW: I'm Matt Wilcox. I'm a developer who's been with DOMANI since 2011.

net: And the Sleep Doctor site.

What's the story behind the site?

JH: This past year DOMANI did some work for Stephen King's publisher that was pretty well received, so when they started to think about marketing the book we were fortunate enough to be top of mind. Being big fans of *The Shining*, we jumped at the opportunity to work on its sequel *Doctor Sleep*. Conceptually, we knew immediately that it made a ton of sense for us to hinge the campaign around a shared curiosity among *Shining* fans: whatever happened to young Danny Torrance? We thought allowing users to 'shine' with Danny would make for an interesting experience.

net: What was the client brief like? What were the meetings like?

JH: We have a great relationship with the publisher who was really open to doing something unusual. Likewise, Stephen and his manager were also on board with our thinking early and gave us a ton of freedom. The review cycle was more organic than some of our other clients. This allowed for an Agile approach that enabled innovation to be threaded throughout the process.

net: Did you read the book before tackling the project?

JL: We were lucky to get a handful of advanced manuscripts. The team spent the weekend reading the book before we started working on the project. It was really interesting picking up the story from where the *Shining* left off so many years earlier.

net: How many brainstorming and concept meetings did you have internally?

JL: Hmm ... there were quite a few. A lot of us really got focused on how we could share the new story without giving too much away. We needed to concept a little differently considering that we were working only from words on a page and there were no assets to utilise. We had to create everything ourselves from scratch. I'd say the concept continually evolved iteratively over the course of the project.

net: The site does feel fittingly fractured and fragmented. Was this disturbing



*TIMELINE

How DOMANI promoted Stephen King's new book

EARLY JUNE 2013

Scribner calls, asking if DOMANI can help promote Stephen King's latest novel, a sequel to *The Shining*. DOMANI jump at the opportunity.



LATE JUNE 2013

Advanced manuscripts of the book are received and read over by the team.



LATE JUNE 2013

Company-wide brainstorming begins.



MID JULY 2013

Initial ideas are presented internally, fine tuned, and narrowed to a single concept: one that plays with the idea of 'shining' with Danny Torrance.



MID JULY 2013

The resulting strategy hinges on a belief that fans of *The Shining* have a genuine curiosity for how Danny's life unfolded once *The Overlook Hotel* burned down.



END OF JULY 2013

The client loves the spirit of the creative strategy and the team dive into prototyping how to subvert the browser experience and fold in mobile engagement.



LATE SEPTEMBER 2013

The team pushes through an aggressive production schedule and QA, launching the site before Halloween.

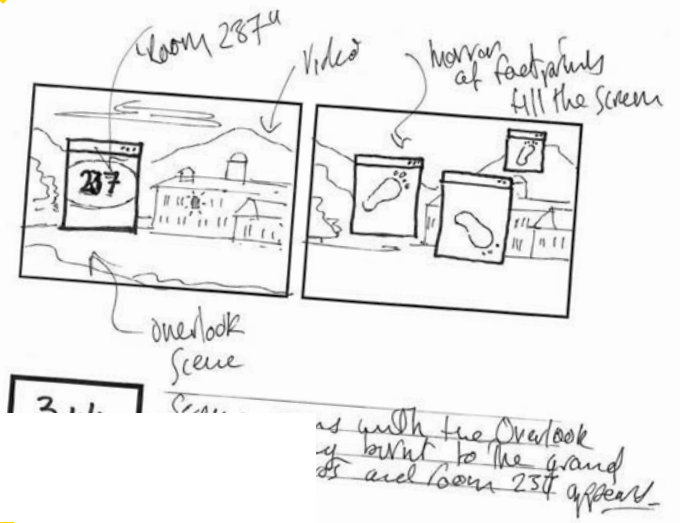


LATE SEPTEMBER 2013

Post launch, the team communicate with Stephen King's biggest fans to ensure they found the site and were able to share it with the community.



2



* EVOLUTION

DOMANI explain how the project evolved, from concept sketches to basing typography on hand-drawn fonts

(1) The conceiving process began with sketches that tested our initial thinking. (2) Once we had the concept, each scene was outlined to describe the interactions that aligned with Danny's narrative. (3) Sketches articulated how we would manipulate pop-ups and other code disruptions in the experience. (4) We took a fairly Agile approach to the process, which meant testing lots of iterative narratives that aligned with themes from the book. (5) Some of the typography on the site was based on handwritten lettering.

3

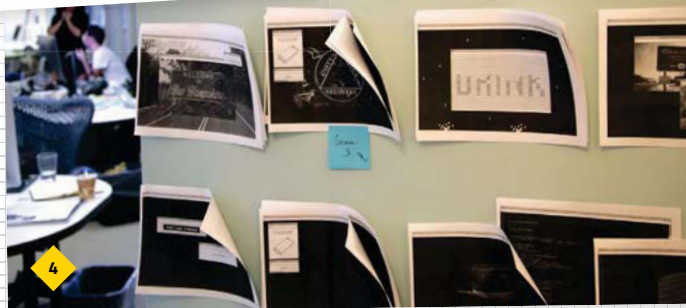


SABBATHA
HANTI

LODSAM
HANTI

CABBANNA
RISON'S
HANTI

5



► texture achieved very quickly and easily, or was it the product of hard work?

MW: It was, to a lesser extent, intentional, but I think it organically intensified as we worked on the site and really pushed the browser to do a lot of things at once. We wanted to give the sense that the browser was coming unhinged, which was a really interesting creative coding challenge unlike anything we'd ever done.

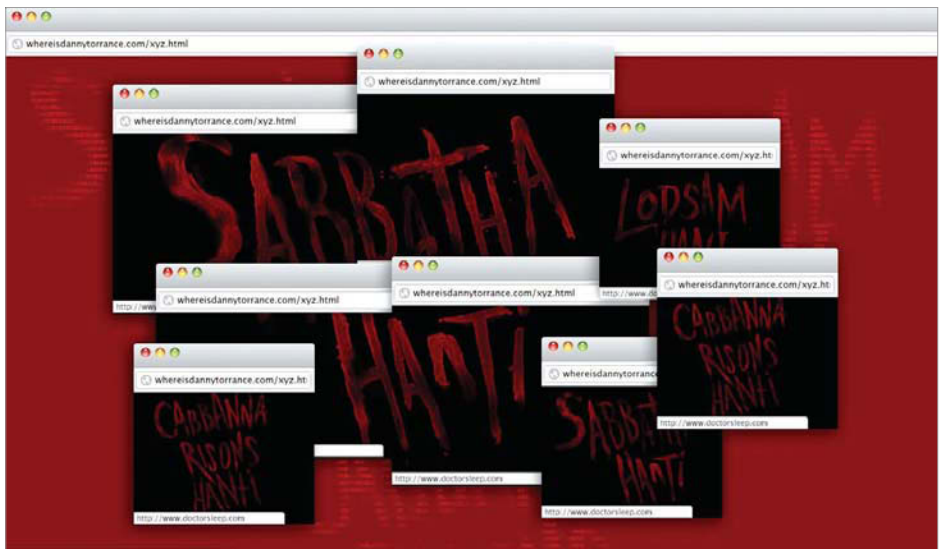
JL: We knew that the very nature of this concept would have to be somewhat fractured considering the book is a few hundred pages long. We picked some moments that would help build some intrigue and excitement around the new book ... and hopefully scare a few people.

net: How did you communicate your concepts to the client?

JL: Initially, we created a storyboard of the idea, then created mockups and mood boards alongside an early prototype to help the client get a feel for the experience. The client was fantastic and really got behind us.

net: Why opt for dual screens?

JH: Since the core campaign concept involved Danny Torrance taking over the user's browser we wanted to get visitor's hands away from the mouse and let things play out somewhat wildly on the larger screen. By shifting interaction to the smaller mobile screen we were able to introduce points of interaction that



Demonic chants As evil forces subvert more of the experience, making their presence increasingly tense, demonic chants appear within the animated bodies of code

made use of the device's accelerometer and gestural interface rather than mouse clicks. Using the mobile device helps bring Danny to life. After all, it's what we use for real-time interaction with each other.

net: What's the secret of successful story telling using the web?

JH: I think there are an endless number of factors that can work well, but with this project we wanted to approach the experience so differently that visitors forgot that they were looking through a browser.

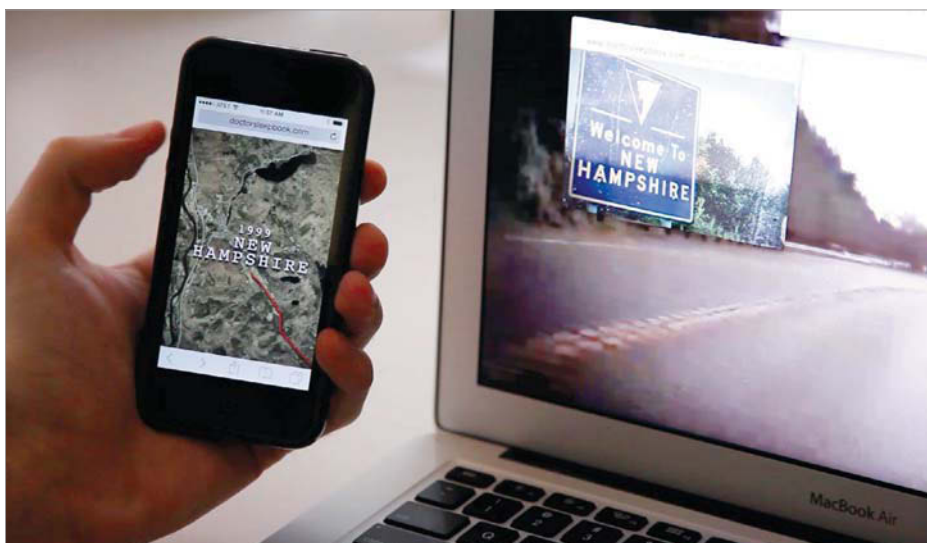
Using the mobile device was a fresh approach to the narrative, yet at the same time the most familiar form of communication. This positioned Danny as a real person interacting with visitors.

net: Which web technologies did you rely on to make the project happen?

MW: WebSockets was used for all the paired communications between desktop and mobile. Canvas was used a lot behind the scenes to play a single video source into many popup windows and to make fullscreen text renders. The Web Audio API really brought the experience together with loops, cross fades, and crescendos. It also helped speed up load times by using the AudioBuffer to asynchronously decode all the audio files. We used a lot of CSS3 animations and transitions for ASCII art and to get the glitchy look. This also triggered graphical hardware acceleration, which helped get us some additional performance in tight spots.

net: What's the reaction been like?

JH: The site received more engagement, longer sessions, more shares and PR than we could have hoped for. More critical than all of that, the site ignited interest from Stephen King's most die hard fans, which is a crowd that's difficult to reach with traditional 'marketing'. 



Tracking Danny Street View imagery plays on the desktop while the mobile screen tracks his route





Over the past decade year, I've worked as a developer, designer and search marketer. In my day-to-day role as CTO of SEOgadget, I spend my time working alongside the search agency side of the business, creating tools, educating the team on technology and design trends, and push for greater inventiveness and innovation in the content we produce as part of our clients' marketing campaigns. However, I'm aware of the reputation that the industry has, of producing content purely for links and rankings rather than to give amazing experiences to engage users. It shouldn't have to be like this though. Too many people think the best way to market their businesses is to buy the worst quality links from the lowest traffic sites on the web. So what's the industry doing about it, and where does it go from here?

HOW DID IT COME TO THIS?

SEO as an industry begun as a group of technical people who watched the search engines and how they were operating, deconstructing how they worked and reverse engineering their technologies. Therefore, it's no surprise that, with those people being more technically-inclined (and not marketers), the practice of SEO developed in a fairly uncreative manner. While it's certainly been useful for the web that it exists (much of what search engines do nowadays wouldn't be possible without the better side of the SEO industry to ensure sites are properly crawlable, with semantically marked up data), it's not all roses.

Over the years, we've seen SEOs engage in a variety of tactics, some more effective than others, in an attempt to game the engines. Thankfully, these have slowly become less effective, although there's still holes if you know where to look, or you're willing to brute force them.

The happy result of this though is that the industry has been slowly bent towards a different path, looking at more traditional marketing methodologies to create the content required to get a site to rank. This is an improvement as marketing based on more traditional principles, with an understanding of messaging, branding and targeting will deliver results that can be measured far more tangibly. Rather than evaluating work on quantity of links or on PageRank, we can talk about revenue, goal completions, customer lifetime value and so on.

AUTHOR

PETE WAILES

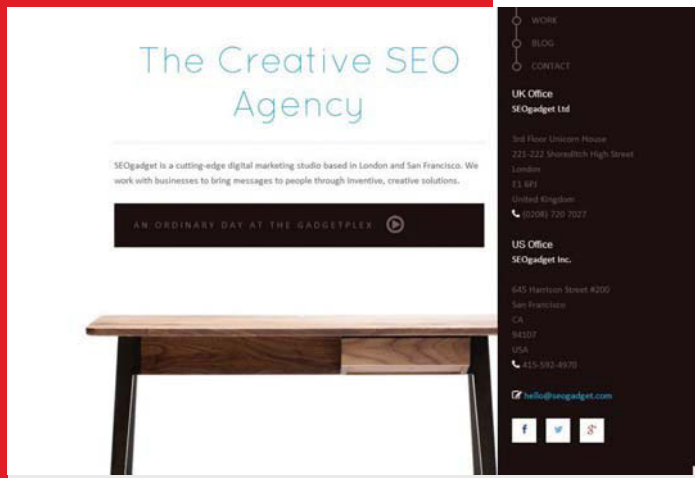
is the CTO at SEOgadget (seogadget.com), an international creative search marketing agency, and developer of the CSS library OpenDAWS (seogadget.com/opendaws)

ILLUSTRATION

LINZIE HUNTER

is a Scottish illustrator and hand-lettering artist based in Peckham, South London. Her clients include: Time Magazine, The Guardian, Hallmark, VH1, Nike, BBC, Orange and Marks & Spencer www.linziehunter.co.uk





REDESIGN WITH SEO IN MIND

During 2013, we decided to refresh the SEOgadget brand. In doing this, we've followed the processes outlined here:

- Researching existing examples of agency sites to understand what a good agency website looks like today
- Prototyping first, enabling stakeholders to better understand the concepts
- Taking content concepts to external figures to understand the impact and gain feedback
- Crafting new and legacy content, including video and presentations
- Creating a complete demo site, functionally accurate, but without all the final assets in place to allow for final revisions

This process has saved weeks of time and refinement, as at every stage, something that truly represents the end product is being built around and showcased. It's also allowed for a far more flexible creative process, as if we've required revisions, we've been able to make them in the browser and interact with those changes live.

It's also allowed us to adapt the design rapidly and sign off amendments as the final content has been produced, where that content has necessitated changes that hadn't been foreseen previously. The speed of change testing and revision development has therefore been roughly halved, versus the previous PSD to HTML, to final version method of development.

- The challenge we now face is that as an industry, we lack a deep understanding of marketing. Not surprising, as most of the people who make up the industry don't come from a marketing background. In part thanks to this, over the last three or four years we've seen a lot of cargo-cult creativity, with people copying tactics they've seen others employ. They've not understood though why those tactics worked, or what the strategic objectives of those campaigns were.

One result of this has been proliferation and abuse of mediums and methods of content delivery, namely guest posts and infographics, both of which Google has now called out explicitly for abuse. If you read between the lines though, it's not the practice of producing infographics, or of writing for publications that's the issue – it's when these are used as a method of creating links, rather than because they're genuinely useful, or as a result of a desire to connect with a publications audience.

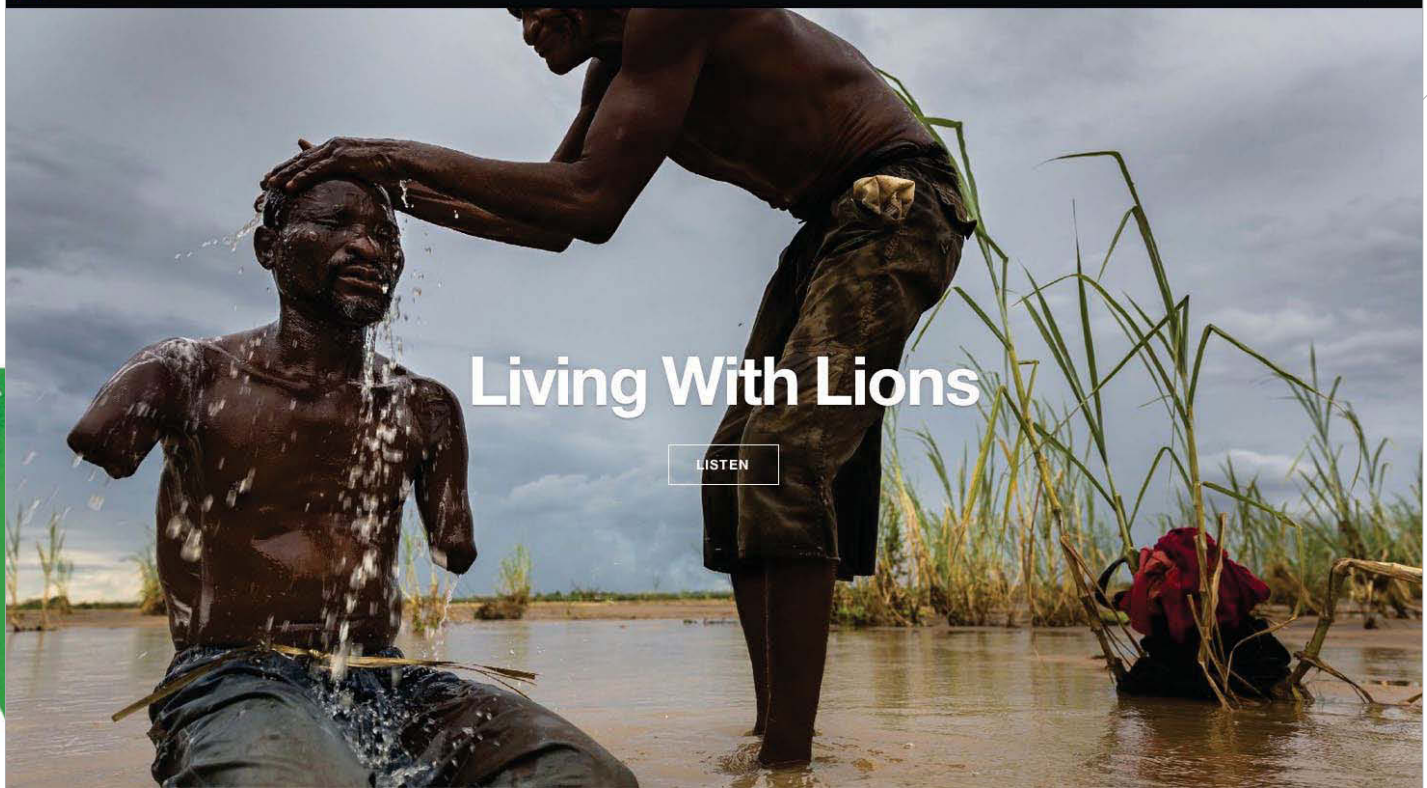
So how do we up our game, as marketers, and produce better ideas, and work with designers and developers to produce seriously interesting content?

A BETTER WAY

Well, the first thing to note is that it doesn't have to be like this. As the digital industry in general has slowly started to acquire traditional marketing talent (and visa versa), we're seeing it start to produce some truly compelling work. Pieces like Beats by Dr. Dre #showyourcolour (statigr.am/tag/showyourcolour), The Feed by Getty Images (www.gettyimages.co.uk/editorial/frontdoor/thefeed) and Rexona: DO MORE (domore.rexona.com/en-GB/adrenaline/home), not to mention more experimental design/content forms like the oft-cited Snow Fall by The New York Times (www.nytimes.com/projects/2012/snow-fall), and Serengeti Lion by National Geographic (ngm.nationalgeographic.com/serengeti-lion/index.html) show real promise.

Below Followerwonk is a social analytics tool for mining Twitter's user graph





Living With Lions

LISTEN

Further, there's campaigns like Imagine by Red Bull (imagine.redbull.com) that couldn't exist anywhere other than digital, which reach millions through really creative storytelling, combined with the inherent shareability that digital content can have. These show a wonderful understanding of the way that the consumer mindset works in 2014. However, while these have all won multiple prizes and serious awards, as well as huge traffic and mindshare for their clients/publications, each has areas where they fall short.

“
A regular check-up is required to make sure that content continues to perform
”

These issues range from failures of cross-browser compatibility to a lack of specificity around the message, failing to ensure the content is findable from search engines and so on. Each would have been easily fixable. If you're creating something that's tied to an event, acquire the domains around the main campaign terms. For #showyourcolour, that would've been showyourcolour.com and showyourcolour.co.uk. Set up a microsite talking about

the project, linking to events, providing an official source for the campaign, and linking to the various domains where social activity is happening. With content that's less differentiated from the main site, host it in a subfolder rather than a subdomain. Combined with good copy and good internal architecture, you can ensure that the main campaign area outranks announcement pages and related pieces, avoiding the issue Getty Images has with The Feed, where the campaign ranks number two.

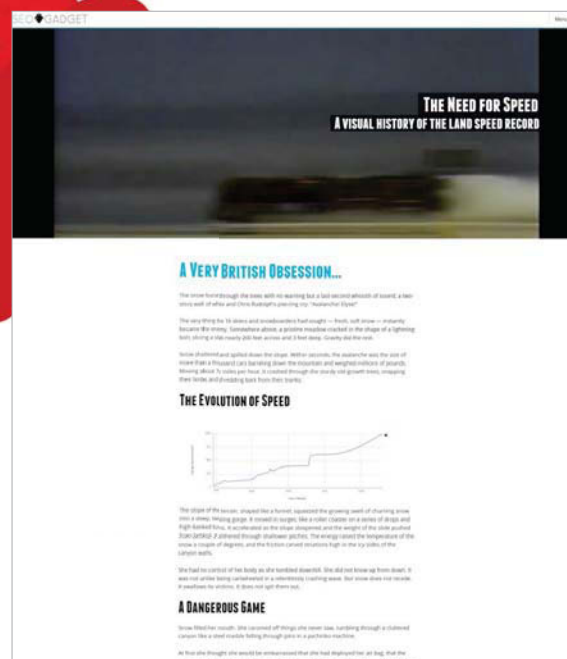
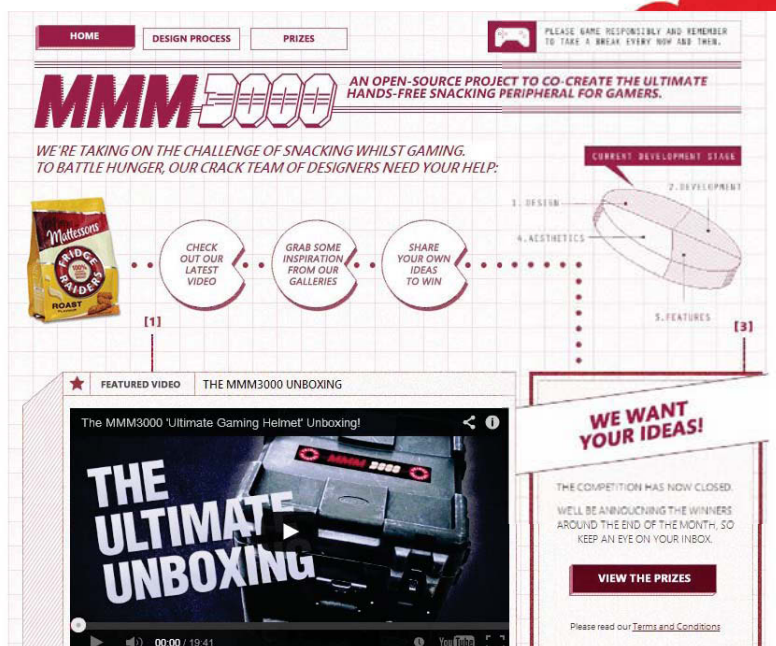
Similarly, a regular check-up is required to make sure content continues performing. Snow Fall currently fails to render well on most modern mobile devices. Getting this fixed probably wouldn't take that much development time.

So how do we, as an industry, improve the situation, to deliver the right message, delivered to the right consumer, through the right medium, at the right time, whilst ticking all the right technical boxes too? The answer is both simple, and at the same time, frustratingly complex. To quote Dieter Rams, “Good design is thorough down to the last detail.” Equally, our work must be designed and engineered to completion.

Doing that is becoming increasingly harder. The technical and creative disciplines involved in producing cutting edge digital work are only bifurcating further, leaving behind creatives who don't understand the technical sides of how search engines crawl, index and rank content, let alone the deeper technical issues involved in producing content at this scale. The technical people who do understand those things become less understanding

Above Serengeti Lion was created over two years, and uses incredible video, audio and images to present compelling journalism





- ▶ of the language that creatives use to describe the outputs they need, and how they work. Enter the SEO industry, which is perfectly placed to act as a third component to unify these two vital elements.

HOW SEO'S ROLE IS CHANGING

At SEOGadget, we view the SEO of today as a technical project manager. SEOs need to be specialised enough technically to be able to go through server log files and unpick how a site is crawled; they need to be able to work with developers on frontend code to implement markup, analytics tracking code and so on, as well as a host of other things besides. Equally though, today's SEOs have to have a broad range of skills in order to be capable of working with designers and other creative production teams on commissioning and refining a variety of creative materials.

Whilst they don't do this work themselves, they absolutely need to be able to converse with those teams in the language that they use. That role is something we see other, more specialist professions struggle with. It's understandable too, as they're not as exposed constantly to all the types of content that we encourage our people to seek out. And nor should they be; as specialists, they'd be less effective in their chosen discipline if they did. The result though is a lack the breadth of understanding wide to be able to ensure a consistently high quality of output, across such a broad range of material types.

It's fair to say that we're trying to make our staff into a hybrid project manager/technical SEO. The

closest analogous position in a traditional production role would be a marketing coordinator, although they tend to lack the specific technical depth we train our SEOs to have, and instead have a deeper knowledge of creative media and production, specialising in fewer areas.

MINING SOCIAL DATA TO INFORM PROTOTYPES

Looking at the industry itself a moment, over last year or so we've seen the future of what SEO could become. Between the emergence of Universal Analytics (finally), which allows for truly complete, campaign-oriented tracking, a much better understanding of outreach and PR and strong technical knowledge, the leading SEO agencies are starting to produce really compelling work. For two interesting demos of Universal Analytics, search YouTube for WeMo Switch Universal Analytics, and Measuring Dance Moves.

At the core of this is the proliferation and manipulation of social data across the web. It's become far easier to mine the social web to understand which content items and production houses are being featured most often by the main influencers and thought leaders in any given industry. Thanks to APIs from Twitter and its ilk, and at-scale scraping technologies like 80legs and DeepCrawl, it's possible to monitor topics cross the web. This enables brands to track in real time the ways that consumers are talking about them and subjects they care about.



Above left MMM3000 (Saatchi & Saatchi working for Mattessons) gained huge social traction, but a lack of search consideration limited its success

Above right Thanks to CSS and JS frameworks, designers and developers can build rapid prototypes to better represent creative concepts to the client



Turning to process now, let's look at how this plays out in the real world. Armed with social data, search volumes and site analytics, the creative SEO team can then work to analyse what forms of content are resonating with the specific target market the client wishes to engage with, and what messages are getting across most effectively.

This content can then be used in liaison with designers and developers to quickly prototype

Above Polygon's Xbox One review was timely, beautifully built, and nailed the targeting to a single group of passionate users: gamers

“
**The creative SEO team
can then work to
analyse what forms of
content are resonating**
”

concepts for page layouts, complete with usable functionality that allows for a basic, but accurate demo. Those prototypes can be used to show the client the intended result. The process is starting to acquire the name 'design in browser,' and in a world where designs have to be responsive, delivers a vastly simpler, quicker workflow.

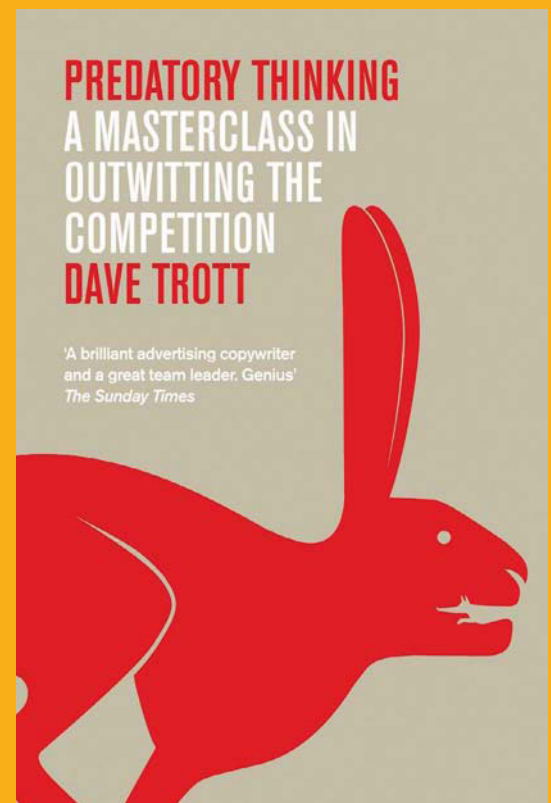
These mockups don't necessarily need to use the correct data or content, but it does need to be a realistic representation of the end product, and obviously if the actual content required is available, ▶

FURTHER READING

The technical and creative industries are slowly having to adapt to ever increasing complexities in their respective areas online. With the more proliferation of technologies like SVG and WebGL, we're seeing a shift from the web being a place where the code editor isn't the only game in town. With sites like The Verge, Polygon, The Guardian, Airbnb and so on taking ever more creative approaches to their content, there's a need developing for people with communication skills.

However, the more things change, the more they stay the same. The content that's being created still relies on the same marketing principles that content creators have been using forever. As a result, if I had to give everyone one recommendation, it'd be to check out the work of the best marketers of the 20th century, and what we've had of the 21st so far. Start analysing why those campaigns worked, what it was they were trying to do. Understand the purpose and the context of that content, what the message was and why it worked with the group it was aimed at.

I'd begin by reading *Predatory Thinking* by Dave Trott, *Hegarty on Advertising: Turning Intelligence into Magic* by John Hegarty, and *Confessions of an Advertising Man* by David Ogilvy. Between those three, you'll get a pretty solid foundation on the type of thinking and doing required to produce great marketing, whatever the medium.





Famous Local Dishes

Amsterdam's food thrives on the city's cosmopolitan nature, refusing the flavours and scents of diverse cuisine – from Indonesian to Surinamese, Indian and Italian (and yes, Nederlandse too).



they say there is no city in Europe that has as many people from different countries as Amsterdam does. The many exotic cuisines is one of the main reasons I love Amsterdam so much.

Bart van Poll @SpottedLocals



STAMPPOT

Though this classic wintertime dish has many vegetable and meat variations, it usually consists of boiled potatoes mashed with kale or endive (or carrots and onion) served with rookworst sausage.

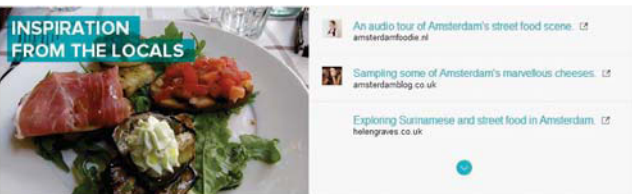


I'm a big fan of Amsterdam's seasonal dishes, such as (1) stamppot and smoked sausage in the winter.

Cecily Leyzell @EatAmsterdam



Eat or cook like a local



Meet the local food experts



Cecily is the owner of EatAmsterdam.com, a site dedicated to celebrating cuisine in the Netherlands' capital. The reputation of this site alone has led her sterling work to be featured in Time Out, the New York Times and the Telegraph.

Thank you Cecily for some amazing insights into Amsterdam's seasonal dishes!

The HouseTrip Team

FURTHER READING

Review of Café Radix [↗](#)

Review of Restaurant Blaauw [↗](#)

Review of Worst Winkels [↗](#)

BUT ISN'T DUTCH FOOD SORT OF BORING?

A place of varied selections to satisfy and challenge any palate, Amsterdam offers more menu choices than most other European cities. So let your taste buds lead the way and discover fusion cooking like you've never experienced it before. To take your own foodie trip visit HouseTrip.com for apartments with fully-equipped kitchens in Rome, Paris, Barcelona, London and Amsterdam.

DOWNLOAD PDF 3

- that only makes the representation closer to the final product. For example, if there's supposed to be a chart, it can be rendered with Highcharts using template data, or if there will be a HTML5 video running in the background, a sample video will suffice to make the demo workable.

The advantages of this are obvious; during the pitching and refinement process, the client, design and technical teams are all looking at and working with something that works as the user will finally see it. This vastly reduces the level of perceived change on the part of the client from the old Photoshop to production method of building work.

After a basic prototype is realised and the client is happy with the basic concept, this can be taken to influential individuals in the target community to garner their feedback, ideally around 3-5 at most (for ensuring a consistent tone for the piece, whatever it may be). This ensures that the people involved in the initial promotion and distribution feel a strong attachment to the work, as well as having a sense of ownership in the material itself.

With a working, finalised prototype of the creative piece, the actual process of completing the design and finishing the project now becomes vastly simpler, as the constraints imposed by the visual design are in evidence in the system itself. Thus all the images, video, copy and other assets should be simpler to commission and add to the work.

Also, during the final content production process, the creative media teams involved can play with the prototype to ensure the best fit for their work in the piece it will end up in. This helps provide a framework for ensuring producers know where they have more creative freedom and scope flexibility, and where they're more constrained, reducing the time required for revisions and cutting room time.

BRINGING IT ALL TOGETHER

Now that the piece is built, it can seem that the job is finished. However, there's a key component missing to all this at the moment, which we've seen time and time again: no dedicated area for marketing the content. Looking at two recent examples, firstly Every Shot Imaginable (www.youtube.com/user/Everyshotimaginable) was launched with a YouTube channel, but without a dedicated area on the European Tour website for that content. As a result, the site doesn't rank well for the names of its videos, or of the campaign. Nor was the campaign name particularly picked up on by the target market. If it had set up a dedicated section on the site, talking about the campaign, it would have had a far more compelling place to drive traffic to. This would also have likely produced better social engagement,

Left Content pieces like the Local Food Guide pieces from HouseTrip.com are fundamentally a search content play, but provide genuinely useful information



RESOURCES

If you're looking to get started with modern SEO best practice, here are a few blogs and journals to get you started:

BLOGS

Moz Blog moz.com/blog

SEOgadget Blog seogadget.com/blog

Search Engine Land searchengineland.com

If on the other hand you'd prefer a more lively environment to learn from and somewhere to network with people, try these events:

CONFERENCES

MozCon moz.com/mozcon

searchlove www.distilled.net/events

Future of Web Design futureofwebdesign.com/london-2014

Above The Telegraph's UCAS Calculator currently ranks first for the UCAS calculator, as a result of strong domain authority and link weight

as they would have been able to tailor the copy specifically around the content, as well as being able to be more innovative with the interface, testing and improving the page over time, rather than relying on the generic videos page on their site.

Secondly, the MMM3000 campaign (*mattessons.outsideline.co.uk*) for Mattessons resulted in a Tumblr account outranking the Mattessons site for the key

“
It's all about paying attention to the details and knowing those things exist and matter
”

terms created specifically for the campaign. Given the particularly tech-savvy nature of the group being targeted for this (gamers under 18), you can't help but believe that this was a massive oversight.

Furthermore, putting the content on a subdomain reduces the ability of the content to pass weight to the main domain. There's 69,000 results in Google for the term 'MMM3000', all related to the campaign in question, from thousands of sites, all of which could have been engaged and brought in to link to the main site, where all the videos and information are hosted. Instead, they link to YouTube, Tumblr, Facebook, Twitter and so on, creating less benefit

for the brand, and no search impact. Again, this wouldn't be tricky to fix. Simply monitoring mentions of key phrases and following up with bloggers to ensure they linked to the right places would have yielded great search benefit, as well as also creating connections with the most engaged members of the audience. Having a diverse social presence is fantastic, but it needs to be managed and corralled to derive the most benefit.

Going back to the beginning, it's all about paying attention to the details, and knowing those things exist and matter.

Through bearing in mind good site architecture, ensuring basic SEO essentials like title tags, server headers, page copy optimisation, ensuring pages are spiderable and so on, you can avoid 95 per cent of the most common issues.

CONCLUSION

In the SEO industry there exists an army of people who are passionate about creating amazing experiences for consumers, and who want to build amazing content for their clients, pushing to create great work.

We believe that SEO has a chance to really help not just the agencies involved, but the consumers and brands too in enabling discovery and re-discovery of the great content produced.

The search optimisation industry may not be perfect, but, at it's best, it's helping to develop better websites and create more engaging content for clients of all sizes.

It's not quite the industry we want yet, but we can see it from here. **m**



10 TOP TIPS FOR BETTER UX DESIGN

Trust is easy to gain but just as easy to lose. Users decide quickly if they trust an interface based on its appearance. A poor interface experience can taint trust forever, says **Jason Cranford Teague**



AUTHOR

**JASON CRANFORD
TEAGUE**

Jason Cranford Teague (www.jasonspeaking.com) is a UX lead at Gannett Digital and author of the bestselling *'CSS3: Visual Quickstart Guide'* and forthcoming *'The New Web Typography'*



ILLUSTRATION

MIKE BRENNAN

Mike is art editor of *net* (@mike_brennan01)

In the report 'Truth, Lies and the Internet', think-tank Demos (Demos.co.uk) found that a third of teens polled in the UK believe any information found online was true without qualification. Even more staggering is that 15 per cent of that group admit to making a decision about the truthfulness of the content of a web page based on appearance alone.

Design serves a single primary purpose: to gain the trust of its intended audience. Research shows that within the first second of viewing a design, even before reading a single word, we've already determined our opinion about the likely quality and trustworthiness of what we're looking at. Once that basic line of trust is established, it's only then that the experience design can work to help turn data into knowledge and knowledge into understanding. However, a poor user experience can serve to turn the user off as they begin to distrust the product or even the entire brand.

Explaining design decisions to non-designers is a challenge. What I've come to realise over the years, though, is that the decisions that I make are not just instinctual. These decisions are based on what I feel will appeal to my audience's sense of trust. That is, what will make them feel most comfortable and trusting in my designs. When I can explain decisions from that context, I find it's a lot easier to get clients, managers and other team members on board with the direction I want to take.

Based on my experience, here are 10 top tips for building trust through design. ►





UX FOR GOOD

+ UX for Good (www.ux4good.com) is a focused multi-day event, bringing together top user experience designers to create systemic solutions for critical social challenges. Past projects have included working with the Grammys in 2012 to help street musicians in New Orleans and the Dalai Lama Center to promote social learning in 2013. I talked with co-founder Jason Ulaszek.

How did UX for Good get started?
JU: UX for Good was hatched in mid-2010 by myself and my co-founder, Jeff Leitner. We came together over a beer at the copier one afternoon, challenging each other about our professional vocations. We felt there was a growing, untapped need and higher purpose for those abilities: solving pressing social challenges.

Do you ever see UX used for evil?
JU: I think that great designers have learned to harness their talent to truly influence direction of an experience. That's a sign of professional maturity. When you're not using your talent in the best way possible, I think that's a shame, and perhaps a crime.

What makes a project a good fit for UX for Good?
JU: A UX for Good event is part research and immersion, part synthesis and part ideation. Mostly, ideas and concepts delivered from the event are digital or digitally-enabled, but we consider the larger ecosystem that needs to exist to support those we're serving. We've seen ideas like the digital tip jar concept get picked up into a hackathon and new social collaboration and learning concepts incorporated into an organisation's strategic plan.

You'll be in London this year?
JU: We're still formulating the 2014 plans, targeting London in June. Follow us at www.ux4good.com and [@ux4good](https://twitter.com/ux4good) for more information.



01 KEEP PROMISES

The most obvious way to lose trust is by breaking promises. As soon as you promise something and that thing does not happen, your audience immediately becomes suspicious of everything you do. Broken promises in a user interface can happen in a variety of ways, but they occur most often when business or technical needs conflict with user experience.

For example, not too long ago, when you clicked the mail link on Yahoo, rather than taking you to your email, an advertisement would take over the screen forcing you to be marketed to. When I click the link to go to my email, the implicit promise is that my email will be the next thing I see.

This ad 'hijacking' is an all too common pattern in web products that are trying to monetise every click. But, if you find yourself thinking of doing this ask, 'Am I training my users to distrust that they will immediately get where they said they wanted to go when they clicked on my link? Will they then go someplace else?'

The good news is that Yahoo seems to have amended its ways. Updates to Yahoo mail will take the user immediately to their email.

02 BE CONSISTENT

An inconsistent interface is a special form of a broken

promise. When you set expectations about how a particular interface element works and reacts, changing that interaction or introducing different UI patterns to achieve similar goals will confuse your users. The problem is that, especially if you're working with a large or distributed team, decisions can be made in a different place or time that are inconsistent, and these inconsistencies can become magnified over time.

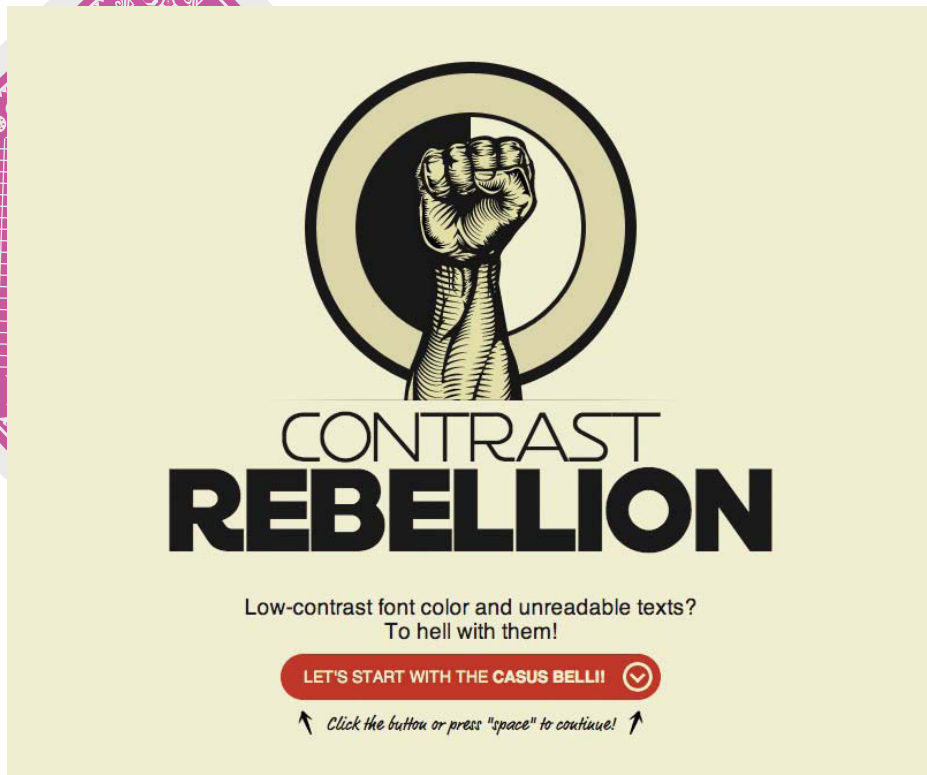
More than simply a style guide, a strong design guide can help alleviate the problem of inconsistent user interfaces. The design guide forms a central point that all team members can go to for consistent answers and design patterns as well as the design philosophies being applied that will help guide the decisions of new patterns.

For the most part, design guides are closely held trade secrets, but The BBC Global Experience Language (www.bbc.co.uk/gel), or GEL, is an example open to the public.

03 BE CLEAR

Unclear design can lead to user confusion and distrust. Guidelines for optimising clarity can often feel at odds with design, especially when it comes to considering how text and colours work on the screen to improve readability. Yet users who have to struggle to read content are

Trade secrets The BBC's design guide called the Global Experience Language (GEL) is completely open to the public



Left It's important to ensure readability. Contrast Rebellion rallies against foreground-background colours in design

Below Consider everything in its context to prevent user frustration, such as missing out on getting Doctor Who tickets



less inclined to trust it. The website Contrast Rebellion (contrastrebellion.com) rallies against the use of low contrast foreground-background colours in design, arguing that these designs are unclear and difficult to read.

The site urges, "Don't give your visitors a headache only because grey or any other low-contrast font colour looked better on the design comps than black."

module, a module in a section, a section in an article, an article in a web page, a web page in a website.

I recently attempted to purchase tickets for the Doctor Who 50th anniversary simulcast from a popular US ticketing website. I knew tickets would go fast, so I logged in early, found the event, and clicked an image above a button that said 'Tickets'. This took me to a 'Coming Soon'

The button placed in context to the image above fooled me into believing that they were a single entity when they were two completely separate actions. As a result, I missed out getting tickets to the Doctor Who 3D simulcast.

05 KNOW YOUR VOICE

A strong voice can change the world. People inherently trust a confident and unwavering voice, but that voice needs to be your own.

Lauren Bacon (www.laurenbacon.com), founder of Curiosity Labs and author of *Curious for a Living: How Asking Better Questions Makes You Indispensable*, tells me, 'I've had clients ask me to design them something 'just like [insert brand here]', and my response to that has always been, 'great - tell me what you love about that brand/company/website'."

Clients will often ask to look like other products that they know and respect, but this is really just shorthand for saying that they want to be perceived in a similar way to that brand. Yet as designer's it is our job to help them express themselves and their own unique values. Bacon recommends, "Each time it happened, I simply pointed to the legalities of copyright and then steered them into a discussion about the importance of differentiating

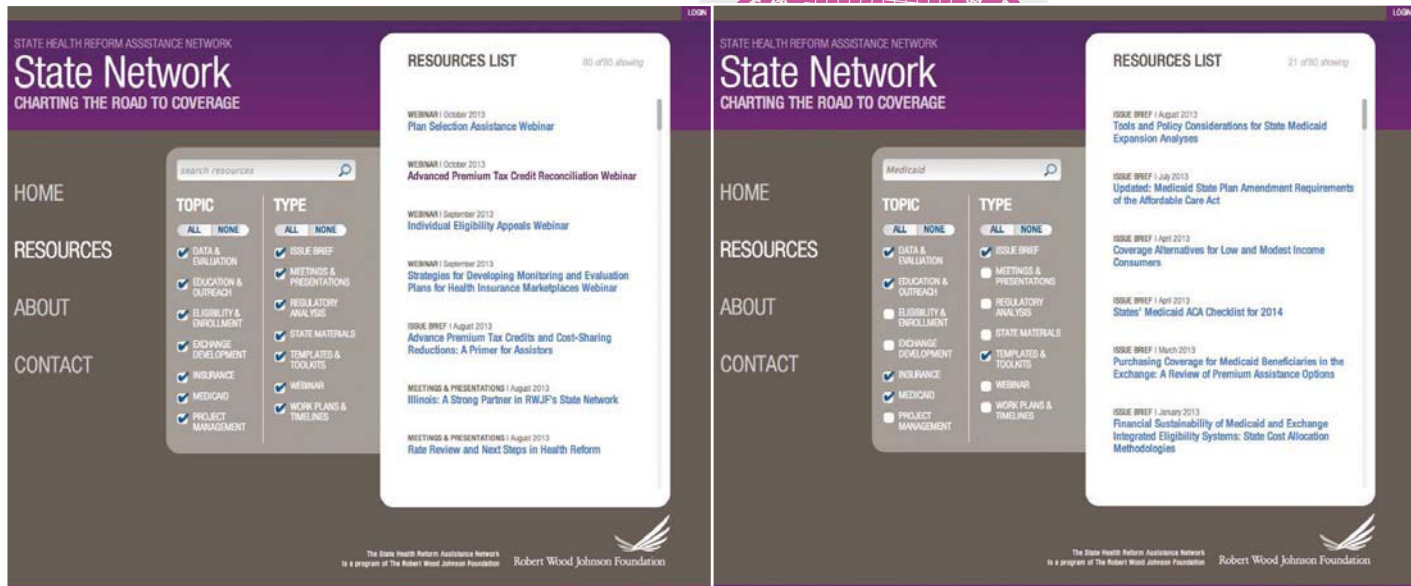
“
As soon as you promise something and that thing doesn't happen, your audience becomes suspicious
”

04 RESPECT CONTEXT

If content is king, then context is queen. The architect Eliel Saarinen observed that we should "always design a thing by considering it in its next larger context - a chair in a room, a room in a house, a house in an environment, an environment in a city plan." This is true of web design as well.

A button is never just a button. Consider it in context: a button in a

page, which I assumed meant the tickets were not for sale yet. I waited patiently, refreshing the screen every so often but the message never changed. I waited past the announced open time. I finally started over, this time casually clicking the button that said 'Tickets' rather than the image immediately above it. I was taken to a completely different page where I could have purchased tickets if they hadn't already all sold out.



Instant results Ensure your site provides instant feedback to user actions. The State Health Reform System Assistance Network immediately filters lists of options using its search engine

- ▶ themselves from the other brands in the marketplace, and that sufficed to get us back on track.”

06 SHOW RESULTS IMMEDIATELY

Cause should always lead to effect as quickly as possible. When visitors put something into a system, they expect to see results without delay. This can happen in small ways by having controls that respond to user actions with colour changes or small movements, but it also happens in larger ways, such as when the user begins to

search, displaying changes to the results updating in real time.

In a recent project I designed for the State Health Reform System Assistance Network (www.statenetwork.org), I designed a search engine for its resource documentation that immediately filtered the list of options.

07 TRANSITION CHANGES

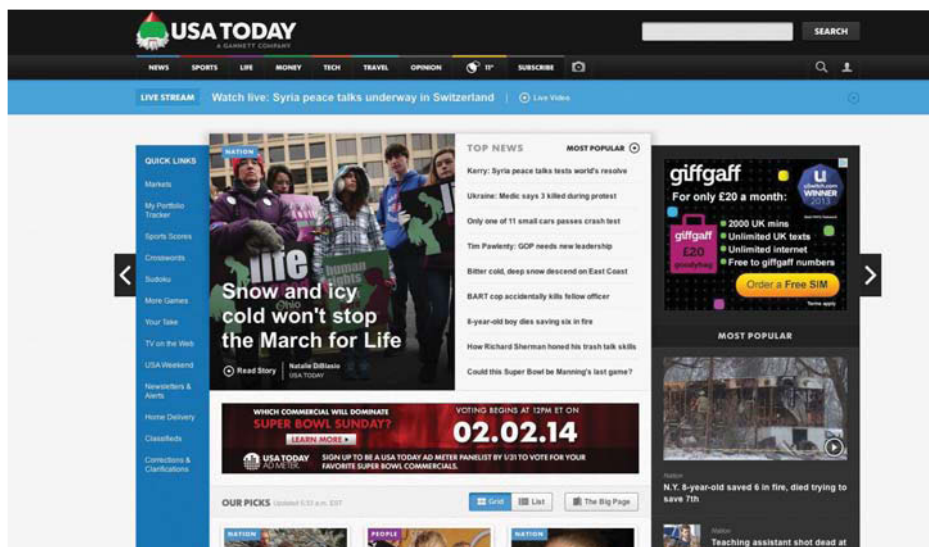
Humans suffer from change blindness. We have difficulty detecting even substantial changes in our environment unless there's an obvious

transition in the states. One famous experiment had hotel guests walk up to the reception desk, where the clerk would engage with the customer for a few seconds and then pretend to drop their pen, disappearing behind the reception desk. After a few seconds a completely different person would stand up and pick up the conversation where their counterpart had left off. The overwhelming majority of customers didn't notice that they were dealing with a completely different person. I suspect more than a few of them did feel that something was not quite right even if they didn't know exactly what it was.

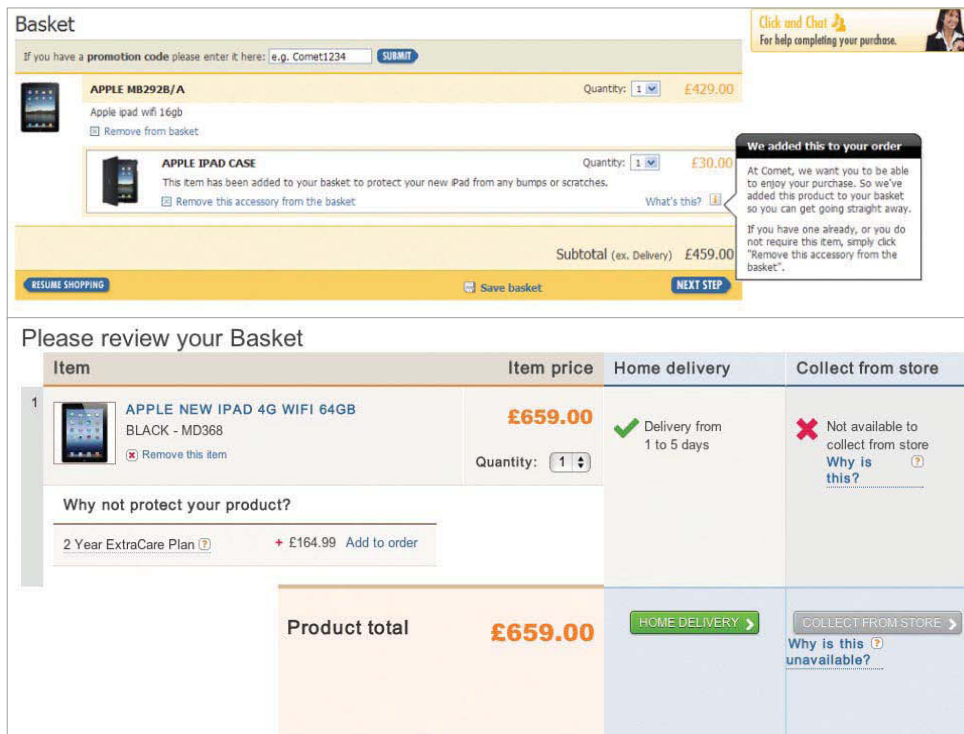
This is how the web works, with uncomfortable breaks as pages load or change, disrupting the user and making them feel uneasy as to what is different.

One way www.usatoday.com has overcome change blindness on its website by creating definitive and consistent transitions either using slides, cross-fades and pop-ups whenever new content is loaded, so that the user never loses the context of where they came from.

Andres Quesada, the creative director in charge of the USA TODAY redesign, says, “We wanted the user to feel like they never left the experience. It was important to us from the beginning to set that as a rule. Loading the article or section front was too disruptive.”



Change blindness To prevent change blindness, USA Today creates consistent transitions when new content is loaded



Basket interfaces It's important to make it easy to checkout, ensuring all options are honest, constant and clear

08 GUIDE, DON'T DICTATE No one likes to feel coerced or tricked. When you take choice away from your audience or make choices for them that they wouldn't likely make for themselves, then, you're betraying their trust.

One common pattern we see this in is with pre-checked options that often

as you begin to treat them as anything other than intelligent human beings, they will turn on you and look to someone who treats them with some respect.

User interfaces should feel natural and easy to use, but that doesn't mean that you also remove all options, only that they are presented honestly, constantly and clearly.

Never leave your users without options or lead them down a blind alley. As soon as you do, you've lost them

have us sign up for newsletters or offers from third parties. In some cases, even purchasing add-ons we may have to pay for but don't even realise were paying for.

09 MAKE IT SIMPLE, NOT SIMPLISTIC Steve Krug tells us 'don't make me think' in his book *Don't Make Me Think, Revisited: A Common Sense Approach to Web Usability* (netm.ag/krug-252). However, he doesn't tell us 'don't let me think'. This is an important distinction. Your audience is not stupid, and as soon

10 NEVER LEAVE THEM WANTING MORE The old theatre adage is to 'always leave them wanting more'. But, why would you want to take advice from a bunch of thespians constantly telling each other to break a leg?

With user experience, the exact opposite is true: you never want to leave your users without options or lead them down a blind alley. As soon as you do, you've lost them. Use these 10 top tips as a starting point towards establishing and maintaining users' trust. **■**

FURTHER READING

HOW TO CREATE A DESIGN STYLE GUIDE: 25 PRO TIPS

By Paul Wyatt. An excellent overview of the best practices for creating effective style guides for consistent UI design. www.creativeblog.com/design/create-style-guides-1012963

DON'T MAKE ME THINK! A COMMON SENSE APPROACH TO WEB USABILITY

By Steve Krug. If you read only one book on user experience this year, it should be *Don't Make Me Think!*. This book gets down and dirty about what's really important in a good user interface. www.sensible.com/dmmt.html

'IS THAT A USABILITY PROBLEM OR A FEATURE?'

By Jeff Sauro. An analysis of several design patterns, asking whether they were meant to be that way or not. www.measuringusability.com/blog/problem-feature.php

DARK PATTERNS

A website that examines the darker side of user experience: user interface patterns that deliberately try to trick the user into particular action. darkpatterns.org

USING CSS TRANSITIONS

An up-to-date resource of CSS temporal styles. developer.mozilla.org/en-US/docs/Web/Guide/CSS/Using_CSS_transitions

WEBAIM COLOR CONTRAST CHECKER

Use the colour contrast checker to stay away from vagueness of low contrast designs. webaim.org/resources/contrastchecker

WHY WE FAIL

By Victor Lombardi. Learn how good products fail in the marketplace and why so that you can prevent those pitfalls. rosenfeldmedia.com/books/why-we-fail

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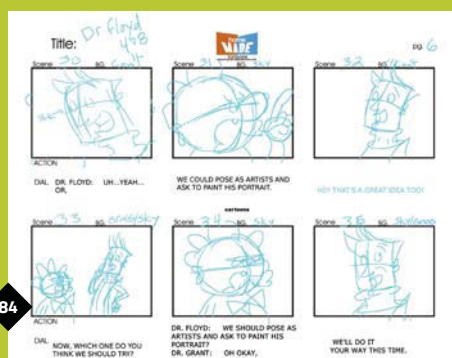
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PROJECTS

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THIS MONTH FEATURING...



WHY PROTOTYPE? 84
Daniel Bramhall explains the importance of prototyping and how to get started

CREATE AN ICON SET 90
Andreas Dantz explains how to use Sketch to create a small and client-specific icon set

COLOUR THEORY 94
Scott Kellum introduces some basic colour theory to make web designs more flexible



HEAD-TO-HEAD 96
Lorna Mitchell compares git-flow and GitHub Flow against each other

RESPONSIVE HTML EMAIL 98
Eric Morris demonstrates how to make HTML emails look great on any device

STANDARDS 103
Razvan Caliman on CSS Shapes for wrapping content around custom shapes



USE DALEKJS FOR UI TESTING 104
Sebastian Golasch explains how to use DalekJS for automating UI testing

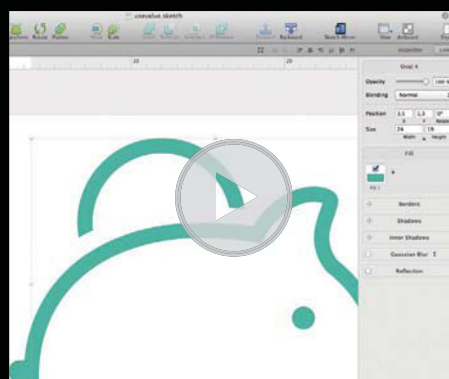
BUILD A GHOST THEME 108
Steven Wu explains how to get started and build your own theme for the new platform

ACCESSIBILITY 114
Henny Swan discusses the evolution of an accessible mobile app and BBC standards



BROWSER SUPPORT

We feel it's important to inform our readers which browsers the technologies covered in our tutorials work with. Our browser support info is inspired by @andismith's excellent When Can I Use web widget (andismith.github.io/caniuse-widget). It explains from which version of each browser the features discussed are supported.



EXCLUSIVE VIDEOS

Look out for the video icon throughout the tutorials. This issue, four of the authors have created exclusive screencasts to complement their tutorials and enhance your learning. From Andreas Dantz's Sketch icon set to Eric Morris's responsive HTML emails, follow the links to view the video screencasts.



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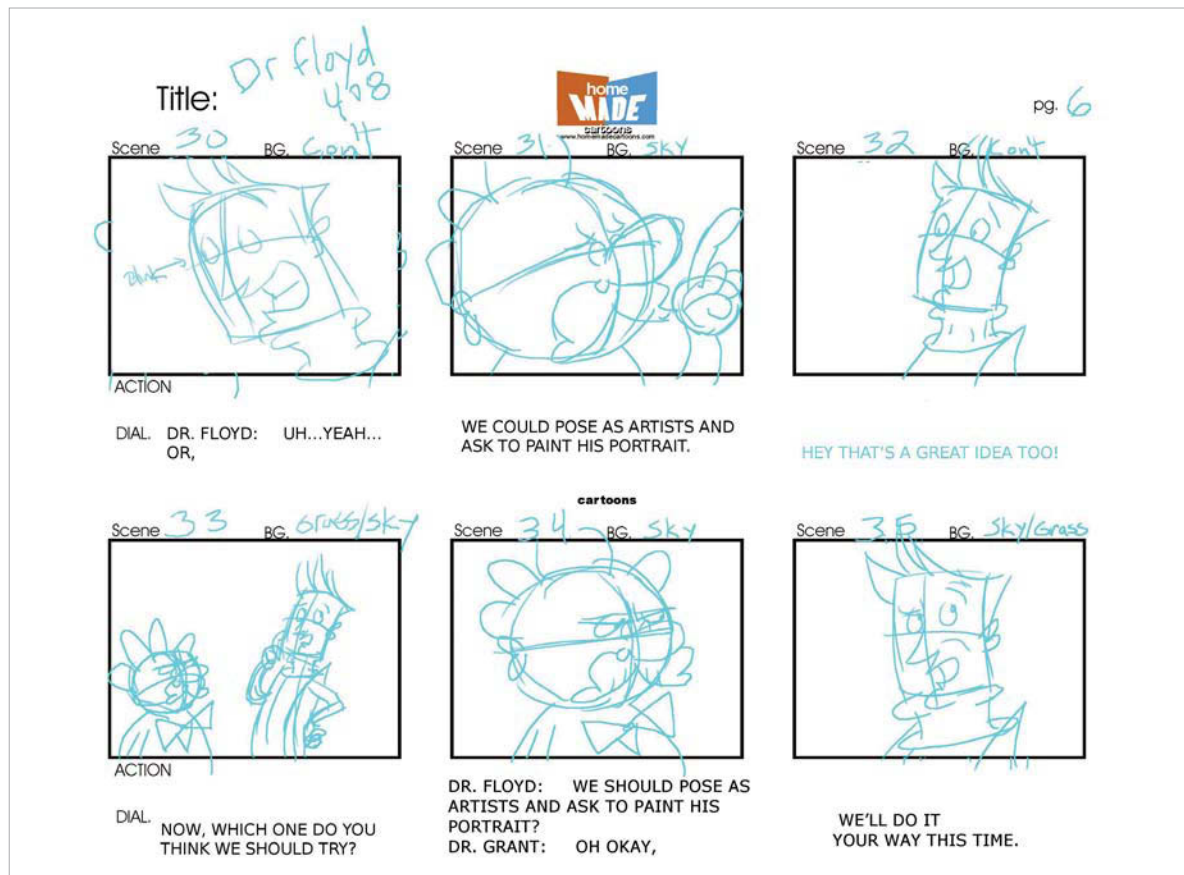
w: bramhall.me

areas of expertise:

iOS, OS X and
web design and
development

**q: what's your
favourite smell?**

a: freshly brewed,
extremely strong coffee



* PROCESSES

THE IMPORTANCE OF PROTOTYPING

Daniel Bramhall explains why prototyping is something every designer should do first, including how to get started and how to test a prototype

> As a designer it's imperative that, before you simply dive into a project and start creating, you must start from the beginning of the process and test your ideas to ensure they're the most effective way of accomplishing what you're working towards. Prototyping offers a way to test what looks great and is fit for purpose, whether it's for a website or a piece of software.

A prototype is defined as an initial or preliminary version from which other forms are developed. This provides you with insight into the functionality

of your design and any changes needed in order to make your work a pleasure to use.

The purpose of this article is to provide you with an overview of the different types of prototyping available, suggest when they should be utilised as well as a few examples of software or services that can help you to prototype.

Throughout this article, we'll focus on prototyping for the web. However, the skills and ideas presented can easily be transferred to software development projects, or even graphic design work.

RESOURCE

VIDEO TUTORIAL

This YouTube video is a fantastic tutorial on how to storyboard:
youtu.be/B4ekzThzj0

As with the majority of concepts in the world of technology, prototyping can be split into a variety of different groups. The trick is to use the correct type of prototyping for the correct type of work, and at the correct time. You could write an entire dissertation simply on the categorisation of prototyping, but for our purposes in this article, we'll focus on five of the main approaches: conceptual, feasibility, horizontal, vertical and storyboarding. Although the usage of these does depend on what kind of work you're doing, they're based in order of what should be done first. Also bear in mind that one can't exist without the other.

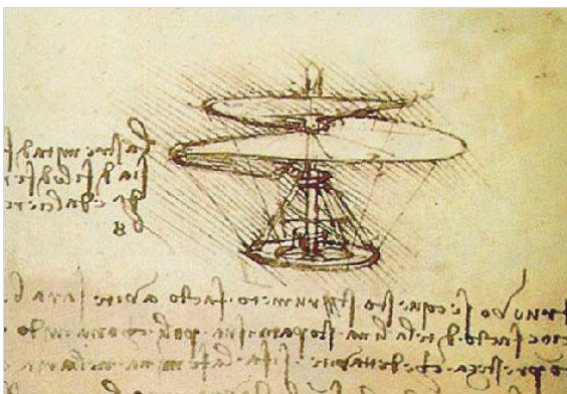
- **Conceptual:** This type of prototyping allows you to analyse the different type of approaches to your designs. For example, if you had a website that was purely data-driven, what approaches could you prototype to determine what's most effective?
- **Feasibility:** Although not necessarily an extension of conceptual prototyping, feasibility can benefit

The trick is to use the correct type of prototyping for the correct type of work

from conceptual prototyping beforehand.

Feasibility prototyping determines how practical a variety of different solutions are. This could include looking at financial implications of an approach, the feasibility of completion in terms of the timescale or even the software or skill set required in order to fully complete a project.

- **Horizontal:** Although abstract in name, a horizontal prototype would clarify the key components of the project, this would include the



Get sketching Leonardo da Vinci used pen and paper to sketch out designs

★ FOCUS ON

HISTORY OF PROTOTYPING

People started using prototypes long ago to transform ideas into reality and share these ideas with others. As early as 400BC, clay models were used of things like cups and teapots to make sure they fulfilled their purpose properly. A hundred years later, abstract drawings using materials like clay and papyrus were used to visualise something before it was made. Perhaps most famously, Leonardo da Vinci prototyped designs, one of the earliest dates back to 1480, with his study of flight.

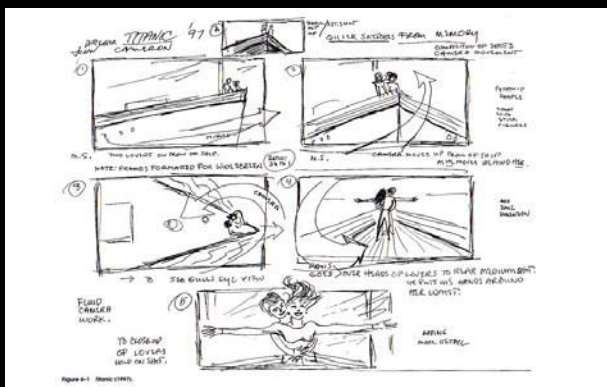
Leonardo da Vinci used pen and paper to sketch out designs for a variety of different inventions; one of which included a flying machine that used rotating blades which resembles what we know today as a helicopter. Through these sketches, Vinci was able to visually explore different ways of achieving something, showing that prototyping has deep routes of traditional use for even the most important of modern machines. This shows that prototyping has been fundamental to the invention of many modern products we know and love today.

Jumping another few hundred years, we now have computer software created by Adobe and Microsoft from 1986 that allowed users to visually design products on their computer. Nowadays, almost every website and software application is developed from a prototype.



Before development An interface being designed within Photoshop prior to development of the application allows you to preview a static version of a project

* FOCUS ON

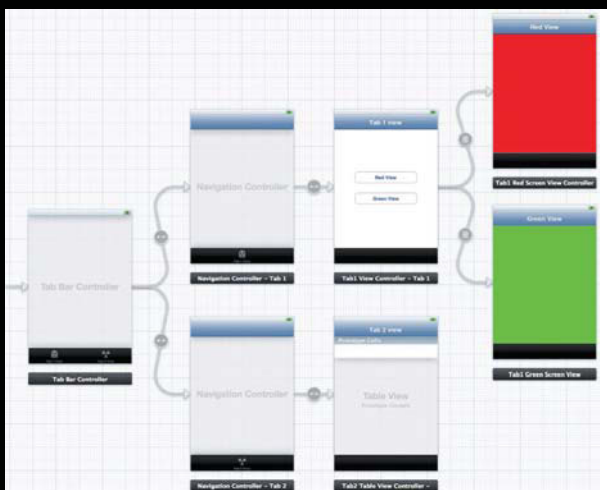


STORYBOARDS

+ Storyboard themselves are an interesting topic. They've been invaluable for many years to a number of different creatives, ranging from animators and comic book artists to software developers. A storyboard is set out to allow the designer to easily plan a particular scene in a movie or a path of navigation within a software package.

Walt Disney popularised the concept of storyboarding in the early 1930s, in which storyboards were used to lay out scenes of animated movies. Years later, the concept was adopted by many of the other big-name animation studios before eventually becoming the norm.

In order to use the storyboarding technique, you need to divide your canvas into different frames and then populate these in a logical and orderly fashion, for example, to display a path of navigation. For the purposes of this article, we're using storyboards for just that purpose: to logically display the path in which the user will navigate through our design.



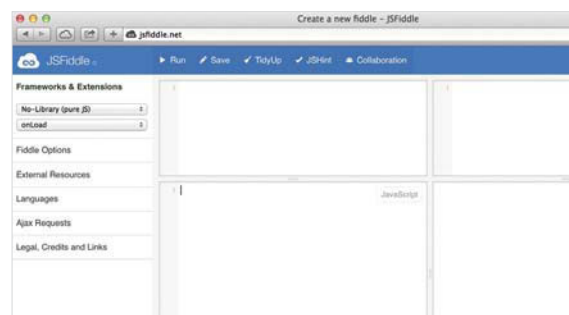
Software storyboard A typical layout of a software storyboard, logically displaying the path in which the user takes to navigate through an application

► scope of the features and what is required for your project. For example, if you're designing a website that's based heavily on the presentation and navigation of photographs, you'd need to consider the best way for the user to view them, navigate through them, share them and so forth. This type of prototyping is important because, realistically, you could end up implementing more and more features beyond what would be deemed practical. Here you would clarify what is needed and what isn't needed.

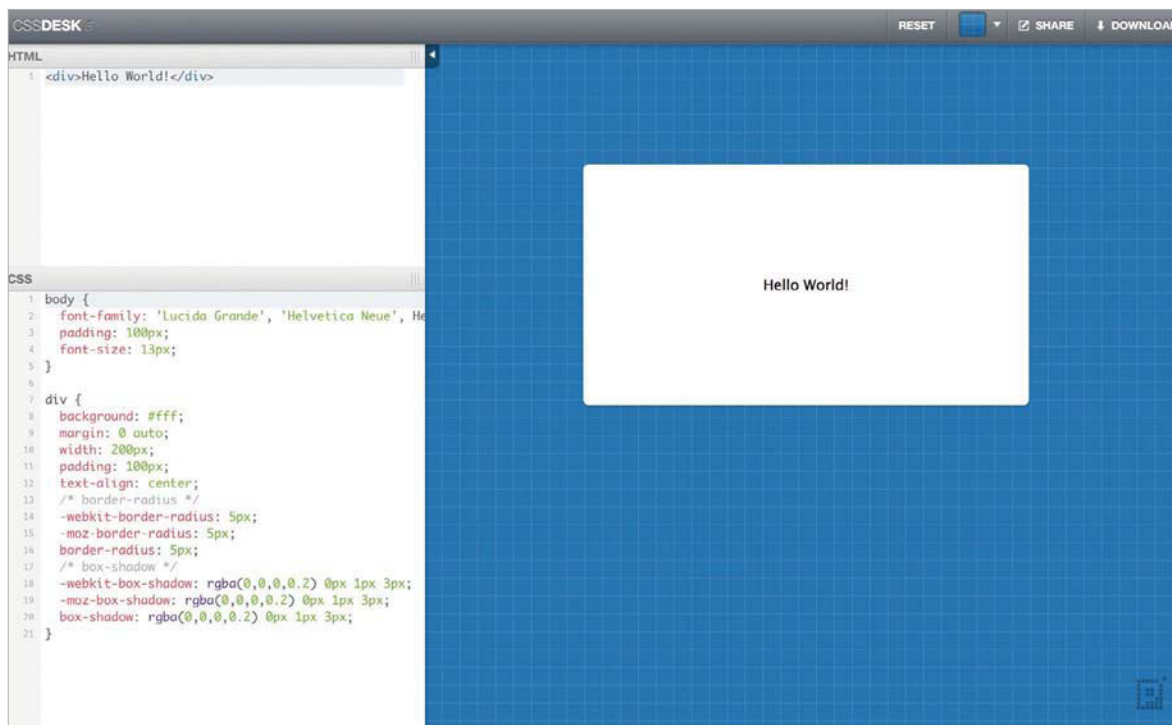
- **Vertical:** Vertical prototyping focuses on the testing of key components. This is done early to ensure that anything potentially ambitious and central to the project is practical. It's a misconception that designers should start simple and slowly make their project more ambitious. By doing this, they are potentially wasting time working, only to come to a halt when approaching something that is too ambitious and unachievable, worse yet finding it's central to the functioning of the design.

Although a WYSIWYG editor sounds archaic, it can save you a great deal of valuable time

- **Storyboarding:** Perhaps the starting point of any real, graphic design would be to decide how the project should be presented, and in what order information should be presented to the user. This type of prototyping requires logic and shouldn't be overlooked when designing for the web. Specifically, here you would lay out the navigation of a website or web app, which in the long run you'll be thankful you did, especially if you have a lot of information and pages to work with when you're nearing the end of your project.



Testing tool jsFiddle is a more versatile web application and allows you to tweak a variety of different elements, making testing much more analytical



Testing styles CSSDesk allows you to see instantaneously the styles added to your document, a real time saver when you're testing out a new idea

OK, so we've established the basic route one should take when starting up prototyping a design, but what features should you look for when you come to looking through the endless options of prototyping tools? It's a natural reaction of many technology-minded people to look for software that packs everything, so the fear of not having a certain feature is redundant. That's not an ideal way of looking for a software package for prototyping, especially if you're relatively new to the game.

If you're looking to see what your design will look like before you start getting to the nitty gritty of the actual development then you should look for a tool that provides a What You See Is What You Get (WYSIWYG) editor. Although this sounds archaic, it can save you a great deal of valuable time. You should look for applications that allow you to manipulate the different aspects of your interface directly as well as providing you with the elements and objects that you'd need to complete your project. Below are a few free options available that allow you to graphically create your designs and applications:

- InVision (www.invisionapp.com), a web and mobile mockup and UI prototyping tool
- UXPin (uxpin.com), a series of tools for UX design, built by UX designers
- Mixture (mixture.io), a frontend development tool
- Briefs (giveabrief.com), a tool for prototyping apps
- Pencil (pencil.evolus.vn), an open source desktop GUI prototyping tool

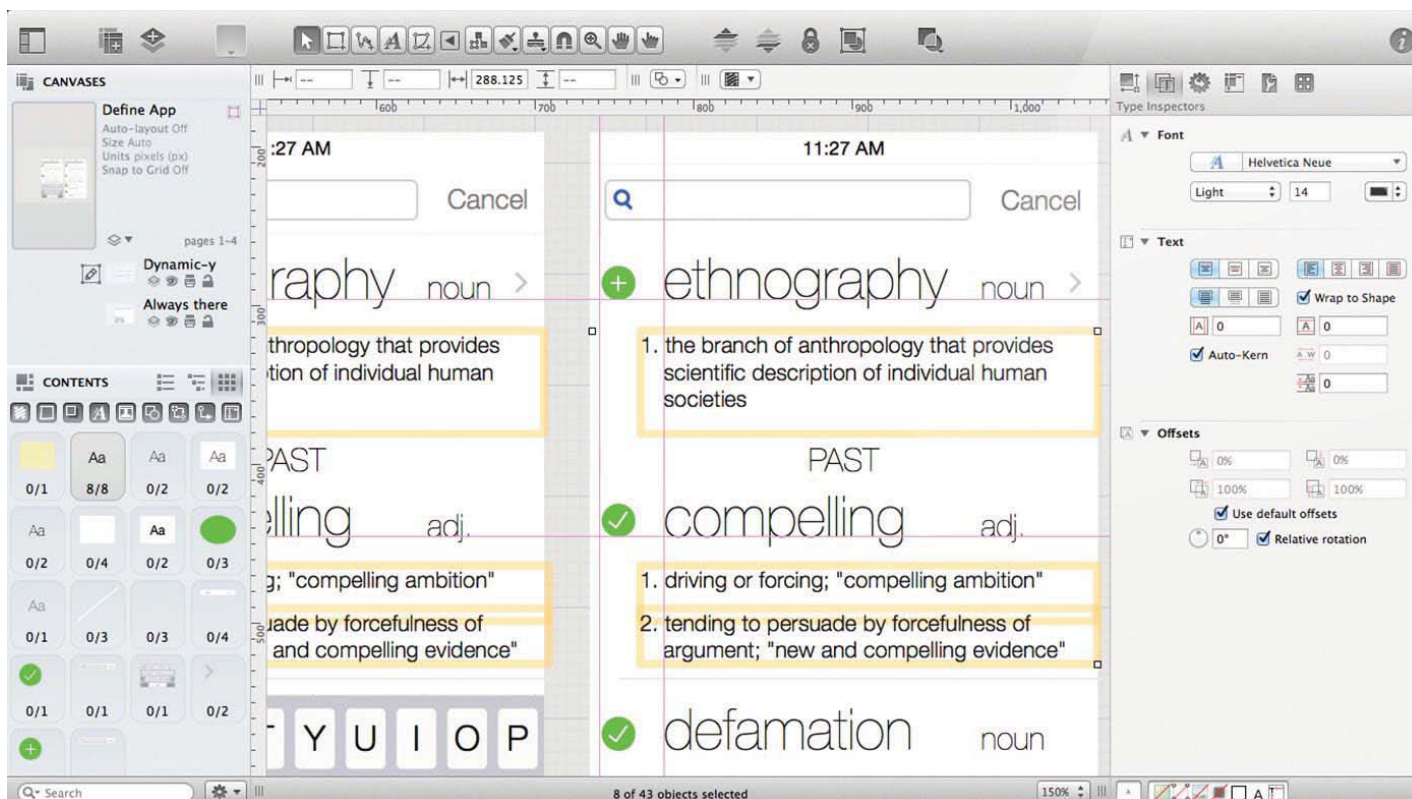
Obviously, there are a wealth of options available. These are some of the more feature rich options available that you definitely should explore.

PROTOTYPING CODE

Although a land where you can do everything graphically would be blissful, the reality is, to truly make something yours, you'll probably have to manipulate elements of it using code, whether this is adding some animation, giving it some style or telling it what to do when the user clicks on it. But there are some tools available online that allow you to write code and then review the result in pretty-much real time.

A favourite tool for testing JavaScript, CSS, HTML or even CoffeeScript online is jsFiddle (jsfiddle.net) in which you would create a new fiddle (or project) and then you're able to view the results straight away on the canvas. Similarly, CSSHat (csshat.com), which turns Photoshop layers to CSS3, is great for working with HTML. CSS Desk (cssdesk.com) provides real-time previews of your code on the canvas.

Working with these kinds of tools allows you to see in real time what the most effective means of achieving something would be, more usefully though, many of them give you the ability to actually change the environment in which your code is running on. For example, with jsFiddle, you change the HTML version and the JavaScript type you're working with. This is invaluable when working with prototyping for something similar to a website



- ▶ as, chances are, there'll be dozens of different environments in which your design will run on. Again, this serves to emphasize the importance of prototyping for all projects.

As a side note, it's also worth mentioning that the idea of using these services to write preliminary code doesn't just apply with prototypes. It's useful to quickly test out an idea or approach to a problem using the aforementioned websites. This way you're able to save time during development as you can essentially test code in real time!

STORYBOARDS AND ALGORITHM DESIGN

Any developer or designer knows that an algorithm is at the heart of a project. An algorithm is defined by the Oxford Dictionary of English as: a set of rules for solving a problem in a finite number of steps, as for finding the greatest common divisor. Put simply, it's a plan of what does what and in what order. For example, how would you get from one page to another, let's say from a page displaying a photograph to a page giving the option to buy the photograph? The algorithm would allow you to plan the different routes a user may take throughout your project to plan navigation.

To do this, a flow chart would definitely come in handy. This allows you to guide yourself through the different stages of your application in a logical fashion. This means that it's easier to start designing

something, especially as you know where your project is heading and what elements need to communicate and link to what. There's a distinct lack of decent online tools that allow you to do this. However, there's a wealth of tools that provide great features available for the desktop.

Try some of these:

- OmniGraffle (www.omnigroup.com/omnigraffle), a diagramming application for Mac OS X and the iPad
- Microsoft Visio (office.microsoft.com/en-gb/visio), a professional diagram tool
- yEd (www.yworks.com/en), a desktop application graph editor for creating high-quality diagrams
- Creately (creately.com), a web-based diagram and collaboration tool
- Lucidchart (www.lucidchart.com), a web-based tool for diagrams, charts, wireframes and mind maps

As previously mentioned, storyboards themselves are interesting topics, as outlined in the boxout on page 86, which shares some nifty little facts about the invaluable idea presentation tool.

EFFECTIVELY TESTING YOUR PROTOTYPES

Testing a prototype is equally as important as prototyping a design in the first place. For starters, it allows you to iron out any flaws from the off

Diagramming app
OmniGraffle's packed with built-in features that allow you to create charts, storyboards and layout interfaces really easily

and gives you a chance to get a feel of how your application will function when you've designed it. Although it won't be as fresh and fluid as the final version, it'll give you a good insight into what's going well and what needs to be chucked out or rethought. This small section won't cover the idea of testing a prototype in depth because that's a whole other article in itself. Instead, we'll briefly explore some means of testing that will suggest some ways of testing your project, from the early prototype to the final version.

You can use a variety of methods to test a prototype. Some methods may be practical for the work you're doing and some may not apply. Although you can use emulation to test a final design, you don't have to simply restrict this method to testing prototypes and, in fact, you're urged to test your final work using this. There are countless tools that allow you to emulate your website, the majority of them are available for free online, but these aren't suitable for testing something that essentially hasn't even been made yet.

To simply send a preview of your work to a device, Skala View is an indispensable tool

If you've made use of the graphical tools suggested previously, chances are there's a degree of built-in testing included. However, even something as little as a preview on a real device can go a long way. Tools like CSSDesk and jsFiddle both allow you to see in real time the code you're writing.

To simply send a preview of your work to a device, Skala View (bjango.com/mac/skalapreview) is an indispensable tool. It allows you to send images, previews and Photoshop designs straight to your mobile device. This is particularly useful if you're designing for the web and provides you with a nice and easy solution. What's more, it's free and available for iOS and Android.

Similarly, there are a variety of different emulators available. For instance, the Android simulator that can be downloaded using the Eclipse IDE (eclipse.org/eclipse) or the iOS Simulator that comes built-in with Xcode (developer.apple.com). Both of these allow you to simulate designs.

FIND YOUR OWN WAY

There's no set way that you should test your prototypes. However, it's hoped that, after reading

this article, you'll be more familiar with the different types of testing that are available and when you should utilise them. Most importantly, we've touched on the idea of testing prototypes.

The tools that have been suggested in this article aim to provide you with a range of simple yet highly effective means of prototyping your designs. Although the majority of tools that have been presented in this article are aimed at designing websites, many of them do have the capability of being used to prototype application interfaces and the Android and iOS simulators both facilitate the previewing of your designs.

CONCLUSION

The usefulness of prototyping doesn't become obvious until you've actually done it. If you simply spend a bit of time planning where your design will take form, how a user will navigate and what information and features need to be included, you'll definitely save a lot of time when it comes to not only design but also development. Essentially, to prototype allows you to approach a project logically; something that should be taken very seriously, especially as logic is something that can make or break your work. ■

RESOURCE

STORYBOARDS

Read this academic student article on storyboarding for video games: interactive.usc.edu/2013/03/05/storyboarding-games



Design visual Simulators are a useful tool to not only see how something performs on a mobile device but also to help you visualise how your design will appear



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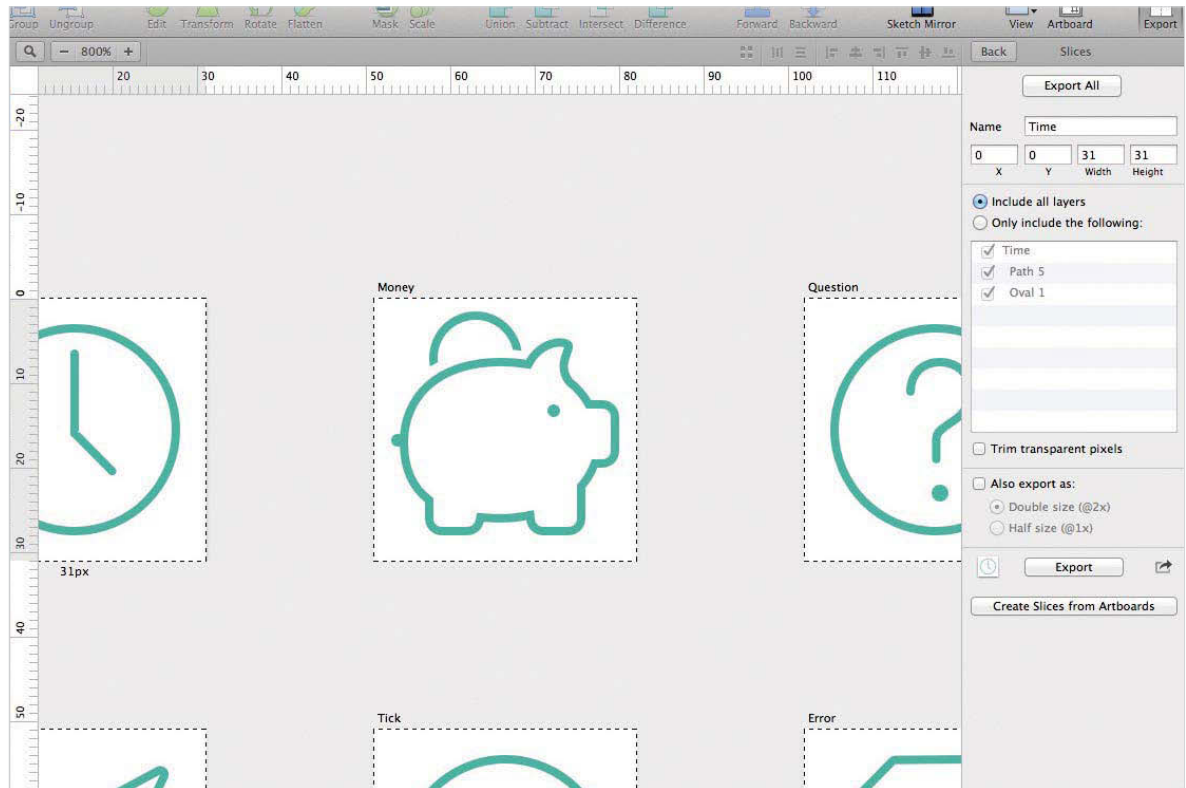
t: @dantz

areas of expertise:

Design, HTML, CSS

q: what's your
favourite smell?

a: I used to enjoy the
smell of petrol a lot
when I was a weird
child. Nowadays as a
weird adult it's more
the smell of a freshly
unboxed device



* SKETCH

CREATE A HAIRLINE ICON SET IN SKETCH

Andreas Dantz shows his approach towards making a small client-specific icon set that works on iOS 7, the web and in print

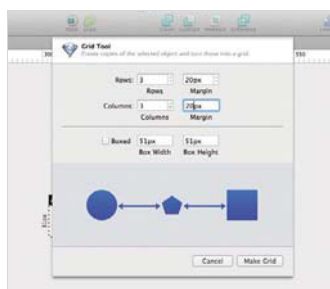
> Icon and visual hints are on every designer's tool belt. With current high-resolution displays, more and more icons are delivered in vectors and as icon fonts. Some of them are so ubiquitous that you'll be very used to their shapes. For most projects, it makes sense to stand out by using unique icons. When Apple released iOS 7 last year and changed the direction of its visual language, the icons inside the apps started being very thin and simplistic. When designing for a project called Use & Value (usevalue.de), we decided we wanted to design icons in this overall style, but a little more round and friendlier. The goal for the project was to create vector icons that could be used for the website, web app and for

print. I started by collecting all the things that would probably need an icon in the first wave. To explore different ideas and get a feeling for the design and recurring shapes, I sketched several ideas.

I also started using Sketch (www.bohemiancoding.com/sketch), a vector-based graphics programme for the Mac. If you're used to something like Adobe Illustrator that originates from the printing world, Sketch looks like those icons on iOS 7: extremely simplistic. And it is to some degree. However, you'll be amazed how much you can do with it. In this tutorial, I'll introduce some of the interface concepts in Sketch: the simple and powerful shape manipulation functions as well as the export.

VIDEO

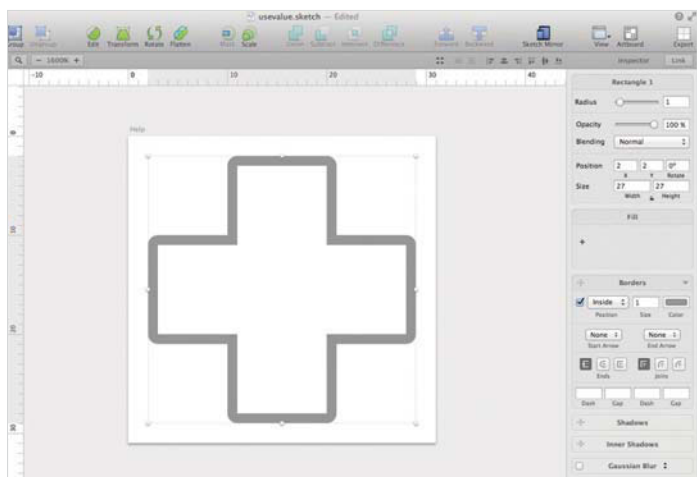
Watch an exclusive screencast of this tutorial created by the author:
netm.ag/tut1-252



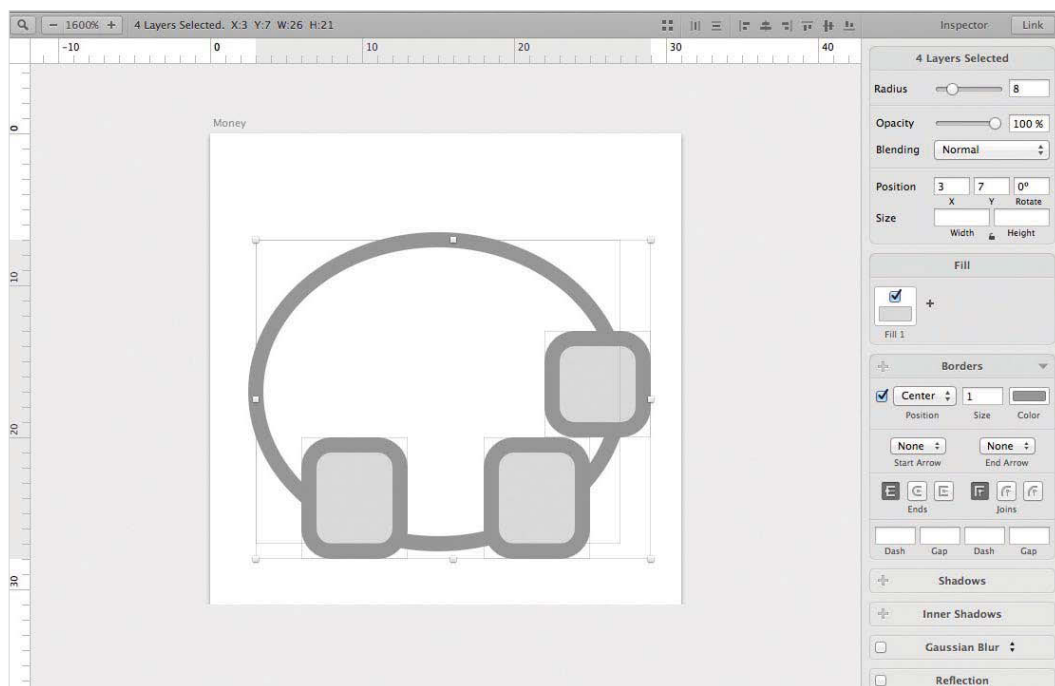
01 Sketch allows us to have as many artboards in our document as we like. We want nine artboards for the first icons we're going to draw. If you're anything like me, you'll want your artboards to be evenly spaced and aligned. In order to do that, let's draw one 31px square artboard and then select **Arrange** and **Make Grid...**. Set Rows and Columns to 3 and Margin to something like 20px. Hit **Make Grid**.

02 Let's start drawing the first simple shapes to make a cross icon with slightly rounded corners. Click the shape tool in the toolbar and select the **Rectangle** (or just hit **R**) and draw a 27px by 11px box.

03 On the right side, the inspector for our shape opens. Set the radius to 1 and remove the fill by right-clicking and removing it. We're creating outline icons, so no fill is needed.



Cross shape We combine both shapes using Union to get rid of the overlapping lines



Taking shape To create shapes for the pig's legs and nose, add rounded rectangles on top of the oval and combine the three shapes

04 Duplicate the shape and select the rotate tool from the toolbar. Turn the copy by 90°. The cross is almost done. We just need to get rid of the overlapping lines. That's pretty easy. Select both shapes and select **Union** in the toolbar. Now we've created our first shape. The really neat part is that Sketch, for the most part, is non-destructive. If we select the little triangle in the layers palette on the left, we see both sub-shapes of our cross. We can still select them

and change settings such as the radius at any point. It's a great and powerful tool because we can start combining shapes and fine-tune them later.

05 Now let's go a little further and make a more complex shape. For the money icon, I decided to go with a piggy bank instead of a wallet or coins because it's more emotional than the other two. Let's start with a simple oval shape for the body.

06 Place two rounded rectangles for legs on top of the oval and another one for the nose. Combine the three shapes.

07 To make the body shape more organic, we select the sub-shape and double-click the contour. You'll have the four points that define the shape. Anyone familiar with other vector programs will see the familiar control handles for the vectors when selecting one of those points. Click on the top and bottom points and simply move them a little to the inside of the pig.

* RESOURCES

SKETCH MIRROR

For iPad and iPhone there are companion apps that show the current artboard by default and let you select the other artboards on the device. This app is a great addition if you're designing apps. You could place every screen of the app into one Sketch document and simulate the user flow right on the target device. www.bohemiancoding.com/sketch/mirror/

► **08** Finally, select the left one and switch the handle mode to detach both handles from each other. Move the bottom handle down slightly to give our pig a little more bacon. By pressing **Ctrl + P** we can toggle the pixel mode at any time and move the lines to align with the grid. This make outlines as sharp as possible on devices with lower resolutions.

09 For the ear we need to draw the shape ourselves. Select the **Vector** tool and draw a roughly triangular shape by setting our control points. After placing every point before releasing the mouse, we can drag a little bit to set the vector controls. Play with this tool to get a feeling for its behaviour.



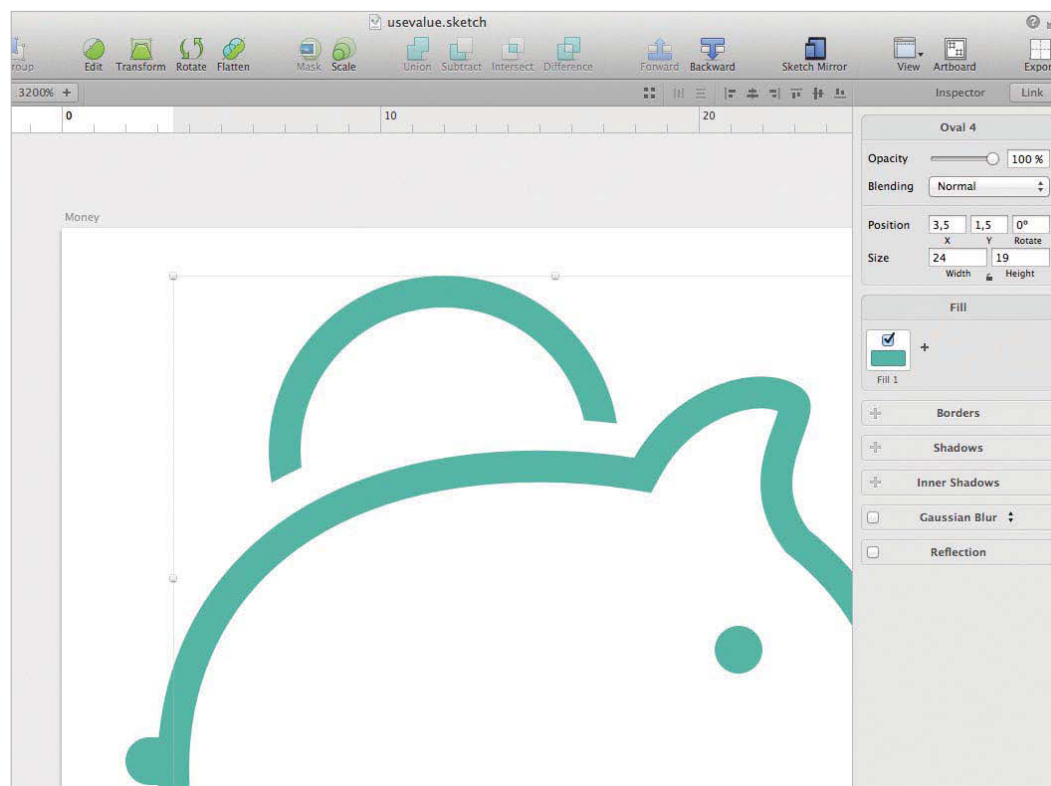
Pig ear Use the **Vector** tool to refine the ear

10 Now click on the newly-drawn shape and select each of the control points to tune the outline. **Union** the ear onto our pig and maybe move the sub-shape to get the blending of the shapes right.

11 For the eye and the tail simply place a circle and another rounded rectangle on the artboard. This time we remove the border and set the fill colour to the



Pig tails Creating the icon's eye and tail



Unexpected results Be wary that sometimes transforming the border into a shape using **Vectorize Stroke** can produce unexpected results

outline colour. Because a one pixel-sized eye is a little small, make it **1.5** pixel, and the same for the tail, by setting the dimensions in the inspector. The same goes for the positioning.

12 Another handy option when fine-tuning our shapes is to open a preview: **View > Show Artboard Preview**. We can crunch the pixels zoomed in and get a live preview of our changes. Last, we build our coin. That's simple. Draw a circle and subtract the part that goes into the pig, but we want the outline to be open.

13 Make the border into the shape itself by navigating to **Edit > Path > Vectorize Stroke** and just subtract an oval. In my experience, this sometimes produces unexpected results. In this case, just drag the sub-paths out of the collection and **Subtract** the shapes in the logical order.

14 Now it's time to export our work. When clicking on the **Export** button for the first time, Sketch asks us if we want to create slices from our artboards. A slice is an area that can be exported. With the icons we're creating in this

example, we simply hit **Yes** and we're done. If you build a screen design you may want to give creating slices more thought and decide what layers to export on what slice. We can use Sketch for laying out an app and export icons and other assets that overlap each other on the artboard.

15 If you need double resolution assets (or half resolution in case you designed at 2x), check the **Also export as** option as desired, hit **Export all** and then select the relevant file type to save it out as. And we're done. **n**

* EXPERT TIP

PROTOTYPING

Sketch uses properties for the shapes that are similar to CSS attributes. You can add multiple borders, backgrounds and shadows to one object. No more saving the drop shadow for some particular effects, like in Photoshop for example. You can even copy the styling of an object as CSS code. I'd recommend restricting your use of it to prototyping, but it can come in handy from time to time.

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favourite smell?

a: freshly baked bread

*SASS

COLOUR THEORY FOR THE WEB

Scott Kellum introduces some basic colour theory and practice to help make use of relative colour and make web designs much more flexible

> There are lots of colours available to us, and for the most part, we describe colour in a way that makes it difficult to see the relationships between different colours. Names like red, green, blue, yellow, purple and maroon are great for conversations about colour but provide little insight into the structure of that colour. From the moment we can talk, colour is processed by the language part of our brains and its meaning is tied to the names we give colours.

Dimension, on the other hand, is processed differently by our brains. One foot and three feet aren't called different names. Instead, we measure dimension in a way that's proportional to a constant and well-known increment like inches or centimetres. These ideas of measurement come naturally to us and, while colour can be measured and described in a similar way, it's often very difficult for us to understand and manipulate colour as a measurement of its parts. It wasn't until Sir Isaac Newton did a series of experiments with prisms in the 1600s before we really started to understand that light was made up of different colours that could be measured independently of one another. Colour wheels were soon adopted by artists so they could better understand and mix colours.

While most artists use red, yellow and blue as primary colours, and most colour theory classes

refer to these as the primary colours, science has evolved since the days of Isaac Newton and so has our understanding of how we see colour. Just about everyone's eyes contain various light receptors. Receptors called rods detect darks and lights, and cones detect three primary colours: red, green and blue. These three primary colours probably sound familiar to those of us who work on the web because this is how we write colour. Monitors have red, green and blue parts to every pixel. Each colour has 256 variations in brightness resulting in a total of 16,777,216 different colour possibilities. We can describe colour with the RGB colour function `rgb(255,115,0)` or hex values `#FF7300`, both of which describe the same colour in a slightly different way.

THINKING ABOUT RELATIVE COLOUR

To start thinking about colour and its relationships we can start with the CSS colour function `hsl()`. This function breaks colour down into hue, saturation and lightness. Hue is expressed in a unit-less degree (out of 360) while saturation and lightness are expressed as unit-less percentages (out of 100).

So hue is expressed as a value out of 360. This value is mapped to a colour wheel. As you are spinning through hue values, imagine spinning around a colour wheel. If you have red (0) and you want to make



CODEPEN DEMO

See Scott's CodePen demo of everything he talks about in this tutorial: codepen.io/scottkellum/pen/gHByh

yellow, you would just move hue to `60`. In colour theory there's the concept of complementary colours, which are two colours on opposite sides of the colour wheel. To find a complement of red you would just need to find the value that is `180°` around the wheel from red. In this case `0` for red plus `180` and the resulting colour is cyan.

Saturation and lightness is a bit more straightforward. Fully-saturated colour (`100`) has no grey in it while a saturation of `0` is greyscale. With lightness, `0` is black and `100` is white. Adjusting these values up and down will make your colour lighter or darker. Because our conception of colour is usually tied to the hue of a colour, it's much easier to think about saturation and lightness in terms of scale.

MANIPULATING COLOUR WITH SASS

By now you should have a solid understanding of how colour manipulation works. However, with pure CSS there's no way to adjust one colour relative to another without doing it by hand. Sass includes a huge range of colour functions (netm.ag/sass-252) that enable you to manipulate various aspects of a colour.

For the most part, the most valuable functions

Simply adding some of this colour logic into mixins can help make them more flexible

are the HSL functions for `darken`, `lighten`, `saturate`, `desaturate`, and `adjust-hue`. Each one of these functions does simple mathematics on the original HSL values of the colour. For example, let's define a primary colour in a blank file:

```
sass
$primary: #437825;
```

Let's find another value for `$secondary` that's lighter and complementary to our primary colour.

```
sass
$primary: #437825;
$secondary: adjust-hue( lighten( $primary, 10% ), 180);
```

We could also have used the function `complement($colour)` as a shorthand for `adjust-hue($colour, 180)` as the complement of a colour is the same as `180°` opposite the reference colour. These basic functions will handle just about every colour adjustment you may need, but there are some things

that may be confusing if this is your first time using them. For example, `50% darken` or `lighten` don't take you half way to black or white. Instead, they add to the existing lightness value. So, if you darken a colour with a `L` value of `52` by `50`, the resulting colour will be black. To get around this you can use the `mix` function that simply mixes two colours together. If you mix your base colour with either black or white you may achieve a result much closer to what you expect.

```
sass
$primary: #437825;
$primary-dark: mix(black, $primary, 20%);
```

Now that we have all the tools to manipulate colours in our colour palette, we can use logic to make decisions as to how those colours are applied. Let's say we have buttons on our sites and, if the colour is dark, the text should be white but sometimes the colour is light so the text colour should be black. You can query each value of a colour with the `hue`, `saturation` and `lightness` functions. To figure out how light our button is going to be, use the `lightness` function:

```
sass
@if lightness($color) > 50 {
  color: black;
} @else {
  color: white;
}
```

PUTTING RELATIVE COLOUR TO PRACTICAL USE

So far this has all been fairly abstract, but these techniques can be put to practical use. Themes can change colour with ease. When a client complains about the colour, it can be adjusted in one place, or you can create a single design for multiple sites that looks different by changing up the colour scheme. Simply adding some of this colour logic into mixins can help make them a bit more flexible.

At VOX Media we worked on the SB Nation (www.sbnation.com) redesign of over 300 websites (www.sbnation.com/blogs). These are sports sites so team colours are incredibly important. We worked it so every colour was relative to a distinctive team colour. There are still lots of different colour values on the sites, some darker and some lighter, but simply changing one colour can transform the site from looking like The Phin Sider (www.thephinsider.com) to looking like The Nunes Magician (www.nunesmagician.com). Hopefully the use of relative colour will be useful in your next project as well as helping to make designing much more flexible. 



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* HEAD-TO-HEAD

GIT-FLOW VS GITHUB FLOW

As development teams adopt distributed source control tools, **Lorna Mitchell** compares two of the best-known workflows

GIT-FLOW

Git-flow began life as a blog post and grew up to be a set of scripts (github.com/nvie/gitflow) designed to manage the flow of creating and maintaining an application. The process is designed to give a solid way of dealing with a variety of use cases. Git-flow is great for complex systems where strict naming of branches and a process for merging changes is needed. It's good for teams working on a large codebase with defined development workflows and release processes.

GITHUB FLOW

GitHub Flow was a term coined by Scott Chacon in his own blog post (scottchacon.com/2011/08/31/github-flow.html) reacting to being asked multiple times about his opinion of git-flow. This is GitHub's own ethos and it advocates a very simple and consistent way of using Git to manage your project. This approach is simple to understand and works well for most projects with continuous or automated deployment, so many small changes are released on a very regular basis.

RELEASE STRATEGY

Git-flow is aimed at projects where a release is a defined process in its own right. Perhaps the code has to be packaged or distributed, and the release always gets a version number. There's also provision for hotfixing a live release and managing moving bug fixes around between version branches.

GitHub's philosophy is one of continuous delivery and it's known for releasing many times each day. As a result, its release process is very automated and there's very little overhead between finishing a change and getting it live, which works really well with this very simple branching model.

BRANCHES

Git-flow keeps master deployable, but the 'bleeding edge' is on a branch called develop. Branches for features stem from develop, and merge back there when they are complete. When preparing a release, release branches are created from develop before being tested and becoming master themselves.

Master is always deployable for GitHub Flow too, but that is where the similarities to Git-flow end. All changes, whether they are features, fixes, or anything else, take place on feature branches. Once a feature is ready, it gets merged to master and is then put live immediately.

VERDICT

Git-flow is intended as a scalable approach, regardless of how big and complicated that is. Testing changes in combination before each release does make for a more flexible process, but the complexity means that users need to either use the scripts or have a certain level of git-fu. GitHub Flow is ideal for most projects and allows a very fast release cycle. It's easy to understand even for those without extensive Git experience, and any Git tool can be used with this workflow.

FACT FILE

DEPENDENCIES

GitHub Flow can be used by anyone with minimal Git skills. Git-flow requires more knowledge and/or the use of the git-flow scripts in order to be used.

ALTERNATIVES

Lots of projects use their own strategies, with various rules about rebasing and branch naming. Git makes branching very easy so it should be a key part of every development process, whether using one of these approaches or your own.

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favourite smell?

a: mixed appleberry

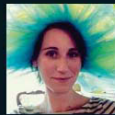
Bootsies & Hat



Have you ever walked into a room and realized that you're the only one not wearing a silly hat? Have you ever felt a chilling sensation in your toes? Do you live in Upstate New York?

If you answered yes to any of these questions, the staff here at Bootsies and Hat has your back. In fact, we're so nice that we probably have your back even if you refused to play along and answered "no" to all of the questions above.

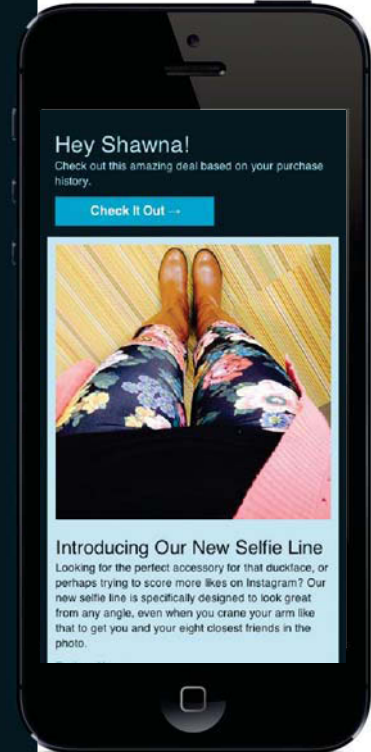
Bootsies and Hat have been known as purveyors of the finest hats and boots ever since we were founded as a joke in the Fall of 2013. Since then, we've striven to bring you the finest winter apparel and satirical marketing copy.



Whoa, a deal just for you!

Check out this amazing deal based on your purchase history.

Check It Out →



* RWD

RESPONSIVE HTML EMAILS

Eric Morris demonstrates how to make your HTML emails look great on any device or client, from the newest iPhone to Microsoft Outlook

> As social media platforms and communication channels continue to roll out, you may start to wonder if HTML email still has a place in this world. But, marketing data firm Custoria reports that, while customer acquisition rates via Facebook have remained relatively stable, acquisition rates via email have quadrupled over the past four years (www.wired.com/business/2013/07/email-crushing-twitter-facebook). The trick to successful email, it seems, is to make newsletters look good.

With research showing that 47 per cent of emails are opened on mobile devices (zurb.com/quips/1226), there's a lot riding on your email to make a good impression on mobile. However, with existing solutions, we found ourselves straining to modify purpose-built templates, or reinventing responsive techniques specifically for this medium. On top of that, any solution we developed had to support Microsoft Outlook, a client infamous for seemingly

disregarding them at will. We realised that templates weren't the answer, so we decided to build Ink (zurb.com/ink), a responsive email framework. Similar to Foundation (foundation.zurb.com), our responsive web framework, Ink gives us a solid, tested base upon which we can build responsive email, in addition to providing built-in UI elements for rapid prototyping.

We start with a visual design whenever we develop a new Ink-based email. Often this is just a simple Sharpie or whiteboard sketch, but it's important to have an idea of what you're building before you start.

For this tutorial, we're going to create a marketing email for a fictitious ecommerce startup, Bootsies & Hat (B&H). The marketing email should have: the brand's colours and logo, a few social media links for good measure and physical address and 'unsubscribe' link to comply with the CAN-SPAM act.

We want to organise the marketing blast into three content sections. The email will start with

RESOURCE

DEMO

See a demo of the Bootsies and Hat email by visiting: netm.ag/ink-252

an announcement and a juicy hero image to draw the reader in. The second section will contain a personalised deal. The third section will feature the pictures and descriptions of our newest products.

DIVIDE AND CONQUER

Next, we break up the design into individual code components. Ink has three main structures for that:

- **Container:** holds the email in a 580px-wide content area and centres it in the body.
- **Row:** divides the content vertically and into content sections.
- **Column:** divides up rows horizontally. On the desktop, each row is divided into 12 columns, with a section spanning n columns. On mobile devices, column sections each become their own row and expand to 100% width.

We often print the visual design and draw grid sections with Sharpies. An annotated structure map to follow as we code is surprisingly useful.

Ink gives us a solid, tested base upon which we can build a responsive email

SETTING UP INK

Now that we've got an idea of what we're going to code, it's time to break out Ink. Ink has pretty frequent releases, so we advise you to grab the most recent version (zurb.com/ink/download.php) whenever you start a new project. After downloading Ink, pop open the ZIP file and copy the contents of `boilerplate.html` into your text editor.

The boilerplate file already links to the Ink CSS. It also provides a basic foundation for your message, such as meta tags and some wrapper tables to help make your email responsive.

First we set the background colour for the email. Since some mail clients strip away the body tag, you should set this on the `.body` `<table>` as well as on the actual body:

```
body, table.body {
  background: #002b36;
}
```

We start the structure with a `<table>` container with a class of `container` to hold the header. For an example (see the code snippet overleaf):

* RESOURCES

TOOLS WE USE

+ You're only as good as your tools. We use a number of software tools to help ensure that we're productive and thorough, as well as to catch issues with our code before they become actual problems. Here are a few tools we really like and suggest you try using:

Sublime Text 2

When working with the verbose, complex and finicky code that emails require, simple features like syntax highlighting, code folding, tag completion and indentation tracking can go a long way towards ensuring valid markup.

Emmet.io

Formerly known as Zen Coding, Emmet is a plug-in for text editors that lets you write large amounts of markup using small, CSS selector inspired snippets. Since Ink has lots of nested tables and very dense syntax, Emmet lets us write large blocks of code quickly and without errors.

For example ...
`#page>div.logo+ul#navigation>li*5>a{Item $}`

```
... becomes
<div id="page">
  <div class="logo"></div>
  <ul id="navigation">
    <li><a href="">Item 1</a></li>
    <li><a href="">Item 2</a></li>
    <li><a href="">Item 3</a></li>
    <li><a href="">Item 4</a></li>
    <li><a href="">Item 5</a></li>
  </ul>
</div>
```

Litmus

Testing is hugely important, and Litmus lets us test on all our target platforms (plus a number of others) all at the same time, without needing a huge library of hardware devices.

Google Chrome

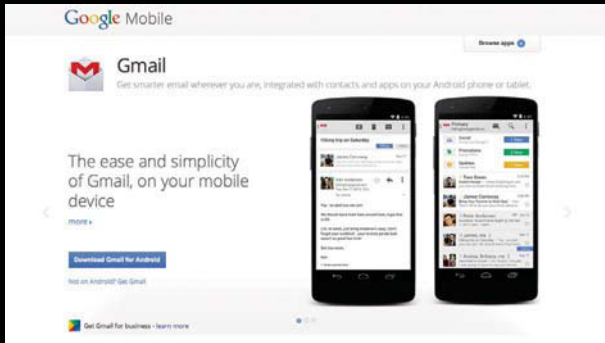
While doing device tests and Litmus tests is helpful for getting full coverage, the process can be slow. It's important to test along the way so that you can spot layout problems early.

Ink Inliner

Lots of clients strip out style tags, so it's important to inline all your styles before sending. We rolled out our own inliner so that we could have more control over the output.

★ FOCUS ON

THE GMAIL APP



✚ Ink relies on media queries, which aren't supported by the Gmail mobile apps for iOS and Android. This isn't a problem for most email lists, since Gmail only had about a three per cent market share in November 2013. Depending on your readers, this can be an issue. Ink includes an optional feature called the block-grid, which works by forcing a number of items of even width into a vertical stack as the viewport window becomes too small for blocks to fit side-by-side. While you can't create overly complex layouts using the block-grid, it does allow for some multi-column content that's responsive in Gmail. To create a two-column layout:

```
<table class="container">
```

```
<tr>
```

```
<td>
```

```
<table class="block-grid two-up">
```

```
<tr>
```

```
<td>
```

```
  Main Content
```

```
</td><td>
```

```
  Right Sidebar
```

```
</td>
```

```
</tr>
```

```
</table>
```

```
</td>
```

```
</tr>
```

```
</table>
```

While the columns will wrap if the viewport is too small for them to both fit, they won't expand to the full width of the viewport like the standard Ink grid. To add this functionality on clients that do support media queries, add the progressive enhancement:

```
@media only screen and (max-width: 600px) {
```

```
  table[class="container"].block-grid td {
```

```
    width: 100% !important;
```

```
  }
```

```
}
```

```
<table class="container newsletter">
```

```
<tr>
```

```
<td>
```

Inside this container we make a `<table>` with a class of `row` and a `<td>` with both `wrapper` and `last` classes. There's typically a `<td>` for every column section in the row, with the last class applied to the last `<td>` in the row. Since there is only one column section (12 columns wide), there's only one wrapper, which must receive the last class:

```
<table class="row">
```

```
<tr>
```

```
<td class="wrapper last">
```

Inside the wrapper `<td>`, we create a column with a new `<table>`, this time with the classes `twelve` and `columns`. However, in addition to the one content `<td>`, we need a second, empty `<td>` with a class of `expander`. The `expander <td>` forces the column section to become full-width on small screens:

```
<table class="twelve columns">
```

```
<tr>
```

```
<td>
```

```
<h1>Bootsies & Hat</h1>
```

```
</td><td class="expander"></td>
```

To fill in the content in the newsletter section, put an `<img>` tag inside the regular `<td>` of the column section in the first row and some text separated by `<br>` or `<p>` tags in the second. With the `<img>`, be sure to specify an exact height and width using HTML attributes. Also provide a valid `alt` attribute:

```

```

All the `height`, `width` and `alt` attributes are necessary because some clients block images by default or



Above The new products portion of the newsletter as seen on a desktop client. The images collapse on top of the text when viewed on a mobile device

else refuse to resize them based on CSS. Setting containers apart with `background-color` is simple: Add one class and a single `background-color` CSS rule. Appropriate padding is trickier, however. Ink has a built-in helper class, `text-pad`, that can be applied to the content `<td>`s of the columns to take care of this.

NEW PRODUCTS SECTION

Like the newsletter section, we create a container `<table>` and three row `<table>`s for the 'new products' section. The table's rows each have two wrapper `<td>`s. Only the second has a class of `last`:

```
<table class="container products">
<tr>
<td>
<table class="row">
<tr>
<td class="wrapper">
<!-- Picture column goes here -->
</td><td class="wrapper last">
<!-- Text column goes here -->
```

Insert a new `columns` table with the class `four` into the first wrapper. Then place the product image inside the content `<td>`. Inside the second wrapper, insert a `columns` table of class `eight` and fill the content `<td>` with description text, and perhaps a link through to the site. Instead of using the `text-pad` class this time, we'll use `left-text-pad` on the image `<td>`s and `right-text-pad` on the text `<td>`s. The directional text-padding classes pad only the outside edge on large screens, but pad both sides when the columns become full-width on mobile devices. The breakout section between 'newsletter' and 'new product' sections starts with the same `container > row > wrapper > columns` structure. This section, however, will look like an individual row in the product section, except with three and nine column split.

Ink's visibility classes allow you to selectively show or hide elements on different platforms. In this case, we only want to show the image (our imaginary customer's profile picture) on desktop, and we want to swap in a headline with the customer's name on mobile devices. To hide the image:

```
<div class="hide-for-small">

</div>
```

To swap out the headers, put two `<h4>` tags in the content `<td>`, one with the `hide-for-small` class and one with the `show-for-small` class:



Left The entire layout of the newsletter collapses down into a single column on a mobile device

```
<h4 class="hide-for-small">Whoa, it's a deal just for you!</h4>
<h4 class="show-for-small">Hey Eric!</h4>
```

The footer row's markup requires a few modifications to fill the full browser width. First, set up the section like normal, with the container outside of the row. Next switch the `row` and `container` classes, leaving the wrapper `<td>` on the inner table. Next, on the `<td>` for the outer table, add a class of `center` and an `align center` attribute. Finally, add a `center` tag between the two tables.

For example:

```
<table class="row">
<tr>
<td class="center">
<center>
<table class="container">
<tr>
<td class="wrapper">
```

Now the row extends across the entire width of the body, which means that you can style it by adding a background colour. The content is still restricted to the `580px` container. After you've inlined your code, it's important to test it thoroughly.

You now have the tools to create responsive emails that'll look great almost anywhere. **n**

VIDEO

Watch an exclusive screencast of this tutorial created by the author:
netm.ag/tut2-252

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* CSS

HOW TO USE CSS SHAPES

Razvan Caliman introduces a new CSS feature, CSS Shapes, that allows designers to wrap content around custom shapes

➤ Web designers have long been forced to create within the constraints of the block. Since the majority of daring ventures into non-rectangular layout using CSS and HTML end in frustration, most content on the web is still trapped in simple boxes. Creative uses of `border-radius` and CSS transform properties only create the illusion of shapes and don't actually affect the content layout as expected. A circle carved with `border-radius` is still a rectangle in disguise. All this is about to change with the implementation of CSS Shapes (html.adobe.com/webplatform/layout/shapes).

CSS Shapes allows web designers to wrap content inside and around custom shapes. Shapes are defined in simple, practical and reusable ways, and, unlike most CSS hacks that just simulate shapes, can affect the entire layout of a web page.

Perhaps you've been as naive as me when first floating an image with some transparent parts expecting content to wrap neatly around it, filling the blanks. Instead, we saw it wrap around the image block. How disappointing! We can solve this problem using CSS Shapes.

Here's a simple circle shape example:

```
.foo { shape-outside: circle(200px at 50% 50%); float: left; }
```

The `shape-outside` property here creates a circle with a radius of `200px` starting from the centre of the element. Use of the `float` property causes the content outside of the element to wrap around the circle shape. Note that this only affects the layout of content, not the clipping of the element itself to a circle; the `clip-path` property should be used for that and you can reuse the same property value. Content can also be wrapped inside of a custom shape by using the `shape-inside` property:

```
.bar { shape-inside: circle(50%, 50%, 200px); }
```

Explicit width and height must be set when using `shape-*` properties. For brevity, dimensions have been omitted from these examples.

Shape property values can be defined with built-in shape functions such as `circle()`, `ellipse()` and `polygon()`, or they can be derived from images which have an alpha channel by using `url(path-to-image.png)`. All types of CSS units can be used within shape definitions. This means that shapes can also be responsive. Regular margin and padding don't make sense with shapes, especially when thinking about polygons. What is a `margin-top` for a triangle anyway? Two new properties, `shape-margin` and `shape-padding`, are used to achieve the desired effect.

CSS Shapes lend themselves to a progressive enhancement development approach. When not supported, browsers will ignore the shape properties and fallback to plain blocks, thus keeping content visible. However, as with all new features, due diligence is necessary to make sure content is accessible for all users.

The CSS Shapes specification and implementation are still in flux with changes likely to come. Because of this, the feature is behind a flag in Google Chrome. Adobe is working on the implementation of CSS Shapes and keeps track of browser support and how to enable the feature at html.adobe.com/webplatform/enable. 

* PROFILE

Razvan Caliman (@razvancaliman) is an engineer on the web platform team at Adobe. He experiments with cutting-edge web technologies and builds things to make life easier for web developers



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areas of expertise:

JavaScript, open source,
home automationq: what's your
favourite smell?

a: rainbows!

* JAVASCRIPT

USE DALEKJS
FOR UI TESTING

Sebastian Golasch explains how to use DalekJS
for automating web application and page UI testing

➤ Imagine for one second, you're one of the frontend developers responsible for a large online shopping website called *thames.com*. The most used feature of *thames.com*, besides shopping carts and account management, is the search box on the top of the page. If you search for an item, you'll be sent to an overview page showing all items matched by your search query. A click on the headline link of one of the items leads you to the detail information page.

So far so good, but now your boss approaches you with a new feature request. You add the code, change bits and pieces of the existing codebase and everything works perfectly, on your machine and in your browser. Quite happily you push your code, get a coffee and by the time you come back, your boss is already there, reporting that no customer is able to search for items in Chrome.

Rollback time, but one of your colleagues pushed some code in the meantime. You merge it, everything breaks ... OK, let's end this horror story here. I bet that you had similar experiences at some point in your career.

You may have tried to solve this issue by creating lists that every developer has to follow, something like this:

- Open browser X
- Type `my product` into the search box

- Click the button next to the search box
- Check if the title of the first result is `my product (new!)`
- Click the link in the headline of the first item
- Verify the headline of the detail page `my product (new!) - extended description`
- Verify the price of the item is `$2.47`
- Repeat these steps in Internet Explorer 9, 10, 11, Firefox, Safari etc

This is time consuming and error prone. A tool to automate this workflow is required in order to be helpful, so let's consider the requirements.

HOW TO SOLVE

A tool should allow us to write this kind of automation helpers in JavaScript because that's the language all web developers have in common. Second, it should be an easy abstraction to enable frontend developers to break it down, in fact, it should be as easy as jQuery.

Speaking of jQuery, the installation should be as painless as copy and pasting jQuery plug-ins. Nobody likes to read tons of blog posts, experience hours of configuration and need the experience of a thousand-year-old alien time lord to get a tool working. Another important point: the tools should be able to test your page in real browsers. As awesome as headless browsers like PhantomJS are,

these browsers aren't the browsers your visitors will use. They are great, but testing with them won't give you the secure feeling that your page actually works in your visitors' browsers.

Utilities we already use in our process, like GruntJS (gruntjs.com), should work with our tool of choice. Also, the framework should be based on a standard, if it appears to be not the tool we need, we could replace it with a tool that is based on the same standard with the lowest effort possible.

Back in the days there wasn't a single framework that matched all of the criteria! At that disappointing point in time, we decided to create our own to, finally, have a tool handy that obeys our commands.

ENTER DALEKJS

DalekJS (dalekjs.com) is the tool that came out of the process. It's based on the WebDriver (www.w3.org/TR/2013/WD-webdriver-20130117) specification, interacts with real browsers, has a GruntJS plug-in and a really nice jQuery-like API that allows you to write your tests in JavaScript.

Nobody likes to need the experience of a thousand-year-old alien time lord

INSTALLATION

As stated a few lines above, the installation of such a tool should be as straightforward as possible. To serve this purpose, DalekJS has only one dependency, and that's Node.js (nodejs.org). Bundled with Node comes npm, a package manager similar to gem or Composer. You can use it from your terminal to install the DalekJS CLI tools like this:

```
npm install -g dalek-cli
```

After this step, you should have a new command in your terminal available named `dalek`. To verify that everything is fine, just execute `dalek -v`. Then you need to navigate to the root folder of the project that you want to test and execute:

```
npm install --save-dev dalekjs
```

That will install the testing framework alongside your project. Now, the only missing step is creating a folder where your tests will end up. For the sake of brevity, we call the folder `test` and place it in the root directory of our project. ►

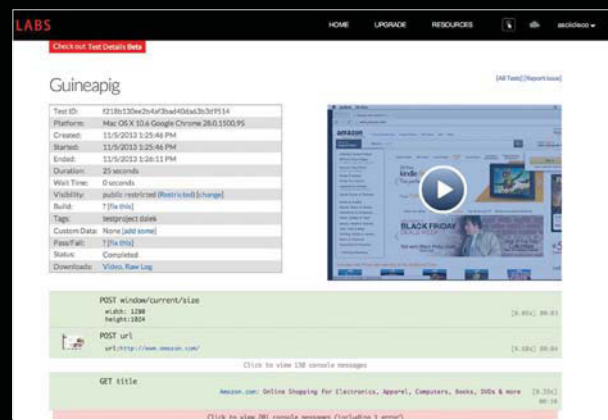
* FOCUS ON

TESTING AND ROADMAPS

➕ DalekJS has just started its evolution. If you're considering how you'll make best use of it for your projects, here are a few pointers on cloud-based testing and future DalekJS features:

CLOUD-BASED TESTING

If you don't want to run your tests on your computer, maybe because it's a Mac and you need to execute your tests in Internet Explorer, you're able to use the excellent Sauce Labs (saucelabs.com) cloud testing service. It offers many different browser and operating system versions and combinations to test against. Running your tests against the Sauce Cloud isn't a big deal. Just get a Sauce Labs account, install the dalek-driver-sauce plug-in via npm and add it to your Dalekfile configuration as described in the plug-in documentation (dalekjs.com/docs/sauce.html). While the plug-in is in an early development stage, a few features, like the secure tunnelling, aren't yet available, but I highly encourage you to take a look at it and the possibilities of outsourcing your test runs.



Sauce Labs This cloud-based testing service offers lots of browsers and OSs

ROADMAP

If you do an emergency time shift to the near future, you'll see that DalekJS's evolution has just begun. The one feature that has the highest priority (besides fixing bugs, cleaning the internals and improving the API) is the Plugin API. With many gists and snippets lying around (useful functions for working with AngularJS applications, for example), the need to add a generic API to make them useful for the community and to build a central home for them where they can be found by other developers is very high.

Another possible feature in the near future is a Modernizr-like feature detection helper for your tests. This will become handy in progressive enhancement scenarios where your original application uses feature detection to enable and disable features for the user. Browser sniffing is the past and automated testing frameworks should respect that.

- Now that the basic setup is all done, you are ready to write your first test. To keep the learning curve rising at a slow pace, let's first check if we can navigate the browser to the *thames.com* website and check if the title is as we expect it to be.

The `module.exports` variable needs to be assigned to an object that itself consists of at least one function. Within this function, you're then able to define your test logic:

```
module.exports = {
  'Title is as expected': function (test) {
    test.open('http://www.thames.com/')
      .assert.title('Thames.
com: Online Shopping for Electronics', 'Title matches the
expectations')
      .done();
  }
}
```

Before running this example, take a moment to explore the inner semantics of the `Title is as expected` function. As you may have figured out, `Title is as expected` is the name of our test. The only argument that gets injected into it holds all the power of defining tests. Within the Dalek world, we use the terms `actions` and `assertions` to differentiate between two kinds of methods that live in our test instance.

DEFINING ACTIONS

Actions define an interface to control the browser, pointing it to a specific URL, typing something into a form field, clicking links etc. Assertions are the counterparts of actions; they send data back from the browser and enable you to check parts of the page. Assertions are always prefixed with the `.assert` notation. In the example above, we use the `open` method to navigate to *thames.com* and then use the `title` assertion to check the content of the pages `<title>` element. Note that this isn't done via scraping the page's HTML, so if you change the page title via JavaScript, Dalek will get it. The `title` assertion takes two arguments: the first one is our value to check against, and therefore must be supplied. The second will help you to find your assertions in the test results later on.

So, the test hasn't been executed yet. Luckily, DalekJS comes bundled with the headless PhantomJS browser, so if you save the listing above in a file called `simple.js` in the newly created folder `test`, open up your terminal, navigate to the root folder of your project and type `dalek test/simple.js`. Your test will run and if everything worked, you'll get an output that looks like the console output in the tutorial files (download here: netm.ag/dalek-252).

Checking the title of a page isn't that spectacular and you could argue that testing text contents is a waste of time, so let's dive deeper into the available functions. As indicated, our little online shop has the ability to search through its items using a Google-like search form. The form consists of two elements: a text input and a submit button.

```
<form action="search" name="site-search" accept-
charset="utf-8">
  <input type="text" id="twotabsearchtextbox"
value="">
  <input type="submit" value="Go" class="nav-
submit-input">
</form>
```

To search for a specific item, such as 'Blues Brothers video tape', you can add a second test unit to the `simple.js` file and place it right after the function you created before:

```
module.exports = {
  // ...
  'Search works': function (test) {
    test
.type('#twotabsearchtextbox', 'Blues Brothers VHS')
.click('.nav-submit-input')
.done();
  }
  // ...
}
```

This snippet will issue two actions to the browser. It will type the search term 'Blues Brother VHS' into the input field with the ID `#twotabsearchtextbox`. The other action will then look for the element with the CSS class `.nav-submit-input` and issue a click event that submits the form.

Note that typing the string into the text field will add one character after the other, just like a real user would do it. This is necessary to fire all the events that a user would also trigger if they did it by hand. For the `click` action, an invisible cursor will be placed above the element and the complete event cascade will be fired.

Assuming that submit will redirect you to some sort of search results page with matching items, you can check if the headline of the first item is as we expect. To do this, we will add two more methods to our test:

```
// ...
.click('.nav-submit-input')
.waitForElement('#result_0')
.assert.text('#result_0 .newaps a span').to.contain('The
```



FURTHER READING

For more information about using DalekJS, visit the website (dalekjs.com), the GitHub repository (github.com/dalekjs/dalek) and follow DalekJS on Twitter (@dalekjs)

```
Blues Brothers [VHS]', 'Article description is fine')
.screenshot('items.png')
.done();
// ...
```

The `waitForElement` method is needed because you need some sort of indication that the site has been loaded. Given that, in this scenario, a `#result_0` child element must exist in order to check our item, we wait for this one until we continue with other actions and assertions.

The headline describing the item in the result page is hidden in a nested `<span>` element. As Dalek supports CSS selectors, accessing the element is easy. The assertion techniques used here, checking the contents with the `to.contain` helper afterwards, differs from the assertion that we used to match the page title. This is because we're checking that the text contents of the element aren't exactly the same as requested, but at least contain the string. We call this 'assertion helper'.

To keep the boss happy, we also added a 'screenshot' method to take a picture of the current state of the items overview page.

USING REAL BROWSERS

One of the goals when creating this tool was to focus on real browsers. So far, the tests only ran in

Maybe one day, Daleks will be ready to invade all web development teams out there

PhantomJS, which creates an experience that is quite close to Safari.

At the time of writing, Dalek supports Chrome, Firefox, Internet Explorer and Safari on iOS. Some of the implementations have more complete features than others, but we hope to fill these gaps in our future versions.

To run your tests in Chrome, you need to install the `dalek-browser-chrome` add-on. To do so, just go back to the terminal and type `npm install dalek-browser-chrome --save-dev`. Now run your tests again with `dalek test/simple.js -b chrome`. The additional parameter `-b`, the shortcut for `--browser`, tells DalekJS to run your tests in Chrome. The browser starts automatically and you can lean back to watch the magic happen.

If you want to install the Internet Explorer helper, execute `npm install dalek-browser-ie --save-dev`. If you

have multiple browser helpers installed, you can chain them when starting the tests like this `dalek test/simple.js -b chrome,ie`, or you can add a `Dalekfile.json` to your applications root folder and then add the following contents:

```
{
  "browser": ["chrome", "ie"]
}
```

If you want to automate a browser in a virtual machine or on a different computer, check this screencast: vimeo.com/78144005.

REPORTS

Running tests this way is absolutely helpful, but after creating dozens of them, you'll get bored of scanning the terminal output manually for errors. Also, automated tests are meant to run without a human being needing to check the results. This is crucial in CI/CD environments where dozens of developers work on the same application. To tackle this specific problem, Dalek has a plug-in concept for other output scenarios besides the default console output. Namely, JSON, JUnit compatible XML and HTML.

Because you're not a machine and more interested in 'human compatible' output, it's more handy to integrate the HTML reporter for demo purposes.

Adding the reporter is easy. Type `npm install dalek-reporter-html --save-dev` and execute the tests with the `-r` (short for `---reporter`) flag like so `dalek test/simple.js -r console,html`. After the test, run a new directory. `report/dalek` should appear containing an `index.html` with a list if all passed and failed tests.

CONCLUSION

Now you know the basics of how to automate your web apps tests in a sane way. There are so many more functionalities, so I encourage you to take a look at the documentation (dalekjs.com/pages/documentation.html), which gives hints and examples on how to use it properly.

A fair warning: DalekJS is immature. I cannot recommend basing your entire app testing on it now because it's fairly young, in developer preview mode and still needs to find its own identity. API changes and other one-time errors will happen.

However, I don't want to scare you off using it. Give it a try. If you find a bug, report it, or better, send us a pull request.

Daleks haven't gotten much love over the past few decades, but maybe one day, Daleks will be ready to invade all web development teams out there to make the web a better and less buggy place for all of us to surf in. **n**



Watch an exclusive screencast of this tutorial created by the author: netm.ag/tut3-252



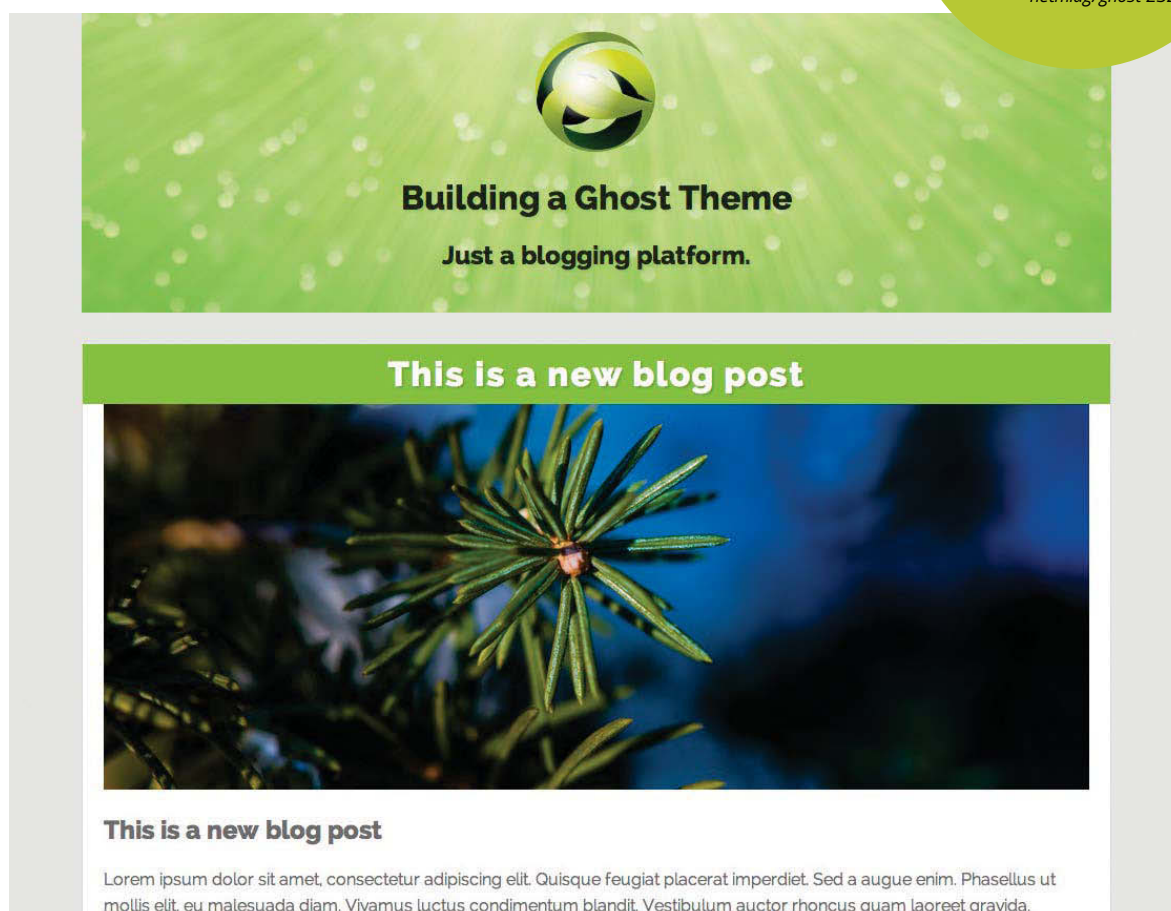
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areas of expertise:

Magento and
WordPress, HTML,
CSS, JavaScript, PHPq: what's your
favourite smell?a: the smell of success
(technically odourless)

* CMS

BUILD A GHOST THEME

Steven Wu explains how to get started and build your own theme for the popular new open source blogging platform Ghost

 REVIEW

JOHN O'NOLAN

With thanks to John O'Nolan for his peer review of this tutorial. John is the creator of Ghost

> Ghost is a new and free open source blogging platform. Successfully funded through Kickstarter, it surpassed its original request of only £25,000 achieving over £196,000 in funding from the community in May 2013. Started by John O'Nolan, Ghost has a unique purpose in providing bloggers with a simple interface that allows them to write and publish their content without the hassle or distraction by the sheer complexity of development from traditional platforms.

Ghost has been beautifully designed from the ground up. Its clean and simplified UI allows you to quickly browse through the archive so you may spend less time managing your blog and more time blogging. It has a smart writing screen using

Markdown with a real-time preview on the right-hand screen and simple drag and drop functionality to add images into place.

Ghost has three main core principles: it's developed for users rather than developers like many blogging and CMS platforms out there; the platform has a MIT licence so you can do what you like with this platform with few limitations; finally it's made for love. Ghost is a non-profit organisation; its motivations are to support bloggers rather than satisfying investors. In this tutorial I will guide you how to install and set up Ghost locally and build your first Ghost theme.

To begin building our Ghost theme, start within the Ghost installation folder (see opposite for the

installation guide). Under **Content > Themes**, create a new theme called **mytheme**. Make sure this is in lowercase without any spaces (hyphens are acceptable). This will be the directory that houses our theme codebase. Within this directory, create the following files and folders:

```
- /assets/
  — /css/
    — normalize.css
    — screen.css
  — /images/
  — /js/
  — /fonts/
- /partials/
  — header.hbs
- default.hbs
- index.hbs
- post.hbs
```

Both **index.hbs** and **post.hbs** are the only files required to be a valid theme. Without any of these you will receive an error.

ACTIVATE THE NEW THEME

Now in the Ghost dashboard, navigate to **Settings > General**. Under **Theme**, select the new theme you just

Predefined Handlebars expressions make it simple to build and maintain Ghost themes

created called **mytheme**. If it's missing, you'll need to go to the terminal and restart Ghost. Click **Save** to activate this theme. You won't see anything in the frontend yet. This is because we have yet to add any markup in our theme.

USING HANDLEBARS

Ghost makes use of a templating language called Handlebars.js (handlebarsjs.com). Predefined Handlebars expressions make it simple to build and maintain Ghost themes.

Handlebars separates the templates from the raw HTML for you. Bear in mind that, with Handlebars, you can't write functions or hold variables. Handlebars is developed simply to display content where the expressions are outputted.

Handlebars expressions are wrapped with curly brackets and look like this: `{{author.name}}`. This

* FOCUS ON

INSTALLING GHOST

+ Ghost is a lightweight web application. It only takes a matter of minutes to install this locally and get it up and running. Ghost is a JavaScript application built upon Node.js. It's required to have Node.js installed in order to run Ghost. If you haven't already, head over to nodejs.org and download it. Once you've got this installed, go to ghost.org/download to download the latest Ghost software and uncompress it.

To install Ghost in the terminal, run:

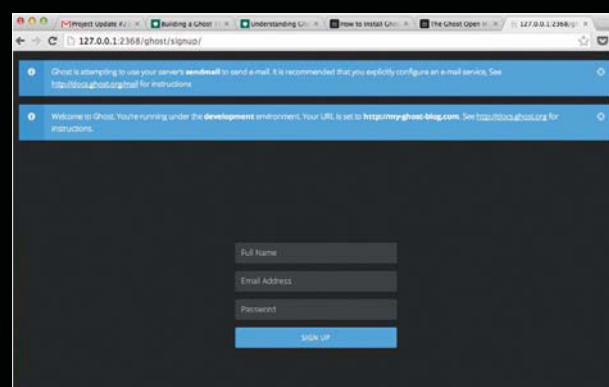
```
$ cd /path/to/downloads/ghost
$ npm install —production
```

Npm will now install all the necessary dependencies to the production and development environment. Once this is completed you can now start Ghost in development mode with:

```
$ npm start
```

In your web browser, navigate over to your newly installed Ghost blog at <http://127.0.0.1:2368>. You can register your administration login by going to <http://127.0.0.1:2368/ghost>. When you visit this URL, you'll notice Ghost notifies you of the send email and Ghost URL being used. Configure this by changing the base URL. Open up the **config.js** in your text editor and under the development URL (line 11) and production URL (line 47) change this with <http://127.0.0.1:2368>.

Once you've completed development, you can shut down Node.js, by pressing **Ctrl + C** in the terminal.



Dashboard access Two notifications require you to change the base URL

- basically looks up the `author.name` property and outputs it.

DEFAULT.HBS

Let's get our hands dirty and start creating our theme. Open up the `default.hbs` in your favourite text editor. This is the base template and includes all the basic `<html>`, `<head>`, `<body>` tags used throughout your website.

In this template we input our HTML doctype, basic meta tags and head and body tags. (See `default.hbs` in tutorial files.) You'll notice expression tags: `{{! Responsive Meta Tags }}`. Any expressions proceeded with an exclamation point within the curly brackets are comments and will not be printed in the final source code.

The `{{ghost_head}}` helper is used to output any system scripts, styles and meta tags. The `{{ghost_foot}}` helper is used to output scripts at the bottom of the document. The Handlebars expression `{{{body}}}` is an important one. This is where all your content will be displayed, which extends the default template. The following `{{body_class}}` is used to automatically generate CSS class names for targeting specific pages:

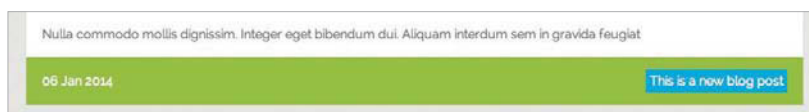
```
<body class="{{body_class}}">
  <div class="mytheme_page">
    {{{body}}}
  </div>
  {{ghost_foot}}
</body>
```

Index.hbs

Below We separate our header as a partial template to better manage and reuse code throughout our theme

Bottom You can use the `{{date}}` helper to output the blog published date and use the `format` option to control the date format

Now in our `index.hbs` (see this source code in the project files), we use the Handlebars expression `{{!< default}}` at the very head of this document to reference to our previous base template. This



template will be used for our homepage. We will want to style each blog post within the `foreach` helper. By using the opening `{{#foreach posts}}` and closing `{{/foreach}}` loop, anything inside this will display each post with the markup.

To display the content of each blog post we use a Handlebars expressions `{{content}}`. We can also limit the word count by using the parameter `words="100"`.

CLASS AND ID NAMING CONVENTIONS

You'll notice all of the class names are proceeded with `mytheme_`. This is a recommended practice when building a Ghost theme. Ghost will automatically assign particular class names and more specifically IDs to certain elements in your theme. You'll want to prevent clashes and consider your scope of class names.

PARTIALS

Typically we can insert our header markup just below the `{{!< default}}`, but the advantage of Handlebars templates are hierarchical support, whereby one template can extend another. This includes the use of partials. This helps to eliminate repetition of code and encourage reusability. We can separate our header into a partial template.

Ghost will automatically assign particular class names to certain elements in your theme

Within the partials directory open up the `header.hbs`. In Ghost dashboard `Settings`, you can upload your own blog logo and blog cover image. We'll use an `if` statement to check whether a blog cover image exists. If so, we'll output it as a background image:

```
{{#if @blog.cover}}style="background-image: url('{{@blog.cover}}'){{/if}}
```

This time, we'll check if a blog logo is available.

```
{{#if @blog.logo}}
  <a class="blog-logo" href="{{@blog.url}}">
    
  </a>
{{/if}}
```

The `@blog` global data accessor has access to global settings in Ghost we can output in our theme. Now let's dive into the fun part of styling our theme.



Watch an exclusive screencast of this tutorial created by the author:
netm.ag/tut4-252

This is a new blog post



This is a new blog post

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Nulla commodo mollis dignissim. Integer eget bibendum dui. Aliquam interdum sem in gravida feugiat.

06 Jan 2014

This is a new blog post

Homepage help Using the `foreach` helper, `index.hbs` handles the post's object to output each blog post on the homepage

In our theme, we've linked to `normalize.css` for our HTML5-ready CSS reset. Within the `screen.css` is where we'll input all our custom theme styles. We'll then add some global styles, followed by styling our header and set a `max-width` to prevent our layout from expanding over certain pixel size:

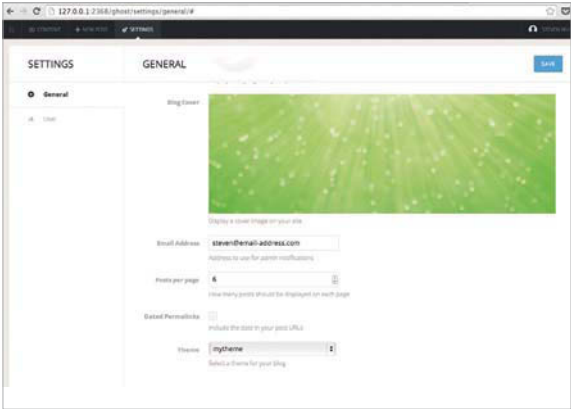
```
.mytheme_page {
  max-width: 980px;
  margin: 0 auto;
}
.mytheme_header {
  padding: 20px 0;
  text-shadow: 2px 2px 2px rgba(26, 26, 26, 0.1);
  text-align: center;
  color: #2f3727;
}
```

Now style each blog post within its article container:

```
main article {
  margin: 30px 0;
  border-left: 1px solid #DBDBDB;
  border-right: 1px solid #DBDBDB;
```

```
  background-color: #FFFFFF;
}
.mytheme_post_content {
  padding: 0 20px;
}
.mytheme_post_title {
  margin: 0 0 20px 0;
  padding: 10px;
  font-size: 2em;
  letter-spacing: 2px;
  text-align: center;
  text-shadow: 2px 2px 2px rgba(26, 26, 26, 0.2);
  color: #FFFFFF;
  background-color: #8ACD36;
}
.mytheme_post_title a {
  text-decoration: none;
  color: #FFFFFF;
}
.mytheme_main_img img {
  width: 100%;
  max-width: 100%;
  border: 0;
}
```





Theme activation Select the newly-created theme in the dashboard to activate it. You may need to restart Ghost in the terminal to pick up the theme

- Place the date on the left-hand side and the **Read more** button opposite. Give this link the presentation of a button:

```
.mytheme_post_info {
  overflow: auto;
  padding: 0 20px;
  background-color: #98C148;
}
.mytheme_date {
  float: left;
  padding-top: 20px;
  color: #FFFFFFF;
}
.button {
  float: right;
  padding: 20px 0;
}
.button a {
  padding: 5px;
  transition: ease .3s;
  text-decoration: none;
  color: #FFFFFFF;
  background-color: #39A9DA;
}
.button a:hover {
  background-color: #199ED9;
}
```

We touched upon the key aspects of developing a Ghost theme. Hopefully this insight has opened up possibilities to creating your own personalised theme. You'll see that building a Ghost theme is very simple to pick up with the pre-defined Handlebars expressions. Don't forget to download the tutorial's accompanying files: netm.ag/ghost-252. Also check out the Ghost documentation for more information to help you build and customise your own theme by visiting: docs.ghost.org/themes. 

★ IN-DEPTH

PREPARING POST.HBS



This is a new blog post

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Quisque feugiat placerat imperdiet. Sed a augue enim. Phasellus ut mollis elit, eu malesuada diam. Vivamus luctus condimentum blandit. Vestibulum auctor rhoncus quam laoreet gravida. Phasellus blandit posuere nunc eget pharetra. In commodo vulputate pellentesque. Sed facilisis enim non nulla porttitor congue. Etiam eu orci quam. Quisque et nibh velit. Quisque tristique libero justo, vel suscipit ante cursus non. Vivamus mattis convallis purus. Praesent interdum quam tellus, in aliquet lacus congue eget.

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Simple expressions We simply use `{{#post}}` and `{{/post}}` expressions to output the content on the single post template

 Having only set up the homepage template, the `post.hbs` controls the display of each single blog post page. Again on this template (see `post.hbs` in the project files. Download them: netm.ag/ghost-252) we use the same `{{!< default}}` and `{{> header}}` Handlebars expressions. This time we use the opening `{{#post}}` and `{{/post}}` expressions to display a single blog post. While in the single post context we have access to the author data including the author name and bio.

We can display the author details by simply adding the code displayed below:

```
<section class="author">
  <h3>Written By:</h3>
  <h4>{{author.name}}</h4>
  <p>{{author.bio}}</p>
</section>
```

We can now apply some CSS styling to our single blog post. It's recommended that you actually place all your single post styles in a separate CSS file.

It's important to do this is because, in the near future, Ghost will be unavailing a new split screen feature, which will load the custom theme styles in the admin.

Written By:

Steven Wu

Steven Wu is a freelance Magento Ecommerce & Wordpress Theme developer. He frequently writes for online and well-known print publications. You can follow him over at Twitter.

Post display Post has access to author details, outputted on the blog post page

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* ACCESSIBILITY

MOBILE ACCESSIBILITY

Henny Swan discusses the evolution of an accessible mobile app and introduces the BBC Mobile Accessibility Standards and Guidelines

> The evolution of an accessible web, native or hybrid app starts with UX. UX should be free to explore ideas and possible designs without constraints. It's here that the best ideas for improving overall user experience happen. However, before final concepts are signed off, assess how designs can be made accessible, document requirements and annotate designs:

- Are touch interactions standard or non-standard and how can they be made accessible and intuitive?
- Is the content order logical for screenreader users who swipe right and left to move forwards and backwards through content? Does the layout need to be changed or can it be taken care of in the code?
- Are there clear hover, focus, selected and touch states? Visual feedback is essential in order to confirm to users what's happening on screen.
- Are alternatives for images and objects clear? Assigning alternatives for meaningful content is mandatory using `alt` for HTML, `UIAccessibilityLabel` for iOS and `contentDescription` for Android. If an app mirrors a website, keep a library of text alternatives, ensuring a seamless experience for screenreader users.

Identify devices in your test plans that have accessibility support (screenreaders, zoom, inverted

colours) and use them for testing accessibility. iOS has the best support with its in-built screenreader VoiceOver as well as switch support in iOS 7. Android comes bundled with the TalkBack screenreader since version 4. When it comes to what versions to test against, check your stats. Unlike HTML, it's relatively easy to track screenreader usage on iOS and Android by adding `UIAccessibilityVoiceOverRunning` and `isScreenReaderActive` respectively. Recent stats I've seen indicate that screenreader users are steadily dropping with iOS 5 having moved to iOS 6 and 7. This can help significantly when making code decisions as how iOS 5 outputs content for VoiceOver users can differ significantly for iOS 7 users.

At the BBC we integrate accessibility from the outset using our BBC Mobile Accessibility Standards and Guidelines (netm.ag/bbc-252), which are intended for internal designers, developers as well as suppliers to help guide and inform UX and code when building apps be it HTML, hybrid, iOS, Android or other native apps. They comprise of an agnostic set of standards (what you must do), guidelines (what you should do) accompanied by techniques and evaluation criteria for HTML, iOS and Android.

It's these standards and guidelines that are used to set baseline accessibility requirements and feed into the evolution of an accessible app at each key stage – not just development and testing. ■

PROFILE

Henny Swan has worked in accessibility for 13 years and specialises in mobile and video on demand. Currently she works at the BBC on its iPlayer, standards and guidelines

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