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Joe Macleod on how to end services without abandoning customers

The voice of **web design**

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Issue 315 : February 2019 : net.creativebloq.com

*SKILLS

TRAIN WITH TOP YOUTUBE TUTORS

Learn which channels, brands and designers offer the best online lessons and tutorials

>CREATE PERFECT USER FLOWS

- Find out how visitors move through your site
- Put users at the heart of wireframing
- Design truly customer-centric sites

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DISCOVER 2019'S DEV TRENDS

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ISSUE 315

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EDITOR'S NOTE

When perfectly executed, design is a fluid, flexible medium. Think of some of your favourite sites and apps: a significant trigger of the surprise and delight you felt the first time you used it would undoubtedly have been down to the way one element effortlessly flowed into the next without you having to think about it.

But, ironically, achieving this kind of fluency in your own work isn't always so straightforward. You need to be able to think like your user and anticipate the way they'll travel through your site. So, to give you a helping hand, we've asked Joshua Garity to put together a comprehensive guide on developing user flows, understanding each step taken by visitors to your site and carrying this insight through into your wireframes and prototypes.

That's not our only insight on creating organic interfaces however. This issue, we also take a look at how natural language processing can enable your users to communicate with your sites and apps in more spontaneous ways. And, for those of you building WordPress templates, we run through how building custom blocks for its new Gutenberg editor can give your clients greater flexibility when creating content for their sites.

Enjoy the issue!

FEATURED AUTHORS

JOSHUA GARITY

Garity has refined UX for some of the world's top organisations with his agency Candorem. On page 60, he explores how you can use user flows to inform wireframes and prototypes.
w: *candorem.com*
t: @iamlucid

STEVEN JENKINS

Jenkins is the long-time editor of our sister title Web Designer. He has a love of HTML, CSS and design and is currently submerging himself in the world of infographics. This issue he runs down his favourite YouTube design tutors on page 68.

RICHARD MATTKA

Mattka is an award-winning creative director, designer and developer specialising in VFX. On page 76, he channels cyber-Chomsky in his guide to natural language processing.
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t: @synergyseeker

HILARY STEPHENSON

Stephenson is managing director of Sigma, a leading digital UX agency. She puts forth her case for why charities have an even greater responsibility to create inclusive experiences on page 87.
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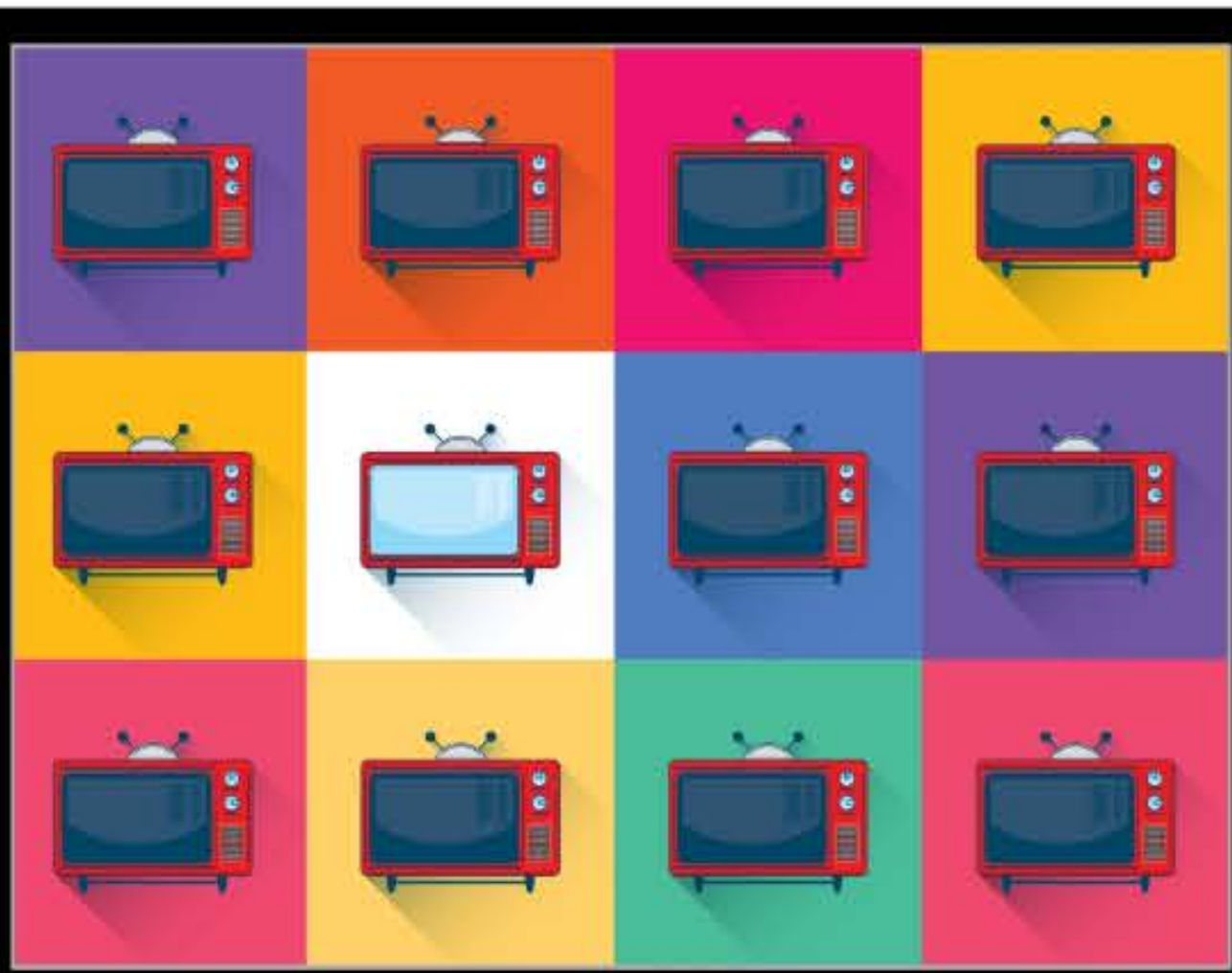
TURN TO PAGE 18
to find out more about the savings on offer for subscribers

REGULAR

GALLERY 40

Mark Billen runs down his favourite websites of the month, including Sun LIMET's pitch-perfect Movie Music Quiz



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EXCHANGE

Practical advice from industry experts

Send your questions to netmag@futurenet.com

THIS MONTH FEATURING...

SYD LAWRENCE

Lawrence is CEO and co-founder of The Bot Platform, a platform for building bots on Messenger and Workplace by Facebook.
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t: @sydlawrence

ROSS CHAPMAN

Chapman is product/UX designer at Etch Sprints, where he runs design sprints, leads digital product design and coaches upcoming designers.
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t: @rosschapman

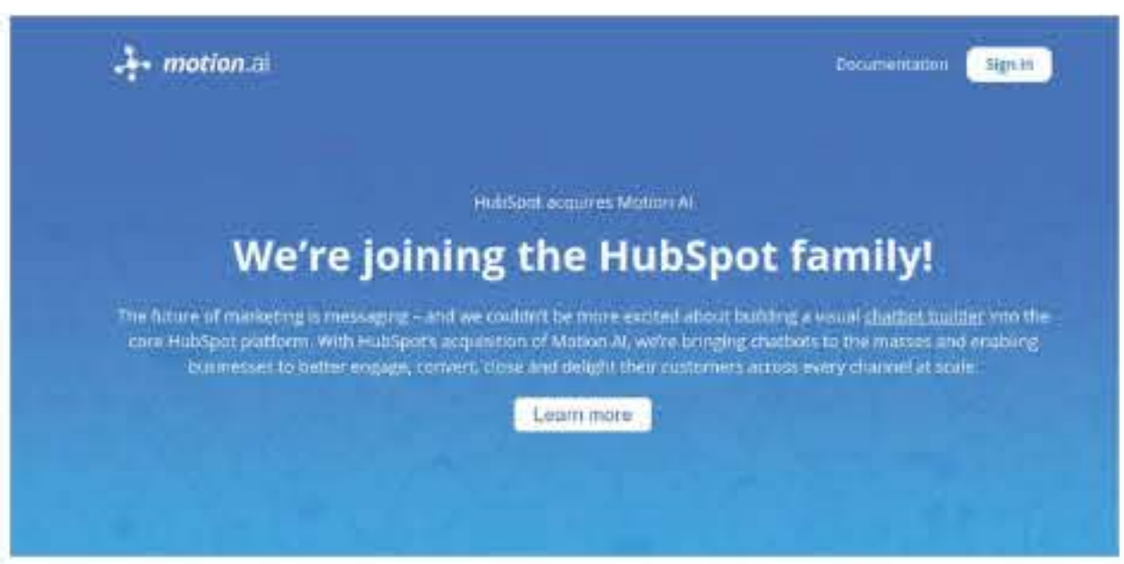
★QUESTION OF THE MONTH

How can you trust the chatbot platform software when developing? At Wixshow, we spent 400 hours on Motion AI and now they've terminated their service.

Andreas Kviby, Sweden

SL: Unfortunately this is the risk with any new technology. This is a pretty immature space – there has been and will continue to be a fair amount of consolidation. It's the same with any new technology. Would you jump straight on a new JavaScript framework? In the tech space, especially in the past few years, there has been a lot of 'new and shiny' super-early adoption. We jump on something new before we know if it will still exist in five or 10 years.

If you're going to use a third-party provider, such as Motion AI, or even us, The Bot Platform, you should do a fair amount of due diligence. What are they trying to do? Do they see themselves still being around in five years? Do you get support if something goes wrong?



The Motion AI chatbot platform has been subsumed into HubSpot after being acquired last September

Design sprints

DESIGN SPRINT DOWNSIDES

Are there any downsides to doing design sprints? For example, might it give stakeholders and clients unrealistic expectations about the speed in which things can be done?

Tony Epson, Dublin

RC: There's no getting away from the fact that the world is getting faster. Faster to market and faster to change. With the design sprint, you've started making decisions, you know what you're talking about (because your ideas and decisions are more tangible in the form of a prototype) and you have a prioritised backlog of what to do next. Plus, users have verified your

Etch runs design sprints to help teams work better together and help businesses make better decisions

assumptions. I don't see any downside to that.

The key thing is that it helps businesses make better decisions. Further design and development needs to take place after the design sprint is over and you may dig even deeper into research once the discovery phase has been completed.

There's a reason why the top companies in the world are adopting the design sprint. Using methods like this helps businesses react to customer and technology changes efficiently. Because the team is working together, the way things are done is becoming more transparent as people outside production understand how design and development actually works. These are all good things!

Chatbots

AN ELECTRIC EXPERIENCE

On the whole, do you think chatbots are helping or harming user experience on the web?

Rachel Longwell, Sheffield, UK

SL: This is an interesting thought. And it all depends what part of it you're talking about specifically.

With regards to the web as a whole, it's worth remembering what the web was created for. It was originally created as a method of sharing information. Sir Tim Berners-Lee even believes that users don't want pretty designs or complicated interfaces. They simply want access to information. One of the good things about designing bots is that you don't have to worry too much about the end experience from a visual perspective. It's all around the design of the conversation: it's information architecture in its purest form.

Websites with hundreds of pages, information hidden away or super complicated interfaces are harming the experience on the web. I want the answer to a question I have: where do I find it easily?

The other side is from a communication channel perspective. Messenger bots, for example, are threaded. You can continue your conversation days after you last did something. This is awesome. It means I can dip and dive into the source of information over a long period of time.

So to answer your question, it all depends on the context and the use case; sometimes they are harming the web, sometimes they are improving. When done well, they absolutely improve the user experience. However, when done badly, I wish they weren't made at all.

3 SIMPLE STEPS

How, in practical terms, do I go about getting started with design sprints?

Naomi S, Jakarta, Indonesia

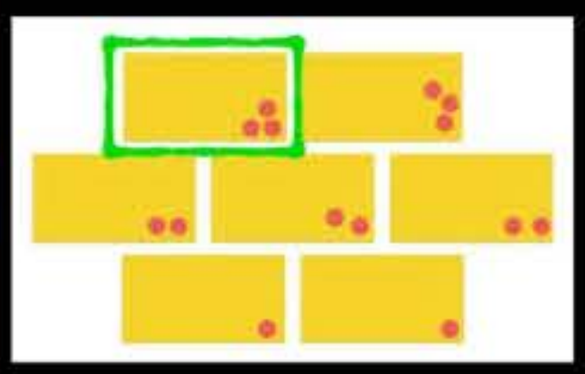
RC: Here are some pointers on getting your head around design sprints and making them work for you.

Read the book

The book *Sprint* by Jake Knapp is the best place to start understanding the methodology. At Etch Sprints, we run the four-day design sprint, sometimes considered the update to the book. And to see how to adjust, I'd do a YouTube search on the 'Design Sprint 2.0'.

Get buy-in

The design sprint is best used for solving critical business problems and reducing decision time, as well as getting alignment. But it won't work unless you get company buy-in.



Decision jam

To get everyone on board, run a Lightning Decision Jam. Within an hour, your team will understand more about how design sprints can help speed up unbiased decision making. Here's a post on how to do it: *bit.ly/2oaxP5V.*

COOL STUFF WE LEARNED THIS MONTH

PUSHER'S CHATKIT ADDS REAL-TIME CHAT TO MOBILE AND WEB APPLICATIONS

Pusher has announced the launch of its chat API, Chatkit, which enables developers to quickly introduce real-time conversational experiences to mobile and web applications. Having been in beta since last November, Chatkit is an all-in-one suite of tools that covers most cases when it comes to real-time chatting.
https://netm.ag/2Qh07cR

THE BENEFITS OF DARKER IN-APP COLOUR SCHEMES ARE CLEAR

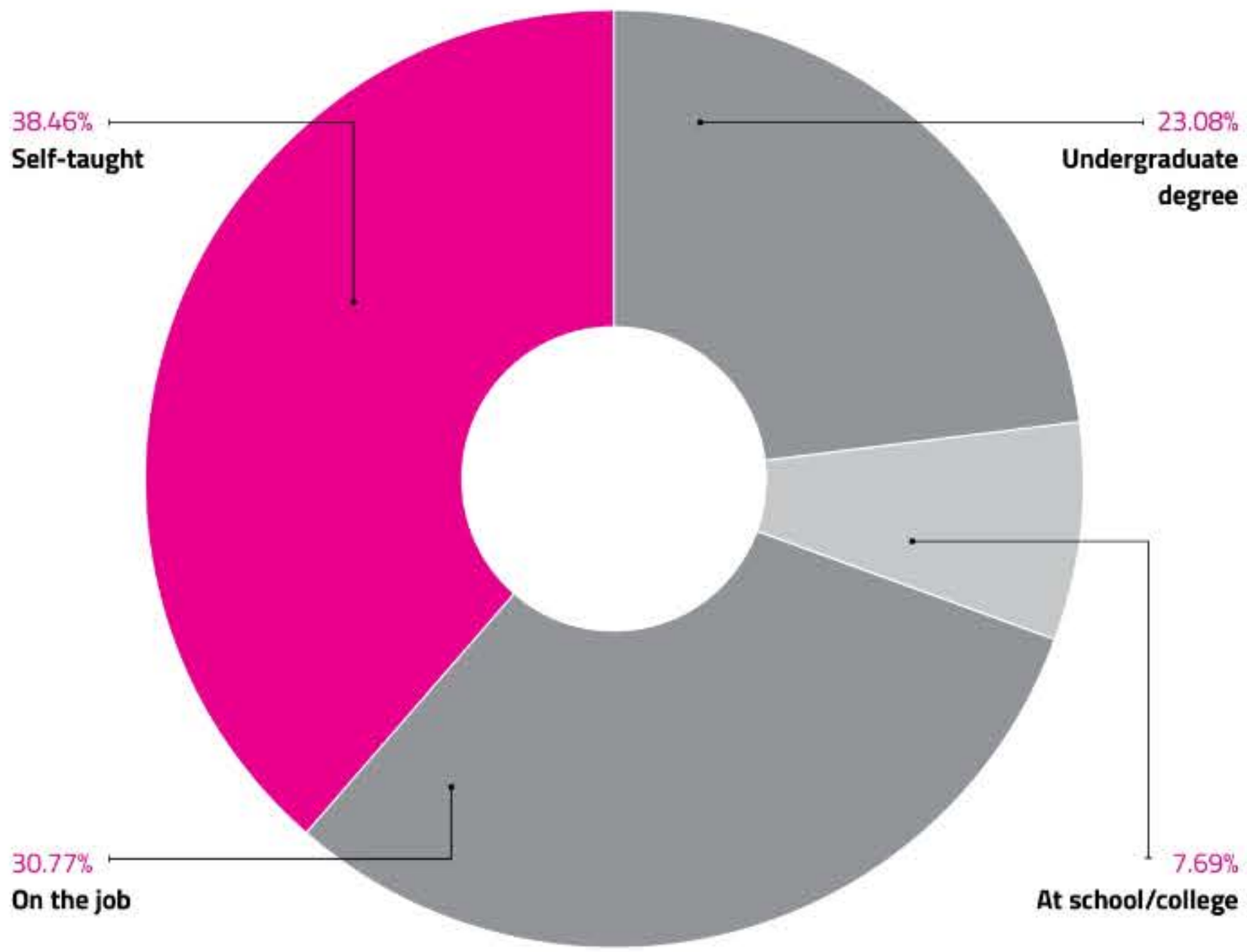
Google has confirmed there are benefits to offering darker in-app colour schemes. During its Android Dev Summit, the tech giant displayed the power needed to show different colours. It transpires that black is the most power-efficient, while white consumes over six times as much juice.
https://netm.ag/2DMkM1t

GITHUB NOW HOSTS OVER 100 MILLION REPOSITORIES

Social coding platform GitHub has not only announced it hosts over 100 million repositories, but revealed it now supports 31 million developers, who collectively have created over 1.1 billion contributions.
https://netm.ag/2r7xCQy

THE POLL

HOW DID YOU TRAIN ?



From our timeline

Does it matter if you're professionally trained or self-taught?

Not at all. I've never had an employer ask about my degree qualifications, although if I could do it all again, I'd still go back to uni. Education doesn't define how good you are but rather your dedication and understanding to the subject. It all depends on the individual.
@McKay_1988

The Rock told me it doesn't matter. But on a serious note, I've noticed those looking for the 'professionally trained' are only concerned about their budget not the end results. To be self-taught means it's a passion and the education never stops.
@jaynebayquen

It doesn't matter. I'm self-taught and started a successful agency that has earned 45 industry awards and many top clients. Some of my employees are also self-taught. Decision making, the ability to learn and adapt and critical thinking are more important than a slip of paper.
@iamlucid

There's nothing wrong with being self taught, especially with the price of education – and there are plenty of books that you can get the same knowledge from. Having a degree just shows to an employer that you are dedicated.
@Aligns

I think self-taught is better. University course are not always up-to date. I went to uni and learnt Flash but all my HTML / CSS/ PHP is all self taught, which is what I use today.
@jordanairwave

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FEED

People, projects & paraphernalia

THIS MONTH FEATURING...

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This month a web designer tussles with a client over their text-only touting of deluxe domiciles

BEYOND PIXELS 15
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WORKSPACE 16
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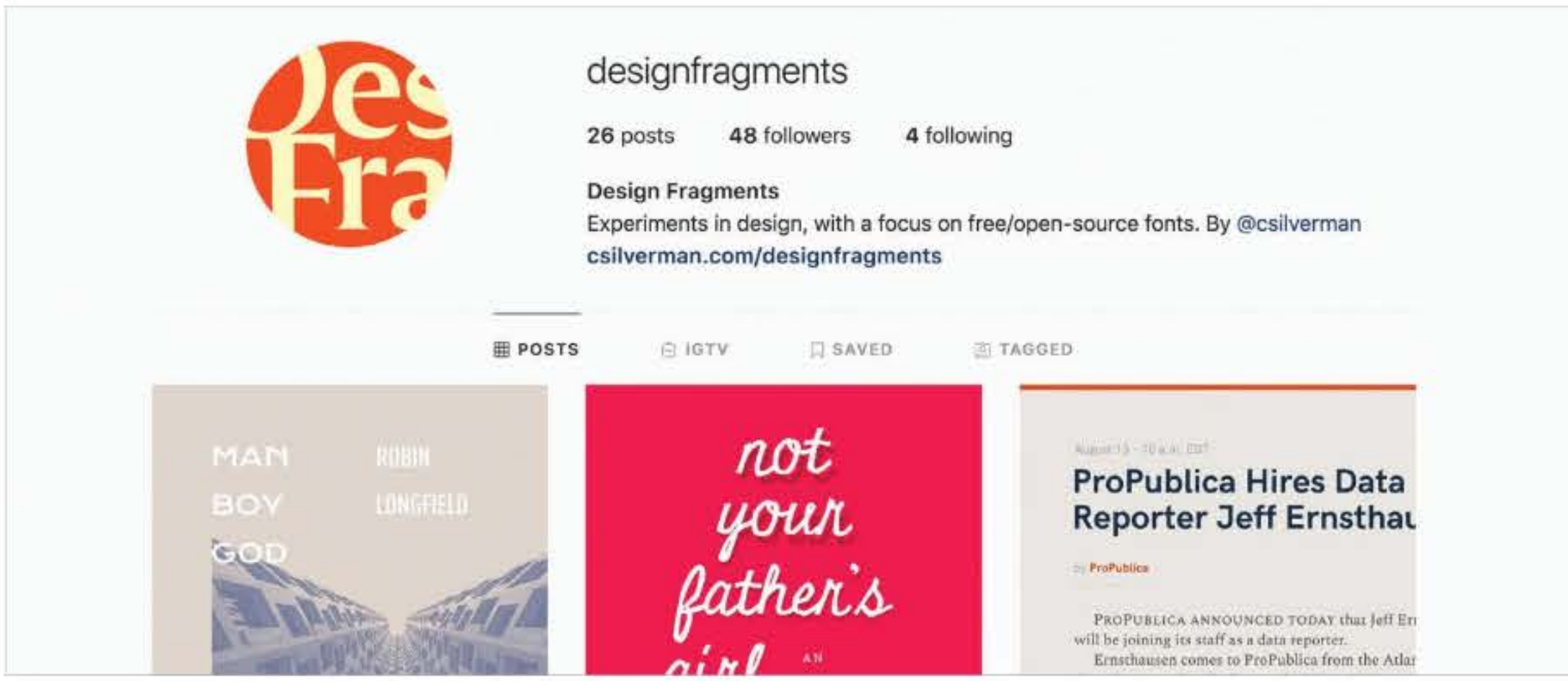


DESIGN FRAGMENTS

Chris Silverman reveals how a love of type led to a design resource celebrating open-source fonts

★ SIDE PROJECT OF THE MONTH

INFO

CHRIS SILVERMAN

job: Silverman is an award-winning senior designer and illustrator. He loves strange art, great typography, climbing fire towers and getting lost in the woods.

w: *http://csilverman.com/designfragments*

t: @_csilverman

Tell us what your project does.
Design Fragments is a series of typographic exercises featuring free and open-source fonts. As the name implies, they aren't full designs – more like excerpts from things like print pieces, websites and dashboards. The concept is a little like Dribbble: I don't do an entire layout or website, I just focus on one small part of a larger design.

Why did you create it?
I kept running across open-source fonts that I really wanted to use. I also wanted more opportunities to work with typography. Most of my official projects are more comprehensive; I needed quicker, lower-stakes experiments that gave me space to try new ideas.

What were you hoping to achieve?
To demonstrate high-quality design done without high-cost type. I'd especially like to bring some attention (and hopefully clients) to the people who design good fonts and give them away. I remember when I started finding fonts like Production Type's Spectral, PampaType's Reforma and IBM's Plex. I couldn't believe they were free. That's the sort of solid, well-designed workhorse typography that I try to highlight here.

What technologies were used in building it?
The designs are pretty simple technologically; I design them in Photoshop and schedule posts via Buffer. Since I'm sharing these primarily on social media, there isn't a lot of development overhead. The project website is just a single page of HTML and CSS.

The most tech-heavy aspect of this project is the captions. I need to provide a download link for each font. Also, attribution gets a little tricky, since I prefer to link to designers' Instagram and Twitter profiles when possible – it gives them more exposure and people can see what else they're working on.

So I built a small, JSON-based database for font and designer details and I have a locally running PHP script generate the captions from a specially formatted filename. I can name a file something like bookcover.serif-spectra--sansserif-chivo.png and it'll write a caption with the font's download link, design-specific hashtags and @attributions.

How has it been received?
Mostly, it's too early to tell. I'm picking Design Fragments up again after a period of inactivity, so I haven't gotten to the point of publicising it yet.

What's next?
Share it, first of all. I belong to a few Slack channels for designers and I have a list of design blogs I'd like to pitch it to. We'll see where that goes.

What I'm more excited about is releasing some of these designs as more comprehensive HTML/CSS kits. That way, people could apply them to their own work. My ultimate goal is to make something that other designers can actually use.

*HOW TO

INCREASE YOUR PRODUCTIVITY

With so many demands placed on your time as a designer or developer, finding ways to increase your output is a practical and advisable way of getting more out of your working day.
We asked @netmag's followers what programming or formatting techniques they use to increase their productivity.

PROJECT MANAGEMENT

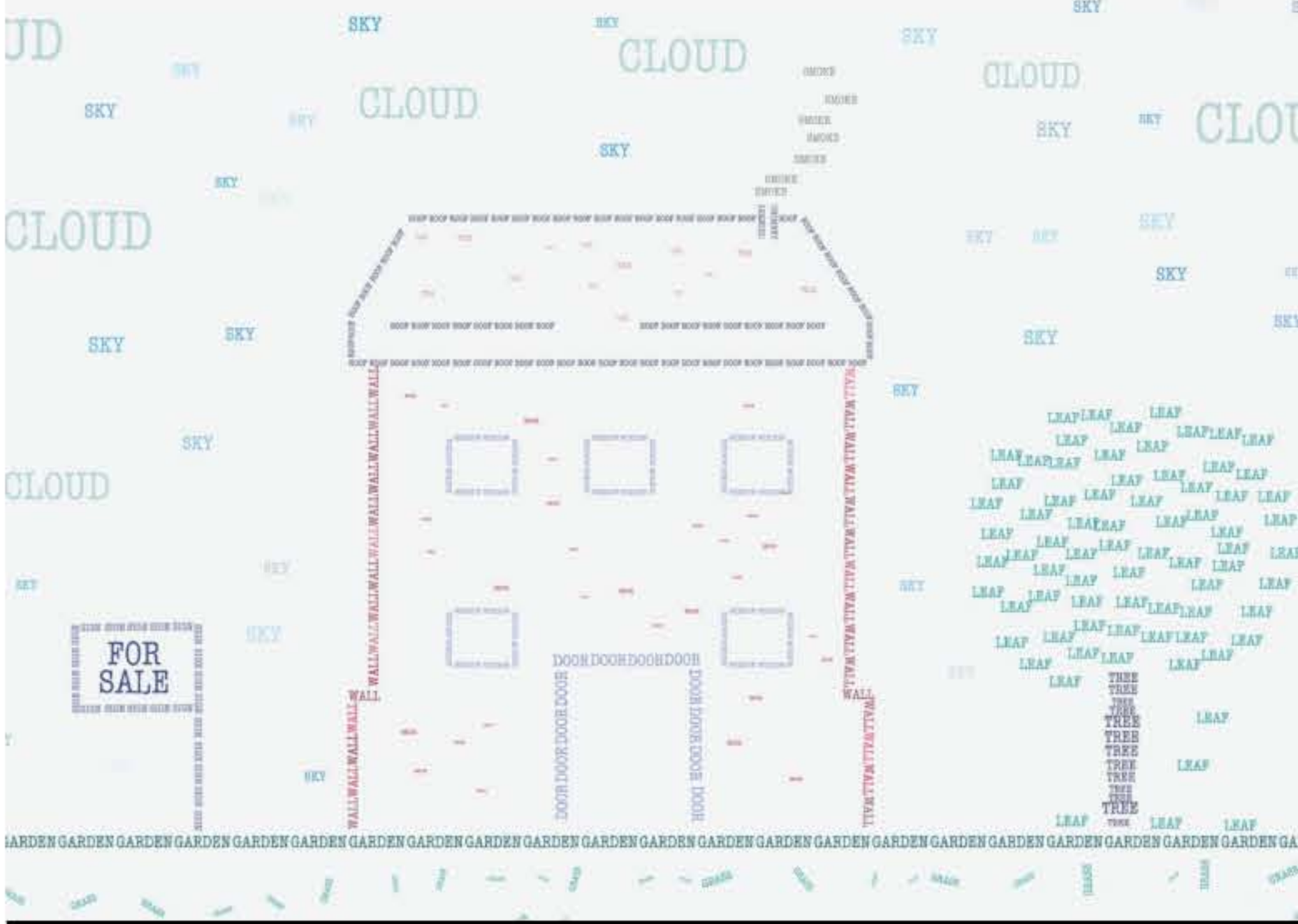
Utilising tools such as Git is something @ChrisBratherton believes other pros should consider. "I'm still surprised how many agencies/developers don't use source control," he says. "It has saved me many times and saves so much time when handing over to other developers/designers. Make sure EVERYTHING is well documented too!"

AUTOMATIC FORMATTING

@chrisjcoan says that using software to make sure code is in good order is one of the techniques he relies on: "I love using @PrettierCode for formatting. Not only does it format my code beautifully, it also automatically adds any missed semicolons!"

KEEP IT SIMPLE

@_LeonBrown says his mantra is "DRY – don't repeat yourself" when it comes to keeping work nice and concise – and it also helps with any possible client issues further down the line.
"It will save you a lot of time when the client inevitably changes the requirements for whatever reason," he explains.



TEXT ADVENTURE

Exclusively for net: The latest in a series of anonymous accounts of nightmare clients

*CLIENTS FROM HELL

I maintain a local real-estate site for a client. I designed and took over managing it when they messed it up.

They frequently add new listings; I'm supposed to update the site when I receive the listing details and photos from the receptionist. But I often receive incomplete details; listings without photos or vice versa. Sometimes it takes weeks for them to give me the necessary items. Even worse, the receptionist has started to blame me when listings aren't updated on time, just to cover that she hasn't sent me that info yet. I've started to lose patience.

Lately, they've been listing multimillion-dollar residential projects targeting foreign investment. They're worth a lot of money but do they put the work in presenting them online (where foreign buyers will find them)? No.

Client: Here's a project that needs to be added to the site. I don't have the text in a Word document. Let me know if you can work with it.

Attached is a Word document with embedded images. They're photos of a text document.

Me: I'll just have to type it out. While I'm doing that, do you have photos for the project? I really need them for the listing.

A month passes. The property is now on sale.

Client: We don't have any. If you really need them, my photography guy will try to take some.

Now, his 'photography guy' is awful but I know the client has plenty of professional photos available if he'd just ask the right people. Which, for some reason, he refuses to do.

Me: The page won't showcase the project effectively without photos. To help you sell it, it'd be better if people can see how it'll look.

His solution?

Client: Just list it with text only.

This is a real-estate company that thinks it's appropriate to list multimillion-dollar homes for foreign investment using text alone. Either the company is likely go under or be eaten by a grue.

CLIENTS FROM HELL
clientsfromhell.net

MUSIC

Burke Ingraffia describes how playing music has enhanced his career as a web developer

★ BEYOND PIXELS

In my career as a web and software developer, I've met many other IT professionals who, like me, are musicians. I believe there is a connection between these two disciplines: both require a combination of left-brained logic and right-brained creativity. Music is, after all, a mathematical structuring of sounds, especially in the Western tradition begun by the Pythagoreans in the 6th century. The harmonies they passed down are constructed with integer-based ratios between one frequency and another.

I actually got into web development because I was a musician. In 2002, I was building a career as a performing songwriter and knew that the whole music industry was becoming digital so I would need to know more about it. Thus, I began my path as an autodidact. At that time, the web had only been around for less than a decade and it was very easy to get started. I obtained a copy of Microsoft FrontPage and learned how to build clunky HTML pages with nested tables (a skill that has served me well as I still sometimes design email newsletters).

After a few minor successes as a musician, I decided the life of a full-time troubadour was not for me. I transferred that creative energy into learning front-end web development and am now at a point where coding is, at times, as artfully satisfying, not to mention more economically prudent. Music is still a big part of my life and I think it enhances my abilities as a developer.

Of course, there are differences between the two. Music engages more than just the ears. You use your eyes to read charts and communicate with other guys in the band, you use your hands to finger the notes in time-based succession and the sound waves affect your whole body. Coding, on the other hand, is primarily done with the eyes and perhaps the hands. I have tried listening to audio podcasts about JavaScript and, while they might be okay for some people, I need to visualise the structure of the code and the architecture of the site directories to truly master a project.

There's a theory that the tiniest units of matter are not atoms but vibrating strings. As science continues to explore smaller and smaller nanotechnologies, it might be musicians who will best know what to do with those discoveries. n

★ PROFILE

Ingraffia is a web developer and jazz singer/songwriter living in the Washington DC area.
w: https://b-ing.me

STUFF I LIKE

KARL WILLS

Front-end developer

https://www.karlwills.co.uk

FOCUS

There are a number of daily distractions on my radar and Focus helps me ensure that I get my work done. Focus blocks common websites and apps (even setting your Slack and Skype status) while you get busy working.

https://heyfocus.com/

VISUAL STUDIO CODE

As a developer, the choice of what code editor to use is very important. VS Code is lightning fast and customisable, with a huge range of extensions that can be installed. The remote pair programming feature provided by Live Share is amazing too.

https://code.visualstudio.com/

FRANK DELOUPE

I use Frank DeLoupe on a daily basis as part of my workflow. It enables me to select any colour from any part of my screen or from within any application and then copies it to the clipboard. It might be a simple concept but it's certainly very effective!

http://www.jumpzero.com/frank/

CANDOREM

Samantha Draeger, communications specialist, takes us through the UX and design agency's personality-filled offices

★ WORKSPACE

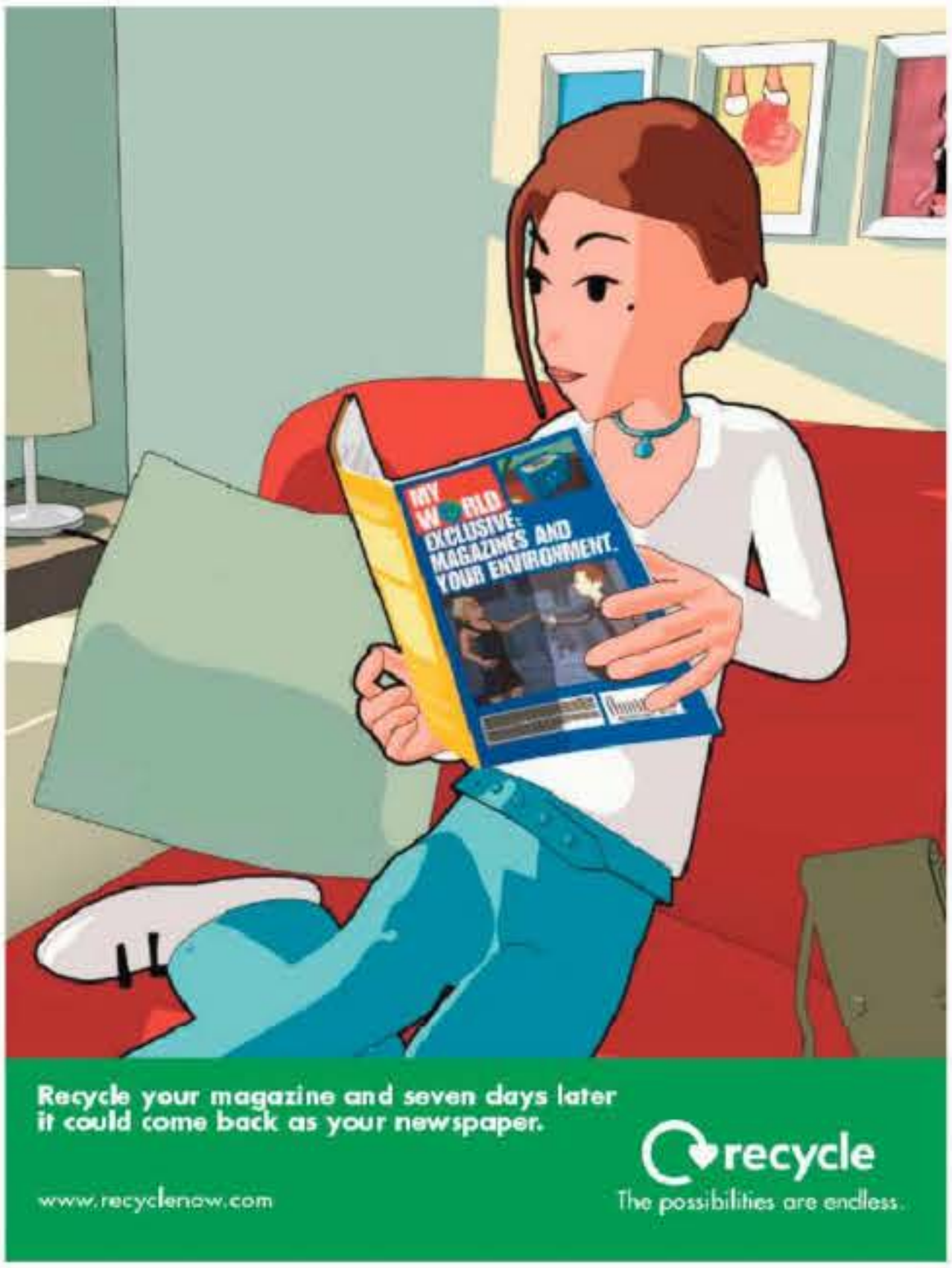
In rural Lake Mills Wisconsin, located between Madison and Milwaukee, rests the office of our 45-time award-winning [1] user experience, web design and strategic marketing company, Candorem. On the outside, the former city hall could be mistaken for yet another antique store but upon entry the literal writing on the wall tells a different story.

The 2,500 square-foot space is a reflection of the collective personality of our six-person team. The bright lights, tall ceilings and oversized whiteboards invite our team members to explore their ideas without limits. Or, for privacy, they can cosy up in front of wall-to-wall windows next to a classic brick fireplace. The kitchen, a former vault [2] is my favourite space. Not only because that's where the coffee is but also because many of our best experiences as a group have been over the meals we've made there. Not to mention the occasional homemade pancake buffet for our clients. On the fridge is a collection of Polaroids and newspaper clippings from times we were featured in the paper, a gentle way to both celebrate our roots and keep us grounded.

The walls in our main workspace are draped in memories of the achievements that our small team has made. Wireframes, templates and sketches are proudly displayed as if they belong in a museum of historical artefacts – a reminder of how far we've come and how much work there is left to do. The Bullshit Free Zone sign [3] that hangs defiantly in our conference room is a value by which we conduct our operations. Our goal is to leave the office being proud of the work we do daily but we also take time to play, get creative and revel in our progress. We never go a month without acknowledging our accomplishments over lunch and a (mostly) friendly game of Mario Kart [4]. Displayed on the conference room table are the faces of six different characters cut out, glued to cardboard and attached to a paint stick from the local hardware store. Each employee gets their own avatar [5] with a character assigned to them, all originating from an inside joke or incident that we won't let each other forget. Believe it or not, these avatars are part of our workflow. It's just one more way in which we inject flavour into each day. The words 'boring' and 'mundane' are not in our vocabulary here. ■

★ PROFILE

Draeger has been part of Candorem since June 2018. Candorem is an award-winning user experience, web design and strategic marketing company.



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TRENDS

DISCOVER 2019'S DEV TRENDS

Developers from digital branding agency **FINE** explore what's next for the web

BETTER STABILITY, SECURITY AND PERFORMANCE

Aaron Ransley, senior front-end developer

In 2019 we'll see some much-needed stabilisation of the JavaScript ecosystem. From package managers like npm and Yarn to build tools like webpack, many solutions are putting down roots in the right places and affirming themselves as 'safe picks' for enterprise users and small teams alike.

Serverless infrastructure will keep growing. Rather than running entire virtual servers, many developers are reaching for small function runtimes that live in AWS or Azure. These solutions offer the security and power of server-side computation without the overhead of an entire Unix server. The result is a healthy productivity boost, especially for solo developers and small teams.

Developments in WebAssembly will lead to better performance in browsers, especially when processing data in bulk. We are likely to find libraries leveraging WebAssembly (or Wasm) technology to perform large computations using highly optimised code written in Go, for example.

In the world of mobile-app development, expect NativeScript to continue gaining clout among developers. As a strong competitor to React Native, NativeScript enables front-end developers and designers to utilise Vue, React and other front-end frameworks to author fully native Android and iOS applications.

Clockwise: Aaron Ransley, Charlie Pitkin, Emmanuel Garcia and James Kurczodyna

CLIENT DEMAND INCREASES FOR SERVERLESS TECHNOLOGIES AND GREATER AUTOMATION

Charlie Pitkin, DevOps engineer

As client demands increase, more companies will start adopting container-based production environments with the rise of managed Kubernetes in the cloud. Greater priority on automation of the SDLC and sysadmin tasks will push further into the smaller organisations that previously didn't have the bandwidth or resources to make the switch.

The numerous container orchestrators will die out as a handful take the lead in their appropriate niche. And more applications that once ran on virtual servers (for example EC2) will start to be developed using serverless technologies (such as managed k8s and FaaS).

APPS AND WEB PERFORMANCE FOCUS ON UX

Emmanuel Garcia, senior front-end developer

Progressive web apps (PWAs) will continue to gain traction. With almost all browsers finally supporting PWAs' modern web features, including service workers, more retailers and businesses will build PWAs to improve user engagement and deliver a smoother, more app-like experience through the mobile web.

Web performance metrics will likely shift toward a more user-centric model, which will help developers and designers take a more holistic approach. The RAIL model, introduced by Google, aims to establish performance goals and guidelines based on a user's four key interactions with a site or app (response, animation, idle and load). This type of approach will help developers by providing a structure for their performance tests as well as setting benchmarks to aim for based on a user's perceived performance.

UP WITH PWAS AND GRAPHQL, DOWN WITH AMP

James Kurczodyna, director of technology

Another reason why PWAs will increase in 2019 is due to browsers adopting more native mobile features. We may see Apple push back in an effort to force developers to submit all apps through the App Store but other device manufactures will roll out the red carpet for PWAs. Nonetheless, PWAs will become a popular first choice in mobile app development.

The backlash against Google's AMP will continue to grow (http://ampletter.org/). In 2019, we'll hear of more big names de-AMPing their websites, while Google tries to add features and pivot to keep the project going.

As the decoupling of back-end data sources and front-ends will continue, so will the innovations in how the sides communicate. Query languages like GraphQL will get more powerful and popular, making traditional JSON APIs look like the new XML. ■

★ PROFILE
FINE
FINE is a brand agency. https://www.wearefine.com/

100

* RANSOMWARE AND CRYPTOJACKING

THE NEW FRONTIER OF BITCOIN BANDITS

Illustration by Kym Winters

Cybercriminals spent years hunting for new ways to extort money. **Tyler Moffitt** explores how cryptocurrency has unleashed a crime wave of ransomware and cryptojacking

Basic ransomware attacks – where a cybercriminal will demand payment in exchange for usually sensitive information or something they've taken from your computer – have been around since the mid-2000s. Criminals have been experimenting with and evolving how they take money from victims and the emergence of cryptocurrency and its utility to criminals has proven itself over the years. As technology, digital currency and online payments have evolved, so have the tactics used by cybercriminals to extort money.

THE BEGINNINGS

Early iterations of basic ransomware attacks would impersonate the FBI and demand payment to avoid the exposure of the nefarious activities they claimed their victims had been doing. All money was made through Ukash and MoneyPak gift cards, which were available for purchase at local shops. Victims would enter the PIN on the back of the card to pay the criminals. However, as with all crime, if enough victims reported the activity to the FBI or police, a huge effort would be needed to track the criminals and try to identify them.

During this time, the anonymous online market Silk Road was appearing and experimenting with Bitcoin as its chosen currency. The underground black market, hidden on the dark web, was the ideal place to acquire goods and conduct illegal activities away from law enforcement's eyes. For years, the marketplace thrived and proved Bitcoin worked well for monetary transactions.

All of that ended when the FBI seized Silk Road and arrested its founder in 2013. The site was shut down and the value of Bitcoin took a sharp dip. However, it didn't take long for the cryptocurrency to bounce back and since then it has seen several booms that resulted in eye-watering values, more than anyone could have possibly foreseen during the Silk Road years.

THE RISE OF RANSOMWARE

Sophisticated encrypting ransomware (where hackers obtain access to precious files or photos and lock them down) entered the scene shortly after Silk Road's demise. ►

The very first versions of the ransomware Cryptolocker came out in September 2013. It was an instant success as far as business models go and soon there were many variants of ransomware infecting millions of individuals and businesses around the world. Early versions continued to accept Ukash and MoneyPak as forms of payments as well as a range of other options; however they actively encouraged the use of Bitcoin by offering a 'discounted' ransom. This became the start of cybercriminals preferring cryptocurrency over preloaded cash cards.

As ransomware became the number one online threat, Bitcoin also saw a major increase in activity, in which the payment of ransoms played a contributing part. However, the public-ledger system that Bitcoin is built upon meant that addresses were linked to criminal campaigns, resulting in a number of arrests.

THE MYSTERIOUS MONERO

The cryptocurrency Monero didn't see mainstream use until 2016; however it may have the most utility for criminals so far. Its private ledger, made possible by the innovative use of ring signatures and decoys, hide the origin and the amount of the transaction from the public eye. Criminals would be able to freely share Monero to any address without being tracked by the police and then able to cash out as if the money was theirs to begin with. The effective difference for criminals between Monero and Bitcoin is that there is no need to launder their earnings as they do with Bitcoin. Monero is also unique in that it can be mined profitably, using consumer-grade CPUs inside personal computers, instead of requiring specialised mining hardware like Bitcoin.

INTRODUCING CRYPTOJACKING

This sparked a trend with cybercriminals: cryptojacking. In cryptojacking, criminals no longer need to deliver a single piece of malware to anyone's computers in order to see a profit from the activity. Instead, cryptojacking targets websites to hijack visitors' computer power to mine Monero for the site's owner. This new trend has been gaining momentum since Coinhive first debuted the mining JavaScript in September 2017 and has even been used on legitimate websites as an alternative to serving up sidebar and popup ads.

The money generated doesn't come out of thin air though, as users are still liable for their computer's power usage, the cost of which shows up in their electricity bill. While the spike in an electricity bill may not be especially noticeable on an individual level, the cryptocurrency adds up fast for site owners who have a lot of visitors.

While Coinhive's website explained that this was simply an ad-free way for website owners to generate enough income to pay for the servers, it's clear that cybercriminals are merrily abusing the tactic. All a criminal needs to do is inject a few lines of code into a domain they don't own and then simply wait for victims to visit that web page and generate clean profits in the form of cryptocurrency. Since Coinhive receives a 30 per cent cut of all mining profits, it may not be hugely concerned with how the scripts are being used. In the first half of 2018, Webroot saw over 12 million blocks on web pages compromised with the Coinhive JavaScript to mine Monero by hijacking site visitors' CPU power. The amount of labour and illegal footprint is minimal compared with ransomware, making cryptojacking today's number one threat.

SECURITY MEASURES

Cybercriminals are always looking for new ways to get ahead. They utilise a vast range of tools to extort funds and the evolution of cryptocurrencies has provided them with a low risk means of pocketing funds from illegal activities. To protect our users from being exploited without their consent, Webroot has chosen to block websites that run these scripts. Webroot will also block pages that use scripts from any Coinhive copycats, such as the nearly identical Crypto-Loot service. There are a few other ways to block these sites. You can use browser extensions like Adblock Plus and add your own filters. If you're looking for more advanced control, extensions like uMatrix will enable you to pick and choose which scripts, iframes and ads you want to block. To avoid falling foul of cryptojacking schemes, users should ensure that they take security seriously. Think twice before opening that email or clicking that link or you might find yourself an unwilling cryptocurrency investor.

"In the first half of 2018, Webroot saw over 12 million blocks on web pages compromised with the Coinhive JavaScript to mine Monero by hijacking site visitors' CPU power"

PROFILE
Tyler Moffitt is senior threat analyst at Webroot. Webroot provides cloud-based protection that stops threats in real time and secures businesses and individuals wherever they connect.

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Joe Macleod

Words by Oliver Lindberg

What happens when we're done with a product or service? According to **Joe Macleod**, founder of the world's first business dedicated to helping companies end their customer relationships, overlooking the closure experience is a huge wasted opportunity. Here he tells us why

INFO

job: Founder of andEnd
w: www.andend.co
t: @mrmacleod

Download a free chapter of *Ends* – plus 50% off at andend.co/netmag with the code XM47W

As an industry, we're obsessed with the onboarding experience. We study it and refine it to perfection. Everything is about attracting new customers. So it's a surprise that Joe Macleod, formerly head of design at ustwo, the digital product and service studio, wants us to focus on the offboarding experience.

"We have lost the ability to end consumer relationships with meaning," he explains. "I think it's the cornerstone of all the consumer ills that we have. There are meaningful endings at the end of stories, films and games but at the end of consumer experiences we have nothing. It's an issue hiding in plain sight."

Macleod first started thinking about endings around 2004 when he used the virtual assistant Wildfire on his phone, a service from mobile-phone company Orange. He had high expectations but the voice recognition didn't work properly. "Orange believed it was going to revolutionise the way we related to technology," Macleod recalls. "But it always said 'sorry, I don't understand you'. I hated it so much. But I didn't want an emotionless ending where I just cancelled it; I wanted to throttle Wildfire until its little avatar eyes flickered and get some emotional satisfaction out of it. I wanted it to match the story I had been told during the onboarding process."

Any consumer experience can be broken down into three stages: onboarding, usage and offboarding. According to Macleod the lack of a proper ending leaves the experience unbalanced. Hiding the last stage means halting the conclusion of a narrative we were sold when we purchased the product. As it constitutes a third of the consumer experience, neglecting it seems reckless.

Another example Macleod uses to illustrate this issue is the experience he had when he replaced his Canon printer ink cartridge. He simply didn't know what to do with the old cartridge. Instead of instructions there were more marketing messages on the packaging, so he did some research and discovered that Canon actually offered a very good recycling and reclaiming service. After reading the long terms and conditions, he could finally get a small plastic envelope sent to him so he was able to return the old, environmentally friendly cartridge to Canon. The product life cycle was clearly broken.

Macleod started digging into the issue and thought it would maybe turn into a six-week project, a Medium article and a conference talk. But it actually led him to leave ustwo and write *Ends*, a book that explains why we overlook endings and why we shouldn't. Macleod researched the social, historical context and then brought it into the present with practical examples. The book demonstrates how, over centuries, our changing relationship with death has led to the loss of our relationship with endings.

"As you can imagine, it's an incredibly difficult thing to sell," Macleod admits. "We have it embedded in our business and social mindset that we shouldn't deal with endings. The book raises awareness and puts a stake in the ground to say this is an issue. If I can get people to start talking about it, I'll feel like I've achieved an enormous amount." Over the last year, Macleod has presented the accompanying talk at over 40 events in America, Europe, the Middle East and Russia in front of audiences from various industries (including business, product development, financial services and sustainability). He then launched andEnd, the world's first business dedicated to helping companies design offboarding experiences. The training services he offers include audits and practical workshops, which he's already hosted for clients as diverse as PepsiCo, Intuit, IKEA, Auto Trader and Logitech.

Macleod points out that by investing in endings you can improve new business models, increase consumer engagement, raise customer satisfaction, broaden business influence and brand perception, pre-empt legislation (such as GDPR) and maximise sustainability. Established thinking suggests talking about the end of a product or service relationship will deter the customer from making the purchase. Yet some of the most successful

and fastest growing companies have found success doing exactly that. "Snapchat came along as an edgy punk," Macleod remembers. "They clearly and proudly talk about the end-of-product experience. Their brand promise – 'delete is our default' – is mind-blowing. At the beginning a lot of us were wondering why you would want to delete messages. We thought it was just for couples to send erotic pictures to one another. But 10 years later, post-Facebook and Cambridge Analytica, we know they were way ahead of their time: 35 per cent of Snapchat users use the service because the content disappears. They have 191 million users, so they're not doing that bad."

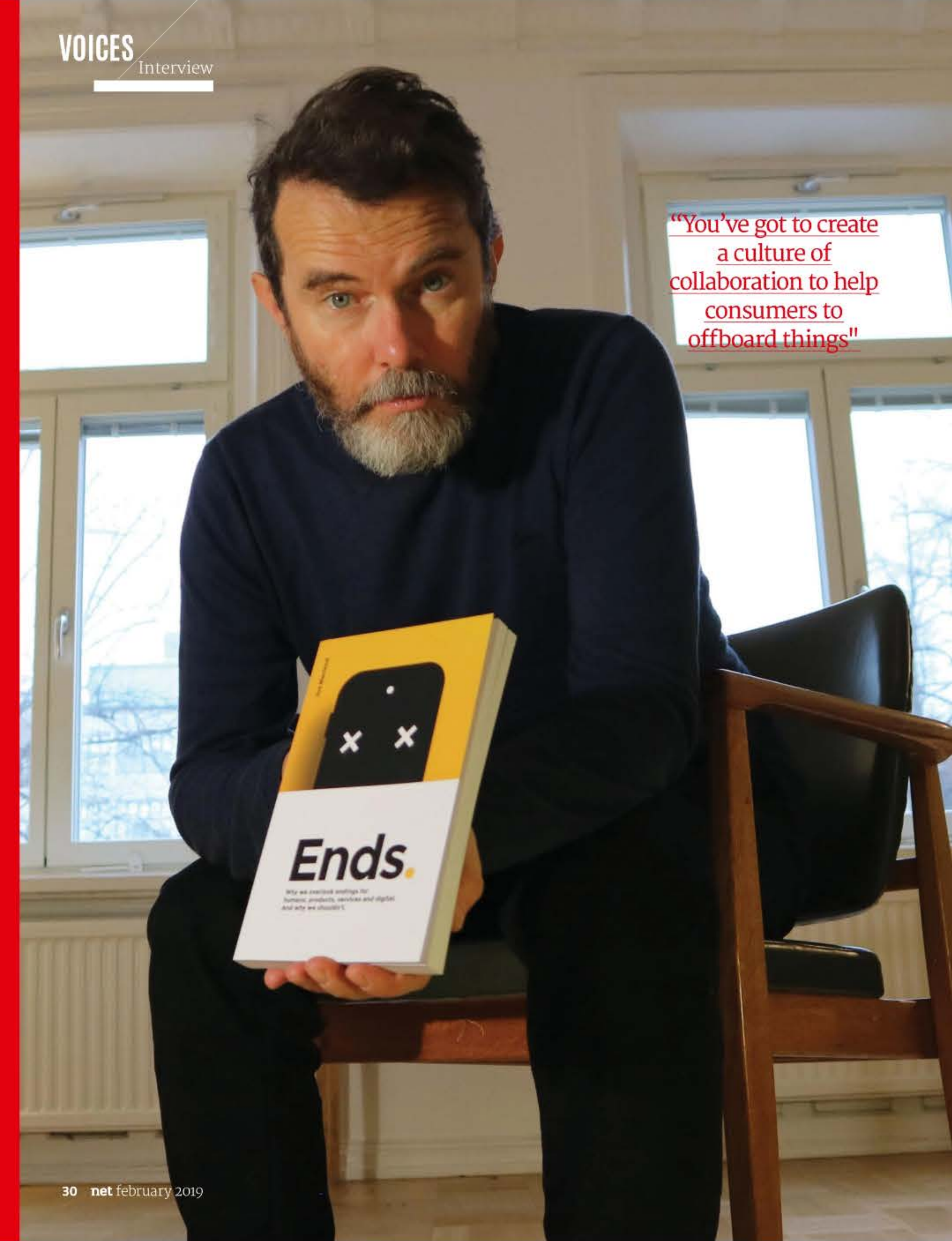
For a company to take advantage of the many opportunities presented by closure experiences, you typically need to change the business's culture. "Companies should establish open conversations with their consumers that inspire active collaboration around concluding the life of the product or service," Macleod advises. "You've got to create a culture of collaboration to help consumers to offboard things and help them with their phones, laptops and mattresses. You need to get them back, dismantle them and get them out of the environment. Otherwise they end up either lingering or polluting."

One company that has designed its ending well is Spotify. When you leave the service, it'll show you a little playlist called 'Can we still be friends?', which features songs like *I Want you Back*, *Don't Leave Me This Way* and *If I Can't Have You*. It's an emotional and meaningful closure experience – a stark contrast to what Macleod calls one of the biggest problems in a lot of service industries: the retention desperation model. Many companies still approach consumer engagement as a single engagement model: a consumer becomes a customer once and never leaves. However, lifelong loyalty is over, warns Macleod, and re-engagement with consumers is going to become the norm. So while Sky customers, who want to cancel the service, need to endure a one-hour sales interview, Netflix – which recognises loyalty through multiple engagements – prides itself on its no-hassle online cancellations and consequently has significantly higher customer satisfaction than traditional pay-TV. Thus, endings will become a competitive differentiator.

> "We have it embedded in our business and social mindset that we shouldn't deal with endings"

Macleod defines a good closure experience as "consciously connected to the rest of the experience through emotional triggers that are actionable by the user in a timely manner".

"If it's actionable, then I take responsibility for it," he explains. "I need to do something to acknowledge that the experience is going to end." One service that helps you end such experiences is Trim (www.asktrim.com), an AI assistant that automatically takes care of your ▶



"You've got to create a culture of collaboration to help consumers to offboard things"

Photo: MarksWebb E-Commerce Conf. Moscow

Photo: UX Salon

financial life. It analyses your bank account, looks at all the recurring subscriptions, (which aren't that active and which you may have forgotten about), determines where you can save money and then cancels them.

The 'timely' factor is also important. "There are 300,000 items in a US home on average, from a paper clip to an ironing board. So much of that stuff is just lingering unused. It's a resource problem but you're also filling up your space with physical objects and we need to get rid of these things in a timely manner. When I get a new mobile phone, I transfer the data from the old one and then just put it in my drawer with the other five generations of mobile phones. It's easier for us not to grapple with the problem in a timely manner because we've got space to let things linger."

With his talks and workshops Macleod encourages people to talk and think about endings. It gives them the vocabulary so they can discuss the issue with their peers before auditing and mapping the closure experience of the product they're working on. The first step would be to reflect about whether your product actually has a conscious ending and where you need to be. One tool that Macleod uses is called the 5x5 method. "To reveal your product's offboarding needs, just spend five per cent of your project time on looking into the end of the customer life cycle, which will kick off a lot of thoughts around what you should be doing," he explains. "Then think about how your current product would die in five years' time because any digital product will probably die in that time. I guarantee you will start thinking about endings. It helps action a tiny fraction of the budget and time allocation against a specific target in the future, which is enough to get everyone focused."

The audit also features a tool Macleod calls the aftermath target. "If you are a fast-moving consumer goods company, you're going to have a lot of aftermath in terms of physical waste and you need to action that in a different way to a digital company that has to look after people's data. So your aftermath target would be about collection and encouraging the consumer to dispose of the item in the right waste area, while for a digital company it would be informing them to be thoughtful about what they're leaving online and removing it as and when."

Other tools and models include post-service personas – based on real people who've left a service and their particular characteristics and needs – and the offboarding assistant, a reflection of the onboarding assistant that in many digital products helps you get set up to a new product or service.

The feedback has been overwhelmingly positive and attendees have responded very well to the tools Macleod provides. The next phase of the project – in around six to 12 months – will see Macleod consulting with companies to actually design an offboarding experience and build a complete consumer life cycle. Ironically, *Ends* was just the start.

Download a free chapter of *Ends* and get the whole book for just $2.50 at http://www.andend.co/netmag. Just use the code XM47W at checkout.

VOICE TECHNOLOGY

CREATE AUTHENTIC VOICE EXPERIENCES

Nicolas Carey asks how products and services can use voice technology for ethical engagement

People relate to a product, service or experience when they can connect to it on an emotional level. It's natural that understanding humans emotionally is part of the puzzle when designing effectively for voice.

In order to design communication patterns between human and machine, we need to consider what defines our own communication patterns. Many of us seek to communicate intentions to machines with minimal ambiguity, which suggests simplicity and core competence are the building blocks for voice technologies.

Spoken voice has advantages over written text, both in speed of input and how humans derive additional meaning from a response. The products and services that harness this power in a useful, non-invasive way will be those that profit most. Google's demonstration of its Duplex technology drew a big reaction when it responded to the person on the other side of the conversation needing time, by replying with an incredibly human 'mm-hmm'. This non-robotic response changes the dynamic of the conversation.

We recently completed a project to design a voice experience for a gaming brand. During the process, we quickly realised that humans say the same things in many ways. At Potato, we're strong believers in hypothesis testing and rapid validation. In this instance, that involved asking hundreds of people to tell us how they say different phrases and respond to various questions. This helped design the architecture of the conversation.

Designing for different audiences means drilling beyond dialect and thinking through levels of comprehension with a true understanding of the subject matter so you can adapt responses accordingly. Make use of personas but always frame them around scenarios, such as their understanding of your product or service and what their goals are, not demographics.

EMOTION AND ETHICS

As technology evolves to further the design of conversation, we may see different human dynamics work their way into our designs for voice. A prominent example of this is how we adjust when talking to different people. Products and services will build strong bonds with people if they can create experiences that listen as effectively as humans do and communicate back using the same language.

Trustworthiness is fundamental as we consider the ethics of the human-machine relationship. It's critical we remember the power we have when we design these products and services. Human interactions are natural flow of consciousness. If we're creating a product or service, we probably want a person to do, think or feel something. People must always know who they are speaking to and the relationship they develop with any voice product or service must not be exploited. The importance of this has already been underlined where innovation meets the charge of 'creepiness' – the uncanny valley has been documented in relation to physical robots but is set to be better tested with voice technology.

KNOW YOUR AUDIENCE

To build a conversational interface we need to consider the factors of voice, character, temperament and personality, all of which help to define a believable and human-like interaction that consumers can easily identify with.

Getting these elements right involves even closer attention to user needs and journeys. Define your core competency, explore how to build differentiation and understand where voice fits into your identity structure and end-to-end user experience. It could well lead to the next generation of successful businesses across many sectors, built on a new channel of interaction with people.

PROFILE
Carey leads the product design team at Potato, a digital product studio based in the US and the UK.
w: https://p.ota.to/
t: @nsdcarey

Photo: Mind the Product

★ Q&A

LEISA REICHELT

The guru of governmental web design reveals what's different about working in the commercial sector

INFO

job: Head of research and insights, Atlassian

w: disambiguity.com

t: @leisa

Could you briefly introduce yourself to anyone who doesn't know you?
Hello, I'm Leisa: I'm the head of research and insights at Atlassian and I'm based in Sydney, Australia. Previously I worked with the Australian government in the Digital Transformation Agency and with the crew who made GOV.UK at the Government Digital Service in London. I'm Australian but lived in London for about 10 years. I like gardening and cycling. I have a lovely husband and two beautiful young sons.

What's the story behind Atlassian and what role are you serving there?
The mission that drives us is to unleash the potential of every team, so understanding how teams work together and what we can do to better support effective collaboration. Atlassian is best known for producing software that supports teams making software: things like Jira, Confluence, Bitbucket and a bunch of others. We acquired Trello a while back too, so they're also a part of the Atlassian family.

I'm leading the research and insights team. My team's job is to help our organisation and product teams understand what we need to focus on to make our customers and users happier and more effective in their teams. We do a mix of qualitative fieldwork, usability work and larger scale quantitative research.

My team is based in Australia, the US and we just recently hired someone in London. This means I have had to learn to get up early in the morning to accommodate time zones and that I get to travel to San Francisco fairly often.

What do you miss about working for a government, rather than a commercial organisation ?
Good question. I thought that I was going to miss the purpose-driven work but understanding and supporting teamwork is pretty important. And, as someone said to me when I was preparing to make the move, by helping make Jira better I can probably impact more government teams than I could by [actually] working in government!

I do miss the emphasis on inclusion and accessibility, though. Many commercial organisations, including Atlassian, can do a lot more to be inclusive in the way we design and build our software. I also miss working closely with policymakers and front-line government staff. It was a real privilege to be often the first person to introduce them to a human-centred design process and see how enthusiastic they were to get involved.

How much speaking are you doing these days and what do your talks focus on?
I've been getting back to speaking lately. I was in San Francisco at the Mind the Product conference recently and I was also in New York at the DesignOps conference in November.

I have two main topics on my mind at the moment that have come out as talks. One is about how there seems to be a real desire to take a quantitative approach to qualitative research and the dangers that are inherent in this – for example, how it's a very good way to create false certainty.

The other is reflecting on the different ways in which I've had to approach research in Atlassian compared to my last two government jobs and digging into how different organisational contexts require different approaches to team structure in order to succeed.

In general, what's the web design scene like in Sydney right now?
Better than I expected! There's a lot of diverse and interesting work going on here in Sydney and more broadly across Australia. It can take a while to tap into the community but it's surprisingly big and vibrant once you find it. You should totally move here and come join us. We're hiring!

* HELPFUL ADVICE

WHAT WEBSITE DO YOU WISH YOU'D MADE YOURSELF?

Our experts share the recent websites that have piqued their interest and impressed them the most

CATALIN ZORZINI
Owner, ecomm.design
ecomm.design

I stumbled upon Oribi (*https://oribi.io/*) and its UI simplicity grabbed my attention right away, which rarely happens. People develop 'trends fatigue' with websites that follow the same design 'norms'. As designers, instead of trying to impress our colleagues, we should focus on being fresh, useful and relevant to our users. What I like most about Oribi is its use of scrappy visuals (as opposed to pixel-perfect illustrations), simple typography (instead of high-brow font pairings) and a down-to-earth feel.

MIKE HINCE
Freelance UI and UX designer
mikehince.com

I would have loved to have been involved with the current Lonely Planet site (*lonelyplanet.com*). This website is not only beautiful to look at but functional too. It combines stunning photography, video and typography without overwhelming the user. Every section has a clear purpose that draws you in and inspires you to start planning your travels. You can see the team's passion and skill in this piece of work, which is a true masterpiece of modern web design.

INAYAILI DE LEÓN PERSSON
Senior designer, Microsoft
yaili.com

I am really impressed with *mica.edu*, the redesigned website for MICA (Maryland Institute College of Art), which came to me via Jeffrey Zeldman on Twitter. Not many websites deviate from the standard template these days – big image banner at the top with call to action, followed by a simple three-column grid – so this site definitely stands out. I love how it plays with colour, type and an interesting grid. It has gorgeous little details that make it even more playful, like the animation of the link underlines on hover. I love to think that the designers and developers had fun experimenting and exploring all the different solutions together.

JENNY JOHANNESSON

Senior designer, Ueno

www.jennyjohannesson.com

My pick is *https://erik-joergensen.com/en/*, the website of Erik Jørgensen Møbelfabrik, a Danish furniture manufacturer. I'm always a bit jealous of websites using scroll jacking because it can be a very hard sell. I love the colours and the simplicity but most of all I like the photography and its art direction. It feels highly stylised, with an interesting balance of sterile interior and intimate portraits. The detail animation in hover states and menus give me the impression that the team cared about everything.

BEN BUCKLEY

UI designer, This Place

thisplace.com

Right now, people's experiences of the internet are largely about being pestered by notifications, unwanted advertising, annoying newsletters and so on. Melter's website (*melter.club*) reminds me that the web is much more than that. It's difficult to describe but it's basically a (quite trippy) series of interactive visuals that respond to how you move your mouse; you have to try it to really appreciate it. The internet is about interaction and this site is a beautiful example of human interaction, as well as pushing the boundaries of what the internet can do to give you an experience.

ANDREAS CHANG

Visual designer, This Place

thisplace.com

It's intriguing to see what young talents are doing on the web and a great example is interactive developer Adrien Lamy's personal website at *adrienlamy.fr*, which reeks with personality and creativity. Unlike a lot of websites today, he doesn't rely on flair to create a memorable experience. Rather, he uses common web elements like drop-down menus and hover states in unconventional ways to tell you who he is. Most of all, his personality shines through in his lighthearted, slightly tongue-in-cheek writing. To me, his website is a testament to simplicity, creativity and the strength of good content.

SANDIP PATEL

www.cageapp.com

www.daymedia.co.uk

I'm constantly impressed by how much people push the boundaries. A perfect example of that for me is creative agency Ueno's site The Interview (*https://interview.ueno.co/*), aimed at potential new hires. It's a fast interactive game with 3D assets and animation; a chatbot experience that's quirky but informative enough to tell you the folks at Ueno don't take themselves too seriously. And all wrapped in a warm colour palette that's fun and playful. Super jealous it's not something I made myself!

RESOURCES

5 SENSATIONAL NEW WEBSITES TO BE INSPIRED BY

https://netm.ag/2DX14kJ

The world of web design never stands still. To give you a taste of how designers are finding creative ways to make the web a more enjoyable place to be, Christina King rounds up five sensational new sites.

17 WEBSITES THAT USE MINIMALISM BEAUTIFULLY

https://netm.ag/2BzGQLr

'Less is more' is a principle that benefits users in the form of faster loading times, but don't confuse uncluttered with boring. In this post, Jerry Cao and the Creative Bloq team collect their favourite minimalist websites.

14 GREAT EXAMPLES OF WORDPRESS WEBSITES

https://netm.ag/2TLWI4v

Once regarded as just a blogging tool, WordPress has become a fully fledged CMS for professional web designers and agencies. This post highlights some of the best WordPress websites around.

DESIGN

THE POWER OF DESIGNING FOR ONE

Ruby Steel from Smart Design explores how 'designing for one' can be a powerful process for human-centred design

Back in 2016, I was lucky enough to be selected to be part of BBC Two's *Big Life Fix*. The show saw a team of designers, engineers and makers take on challenges across the UK for individuals who were struggling with day-to-day life. We were effectively paired with and designing for one end user and it ended up being an extremely rewarding and revealing design experience. There are three main reasons for this.

Firstly, **designing for one generates empathy** between the designer and end user in a way that isn't possible when you're designing for the masses. The lines blur and you find yourself thinking about the person and their situation around the clock. My first 'fix' was for a man named Graham who is living with locked-in syndrome as a result of a severe stroke. He is unable to move or speak and yet his mind, eyesight and hearing remain intact. I'll never forget the look on his wife's face as she begged me to go home and make a recording of my loved ones' voices because "you never know if you'll never hear them again". I was so moved: it provoked me to imagine myself in his situation – unable to communicate critical phrases. This drove us to find the best solution we could, which was actually a communication device using recordings of his voice we found in the loft.

The second reason is that **constraints fuel creativity**. When you have the criteria of one person, it gets very specific but that helps generate ideas. We were tasked with designing a way for Ian, a boy living with severe cerebral palsy, to control a sailing boat despite having no control over his limbs and no verbal ability. We narrowed the brief down to an extreme focus: find a way for Ian to use his eyes to move the boat left and right, outside in daylight. We solely focused on making that happen. It forced us to get creative with technology, making use of eye gaze glasses traditionally used in market research to track where someone is looking in a shop. By using these glasses to register fiducial markers in the form of QR codes – left and right – that sent a signal to connected motors on the boat, enabling Ian to sail.

The third and most important reason is **designing for one can unearth a universal truth**. When you have developed a deep understanding of someone's needs, the solutions that follow are applicable to others where there is a common thread. When designing a new voice UI to be able to do some basic household tasks for a woman living with progressive MS, we discovered a fundamental gap in the way current voice assistants, such as Alexa, work. Susan has been living with MS for over 25 years and is unable to walk, use her hands properly or even sit up unaided. Voice control seemed like an obvious solution but the home hubs on the market today simply didn't work for Susan. They expect you to know exactly what to say in a certain time frame, which Susan would find difficult because her MS can often leave her reaching for the right word to say – something we can all relate to. Also, Susan relies solely on the interface whereas most people use it combined with their smartphone. Essentially we learned that smart-home hubs are not the conversational dream we imagine them to be. People need guidance and signposting to use these products to their full effect. By creating a custom menu system and visual cues, we gave Susan access to the benefits but any person using a home hub could find the same system useful.

How often do you get to connect that deeply with the people you are designing for? This experience has taught me that you can succeed if you apply human-centred design principles but focus on one extreme user and deeply understand their goals and needs.

PROFILE
Steel is a senior design strategist at Smart Design in London and a 'fixer' on BBC Two's *Big Life Fix*.
w: https://smartdesignworldwide.com
t: @rubysteel

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GALLERY

Sensational design and superb development

MARK BILLEN

Billen is a freelance writer who has been writing about web design and technology for over 15 years.
w: markbillen.com
t: @Mark_Billen

★ JQUERY, TWEENMAX, REQUIREJS

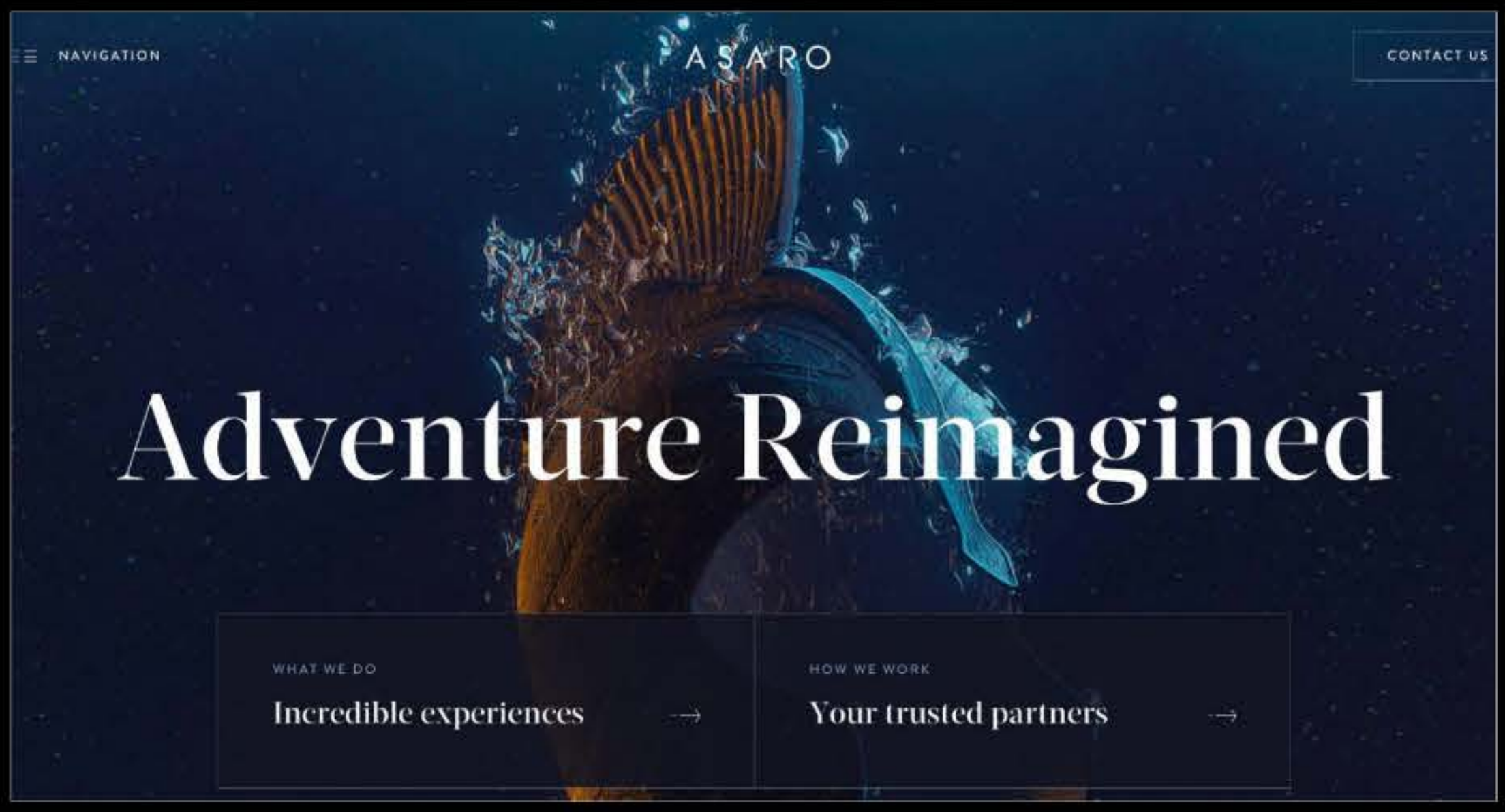
ARCHE68

https://www.arche68.com/front/en

Constructed by German design studio Bureau Cool, this startling product catalogue is something of an intriguing contradiction. Built to represent the 68-year anniversary of Gallic leather and shoe company ARCHE, it neatly offers French and English versions for international visitors. However, the design remains remarkable and befuddling in the most entertaining way with anarchic navigation.

Filling the browser window completely with high contrast red, white and blue typography, it eventually dawns that we've landed in a menu. Text links for the various site sections wrap into a column, all independently cycling in opposing directions at mercifully slow speed. Scrolling vertically only sends the viewport into a crazy muddle, stacking the menu into an infinite tower of text that you probably shouldn't look at for too long. It's all an amusingly disorientating use of TweenMax and jQuery, before things get more practical within.

A highlight is the 'Customisation' app for personalising the collection's Lilou and Laius ankle boots in glorious 3D. Harnessing RequireJS, the modelling work is truly terrific and facilitates full 360-degree views in order to preview colour and style choices before purchase. Overall this practical ingenuity dovetails nicely with the wackier elements to indeed forge an experience both mesmerising and madly cool.



WORDPRESS, JAVASCRIPT, WEBGL

ASARO

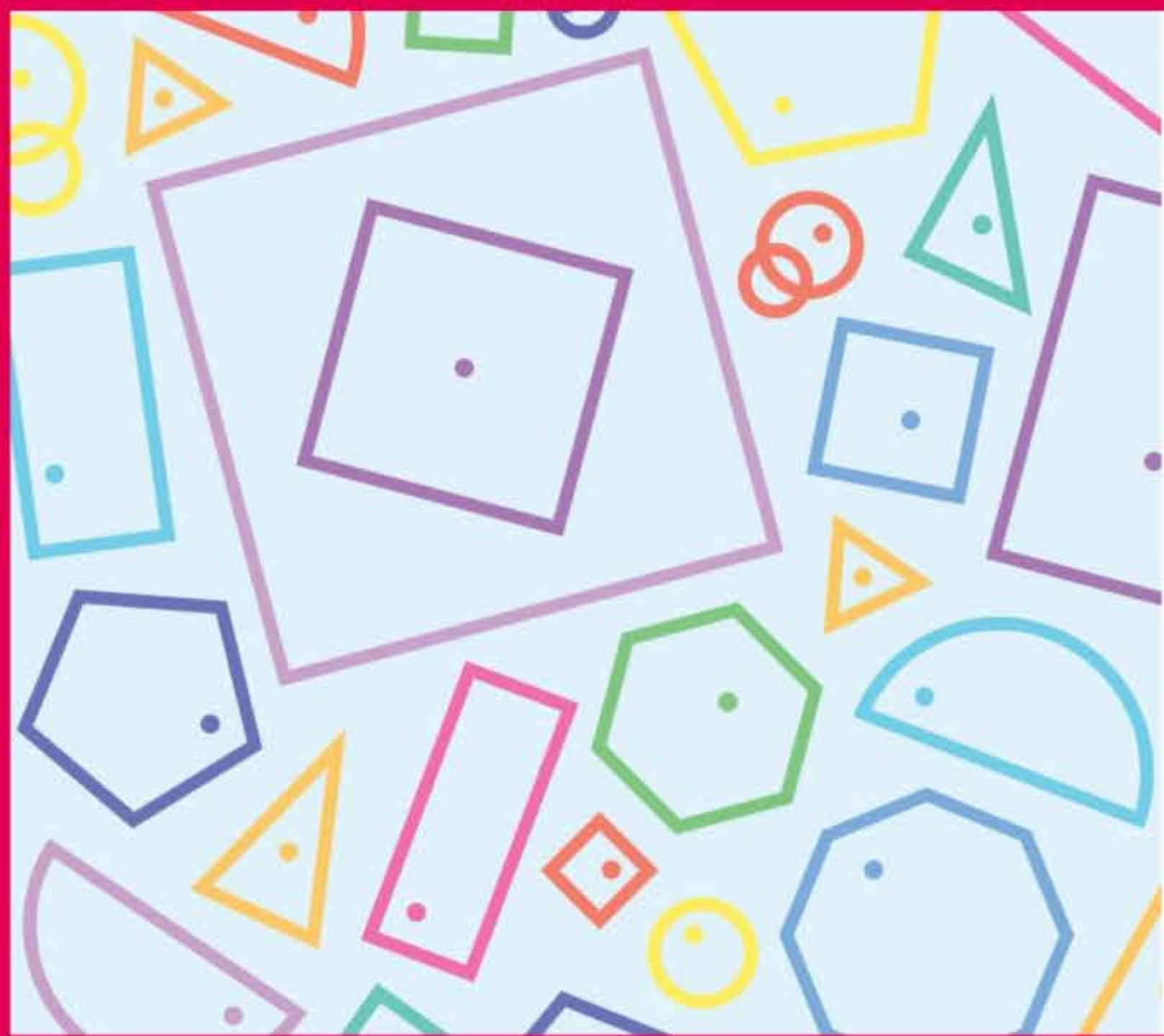
https://asaro.co.uk/

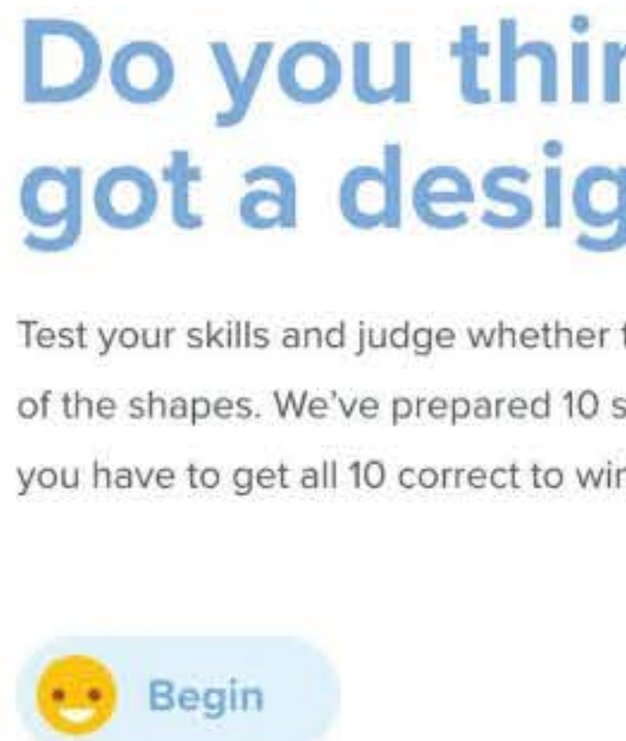
Asaro is a provider of unique adventure experiences and entertaining journeys for superyacht guests around the world. As part of a broader corporate rebrand, this slick new website was designed and developed by Bristol-based agency Green Chameleon.

Built on a custom WordPress framework to keep ongoing content editing easy for the client, visitors are taken on a voyage of discovery packed with charm. Subtle scroll effects are linked neatly to an interactive dotted line, plotting navigational progress in the way a yacht captain might mark charts. Custom CGI renders have been utilised as a graphical device for representing Asaro's exclusive service offerings, in light of a scarcity of photographic assets due to the private nature of the events. "The art direction was inspired by a mixture of water drop photography and theatrical poster design," explains creative director Tom Anderson. "We loved the aesthetic of the photography style and felt that it tied in nicely with the underlying nautical theme of the project."

Responsive enough to not only look beautifully consistent on smaller screens, access speed was also a motivation for streamlining performance. With boat dwellers at the mercy of marine web connectivity, load times are more chipper than choppy across desktop, tablet and mobile.

> "The WebGL underwater effect applied to the 3D renders took considerable research and development to get right"
>
> NATHAN RILEY – DESIGN DIRECTOR, GREEN CHAMELEON





★ GSAP, BARBA.JS, SVG

IT'S CENTRED THAT

https://www.supremo.co.uk/designers-eye/

Whether you design for websites or, well, anything, you'll pride yourself on having a keen eye. This brilliantly novel microsite turns that ability into a test, inviting visitors to play a game that challenges spatial awareness and an innate sense of distance.

Over 10 randomly selected levels, It's Centred That presents a number of geometric shapes, asking whether a tiny black dot indicates their centre. While some are clearly wide of the mark, others are so devilishly close as to fool even the keenest of eyes. The site is also totally unforgiving of failure: when clicking the Yes or No emoji to submit your verdict, a wrong answer is met with total score wipeout and an undignified browser-wide poo splat.

Built as a playful in-house project, it was created by Salford studio Supremo and has since gone on to entertain and frustrate the design community in equal measure. Happier being described as "small and nimble" as opposed to full service or boutique, Supremo's services include branding, UX and web development, motion and video, web apps and CMS work. With links back to the company's portfolio, this particular site might keep things simple but it still demonstrates enough ingenuity to find the centre of anyone's attention.

"At our small design agency we are often debating if elements in our design work are centred just using the eye alone"
SUPREMO.CO.UK

* JQUERY, GSAP, GOOGLE MAPS API

NARCOS MEXICO - COCAINE ROUTES

https://cocaineroutes.com/

At it's most tragic, the flood of drugs onto the world's streets can make supply seem as easy as ordering a pizza. This clever and extremely thought-provoking web video experience hits that home, literally, with an immersive message on international cocaine trafficking.

Produced by digital agency Circus for its client partner Netflix, the purpose is primarily to promote the launch of the *Narcos: Mexico* TV series. However, any 'hard sell' of this particular product is refreshingly underplayed in favour of what almost constitutes a startlingly personal warning. Visitors are prompted to enter their own address and watch how the show's Guadalajara Cartel can deliver a package of coke to the chosen location. Okay, not literally of course but rather with an amazing custom sequence generated on the fly from video clips and Google assets.

The site uses Google Maps API to tap in and weave together Satellite and Street View imagery to whisk viewers through locations they inevitably recognise. Journey choices and transportation methods are apparently historically correct, recording kilometres travelled and even enabling routes to be shared on Facebook or Twitter. An evocative distillation of Circus' penchant for "emotions driven by data" – Cocaine Routes is an enviable execution of a cool concept.

★ REACT, THREE.JS, PIXIJS

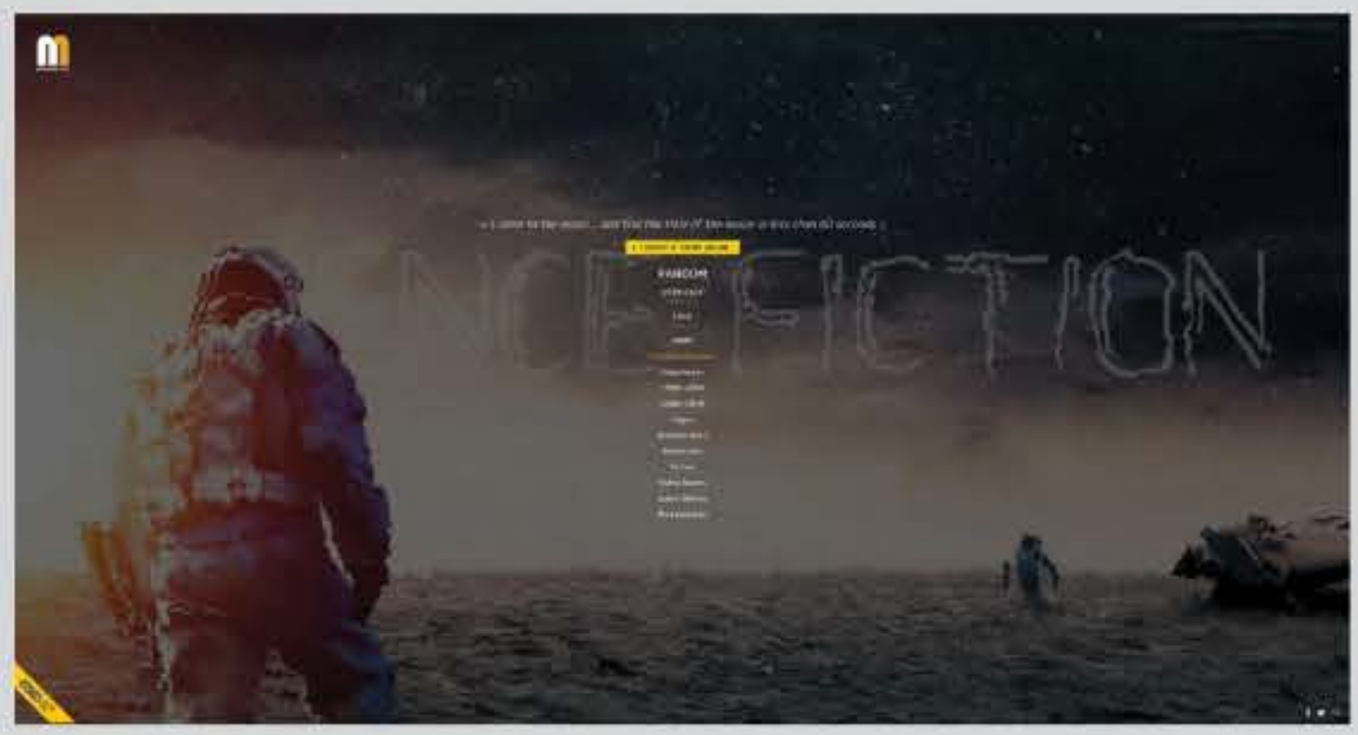
MOVIE MUSIC QUIZ

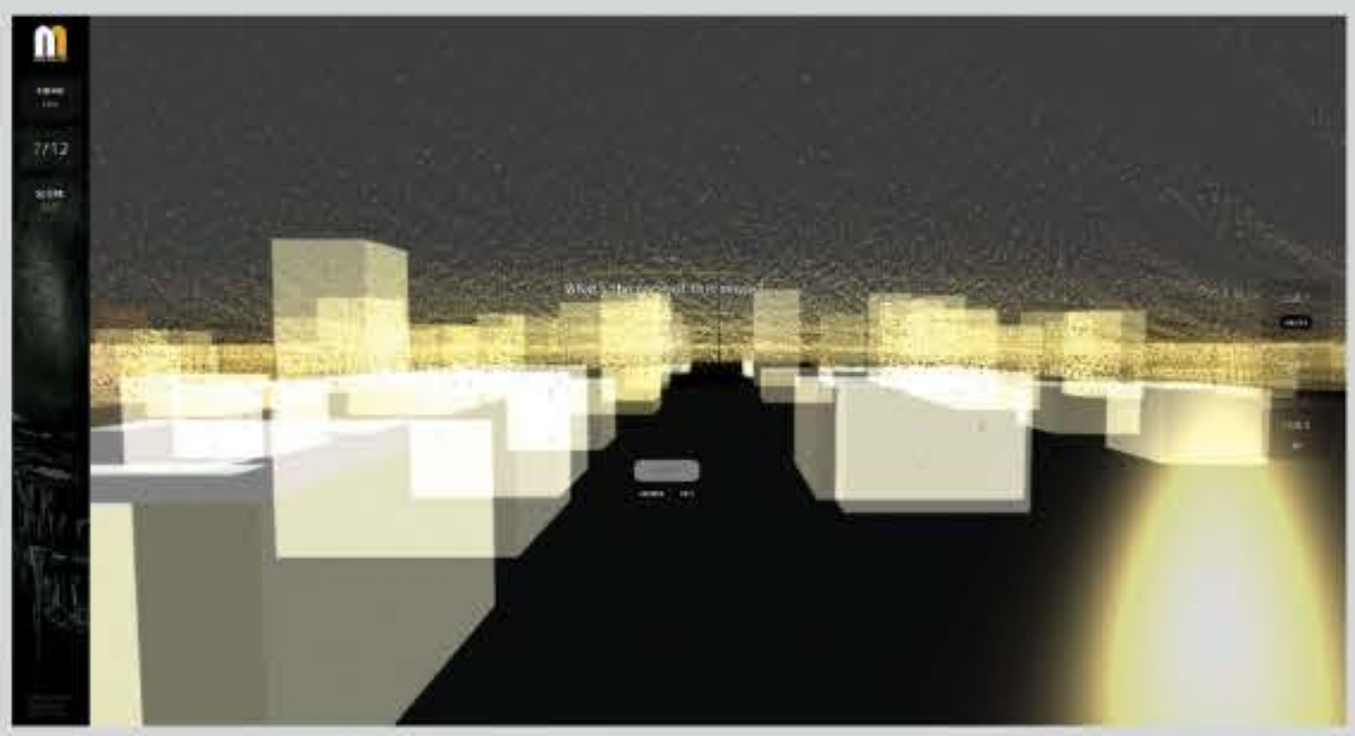
https://www.movie-music-quiz.com

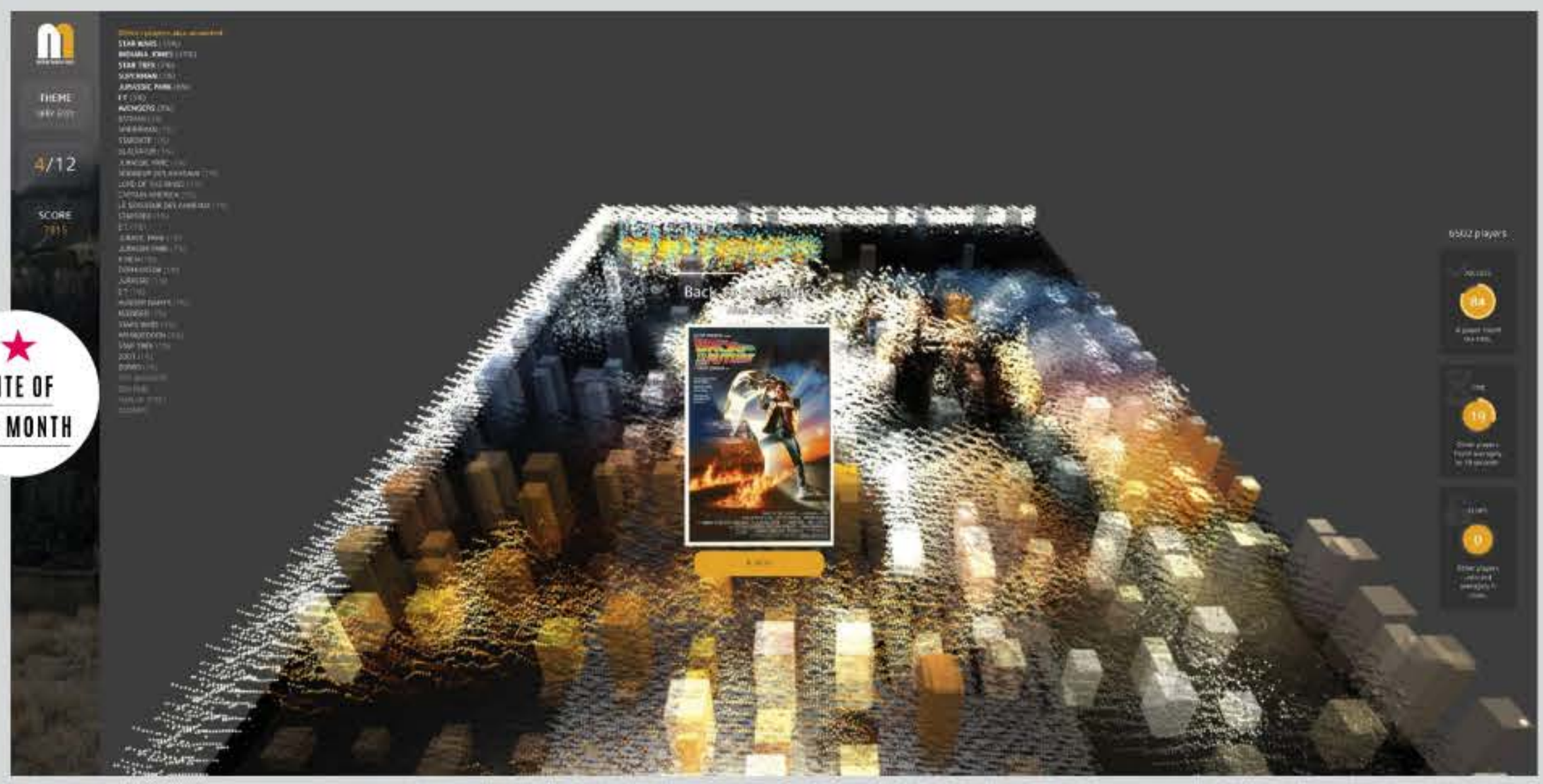
When French agency PopCorn 66 launched PopCorn TV, it garnered huge praise, rightfully, for delivering an immersive quiz based around the visual identification of retro pop culture references. This personal effort from freelance creative developer Sun LIMET takes a similar premise and arguably goes even further.

Movie Music Quiz is a breathtaking achievement, challenging players to identify film theme tunes within 60-second clips. Perhaps most impressive, however, are the animated 3D visualisations that fill the browser as each score snippet is played. What first appear to be random blocks bouncing to the audio are in fact an abstraction of the movie's theatrical poster art, revealed upon answer. There's a clue engine for unveiling hints, a multiple choice option, plus even the text input recognition that PopCorn TV utilised to equally stellar effect.

The first three technologies we've listed are of course just the tip of the iceberg for such a sophisticated project, with GreenSock's TweenMax, Animate.css and Redux also in the mix. Quite how the rights to Hollywood's greatest themes were acquired might be another story but this is Oscar-worthy stuff.







★ SITE OF THE MONTH

PUT A PAUSE IN YOUR DAY

With so many demands from work, home and family, there never seem to be enough hours in the day for you. Why not press pause once in a while, curl up with your favourite magazine and put a little oasis of 'you' in your day.

PRESS PAUSE

ENJOY A MAGAZINE MOMENT

To find out more about Press Pause, visit;

pauseyourday.co.uk

SHOWCASE

Sublime design & creative advice

THIS MONTH FEATURING...

PROFILE 50

Meet Daniele Buffa, an Italian digital designer who's already made waves at Google Creative Lab and is now entering agency life in London

HOW WE BUILT 56

The ShopTalk London team explain how they used time-sensitive messaging and a bold palette to tell Tick Tock Tea's story

DESIGN CHALLENGE

This month...

SECRET CITY GUIDE

* PROFILES

CLIFF NOWICKI

A web designer from the Metro Detroit area in Michigan.

w: www.cliffnowicki.com **t:** @cliffn

JAMES DUNKLEY

A multidisciplinary designer and owner of Interact Studio.

w: www.jamesdunkley.co.uk **t:** @jamesdunkleyx

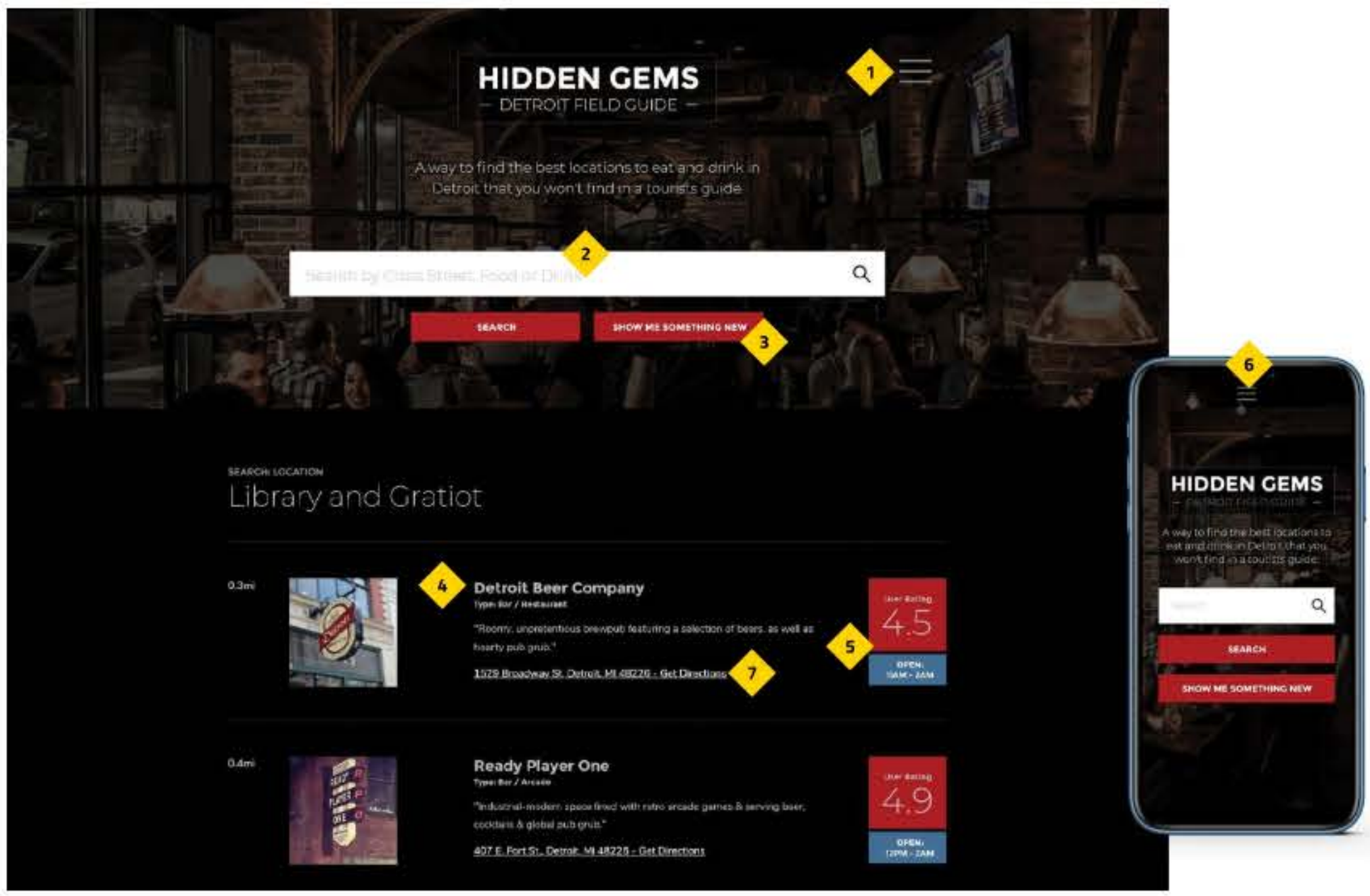
SAM BAKER-SALMON

Lead visual and interactive designer at Spherical, a boutique digital marketing agency.

w: www.spherical.co **t:** @sambakessalmon

BRIEF

This month we would like you to design a secret city guide. The focus will be on the lesser known attractions, restaurants and areas of the city that the typical tourist doesn't get to see. Think how the user may search the site and the information they will want.



CLIFF NOWICKI

HIDDEN GEMS - DETROIT FIELD GUIDE

Showing you the best local places to eat and drink

This site is meant for mobile users who need a quick way to locate the hidden gems of Detroit when visiting.

Finding a great place is hard when you're in a new city and even harder when people recommend the same thing all the other tourists visit. Hidden Gems lets you search the cross streets you are at to find the highest-rated location within walking distance. You're also able to search by what type of drink or food you like.

The simplicity of the website comes down to the main search bar as well as the places you're looking to go. When searching, the site uses a geolocation API when finding the closest place. A person looking for a place to eat or drink in a city is typically checking their phone for the closest location after an event. The overall dark tone makes the search stand out and it gives a hidden secret vibe, suggesting they're going somewhere special. The idea is to get the user the info they want, fast and without any hurdles.

CLOSE UP

(1) A hidden menu makes the process less cluttered and more simplified. **(2)** This search box can handle the location of cross streets or what type of food or drink you're interested in to help find something suitable. **(3)** The 'Show Me Something New' button searches for a place that's the closest to you based on whatever you entered in the search box. Logging in lets you keep track of where you've checked before so you don't get results of places you've been. **(4)** You can decide to search for results with ratings above a certain number to make sure you're going to a worthwhile place. **(5)** User Ratings appear here as well as the opening hours. This ensures you don't waste time on locations that are closed when you're ready to go out. **(6)** Easy to use mobile interface shows just what you need and nothing more. **(7)** If you aren't sure of your surroundings, clicking on the address will automatically open up Google Maps on your desktop or phone and give you the best driving or walking route to your location.

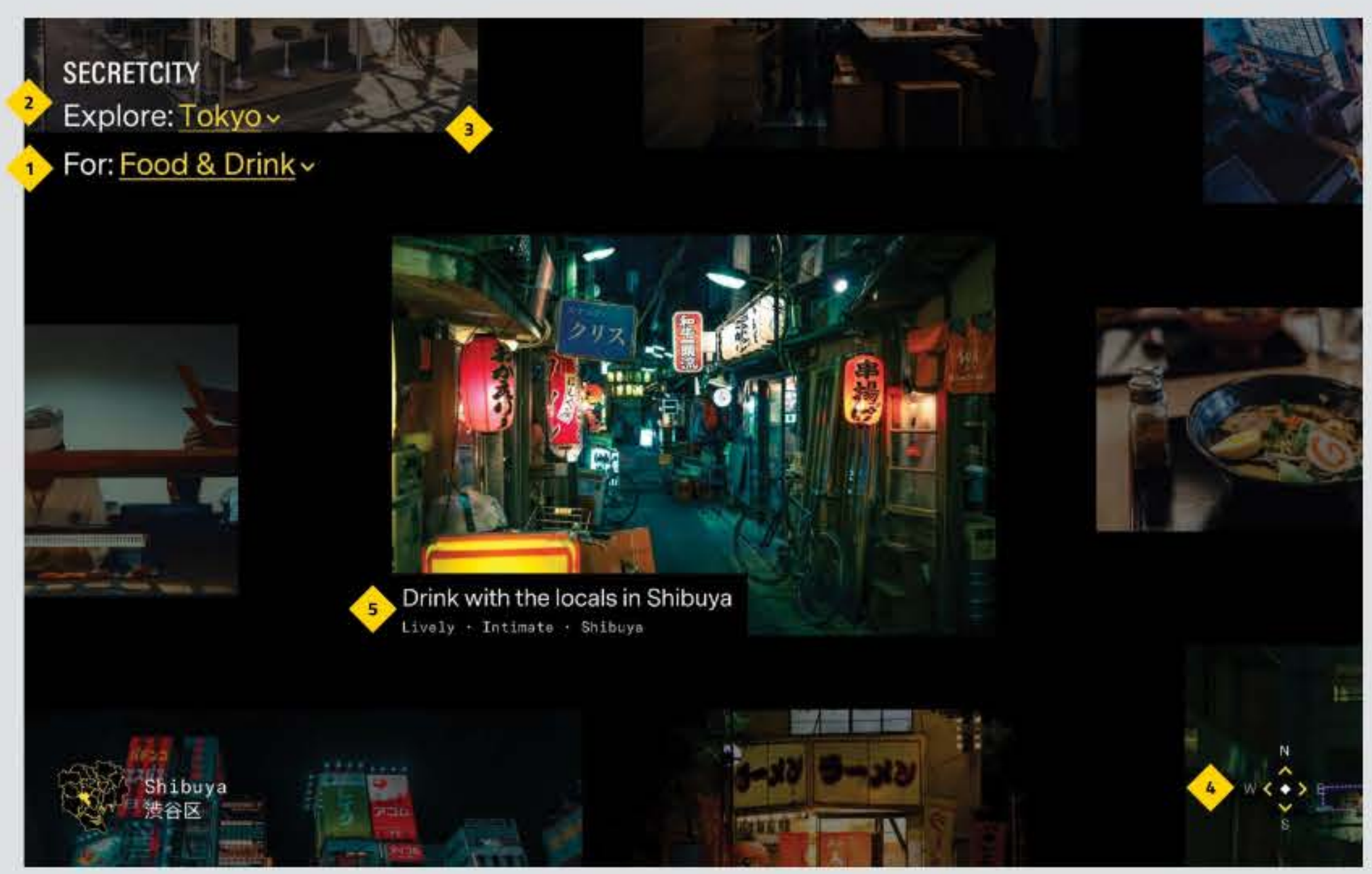
MY MONTH

What have you been working on/doing this month?
I've been trying to learn about the visual design aspect of AR and how it works. I've even been coding in Unity and Vuforia in order to try things out.

Which two websites have you visited for inspiration?
Pinterest and Instagram for web design ideas.

What have you been watching?
I usually watch game streams on Mixer but I just got Hulu for the first time.

What have you been listening to?
The soundtrack to Forza Horizon 4 and Fallout 76.



MY MONTH

What have you been working on/doing this month?
I took some time off client work to focus on my studio's branding. I also used a few of those hours for Red Dead Redemption 2.

Which two websites have you visited for inspiration?
Google Images and Instagram. I also take inspiration from old packaging.

What have you been watching?
Salt. Fat. Acid. Heat. I love cooking and travelling, so this show was a perfect combo.

What have you been listening to?
Nightwave Plaza Radio, that site is awesome.

★ JAMES DUNKLEY

SECRET CITY

An experimental layout for urban explorers seeking experiences beyond the obvious

In the search online for hidden spots, it can be easy to get lost in too much information and detail. I wanted to create a design that encapsulated the possibilities in a city and brought to life the joy of discovery.

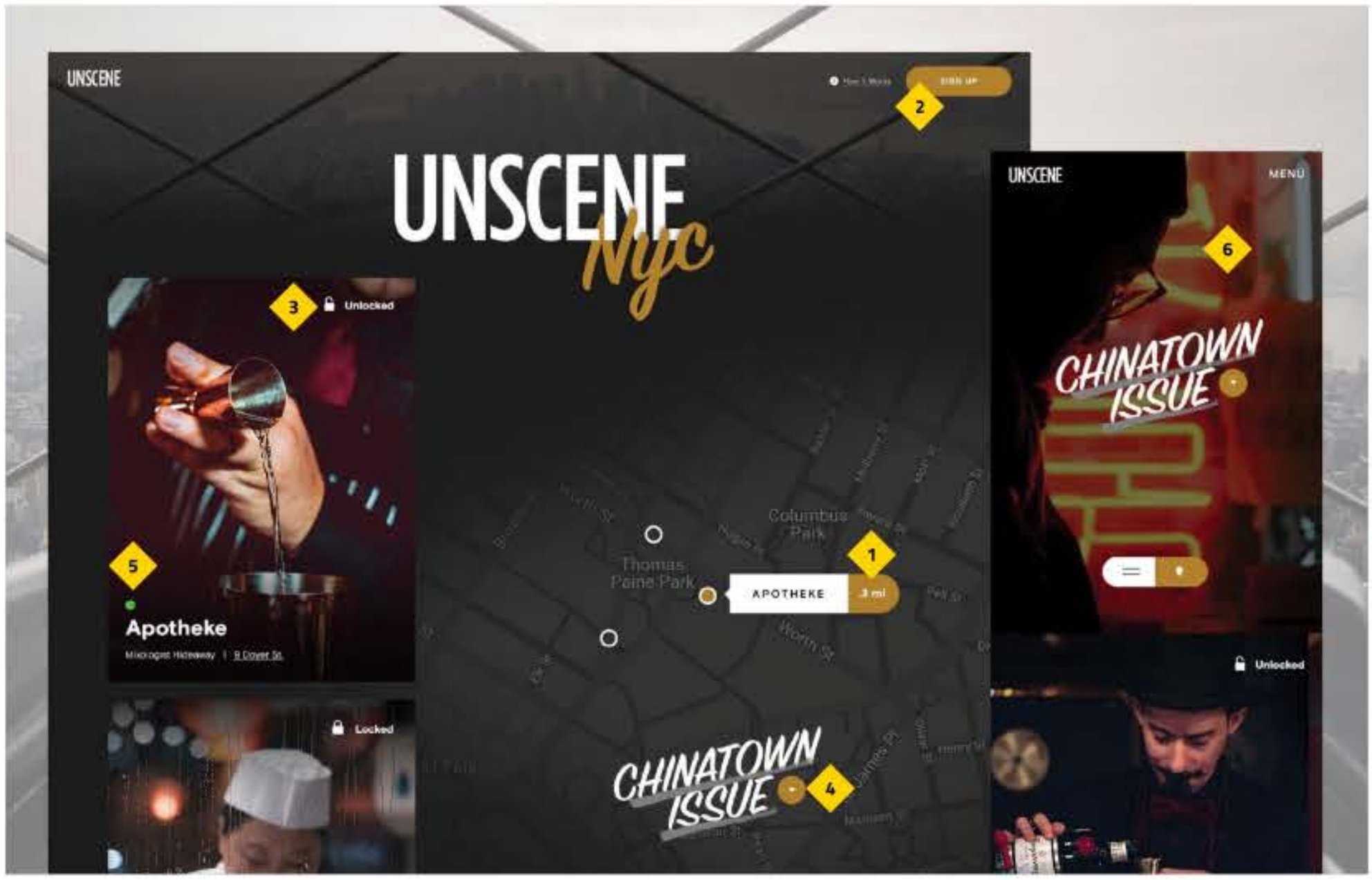
My experimental layout enables users to discover places with some notion of geography, which is obviously important, but without the excessive dependency on a map. It allows users to find out more about a place without being overloaded by content.

Each activity's position in the layout is based on its location, relative to its surrounding activities. As such, moving right, left, up or down through the images moves you around the city itself: to its east, west, north and south. It's a discovery of a city that feels natural.

The layout works the same across all platforms. Touch devices will use swipe interactions to explore the content.

CLOSE UP

(1) The natural language selector is a conversational way of choosing an activity and location. This can also be interacted with by voice on devices. **(2)** The district map indicates the different neighbourhoods of the city. As the user navigates through the activities, the highlight on the map changes accordingly. **(3)** Each of the content module's description combines a place with an activity native or authentic to the location, enabling users to find and have more meaningful and interesting experiences when travelling. The stripped-back UI lets the experiences speak for themselves, avoiding too much detail and distraction. The modules expand in size when they come in to focus. **(4)** The compass indicates geographical location as well as being a traditional navigation tool. This can be interacted with by mouseover, touch and also features keyboard support for accessibility. **(5)** Tags tell users more about the vibe and atmosphere of an experience.



★ SAM BAKER-SALMON

UNSCENE NYC

The spots locals might not even know about

The whole idea behind this design is to veer off the beaten path and into something undiscovered in New York City. This particular guide hones in on Chinatown.

The target demographic is 20- to 30-somethings looking to impress their friends with new intel on NYC. Use of a dark colour palette evokes a sense of exclusivity and secrecy. The font pairings speak to the boldness of NYC, balanced with the movement from the graffiti-inspired NYC script font.

It works based on email subscriptions. Each week a new place is revealed and blasted out to subscribers. The email leads back to the site, which holds all the hidden spots. If it's locked then it hasn't been revealed yet, so check back.

And finally from a technology standpoint, the map would be powered using Mapbox and the posts would be tied to the WordPress REST API, as well as MailChimp for email subscriptions.

CLOSE UP

(1) As the user scrolls down, this location popup will switch to the next location at the same time another post on the left is brought up from the bottom. The same popup also indicates the distance it is from the user's current location. **(2)** When this button is clicked a full-screen takeover expands with a short description explaining Unscene NYC. It will also include an email subscription form prompting them to sign up for exclusive intel. **(3)** This icon indicates whether the location has been revealed or not. **(4)** This lets the users jump between other issues. When clicked, a full screen takeover appears with bold typography listing other neighbourhoods. **(5)** This green dot marks whether the user has read this post yet. Once viewed, the dot disappears. **(6)** On mobile this full bleed intro would play ambient video in the background. The video would give a feel for the neighbourhood and show a person interacting with the guide.

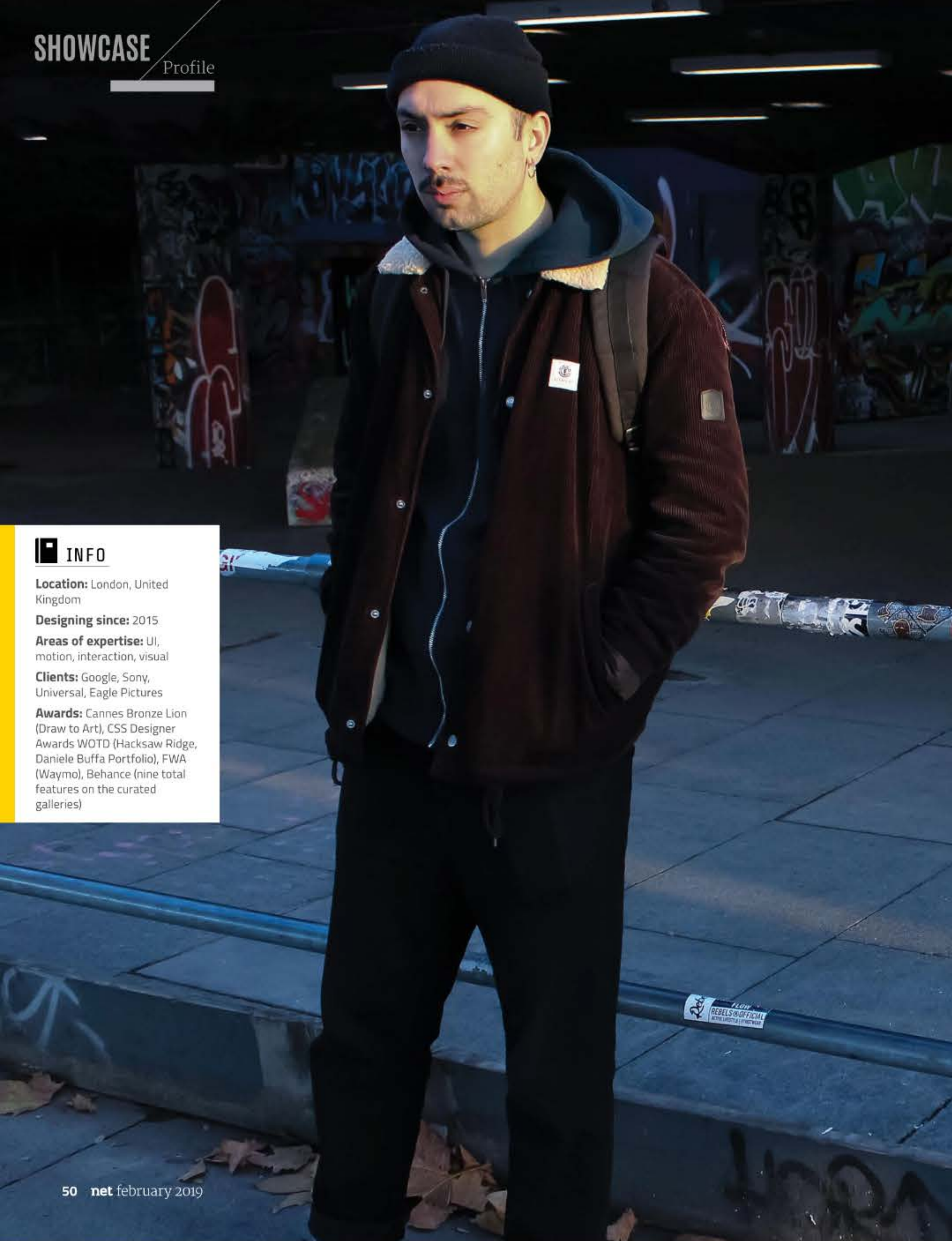
MY MONTH

What have you been working on/doing this month?
I'm digging into Adobe XD and working on a new app. Check out *rookieoftheyear.io* for updates.

Which two websites have you visited for inspiration?
siteInspire daily. UIJar is a good new site for some inspiration.

What have you been watching?
Peaky Blinders, Eames: The Architect and the Painter, and The Craft Beer Channel on YouTube.

What have you been listening to?
The new Meek Mill album, Anderson Paak and Vetiver for easy listening tunes.



INFO

Location: London, United Kingdom

Designing since: 2015

Areas of expertise: UI, motion, interaction, visual

Clients: Google, Sony, Universal, Eagle Pictures

Awards: Cannes Bronze Lion (Draw to Art), CSS Designer Awards WOTD (Hacksaw Ridge, Daniele Buffa Portfolio), FWA (Waymo), Behance (nine total features on the curated galleries)

PROFILE

DANIELE BUFFA

www.danielebuffa.me

Meet an Italian digital designer who's already made waves at Google Creative Lab and is now moving into agency life in London

Considering how hotly contested places in Google's prestigious Creative Lab are, it's a welcome surprise to be talking to one of the programme's Fivers for the second time in a year. Daniele Buffa (www.danielebuffa.me) completed his Creative Lab placement early in 2018, having worked on a Cannes Lion award-winning project and since then has turned down a job offer in New York to stay in London, where he's just started work at Phantom (*phantom.land*). We were keen to find out more about Buffa and his work.

Hi! Can you tell us a bit about yourself and how you got started in web design?
Hey! I've been interested in design basically all my life. I remember being a 14-year-old having fun with Photoshop every afternoon and trying to learn as much as possible from online forums.

After I graduated as a graphic designer from high school, I decided to pursue this path and start studying design and art direction in Rome. During my final year of the three-year course, the focus was more on the web; I realised that the digital side of design fascinated me the most and was what I really wanted to do.

You're not the first person we've spoken to who's been chosen for Google Creative Lab. What did you learn there?
Being part of the Google Creative Lab changed my life in more ways than one. ▶

On a personal level, I had to move from Rome to London and start a completely new life experience. On a professional level, I was lucky enough to work with some of most talented people in the world on some amazing and groundbreaking projects.

I learned so much about new technologies that I didn't know before. I worked on projects that included machine learning, virtual and augmented reality, self-driving cars; basically my mind was continually blown away. It was an amazing experience.

Waymo 360 was a Google Creative Lab project, where Buffa and his colleagues had to devise a way of visualising the concept of self-driving cars

Draw to Art matches real artworks to users' line drawings. Can you tell us a bit about that?

Draw to Art was the first project I worked on when I joined the Creative Lab, from my very first day.

We wanted to come up with a novel and exciting way to navigate through the massive Google Arts & Culture database, which is this incredible database of high-quality images of paintings, sculptures, drawings and art in general.

The idea behind Draw to Art was to find a fun and interesting way to discover pieces of art through machine learning using your own creativity. We visualised and made it real through the use of interactive easels, where you can draw on the left side of the screen and on the right side you'll see all the results that match your drawing.

We presented Draw to Art as an installation in Paris, at the Google Arts & Culture centre and it became a great success. Additionally, we won a Bronze Cannes Lion for interactive outdoor installation with this project, which was a significant achievement.

Waymo 360 is another of your Google Creative Lab projects. What were the challenges of visualising how self-driving cars operate?

Waymo 360 was a really challenging project. Our goal was to explain in a two-minute video how self-driving cars work and why you shouldn't be worried or scared about it. Explaining something like that in such a short time is quite hard because you have to find the right words to explain something that is really innovative and complex.

We wanted to find the right balance of visualising what the car sees, giving it a feel of real data visualisation more than techy fake CGI.

The final result was great and the project had a lot of positive reviews; it definitely helped people understand the technologies behind self-driving cars.

What were your priorities when building your own site?

The priorities were to make something very interactive and fun to navigate, experimenting also with coding languages like WebGL, which was used for the interactive fluid background.

I started designing the website and I contacted two friends of mine, who were creative developers, to help me build it. Then I started selecting the works that I thought represented me the most and also added some personal exploration of visuals and motion in the 'gif wall' section of the website.

After designing it I made interaction videos for every page. Creating the videos is an essential part for me because it makes the process and the communication with the developers so much smoother and it always guarantees a great final result.

You designed a new Oscars site as a personal project. What was the thinking behind it?

I'm a huge cinema lover so, of course, I love the Oscars and I'm always very excited about it.

A few weeks before the night of the Oscars, I happened to visit the website and I was a bit disappointed by it because I was expecting an event that important would have a much stronger digital presence. So I decided to rethink the web experience that accompanies the Oscars (*https://netm.ag/2P3WdiA*).

The main thought behind it was making something very interactive that would be almost as exciting to navigate as watching the ceremony itself, building a digital experience for the users to let the excitement grow just from visiting the website.

Your work for Friskies Steps has picked up a lot of love on Behance. Tell us about the project.

It was great seeing so much love for that project. Friskies Steps is now my most liked and viewed project on Behance so far (*https://www.behance.net/*

A big fan of movies, Buffa was disappointed with the official website for the Oscars, so decided he would build one himself

gallery/38746051/Friskies-Steps-app-website-motion), with more than 4,200 likes and 61,000 views.

I worked on it in my first digital agency back in Rome, together with another amazing designer and friend of mine, Davide, who was also my professor of UI design in my last academic year.

My main role in this project was motion designer. We had to think and create all the communication for the launch of the Friskies Steps app, from the website to building the actual app, and make a series of illustrations that we also used for the explainer motion video. We created the explainer video to present the new app and we translated it into five different languages. It's definitely one of the projects I remember with most affection because it's one of my first projects that reached a broader audience. Seeing many people appreciating what you do is always a good feeling and spurs you to do more.

You've just started work at Phantom as a senior interaction designer. How did that come about?

I already knew a lot about Phantom because of the amazing work they do with Google. And, of course, after working at the Google Creative Lab for more than one year and working together (Creative Lab + Phantom) on a couple of really cool projects, I knew them well. Another reason I admire them is because of the amazing party they do every year for the agency's birthday; I've attended that for the last two years.

At Phantom, there's amazing attention and care for the agency's brand; in a way I could say that we are our most important client. This is also what convinced me to join the Pham.

Can you tell us about your favourite tools and technologies?

I couldn't do my job without the Adobe Creative Suite: the must-have software for me is Photoshop, Illustrator, After Effects and Premiere. I also use Sketch and I'm starting to learn more 3D with software like Cinema 4D and Blender.

Now there are also many interesting prototyping apps, like Principle or Framer, that are growing a lot; they will grow even more in the coming months and years and probably become some of the most-used software among designers. I still like to design my interactions on After Effects but in the meantime, I'm trying to learn more about those tools.

★ SPOTLIGHT

DANIELE BUFFA

What's on your desktop?
Too many files.

Little things that make your life worthwhile
Eating a really good pizza margherita, producing electronic music, a walk at the Tate Modern museum, binge-watching series.

What's on your walls?
Handmade prints illustrated and signed by my friends and ex-Google Fivers fellows from a workshop we did together, a *Rick and Morty* poster.

What will you do for lunch?
I'll go eat pizza with my girlfriend.

What hours do you work?
I arrive at the office around 9am, the first half an hour is for coffee and a chat, then I spend another 15 to 20 minutes checking some website like Awwwards for some inspiration, then I start working. I have a lunch break around 12:30pm for half an hour and I try to get my stuff done by 6pm.

What else do you do in the office?
We have a corner with some cool gear, like an electronic drum kit. On Fridays we stop working around 4:30pm and I like to be nerdy playing around with that stuff or playing FIFA.

How often do you hang out with other designers?
Very often.

Describe your working culture in three words
Never stop discovering.

TIMELINE

Key dates for Daniele Buffa

JULY 2015

Completes a three-year academic course in design and art direction.

OCTOBER 2015

Starts working as a digital designer at Gigasweb, an agency in Rome.

JULY 2016

Gets his first Behance gallery feature for the Friskies Steps project, helping to grow his profile on Behance.

JANUARY 2017

Wins his first Website of the Day on CSS Design Awards with the project Hacksaw Ridge.

JANUARY 2017

Joins the selected judging panel of CSS Design Awards.

FEBRUARY 2017

Gets contacted on LinkedIn for a potential role at the Google Creative Lab in London.

APRIL 2017

Gets the job at Google and moves from Rome to London.

JUNE 2018

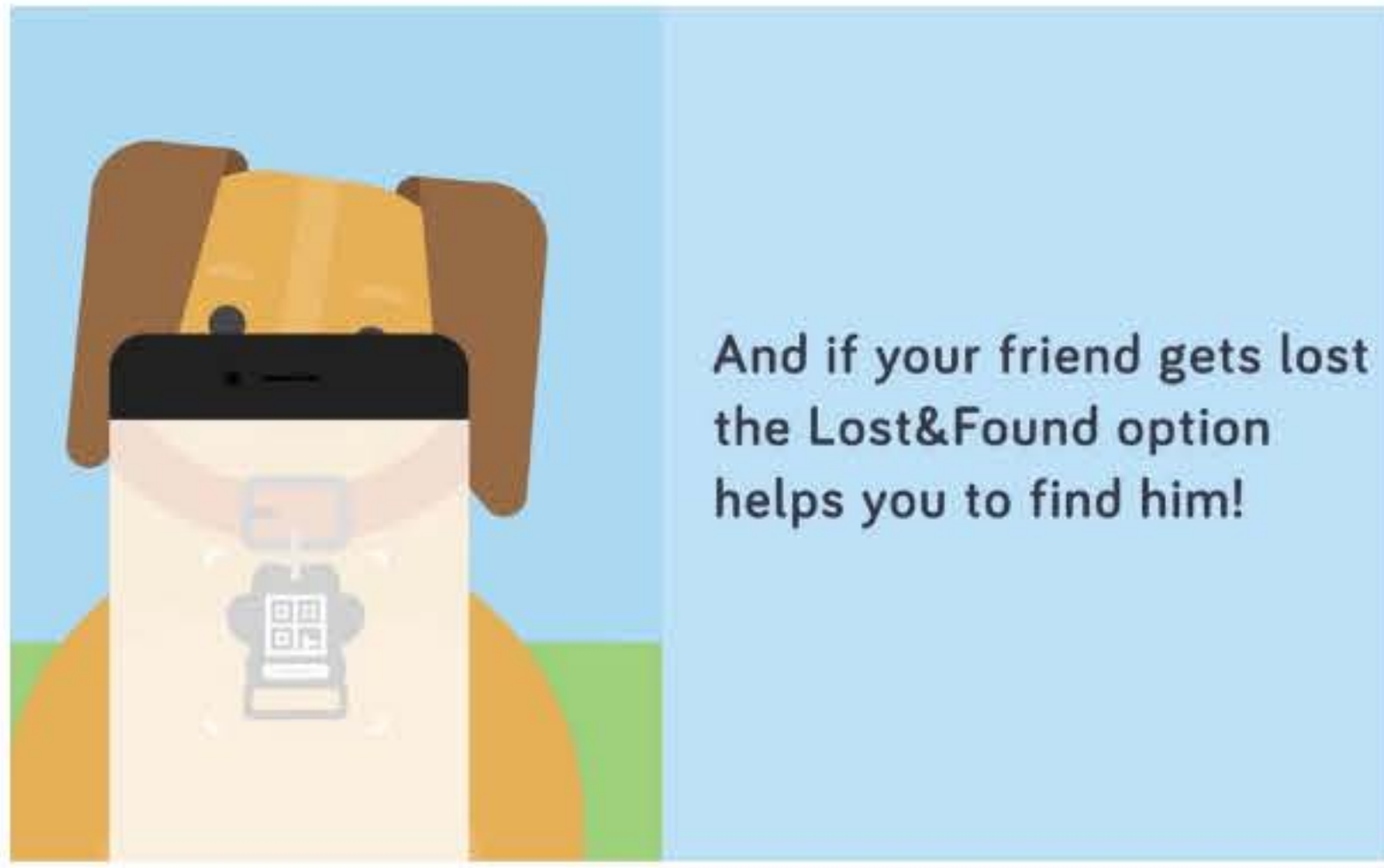
Creative Lab wins a Cannes Lion with the experimental project Draw to Art.

OCTOBER 2018

Decides to turn down a role at Squarespace in New York to stay in London and pursue his career there.

OCTOBER 2018

Joins the agency Phantom as a senior interaction designer.



Buffa's work as motion designer for Friskies Steps is his most liked and viewed project on Behance and is one he remembers with fondness

As for technologies, working with augmented reality can be fun and creative. Machine learning is also something that has incredible potential; you can use it in so many ways and do unbelievable things with it.

What's the worst aspect of working on the web at the moment?

It's hard to think about the worst aspect. I think that everything is always changing in this field but right now we're probably going towards a bigger change that is beyond the web and more about how we know and experience it. With the incredible growth of technologies like virtual and augmented reality, at some point in the future we'll probably not design websites anymore but rather digital, interactive physical experiences where the human body will be more involved and immersed in the digital world. This is not necessarily a bad aspect of working on the web but it's just something that we should be aware of and understand that things never stop evolving and we have to be ready to adapt and change.

And what's the best?

The best aspect is that, in my opinion, we're working on one of the most interesting fields at the moment. We're living at an historic time where everything is digital. Everything and everyone has an online presence. This makes our job important and exciting.

Another aspect is that you're always surrounded by amazing and creative people and every day you can get inspired and learn something; it really never gets boring or old.

The mutable nature of the web requires you to be always curious and updated on everything; it's a job undergoing continuous evolution. This could be scary but it's also what makes it so great and exciting.

What advice would you give to young designers who are just starting out?

Be a sponge: learn from everything and everyone. Get inspired by watching movies, reading books, listening to music, travelling. Be an observer and open to new experiences. This job is not just about practising with the software and working hard to get better – though that is obviously a very important part – but I think that an essential element of our job is pure creativity and to be creative you need to be inspired.

Last but not least, a bit cheesy maybe but it's true: always do what you love.

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HOW WE BUILT

TICK TOCK TEA

The ShopTalk London team explain how they used time-sensitive messaging and a bold palette to tell a family-run tea company's story

BRIEF

ShopTalk London was asked by Tick Tock to create a site that would work on two levels. The first was to bring its history to life and celebrate the remarkable story of four generations of tea merchants. But the website still represents a business, so the second task was to maximise its ecommerce potential.

CLOSE UP

(1) The main part of the homepage is taken up by a dynamic, time-sensitive banner that greets the user depending on what time of day they have visited the site. This also makes use of the Tick Tock brand ethos: tea for 'morning, noon and night'. **(2)** The addition of the Tick Tock Clock gives a constant sense of life and hints that the site is awake even after the user has left. **(3)** The animated header waves and bulges when the user interacts with it. By designing it in this way, it suggests fluidity and helps to tie the functionality to the design. **(4)** Animated icons feature heavily throughout the site but they are used as navigational indicators on the homepage. **(5)** Tick Tock product imagery has been stylised to help draw the user's eye into it. Although the images have been stylised, the end result is consistent with the brand's imagery. **(6)** The responsive web experience is just as alive on mobile and tablet as it is on desktop.

PAUL FERRY

Ferry is co-founder and director of ShopTalk London
w: *https://www.linkedin.com/in/paulrferry/*
t: @PFerry

JAMES WOOD

Wood is also the co-founder and creative director of ShopTalk London.
w: *https://www.linkedin.com/in/jawcreative/*

NICK WOOD

ShopTalk London's Wood was project lead designer for the Tick Tock Tea project
w: *https://www.linkedin.com/in/nicholas-wood-28ab8615a/*

Tick Tock (*ticktocktea.com*) is a family company that's been obsessed with tea for over four generations. Founder Benjamin Ginsberg pioneered rooibos – the leaves that make Tick Tock so special – over 100 years ago, before his son, Henry Charles, built it up into a thriving tea concern. Henry Charles passed on his passion to his son, Bruce, who in turn introduced Tick Tock to the UK. Today, Ginsberg's great granddaughter, Georgia, is at the helm. With such a long and vibrant history, Tick Tock needed a site to tell its story and that's where ShopTalk London (*shoptalklondon.com*) came in.

What was Tick Tock's brief for this site?
JW: Very simply, they wanted the website to tell the story of Tick Tock. The company has a rich family history, with a genuine tea obsession that's been passed down from generation to generation.

We were tasked with creating a website that was 'alive' with this family story, obsession and personality. But to ensure this wasn't achieved to the detriment of the ecommerce portion of the website.

Tell us a bit about your UX process.
PF: We mapped out a number of user journeys, based on hypothesised goals and outputs, against the current site content and then layered over the creative ask of telling the Tick Tock story.

Through this work we identified some new pages that were required to hopefully satisfy all visiting people and their needs and introduced a change in language and navigation but we still managed to maintain as much of the existing content as possible to keep the SEO team happy.

What's the story behind the time-sensitive messaging on the site?
PF: One of the key product messages for Tick Tock is that, as the core ingredient to their teas – rooibos – is naturally caffeine free, their teas can be enjoyed at any time. This manifests itself in the brand line 'morning, noon and night'.
JW: As a family tea company that has been handed down through the generations, the Tick Tock team is obsessed with tea. We wanted to carry forward this obsession in the detailing of the website, so if they have a tea product for every time of the day, the website needed to have a state for every time of the day too.

There's plenty of animation going on. How did you implement it?
PF: Our primary objective was to tell the story of Tick Tock and to do that we needed to bring to life the personality, character and history of the brand. We wanted to create a site that felt almost 'alive' and so thinking through, creating and implementing all the little movements and 'reactions' of the website was enormously important.
NW: Implementing an animation style that would integrate seamlessly into the site took a fair amount of experimentation; striking the right balance of subtlety, vibrancy and usability was vital. We used a mix

TIMELINE

Key dates in the Tick Tock Tea project

APRIL 2018
In the initial wireframes, ShopTalk London settles on dividing the site in two sections: 'Let's Talk Tea', to explore the brand and its history, and 'Let's have some Tea', the ecommerce section.

APRIL 2018
In its initial brainstorm ShopTalk London explores how to use the brand ethos of 'morning, noon and night' on the site; one idea is to design the Tick Tock Clock.

MAY 2018
In its first visual ideas and experience, it explores illustration, shadows, gradients, time and photography.

JUNE 2018
ShopTalk London's first complete design for the site homepage, using the block grid with bold Tick Tock colours, icons and photography.

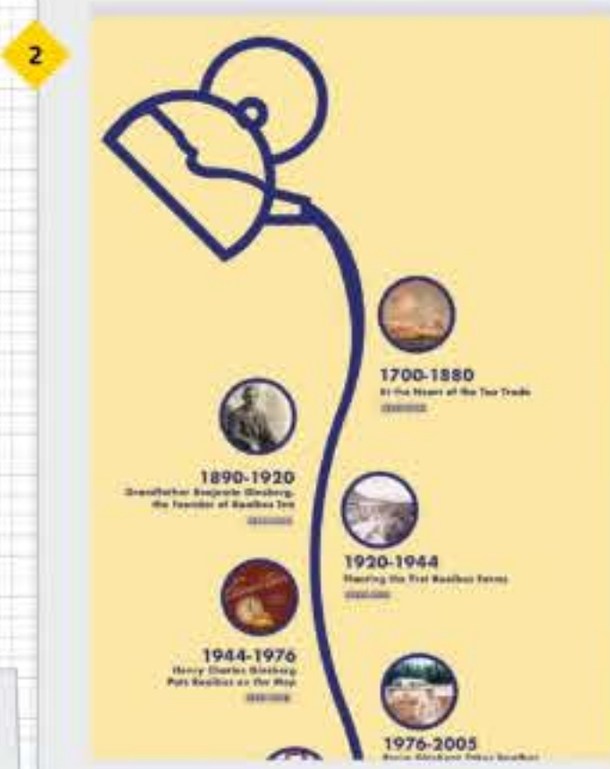
JUNE 2018
It designs a time-sensitive system that will use 'morning, noon and night' to greet the user, giving the site and the experience a sense of personality.

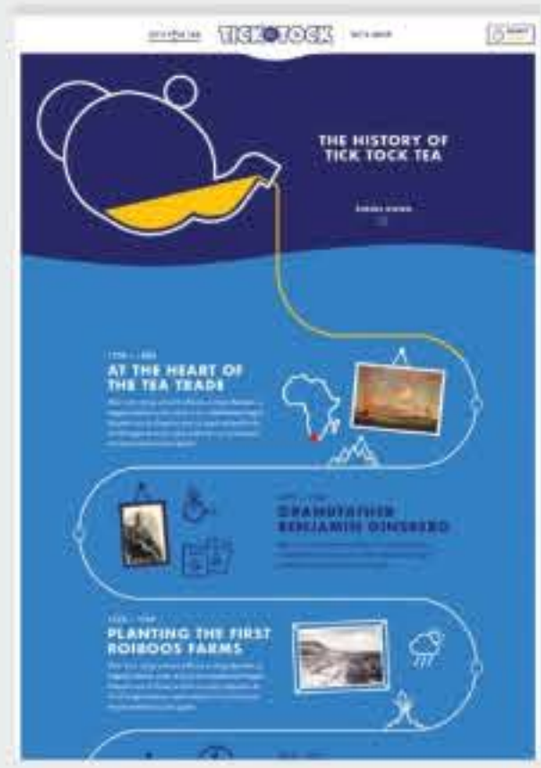
JUNE 2018
With the designs at a good stage, it starts on the development of the site, which opens up even more opportunities to bring the brand to life. One area where it experiments with a functionality that could only be achieved online is the Our Teas page scrolling effect.

JUNE 2018
Designs, draws and animates a library of over 40 bespoke icons to be used in various sections of the site to add personality and movement.

AUGUST 2018
Migrates the site to Shopify in order to start building the shop and blog sections of the site.

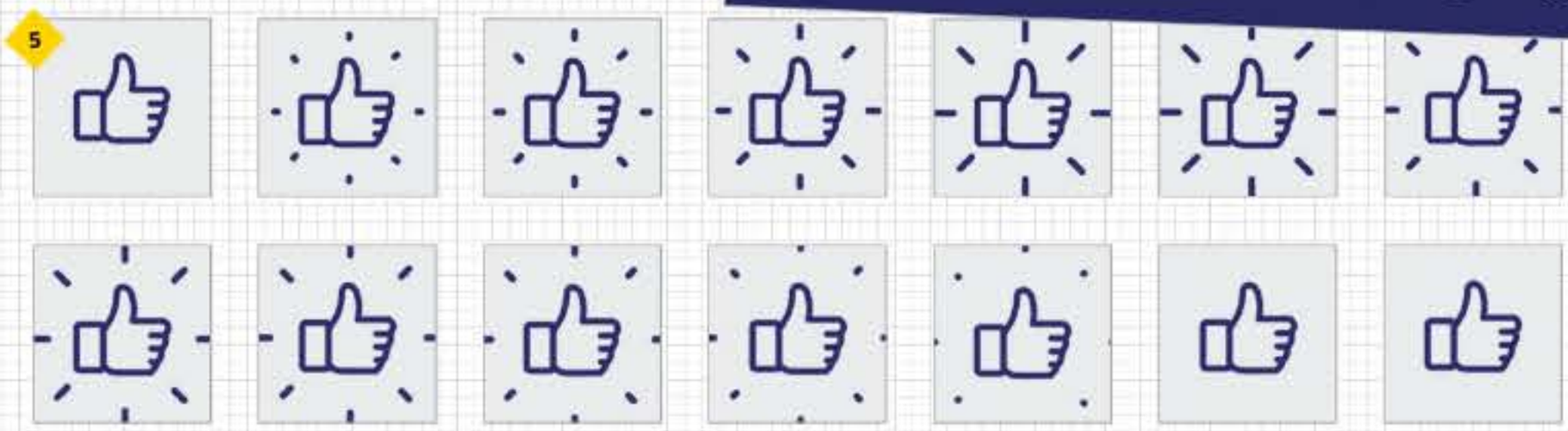
SEPTEMBER 2018
The website is pushed live.

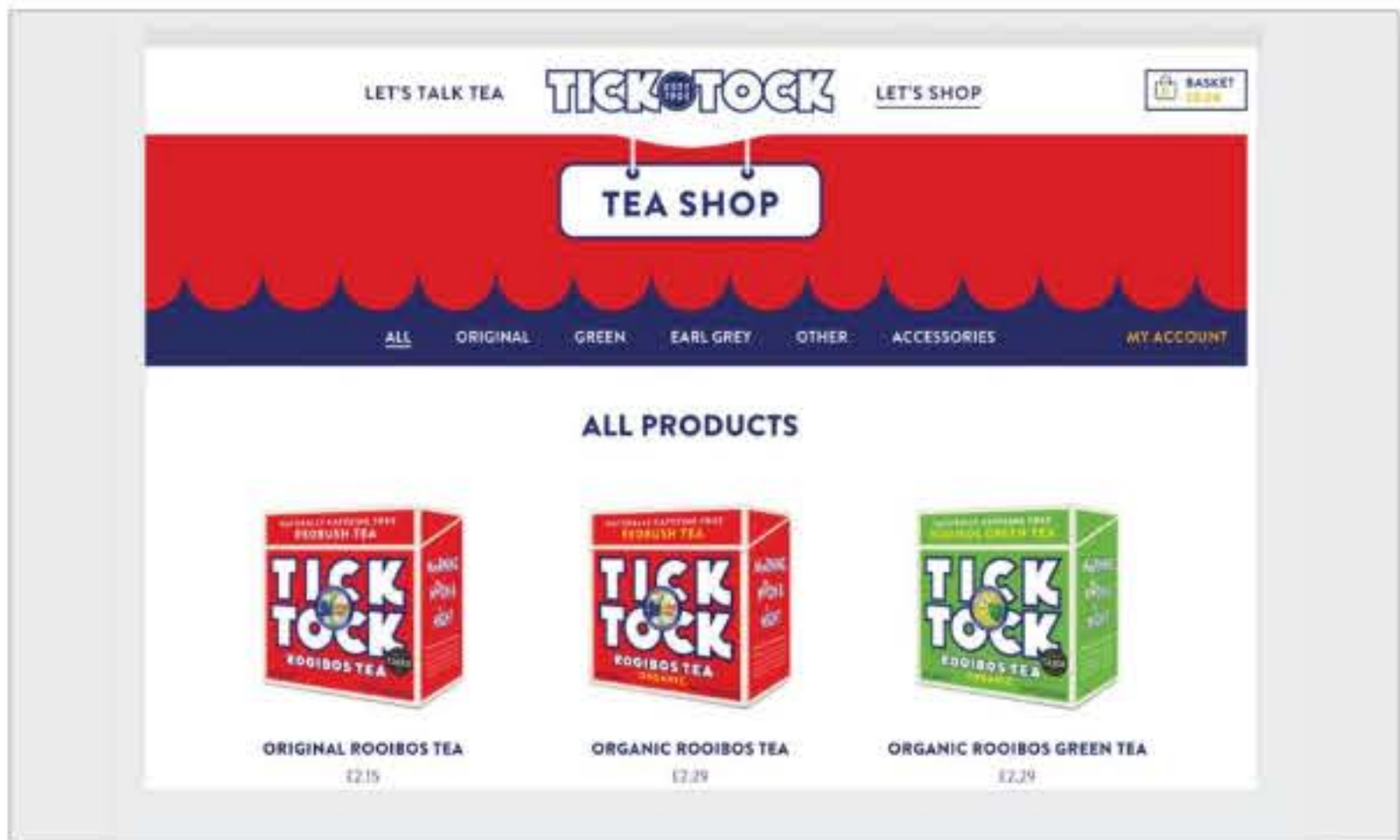




EVOLUTION

(1) The first instance of the bold coloured block design compared to the final outcome of the site. **(2)** Comparing the initial conception of the history timeline to the finished version. **(3)** There were a lot of design features that survived the process from initial design to final outcome, including the use of bold brand colours and products with shadows. This can be seen prominently on the Our Teas page. **(4)** Creating an icon library that fitted within the brand and worked well as a collection was vital. **(5)** When implementing the animated icons, ShopTalk London experimented with various techniques, ultimately deciding to use PNG sprites because they gave it the best balance of control and optimisation.





Top Tick Tock Tea's responsive web experience is just as alive on mobile and tablet as it is on desktop
Above The Tick Tock site pushed the Shopify platform to its limits, requiring the occasional concession

of developing techniques and sprite sequences to achieve this. Everything that moves on the site went through various iterations. We tried hover states with varying degrees of motion, interactive tiles against animated tiles but it was the iconography animation that was by far the greatest task – experimenting with different shapes, sizes and file types until we were happy. Ultimately, we settled on using PNG sprites of graphics created in After Effects to do this; for us this gave the best balance of control and optimisation.

All this being said, more important than any individual element was ensuring that everything worked together homogeneously, which was only achieved through experimentation.

The ecommerce element is naturally an important part of the site. How did you tackle that?
JW: The whole website is built on the Shopify platform to ensure that the ecommerce element is front and centre from a business point of view. This did present quite a few challenges on the creative side of things and in ensuring that we could tell the Tick Tock story as we wanted.

What technologies did you use to build the site?
PF: From the outset, our goal was to build our own custom theme from scratch while also trying to avoid installing any apps and plugins that would limit our control. To do this, we developed in Sass, jQuery and Shopify's template language Liquid, which is written in Ruby.

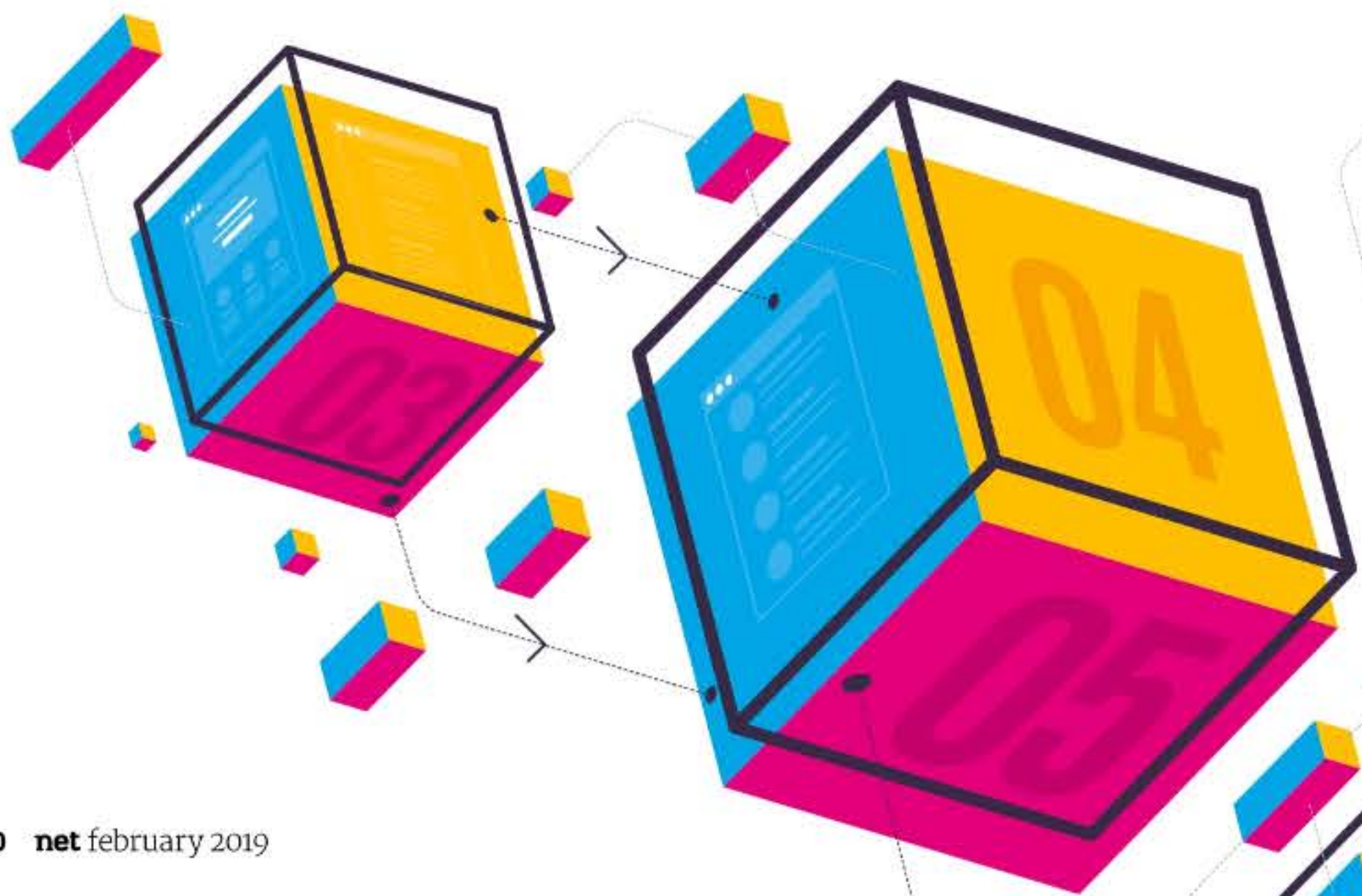
Talk us through your testing process.
JW: We decided to develop the first version of the theme as standalone HTML5 build, completely separate from Shopify. This helped save time during the early experimenting phase and also ensured we didn't disrupt the existing live website. Once initial testing was complete, we then converted the site code into Liquid and began populating the content.

Did you learn any useful lessons during this build?
NW: Although Shopify's ecommerce software is comprehensive and trusted, we discovered its CMS is still not as customisable as we would like it to be. The Tick Tock site pushed the platform to its limits and at times we were forced to make concessions due to its various constraints. For future ecommerce projects with complex front-ends, we may need to consider developing on a different platform.

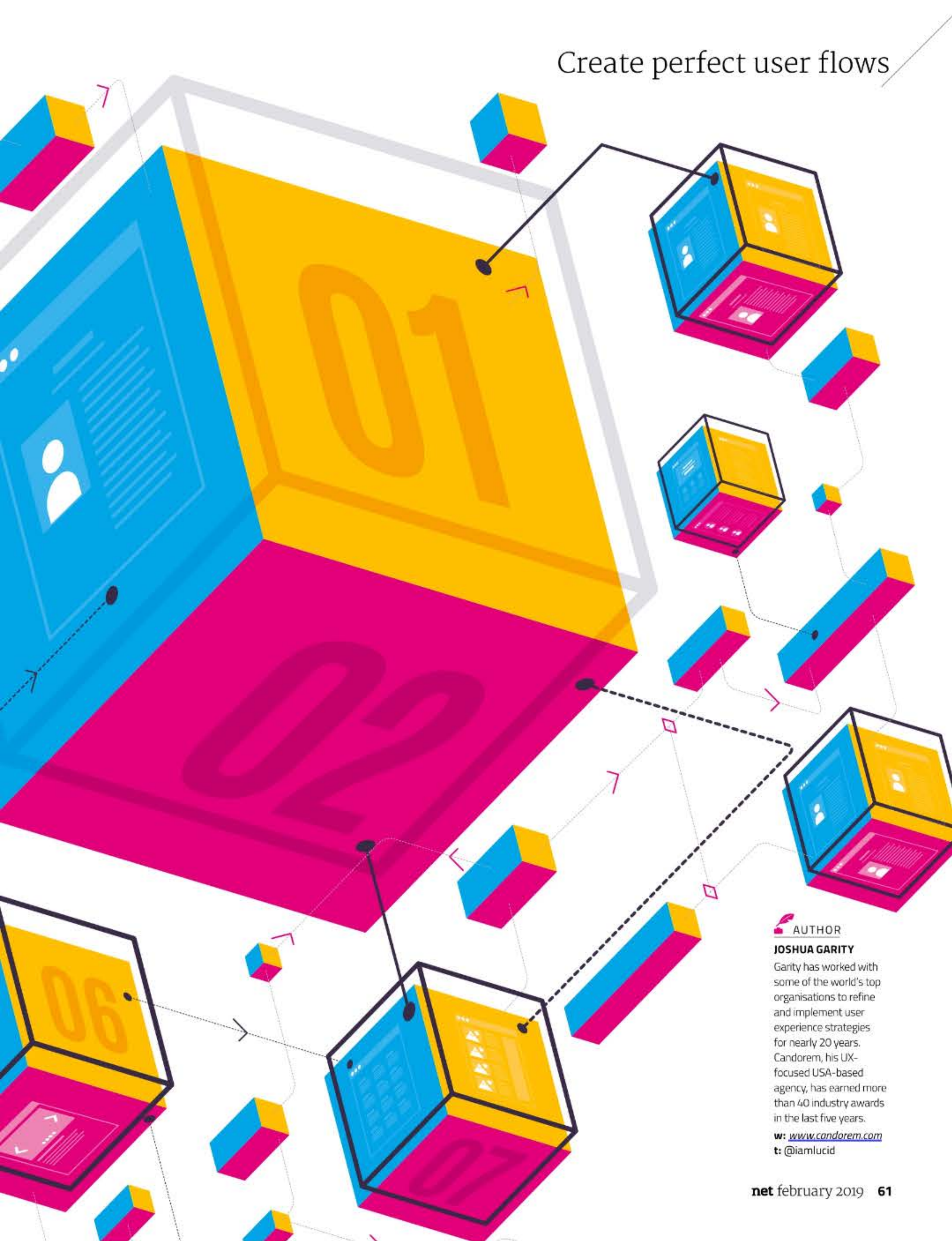
What sort of reactions have you had now that the site's live?
PF: We've had some wonderful reactions. Within only a week or two, we picked up an Honourable Mention in the Awwwards and we've received some great anecdotal feedback from our lovely Tick Tock clients, as well as other clients who've seen the work. We're looking forward to hearing whether there have been any changes in visitor data and ecommerce numbers in a few months' time.

>CREATE PERFECT USER FLOWS

Learn how to translate project goals into valuable user flows, wireframes and prototypes and launch successful websites with strategic user experience at their core



Create perfect user flows



AUTHOR

JOSHUA GARITY

Garity has worked with some of the world's top organisations to refine and implement user experience strategies for nearly 20 years. Candorem, his UX-focused USA-based agency, has earned more than 40 industry awards in the last five years.

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t: @iamlucid

What exactly is a user flow? Visually, it's a bit like a dance mat. Right foot here. Left foot over there. Now bring them together, turn and repeat. Without knowing how to dance you're still able to stand on this mat and move along with your feet stepping in the right places in the right order. A user flow is just that. A loose but coordinated dance with your website. It's important that you know where a user will step and in what order for that dance to go well.

Working through the expectations of users and crafting an overall positive user experience can be a complicated mixture of data points, use cases, wireframes and prototypes to connect the dots before the project is fully built out. With so many moving parts, it's easy to get tripped up or have a stakeholder misunderstand the vision.

Unlike a design showcasing what a user will interact with after development, the role of a user flow is to set the ground rules for what the subsequent wireframes and designs will represent. It's the strategy document to design how the user flows from point to point.

What you need for a user flow

Whether you work for an agency or directly with a client as a freelancer, you're probably no stranger to the confusion that comes with sharing early designs with a client. In your head, you understand the intricacies of how each block of content fits into the overall experience and it's glorious. Then you show someone else or, even worse, the client and they don't get it. They get hung up on the wrong details, often because they don't have the full vision in front of them yet. Which is where strategy documents that outline purpose – like a user flow – come in handy to keep things moving forward.

To do that, you'll need the following:

Business goals – Why do you want someone to visit your website? You can typically get these from your point of contact with a brief conversation. Are they launching a new service, product or trying to generate traffic for a specific area of the site? The more granular you can get the better. Goals lead to accountability from all sides and will benefit the users.

User goals – Why is someone actually visiting your website? Be hesitant to take these directly from the client unless they have done user testing or some kind of data-driven research to support it. Otherwise you'll end up with the same business goals with a different twist.

Entry points and user types – Based on the data, where are users landing right now? Do users typically land on a blog post? On a portfolio piece or a featured product? More importantly, how are they getting there? If organic traffic is driving mostly to the blog, those users may flow between secondary or tertiary pages differently than someone coming in from a referring website, social media or an email campaign. You may need to map them out differently to properly showcase the flow.

> "A user flow is the strategy document to design how the user flows from point to point"

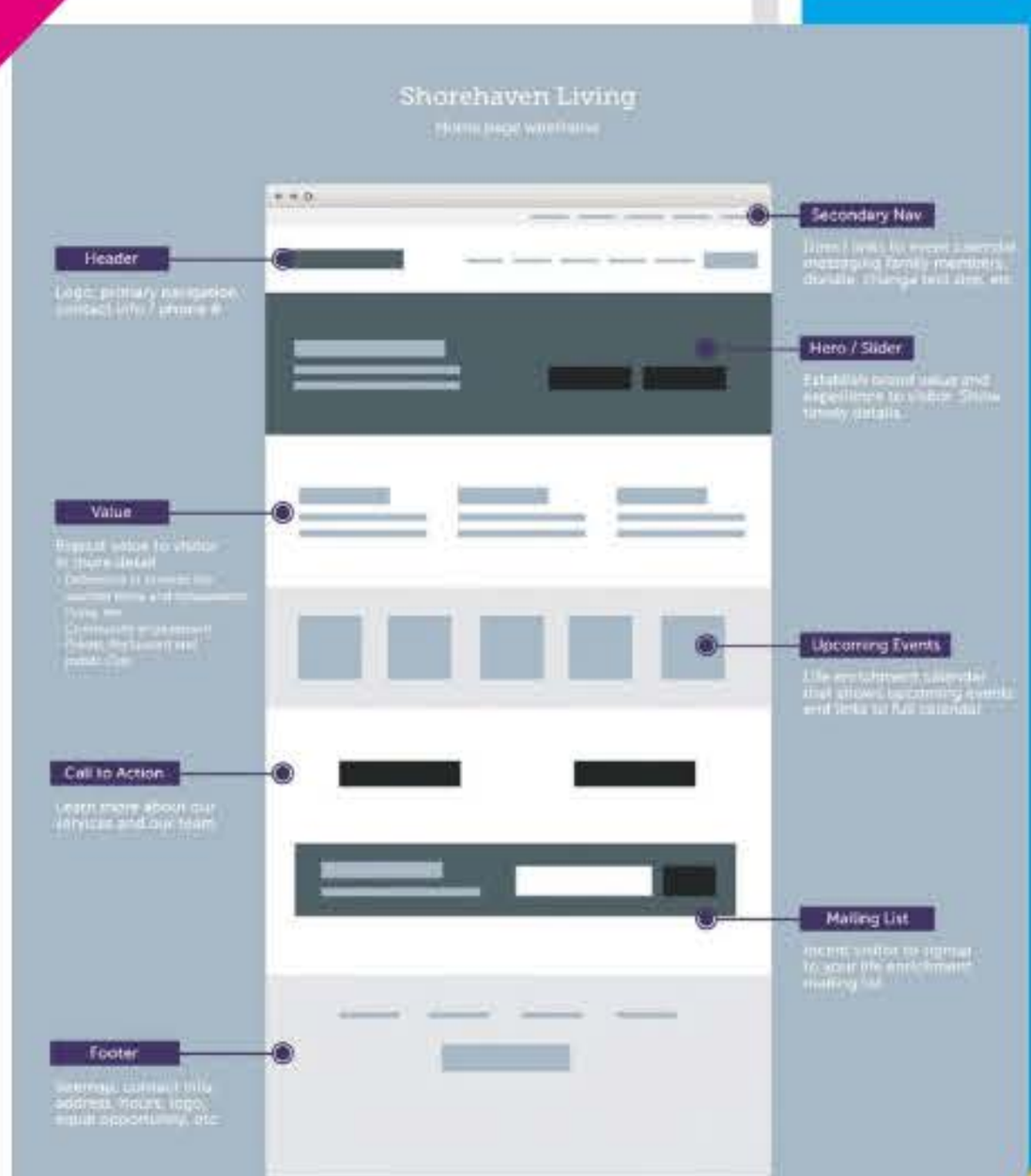
Yellow Brick Roads (YBRs) – What is the ideal path for users to travel between pages to meet both the business and user goals? To get them from the entry point to the results-driven destination? As users flow in non-linear ways, what are the edge cases that users may flow into? For example, if your YBR is a blog post landing page that clicks through to a service page and then the contact page, where might some users get lost? Do some users end up on the about page? Where do they go from there? Map out those edge cases and how they branch off from your ideal scenarios.

You can extract the last two points with Google Analytics and the User Explorer feature for individual user flow paths or the Users Flow section to see a 10,000 foot view of trending paths for all users on the site. Both are worth getting familiar with.

Think of the dance mat. Where do users place their feet first (landing page)? Where does each foot go next (page two, three, four, etc)? Show that in a flow chart for each user type or goal.

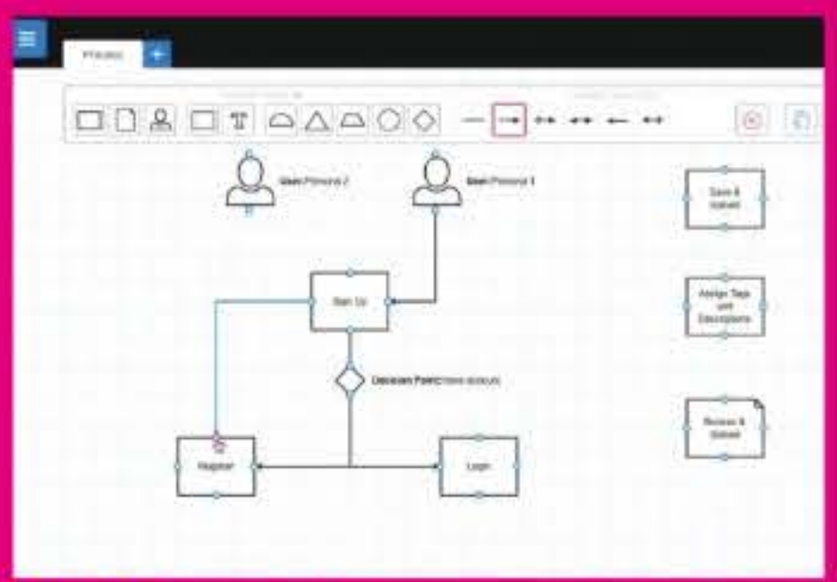
There are plenty of plugins, frameworks or software solutions that can be used to create diagrams. There are a few suggestions in the boxout of this article if you're interested but let's jump forward and look at what the deliverable should be in a user flow.

- Easily shared and printed. This may seem like a no-brainer but you'd be ▶



User flow resources

User flows are flowcharts with a UX spin on them. Map out the flow and don't worry about layouts or design at this stage. With that in mind, here's a list of popular services that people use for this specific need.



Slickplan *https://slickplan.com/diagram/maker-features*
Slickplan's diagram maker enables you to quickly jump in to building a simple visualisation with its drawing tools. Once a few pages – or shapes – are created you can click on an icon to connect each to generate the flowchart-like arrows. No more resizing or drawing custom elements! Focus on the flow. Great for low-fidelity user flows. Great for strategists to use.

FlowMapp *https://flowmapp.com/features/userflow/*
FlowMapp is a more visually appealing service that creates marketing-friendly flowcharts and offers more flexibility with aesthetic changes to match brand colours, customise element design or use the robust icon library to represent different actions a user may take. Designers may appreciate FlowMapp more because of this but, at its core, it's a flowchart tool that enables you to quickly connect objects.

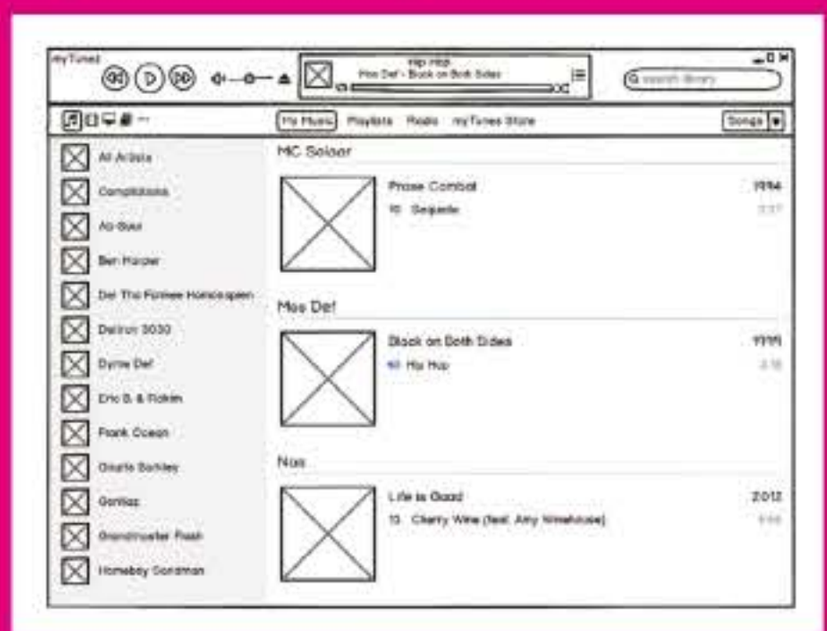
Top: Apply user flows to work out how navigation will work in apps, as well as websites

Above: A lo-fi wireframe is useful for getting a rough idea of how a page works

Wireframing resources

Depending on the fidelity of your wireframe designs – from minimalistic to almost-concepts – there are quite a few options out there for you. The list below focuses on low-fidelity wireframe creation only. If you're working on a project that requires more design polish or high-fidelity, skip to the prototyping resources in this article.

Wireframe.cc *https://wireframe.cc/*
Wireframe.cc offers a minimalist approach to wireframing. It's a quick, low-fidelity way to generate blueprint-like layouts to share with stakeholders. No images, fonts or colours to get in the way.



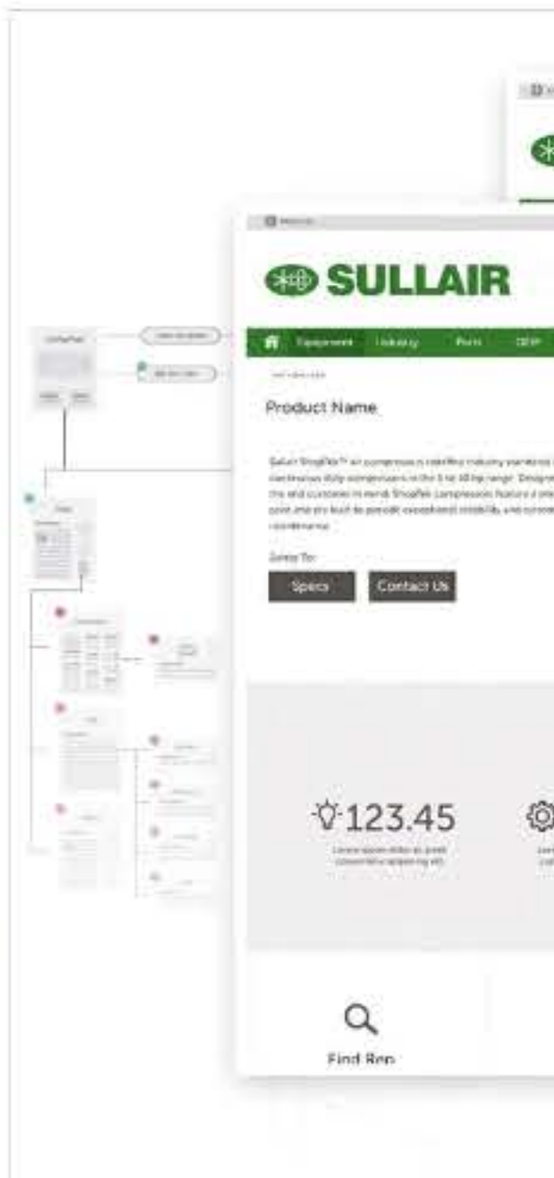
Balsamiq *https://balsamiq.com/*
Balsamiq has been around forever. It's a trusted resource for wireframing and has a more robust feature set in comparison to Wireframe.cc. There are 77 controls that can be used to represent different types of UI elements like charts, graphs, tooltips, tabs and even a map. It also has the option to switch from a clean wireframe line weight to a rougher pencil sketch-like line.

surprised how often people bring printouts for diagrams that are unreadable. If there are too many steps or too much text to fit clearly on an 8.5 x 11-inch printout, you're overcomplicating things.

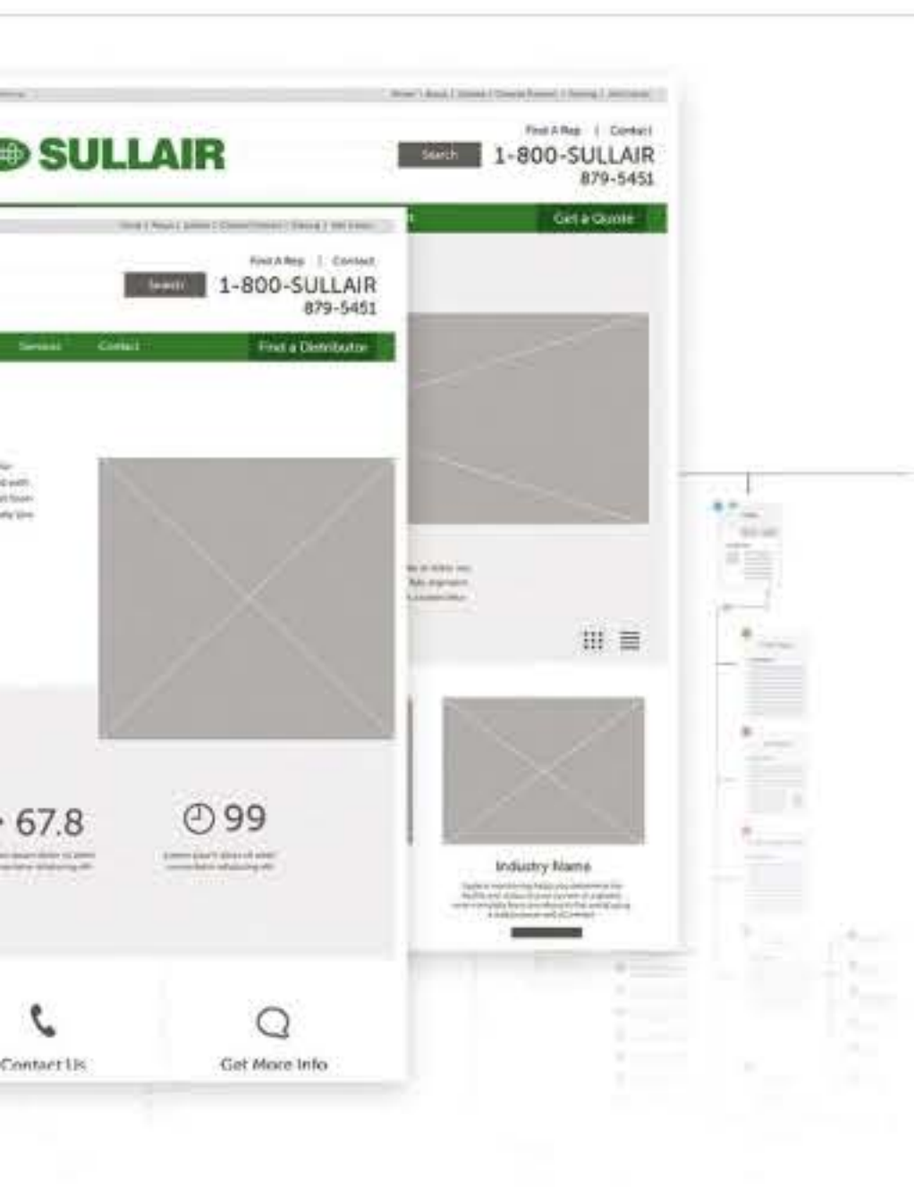
- Bridge the communication gap between clients, stakeholders, designers and developers. Flows show how a user will navigate and interact with the site jumping between pages. This is important to give a framework for everyone to unify their understanding moving forward.

- Showcase the path(s) toward each priority business and customer goal, common entry point pathways and a streamlined YBR pathway that offers up missed opportunities for key content. For clarity, this does not happen in a single flow. This will be multiple stand-alone flows.

With buy-in from stakeholders, you can take these user flow documents and use them to inform the designers creating wireframes to ensure they follow the core user experience strategies. They can be treated like a check list to validate the project is meeting the goals at each step.



> The user flow becomes an auditor to your work, the unbiased fact checker to your wireframes



Top: Map out edge cases and consider how they branch off from your ideal scenarios

Above: User flow documents can inform the creation of wireframes , as in this example for Sullair

Expand user flows into wireframes

Most of us have experience with wireframes in some form. Wireframes are used to represent the strategy behind a design layout. Sometimes they will be handed off to developers to begin building the bones of the infrastructure. They're the blueprint to the home. They help stakeholders understand the 'why' of the strategy without getting roped into details like fonts, colours or content.

Many times someone responsible for the user experience or design of a project will jump directly into the wireframe because they construct their own mental model of a user flow. The problem with that is they run the risk of internalising strategy, applying unforeseen bias, repurposing old ideas and may become a bottleneck between the design and the communication of the design. Clear communication is paramount.

User flows will help mitigate those risks because they pass down structured communication. It adds a layer of checkpoints.

There are various levels of visual fidelities when it comes to wireframing. Some prefer low-fidelity templated wireframes they can drop into place to represent the general information architecture of a given page. Others prefer high-fidelity wireframes that are very much designs but without the proper font, copy, colours and imagery in place. It's important to know your audience and what to use when. Realistically, if you are working from user flows you should move into a higher-fidelity wireframe that then grows into a prototype more easily.

It's a good idea to start on paper, whiteboard or some tablet sketching tool. This enables you to focus on the quick ideation of potential solutions to problem areas and keeping the user on the ideal pathway.

To get started, you will need a list of each page to design and build into the website: home, about, service listing, etc. That acts as your checklist to ensure you don't miss anything. Start with rough sketches for each of those based on the goals you've uncovered previously. Where does the navigation go? How are you going to convey the business goals on the home page? Are you following a 12-column grid for speed of understanding the structure with a certain demographic or is it a more progressive interactive site that can exude a bit more expressive freedom? This is where you determine the best way to achieve the goals and build on top of a strong base.

Once those rough sketches are complete, select one of your user flows. For example, if the ideal pathway is a blog post landing page that the user clicks through to a service page and then the contact page, test that out with your wireframes. Look at your blog post landing page: how would a user find the service page based on your structure? Is it clear? Is it truly a priority on that page's layout or is it just another link tucked away on the sidebar, footer or navigation?

The user flow becomes an auditor to your work, the unbiased fact checker to your wireframes. Even better, when you can show a client you've connected all of the dots they deemed a priority, they become very satisfied with the work at each step. It reminds them of why they hired you to do this in the first place. It's a relief and they will likely begin to settle into your full process.

If you don't show you've provided a solution for those goals or a way to alleviate the existing pain points, each phase of your project will rely heavily on trust. Even with the best of us, that can only take you so far until comments like 'why didn't we catch that?' sneak into your conversations. The later those pop up, the more expensive they are to fix. The more often they pop up, the more that trust erodes. That's why following a process like this and supporting decisions with data and focus is so crucial.

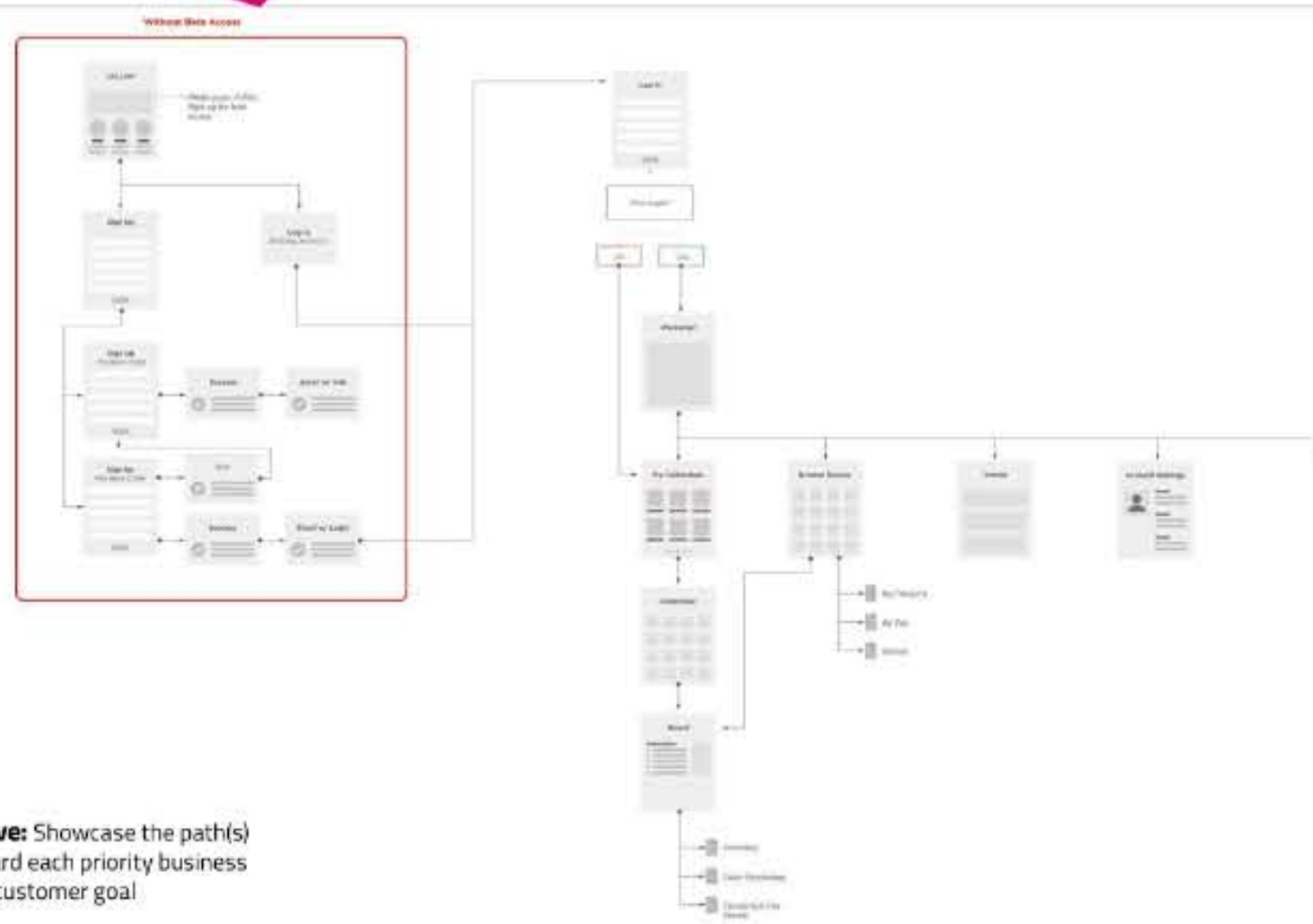
Interactive prototypes

Now you've validated the wireframe implementation with user flows, it's time to turn them into interactive prototypes. These are basically clickable static image files that enable you to jump to another image file to give the impression of navigating a website. Not only are these great for clients to experience, it's also very important to ensure your developers and designers are on the same page. That great layout idea may actually add 100 hours of development time and be out of scope. This kick-starts those conversations before time is wasted.

You or your design team may have a very clear vision for what this set of wireframes will evolve into in the weeks ahead. Maybe you're even taking the wireframes into a full design and prototyping that. That's not uncommon. But one problem persists. Those subtle hover states and microinteractions that support an intuitive user experience are hidden away inside of someone's mind. A stakeholder doesn't see that vision yet but prototypes can help.

Much like wireframing, prototypes can come in various fidelities. At Candorem we have used InVision for years because of the simplicity of creating sharable prototypes that focus on the user pathways between pages and key interactions or overlays. Drop in existing images and draw hot spots over links. Creating low-fidelity interactions then enables you to share a prototype within an hour, depending on complexity.

Others may suggest using Adobe XD, which is far more robust in showcasing interactive elements of a design beyond page transitions. It's like if you combined Adobe's Creative Suite with InVision as a single product. You could create your wireframes, full design concepts and prototypes in one fell swoop if you're organised enough. The important part is connecting the pages to craft an experience someone can click through and understand the vision.



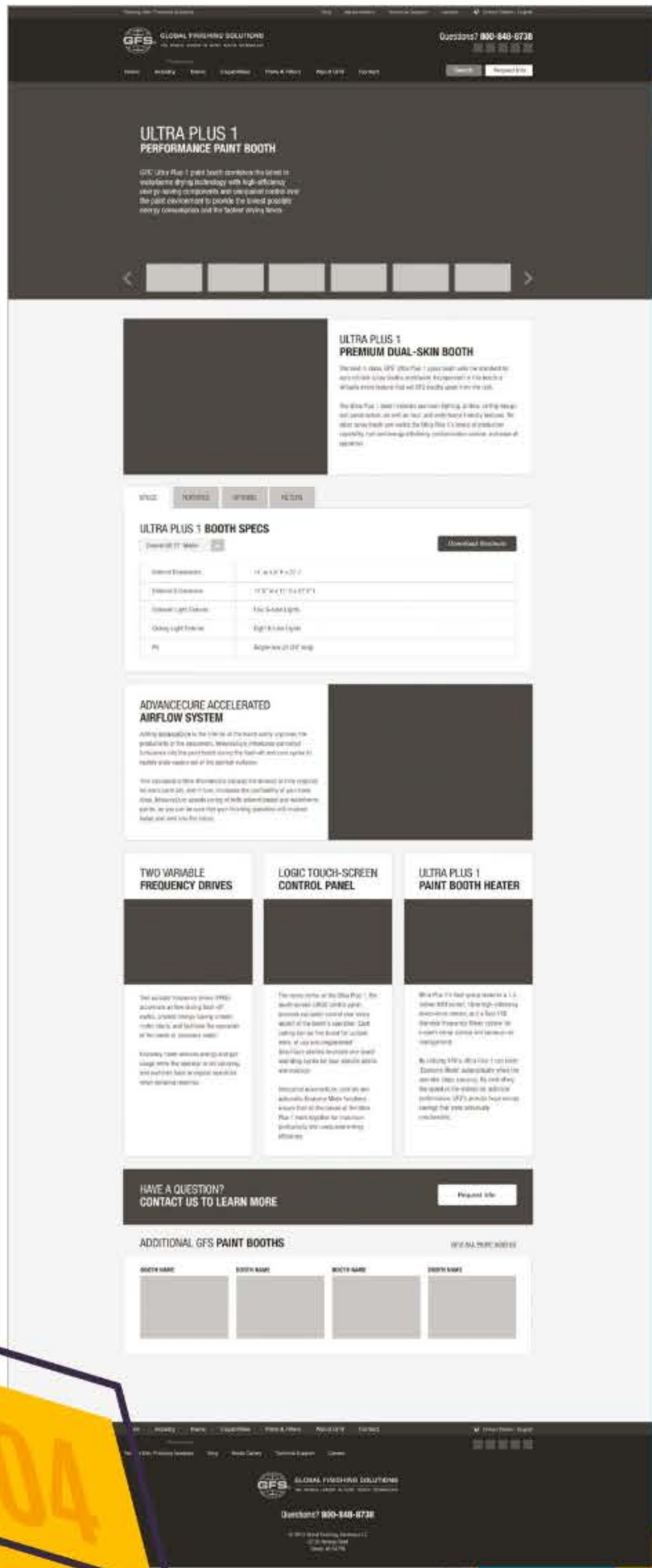
Above: Showcase the path(s) toward each priority business and customer goal

> "Communicate exactly what it is you're showing a client with the prototype"

Again, know your audience. Even with basic click-throughs in InVision, some clients confuse it with a built-out website. It's important to set expectations. Communicate exactly what it is you're showing a client with the prototype and, more importantly, what kind of feedback you are looking for at this stage. Are you looking for feedback on flow between those key pages in the user flow? Are you looking for feedback on the page transition animations in the prototype? The content that fits into the spaces and where it will come from? Communicate that. It will help you grow as a professional very quickly and the quality of your work will increase exponentially.

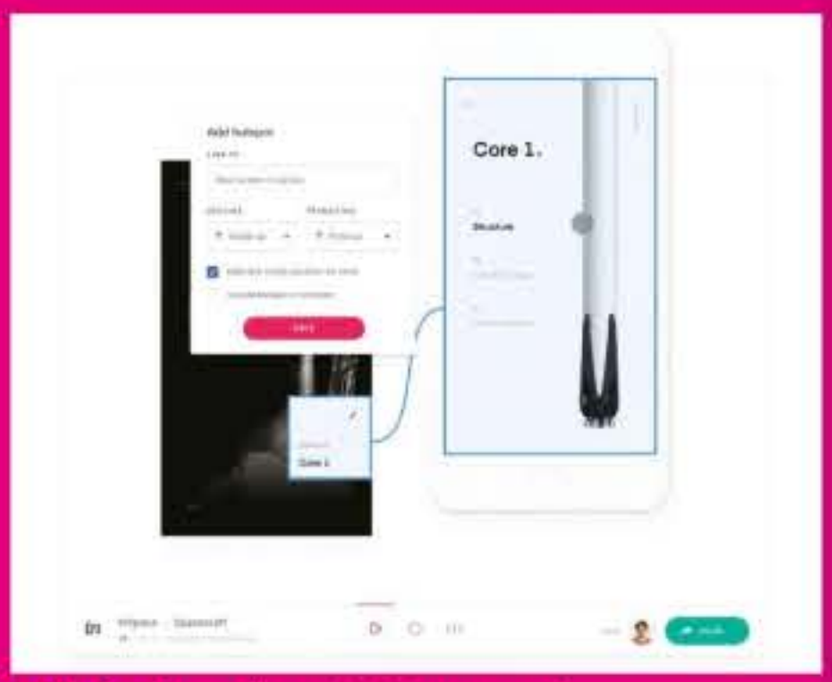
You can judge the success of this process by beginning the prototype review on a key landing page like the blog from earlier. Ask someone in the review from the stakeholder team to click through to a specific page on the prototype and see what paths they take. Even in edge cases where the user travels down another path, as users travel in non-linear fashion, they should be able to locate the key pages that reflect a business goal. Your work must be accountable to that.

Your ability to showcase the critical thinking and implementation behind key decisions, as well as how you or your team have adapted your goals into an intuitive experience, is crucial. That's what enables you to reframe perspectives, move away from short-term trends and obtain support from the otherwise loudest people in the room. Strategy at every step.



Prototyping resources

Prototyping should be your best friend. It enables you to share the vision of how users interact with your project in a very quick way without investing any development time to build out. It also means stakeholders can explore a project and understand the flow between pages or interaction with elements.



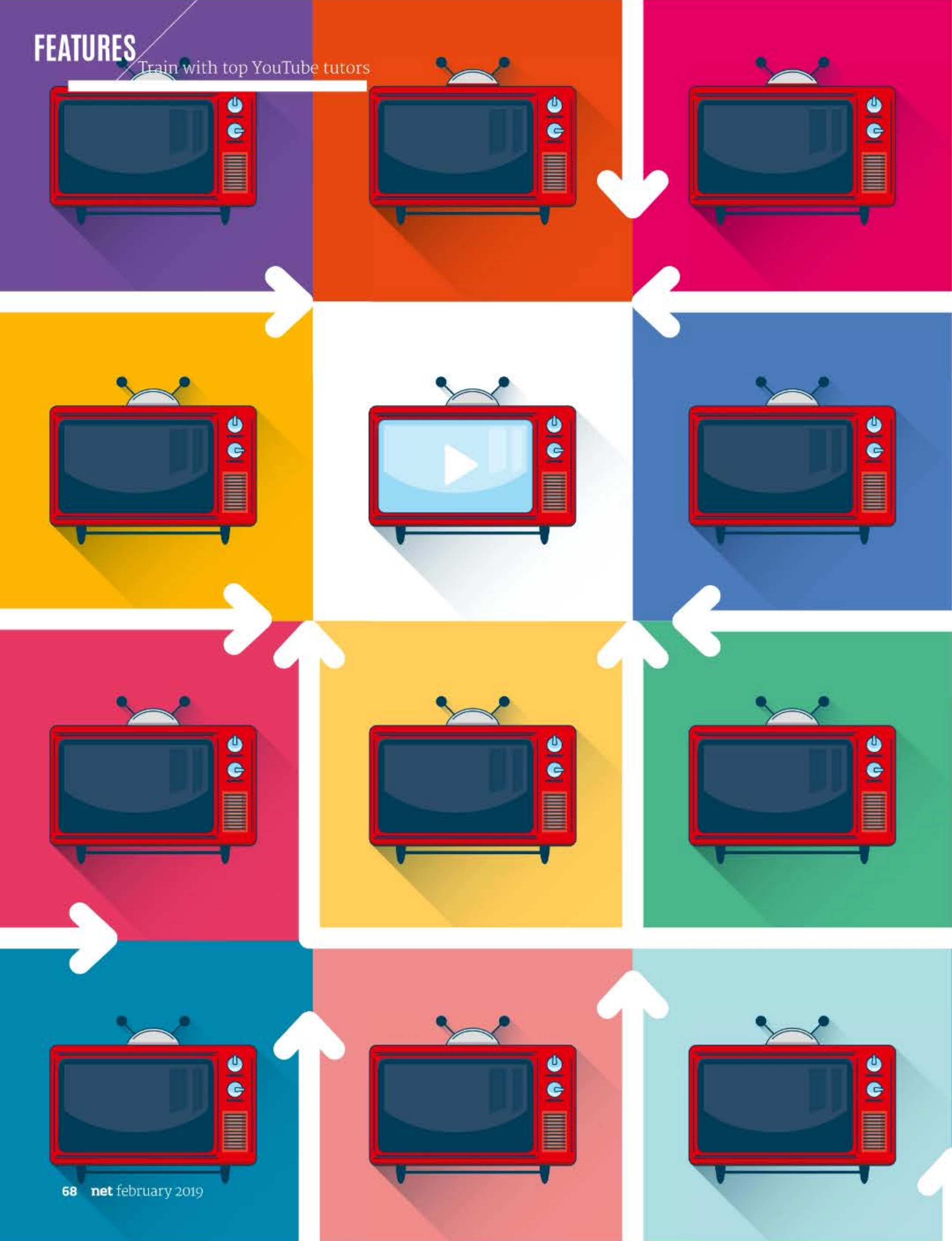
InVision *https://www.invisionapp.com/*

InVision is a go-to tool at Candorem. We've used it to sync up to our Dropbox project folders to auto-update wireframes and designs automatically, which saves a ton of time. You're able to drop in static images for desktop, various tablets or mobile devices and wrap the image in a device frame to give the impression it's on a phone, for example. Create clickable hotspots that trigger overlays, link to other screens, scroll to a new position on the screen and animate between each smoothly.

Adobe XD *https://www.adobe.com/products/xd.html*

Adobe XD has garnered a lot of attention in the last year. Because it's part of the Adobe Creative family, it's a natural extension to a majority of workflows in the industry. You can design high-fidelity prototypes or even full designs and add a layer of interaction on top. Like InVision, creating clickable hotspots that trigger movement, interaction or transitions to other pages in your project makes this a great resource for sharing experiences with stakeholders to get approval.

Left: Bring out the hi-fidelity wireframes when you want to drill down into content in detail



TRAIN WITH TOP YOUTUBE TUTORS

Discover the channels, brands and designers offering the best online lessons and tutorials

Web designers and developers are on a constant journey of discovery. Whatever framework, tool or technology is used, you can guarantee there will be a new version or update in the pipeline. Or there might be an alternative on the market being adopted by the creative masses that will improve your job prospects if you can add it to your CV. Perhaps you have always wanted to improve your illustration skills so you can finally finish the personal project that has been sitting on your desktop for the last two years. Whatever the reason, there is no better way than to learn from those in the know.

For instant access to some top-class training, YouTube is the perfect platform. First up it's free (most of the time) and the best channels engage with you and make you want to learn. They leave you wanting more.

In this article, we've put together a host of the best design and development channels that offer something for everyone. Want to learn React, JavaScript, Illustrator, UX and more? Of course you do and this carefully curated collection will help take you where you want to go.

AUTHOR

STEVEN JENKINS

Jenkins is long-time editor of Web Designer magazine with a love of HTML, CSS and design. Currently submerging himself in the world of infographics.

Design

Feast your eyes and ears on some serious illustration, UI/UX design, CSS Grid learning and career advice

DesignCourse

https://bit.ly/1R1pFml

This channel is run by a chap called Gary who has worked for some of the big names in video learning including Pluralsight, LinkedIn Learning and Lynda.com. He teaches full-stack development, which in this case means you get a mix of design and development tutorials including UI/UX, front-end dev, back-end dev and graphic design. With new videos coming weekly, it's always worth checking out what's new. And if the latest addition isn't for you, you can always dive into the channel's extensive back catalogue.

Gigantic

https://bit.ly/2QF2GWb

If flat-design illustration and 2D animation is on your learning radar then this channel has plenty to offer. There are lots of tutorials that demonstrate how to create/illustrate cartoon characters that look amazing. Beyond character design there are videos on logo design and After Effects, along with helpful and useful advice – check out the video 'Overcoming Creative Blocks'. There's a ridiculous number of high-quality videos on offer and if you like what you see make sure you check out the Gigantic store (*https://gigantic.store*).

DevTips

https://bit.ly/1MEXtQh

You may be wondering what a dev channel is doing in the design section. Well, the reason is that this channel offers dev tips for designers. If you've always been too scared to jump into the world of JavaScript, you should start here. Once the hosts David and MPJ have you hooked, you can go back every week and get something new. There is plenty of variety and levels: you could learn how to get started with Adobe, try some React prototyping and discover animation with CSS. If you are a designer, give it a go.

Layout Land

https://bit.ly/2EfMVzb

This channel is run by Mozilla designer and developer advocate Jen Simmons. You may already be aware of her and if you know who she is or have heard her speak you will know how good she is. If you haven't, now is the time to find out who she is. There is plenty on offer here for those looking to get to grips with layouts and CSS Grid. Looking past Grid, there are videos on cool new CSS properties you really need to know about. Make sure you subscribe.

Mike Locke

https://bit.ly/2KZekpD

Locke is a passionate and enthusiastic presenter who is a senior UI/UX designer with a wide skill set. He knows all about visual UI design, user experience, usability, interaction design, information architecture, research and analytics, XHTML/CSS and strategy and planning. His channel is very much a reflection of what he knows. Locke concentrates on UI/UX design and offers plenty of sensible and reasoned thoughts and advice. Plus, if you need career advice make sure you take a look.

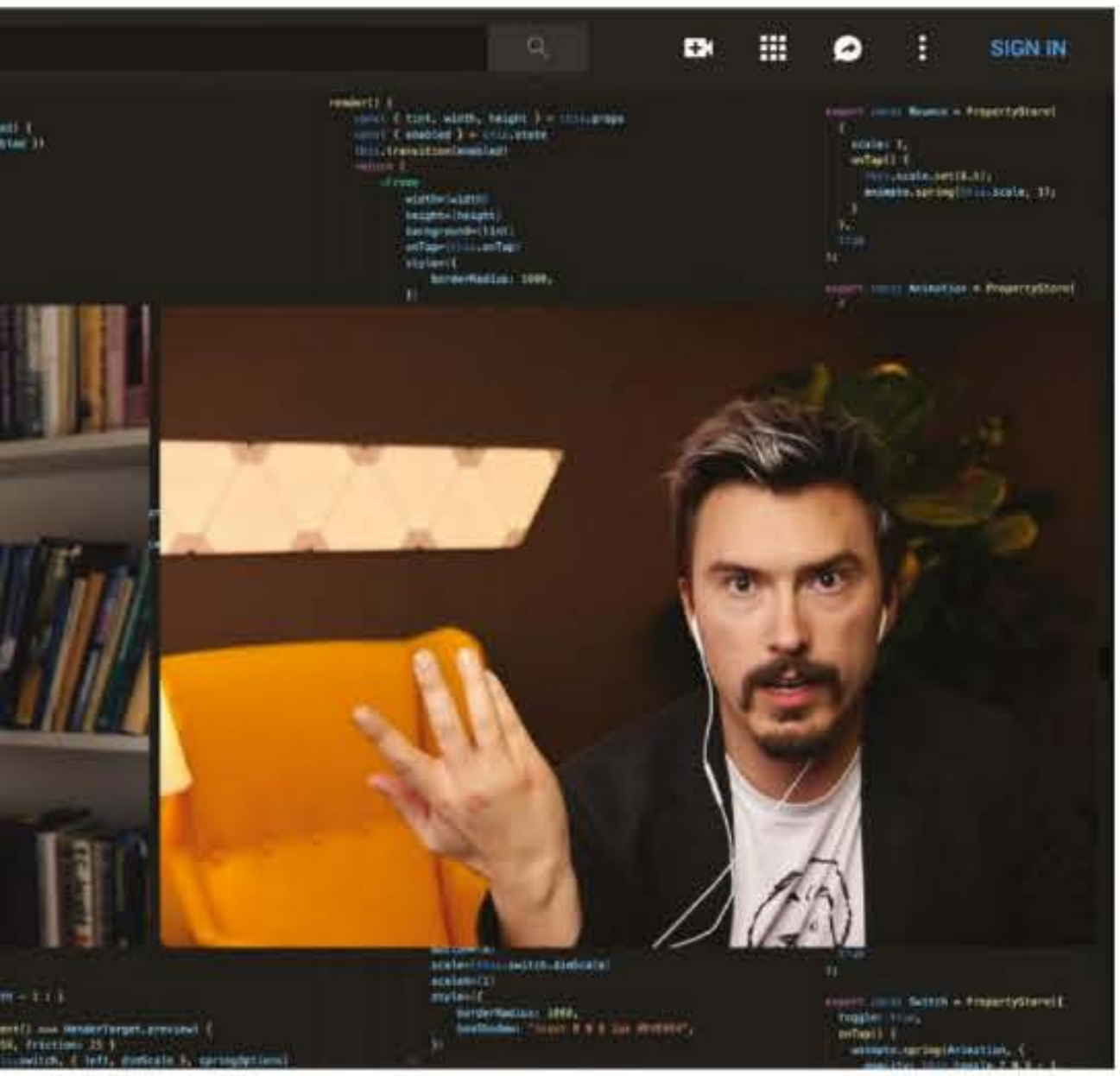
Mozilla Hacks

www.youtube.com/user/mozhacks

This channel comes from the good people at Mozilla and delves into the many areas of the web the company is involved in. You can take a look at the talks from Mozilla's own View Source conference, which again covers a wide cross section of web design and development. Elsewhere you can look at layouts and Grid. Mozilla is heavily

Middle Gigantic brings together flat design, illustration and 2D animation learning

Above Check out Sketch Together, a channel dedicated to all things user experience and user interface design



Top Get to grips with layouts and Grid, the tools in Firefox and AR/VR/MR thanks to the good people at Mozilla

Left If you want to know about CSS Grid then make sure you subscribe to Layout Land

Left Get started with Adobe, React prototyping and discover animation with CSS with DevTips for designers

involved in AR/VR/MR, so find out what it's doing here and learn about the tools it is bringing to the table.

InVision

https://bit.ly/2QFUW68

There's a good chance you know of prototyping experts InVision and this is the company's official channel. So what's it got to offer? As you might expect there are InVision Studio tips, InVision tutorials and training and Sketch tips and tutorials. Plus, you can find over 60 design talks from InVision users that cover user research, ethics, how to be a UX consultant, design sprints, feedback and much more.

Sketch Together

https://bit.ly/2RDXJdF

Sketch Together is a channel dedicated to all user experience and user interface design. Need to learn Sketch quickly? Then check out the Sketch App Crash Course. Ever heard of the interactive design tool Framer? Check out the Framer Crash Course to get up to speed. Elsewhere, get design opinions, their late night design show and live streams and sessions.

Flux

https://bit.ly/2UmWEs8

There is nothing like learning from someone who has already been there and done it. Their experiences can help you avoid falling into the common traps and this is what Flux is about. The channel is the personal vlog of designer and entrepreneur Ran Segall and he reveals the lessons he has learnt while building his career as a designer. He provides design case studies, as well as showing how to start freelancing, build a design portfolio, work with budgets and clients and plenty more besides.

Zimri Mayfield

https://bit.ly/2E1arim

With his channel, Mayfield brings you a wide variety of Adobe Illustrator tutorials, graphic design inspiration and a whole host of creative projects to follow. His flamboyant personality and natural presentation will keep you engaged and – of course – learning.

> "There is nothing like learning from someone who has been there and done it"

Left Keen to learn Vue, React, GraphQL, Gatsby, Apollo, Redux and Sketch? LevelUp Tuts is a great place to start

Development

Get to grips with JavaScript, Node.js, React and much more with this collection of top teaching channels

LevelUp Tuts

https://bit.ly/2BTCG0V

The mission of this channel is to help you become a better web developer. It has a comprehensive collection of videos – over 800 – with new ones added regularly. So what languages and technologies are making the grade? If you're keen to learn Vue and React then there is plenty populating the playlists. GraphQL, Gatsby, Apollo and Redux are all getting their own space. But the channel is not too dev heavy. It also includes HTML5 videos, Drupal, CSS, Sass, Sketch and WordPress among many. Check out the store to get yourself a neat geek t-shirt.

Google Chrome Developers

https://bit.ly/28PpwDs

Every designer and developer knows who the Big G is and unsurprisingly it has a lot to offer. Google's reach on the web is pretty wide and this is reflected in what the channel brings to the table. Progressive web apps, Chrome DevTools, UX design, Polymer, speed and performance are all in there. Google is not shy and retiring when it comes to shows, conferences and talks and these are all sitting among the more practical videos. The company runs its own developer shows where you can get the lowdown on all the latest developments and news. This is channel is a must for any developer.

Ihatetomatoes

https://bit.ly/2zJw8R8

Ihatetomatoes is all about the front-end and is brought to you by the enthusiastic and knowledgeable Petr Tichy. There are HTML and CSS videos but the bigger focus in on animation, with a playlist dedicated to GreenSock, along with parallax scrolling, ScrollMagic and skrollr. However, there's still enough morsels for back-end devs: a lot of the recent additions have been aimed at React, with additional Angular, VS Code and webpack videos completing the dev collection. One other playlist that's well worth a look is Website Deconstructions. Here Tichy takes a closer look at a specific design element and then works out how it is constructed.

The Net Ninja

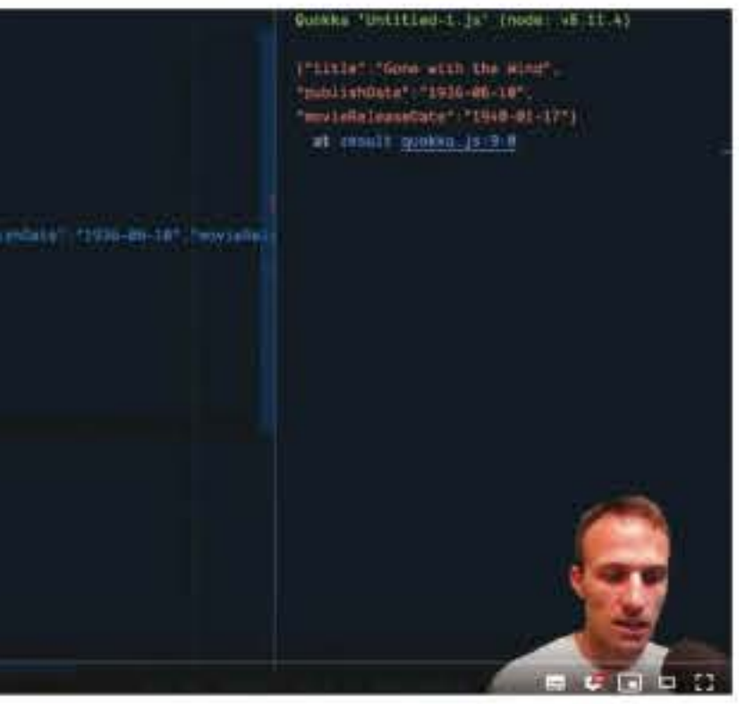
https://bit.ly/2UlYQ3i

If you are looking to get a black belt in web development then this video dojo is a great place to learn. Regular (almost daily) updates are the order of the day. Typically, new videos come in series, meaning viewers get a complete course. So what courses are on offer? Vuetify, Vue CLI, D3, React, Redux, Firebase, Materialize, Firestore, object-oriented JavaScript, CSS variables and Django are the latest additions. Keeping this comprehensive channel company are playlists that take a closer look at WebSockets, Angular, Sass, Git and GitHub, Bootstrap, Node.js and much, much more.

Kent C Dodds

https://bit.ly/2Efj7ml

Dodds is a man who likes to talk about JavaScript and other web issues. He posts on a weekly basis and covers a wide spectrum of JS-related content. With over 300 videos to choose from there is pretty much something for everyone. He presents in an easy to follow manner with the screen typically dedicated to live code. Recent additions



Left Dodds likes to talk JavaScript and other web-related topics and has over 300 videos to view

Right Codedamn has a huge library of videos aimed at JavaScript, Angular 6, Babel, React Native, Vue.js and much more

Below JSConf is a series of JavaScript conferences from around the world. It releases many of its conference talks for free after events

> You can get the lowdown on all the latest developments and news

take a look at React but there is also content on how to improve a11y and usability, effective unit testing, designing an API for extensibility and installing Gatsby. To help work through the videos there are some useful playlists.

JSConf

https://bit.ly/1DmScfm

JSConf is a series of JavaScript conferences from around the world and the channel releases many of its conference talks for free after every event it holds. JavaScript is the common denominator here but it's not solely dedicated to the subject. Recent additions to the channel include SPA at Scale, Lessons in WebAssembly, Augmenting the Internet with Browser Extensions and RxJS: A Better Way To Write Front-end Applications. If you like to do your learning via talks there's plenty of current content to enjoy.

Zac Gordon

https://bit.ly/2E1EXZE

This channel is centred around JavaScript and how it is used in WordPress. There's a wide variety of topics covered within the scope of the subject. For example, a comprehensive selection of videos demonstrates how to use the Atom editor. Meanwhile, the Learning JavaScript course is broken down into all the essential components that a user needs to get up to speed with JS – one example being Statements, Expressions and Keywords in JavaScript. Plus there's also a host of talks from the 2018 JavaScript for WordPress Conference, a look at WordPress's Gutenberg and various case studies on WP API and JS.

Codedamn

https://bit.ly/2Eg03Ew

Started back in 2015, this channel offers a huge library of videos across a range of JavaScript-related content. New videos are added every week and are typically part of a specific course. While each course is easy to find thanks to branded start screens, they are also all neatly packaged into playlists for quick access. So what's on offer? There are basic JavaScript tutorials, plus tutorials on Angular 6 (and other versions), Babel, React Native, Vue.js, Ionic, ReactJS, TypeScript, MongoDB, Node.js, Bootstrap, PHP, Chrome extension and RequireJS to name a few. It even has over 30 jQuery tutorials if that's your bag.

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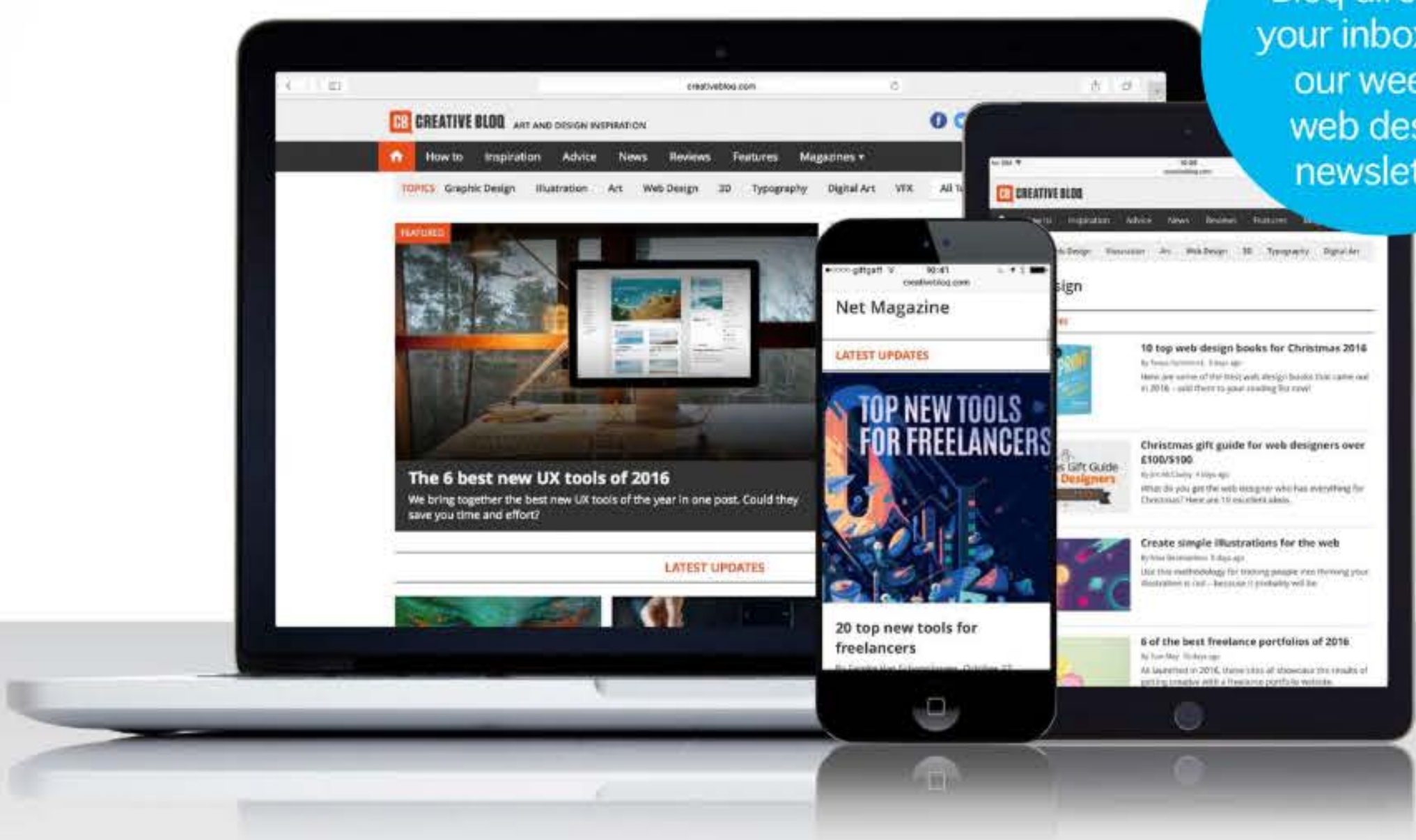

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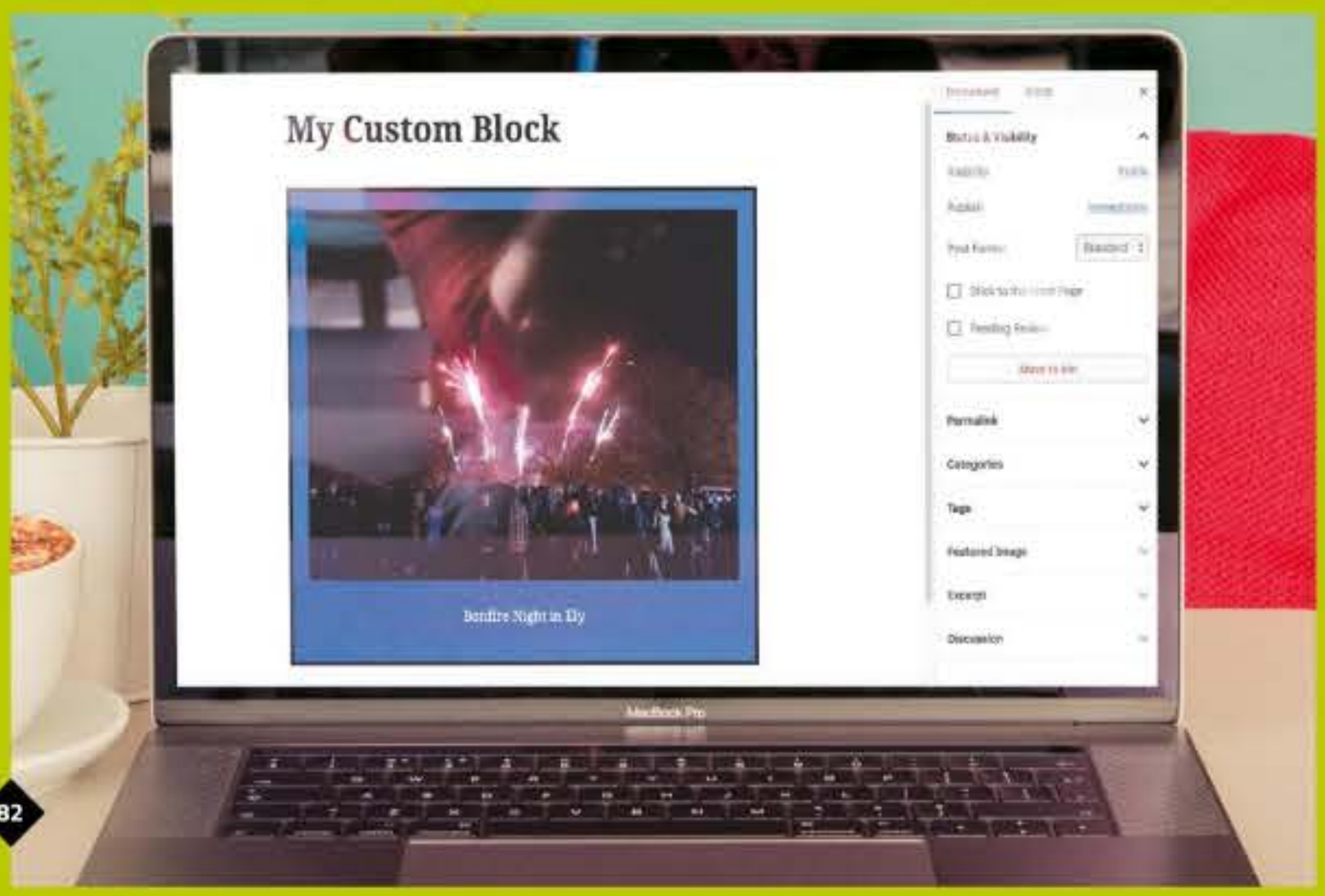

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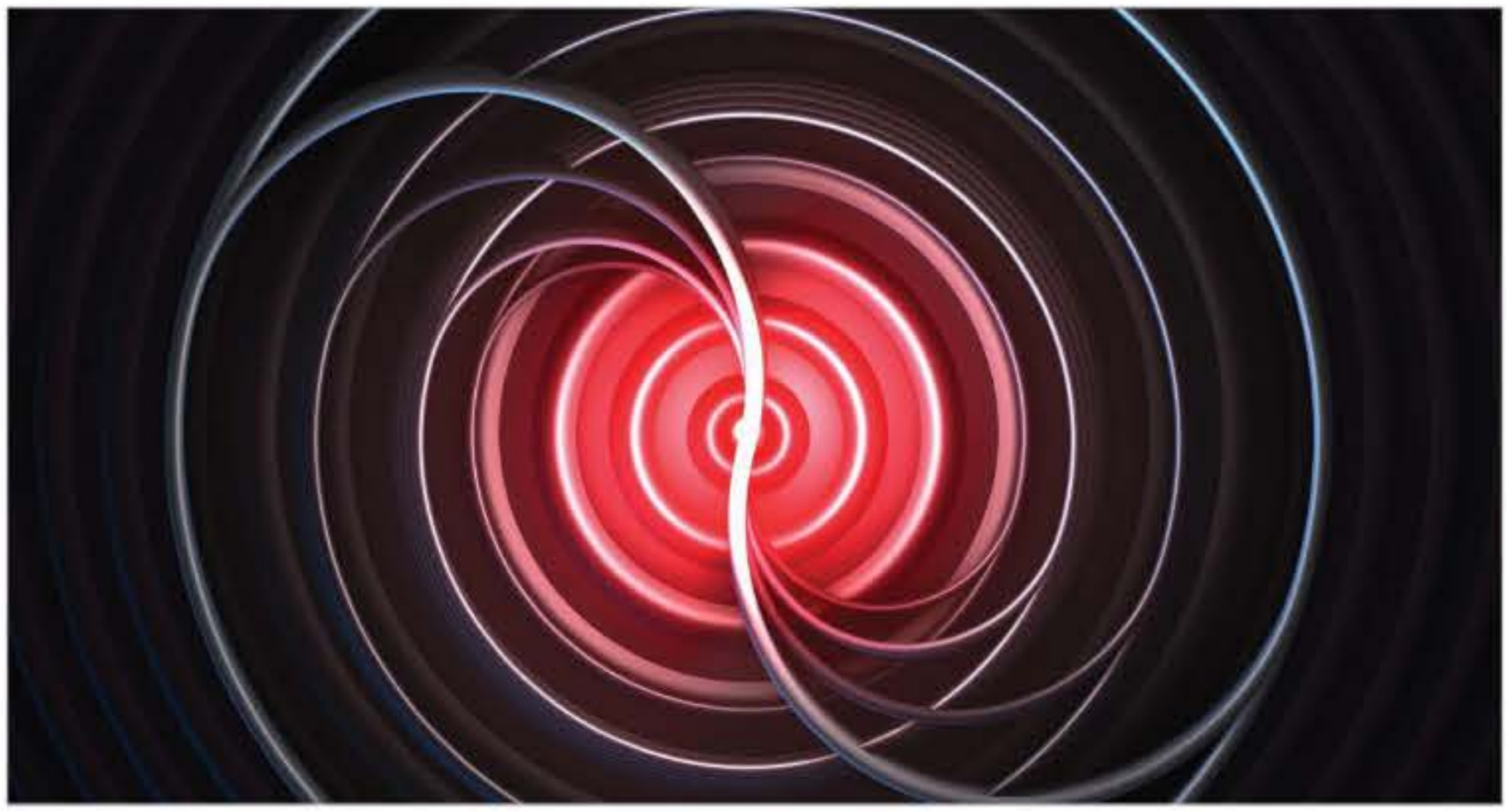


* NLP

UNDERSTAND NATURAL LANGUAGE PROCESSING

Richard Mattka introduces you to the powerful field of artificial intelligence, focusing on Google's natural language processing (NLP) API and how you can use it for your next project

Web sites and apps can have various moving parts including front-end creative, server-side processing, APIs and data storage. AI can plug in any of these components. On the front-end, you can connect voice commands, chatbot interfaces or reactive WebGL creative elements. On the back-end, databases use intelligent algorithms to maximise speed and analysis. APIs can provide a layer of abstraction from a wide range of AI functions, from predictions to collective training.

NATURAL LANGUAGE

Natural language processing (NLP) focuses on the interactions between machines and human languages. It is the objective of NLP to process and analyse vast amounts of language data to improve natural communication between humans and machines. This field of AI includes speech recognition, understanding language and generating natural language. Our focus will be on understanding natural language, the process of analysing and determining the meaning or intent of a text.

There are several concepts common to NLP:

- **Detecting language** – Understanding which language is being used in the text is fundamental to knowing which dictionaries, syntax and grammar rules to use in analysis.
- **Entity extraction** – Identifying the key words in phrases, how relevant or salient they are to the overall text and determining what the entities are based on training or knowledge bases.
- **Sentiment analysis** – Assessing the general level of 'feeling' in a text. Is it generally positive or

negative? Also, sentiment related to each entity. Does the statement reflect positive feelings or negative ones about the 'subject'?

- **Syntactic analysis** – Understanding the structure of the text. Identify attributes such as sentences, parts of speech (e.g. noun, verb), voice, gender, mood and tense.
- **Content classification or categorisation** – Organising content of the text into common categories to more efficiently process them. For example, New York, London, Paris are all 'locations' or 'cities'.

There are numerous technical approaches to parsing and processing the data. Regardless of which NLP tool you use, you will have to tackle the common steps of parsing and analysis. Typically text is separated into logical chunks. These chunks are analysed against trained data or knowledge bases and assigned values, usually ranging from 0.0 to 1.0 to reflect the level of confidence in the analysis.

GOOGLE'S NATURAL LANGUAGE API

We'll be using the new Natural Language API developed by Google for this tutorial. There are numerous APIs available but Google's has some nice advantages, including cloud computing, speed, an incredibly large user base and machine learning. Google's search engines and tools have been using AI for years. So you're harnessing all that experience and learning by using its public-facing services.

APIs incorporate easily into any project. This saves a lot of time versus hand-coding your own NLP. Its abstracted Restful API enables you to integrate with almost any language you wish through common cURL calls or one of the numerous SDKs available. There are a few tricks to getting set up but we'll work through it one step at a time.

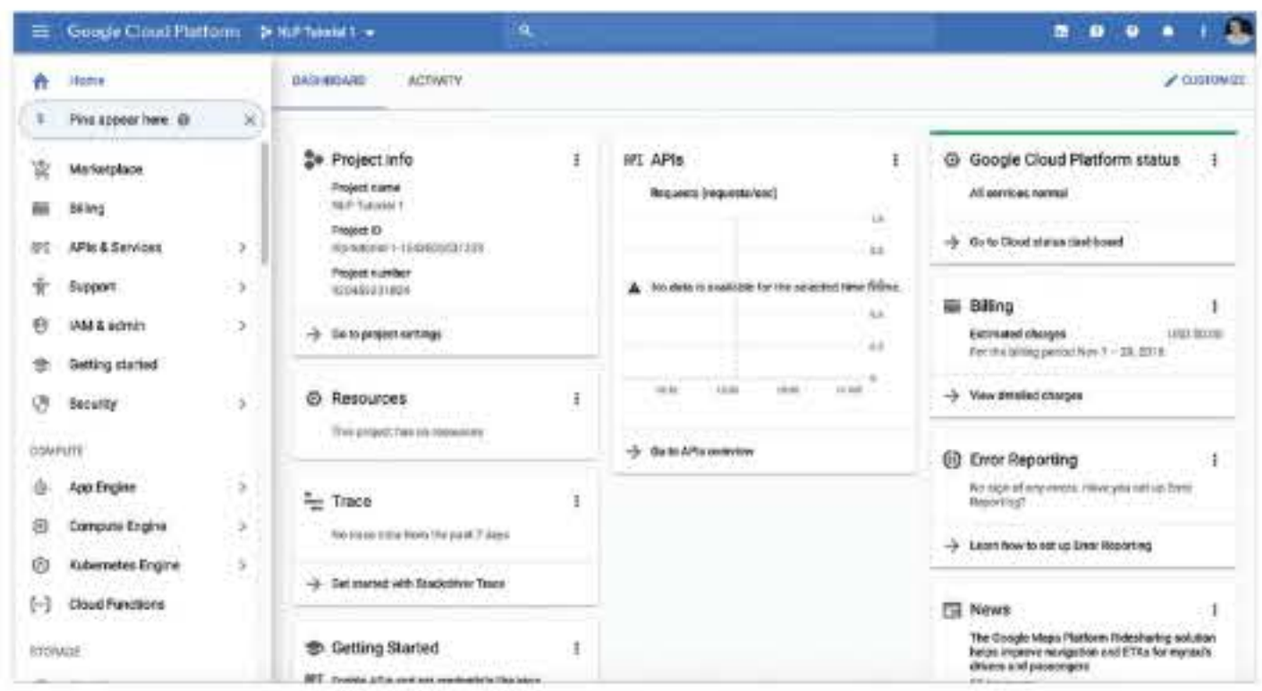
STEP 1 – GOOGLE CLOUD PROJECT

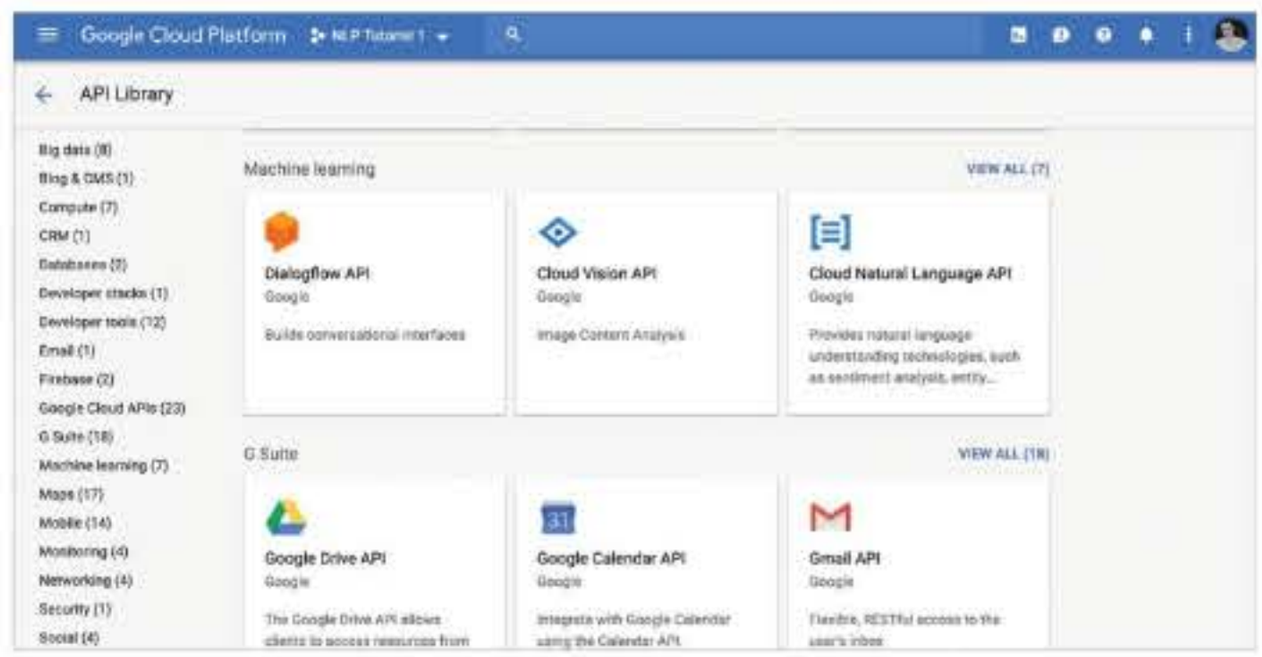
Go to the Google Cloud Platform Console (*https://console.cloud.google.com/*) and create a new project or select an existing one to work with. The service is free to use until you start making a large volume of API requests. You may need to associate billing info with the account when you activate the API but this is not charged at low volume and you can remove the services after you are done testing if you wish.

STEP 2 – ENABLE THE CLOUD NL

Browse to the API library and select the NL API. If you are having trouble finding it, the URL is here: *https://console.cloud.google.com/apis/library*

Once enabled you should see a little green check and the message 'API Enabled' beside it.





Top Creating a new GCP

Above Browsing the API library and enabling the Natural Language API

STEP 3 – CREATE A SERVICE ACCOUNT

You'll need to set up a service account for this service. Since we are going to set up usage like a typical service, this is the best practice. It also works best with authentication flow. If you are having trouble finding the page to add it, use this URL: *https://console.cloud.google.com/iam-admin/serviceaccounts*

STEP 4 – DOWNLOAD PRIVATE KEY

Once you have a project with the API enabled and a service account you can download your private key as a JSON file. Take note of the location of the file, so you can use it in the next steps.

If you have any problems with the first few steps there is a guide that helps, which ends with the download of the JSON key. You can find that here: *https://cloud.google.com/natural-language/docs/quickstart*

STEP 5 – SET ENVIRONMENT VARIABLE

Next, you need to set the `GOOGLE_APPLICATION_CREDENTIALS` environmental variable, so it can be accessed by our API calls. This points to your JSON file you just downloaded and saves you having to ►

- type the path every time. Open a new terminal window and use the export command like so:

```
export GOOGLE_APPLICATION_CREDENTIALS="/Users/username/Downloads/[file name].json"
```

Replace the [file name] with your private key file and use the path to your file.

On Windows you can do the same thing via the command line, like this:

```
$env:GOOGLE_APPLICATION_CREDENTIALS="C:\Users\username\Downloads\[FILE_NAME].json"
```

Note: If you close your terminal or console window, you may need to run that again to set the variable.

STEP 6 – MAKE A CALL TO THE API

Now you're ready to dig into using the API and see NLP in action. You'll use cURL to do quick tests of the API. You can also use this method from your code.

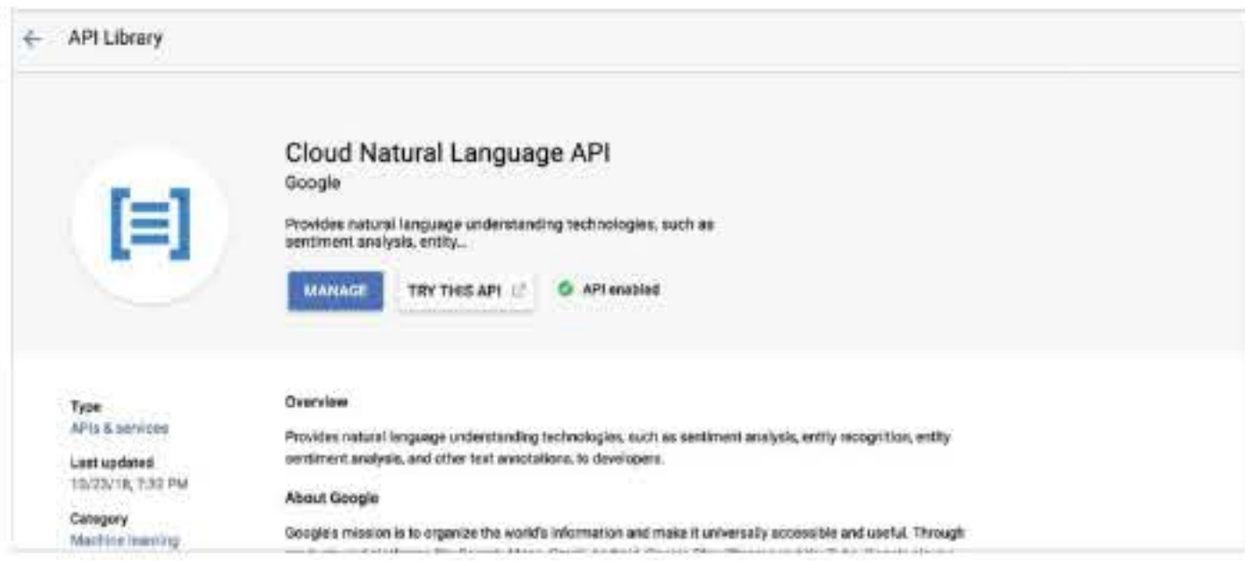
cURL requests can be made in most languages, which means you can make the calls direct in command line or assign the result to a variable in the language of your choice. If you need some quick tips on using cURL check out this link: *https://curl.haxx.se/* Let's try a test request, with a simple sentence. We'll run it through the analyzeEntities endpoint.

In your terminal or command line interface, enter the following command:

```
curl -X POST \
  -H "Authorization: Bearer "$(gcloud auth application-default print-access-token) \
  -H "Content-Type: application/json; charset=utf-8" \
  --data "{
 'document':{
  'type':'PLAIN_TEXT',
  'content':'John McCarthy is one of the founding fathers of artificial intelligence.'
 },
 'encodingType':'UTF8'
}" "https://language.googleapis.com/v1/documents:analyzeEntities"
```

You should see a JSON result after executing. You may get prompted the first time you use this to activate the API or allow access. You can answer 'yes' or 'y' to that prompt and it should return the JSON after that.

It will return an array of entries, similar to ones like this first one for the entry "John McCarthy".



Top Enabling the Natural Language API

Top Getting your private key for the service account

```
{
  "name": "John McCarthy",
  "type": "PERSON",
  "metadata": {
   "wikipedia_url": "https://en.wikipedia.org/wiki/John_McCarthy_(computer_scientist)",
   "mid": "/m/01svfj"
  },
  "salience": 0.40979216,
  "mentions": [
   {
    "text": {
     "content": "John McCarthy",
     "beginOffset": 0
    },
    "type": "PROPER"
   }
  ]
 },
```

Note: You could use a URL instead of content text in the content parameter of the cURL statement.

You can see in the sample entity listing, the name identified and the type, which the AI determined is a PERSON. It also found a Wikipedia match for the name and returned that. This can be useful, since you could use that URL as the content for a second request to the API and get even more entities and information on this one. You can also see the salience value at 0.4, which indicates a significant relative importance of the entity in the context of the text we provided. You can also see it is correctly identified as PROPER,

which refers to the noun type (a proper noun), as well as how many occurrences (mentions) of the entity in the text.

The API will return values for all the key entities in the text you submit. This alone can be extremely useful for processing what a user might be communicating to your app. Regardless of what the sentence contained, there is a good chance it is about the person, John McCarthy, and we could look up some information for the user based on this alone. We could also respond in a way that reflects our understanding this statement refers to a person.

You can keep using this method to test out the calls we'll use. You can also set up local SDK in a language you prefer and integer into your app.

STEP 7 – INSTALL CLIENT LIBRARY

Time to make a simple web-based app to demonstrate how to integrate the API into projects.

For NLP apps it is common to use Python or Node. To show the versatility of using the APIs, we'll use the PHP SDK. If you wish to tweak the code into a different language there is a great resource of SDKs here: *https://cloud.google.com/natural-language/docs/reference/libraries*

Start by making sure you have a project folder set up on your local or remote server. If you don't have it already, get Composer and install to your project folder. Optionally, you may have Composer already installed globally and that is fine too.

Run the following Composer command to install the vendor files to your project:

```
php -r "copy('https://getcomposer.org/installer', 'composer-setup.php');"
php -r "if (hash_file('sha384', 'composer-setup.php') === '93b54496392c06277467 0ac18b134c3b3a95e5a5e5 c8f1a9f115f203b75bf9a129d5 daa8ba6a13e2cc8a1da080 6388a8') { echo 'Installer verified'; } else { echo 'Installer corrupt'; unlink('composer-setup.php'); } echo PHP_EOL;"
php composer-setup.php
php -r "unlink('composer-setup.php');"
php composer.phar require google/cloud-language
```

Composer makes a vendor folder in your project folder and installs all the dependencies for you.

If you get stuck setting this up and want to use PHP, you can check out this installing Composer resource here: *https://getcomposer.org/*

STEP 8 – CREATE A NEW FILE

If you're following along in PHP, create a new PHP file in your project folder. Set it up however you like but include a simple HTML form to quickly submit text through.

INSIGHT

WHAT IS AI?

Artificial intelligence (AI) is defined as a machine-based intelligence, as opposed to the biological-based intelligence of humans and animals. AI refers to machines performing functions of cognition (of the mind), such as learning, planning and solving problems. But the definition seems almost too simplistic to capture the incredible range of incarnations of AI.

Communication, transportation, scientific discovery, medical research and service industries all are enhanced by AI. It performs a wide range of activities including game theory, electronic trading, robotic automation and exploring the vastness of space.

AI is an integral part of our world, embedded in nearly every technology we have. AI is in the Google searches we run, the voice commands we tell Alexa and the map directions we follow. It's part of ordering our morning coffee and in the navigation system in our cars. Our AI-powered phones, which are never out of reach, have become an extension of our physical selves, our very identity. AI holds the promise of making almost everything we do easier and vastly improving our world.

As a technologist it's critical you learn as much as you can about how to leverage these technologies and the best way to integrate them into your work.

Online help and predictive search results are all are at our fingertips or a voice command away

"cURL requests can be made in most languages, which means you can make the calls direct in command line"

RESOURCES

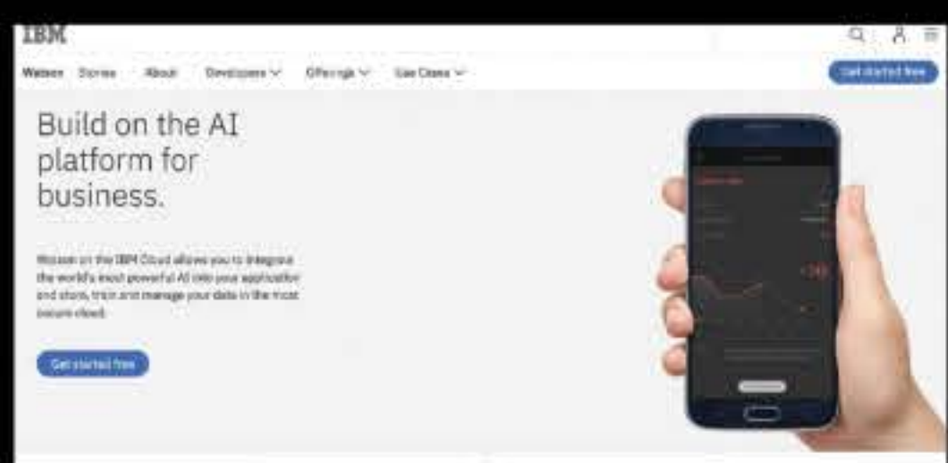
DISCIPLINES OF AI

Despite the ever-changing definitions, there are several identifiable objectives or disciplines within AI. Some applications of it are but not limited to:

- Knowledge reasoning
- Machine learning
- Natural language processing
- Computer vision
- Speech recognition
- Robotics
- Virtual reality
- Data mining
- Game theory
- Artificial intelligence APIs

Whether you need to process a user's input, analyse an image or make predictions based on data sets, these APIs can help you get it done. Integrate these AI resources into your projects, in addition to the Google Natural Language API we used in this tutorial.

Dialogflow by Google *https://dialogflow.com*
Enables you to build and manage powerful AI agents using NLP and much more.



Watson AI *https://www.ibm.com/watson/developer*
Tap into one of the most powerful AI systems in the world via API endpoints: data mining, predictions and computer vision are all possible with this.

Here is an example PHP file with the form:

```
<!DOCTYPE html>
<html>
<head>
        <title>NET - NLP Tutorial</title>
</head>
<body>
<form>
        <p><input type='text' id="content"
name="content" placeholder="What can I analyze?" /></p>
        <p><input type='submit' name='submit'
id='submit' value='analyze'></p>
</form>
<div class="results">
<?php
        // php code goes here //
        if(empty($_GET['content'])) { die(); }
        $content = $_GET['content'];
?>
</div>
</body>
</html>
```

The code includes a basic HTML file with a form, along with a placeholder for your PHP code. The code starts by simply checking for the existence of the content variable (submitted from the form). If it's not submitted yet, it just exits and does nothing.

STEP 9 – ENVIRONMENT VARIABLE

Similar to the step we did previously when using the command line cURL call, we need to set the `GOOGLE_APPLICATION_CREDENTIALS` variable. This is essential to getting it to authenticate.

In PHP we use the `putenv` command to set an environment variable. The authentication created by the SDK expires, so you need to include this in your code for it to grab it and set it each time.

Add this code next in your PHP code:

```
putenv('GOOGLE_APPLICATION_CREDENTIALS=/Users/
richardmattka/Downloads/NLP Tutorial 1-1027228343dc.
json');
```

Replace the path and file name as you did before with your own.

STEP 10 – INITIALISE THE LIBRARY

Next, add the library and initialise the `LanguageClient` class in your code. Add this code next to your PHP code section:

```
require __DIR__ . '/vendor/autoload.php';
use Google\Cloud\Language\LanguageClient;
```

```
$projectId = 'nlp-tutorial-1-1543506531329';
$language = new LanguageClient([
   'projectId' => $projectId
]);
```

Start by requiring the vendor autoload. This is similar in Python or Node if you require your dependencies. Import the `LanguageClient` next, to make use of the class. Define your `projectId`. If you aren't sure what this is, you can look it up in your GCP console, where you set up the project originally. Finally, create a new `LanguageClient` object using your `projectId` and assign it to the `$language` variable.

STEP 11 – ANALYSE THE ENTITIES

Now you're ready to start using the NLP API in your code. You can submit the content from the form to the API and get the result. For now you will just display the result as JSON to the screen. In practice you could assess the results and use them any way you wish. You could respond to the user based on the results, look up more information or execute tasks.

To recap, entity analysis will return information about the 'what' or the 'things' found in the text.

```
$result = $language->analyzeEntities($content);
foreach($result->entities() as $e){
        echo "<div class='result'>";
        $result = json_encode($e, JSON_PRETTY_
PRINT);
        echo $result;
        echo "</div>";
}
```

This code submits the content from the submitted form to the `analyzeEntities` endpoint and stores the result in the `$result` variable. Then, you iterate over the list of entities returned from `$result->entities()`. To make it a little more readable, you can format it as JSON before outputting to the screen. Again, this is just an example to show you how to use it. You could process it and react to the results however you need.

STEP 12 – ANALYSE THE SENTIMENT

Instead of knowing the 'what' of the content, it can also be valuable to know the sentiment. How does the user feel? How do they feel about the entities in their communications?

Update the code to use the `analyzeEntitySentiment` endpoint. This will assess both the entities as before but also return a sentiment score for each one.

```
$result = $language->analyzeEntitySentiment($content);

foreach($result->entities() as $e){
```

Above Using a simple form and server-side code to process text with the Natural Language API

```
        echo "<div class='result'>";
        $result = json_encode($e, JSON_PRETTY_
PRINT);
        echo $result;
        echo "</div>";
}
```

Testing with the content via the form, "Star Wars is the best movie of all time.", you will see a result similar to this:


```
{ "name": "Star Wars", "type": "WORK_OF_ART",
"metadata": { "mid": "\/m\/06mmr", "wikipedia_url":
"https:\/\/en.wikipedia.org\/wiki\/Star_Wars" },
"salience": 0.63493526, "mentions": [ { "text": { "content":
"Star Wars", "beginOffset": 0 }, "type": "PROPER",
"sentiment": { "magnitude": 0.6, "score": 0.6 } } ],
"sentiment": { "magnitude": 0.6, "score": 0.6 } }
{ "name": "movie", "type": "WORK_OF_ART", "metadata":
[], "salience": 0.36506474, "mentions": [ { "text": {
"content": "movie", "beginOffset": 22 }, "type": "COMMON",
"sentiment": { "magnitude": 0.9, "score": 0.9 } } ],
"sentiment": { "magnitude": 0.9, "score": 0.9 } }
```


This shows a positive sentiment score of significant value. Not only do you now know the key words the user is communicating but also how they feel about it. Your app can respond appropriately based on this data. You've got a clear identification of "Star Wars" as the primary subject with high salience. You've got a Wikipedia link to grab more information if you want to run that URL back through the same API call. You also know the user is feeling positive about it. You can even see the statement weights the positive sentiment on the quality of it as a movie. Very cool.

PARTING THOUGHTS

Try experimenting with other endpoints. Specifically, check out the `analyzeSyntax` and `classifyText` endpoints. These give you even more parts of speech data and classification of the content entities.

View source files here!

All the files you need for this tutorial can be found at *https://github.com/darryl-bartlett/gutenberg-block*

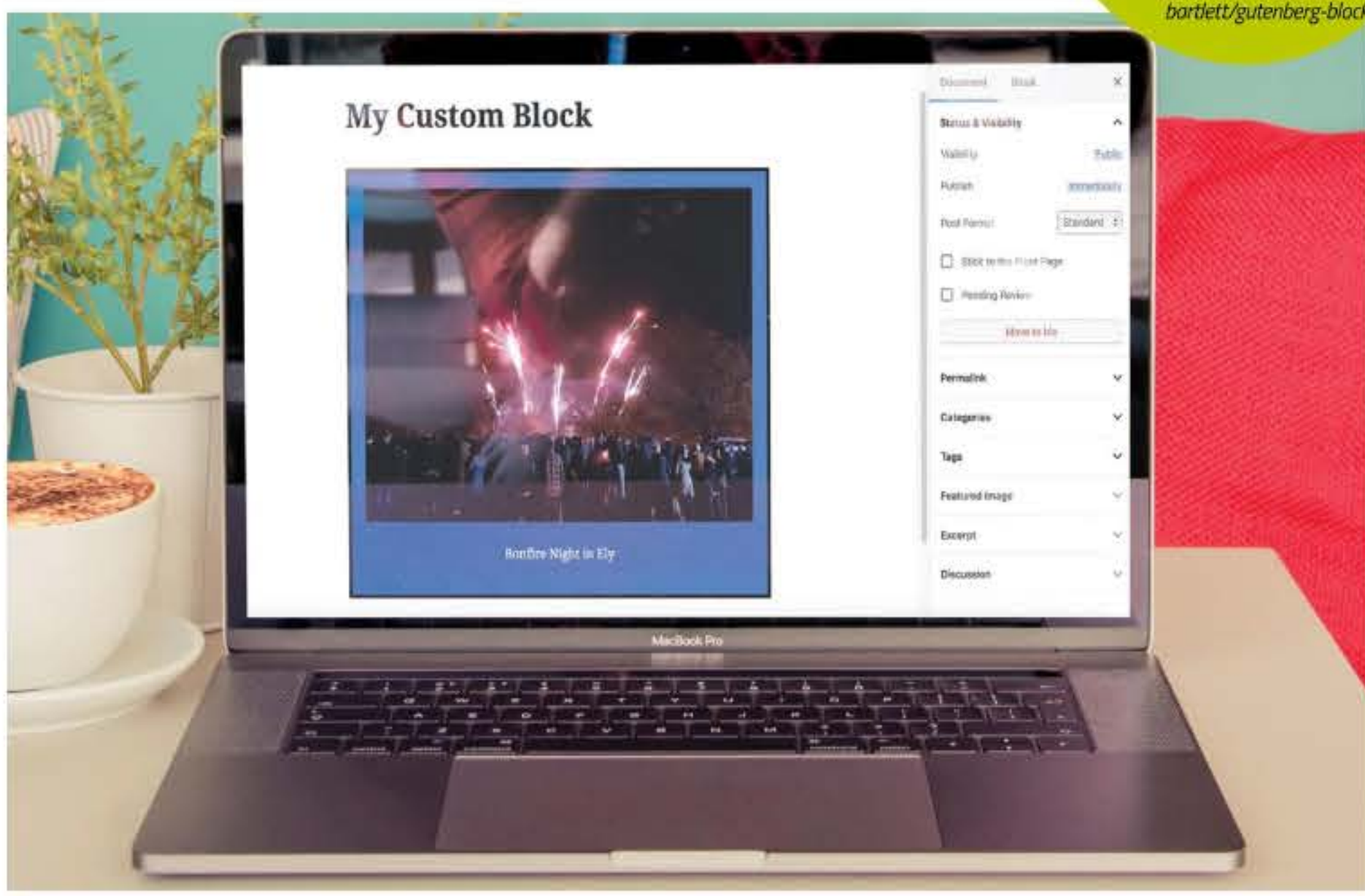
ABOUT THE AUTHOR

DARRYL BARTLETT

t: @darrylabartlett

job: Front-end developer

areas of expertise: JavaScript, PHP, mobile development



GUTENBERG

CREATE CUSTOM BLOCKS FOR GUTENBERG

Darryl Bartlett demonstrates how you can create custom blocks for Gutenberg, the new editor for WordPress 5.0

WordPress 5.0 is here and its biggest change is its brand new editor. Gutenberg has been around as a plugin for quite some time but now it takes over as the main page editor. This enables web developers of all levels to build out their pages using simple blocks.

Gutenberg has a number of blocks already built in, however this now opens up new opportunities for developers to create custom blocks for their clients. This makes it much easier for them to manage their own website.

In this tutorial, I am going to show you how you can build out your own basic block for Gutenberg. This will be in the form of a box that contains an image and some text. It can be quite a long-winded process for something so simple but once you have the basics in place, it's a great foundation for building out future blocks. If you need some guidance at any point, feel free to check out the source code on GitHub at *https://github.com/darryl-bartlett/gutenberg-block*.

GETTING STARTED

To get started you first need to install WordPress and then we are going to build a custom plugin. Go to the WordPress plugins folder and create a new folder called 'basic-custom-blocks'. Inside this folder, we will create a `custom-blocks.php` file. This file will help WordPress identify the plugin with things like name and description. We also need to prevent direct

access to the plugin and reference the file where we will enqueue our scripts (quick-info-block/index.php). We will create this file next.

```
<?php
/**
* Plugin Name: Basic Custom Blocks
* Description: Plugin with custom blocks
* Text Domain: basic-custom-blocks
* Version: 0.1.0
**/
//Prevent direct access
defined( 'ABSPATH' ) || exit;
//Include our enqueue scripts
include 'quick-info-block/index.php';
```

ENQUEUING SCRIPTS

Create a folder inside basic-custom-blocks and call it quick-info-block. Inside this folder, create a new index.php file. This is where we will be registering and enqueuing our script. This includes adding a handler, URL, dependencies and script version number. Most

> "Gutenberg… opens up new opportunities for developers to create custom blocks for their clients"

WordPress plugin developers will already be familiar with this process. By enqueueing scripts you are telling WordPress about the assets that you want to add to your project and it will take care of linking them correctly.

```
<?php
defined( 'ABSPATH' ) || exit;
// add_action enqueue_block_editor_assets
add_action( 'enqueue_block_editor_assets', 'basic_
custom_blocks_quick_info_block_enqueue_block_editor_
assets');
// plugin-name_block-name_function-name
function basic_custom_blocks_quick_info_block_
enqueue_block_editor_assets() {
  wp_enqueue_script(
    // name of script
    'basic-custom-blocks-quick-info-block',
    // full URL of script
    plugins_url( 'block.build.js', __FILE__ ),
    // dependencies this script needs
    array( 'wp-blocks', 'wp-i18n', 'wp-element' ),
```

▶

* INSIGHT

THE BEST BITS OF GUTENBERG

Block editing in HTML

One of the great things about the new block builder is that you are able to customise the HTML of each block. All you have to do is click on the three dots in the top-right corner of the block and select "edit as HTML". This means experienced web designers can customise the content to get the look they desire.

Reusable Gutenberg blocks

Developers can build out custom blocks and reuse them, not just across one but multiple websites. This will save you time and money when building for clients and it won't feel like you're constantly starting from scratch.

Add images with ease

Images are a crucial part of any website. If you are constantly posting out content, then you are likely to be putting three to four images inside one article, so Gutenberg has made it incredibly easy to add images to your posts and pages.

Easy editing

If you are developing a website for a client, when it comes to the handover stage it's going to be much easier for people from a non-technical background to learn. Editing feels much more natural; you can just click and start editing that piece of content.

Standard editor

If you start building your pages out in Gutenberg and decide you don't like it, you can go back to the Classic editor (*https://wordpress.org/plugins/classic-editor/*) without causing any problems. The content you created before will still be there. The same works the other way around: if you are using the Classic editor and want to move to Gutenberg, then your content will be waiting for you in the new editor.

The new Gutenberg editor simplifies many areas of web development, from reusing blocks to editing content

RESOURCES

SITEMAPPING AND WIREFRAMING POINTERS

Below is a list of resources that will help you on your way with Gutenberg.

WordPress Handbook
https://wordpress.org/gutenberg/handbook
Gutenberg is the main editor for WordPress 5, so the handbook is a great place to get to grips with how the editor works and how you can build out block types.

ES6 for Everyone
https://es6.io
ES6 is pretty new for WordPress developers and with Gutenberg relying heavily on ES6, this premium course is a good place to learn through video content.

WordPress Gutenberg Examples
https://github.com/WordPress/gutenberg-examples
The official WordPress GitHub has a dedicated repository with lots of Gutenberg custom block examples.

Diving into the New Gutenberg Editor
https://kinsta.com/blog/gutenberg-wordpress-editor
This article looks at both the pros and cons of Gutenberg, along with a more in-depth look at the editor itself.

Gutenberg Block Development for WordPress
https://www.udemy.com/gutenberg-block-development-wordpress-javascript-course
This course will teach you how Gutenberg Core works under the hood and help you build some more advanced custom blocks.

```
    // script version number
    filemtime( plugin_dir_path( __FILE__ ) . 'block.build.js')
  );
}
```

We now need to create a file called `block.js`. Inside this file, we will begin by adding the title, icon and category of our block. The icon in this example is called 'visibility,' which is an eye. You can find more icons on the WordPress resources page (*https://developer.wordpress.org/resource/dashicons*).

```
// Plugin name, icon, category
registerBlockType( 'basic-custom-blocks/quick-info-block',
{
  title: __( 'My WP Block'),
  icon: 'visibility',
  category: 'layout',
  // used in editor
  edit() {
    return <div style={ editorStyle }><img width = "100%"
src = "https://bartlettdarryl.com/ely-fireworks.jpg"></
img><p>Bonfire Night in Ely</p></div>;
  },
  // used in the front-end
  save() {
    return <div style={ frontStyle }><img width = "100%"
src = "https://bartlettdarryl.com/ely-fireworks.jpg"></
img><p>Bonfire Night in Ely</p></div>;
  }
});
```

To finish up the `registerBlockType` code block we need to build out how our block will look inside the editor and on the front end. The `edit()` section is where we write our code for the editor and the `save()` section is where we write out the code for the front end. The content in both the editor and the front end will be the same, however I have set up two different div styles. One for the front end (`frontStyle`) and one for the editor (`editorStyle`). The block in the editor will

Above Check out the WordPress developer resources page to find a number of icons you can use for your custom block

have a much thicker border than the one shown on the front end.

SETTING UP STYLES

Now that we have referenced two div styles (editorStyle and frontStyle), we need to create these at the top of the block.js file. This is very similar to CSS, although as you build out more enhanced blocks, you may want to create a stylesheet for the editor styles and use your regular stylesheet for the front-end style. In this example, we will stick to inline styling.

```
const editorStyle = {
  backgroundColor: '#0065AF',
  color: '#fff',
  padding: '20px',
  border: '4px solid #000',
  textAlign: 'center'
}
const frontStyle = {
```

> "As you build out more enhanced blocks, you may want to create a stylesheet for the editor styles"

```
  backgroundColor: '#0065AF',
  color: '#fff',
  padding: '20px',
  border: '2px solid #000',
  textAlign: 'center'
}
```

SETTING UP PACKAGE.JSON

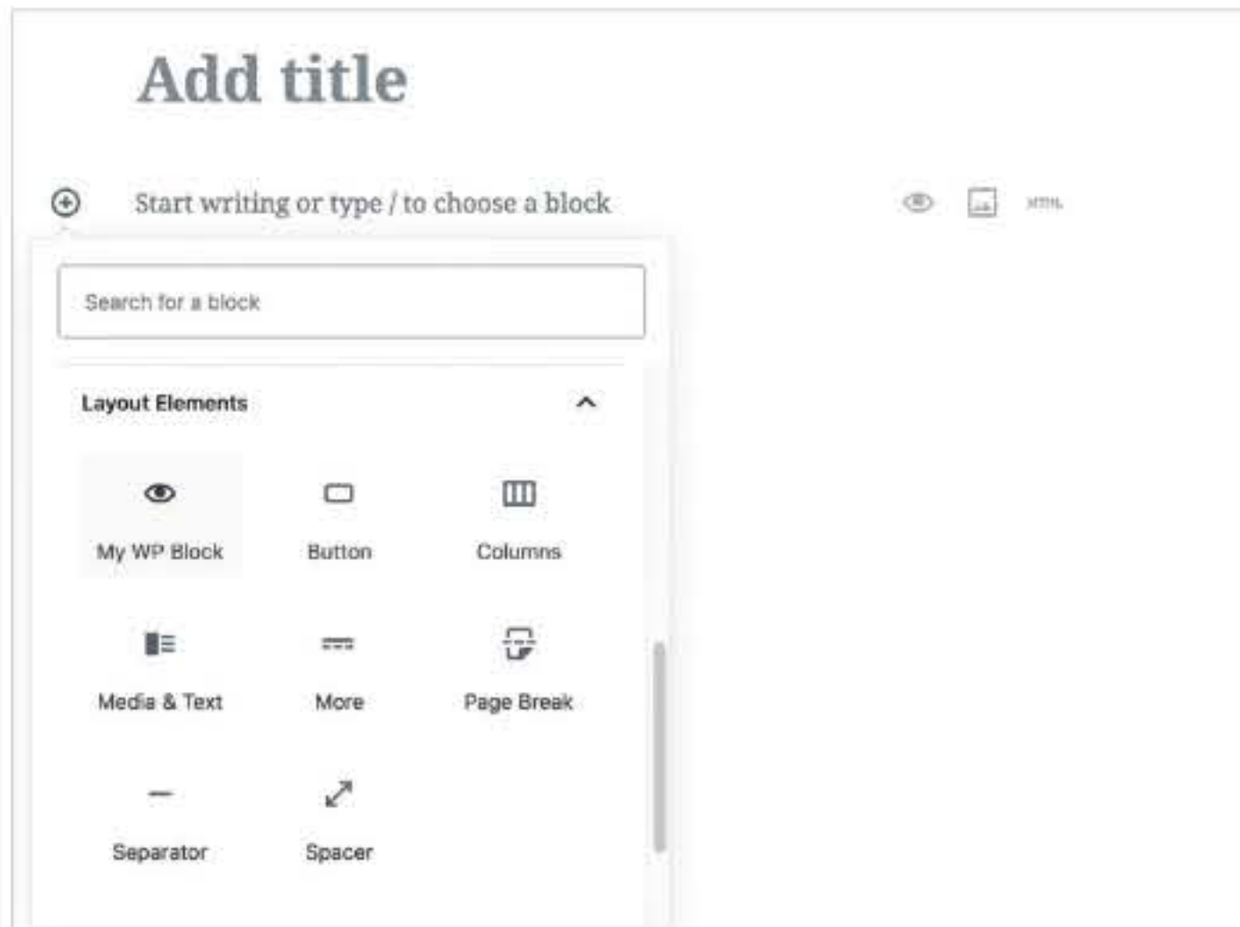
Next, you are going to need to create your package.json file through npm.

```
$ npm init
```

There are a number of different dependencies you are going to require including babel-core, babel-loader and webpack. You can see the list of these in my package file on GitHub, so make sure that you get each one.

WEBPACK CONFIG

Finally, you will need to set up a webpack config file (webpack.config.js). This is because inside our build, we need to specify the filename key (block.build.js) for the name of the file we want webpack to build once everything has been bundled together. If you remember at the start of the project, we enqueued block.build.js.



Above Your new custom block ("My WP Block") will appear inside the Layout Elements section alongside all the built-in blocks

```
module.exports = {
  entry: './block.js',
  output: {
    path: __dirname,
    filename: 'block.build.js',
  },
}
```

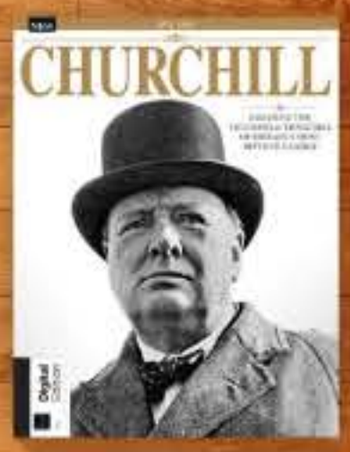
You will need to use a module to bundle all the babble code together. You can also find the full source code for this file inside the GitHub repository.

USING YOUR CUSTOM BLOCK

We are ready to test out the new custom block. Go to the WordPress dashboard and activate the plugin. Now if we go and create a new post, you should find your new custom block under Layout Elements. When you click on it, it will automatically be placed inside the editor.

CONCLUSION

This is only a small example of what you could build for Gutenberg. You could make this block editable so the user can change the text or you could allow the user to upload their own photo inside the block. The options are endless. Gutenberg is going to transform the way we work with WordPress, especially from a development standpoint. I see far more developers creating blocks for their clients and it makes web design that bit easier for non-technical people.



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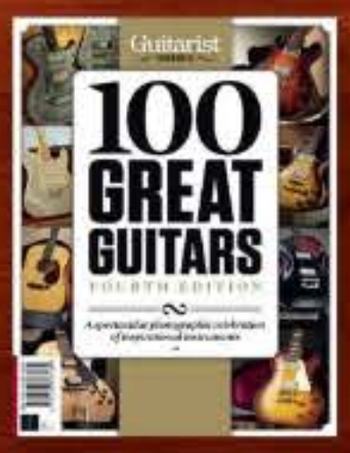

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ACCESSIBILITY

DESIGN AN INCLUSIVE CHARITY SECTOR

Hilary Stephenson makes the case for why it's particularly important for designers working in the third sector to increase accessibility

Many of our administrative tasks are now completed online. However, those with ranging abilities are often unable to use these platforms (and therefore access the services) due to poor design.

This is particularly relevant for the charity sector. For those going through a challenging time, the internet is often the first port of call for advice and much of a charity's work is about giving these individuals a good experience in a bad situation. If the charity cannot provide for even a small minority of those people, it has failed in its mission. It's important to remember that this not only applies to the organisation's audience and service users but also to its employees, volunteers and fundraisers.

Although the government is set to provide £1m to improve digital leadership skills in the charity sector, more needs to be done to make the industry's online services accessible to all. This can be achieved in a variety of ways:

- Constrain choices and actions so that people aren't overwhelmed by too many options.
- In search results, use groupings to simplify how the results are presented.
- Involve your service users and volunteers in the design and testing process as often as you can.
- Consider the digital skills of those accessing and supporting your charity. Ask them for feedback.
- Avoid transformation for the sake of it. Instead, look at what you already have, learn from your peers and focus on getting the basics right.
- Use popular or common search terms to tag relevant pieces of information.
- Give quick routes to information and minimise the number of steps needed to complete an action.
- Make content easy to understand. Use the language people use themselves to describe their situation.
- Use typography and colours to make your content more legible, easier to digest and quicker to scan.

If the charity sector takes these changes into consideration and starts implementing them as soon as possible, we can expect to see a dramatic improvement in the industry's digital inclusivity.

PROFILE

Stephenson is managing director of Sigma, a leading digital user experience (UX) agency.

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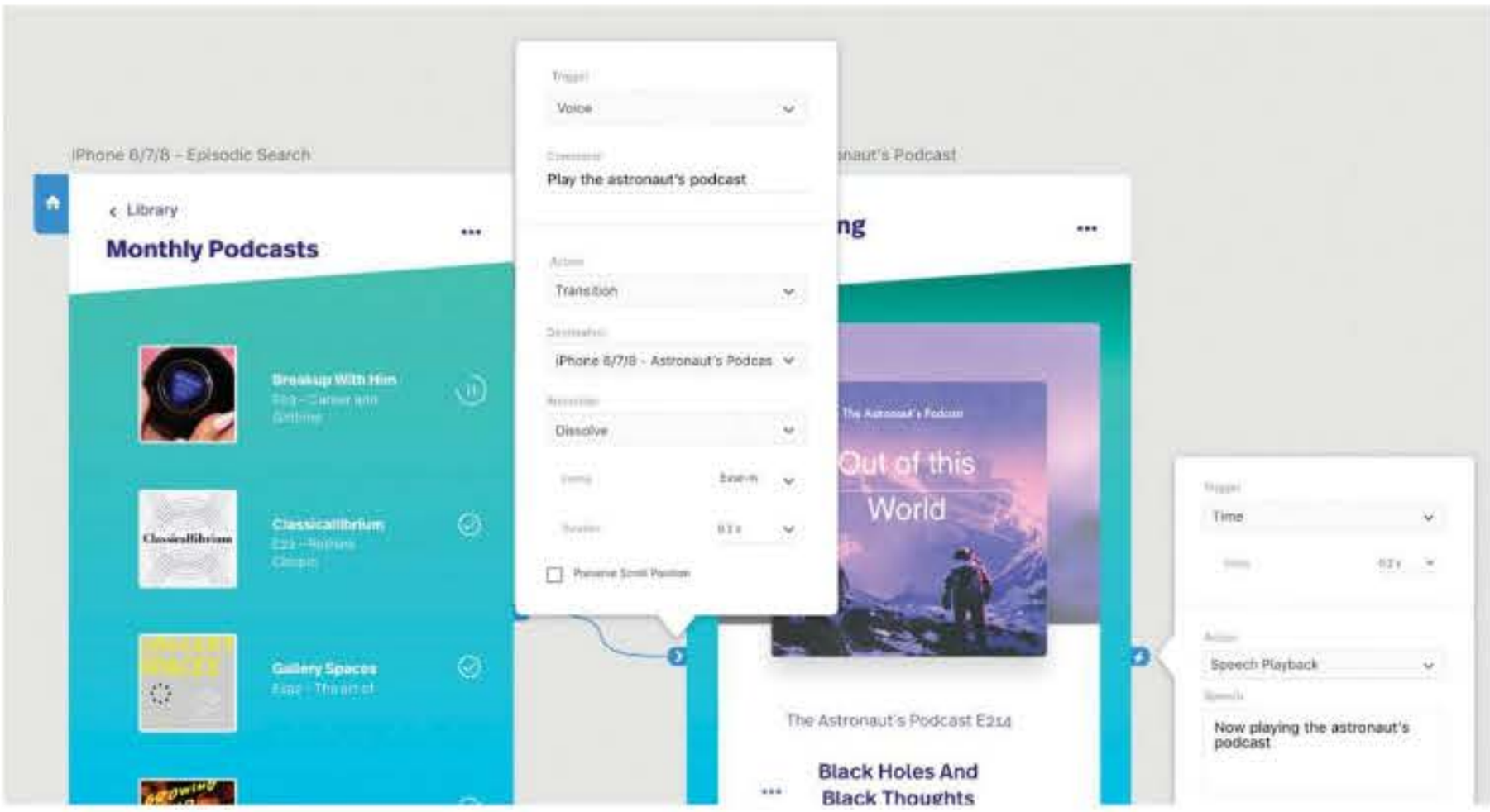


DESIGN TRENDS

FIVE TRENDS DESIGNERS NEED TO LEARN FOR 2019

Daniel Schwarz explores the five breakout design trends that are begging to become mainstream in 2019

While the mayhem known as 2018 is now over, the design industry went through significant changes that may alter our design approach in 2019.

We began the year with the beta release of InVision Studio in January, then of course the GDPR hell was unleashed on 25 May. The day after, Google announced mobile-first indexing and then finally rolled out the 'speed update' in July, which demotes websites that don't load quickly enough. But to top off the year on admittedly a higher note, Adobe XD's October release included voice prototyping – a lovely treat. So what does all this mean for the design trends of 2019? Let's take a look.

1 VOICE PROTOTYPING

Voice user interfaces, or VUIs, have been the subject of speculation for a few years now. By that we mean mobile voice assistants like Apple's Siri, smart home assistants like Amazon's Alexa and then there's UI/VUI hybrids like Amazon's Echo Show, which can be controlled via a combination of voice and touchscreen.

Although mobile voice assistants like Siri have struggled to adopt significant usage, smart home assistants sold 19.7 million units in Q3 2018 (*https://voicebot.ai/amazon-echo-alexa-stats/*). This number was only 2.9 million in Q1 2017 and this doesn't even include the Q4/Black Friday sales of 2018.

That being said, how many UI designers do you know? Now... how many VUI designers? Probably not very many.

As you can imagine, there's still a wide margin between demand and supply – an untapped market, as they say. We haven't quite reached the 'there's an app for that!' stage, so the majority of apps are built by large corporations such as Spotify and PayPal with

the time and funds to invest in tackling what's still a relatively new technology trend.

Well, that is until the October 2018 release of Adobe XD shipped with voice prototyping features, making VUI design and conversional design overall more accessible to designers by being integrated into the tools they already use (*https://netm.ag/2QwexWp*). Undoubtedly, other design tools will follow suit, helping indie VUI designers finally fill that void. This is exactly how the lingering design trend will become mainstream in 2019.

Here's how voice triggers work in Adobe XD:

- **When creating actions, select "Voice" as a trigger**
- **After that, type the voice command into the text field**

And to demonstrate how the VUI 'talks back,' create a timed trigger (because the VUI needs time to think about its answer), then type the VUI's response into the text field – Adobe XD will use a text-to-speech engine to replay the response in Preview.

Get started with the Adobe XD Voice UI Kit (*https://adobe.ly/xdvoiceuikit*).

SEAMLESS DESIGN TOOLS

2 Kicking off 2018, InVision released its new screen design tool, InVision Studio, to a wider audience. Complete with screen design, components, responsive resizing, interactive prototyping, timeline animation and native-design handoff functionality, InVision set a new standard for what design tools should offer.

While we can't expect any singular tool to cater for all our needs (after all, even InVision is working on an app store for Studio), it's become clear that some workflows, like design handoff, work better when they're seamless or integrated. It's also a matter of cost and maintainability, where generally it's cheaper and more efficient to contain design workflows in a single subscription.

Other design tools have also adopted this model, with most of them now offering at least design handoff features. As well as offering a visual editor, since it was historically a JavaScript-based tool, Framer has changed its name twice in the last year (first it was Framer Studio, now it's Framer X). Even Sketch has introduced prototyping, despite still being quite limited in comparison to other screen design tools (*https://netm.ag/2KQYSvD*).

Overall, design workflows are becoming less segregated, so if you haven't reconsidered your design workflow in a while, 2019 is a terrific time to do so. It could saves you bundles of time. ►

★ WILD PREDICTION

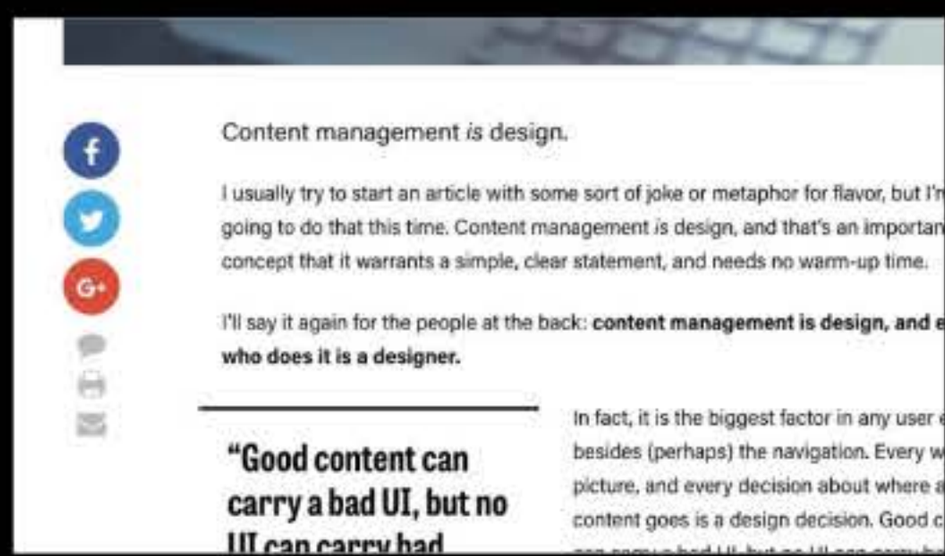
BRAND SENTIMENT BY DESIGN

Although nothing has been explicitly confirmed, mounting evidence (https://netm.ag/2E9PZwE) suggests that brand sentiment is now contributing to search engine visibility but how can we capitalise on this as a designer? Well, as with privacy, brand sentiment starts with design. When designing UX, think about the entire customer experience.

- **Social media mentions: let the user share your content**
- **Customer service: resolve issues via social media**
- **Online reviews: rich snippet data, Yelp, TripAdvisor, etc**

Positive brand mentions in content could be a contributor to SEO too, as well as social selling (i.e. the quality of verified reviews from items sold via social media).

It can be hard to know what to focus on when the world of tech evolves so quickly but when it comes to SEO, taking a user-centric approach to design makes the most sense. Think: if you were the user, how would you evaluate the quality of a brand?



Encouraging social media mentions and helping the user share your content can help improve public sentiment about your brand

> "Adobe XD shipped with voice prototyping features, making VUI design and conversional design overall more accessible to designers"

* WILD PREDICTION

VUI-HYBRID ARTBOARD SIZES

VUI-hybrid design (websites and apps that can be navigated with voice and touch) will become so mainstream that we'll start to adopt standard screen sizes – and therefore fixed artboard sizes – in our everyday screen design tools. This could mean a range of standards for smart watches, smart home devices with touchscreens and maybe even smart glasses.

And of course, this would include a set of VUI design guidelines similar to Apple's Human Interface Guidelines and Google's Material Design Guidelines. With screen design tools like Adobe XD now catering for voice apps, indie makers and top corporations alike are 100 per cent going to want to master this craft.

UI/VUI hybrids like Amazon's Echo Show can be controlled via a combination of voice and touchscreen

"We didn't ask for GDPR but implementing what the law calls 'Privacy by Design' can significantly enhance the UX of our designs"

Here are the tools offering a seamless workflow – specifically screen design, prototyping and handoff:

- **Figma**
- **UXPin**
- **Framer**
- **Adobe XD**
- **InVision Studio**

PRIVACY BY DESIGN

3

GDPR. Oh dear. Where do we start? Even though the EU's new GDPR law outlines many user-centric advantages, some of the finer details (i.e. the vague and confusing details) were a nightmare to implement and, even as we enter 2019, the majority of businesses are not GDPR-compliant. Many US businesses began blocking EU traffic and some EU businesses even ceased trading, a very tragic outcome to the whole affair.

First, what does GDPR enforce? In a nutshell:

- **Non-conditional acquisition of customer data**
- **Data to be collected only after explicit consent**
- **Full transparency on how you use customer data**
- **Access granted to customer data, whenever they request it**
- **The deletion of customer data, whenever they request it**
- **The deletion of customer data, when you no longer need it**
- **An accessible privacy policy written in simple language**
- **The appointment of a DPO (Data Protection Officer)**
- **Regular updates and full communication after a data breach**

And if you're found non-compliant, the upper-level fines can reach €20m or 4 per cent of your annual revenue. Whether or not the European Parliament will actually enforce these fines in 2019 is debatable. And there are yet more questions to be answered:

- **Will the laws become clearer or more relaxed?**
- **Will they become stricter, still without clarity?**
- **Will the fines be directed only at heavy or repeat offenders?**
- **Will other countries start to enact similar laws?**

Regardless of the outcome, the law is still in its infancy and will evolve in 2019. It affects all companies that engage with EU customers but, most importantly, despite its ambiguity and sometimes pedantry, it can really impact user experience. Yes, we didn't ask for GDPR but implementing what the law calls 'Privacy by Design' can significantly enhance the UX of our designs. Plus, when GDPR evolves, you'll be more than ready.

You can read more about the subject via the GDPR Checklist (*https://gdprchecklist.io/*).

MOBILE-FIRST DESIGN

4 Being mobile-friendly has been a no-brainer for a while now, with Google even demoting websites that aren't. But here's the thing: only 17 per cent of small businesses (*https://www.sweor.com/responsivewebdesign/*) are mobile-friendly, maybe because Google's mobile-first indexing, up until May 2018, only applied to mobile websites. Perhaps it's correct to assume that a slice of this statistic includes those who believe that their users don't visit their website on mobile, which in most cases will be vastly untrue.

And 24 per cent of the top 1 million Alexa-ranked websites aren't mobile-friendly either (*https://canonicalized.com/mobile-friendly-study/*). If you're wondering why this is, just think: when was the last time you used the Facebook site on a mobile browser?

Anyway, since May 2018, websites that are not mobile-friendly rank lower on desktop as well. It's strange to be harping on about mobile-friendly design in 2019 but, with Google raising the stakes, designers need to think less mobile-optimised and more mobile-first, especially now Google is boosting efforts in regards to user experience.

Helpfully, Google has a mobile-friendly test (*https://search.google.com/test/mobile-friendly*). Here's how to nail it in 2019:

- **Don't use Flash**
- **Configure the viewport correctly**
- **Disable unnatural horizontal scrolling on mobile**
- **Adjust content to fit any screen (i.e. fluid design)**
- **Design for thumbs – ensure tap targets are at least 44px²**
- **Apply an appropriate amount of spacing between tap targets**
- **Ensure that text is legible and readable without zooming**

FASTER WEBSITES

5 But Google is not just influencing the mobile-first agenda. Another tool, Google PageSpeed (*https://developers.google.com/speed/pagespeed/insights/*), has over the years been a terrific resource for building faster-loading websites, which also has the benefit of helping boost the search engine visibility of desktop websites.

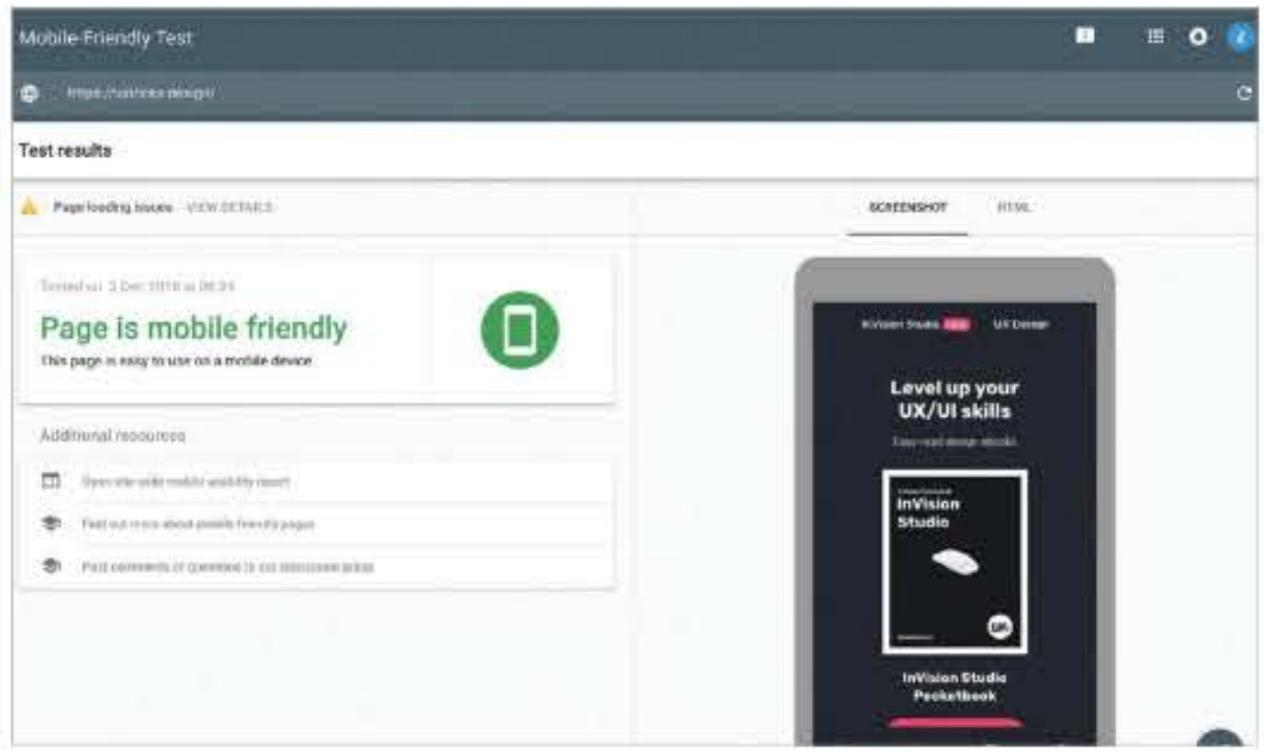
Since July 2018, this new 'speed update' affects mobile searches too. Although we still don't know exactly what metrics Google uses to assess the loading speed of websites, it's likely to be a mix of PageSpeed score and actual loading time. That being said, Google has announced this will mostly affect slow websites, although there's no reason why speed couldn't be a more important ranking factor later on.

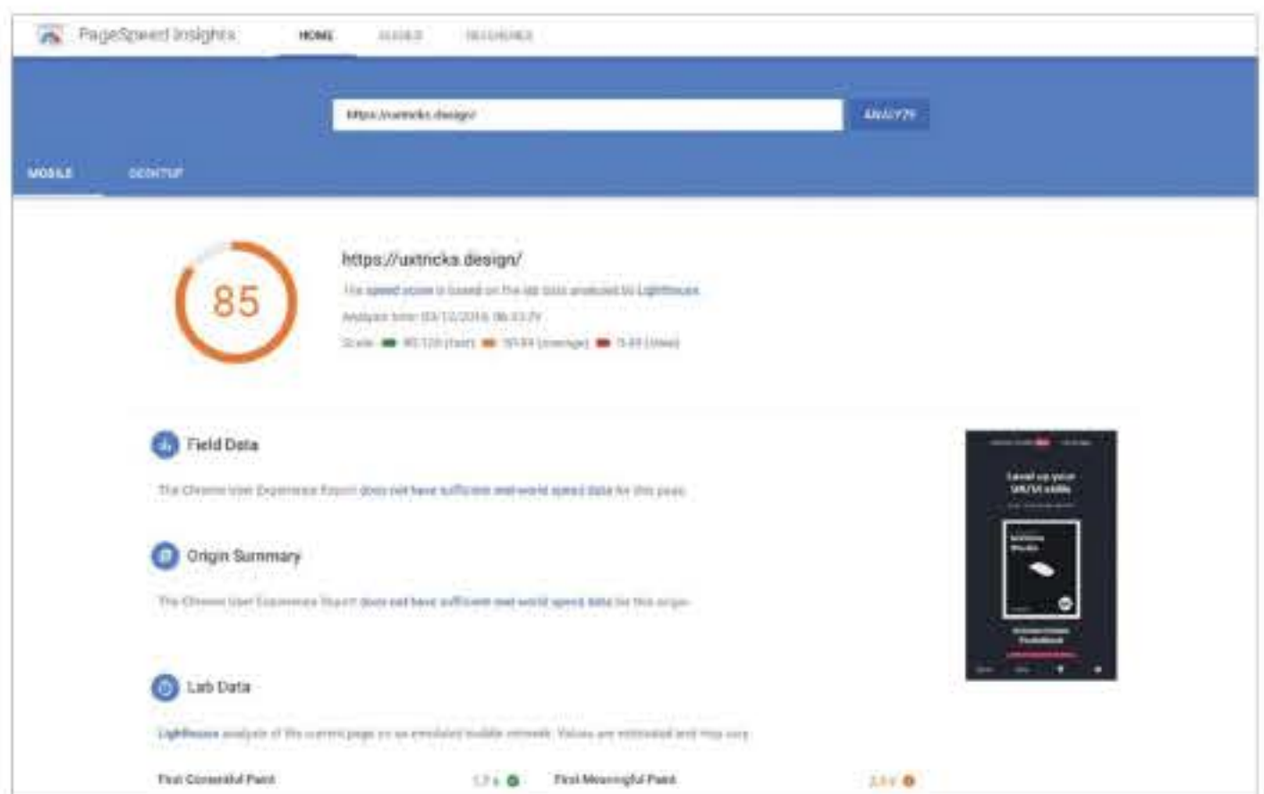
Your users consider loading times a high priority, so if this is something you've been putting off for a while, there's no better time to rethink the loading experience of your websites.

Here's what you need to know:

- **Compress and resize images**
- **Lazy load off-screen images**
- **Minify resources**
- **Serve static, cached resources**
- **Combine or defer resources**
- **Eliminate render-blocking resources**
- **Ensure text remains visible while web fonts are loading**

You can learn more about the subject at PageSpeed Insights (*https://developers.google.com/speed/docs/insights/rules*).





Top Since May 2018, desktop websites whose mobile website is not mobile-friendly will rank lower in results

Above As of July 2018, loading times now affect mobile searches too

View source files here!

All the files you need for this tutorial can be found at *https://codepen.io/PointC/pen/rQjrKZ/*

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* GREENSOCK

SLICE SVG TEXT IN A <PATTERN> ELEMENT

Craig Roblewsky shows you how to break SVG text into pieces and animate them with the GreenSock Animation Platform

You've created the perfect SVG but the client would now like the `<text>` element(s) to break into pieces and fall off the page. Your first thought may be to return to your vector software and convert the text to compound paths. But let's look at placing text in a `<pattern>` element. We'll then be able to easily animate the pieces while retaining the ability to change the text content at any time.

We'll start by creating `<text>` elements inside a `<pattern>` element and use that pattern to fill shapes. We'll animate those shapes with the GreenSock Animation Platform (GSAP) to simulate the text breaking apart. This will still be a `<text>` element. We won't need to convert it to compound paths.

You can grab the project files from the CodePen demo or you can follow in your favourite code editor.

YOU'LL NEED A FEW FILES

I'm using the Roboto font with a weight of 700. If you choose a different font or weight, you may need to adjust some of the element sizes and coordinates. I'll also be animating the pieces with GSAP, so please load the following dependencies:

https://fonts.googleapis.com/css?family=Roboto:700
https://cdnjs.cloudflare.com/ajax/libs/gsap/2.0.2/TweenMax.min.js
https://cdnjs.cloudflare.com/ajax/libs/gsap/2.0.2/plugins/TextPlugin.min.js

CSS

I've set the body to display: flex so everything will be centred but the important CSS I'm using is to align the SVG `<text>` elements anchors to the middle and set the font weight to 700. You could set those attributes directly on the text if you prefer.

```
text {
  font-family: "Roboto", sans-serif;
```

```
  fill: #fff;
  text-anchor: middle;
  font-weight: 700;
}
```

PATTERNS IN THE <DEFS> ELEMENT

We'll start by creating our SVG and patterns. The SVG viewBox will be 1000 x 500. Aside from the text in the patterns, the important part is that we set the patternUnits to "userSpaceOnUse" and a width/height to match the viewBox. Matching the width and height lines up our coordinate systems and there will be no repeat of the pattern. For more information about the <pattern> element and units, see the boxout 'What is the SVG <pattern> element?'

```
<svg xmlns="http://www.w3.org/2000/svg" viewBox="0 0 1000 500">
<defs>
  <pattern id="slicePattern" patternUnits="userSpaceOnUse" width="1000" height="500" >
    <text transform="translate(500 260)" font-size="220">SLICE IT!</text>
  </pattern>
  <pattern id="stripPattern" patternUnits="userSpaceOnUse" width="1000" height="500" >
    <text transform="translate(500 400)" font-size="90">cut text into strips</text>
  </pattern>
</defs>
```

We can't see anything at this point because the text is part of the pattern in the <defs> element, which isn't filling anything yet. Objects inside a <defs> element are not rendered directly. We need to create some shapes that will use our pattern as a fill.

POLYGONS AND RECTANGLES

We'll be using three polygons for the large text and four rectangles for the small text.

```
<g fill="url(#slicePattern)">
  <polygon id="slide1" points="0,50 551,50 201,300 0,300" />
  <polygon id="slide2" points="549,50 999,300 1000,300 1000,50" />
  <polygon points="200,300 550,50 1000,300" />
</g>
<g id="strips" fill="url(#stripPattern)">
  <rect x="0" y="310" width="1000" height="41" />
  <rect x="0" y="350" width="1000" height="21" />
  <rect x="0" y="370" width="1000" height="21" />
  <rect x="0" y="390" width="1000" height="41" />
```

★ INSIGHT

WHY SHOULD YOU USE AN ANIMATION LIBRARY?

Web users have come to expect some interaction and movement to help guide them through their site visit, which is why web animations have become ubiquitous. Of course, you can animate your SVG masterpiece with CSS but my preference is to use an animation library. Why? Many reasons but the biggest is sequencing. I think I'm safe in assuming most of us have had client requests for changes in the order of an animation and/or timing. That's not always a simple task using native CSS for your animations. With a JavaScript library, sequencing and duration changes are super easy.

There are numerous libraries available but I prefer the GreenSock Animation Platform (*https://greensock.com/*). GSAP has been around for over 10 years, is constantly updated, has zero dependencies and, frankly, is a pleasure to use. It's also target-agnostic, meaning it can animate DOM elements, SVG, canvas and WebGL. If JavaScript can touch it, GSAP can animate it. Also, it plays nicely with other frameworks and the core tools are free to use. I encourage you to give it a try.

Above The GreenSock Animation Platform is a robust library that can handle all your web animation needs

Above Once the shape groups are filled with the pattern, we see the text appear on the screen

INSIGHT

WHAT IS THE SVG <PATTERN> ELEMENT?

I'm probably not alone in thinking the <pattern> element is one of the more confusing SVG fill types. So what is it and how do we use it?

According to MDN docs: "The <pattern> element defines a graphics object which can be redrawn at repeated x and y-coordinate intervals ("tiled") to cover an area" (*https://netm.ag/2OUQwUn*).

Basically, you create a small element or group of elements and that is then tiled over another element by setting its fill to your newly created pattern. Please keep in mind that patterns not only have the patternUnits attribute, but also a second attribute called patternContentUnits. The former defaults to "objectBoundingBox" while the latter defaults to "userSpaceOnUse". I usually set the patternUnits attribute to "userSpaceOnUse" and then fill a shape like this:

```
<pattern id="dots" width="10" height="10"
patternUnits="userSpaceOnUse">
  <circle cx="5" cy="5" r="4" fill="#42a6e0" />
</pattern>
<circle cx="90" cy="75" r="40" fill="none" stroke-width="30"
stroke="url(#dots)" />
<rect x="160" y="20" width="120" height="110"
fill="url(#dots)" />
<polygon points="360,20 440,130 290,130" fill="url(#dots)" />
```

You can grab the demo here: *https://codepen.io/PointC/pen/zMoebj/*

Patterns are too complex to cover in depth here, so I encourage you to read more about the SVG <pattern> element. MDN docs has a good tutorial here: *https://netm.ag/2Ku27Jv*

Above The <pattern> element is most often used in order to fill an element with repeating tiles

```
</g>
</svg>
```

SIZING YOUR SLICES

How do you determine the coordinates and sizes of the polygons and rectangles? You could create the entire SVG in your vector software so all the calculations are done for you when you export but I prefer to hand code simple shapes. I find it easiest to temporarily move the `<text>` element out of the pattern or copy and paste a duplicate to appear on screen. You can then easily code the shape groups.

By temporarily setting the shapes to use a fill colour and a reduced opacity, you can see how they fit over the text. I just eyeballed the initial coordinates and started adjusting until I liked how the pieces looked. Feel free to adjust yours to your preference. If you're looking closely, you'll see the shapes have a slight overlap. You'll most likely find this necessary or you may see the seams between them. Usually a one-pixel overlap hides it. The rectangles covering the smaller text also extend the entire width of the `viewBox`. I recommend giving yourself extra room especially if you have dynamic text, which will change the width of the element.

LET'S ANIMATE THE PIECES

We've created some shapes and filled them with a pattern of text but, so far, it's just sitting there. It's time for some fun. Let's animate these pieces.

My animation library of choice is GSAP (*https://greensock.com/*). See the boxout 'Why should you use an animation library?' for more information on why. GSAP makes sequencing animations simple and the cycle property is perfect for staggering elements like the rectangles. First, we'll create a timeline to hold our tweens:

```
const tl = new TimelineMax();
```

Next, we'll add an animation for two of the three polygons filled with the large text. The middle polygon remains static while the outside polys slide away from the centre piece, which give them a nice sliced appearance.

```
tl.to("#slide1", 0.75, { x: -13, y: 9 });
tl.to("#slide2", 0.75, { x: 11, y: 6.5 });
```

Now we'll add a stagger tween to animate the rectangles. By taking advantage of the GSAP cycle property, we can have each rectangle do something a bit different. We do that by creating an array of values with any property we'd like to cycle. Please note we are animating translateY here and not the y

attribute of the rectangles. Animating the attributes will not produce the desired results.

```
tl.staggerTo(
  "#strips rect",
  0.5,
  {
    cycle: { y: [-30, -10, 10, 30] },
    repeat: 1,
    yoyo: true
  },
  0
);
```

CHANGING THE TEXT

The advantage of slicing and breaking text in the `<pattern>` element is that the text is still text. We can therefore change the content at any time, whether it's at our client's request or as part of the animation. Let's use the GSAP text plugin to animate the small text content.

```
tl.to(
  "#stripPattern text",
  1,
  {
    text: "it's just SVG text",
    ease: Linear.easeNone
  },
  "+=1"
);
```

Note: You can update the SVG text with the Node.textContent property too. I'm just using the GSAP text plugin for convenience since we're already using the core tools to build the timeline.

Now we'll add one more stagger tween to do something a bit different with the rectangles:

```
tl.staggerTo("#strips rect", 0.5, { y: 50 }, -0.2, "+=0.5");
```

ACCESSIBILITY

Since we're using SVG text, I'd be remiss if I didn't talk about accessibility. In this tutorial I've used the pattern to fill the shape groups with the text but that is neither selectable nor screen reader friendly text. If you'll be using this technique in production and you'd like to make the text accessible, there are a couple of ways to handle this.

You can create a duplicate `<text>` element and simply hide it during the actual animation. Once the animation is finished you can hide the animated group and reveal the actual text. This is my preferred method of making the text accessible.

Top By setting a temporary fill colour on the elements, you can line them up over the text as you're coding

Above The animation produces a sliced effect on the large text and four rectangular strips on the small `<text>` element

Another option is to place the text in the main SVG and reference it in the pattern with a `<use>` element. You then fill the shape group with the pattern as usual. I find this option a bit more cumbersome because you need to hide the actual `<text>` element and there are a few more steps but use any method you feel appropriate.

NEXT STEPS

For this tutorial I've used a few simple polygons and rectangles to break the text but you can use any primitive shape or path that you like in the shape groups. With some looping you could easily create hundreds of pieces and explode the text for some truly creative animations.

Although the focus of this tutorial was about slicing and breaking text in a `<pattern>` element, you can use the same technique on any content permitted in the `<pattern>` element. It works particularly well for shattering images into multiple pieces. You'd just place an image in your pattern and fill a group of shapes with that pattern.

IN CONCLUSION

We've only scratched the surface of alternative uses for the `<pattern>` element and I hope you find it to be a useful technique. I encourage you to experiment more with SVG patterns as well as the GreenSock Animation Platform. If you'd like to follow me on Twitter, I often tweet SVG and GSAP related demos. Have fun.

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★EXPERT TIP

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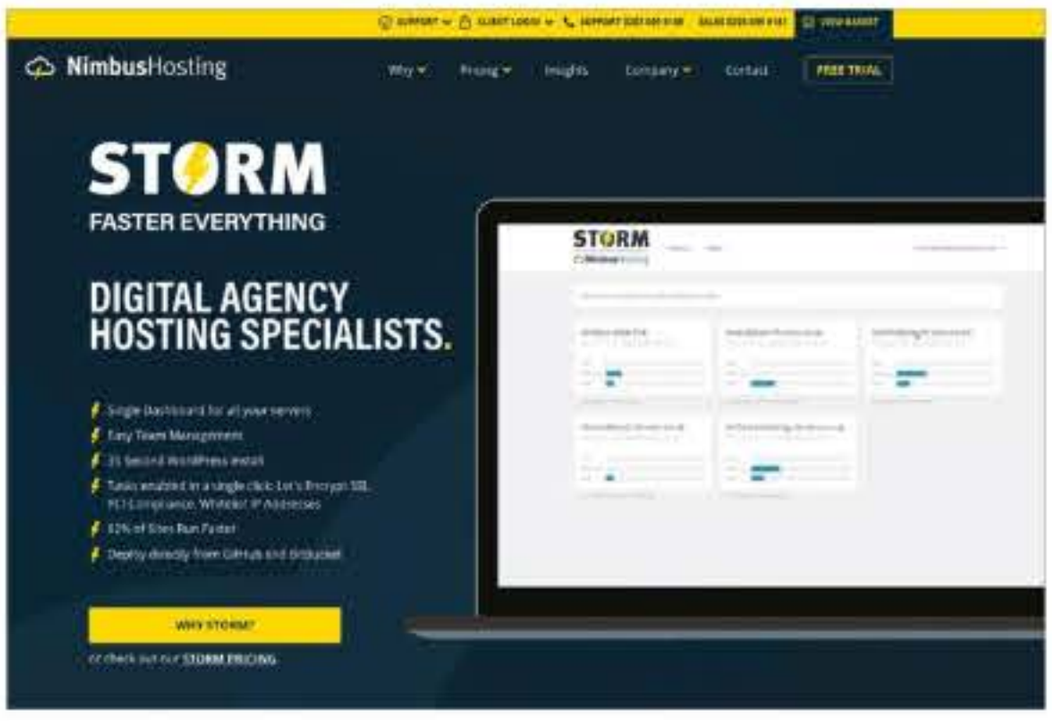

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