



WELCOME!



Developing Your Own Great Interactive Content What You'll Need to Know

Richard Baxter • Builtvisible

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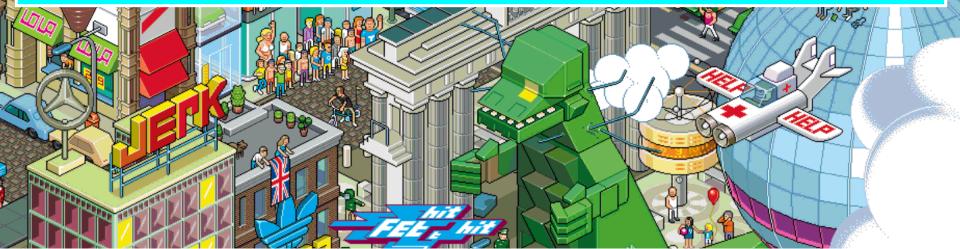


Processing request.



THE 8-BIT REVOLUTION STARTED HERE

AMAR TOOR



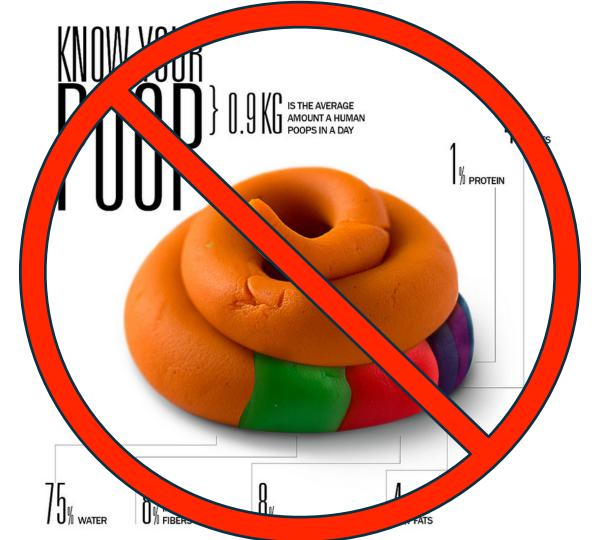
<u>Home</u> » <u>Creative Asset Production</u> » Iconic vehicle common faults



ICONIC VEHICLE COMMON FAULTS

We asked a range of experts what common faults to look out for when buying their favourite classic cars.

Get Started!



Stop with the pooping on the Internet!

Life is a game. This is your strategy guide

520K shares Share on Facebook Share on Twitter



oliveremberton.com

This stuff is hard to do.

[content]

COOL!

Know how it's built.

SVG

jQuery















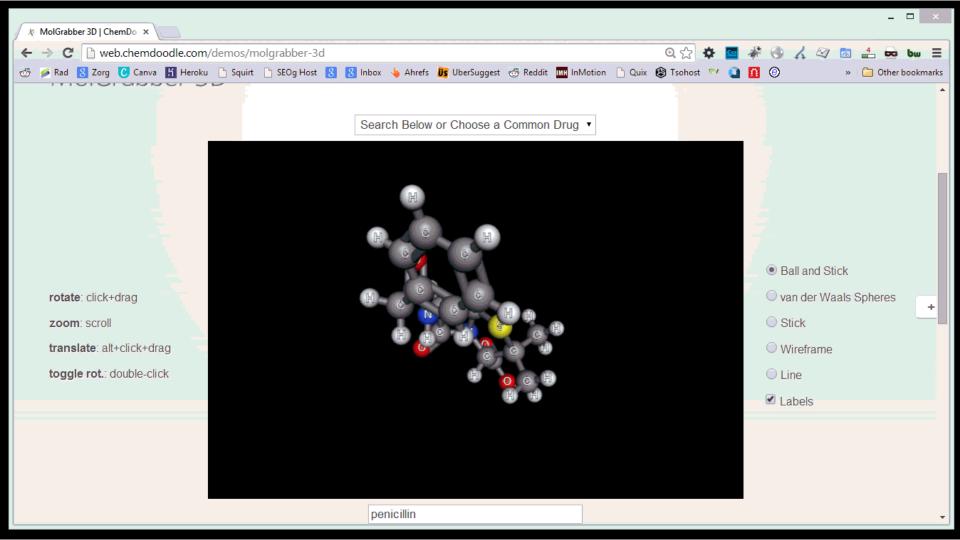




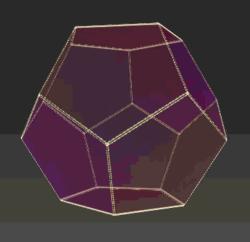
HOW TECHNOLOGY IS SHAPING THE WORKPLACE OF THE FUTURE

Today, the cloud has become impossible to ignore. While we're always hearing about how technology is going to change everything, it now seems that innovative approaches to how we live, work and play are having a drastic impact on everyday life. What does the workplace look like in a world where physical location has become unimportant, and where people are able to connect seamlessly from almost anywhere on the planet?

WebGL



CSS



HTML5 Video



The Best of Fluent: JS + HTML5 Video + Canvas



oreilly.com/pub/e/2599

Embedded JS Charts

Marketing Made to Create Customers

We're a team of people who love SEO, search, strategy and creating content that communicates ideas and builds brands.

Take a look at what we do below, review our approach, or take a look at the work we've been doing for our amazing clients.

We help companies grow their brands through innovative, inventive, effective online marketing and SEO campaigns.



Your Vocabulary List

- HTML5
- Responsive CSS (& libraries)
- CSS3 (& frameworks)
- JS (& frameworks: jQuery, MooTools, Jade, Handlebars)
- JSON (api post and response data)
- WEBGL
- HTML5 audio & video
- SVG
- HTML5 History API manipulation w/ PushState

That's the "what".

66

I'd rather have a Snow Fall builder than a Snow Fall.

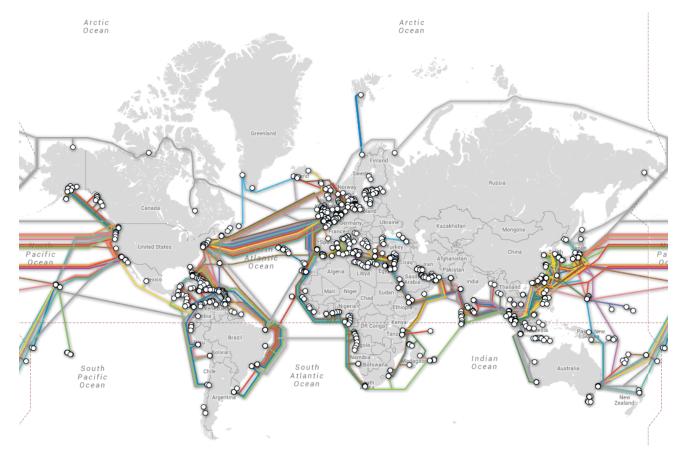
Kevin Delaney

This is the story of our "how".



Liam (the creative guy) had a bunch of ideas.

@liamhgfisher

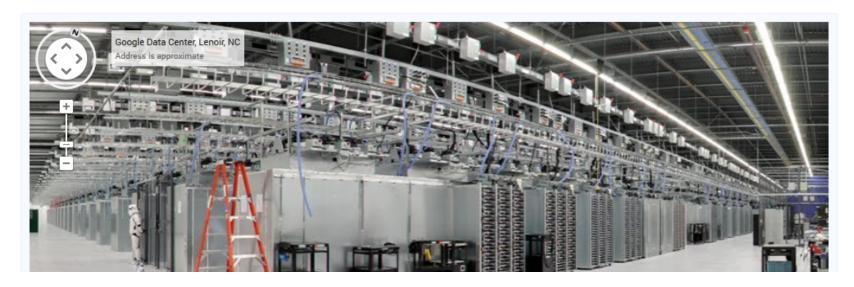


submarinecablemap.com



DA: 57 3,537 links from 629 Root Domains Data centers > Inside look > Street View

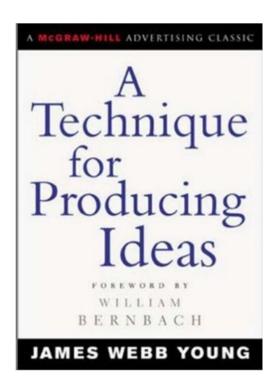
Take a walk through a Google data center







Read this book & this post:



There is no 'Creative Method'



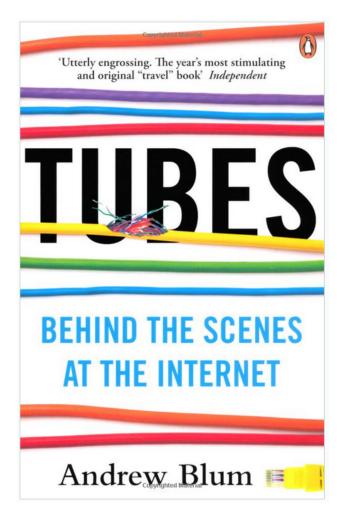
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Recently, I moved into a full-time creative role here at Builtvisible, so now much of my time is spent grasping for inspiration. Somehow, seemingly against all odds and much to my own surprise, I usually manage to find it. Often, people will ask what the process is, what method I use.

Honestly, though, my own grasp on how I come by ideas is tenuous at best. It's an odd brain event, some fleeting connection between thoughts that comes in unbidden flashes. There's a tale from the history of science that I'm fond of recounting, because I think it illustrates the point nicely. The tale may well be apocryphal, but I think the point still stands. There are plenty of other such stories from the history books, so substitute one of those if you prefer.

The 'Eureka!' moment is just the tip of the iceberg

http://builtvisible.com/creative-method/



http://andrewblum.net/

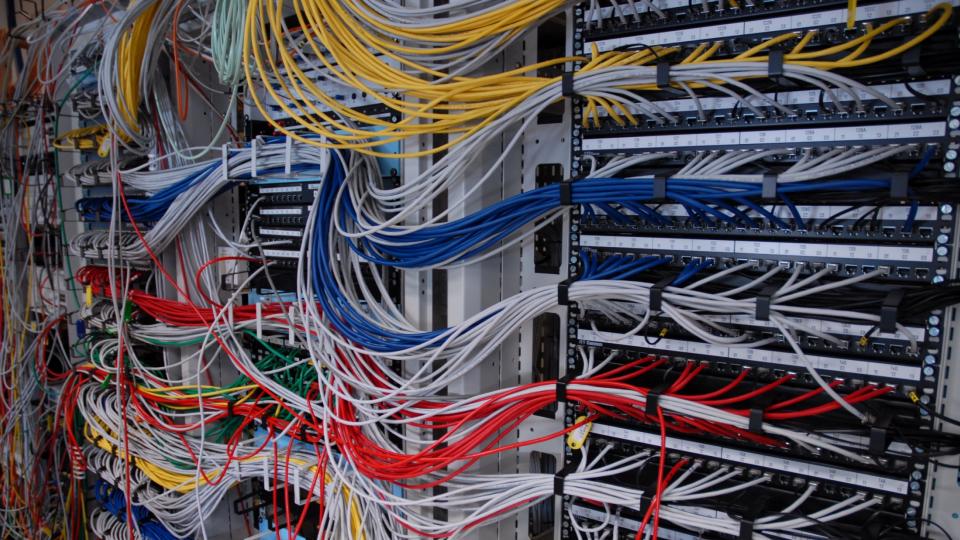
Which idea did your marketing team find most exciting?

We have our story

How to tell it...

NOT YET

Technical Set Up & Feasibility



2. Initial Stakeholder Outreach

Stakeholder Recruitment:



3. Asset Collection + Research

3. Data is Power

network

History of the Atlantic Cable & Submarine Telegraphy -

Cableships

Cable ships from 1850

Atlantic-cable



Mr. Gordon discussed his book [A Thread Across the Ocean: The Heroic Story of the Transatiantic Cable]. published by Walker and Company. The book chronicles the successful laying of a submarine...

C-span

History of the Atlantic Cable & Submarine Telegraphy - Cyrus John M. Picker, "Threads Field across the Ocean: The Transatlantic Telegraph





This essay considers the significance of one of the signal technological developments of the nineteenth century-an event so signal that it happened twice.

B Branchcollective

good website Potential contributor:

John Steele Gordon - Author of A Thread Across the Ocean - historical information/data may be able to offer different stages of cable laying for the time
- may have information about the
Cable Timeline - Atlantic ever phone call

http://atlantic-cable.com/ - really

History of the Atlantic Cable & Submarine Telegraphy -Eighth Wonder



stiantic te legraph cable; sources for books and information - first proposal of the Eighth Wonder of the World

Atlantic-cable



Maker's sample case for the 1858, 1965, and 1966 Atlantic Cables (Science Museum London) - ask permission from at lantic-cable.com

Search - Powerhouse Museum



more at http://phones.gu/ckfound.net/ A submarine telephone cable is laid in San Francisco Bay. The layered Insulation of the underwater cable is described and shown in animated

■ Youtube



The Creepy, Long-Standing Practice of Undersea Cable Tapping Cables



government leamed that an undersea cable ran parallel to the Kuril Islands off the eastern coast of Russia. providing a vital communications link between two major Soviet naval

> How the world's internet would look if it was a TUBE

Subsea cables as a London Tube Map

map

73 Dellymell

4 Theatlantic

www.iscpc.org/publications INEP_Report.pdf

ICPC Film

O

3Tenniel | BRANCH

B Branch collective

their connecting systems, extracted from the main Cable Timeline.

The first Atlantic submarine

Atlantic-cable

telegraph cable

Inside the Vault@the Powerhouse Museum - Matthew Connell, Curator of Computing and Mathematics talks about the 'first Atlantic submarine telegraph cable' from the Powerhouse Museum Collection.

Youtube

Underwater Cable circa 1939 American Telephone & Telegraph - Bell System



2. Maintaining Connections

History of the Atlantic Cable & Submarine Telegraphy -Cable Recovery



Cable recovery techniques were developed soon after cable laying began in the early 1850s. Accidents during laying meant that cable ends were occasionally lost to the sea bed, and existing cables needed to be retrieved and repaired when damage occurred through man made or natural causes.

Atlantic-cable



S Jydskdyk

Our First Marine Salvage Job | Madang - Ples Bilong

May be able to use Images here of structural damage

Name

Political Issues, Implications

of being connected to a

Not Quite Another "Year of the Spy." I UNREDACTED on WordPress.com

DESCRIPTION. The first for the bigories of Section date

 Minist William PROTOT was employed by the Stational Security Spency (MSS) from Streethel 1965 Shirmagh July 1876. 3. Throughout his engineers on sea, nomin window PROTES DESCRIBED TO THE CONTROL OF THE PROTEST OF T wide manys of indicession relating to the national defense of the

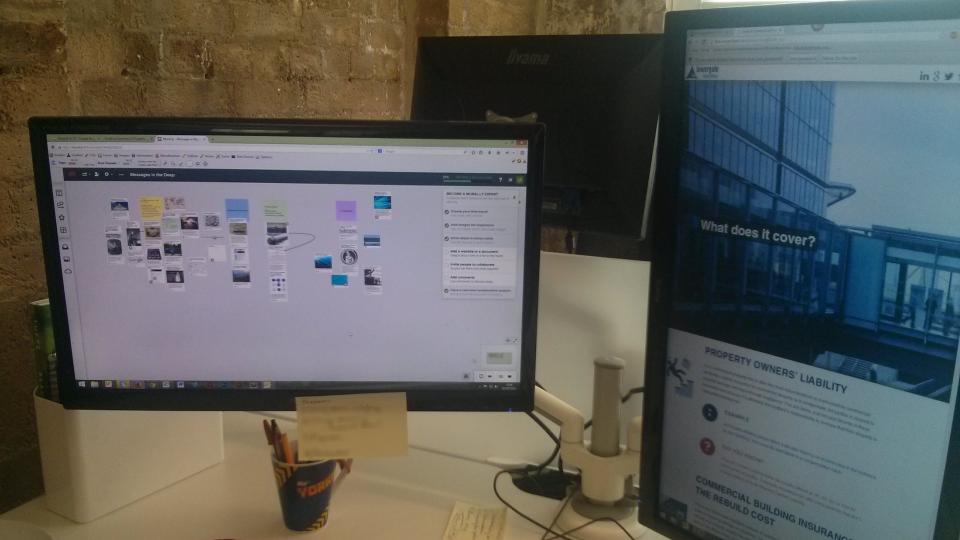
3: M. times retorant to this Indictment, Austrily Sierror was an agent, efficer and employee of the government of the titler of Strict Sociality Septition.

On June 21, 2013, the Department of On June 21, 2013, the Department of Justice charge dformer National Security Agency (NSA) contractor Edward Snowden for violating provisions of the 1917 Espionage Act, an alamingly popular tactic...

French Telco Orange Plans To Sue The NSA For Tapping Its Undersea Cables



It's not entirely clear what form this will take, but the French teloo Orange is claiming that it is planning to file a lawault over the news that the NSA has been tapping its underses out cattle cable.



4. Storyboard Creation

data

flow

assets

Data: raw materials for the story

Flow: how the content is organised

Assets: features, copy and images

Experience

What about the design?

Not yet:

Messages in the Deep – Structure and Storyboard (V3)

The focus in this piece will be on showing the work that goes in behind-the-scenes to keep today's information infrastructure up and running. It is a system that facilitates so much of modern life, from global commerce to our daily online activities, but relatively few of us are even aware that it's there.

Text coloured blue denotes interactive elements.

0. Introduction

This is where we'll set the tone for the piece with a basic introductory screen, likely just containing some copy and a striking header image. The aim of the text will to convey that we're showing users inside the nuts-and-bolts of how the internet works, casting an everyday thing on which we all rely in a new light, and showcasing a modern marvel of engineering of which many people just aren't aware.

1. Part 1 - A Timeline

This section will consist of a single interactive element condensing the history of submarine cabling into a timeline format.

It'll need to contain the following features...

- The interactive element will consist of a world map, which we'd like to be embeddable, responsive and sharable via the usual social media channels.
- Both an 'autoplay' feature that will show the progression of subsea communications
 networks over time without any further input from the user, and an option for the user to
 click 'next' to advance the timeline to the next milestone.
- At each stage in the timeline, the map will display new cables being installed at that time, so
 that users can see how the network grew over time.
- There will be a panel showing key metrics over time, such as total bandwidth capacity, total
 data rate and usage, costs involved in installing various cables, etc.
- There will also be a page! showing context-sensitive information based on what is happening
 at that point in the timeline. E.g. when the timeline reaches 1956, the panel would contain
 the audio of the first ever phone call over the TAT-1 line, the world's first transatlantic cable.
- Location specific information will also be displayed on the map. For example, Samuel Morse's early telegraph experiments could be indicated geographically.

2. Part 2 - Maintaining Connections

This section will focus on the threats that face the world's undersea networks, and the work that goes into keeping them up and running. For the most part, this section will be presented in a relatively simple article format, with the exception of a single interactive element.

 As with the other interactive element, this one will need to be embeddable, responsive and sharable via the usual social media channels.

- That interactive element will be a piece based around <u>Traceroute</u>, which will show the pathways used to connect geographically distant locations.
- It will be pre-loaded with location pairs, and will show the route taken to connect between each.
- The piece will also show the amount of time packets take to travel each leg of the route, to
 emphasise just how rapidly this information moves.

The remainder of the section will consist of:

- A section looking at the most common (and most uncommon) causes of damage to submarine communications networks
 - Also to include a section on accidental human damage to cables. Such as a Georgian woman who accidentally cut off all internet access to Armenia.
 - Also to include a section about natural disasters, such as damage to Asian cable networks in the wake of the March 2011's Asian tsunami.
 - Also to include a section about damage from animals, such as <u>whales becoming</u> tangled in cables.
- A section on how a fault is identified, located and repaired.
 - In particular, we'd like to talk to people involved and look at the equipment and techniques used.
- Possible <u>case-study about the cables connecting Maine with the Fox Islands</u>, described as
 one of the worst performing submarine cables.
- . Case study covering Taiwan in 2006, when an earthquake severed 9 out of 11 subsea cables.

3. Part 3 - Data is Power

This section will look at political issues surrounding subsea cabling, and the political and sociological implications of being connected to such a network, such as:

National Security

- Instances of networks being manipulated for political and military purposes.
 - Operation by Bells
 - British efforts to cut German cables in WWI
 - NSA tapping revelations
- Dependency Egypt-Italy cable severed 2008 [Sechrist]
 - UAV's require 500Mbps bandwidth each "Milliseconds matter when you are in the UAV business and undersea cables shave off hundreds of them compared to satellites"

Economic (/financial)

Case study of the <u>impacts of new cabling on Africa's east coast</u>. [and <u>here</u>] and here: http://www.zdnet.com/bandwidth-the-real-challenge-holding-back-africas-tech-hubs-7000018595/

4. Rapid Prototyping

Mediums vs Features

Article

Infographic

Video

Presentation

Microsite

Copy

Embedded charts

Video embeds

Images

SVG Animation

Content precedes design.

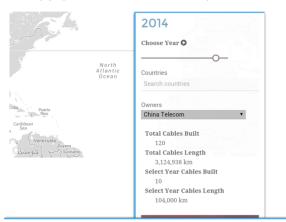
Design in the absence of content is not design, it's decoration.

Jeffrey Zeldman



the Sea

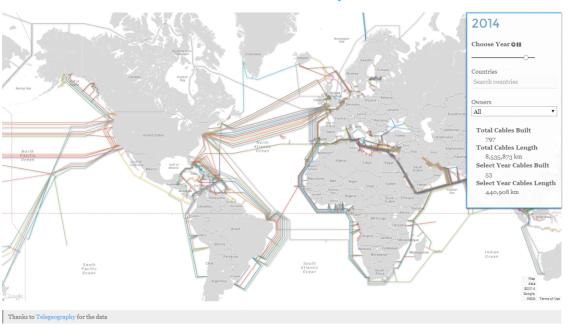
Over the past 150 years, mankind has laid tracks of cables under the world's seas and oceans, bringing long distance communications to the most remote of places.



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Title for Map





Maintaining Connections

Undersec abiling has been in use since the 1840s. In the early days, cables were engineered to enable transatlantic feedgraphs, and later telephone calls and faxes. Today, in the region of 200 fibre optic cables make up an undersea network that transports internet data around the world, carrying more than 95% of transoceanie voice and data traffic.



This is a potential quote/caption about the image above. Could be used as template for captions.

As more and more autions 'log on' and the world's dependency on high spect in internet increases, his excepansive cable systems and the industry responsible have necessary on the properties. The subsect calling industry is, however, one that the majority of service users are only vaguely, if at all, aware of, despite the significance of its rode in keeping and comperted.



This is a potential quote/caption about the image above. Could be used as template for captions.

Dave Howard, Director of Howard Communications Ltd., is an industry vertern with 90 years' experience of subsea cabling. He's undertaken a variety of engineering, planning and operational roles across the field throughout a cureer that has seen significant development in the technology and engineering that the development in the technology and engineering that in the control of the control of

Much of the industy days-to-day focuses on planning and maintaining cable systems. The condition of a system is continuously monitored by the equipment installed in cable landing stations, usually located close to the seafrout where the cable comes ashore. Fibre optic cables are acceptable to a variety of the continuation of

According to Dave, submarine cable systems are designed not to need maintenance during their working life. The traffic capacity of modern systems can be greatly increased by upgrading the equipment in the landing stations, without touching the subsea

technology. Nevertheless, a big section of the industry is involves in conducting repairs to systems which have become damaged by either environmental or human factors.

Before it became common practice to tauten and bury cables below the scabed, notable incidents of damage involved aquatie widdliffe. Between 1877 and 1650 there were it recorded whale entanglements. In the entire history of submarine cabling, a total of about ao faults have been attributed to "fais bites", although these were mainly to telegraph cables prior to 1662, One exception was between 1985 and 1637 when at onessic fibre-optie cable in the Canary Islands was damaged by sharks. Improvement to the design and installation of the cables has since strengthened the systems to the point where no further widdliff-redded damages have been reported.



An Interview With Dave Howard

How are breaks located?

When technicians are alerted to a fault or failure in the system, tests are conducted from cable landing stations or cable management centres to identify the location of the break. There are three main methods of testing:

- Most cable breaks expose the cable's metallic centre conductor to the sea water, causing a short circuit to
 earth. A cable's electrical resistance per kilometre is documented during its production, enabling technicians
 to easily calculate the distance to a fault by measuring the resistance between the break and the landing
 station. This method has not changed all that much from methods used in the 19th Century. Simple, but
 officiation.
- Long cables, say over 300 km, will have subsea amplifiers, known as repeaters. These are typically spaced 80km apart. Each repeater has a circuit that will respond to a special signal sent from the cable landing station. If one repeater "answers and the next does not then we can deduce that the fault lies between them.
 Some repeaters have more sophisticated test circuits that provide information about its health or the level of the incoming, signal, which can direth rebel po impoint the fault.
- When a pulse of light is launched into the fibre, some of its power is reflected back when it hits the break. As
 technicians know the speed of light within the fibre, they can calculate the distance to the fault by measuring
 the time it takes for a pulse of light to thit the fault and return.

None of these methods are exact and there is always some doubt about where the fault is located before the ship

How do you go about repairing a cable?



When repairing a cable in deep water it needs to be brought to the surface for the faulty section to be removed and replaced. The cable will have been laid too tightly on the scaled to be lifted to the surface; it must be cut on

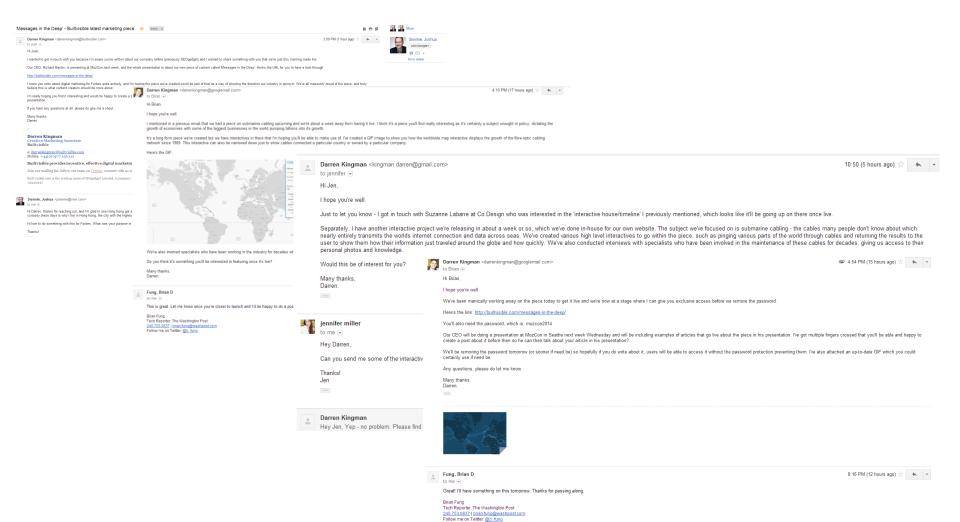




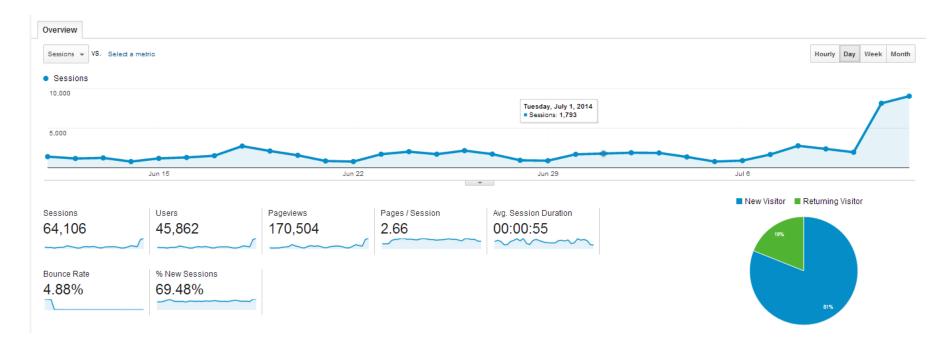
5. Launch

Launch:

Stakeholder Recruitment Proof of Concept Production Launch



The traffic



Things we learned along the way...

On bandwidth:





- Online
- 00:07 United Kingdom

Apparently there's a 25k limit per day on requests. I didn't think we'd hit it. I'll do some digging, work out a patch and update tomorrow

Okay, quick thoughts - there's no simple fix leaving it on fusion tables, so I'm going to set up a db and api tomorrow, rewrite the JS to query that new database, and migrate off fusion tables. I'll update tomorrow with progress.

On shareable assets:

The Washington Post

Search

The Switch

What a quarter-century of Internet growth looks like, underwater



Buscar Q



On Pagespeed





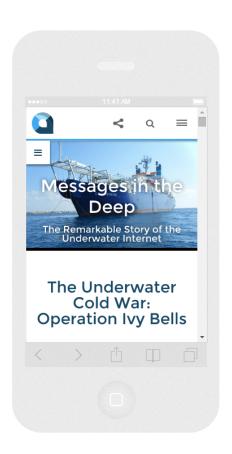
On SEO

builtvisible

INTRO THE UNDERWATER COLD WAR: OPERATION IVY BELLS THE WORLD'S CABLES MAP SUBMARINE SURVEILLANCE: FIBRE OPTIC TAPPING KEEPING THE WORLD WIDE WEB CONNECTED INTERVIEW WITH DAVE HOWARD **DATA IS POWER** CONNECTING THE WORLD THE FUTURE OF CONNECTIVITY **CREDITS**

Non JS version creates a 404

On responsive testing:





responsinator.com

On process:

Every time we encountered a problem, it was because of process:

- 1. A missing step
- 2. Skipping a step

If you don't love it, you can't ship it.

Editorial & Project Management

Liam Fisher
Dani Mansfield
Darren Kingman

Research

Robyn Lodge

Design

Paul Venn

Coding + Genius

Pete Wailes

Testing

The whole wonderful team at Builtvisible

Very special thanks:

Dave Howard, Daniel Butler & Geoff Griffiths





THANK YOU! SESSION Q&A



Richard Baxter • Builtvisible

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Useful Resources

Understand Responsive with Ethan Marcotte:

http://www.besquare.me/session/a-dao-of-flexibility/

How to start: Build your own website

http://builtvisible.com/hand-coding-personal-website/

Ben Nadel Presents jQuery

http://www.bennadel.com/resources/presentations/jquery/video/index.htm

Useful Resources 2

Fluent Online Conference: Beyond JavaScript and HTML5

http://www.oreilly.com/pub/e/2969

The Best of Fluent: JS + HTML5 Video + Canvas

http://www.oreilly.com/pub/e/2599

Using CSS3 – CSS Tricks

http://css-tricks.com/video-screencasts/57-using-css3/

Useful Resources 3

Visualising Data with Google Fusion Tables

http://builtvisible.com/visualising-data-google-fusion-tables/

CSS Media Queries & Using Available Space

http://css-tricks.com/css-media-queries/