Paul Vincent, CEO   @ NEURANET   @pcvincent

Agenda

- Why HTML5?

  - HTML5 creative examples

- Overview - New IAB Canada Creative Guidelines

  - New Smartphone Sizes & cross device Full Screen aspect ratios
  - New scalable HTML5 file size framework

- Making the transition to HTML5

  - HTML5 tools - Roles are changing
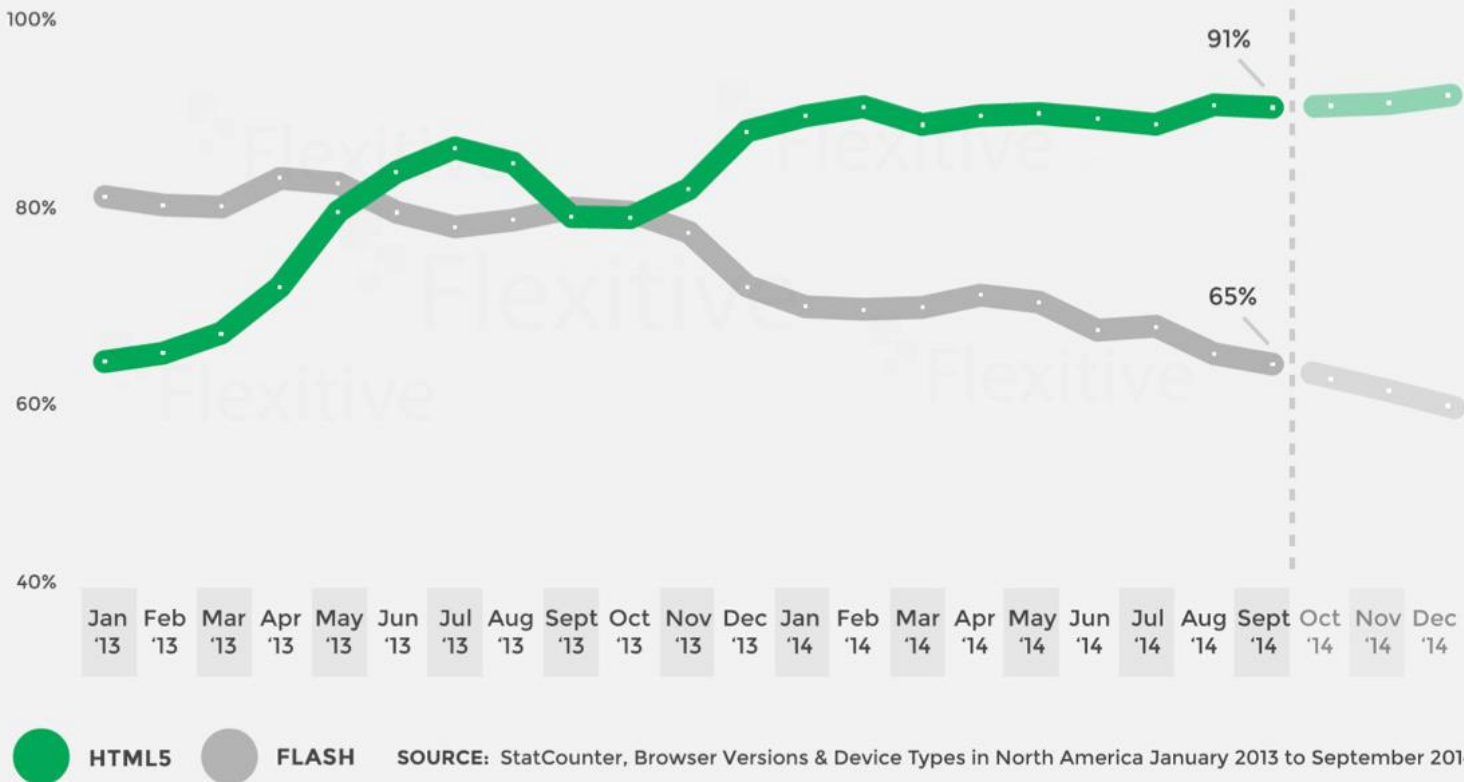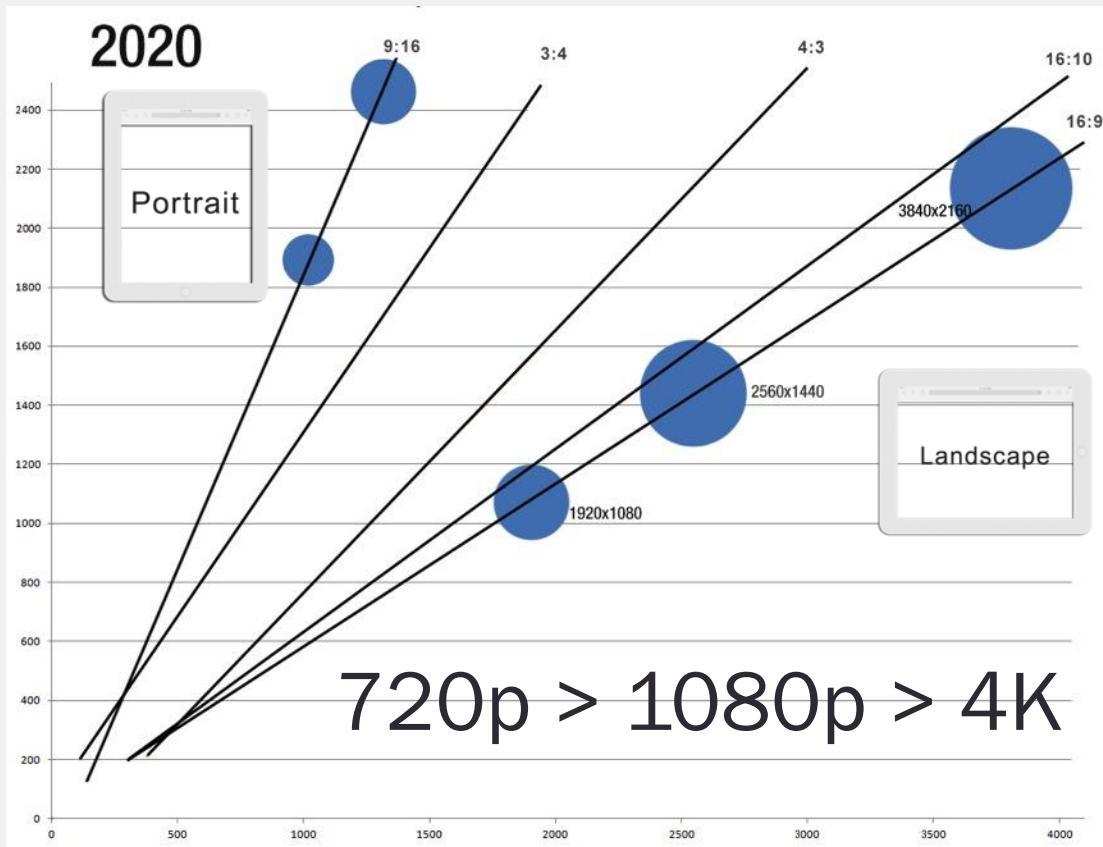 - Graphic Designer & Developer tips

Also...

- Flash wasn't built for responsive design or to scale to so many different resolutions

- Flash requires plugins to be installed and updated on devices & operating systems that do support Flash.

iab.canada

Users in **HTML5** vs Flash **Compatible Environments**

91%

65%

100%

80%

60%

40%

Jan '13 · Feb '13 · Mar '13 · Apr '13 · May '13 · Jun '13 · Jul '13 · Aug '13 · Sept '13 · Oct '13 · Nov '13 · Dec '13 · Jan '14 · Feb '14 · Mar '14 · Apr '14 · May '14 · Jun '14 · Jul '14 · Aug '14 · Sept '14 · Oct '14 · Nov '14 · Dec '14

HTML5   FLASH   **SOURCE:** StatCounter, Browser Versions & Device Types in North America January 2013 to September 2014.

iab.canada

Multiple Aspect Ratios

720p > 1080p > 4K
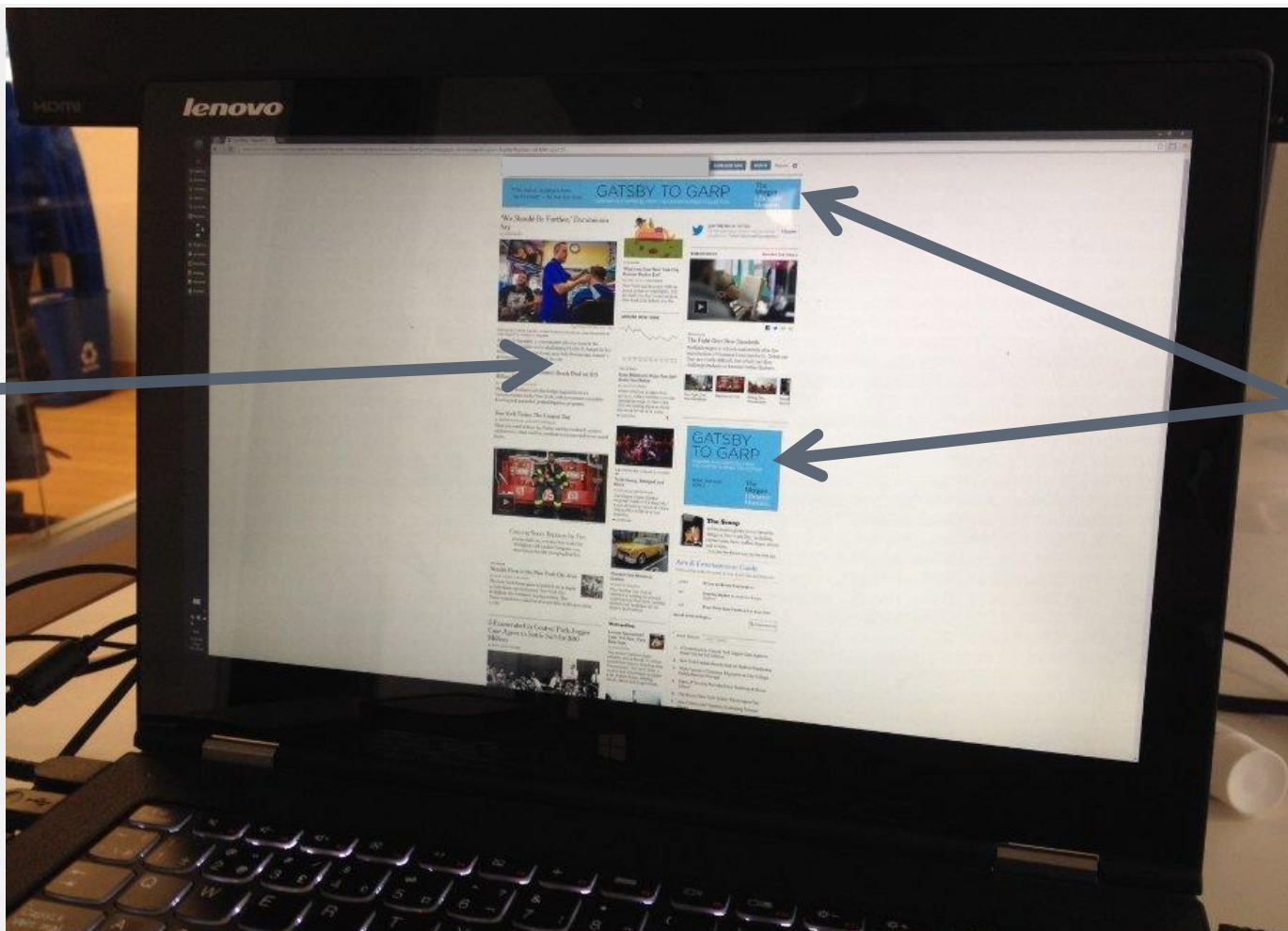
3200x1800

Non-responsive site

Non-responsive Ad that are too small.

Value is dropping as resolutions increase

Evolution of iPhone Screen *Resolutions*

| 2008 | 2010 | 2012 | 2014 | 2014 |

2008

320x480

300x100 (3:1)

 iPhone 3G

3:4

2010

640x960

iPhone 4

600x200 (3:1)

3:4

2012

640x1136

iPhone 5

600x200 (3:1)

9:16

2014

750x1334

iPhone 6

600x200 (3:1)

9:16

2014

1080x1920

iPhone 6
Plus

900x300 (3:1)
(Possible future size)

9:16

Evolution of iPhone Screen *Sizes*

2008	2010	2012	2014	2014
3.5"	3.5"	4.0"	4.7"	5.5"
iPhone 3G	iPhone 4	iPhone 5	iPhone 6	iPhone 6 Plus

"Desktop vs Mobile" is irrelevant.

Flexitive.com

The Cross-Media World

ALL MEDIA ARE IMPORTANT TO YOUR AUDIENCE -

It's critical to efficiently build for a consistent yet optimized cross-media experience.

LEGEND
- HIGH
- MEDIUM
- LOW

	TV	DESKTOP		LAPTOP		LAPLET	TABLET	PHABLET	SMARTPHONE	PRINT	OUT OF HOME
TOUCH?											
	e.g. 4k Displays	e.g. Dell XPS	e.g. Apple iMac	e.g. Macbook	e.g. Lenova Yoga	e.g. Microsoft Surface	e.g. iPad	e.g. Samsung Galaxy Note	e.g. iPhone	e.g. Newspapers	e.g. Bus Shelters
USAGE											
HOME											
WORK											
MOBILE											
SCREEN SIZE	29" +	15 - 28"		11 - 17"		7 - 11"		5 - 7"	3.5 - 5"		7 - 100" +
OS											
BROWSERS											

Mirroring from device to screens is on the rise

iab**.**canada

Hybrid Web/Native App   Shared codebase

No plugin required.

HTML5 is not just a replacement for Flash, it's a whole new net experience

Examples
- Touch   3D / Touch – Site https://www.g-star.com/en_nl/newdenimarrivals
- 3D   3D/Music http://cabbi.bo/drive

The future is responsive Sites & Ads

This is where we are heading - and all this is possible right now, but we have a transitional plan focusing on moving existing sizes to aspect ratios

Examples...

Fully Responsive Ad – Tissot

New IAB Canada Guidelines - Highlights

iabcanada.com/guidelines

We focused on...
1. Monetization
2. via Quality Creative & Performance
3. + Industry Efficiency

PROBLEM - Historical IAB popular ad sizes not keeping up with screen resolutions
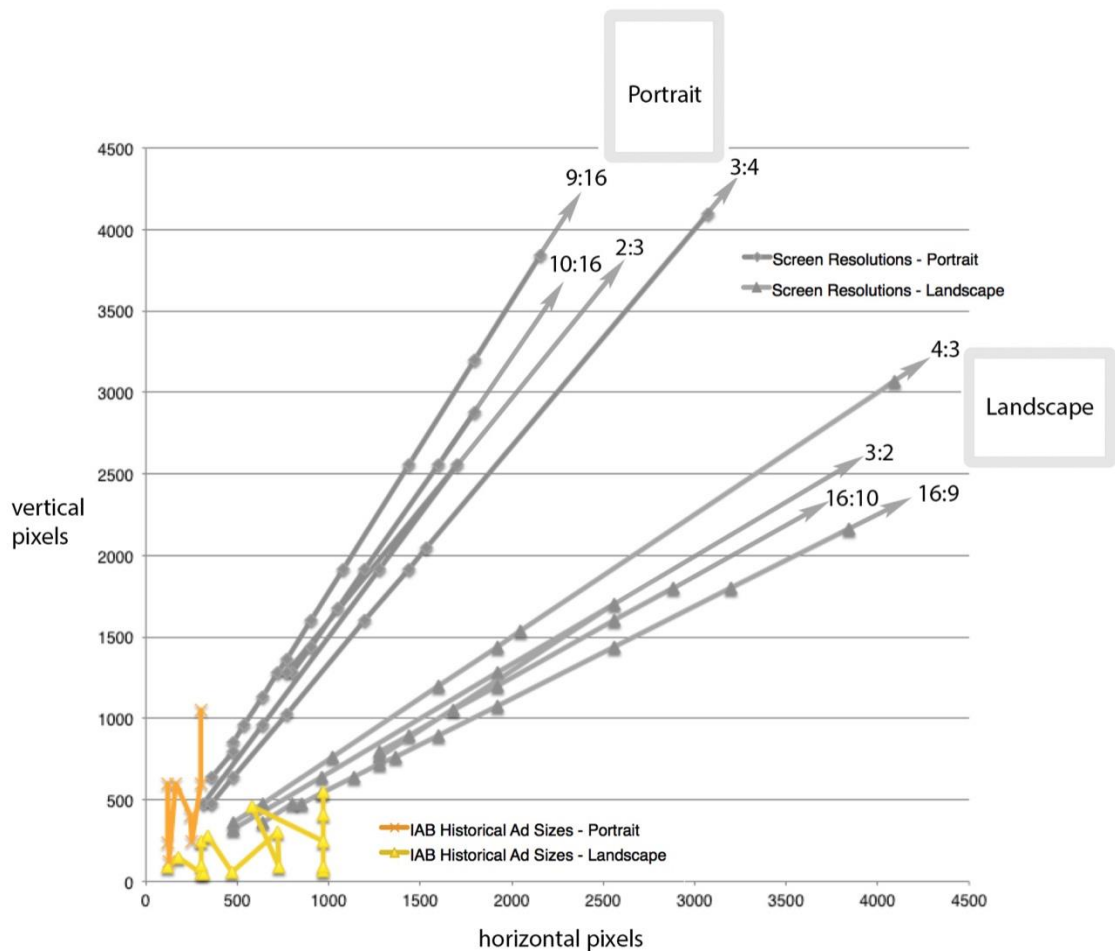
IAB Ad Sizes	Aspect Ratios
14 ad sizes all with unique aspect ratios	
160x600	4:15
180x150	6:5
300x50	6:1
320x50	32:5
300x1050	2:7
300x250	6:5
300x600	1:2
580x460	29:23
728x90	364:45
970x250	97:25
970x415	194:83
970x550	97:55
970x66	485:33
970x90	97:9

SOLUTION: All new fixed sizes introduced match to aspect ratios.
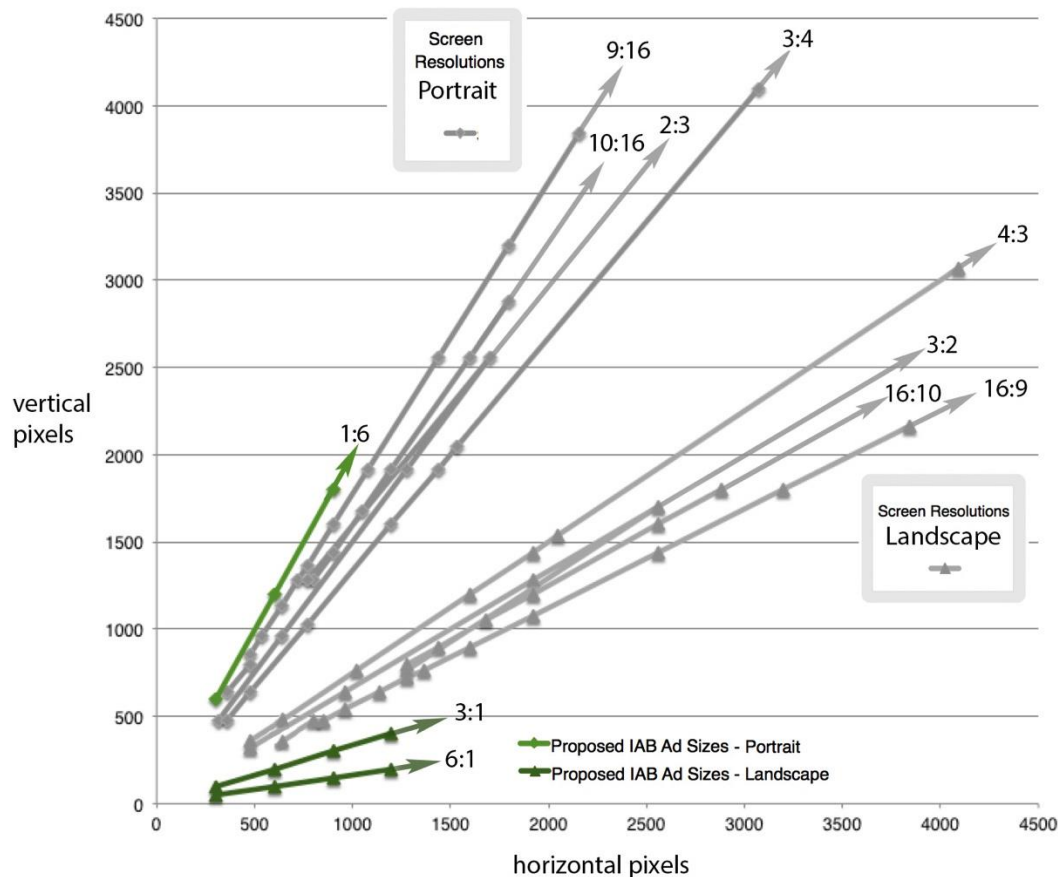
Responsive creative based on aspect ratios allows path for a range of devices at different levels of tech capabilities
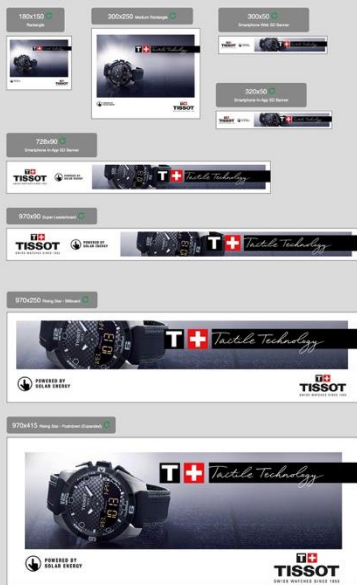
(e.g. lower resolution phones in developing world)

Ad sizes based on aspect ratios allow designers to build creative efficiently.

900x150 (6:1)

600x100 (6:1)

300x50 (6:1)

The next generation of A/B testing - creative development efficiency
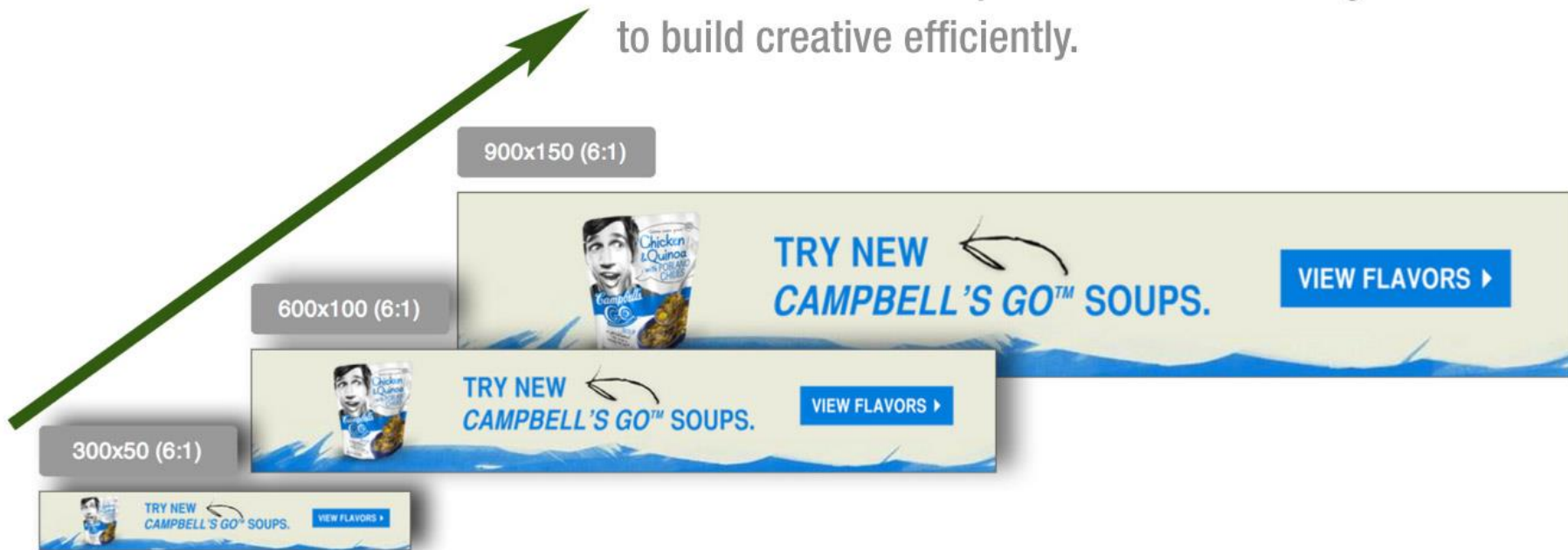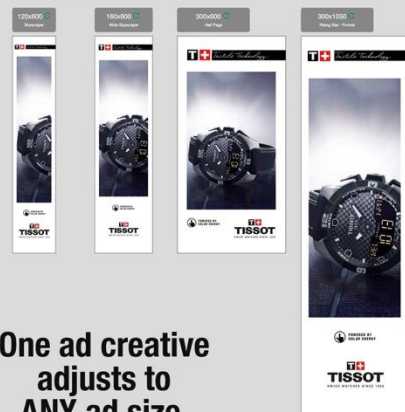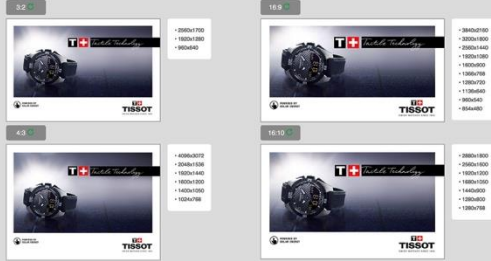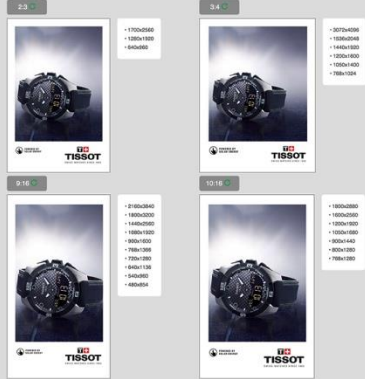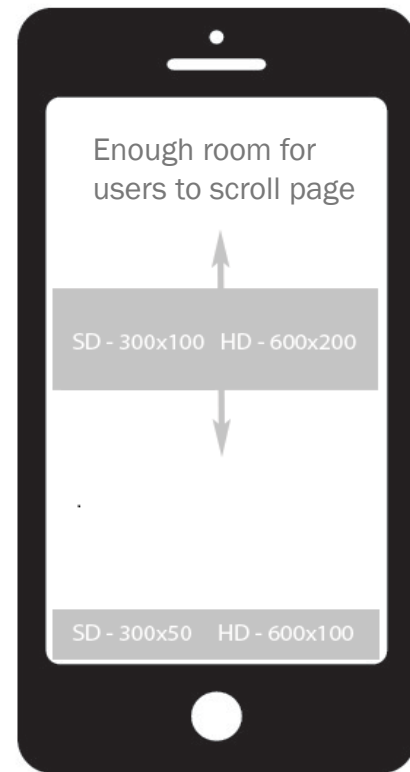
HTML5 enables more efficient creative variations....

1) Brand creative - Manual swapping out a component once (that changes all ad sizes at once) for more effective A/B testing

1) Ecommerce - Automated swapping out components (e.g. connected to product database)

marketing mag example

Creative Unit Name	Initial Dimensions (WxH in pixels) & Aspect Ratio	Maximum Expanded Dimensions (WxH in pixels) & Aspect Ratio	Max Initial File Load Size Allowance (See further HTML5 guidance in notes)
Leaderboard	Phasing out 728x90	Expands down: 728x360	Flash/image: 40 KB HTML5: 100 KB
Large Leaderboard	900x150 (6:1)	Expands down: 900x450 (2:1)	Flash/image: 80 KB HTML5: 150 KB
Big Box	300x250	Expands left: 600x250	Flash/image: 40 KB HTML5: 100 KB
Half Page	300x600 (1:2)	Expands left: 600x600 (1:1)	Flash/image: 80 KB HTML5: 150 KB
Skyscraper	160x600	Expands left: 600x600	Flash/image: 40 KB HTML5: 100 KB
Smartphone Fixed SD (Fixed positioning)	300x50 (6:1)		GIF/JPEG/PNG: 25 KB HTML5: 50 KB
Smartphone Fixed HD (Fixed positioning)	600x100 (6:1)		GIF/JPEG/PNG: 50 KB HTML5: 100 KB
Smartphone Scrollable SD (Within scrollable page)	300x100 (3:1)	Varies; see full screen ad units page	GIF/JPEG/PNG: 25 KB HTML5: 50 KB
Smartphone Scrollable HD (Within scrollable page)	600x200 (3:1)		GIF/JPEG/PNG: 50 KB HTML5: 100 KB
Smartphone Fixed 2 SD (Fixed positioning)	320x50 Phasing out		GIF/JPEG/PNG: 25 KB HTML5: 50 KB

Canadian Universal Ad Package — Desktop - Laptop - Tablet

Smartphone

Enough room for users to scroll page

SD - 300x100   HD - 600x200

SD - 300x50   HD - 600x100

In-Page — 3:1

Fixed — 6:1

SOLUTION: Moving beyond the 300x50 – new full-screen sizes

Full Screen Aspect Ratio Guidelines

Aspect ratios maintain their shape across different screen sizes. This makes it easier for creative teams to develop a vision that will look similar cross-device. Below is a reference chart of common aspect ratios and their equivalent landscape & portrait resolution sizes. A more formal database of resolution sizes, aspect ratios and common devices is currently being produced to live on the IABCanada.com website.

IAB Canada recommends companies consider using aspect ratios for digital ad creatives, to help provide a seamless ad experience regardless of screen size.

Aspect Ratio	Landscape Dimensions	Portrait Dimensions	Max Initial File Load Size (HTML5)	Implementation Notes & Best Practices
3:2 / 2:3	960x640	640x960	200 KB	**Subsequent Max Polite File Load Size:** 2.2 MB **Max Animation & Video Frame Rate:** 24 FPS **Max Animation & Video Length:** 10 seconds or less (loops included) **Audio Initiation:** Audio must be user-initiated (on click: mute/un-mute); default state is muted **Submission Lead-Time:** Minimum 5 business days before campaign start to publisher, 10 days to rich media vendor **Important Notes:** - Take note of the Z-Index guidelines. - Recommended that the final frame contains pertinent information. **To Minimize File Sizes:** - Use .svg vector where possible. - Use .webp image files where possible. - Minify file code where possible. **To Minimize Server Calls:** - Reduce the number of files being called. - Design for aspect ratios, so that one file can be used for multiple creative sizes.
	1920x1280 2560x1700	1280x1920 1700x2560	300 KB	
4:3 / 3:4	640x480	480x640	150 KB	
	1024x768	768x1024	200 KB	
	1600x1200	1200x1600	250 KB	
	1920x1440 2048x1536	1440x1920 1536x2048	300 KB	
5:3 / 3:5	800x480	480x800	150 KB	
	1280x768	768x1280	200 KB	
16:9 / 9:16	960x540 1136x640 1280x720	540x960 640x1136 720x1280	200 KB	
	1366x768 1600x900	768x1366 900x1600	250 KB	
	1920x1080 2560x1440	1080x1920 1440x2560	300 KB	
16:10 / 10:16	1280x800 1440x900 1680x1050	800x1280 900x1440 1050x1680	250 KB	
	1920x1200 2560x1600	1200x1920 1600x2560	300 KB	

Devices Specs Database – All devices, resolutions, OS etc.

Filter

Type	Manufacturer	Device Name	PPI	Screen Size (in.)	Definition	Pixel Width	Pixel Height	Aspect Ratio	OS
Smartphone	LG	G3	538	5.5	HD	2560	1440	16:9	Android
Smartphone	Motorola	Google Nexus 6	493	6	HD	2560	1440	16:9	Android
Smartphone	HTC	One (M7)	468	4.7	HD	1920	1080	16:9	Android
Smartphone	LG	Google Nexus 5	445	5	HD	1920	1080	16:9	Android
Smartphone	HTC	Droid DNA	441	5	HD	1920	1080	16:9	Android
Smartphone	Sony	Xperia ZL	441	5	HD	1920	1080	16:9	Android
Smartphone	Nokia	Lumia Icon	441	5	HD	1920	1080	16:9	Windows
Smartphone	Sony	Xperia Z1	441	5	HD	1920	1080	16:9	Android
Smartphone	HTC	One (M8)	441	5	HD	1920	1080	16:9	Android
Smartphone	Sony	Xperia Z	441	5	HD	1920	1080	16:9	Android
Smartphone	Samsung	Galaxy S4	441	5	HD	1920	1080	16:9	Android

Larger ad sizes, mean larger file sizes are required.

Size Group (pixels)	Size Group	Example Current IAB Fixed Sizes	HTML5 Initial Max File Load Size
Less than 50k px	XXS	M300x50 M320x50	50kb
50-100k px	XS	728x90 160x600 300x250	100kb
100-200k px	S	300x600 M320x480	150kb
200-500k px	M	M480x800	200kb
500k-1m px	L	M960x640 1024x768	250kb
Full Screen Only 1m+ px	XL	1400x900, 1920x1200 2880x1800	300kb

- File sizes now 'cross device' and grouped into size buckets.

- Smartphones & tablets no longer associated with slow net speed

Mostly full screen so not having to load content as well.

iab.canada

Some ad servers have ability to serve different ad sizes depending on the resolution of the user's device / browser view

E.g. DFP

Using the Google Publisher Tags (GPT) API, you can specify one or more sizes as the size set for an ad slot.
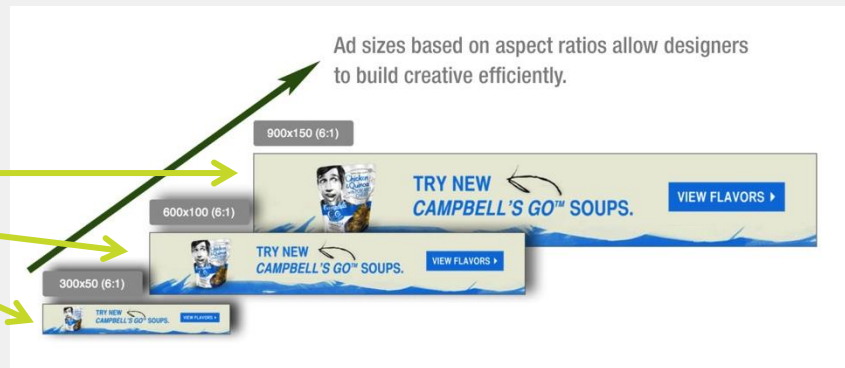
Here's an example…

If browser view width…
= greater than 950px, then serve 900x150 ad size
= between 600-950px, then serve 600x100 ad size
= between 300-600px, then serve 300x50 ad size

Ad sizes based on aspect ratios allow designers to build creative efficiently.

900x150 (6:1)

600x100 (6:1)

300x50 (6:1)

TRY NEW CAMPBELL'S GO™ SOUPS.   VIEW FLAVORS ▸

Combination of .HTML file…

- That either includes OR calls separate .JS, and .CSS files
- Calls images (.jpg, .gif, .png, .svg) and video (.mp4, .webm)

photos

transparency

simple,
limited
colors
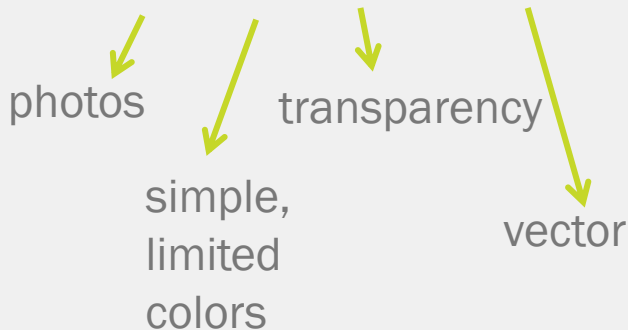
vector

- Use web fonts where possible (.svg for text is fine, just more work for designers)

- Minimize use of .gif, use .svg (vector) where possible e.g. logos.

- .jpg for photos, .png for images with transparency (use sparingly due to size)

Demo of HTML5 functionality

Just as with Flash requiring backup images (either .jpg or .gif) for non-Flash environments, so does HTML5 (backup can be Flash or image)

- With Flash – Ad servers do the support detection work, and serve the backup images

- With HTML5 – It is recommended that the html5 file detects support at the HTML5 feature level, and gracefully degrade those features.

- Two file types - .mp4 & .webm – versions of Firefox (as new as last year) don't support .mp4, but .mp4 seems to be becoming the standard.

- Not just file types to consider, but you should be detecting connection speed and serving varying quality (480, 720, 1080) video. Recommend using cloud based HTML5 builders that do this automatically.

- On mobile operating systems such as iOS and Android, the OS will use its native player for any video if viewed within a browser. Mainly an issue for video backgrounds or auto-play video. In app it should play the HTML5 video tag ok.

1. Investigate HTML5 building tools – you may decide on multiple tools that are used for different requirements
2. Start building internal creative using HTML5, allowing you to do more testing on process especially for creative assets serving directly via your ad servers
3. Campaigns with a focus on smartphones and tablets should be built using HTML5 if they are not already
4. Cross-device campaigns should determine...
    • Should HTML5 be used for all ad placements?
    • Should Flash be used for desktop OS, and HTML5 for mobile OS? Building in both technologies will be more expensive, but it may be a better solution as your organization's HTML5 capabilities increase.
5. Start with more simple creative, and add complexity over time
6. When evaluating new sites & native apps – determine if hybrid responsive HTML5 is a more cost effective solution for your project

- New HTML5 tools are enabling graphic designers with limited web development knowledge to build advanced HTML5 solutions fast.

- Web Developers can then focus on even more complex experiences

- These tools are also evolving to automate as much of the design process as possible

  - Faster building creative variations for different demographics, A/B testing, dynamic content - via swapping out creative components
  - Building templates that can be re-used for different brands

- Brands and even some media buying agencies are building more creative in-house

- Creative agencies now more than ever, need to have efficient cross device creative solutions and process in place
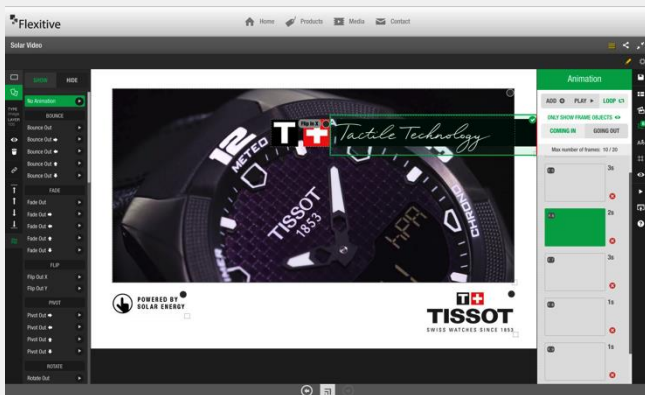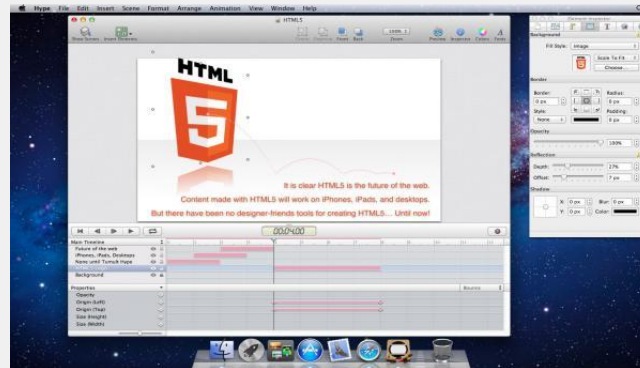
Adobe Edge Suite

Google Web Designer
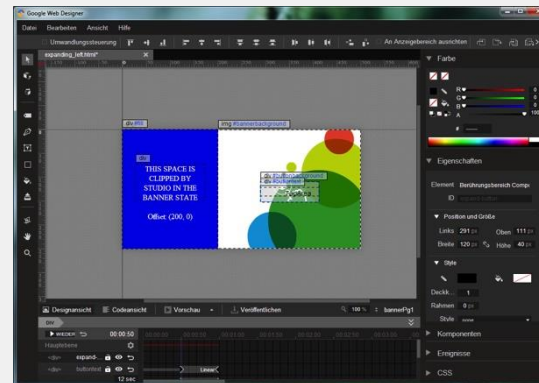
Flexitive.com

Tumult Hype

Try them out, but note...

- HTML5 can be responsive so there are major efficiencies when building many different sizes.
- For new full screen sizes especially on smartphones & tablets – Flash conversion is not a recommended solution. There are too many aspect ratios/screen resolutions to design for so that creative is viewable across the full range of devices.
- Recommended to start with simple creative first – more complex creative may not convert properly, and file sizes of the HTML5 output may be too large because of inefficiencies in the conversion process.
- Analogy of a gasoline car being converted to a fully electric car, it won't be optimal. There is no hybrid Flash/HTML5 codebase.

For Graphic Designers

iab.canada

- Based on .webm video format, only supported on some newer browsers (incl. Chrome) so .webp is a supplement not a replacement

- According to Google's measurements, a conversion from PNG to WebP results in a 45% reduction in file size (PNGs found on the web), and a 28% (after pngcrush and pngout).

- Google has also proposed using WebP for animated images as an alternative to the popular GIF format – but in the long term these animated image formats won't likely survive. Google reports between a 19% (lossless WebP) and 64% (lossy WebP) reduction in file size for images converted from animated GIFs .

iab.canada

- For efficiency and design consistency, use responsive design techniques where possible especially building full screen creative - There are too many aspect ratios/screen resolutions to design for so that creative is viewable across the full range of devices.
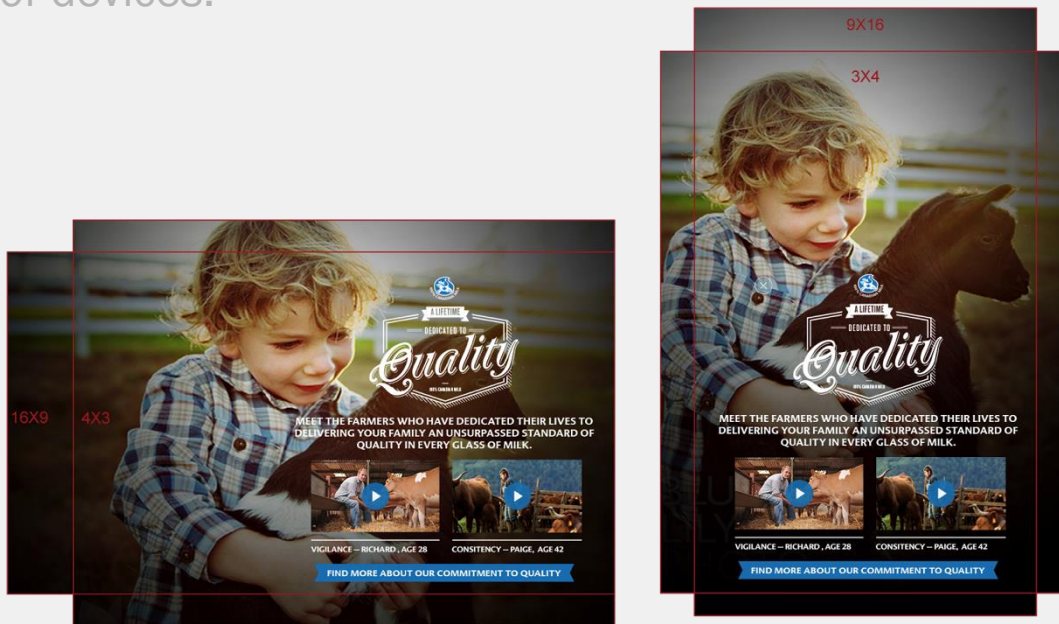
For Developers

- CSS animations – simple but less control

- JS animations – full control, but look into Greensock and other js frameworks rather than starting from nothing

- To maximize performance, minimize the number of animations on image or video elements

- Provides a javascript API for rendering GPU accelerated interactive 3D and 2D graphics with any compatible browser without the use of plugins

- Usage previously held back due to Safari Browser default setting as 'off' but as of Safari 8.0 (Dec 2014) is now on by default.

- A number of JS libraries have been built such as Three.js that make it easier to use the WebGL API (similar to how other JS libraries such as jquery make it easier to build UI components)

- A number of JS libraries have been built to use the HTML5 Canvas API such as EaselJS (part of the CreateJS suite)

Examples - EaselJS

- Minimize number of external calls from .html file – including js and css in one file could be more efficient

- Prioritize file loading based on animation frame order where possible

- Use large externally hosted frameworks (like jquery) sparingly as it is included in the max ad file weights

- Minify code

HTML5 for Digital Advertising 1.0: Guidance for Ad Designers & Creative Technologists

iab.net/html5

- Please communicate feedback to your IAB council/committee representatives
- IAB Creative Committee launching soon!

Feel free to also connect with me…

paul.vincent@neuranet.com   @pcvincent   @ ⊡ **NEURANET**