Global Content: Dealing With Multiple Mobile Devices in the Real World

Tekom/tcworld– Wiesbaden 2012
“Mobile screens are so small, you don’t need a strategy.”
Of course, it’s exactly the opposite.
There are too many devices – and too many ways of distributing/publishing content to work without a strategy.
We talk about two types of strategy

• Content Strategy
• Business Content Strategy
Unified Digital Content Strategy
Unified Digital Content Strategy

• Define a content experience for your customer that enables them to obtain your content and achieve their goals anywhere, anytime and on any device
Unified Digital Content Strategy

• Incorporates
  • Adaptive/responsive content model strategy
  • Reuse strategy
  • Workflow
  • Taxonomy
  • Governance
Content strategy applies to

- Multiple areas within the organization
  - Marketing
  - Product usage
  - Training
  - Support
- Multiple deliverables
  - Print
  - Web
  - Smartphone apps
  - eReader
  - Tablet apps
Not going to talk about that
Business Content Strategy
What do you want to do?

- There are many methods of 'publishing' your content
  - Print
  - Web
  - eBooks on Tablets and Smartphones
  - Smartphone apps
  - Tablet apps
  - Dedicated eReaders
Questions, questions, questions...

• How will we distribute our content?
• What does mobile mean to us?
• What content can be provided in a ‘mobile manner’?
• Who are our readers?
• What do they want?
• How will they find the material they need?
• How with they experience it?
  • Text
  • Video
  • Audio
Must support

• Your business model
• The needs of the users of the content
What does mobile mean?

- Options include:
  - Web based information (website)
  - Web app (downloaded to device, but requires web access)
  - Installed application
  - eBook installed within an ecosystem (Kindle, iBooks, etc.)

- What platform?
Question period

• How might you decide between different types of ‘mobile’?
  • Web based information (website)
  • Web app (downloaded to device, but requires web access)
  • Installed application
  • eBook installed within an ecosystem (Kindle, iBooks, etc.)
Why do we have to think about this?

(it’s just about screen size, right?)
Not quite
resizing visuals is not the solution to mobile delivery
Not as impressive as it once was
Not as impressive as it once was
The new PCs
The new PCs

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Ask Microsoft...

- Stock tumbled in October 2012 due to lack of sales in the PC market
- "Looking forward to the Surface"
Why make it hard to use?
Again, why do we have to think about this?

(we’ve made transitions before)
We’ve been through this before
In the (not quite so) olden days

- Tried to move print online
- Didn’t work
- Page size was different
- Resolution was different
- Navigation was different
- Understanding of depth and breadth was different
- Searching was different
- Everything was different!
- Had to rethink content for online
Early ‘online’ was a bit rough…
• Why would we think that we can simply scale to fit mobile?
• *Page* size is different
• Resolution is different
• Navigation is different
• Understanding of depth and breadth is different
• Searching is different
• Time on task is different
• Everything is different!
• Have to rethink content for mobile
No one reads...

- They just scan the screen.
- If you thought reading on this was hard...
No one reads...

• They just scan the screen.
• If you thought reading on this was hard...

• Consider reading on this >
Mobile issues

• Companies are not designing mobile web content
• Companies design website and mobile app, twice the work or more!
• Mobile apps are time consuming and expensive
• Automated web to mobile are not usable
• People spend much less time on a task on mobile than on website

• But you say... you’re going to eBooks, not *traditional* mobile
eBooks

- *Page* size is different
- Resolution is different
- Navigation is different
- Understanding of depth and breadth is different
- Interactivity is different
- Have to rethink content for eBooks or any mobile content
eBook issues

• Authoring tools are designed to optimize print publication, not eBook
• eBooks are generated from print books instead of from format free content resulting in problems in the eBook (sidebars, tables, order of information)
• Producing eBooks for multiple devices by hand is a nightmare!
Handcrafting is unsustainable

- Devices are proliferating
- Device wars means that new devices are released every 9-12 months
- Functionality varies across device
- What works on one, may not work on another
- Constant churn to identify new functionality and design content to take advantage of the functionality
- Can’t keep up

- You must plan ahead and ensure your business strategy is in place
Fragmentation

and what it means for you
First challenge - fragmentation

- 3997 distinct devices with different resolutions and different OS versions
- (GT-I19100 is the Samsung Galaxy SII)

http://opensignalmaps.com/reports/fragmentation.php
Maybe not *that* fragmented

- Samsung has 40% of the market
### Or maybe it is...

| Maker          | Model     | Intro year | End year | Screen size (p/d) | Self-lit | Screen type | Weight | Screen pixels | Screen shades | Operating system | Touch screen | Wireless network | Text-to-speech | Integrated dictionary | Directory organization | Internal storage | Card reader slot | Replaceable battery | Web browser | Library compatible | USB peripherals |
|----------------|-----------|------------|----------|-------------------|----------|-------------|--------|---------------|---------------|-----------------|--------------|------------------|----------------|-------------------|-----------------|---------------------|---------------------|------------------|-----------------|---------------------|-----------|-------------------|------------------|
| Aluratek       | Libre EBook Reader Pro | 2009      | 5        | ?                 | ?        | ePaper      | 219 g  | 800 x 800     | ?             | ?              | No            | No               | No             | No                | No              | No                | SDHC 32 GB         | ?         | No               | ?                  | No        | No                | No              |
| Amazon.com     | Kindle Paperwhite 3G | 2012      | 5        | Yes              | eInk Pearl | 221 g (7.8 oz) | 768 x 1024 | 16 | 500 x 800     | 4             | Linux          | Yes 2-Point Multi-touch | Wi-Fi, 3G CDMA, 3G GSM | No               | Yes             | Yes               | Yes (US only)   | No               | No              | No                  |
| Amazon.com     | Kindle Paperwhite Wi-Fi | 2012      | 5        | Yes              | eInk Pearl | 213 g (7.5 oz) | 768 x 1024 | 16 | 500 x 800     | 4             | Linux          | Yes 2-Point Multi-touch | Wi-Fi           | No               | Yes             | Yes               | Yes (US only)   | No               | No                  |
| Amazon.com     | Kindle (6th generation) | 2011      | 6        | No               | eInk Pearl | 170 g (6.0 oz) | 600 x 800 | 16 | 500 x 800     | 4             | Linux          | No               | No               | No             | Yes               | Yes               | Yes (US only)   | No               | No                  |
| Amazon.com     | Kindle Touch 3G[1] | 2011, 2012 | 6        | No               | eInk Pearl | 220 g (7.8 oz) | 600 x 800 | 16 | 500 x 800     | 4             | Linux          | Yes             | Wi-Fi, 3G CDMA, 3G GSM | Yes            | Yes             | Yes               | Yes (US only)   | No               | No                  |
| Amazon.com     | Kindle Touch | 2011       | 2012     | 6                | No        | eInk Pearl | 213 g (7.5 oz) | 600 x 800 | 16 | 500 x 800     | 4             | Linux          | Yes             | Wi-Fi, 3G CDMA, 3G GSM | Yes            | Yes             | Yes               | Yes (US only)   | No               | No                  |
| Amazon.com     | Kindle 3 Wi-Fi 3G (now Kindle Keyboard)[2] | 2010      | 2011     | 6                | No        | eInk Pearl | 247 g (8.7 oz) | 768 x 1024 | 16 | 500 x 800     | 4             | Linux          | No               | Wi-Fi, 3G CDMA, 3G GSM | Yes            | Yes             | Yes               | Yes (US only)   | No               | No                  |
| Amazon.com     | Kindle DX, 1st gen white | 2009, 2011 | 5, 9.7  | ?                | eInk Pearl | 241 g (8.5 oz) | 824 x 1200 | 16 | 624 x 1200    | 4             | Linux          | No               | No               | Yes             | Yes             | Yes               | No                | No               | No                  |
| Amazon.com     | Kindle DX, 4th gen graphite | 2010       | 2011     | 9.7, 9.7        | ?        | eInk Pearl | 357 g (16.9 oz) | 824 x 1200 | 16 | 624 x 1200    | 4             | Linux          | No               | 3G HSDPA/3G | Yes             | Yes             | Yes (US only)   | No               | No                  |
| Amazon.com     | Kindle 2 | 2009       | 2010     | 6                | ?         | eInk Pearl | 289 g (10.2 oz) | 600 x 800 | 16 | 600 x 800     | 4             | Linux          | Yes             | No               | No             | No               | 256 MB (180 MB) | No         | Yes             | Yes (US only)   |
| Amazon.com     | Kindle | 2007       | 2009     | 6                | ?         | eInk Pearl | 289 g (10.2 oz) | 600 x 800 | 4  | 600 x 800     | 4             | Linux          | No               | CDMA            | No             | Yes             | No               | No                | SDHC 32 GB  | Yes             | Yes (US only)   |
| Atrix          | EEE Reader DR-900 | 2010       | 2010     | 9                | ?         | SiPix       | 440 g (10 oz) | 768 x 1024 | 16 | 768 x 1024    | 4             | Linux          | Yes             | WLAN           | Yes            | Yes             | Yes             | No                | microSD   | Yes             | No              |
| Barnes & Noble | Nook | 2009, 2011 | 6        | ?                | eInk Pearl | 343 g (12.1 oz) | 600 x 800 | 16 | 600 x 800     | 4             | Android | Bottom Wi-Fi, UMTr (option) | Yes | No               | No             | No (FW v1.5) | 2 GB (1.3 GB) | microSDHC  | Yes             | Yes (FW v1.5) | No              |
| Barnes & Noble | Nook Simple Touch | 2011       | 6        | ?                | eInk Pearl | 212 g (7.5 oz) | 600 x 800 | 16 | 600 x 800     | 4             | Android | Yes             | Yes            | Wi-Fi           | No             | No               | No                | No                | No         | No             | No              |
And test with old devices

• Android 4 (ICS) is most recent version
• 75% of units still running 2.3 (Gingerbread) or earlier

http://developer.android.com/about/dashboards (google play access)
Test, test, test!

- Services can help you test both apps and ebooks and webpages
- Emulators exist as well
- Best to have a small ‘petting zoo’ of devices to test with.
- Turnaround time is better ;-)}
Question period

• Can you think of methods to deal with fragmentation?
Consider Adaptive Content
What is adaptive content?

Adaptive content automatically adjusts to different environments and device capabilities to deliver the best possible customer experience, filtering and layering content for greater or lesser depth of detail.
What is adaptive content?

“We want our app to be adaptive across different platforms.”

No – it’s for websites.
Adaptive content can

• Adjust to any device
• Be displayed in any desired order
• Respond to specific customer interactions
• Change based on location
• Integrate content from other sources
Adaptive vs Responsive

• Adaptive
  • An overall approach for enhancing the usability of content on a given device

• Responsive
  • Focused on displaying the content in the best possible way on a given device
Adaptive content

• Adaptive content is limited only by your design decisions, the functionality of the device being used, and the intelligence of your content.
Same site, different devices
How can you achieve it?

• On the technical side, with web sites...
  • Grids
  • Flexible fonts
  • Flexible images
  • Media overlays
Grids

• A method of providing a visual structure to a page
• Often used for fixed width pages
• Common width is 960 px
  • Can be divided into a wide variety of grids
• Evenly divisible by 3, 4, 5, 6, 8, 10, 12 and 15
• Can be used with a liquid* or resizable layout

Flexible fonts

- Fixed font sizes are bad
- Don’t use the old standby – ‘pixels’
- There is a better option – the ‘em’
- 1 em = the base Body text size

1. Set the base Body text size
2. Define subsequent styles based on multiples of the base

```css
body {font-size: 16px; /* 16px */}

h1 {font-size: 2em /* 32px */}

h2 {font-size: 1.5em /* 24px */}
```
Flexible images

• More complicated than flexible text
• Based on the concept of percentage widths

• Remove any fixed size information from images
• Place image in a container
• Set the ‘max-width’ of the container to 100% forcing the image to scale within the container

This does not work with apps.
• iOS requires that you provide individual images for each required size
  • 2 densities
  • 9 images total
• Android requires that you provide multiple image sets as well
  • 4 densities
  • 12 images total
Media Queries

• Simple idea – why don’t we ask the device about itself?
• Part of the available meta information from a webpage

• How big is the content area on the screen? - use the ‘viewport’ query

• Protip – sometimes the devices lie

<meta name="viewport" content="width=device-width"
content="height=device-height" />

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Question period

• Who is using adaptive or responsive design right now?
eBooks are web sites

• 1999 called, it wants its browser technology back
Updates – EPUB 3

- Not HTML based, XHTML based
- In general, the enhancements include:
  - Improved language and typography support
  - Greater accessibility options and increased multimedia support
  - Better layout
  - Enhanced metadata
  - MathML support
  - Enhanced SVG support
  - Can do fixed layout
EPUB 3 – Language support

- Supports non-Roman scripts
- Can display correct reading direction
- Can switch directions multiple times within the book
EPUB 3 - Accessibility

• Integration of DAISY* into standard supports access for visually impaired users
• Can use HTML5 media overlays
  • Synch audio and text highlighting
  • Formerly could only be done in an app

* Digital Accessible Information SYstem
EPUB 3 – Improved layout

• Many CSS3 features are included
• Multi column layout now supported
• Fixed layout supported
• Better font support

• Not all readers can display enhancements
Better metadata

• Not only describes the book, but can now describe sections within the book.
• Better search capability
EPUB 3 - Math ML

• A method of describing complex mathematical equations using XML
• Math can be displayed as ‘text’ rather than as a graphic
• Doesn’t support the full specification
EPUB 3 – SVG support

• SVG (Scalable Vector Graphics)
• Enhances SVG support
• User defined fonts
• No animation
• Won’t be available for older devices
Updates – Apple EPUB

• Goin’ their own way...
• Fixed layout *based on* EPUB 3
• Each page is treated like a custom sized book, and ‘bound’ together
• Text is not reflowable
• Multiple font sizes are not supported, readers can only zoom in and out
• PNG or JPEG images are supported
• Graphics can be used as page backgrounds
• Text positioning is done by the CSS stylesheet and placement can be done line-by-line or in chunks
Updates – KF8 (Kindle)

• Goin’ their own (different) way…
• Based on Mobi, with HTML5 and CSS3 (like EPUB3)

• Can do fixed format (Print replica content)
• ‘Text pop ups’ expand and highlight text
• ‘Kindle Panel view’ does the same for graphic novels

• Does not support embedded, synchronised video or audio
eReaders Recommendations

- E Ink eReaders
- ‘Books’ only
- Screen size of 600 x 800 pixels
- Most readers will allow double click image expansion, not all do.
Tables

• Tables are always an issue on mobile. Some options include:
  • Tables where screen real estate permits
  • Image of the table
  • Modularized table
  • Fixed first column, scrolling remainder
  • Cascading list
  • Drill down

• Tables are inherently structured, you just need to map your table structure to desired output
  • *Tables were designed for paper – is there a better way online?*
Tables – convert to text

• While this solution is not ideal, it is readable and useful on even the simplest device and by screen readers and it can be searched.

<table>
<thead>
<tr>
<th>Food</th>
<th>Size</th>
<th>Carbs</th>
<th>GI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rice</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arborio risotto rice, white, boiled</td>
<td>1/3 cup</td>
<td>18.2</td>
<td>69</td>
</tr>
<tr>
<td>Basmati, white, boiled</td>
<td>1/3 cup</td>
<td>18.2</td>
<td>58</td>
</tr>
<tr>
<td>Broken, Thai, white, rice cooker</td>
<td>1/3 cup</td>
<td>18.2</td>
<td>86</td>
</tr>
<tr>
<td>Brown, boiled</td>
<td>1/3 cup</td>
<td>19.0</td>
<td>55</td>
</tr>
<tr>
<td>Glutinous, white, steamed</td>
<td>1/3 cup</td>
<td>18.2</td>
<td>98</td>
</tr>
<tr>
<td>Instant, white,</td>
<td>1/3 cup</td>
<td>18.2</td>
<td>87</td>
</tr>
<tr>
<td>Jasmine, rice cooker</td>
<td>1/3 cup</td>
<td>18.2</td>
<td>109</td>
</tr>
<tr>
<td>Wild, boiled</td>
<td>1/2 cup</td>
<td>13.3</td>
<td>57</td>
</tr>
<tr>
<td>White, short grained, boiled</td>
<td>1/3 cup</td>
<td>19</td>
<td>83</td>
</tr>
</tbody>
</table>

Rice
- Arborio risotto rice, white, boiled, 1/3 cup, Carbs = 18.2, GI = 69 (Med)
- Basmati, white, boiled, 1/3 cup, Carbs = 18.2, GI = 58 (Med)
- Broken, Thai, white, rice cooker, Carbs = 18.2, GI = 86 (High)
- Brown, boiled, 1/3 cup, Carbs = 19.0, GI = 55 (Med)
- Glutinous, white, steamed, 1/3 cup, Carbs = 18.2, GI = 98 (High)
- Instant, white, 1/3 cup, Carbs = 18.2, GI = 87 (High)
- Jasmine, rice cooker, 1/3 cup, Carbs = 18.2, GI = 109 (High)
- Wild, boiled, 1/2 cup, Carbs = 13.3, GI = 57 (Med)
- White, short grained, boiled, 1/3 cup, Carbs = 19, GI = 83 (High)
eReaders colour usage

- Consider the issue of colour.
- What happens when you display colour on a B/W device?
• Ishihara test for colour blindness

Colour
• Really, they’re the same image
Tablets are more versatile

I tried to login on my iPad. Turns out it was an Etch-a-Sketch and I don’t own an iPad.

Also, I’m out of wine.
Tablets are more versatile

• But not perfect

• eReader tablets (Kindle Fire, Apple Mini, etc.) are less powerful than their bigger cousins
Tablets are more versatile

• Can cross-read books from other eco-systems

• Windows
  • Kindle Desktop
  • Kobo Desktop
  • Sony Reader Library
  • NOOK for PC
  • Adobe Digital Editions
  • Blio

• Apple
  • iBooks
  • Kindle Desktop
  • Kobo Desktop
  • Sony Reader Library
  • NOOK for Mac
  • Adobe Digital Editions
  • Blio
Tablets are more versatile

- Can run book apps
Tablets are more versatile

- Can support marketing and service functions
- Hyundai Equus sales and service app 2011
Tablets are more versatile

- Can support augmented reality apps
  - Using AR to identify the location of a TV satellite prior to installation
- Apps have full access to the capabilities of the device
  - Compass
  - GPS
  - Camera
  - Wifi
  - 3/4G connectivity
Can people buy the tablet?

- Nook is only available in the USA, will be available in the UK this fall.
- iPad is not available in all countries either.
Don’t use Flash™

• Just don’t...

• Never worked on iOS
• Been discontinued on Android and other platforms
Can an App provide new uses?

• If you can display your content on different devices, new markets can be opened.

www.autodesk.com iTunes app store

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Can an App provide new uses?

- If you can display your content on different devices, new markets can be opened.
Navigation is key for mobile

- Navigation can be a challenge, due to small screen size.
- Try not to break content into too many pages, one page per item/article is usually better, even if the page is loooong.
- Flatten the hierarchy.
- Drilling down to reach content is problematic.
- Cluster like information together
- Use “more like this” or “related content” links to make it easy for the user to navigate
- Ensure that navigation is available on every page.
- A “home” link is crucial in mobile – especially on large sites.
- Images should not be used for navigation, and should never be used as the only means of navigation.
• It must be easy to use.
It must be easy to use

• It must be easy to use.

• If you need 4 help screens when the site/app opens, you’re doing it wrong.
It must be easy to use

- If your Tablet version of the App still has four screens of instruction, maybe you need to go back to the drawing board.
It must be easy to use

If you need the help later, you can open it from the settings panel.
Let’s end on a high note
Supporting multiple devices?

• Don’t assume that the same content on one device should look or be accessed in the same way on different devices.
Intelligent Life – The Economist
A world of difference

In the second of our series celebrating the joy of maps, John Hooper studies the Borgia Map, where geography meets fantasy.

Not the least charming aspect of the Borgia Map is that no one knows why or by whom it was made. It was found in Portugal in 1794. Cardinal Stefano Borgia and added to his rich collection of treasures from what he termed the "four parts of the world". Today, his artefacts and antiquities are mostly scattered between Naples and Rome, where the Borgia Map is to be found in the Vatican Museums.

It is engraved on two copper plates, 63cm (24 inches) across, which have been riveted together. Experts say it dates from the mid-15th century - but its creator was blithely unaware of many of the discoveries made by then. There is, for instance, no trace of the Canary Islands, which had been colonised in 1402.
Intelligent Life – The Economist

1. "Hero in Alumia in 432."
2. "Battle of Cannae in which Hannibal slew 44,000 Romans and collected from their bodies three bushels of golden rings."
3. "Sinopo conquered many kingdoms and vanquished Hercul, Pemphro and Insiea."
4. "Paradise, located on the coast beyond India and China."
5. "From here to the ocean, a land uninhabitable on account of cannibalism."
6. "When pressed by dogs, the stag drinks water which it vomits upon the dogs boiling."
7. "Mountains "in which griffins and tigers dwell."
8. "Here women hairy and very savage bring forth without males."
9. "In India: huge men having horns, four feet long, and serpents "of such magnitude that they can eat on ox whole."
10. "In Libya or thereabouts, the "fountain of the sun, boiling at night and tepid in the morning."
11. "Near the headwaters of the Nile, a Phoenix "burns itself in an aromatic fire, and in three days is recreated from its ashes."
12. "Siboria, marked as being "the land formerly of illustrious women. In this lake..."
App vs Web app

- Web app, notice the little connection icon

- Local app
  Downloads once and does not access web

A world of difference

In the second of our series celebrating the joy of maps, John Hooper studies the Borgia Map, where geography meets fantasy.
They both work because

- They thought about the capabilities of the device
- Thought about where the user would likely be
- Were focused on the best content experience on the device at hand
Summary

• There is no perfect ‘mobile output’
• Determine the best type of output for both you and your customers; web/webapp/eBook/app
• There is constant churn in the devices available
• If you know what your readers will use
  • You can enhance the experience on that device
  • Consider the dangers of locking into any device
• Recent changes to the standards have made much more interesting content delivery possible
• HTML5/CSS3 will bring app-like capability to books and websites
• Not everyone will be able to upgrade, so keep that in mind
• Plan ahead