

Designing for Mobile

Bringing Design Down to Size

by Brian Fling, Principal & Dir. of Strategy, Blue Flavor

What is the deal with mobile?



**Mobile is a zero
billion dollar industry.**



Where are all the mobile designers?



In this room.



**You likely already have all the
skills you need to jump into
Mobile Design.**



**You just need a little
information.**



Ground to Cover

- Mobile Ecosystem

What you need to know about Carriers, Networks and Devices and why you need to know it.

- The Benefits of Mobile

Why mobile will revolutionize everything... seriously!

- Creating a Mobile Strategy

The importance of people-centered design.

- Designing for Small Screens

What you need to know about mobile interaction & visual design.

- The Mobile Web

- Define lots of Mobile Jargon



Jargon Alert



Mobile

Portable personal communication devices able to connect voice calls or data requests wirelessly.

Not to be confused with “cellular” or “cell.”



The Mobile Ecosystem*

* in the United States



**Understanding and patience
of the Mobile Ecosystem is one
of the most crucial skills of the
Mobile Designer.**



Mobile is not the Web



Mobile is so not the Web

- ✓ 200+ devices
- ✓ 30+ web browsers
- ✓ Carrier controlled ecosystem
- ✓ Limited input or output
- ✓ Limited guidelines or resources
- ✓ "No Standards"
- ✓ People don't "get it"

The list goes on....



**There is a good reason for
just about everything.**



How did we get where we are?
(umm...where the hell are we today?)



Jargon Alert

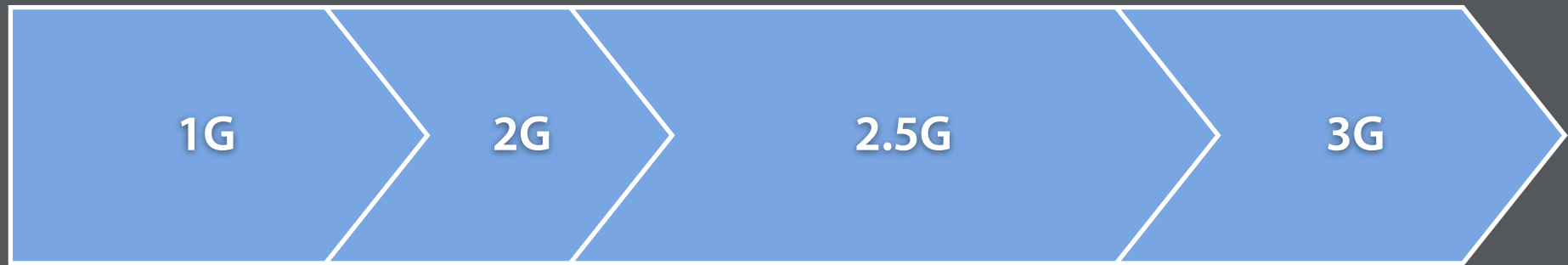


G as in 2G, 2.5G and 3G.

The generations of mobile networks.

Officially there are only 1G, 2G & 3G, but several midpoints have been defined as 2.5G, 2.75G, 4G, etc.





- Over time cellular networks have evolved
- Unfortunately unlike other technology, Mobile moves slowly, but why?
 - Physical Infrastructure
 - Subsidization & Consumer Adoption



Network Generations



- Portable!
Fits in a Briefcase
- Voice calls only
- Costs more per call than a pay phone



1st Generation



- GSM, CDMA, TDMA, iDEN
- Less power needed, much smaller
- Better voice quality
- Added SMS
- Still just a phone



2nd Generation



- GPRS, HSCSD, WiDEN
- Data-capable devices
- Addition of Mobile Web
- Camera phones & MMS
- Mass adoption in U.S. as airtime rates lower

The 2G/3G Transition





- W-CDMA, HSDPA, EVDO
- In the early stages today
- “Broadband” Speeds
- Add-on features like LBS and media players
- Slow uptake

3rd Generation



Jargon Alert



LBS

Location-based Services

The ability for a mobile device to provide information that is relevant to its physical location via a Global Positioning System (GPS).



	Carriers	Operators
Origins in...	Baby Bells	Mobile
Building a...	Network	Framework
They want...	Control	Flexibility
Cater to...	Consumers	Developers
Seek to increase...	ARPU	ARPU



Carriers vs. Operators

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ARPU

Average Revenue Per User

A term used to describe the financial value of a program, application or service.



Jargon Alert



Walled Garden

A user experience designed to keep the user content while restricting access to content outside the approved boundaries.

see Sprint or MTV Mobile



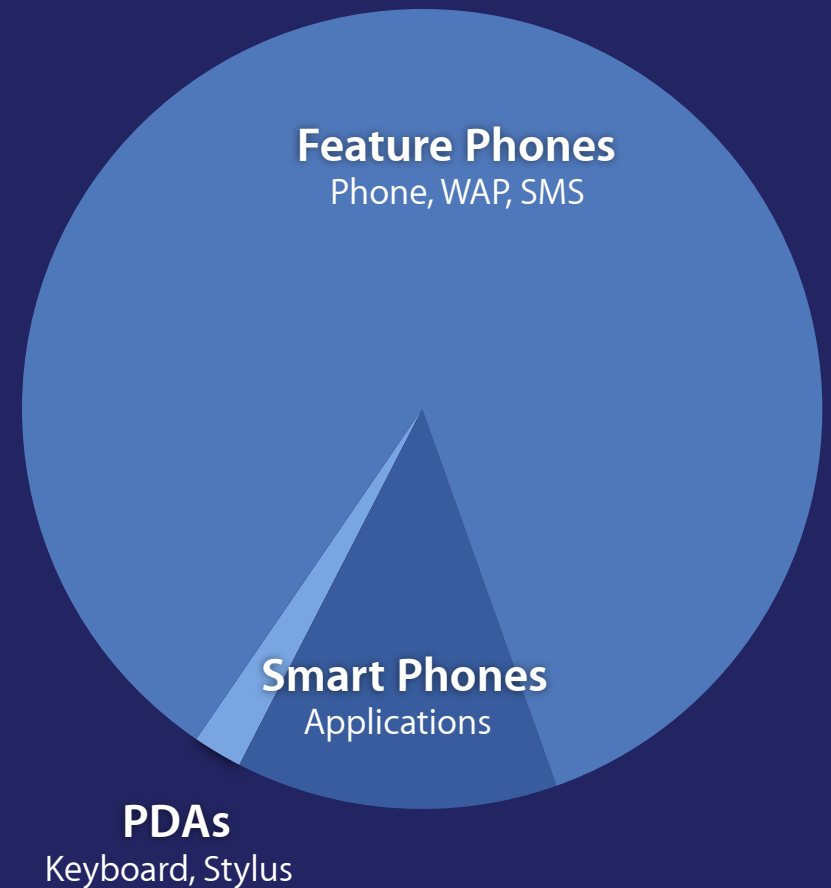
	 cingular	 verizon wireless	 Sprint	 T-Mobile
Subscribers	55.8m	53.0m	50.9m	22.7m
Network	GSM	CDMA	CDMA	GSM
Platform	J2ME	BREW [®]	J2ME	J2ME
Walled Garden	Open	Semi-Walled	Walled	Semi-Walled
WAP 2.0	Yes	Yes	Yes	Yes
Devices	66	62	84	44



Networks, Platforms & Devices

Mobile Devices

- Many devices are similar, the differences are in how they are provisioned to a carrier.
- Look only at mass market phones
- Do not design for smart phones or PDA's



Focus on 5



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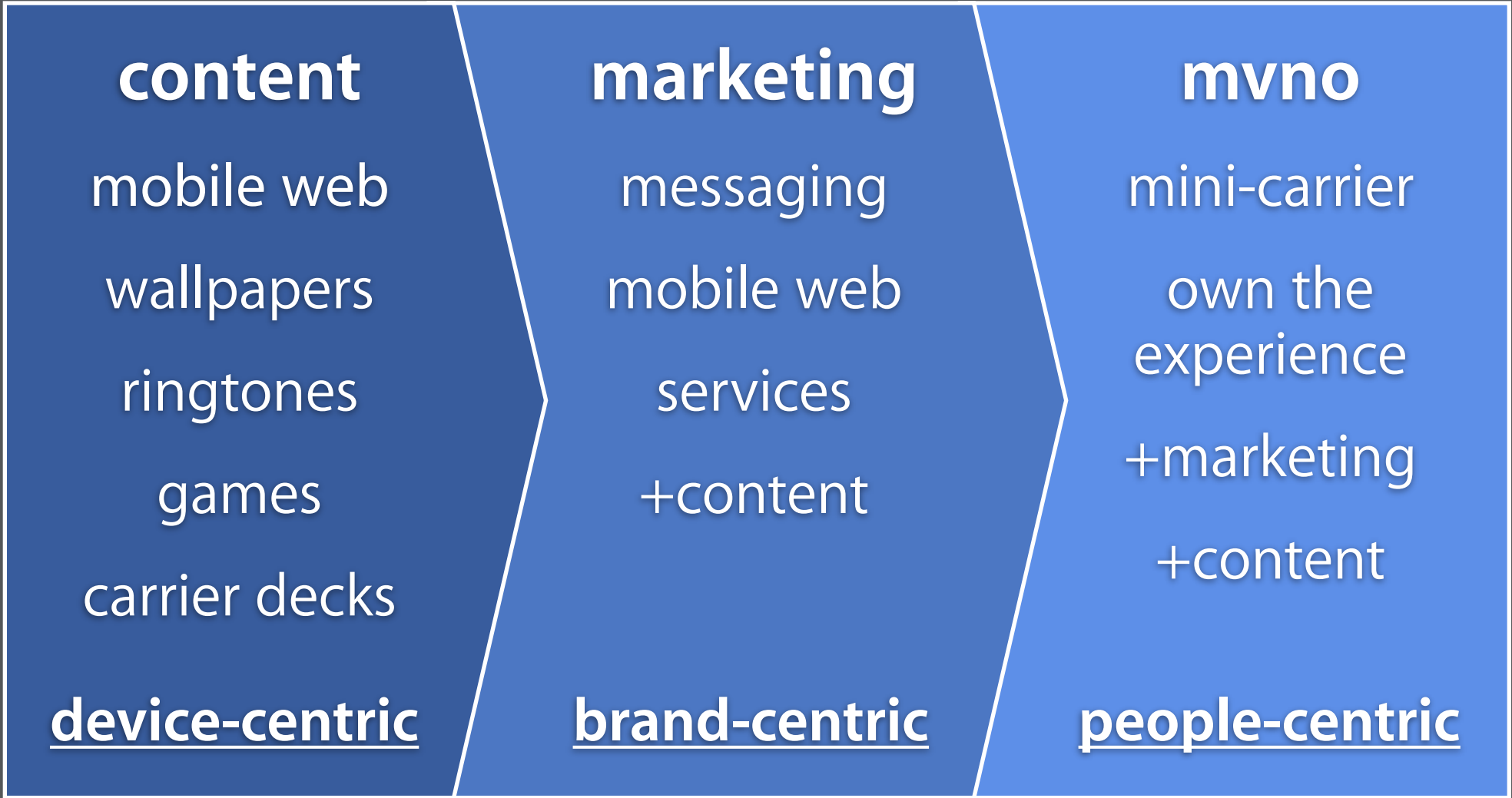
MVNO


Mobile Virtual Network Operator

A branded wireless provider that does not own or operate a wireless network.

see Virgin Mobile or ESPN Mobile





average revenue per user (arpu) 



Mobile Opportunities

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Deck

Refers to the web presence maintained by a carrier. When you access the web from a mobile device, the first page you see is often referred to as the carrier deck. But is commonly used to refer to all mobile web sites.

Origins: Hypercard development



Why is all of this important?



**You need to understand the
tools of the trade.**



The Benefits of Mobile



The Mobile Ecosystem = Despair
Benefits of Mobile = Hope

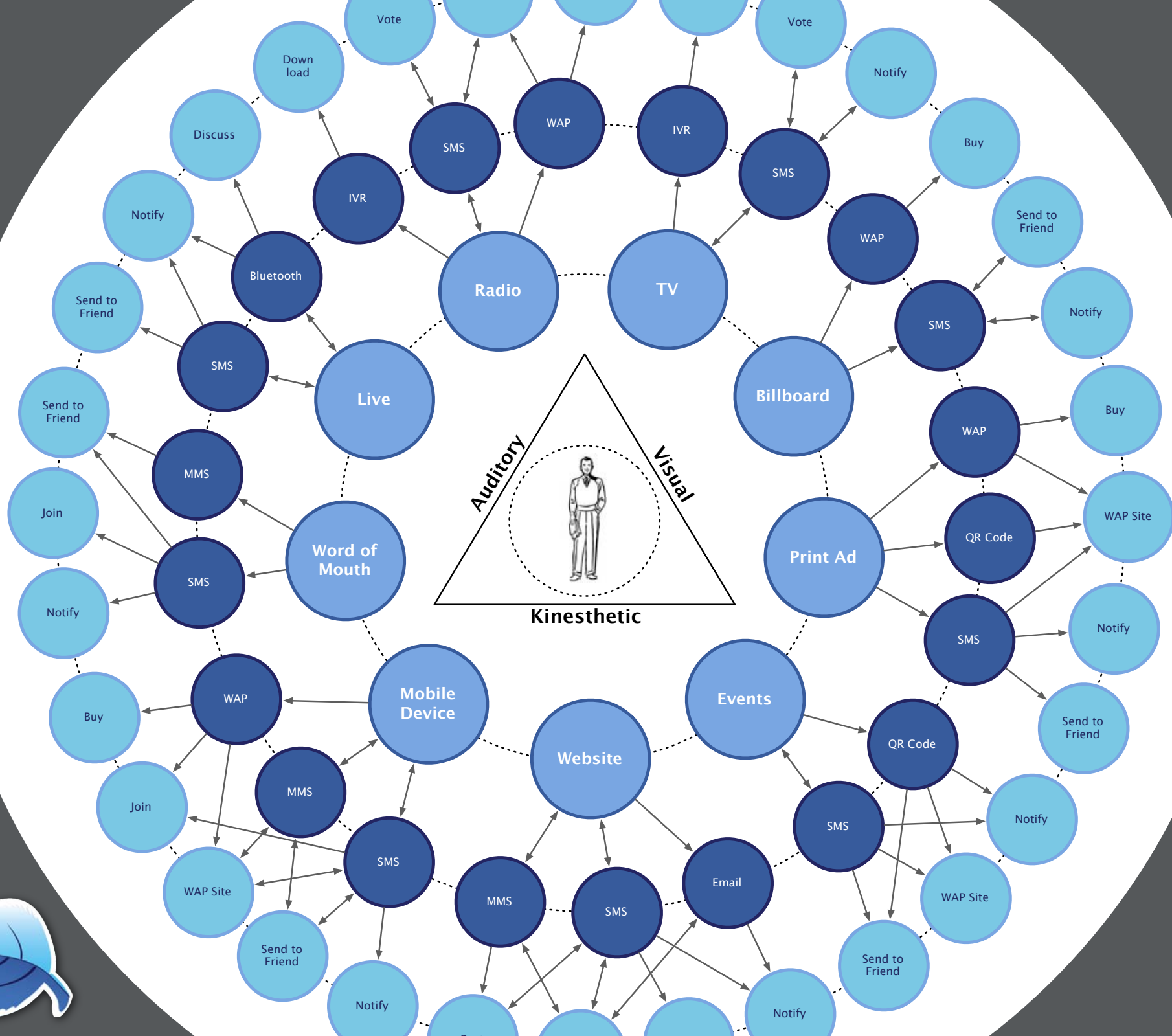


**What makes mobile worth the
frustration and aggravation?**



Mobile has the potential to reach anybody through any medium.





**We aren't exactly there yet.
But close.**



Early Failures

- We are at the end of a Mobile Industry Boom.
- The early “Mobile Middlemen” have already washed out or have been acquired.
- Now we are seeing the big content companies pick up the torch.
- Marketers and agencies have a watchful eye on the Mobile space.
- Rich mobile experiences have not been seeing the uptake the industry had hoped for.



What did we learn?



Lesson #1

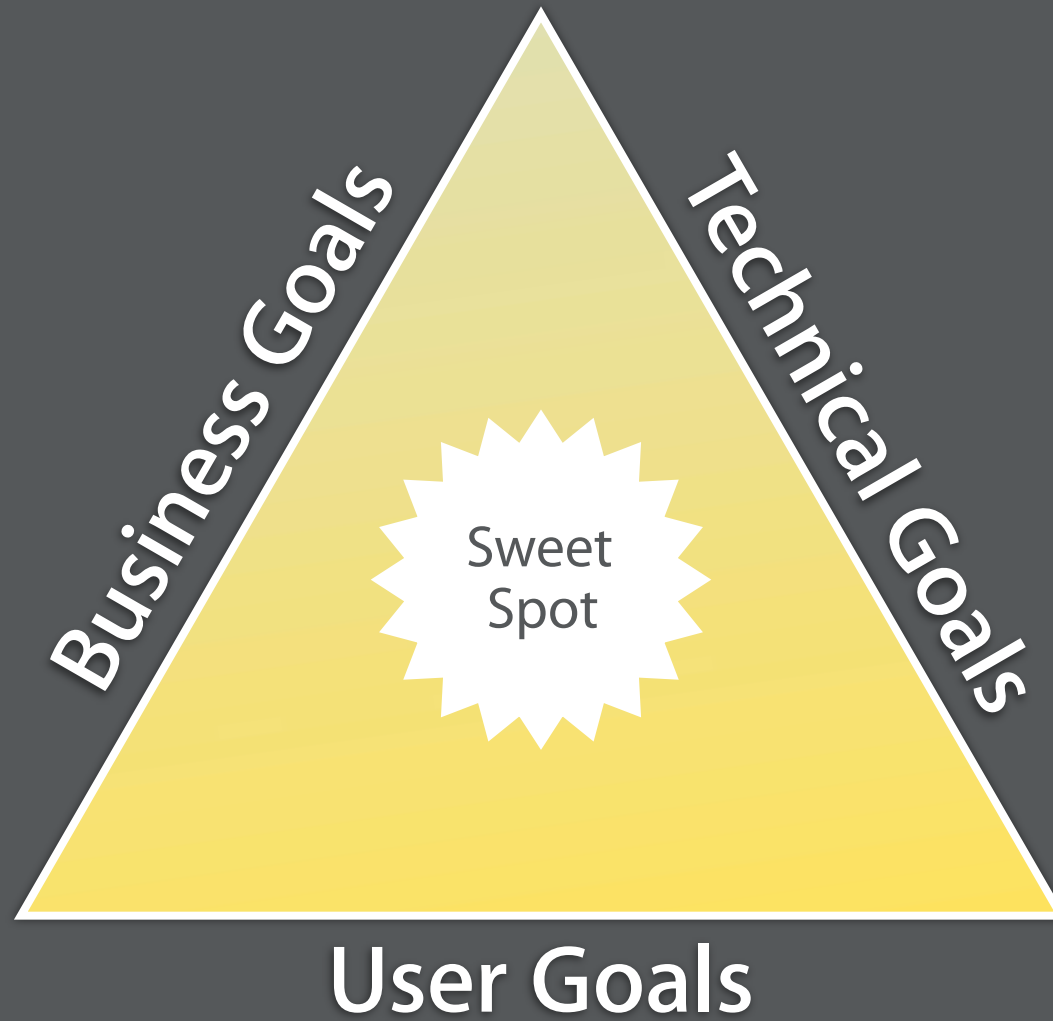
Voice and Messaging is still the killer app.



Lesson #2

People-centered Design is critical.





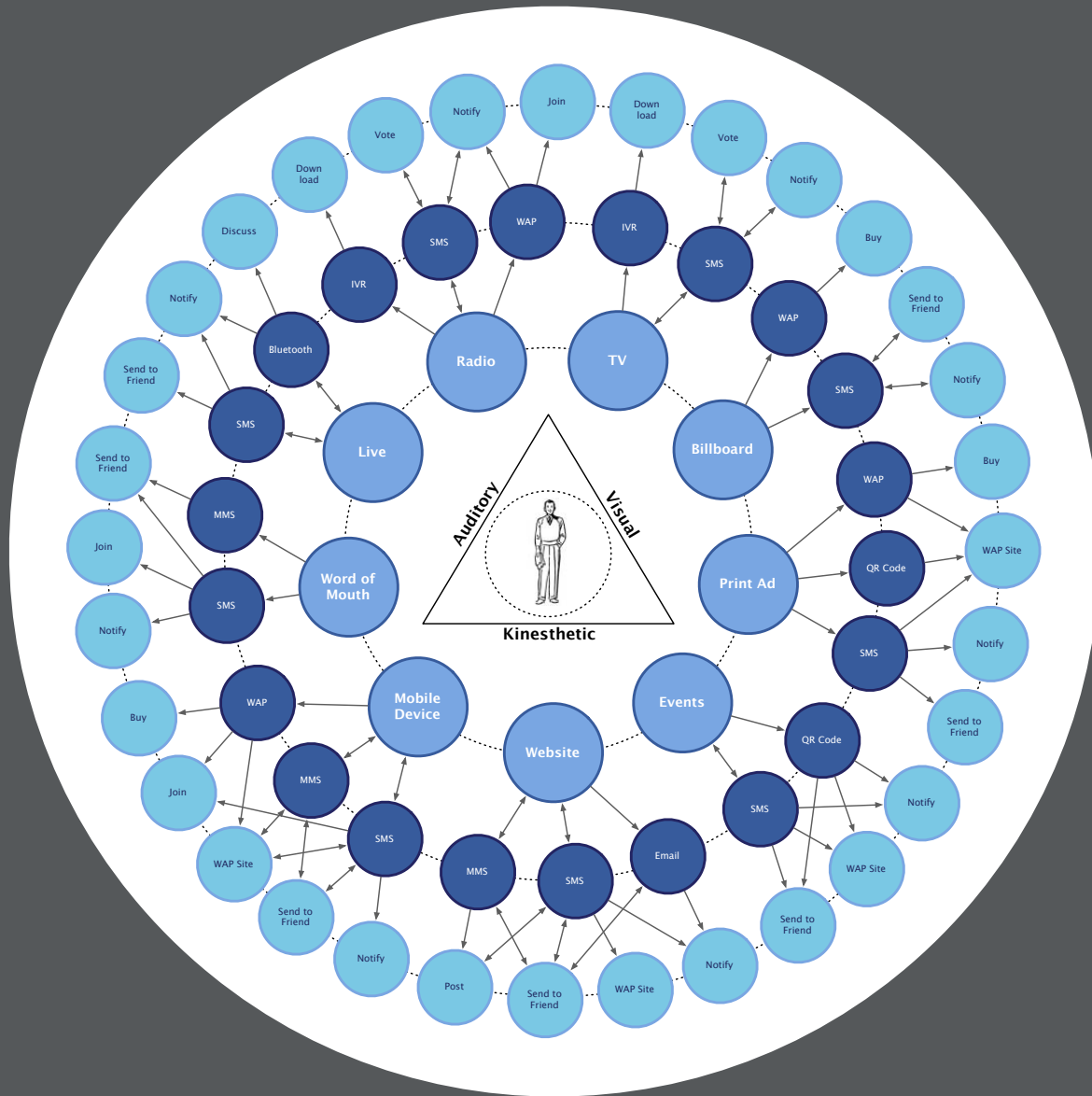
The Golden Triangle





The Golden Triangle





People-centered

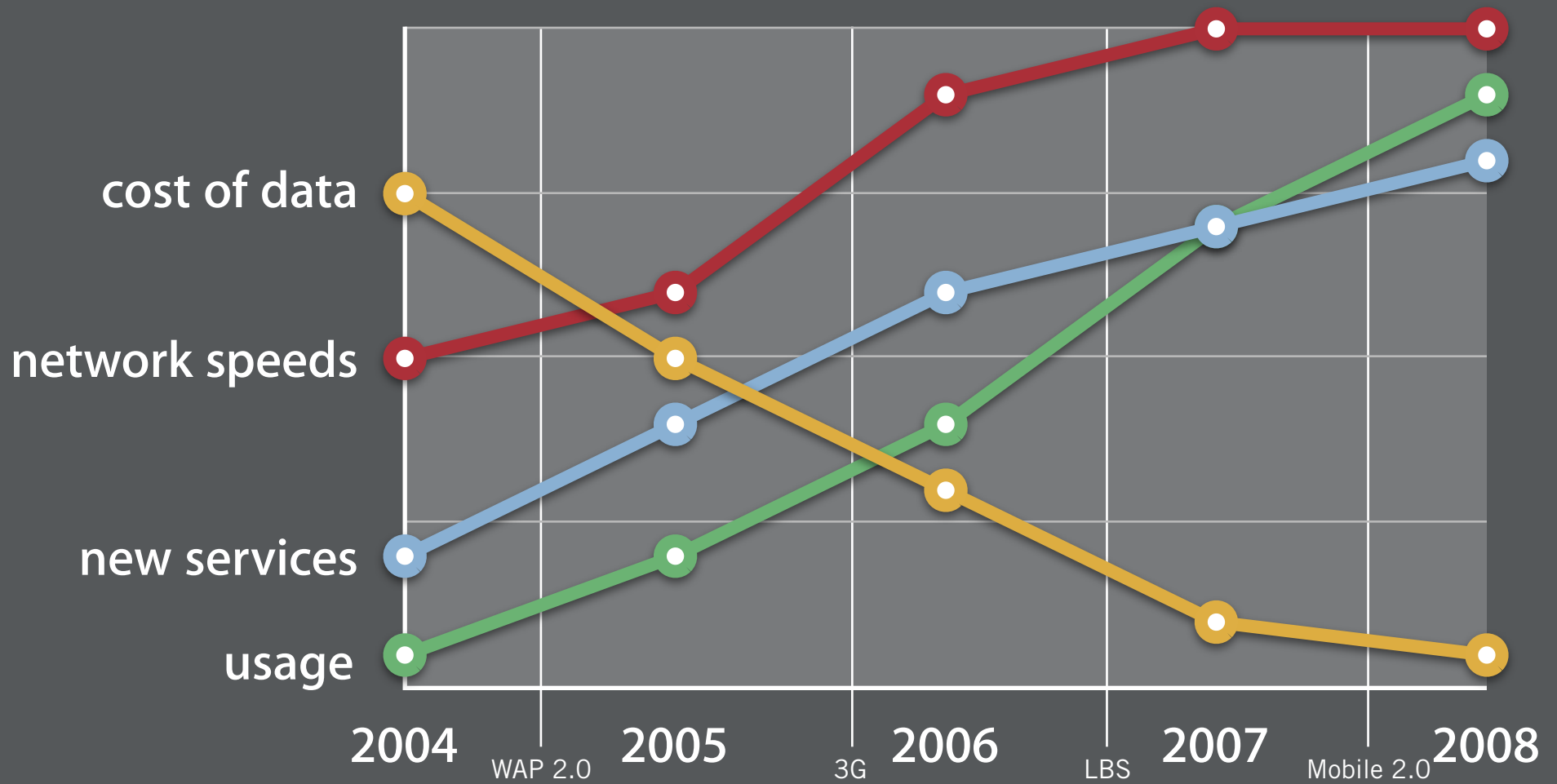


Find the Problem.
The Solutions will follow.



Web 1.0 → Web 2.0
Mobile 1.0 → Mobile 2.0





Mobile Transitions



Mobile will revolutionize the way we gather and interact with information in the next three years.



Let's call it Web 3.0



Let's call it Web ~~3.0~~ 4.0



**Now is the time for you
to get started.**



Creating a Mobile Strategy



What to make Mobile?



**First ask,
“Why should this be Mobile.”**



**Next ask,
“What need do I serve by
being Mobile?”**



“Find a need and fill it.”



**How does the mobile context
add value to peoples lives?**



**Start with a goal
and reverse engineer it.**



**Strip away anything that
doesn't support the
primary goals.**



Problems	Solutions
200+ devices	Focus on 5
30+ web browsers	Focus on 5
Carrier controlled ecosystem	Understand & Embrace
Limited input or output	Understand Goals Anticipate Actions
"No Standards"	False
People don't "get it"	Look, Listen & Learn



The Problems

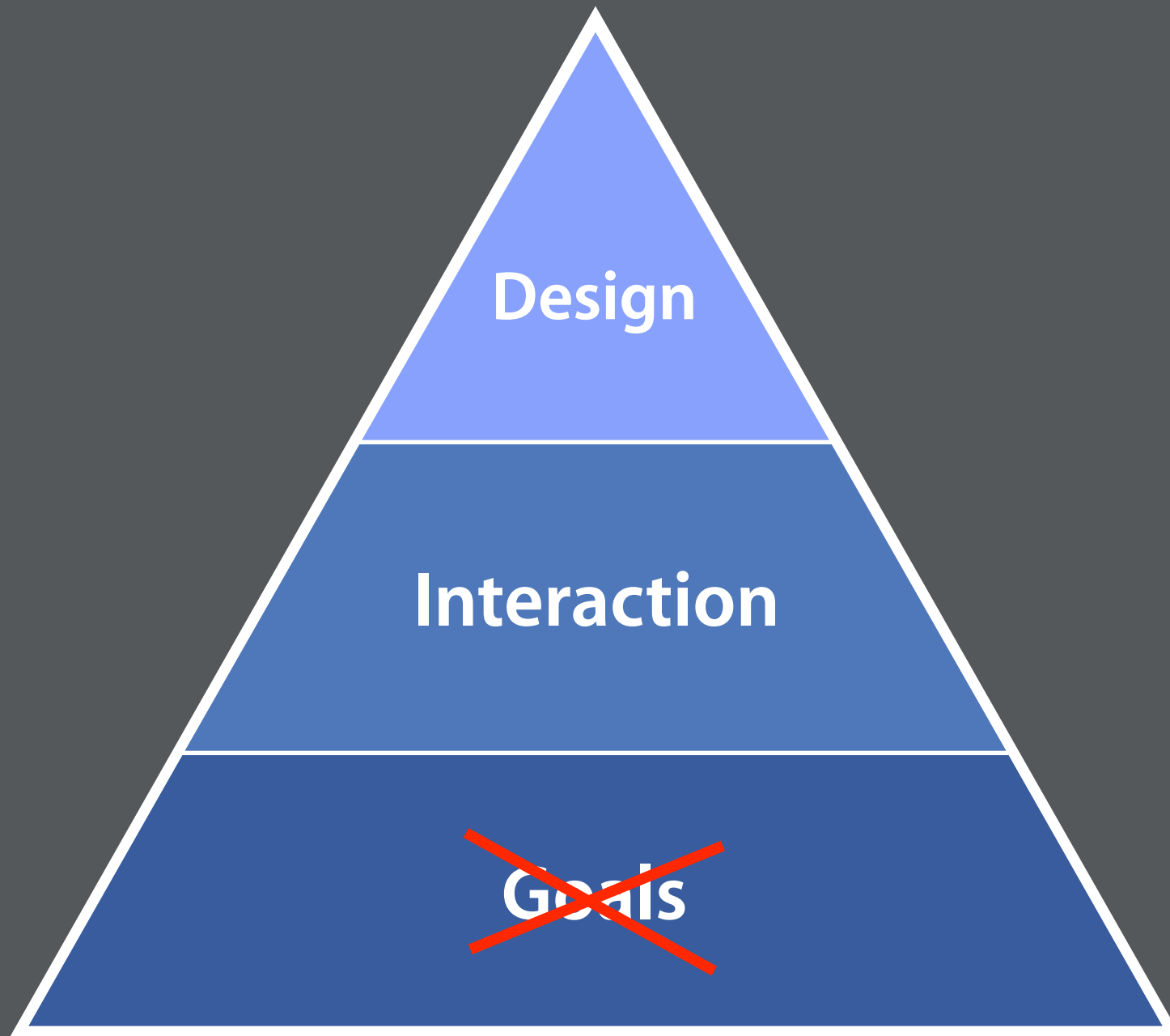
Designing for Small Screens



Tip #1

Have a Process.





Hierarchy of Mobile User Experience



Jargon Alert



Interaction Design

This term is used in a variety of ways. I prefer to use it as an umbrella term to describe all elements of the process to define how the user will interact with information.



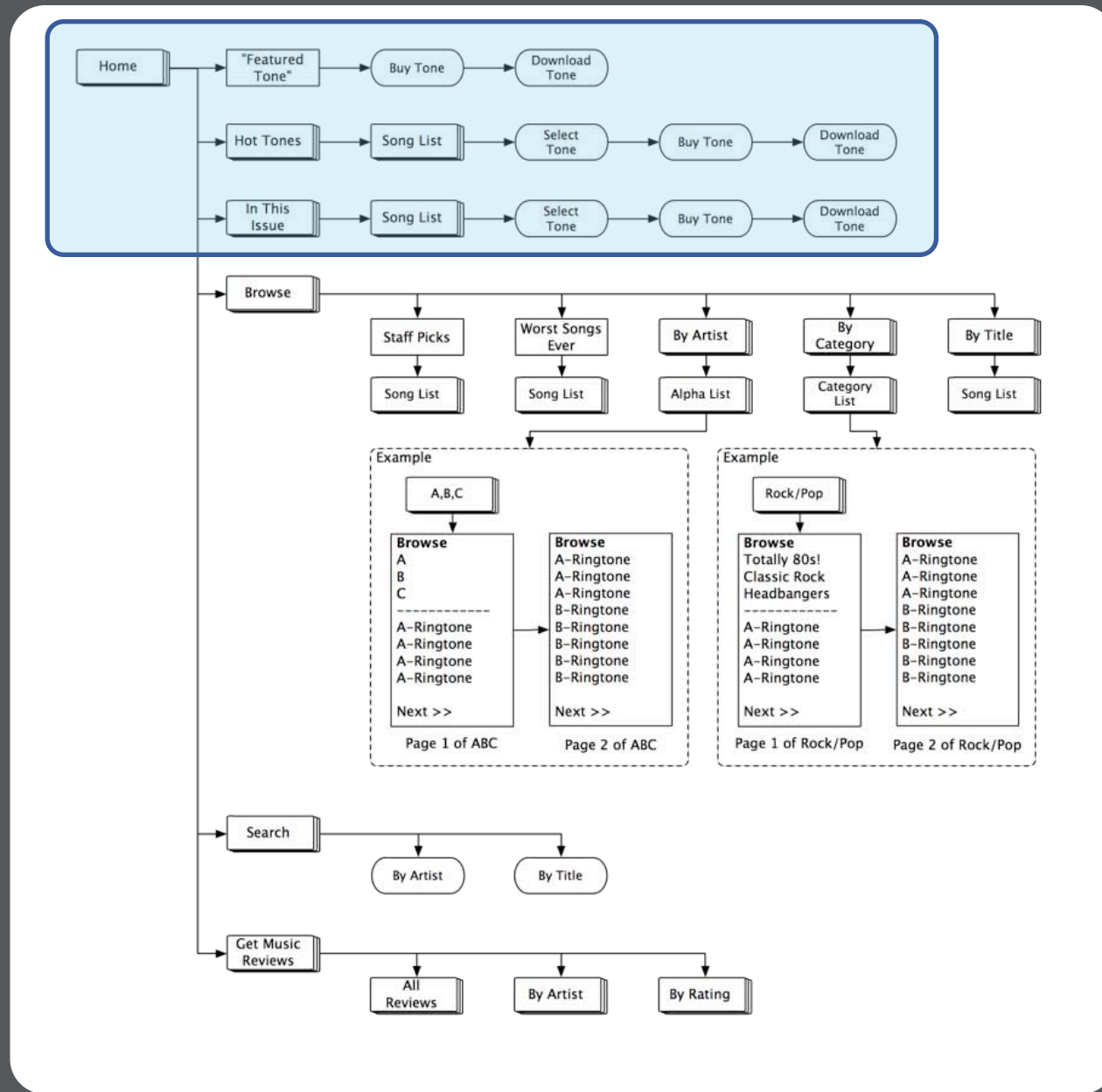
**Interaction Design is your
most important tool to show
how you will help users
achieve their goals.**



Mobile Information Architecture

- Your IA will be the foundation of your product.
Think long-term, not what it is, but what will it become. The more complex the IA, the actions and effort is required from the user.
- Keep it simple.
Remember your goals. Find the tasks that maps to goals.
- Good trigger labels are crucial in mobile.
*They should be short, descriptive and meet user expectations.
Never be clever.*





Revised Rolling Stone IA



**If your product touches a
carrier, clickstreams are
mission critical.**



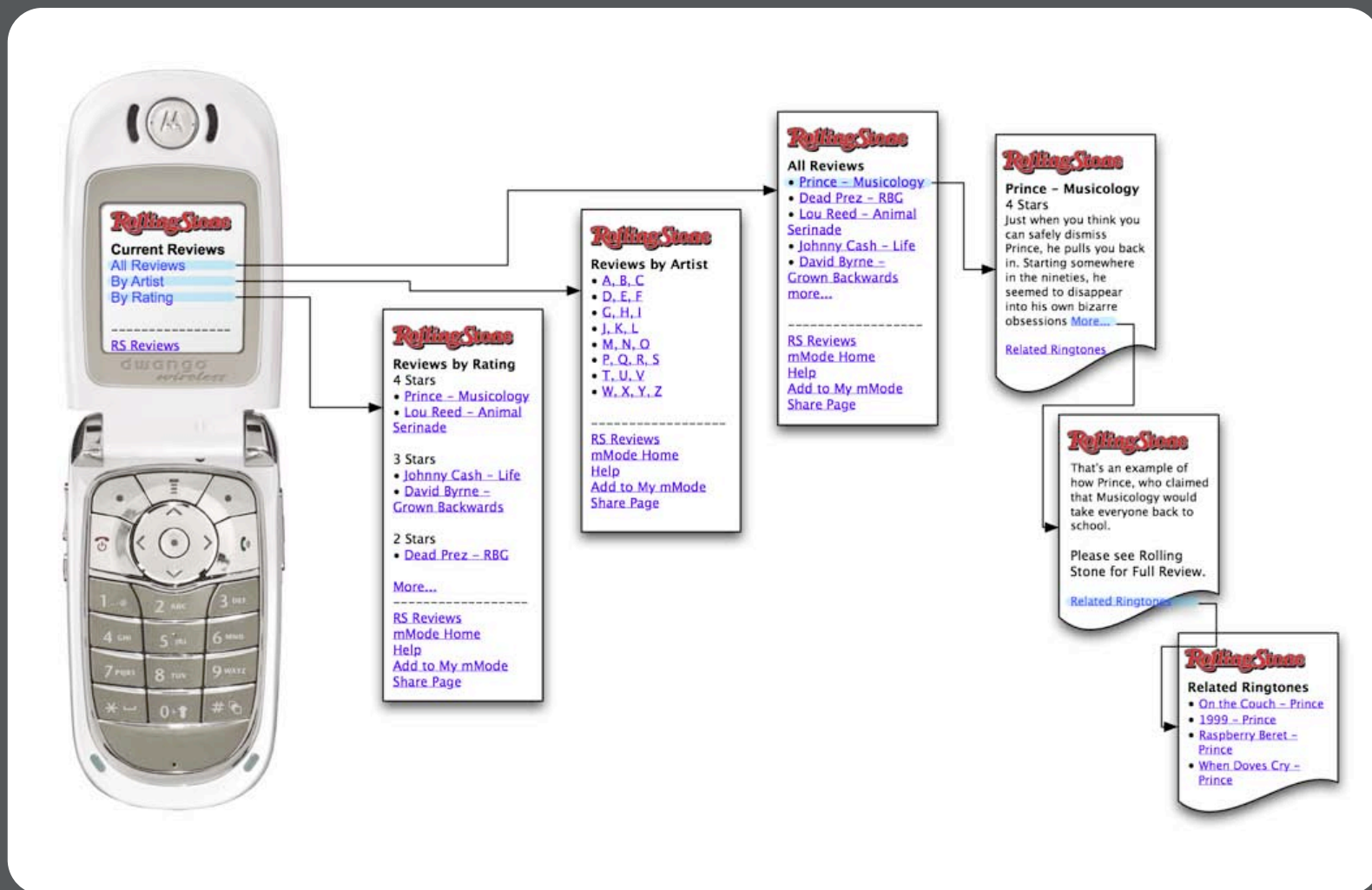
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Clickstream

Used to refer to the series of clicks, or path, the user takes to reach a destination in an informational space. Often used to describe user behavior gathered from server logs, but also can be used in early planning, as in “creating the optimal clickstream.”





Rolling Stone Clickstream

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Deck Placement

The term used to describe where a third-party vendor WAP site, or application will appear on the Carrier Deck. Default order on content on most Carrier Decks is determined by sales. New items often have temporary “Top-Deck Placement”

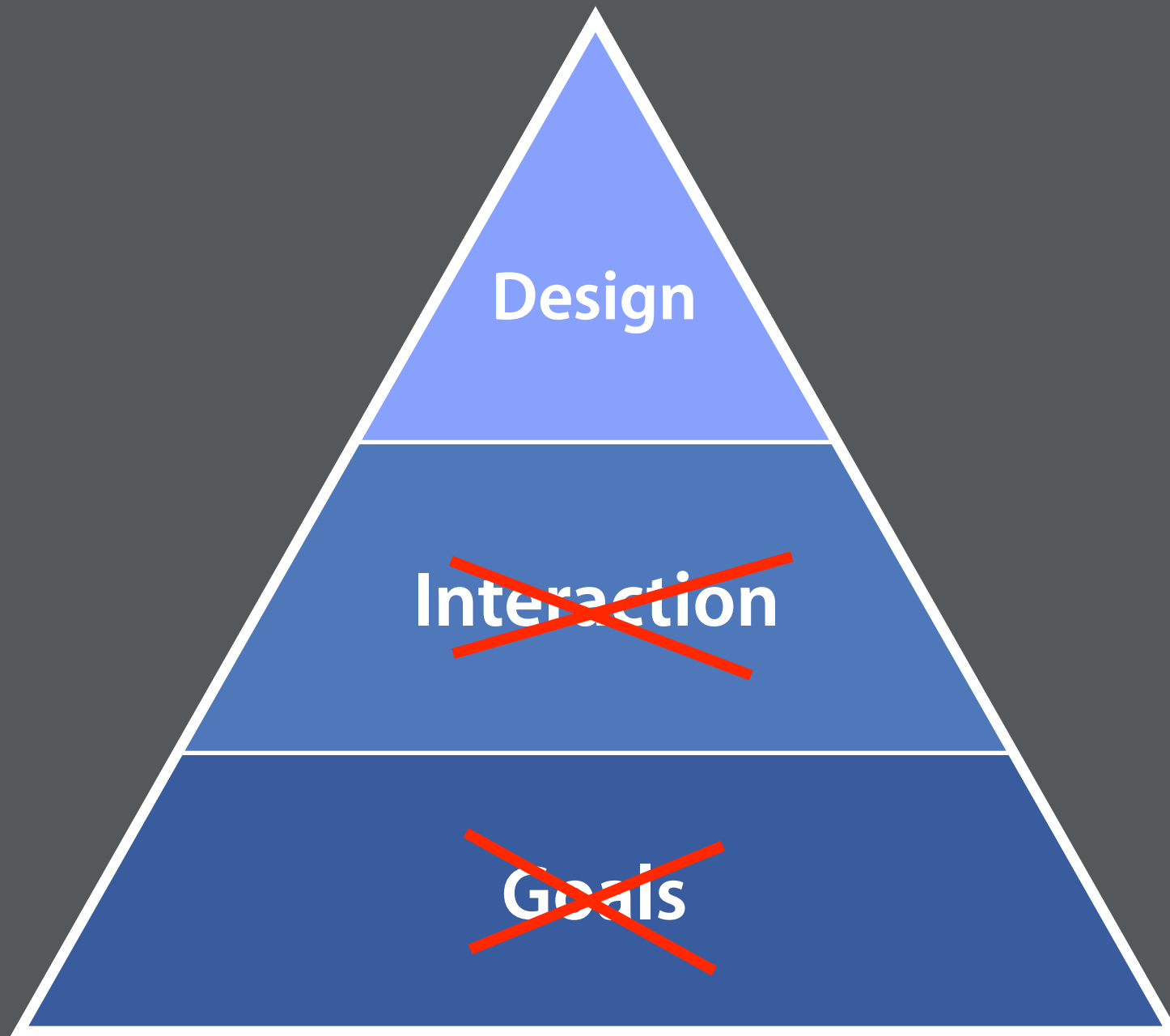


Top-Deck = Increased Views
Lower Deck = Oblivion



**If you can convince the carrier
that you can boost ARPU, you
will find an important ally.**



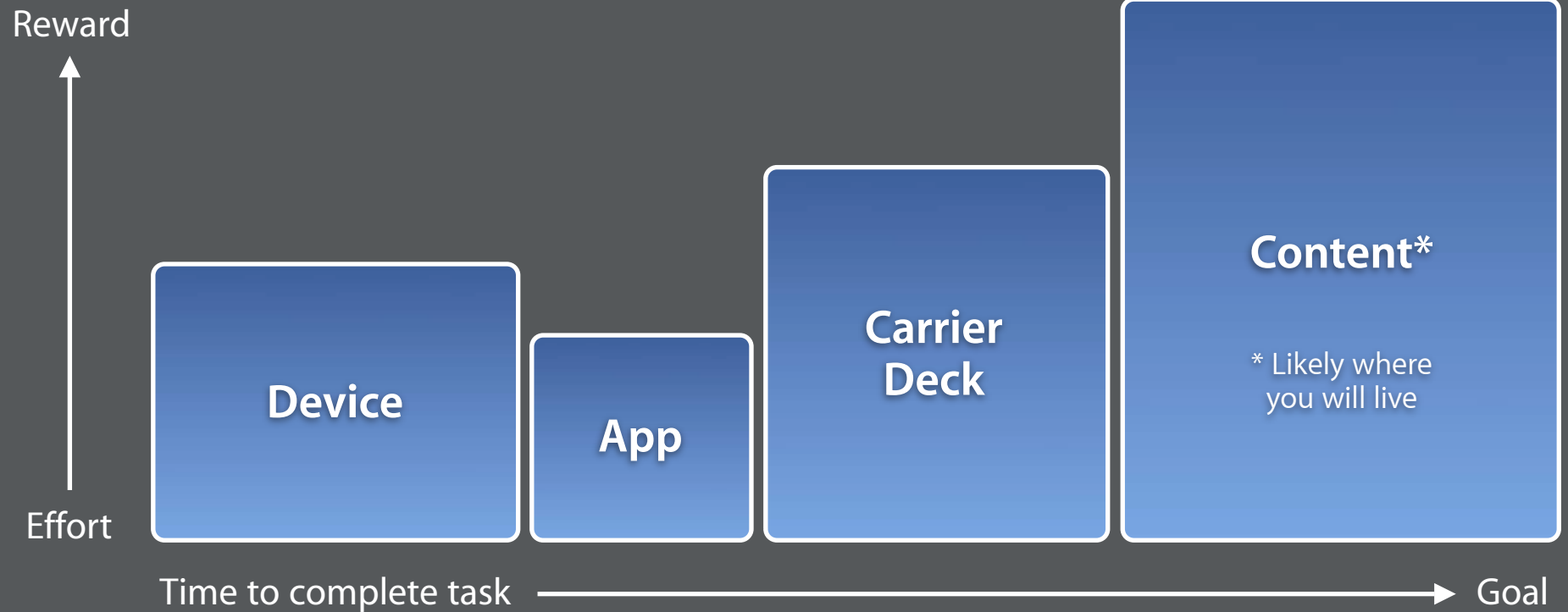


Hierarchy of Mobile User Experience



**There are many flavors of
Mobile Design.**





Effort vs. Reward



Jargon Alert



J2ME

Java 2 Platform Micro Edition

Predominant mobile device platform based on Java. J2ME is used to describe both a class of devices as well as the applications that run on it.



Jargon Alert



BREW[®]

Proprietary mobile device platform developed by Qualcomm. BREW[®] provides the richest mobile user interface that is widely available. All applications designed for the BREW[®] platform must pass National Software Testing Labs (NSTL) in order to be made available on Carrier decks.



Jargon Alert



WAP

Wireless Application Protocol

An open international standard for applications that use wireless communication, for example Internet access from a mobile phone.



Jargon Alert



WML

Wireless Markup Language

An XML language used to specify content and user interface for WAP devices.

Often referred as WAP 1.0



Jargon Alert



XHTML-MP

Extensible HyperText Markup Language:
Mobile Profile

A strict subset of XHTML, used as a markup language for wireless application development.

Often referred as WAP 2.0



Jargon Alert



Flash Lite

Mobile version of the Flash product developed by Macromedia (now Adobe). Uses vector graphics to provide rich user interface at mobile friendly file sizes. Currently only available to developers, but is beginning to be rolled out to consumers.



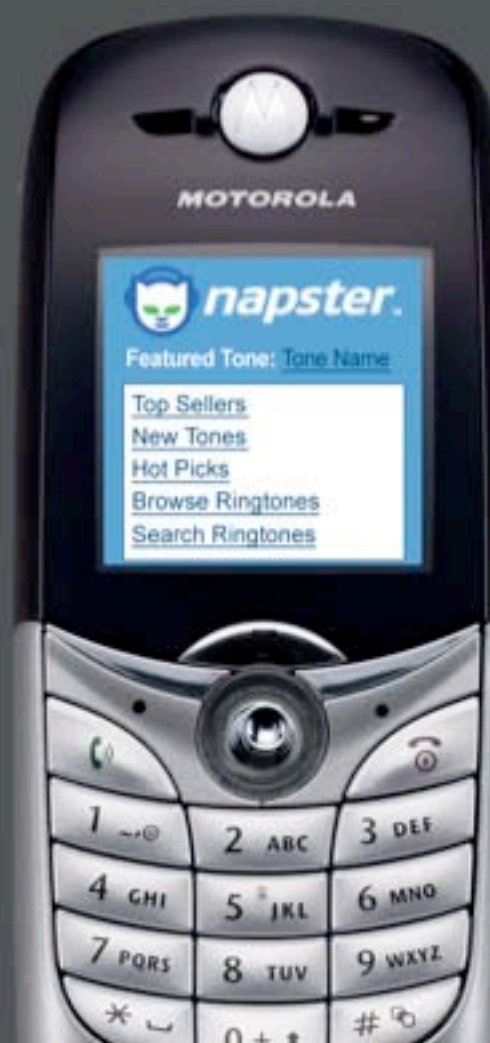
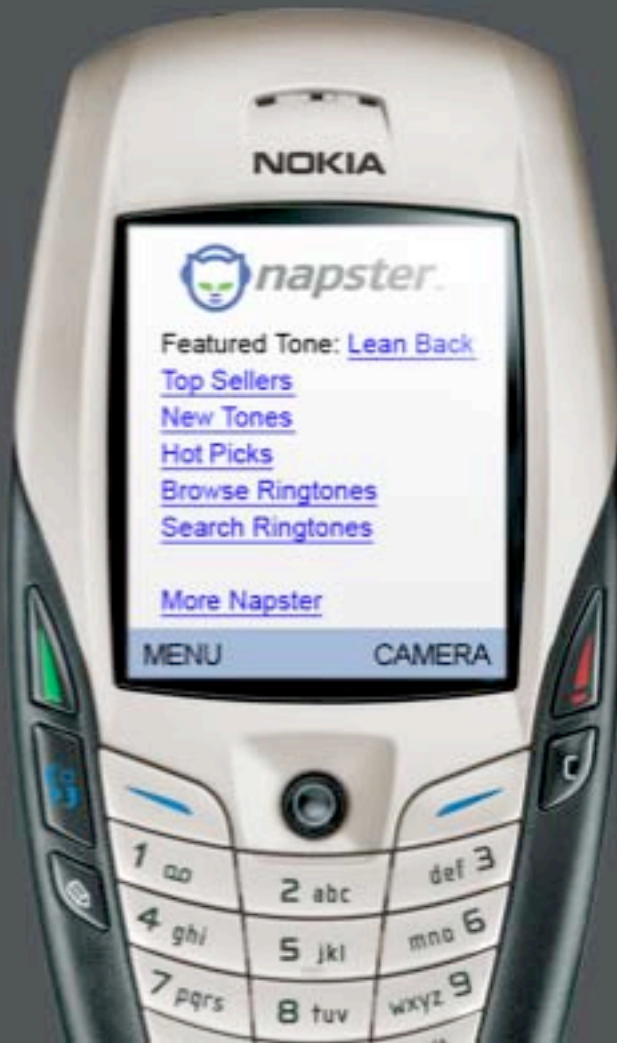
WAP 2.0 content is supposed to be available in both WML and XHTML-MP versions.



WML

XHTML-MP

Applications



Flavors of Mobile Design



	Design Type	Design Tool	Delivery	Complexity	Carriers
J2ME	Rich	Photoshop	Any	Very	Cingular T-Mobile Sprint
BREW	Rich	Photoshop	Carrier	Very	Verizon
WML	Text	HTML	Web	Simple	All
XHTML-MP	Web	CSS	Web	Simple	All
Flash Lite	Rich	Flash	N/A	Semi	N/A



Flavor Matrix

Mobile Design Tips

- Be creative

Devices have reached a point where you can be as creative as you want to be.

- Remember the goals

Put systems in place to regularly check against the goals.

- Prototype

Create quick examples of the design and interaction.

- Test early and often

Get opinions of others. Talking to one person is better than none.

- Keep it simple

Remember if it doesn't solve a problem or fill a need, lose it.



The Mobile Web is the perfect place to begin Mobile Design.



The Mobile Web



The One Web vs. The Mobile Web Debate



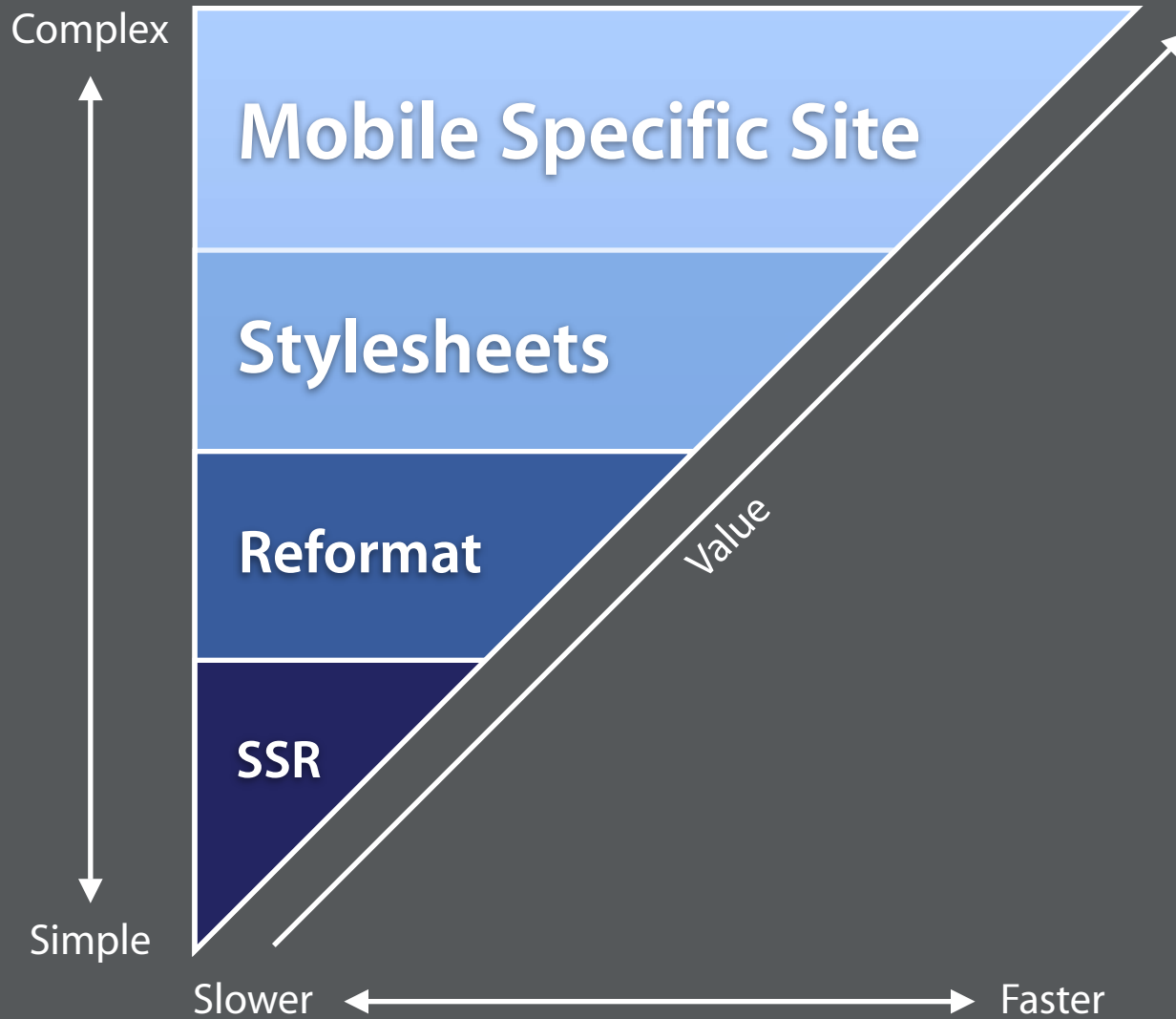
The Device Detection Problem.



Mobile Web Options

- **Small Screen Rendering (SSR)**
Rely on browsers like Opera Mini or Blazer to reformat.
- **Programmatically Reformat**
Programmatically strip HTML of superfluous elements .
- **Use “handheld” Stylesheets**
Define an alternate mobile stylesheet on your tableless code.
- **Create a Mobile Specific Site**
Create an unique site specific to mobile users.





Context vs. Content



Mobile Publishing is Easy.



**Publishing tools like
Movable Type or Django make
perfect Mobile Web platforms.**



Conclusion



**You already have everything
you need to Design for Mobile.**



**It is an exciting and
challenging medium.**



**Stay open minded.
Be creative.**



Mobile Design Resources

- **Mobile Monday** mobilemonday.com
Meet the first Monday of the month. Local chapters all over the world. Very active mailing list.
- **Mobile Web Design Series** cameronmoll.com
Authored by Cameron Moll and myself. Overview of how to get started in Mobile Web Design. Lots of great links.
- **Usable Products** usableproducts.com
Several detailed and insightful mobile usability reports.
- **Mobile Design** mobiledesign.org
My discussion list for mobile designers.
- **Blue Flavor** blueflavor.com



Thank You



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