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Understanding and Enticing the Mobile Web User

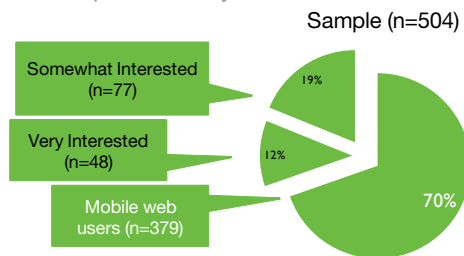
Carol Taylor - Director, Mobile User Experience, Motricity

Introduction

Mobile Web services offer a viable and growing alternative means of accessing the Internet and have garnered a great deal of attention from the mobile industry. What are the active mobile Web users doing today? What contexts are they using it in and why? –Designing great mobile Web experiences requires a deeper understanding of the behaviors and underlying motivations of current and future users. To that end, Motricity conducted a detailed survey study of how mobile Web users have incorporated such services into their daily lives. The study also surveyed those who have are not yet mobile Web users but have indicated an interest to understand the barriers to driving greater adoption.

The Study

The study surveyed 504 U.S. mobile data users from across the country, specifically recruiting 379 users who use the mobile Web today and another 125 users who indicated they were somewhat (77) or very (48) interested in using the mobile Web. People who qualified for the survey had to use data services in some form on their phone today.



Participants answered a series of survey questions regarding their motivations, attitudes, activities type of phone and service, and demographic backgrounds. This information was used to compare and contrast current and potential mobile Web users, as well as

to classify participants into five different mobile data user personas.

The framework used to classify the motivations and behaviors of mobile Web use was developed through qualitative research conducted in conjunction with the University of Washington Mobile User Experience Research Group [1]. The outcome was a published framework [2] and a rich set of qualitative data used to derive the motivational and behavioral framework and the mobile data user personas.

What Are Mobile Web Users Doing Today?

Mobile Web users are heavy text messagers. The most common activities for active mobile Web users are:

- 70% are text messaging daily (compared to 46% for very interested, and 30% for somewhat interested)
- 53% on email daily
- 44% Web browsing daily (29% weekly and 27% less frequently)
- 41% are on the calendar daily
- 43% use maps & directions at least weekly
- 37% instant message at least weekly

Most Common Behaviors for Mobile Web Data Users

The mobile phone is first and foremost a communications device. People are transferring their communication behaviors from voice technologies to the new data service technologies like email and text. When participants selected the top two behaviors they performed most often via data services, communication is by far the most common (79%).

Behavior	Percentage
Communicate with someone (text or email)	79%
Scan email or Web sites to see if anything is new	50%
Look up information to use now, e.g., movie time or restaurant for tonight	33%
Check a fact, e.g., who won the baseball game	21%
Surf for information about a general topic, e.g., Paris Hilton	11%
Look up information for plans later, e.g., booking hotel for next weekend	4%
Buy, sell or exchange something	2%

* Participants picked the top 2.

The second most frequent behavior exhibited by mobile Web users is scanning non-static information sources like Web sites and email accounts to see if anything has changed (50%). This pervasive behavior provides a means to maintain continuous awareness of new information that is most important and relevant to individual mobile users. It's the phenomenon of being plugged in and "always on" so you can monitor for changes in your daily life and your world. Is there breaking news? Has my favorite celebrity done something noteworthy? Is there anything new at work I need to deal with quickly? Mobile Web access makes information more immediate.

Looking up specific information to inform a decision in the moment (like when the next movie starts or the address of a theater) is among the top behaviors (33%). General Web surfing (11%), planning for the future (4%) and commerce activities (2%) are not among the most common activities.

How are Mobile Web Users Making Use of Their Phones?

Mobile Web users are accessing the Web primarily through means other than their carrier's portal Web site. While services built into the phone are still used most commonly (75%), people are almost as frequently accessing Web sites directly by typing Web addresses in their phone's Web browser (71%) or searching for a Web site via a mobile search engine (71%). While more than half (52%) of mobile Web users bookmark Web sites for quick repeated access, just under half (48%) reported using applications they have installed on their phones, and only a third (29%) use their mobile carrier's portal Web sites.

	Mobile web users only (n=379)
Use non-voice features built in to my phone (e.g., calendar, calculator)	75%
Use phone Web browser & type a URL address	71%
Use a search engine (e.g., Google)	71%
Use phone Web browser bookmark	52%
Use applications I installed on my phone (e.g. Weather bug)	48%
Use my phone company's Web page (e.g., VZW Today, MediaNet, tZones, Sprint Vision)	29%
None of these	7%

Where are Mobile Web Users Surfing?

The term "mobile" implies people are on the go. However, a significant number of mobile Web data users reported using the Web at home (44%) or work (38%).

And as many people reported using mobile Web at a service facility (e.g., bar or restaurant) (17%) as reported use while alone in a car (17%).

	Mobile web users only (n=379)
At home	44%
At work	38%
In car (while passenger)	33%
On other transit (e.g., train, airplane)	20%
In car (while alone)	17%
At a service facility (e.g., restaurant, bar)	17%
Walking	9%
At a store	9%
At a recreation site (e.g., bowling alley, sports stadium)	9%
Other (specify): trips away from home, with family, when bored	3%

* Participants picked the top 2

Situations Where are People Commonly Surfing

While the phone is inherently a communications device, which implies social use, accessing the mobile Web is a more solitary activity. For example, significantly more people reported using the mobile Web while hanging out alone (49%) than while hanging out with friends (25%). People tend to fit the mobile Web in and around the other activities in their lives—for example, while waiting in line (46%) or while taking a break in between activities (43%).

	Mobile web users only (n=379)
Hanging out (while alone)	49%
Waiting in line	46%
Taking a break from another activity	43%
In route to someplace else	31%
Hanging out (with friends)	25%
Other (Specify): bored at work, family function in bed, when PC is being used by someone else	3%
At the same time as another activity (Specify): at work, during game, sitting	2%

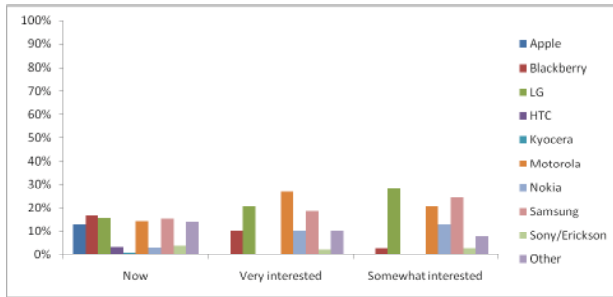
Mobile Web Data Users vs. Interested Users

Several demographic differences between mobile Web users and those interested in mobile Web surfaced. Mobile Web data users tend to be younger (34 vs. 41), male (53% vs. 47%), business professionals (30% vs. 19%), who are slightly more educated and live in bigger cities. There was no difference in reported levels of income between active and interested mobile Web users.

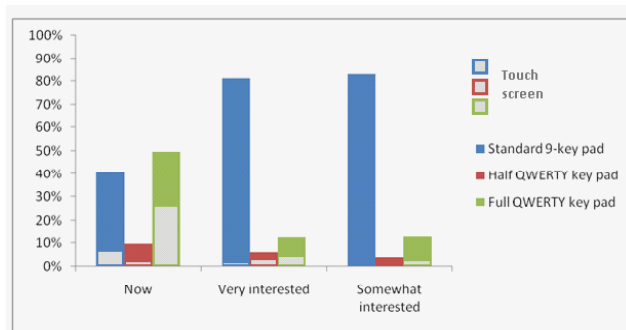
Which Comes First, the Mobile Web or the Device?

An open question is whether mobile Web users upgrade to more capable devices to support their mobile Web habits, or does the superior experience on a more capable device encourage mobile Web usage? It's likely a bit of both. As more users upgrade, increased Web adoption will follow.

Mobile Web users have more capable devices with better input methods. Apple, HTC, and Kyocera phones are used by mobile users only while LG, Motorola, and Samsung are most common among interested users.



In terms of style of input, 50% of Web users (vs. 13% of those interested) have a full QWERTY keyboard and 29% (vs. 4%) have a touch screen phone.



Mobile Web User Computers

All of the mobile Web users surveyed also use a computer. At least half (56%) use both a desktop and a laptop computer, 22% have a desktop only, and 22% have a laptop computer. Most users either own their own computer (79%) or live in a household that owns a shared computer (13%). Only 1% do don't own a computer and use one owned by another organization.

Entertainment/Media Usage

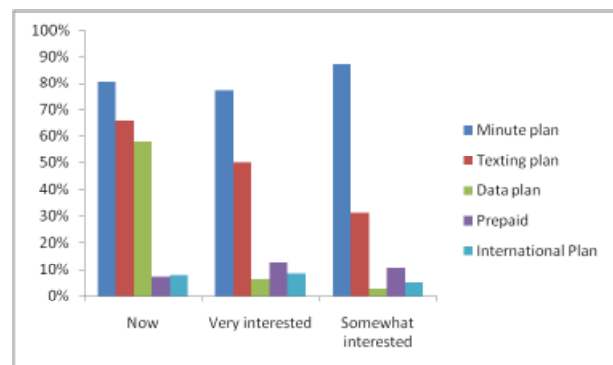
Mobile Web users make more active use of their phones for entertainment and media. They are more than twice as likely to play games and listen to music. Notable is the higher level of media use among those

DAILY + WEEKLY	Mobile web users (n=379)	Very interested (n=48)	Somewhat interested (n=77)
Games	44%	14%	6%
Music	38%	18%	6%
Camera	63%	43%	27%
Video	29%	28%	14%

very interested vs. those who are somewhat interested. More entertainment and media-oriented services may help encourage very interested users in adopting the mobile Web.

Type of Plan

Not surprisingly, the majority of data services users have a "data plan" (58%). This still leaves a large upside for the adoption of unlimited data plans by the group of active users, as well as for those interested. The results also indicate that having a data plan is not a prerequisite to using mobile Web. Also noteworthy is that texting plans are much more common as interest in data services increases.



How Does PC Web Behavior Carry Over to Mobile Web?

It's Not Just About Making it Smaller

One of the biggest failures of the original wave of mobile Web sites was the assumption that people wanted to do the same things on mobile as on the PC and if you repurposed existing Web sites massive adoption would follow. This was a spectacular failure.

Mobile Web is a compliment to PC Web, not necessarily a direct extension. Mobile Web users are PC Web users, so it makes sense to examine what behaviors can carry over from one to the other.

We asked respondents to indicate the top activities they do on the PC Web and what they would be interested in doing on their phone.

- Current PC activities most likely to be done on the cell (retention) are: email, maps and directions, IM, calendar, and traffic reports.
- Activities least likely to carry-over are: purchasing things, managing photos, and online dating.

	On computer	On phone	Retention
Email	94%	78%	83%
Surf the Web	90%	69%	77%
Check bank account	84%	59%	70%
Get daily news	78%	57%	73%
Use maps or directions	68%	56%	82%
Get daily weather	63%	49%	78%
Listen to music	60%	44%	73%
Watch videos	58%	37%	64%
Purchase things	58%	33%	57%
Play games	57%	43%	75%
Visit social networking sites	55%	41%	75%
Manage Photos	47%	27%	57%
IM	45%	36%	80%
Keep a personal calendar	32%	26%	81%
Get traffic reports	13%	11%	85%
Use online dating services	6%	3%	50%

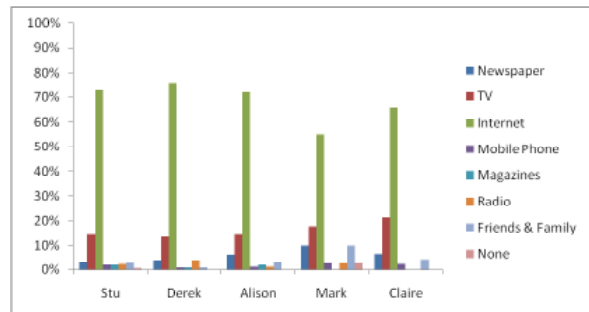
This study gives us a good indication of what PC activities people are most interested in transferring over to their phone. To translate that interest into adoption, we need to study the context of how each of these services is used on the PC today and how they might be re-thought for a mobile context. For example, how can we design mobile social networking services to compliment the networking activities people are already doing on their personal computers. We know from history that offering the PC equivalent on mobile is not generally successful but offering a mobile compliment to an existing PC behavior can be.

Mobile Web as a News Source

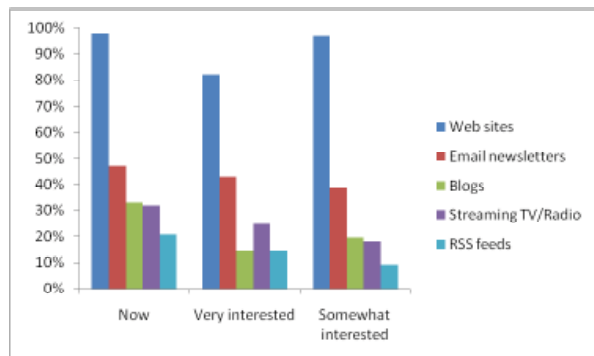
Not surprisingly, most mobile data users cite the Inter-

net as their primary news source. But of note is that nearly a third (30%) of mobile Web users cited their mobile phone as a preferred secondary news source. If the price of mobile Web news services were substantially less than a newspaper, and the presentation and personalization was more effectively targeted and relevant to the mobile user, it could attract more of those interested users to the mobile Web as a secondary news source.

Preferred Primary News Source



Preferred Secondary News Source



Types of Internet News

Those who get their news from the Internet primarily use Web sites (97%). Email newsletter (46%), blogs (29%), streaming traditional media (29%), and feeds (18%) make up a much smaller percentage. This is not surprising given that alternative methods require more initiative for the user. As people become increasingly comfortable with these newer forms of Web media and adoption grows, there could be a large opportunity to transfer this behavior to mobile which is particularly well suited for viewing these al-

ternatives.

Web sites	97%
Email newsletters	46%
Blogs	29%
Streaming TV/Radio	29%
RSS feeds	18%

What Web Sites are Being Used?

Google and Yahoo are reported as the most popular sites overall, in part likely because they provide a gateway for email access. News, weather, and sports sites rank relatively high.

Google/gmail	58%	Sport	7%
Yahoo/email	39%	Finance	7%
ESPN	15%	Travel	4%
MSN/hotmail	13%	Maps	4%
CNN	10%	Weather-other	3%
Weather.com	10%	YouTube	3%
Myspace	8%	Wikipedia	3%
Facebook	8%	Gaming	2%
AOL	7%	Email-other	1%
Other	16%	Traffic	1%
News	14%	Education	1%
Carrier portal	13%	Music	1%
Movie/ent	12%	Wapedia	1%
Shopping	8%		

* Participants picked from a predefined list and also indicated other sites. This list includes a breakdown of all the other sites reported (75%).

What Would Make Those Interested more Likely to Use Mobile Web?

Before mobile Web adoption can accelerate dramatically, the industry needs to solve some of the basic usability barriers facing all data services. Not surprisingly, when current mobile Web users were asked what was preventing them from using mobile Web services more, almost half indicate speed was the top barrier (49%), followed by battery concerns (35%), phone size (30%), and usability issues (26%). For interested users, the main barrier was price (60% very and 74% somewhat respectively).

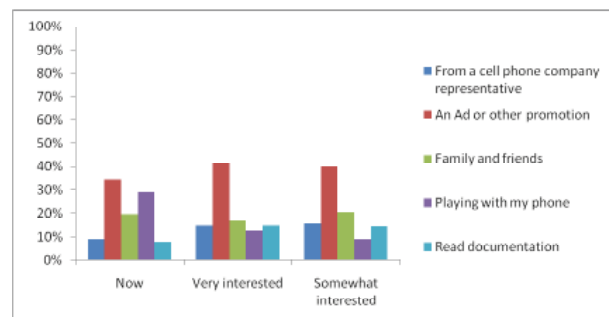
Those who are very interested indicated their phones

were not capable of doing what they wanted, which is not surprising since they tend to have less capable phones overall. Those who are somewhat interested had not thought of it (21%) as much indicating there may be an awareness issue or a lack of fit with their daily routines.

	Now	Very interested	Somewhat interested
Speed is too slow	49%	21%	19%
Drains the battery too quickly	35%	15%	30%
Too expensive	20%	60%	74%
Phone is too small	30%	19%	23%
Applications are hard to use	26%	19%	10%
Concerned about privacy	16%	19%	14%
Connection is unreliable	16%	15%	8%
Nothing	17%	6%	3%
Not part of my habit/have not thought about it	8%	4%	21%
Phone won't do it	6%	23%	17%
Don't have the need	8%	10%	13%
Other	4%	2%	1%
Unsure	1%	2%	3%
Bad experience the first time	1%	4%	0%
Don't know about it	0%	2%	5%

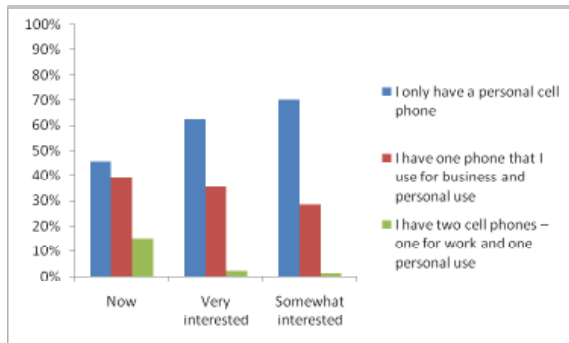
How Data Users Discover New Services

Data users most often learn about new data and Web services from Ads or other promotions. Misleading Ads that promise more than they deliver are a leading source of poor mobile service experience. Mobile Web users are more likely to play with their phones to learn about services (and less likely to read documentation) than those interested.



Type of Phone

The majority of mobile Web users overall only have a personal cell phone (51%) and about 1/3 have one cell phone for personal and business purposes. Data users are more likely (15%) to have two cell phones (one personal and one business) than interested data users (1 to 2%).



Mobile Data Behavioral User Personas

All of the participants in the study use data services in some form. Each was asked to classify themselves based on which of the following descriptions most closely fits their main motivation for using data services.

- Stu (214) - Staying connected with other people (via text, email, IM, site posts)
- Derek (104) - Staying current with information of interest to me (news, weather, stock, traffic, etc.)
- Alison (97) - Being efficient with my time, getting things done between the cracks (just in time information, paying bills, shopping, planning trips)
- Mark (40) - Filling time, preventing boredom by having something to do (e.g., downloading music, MySpace, IMing)
- Claire (47) - Urgent needs, for unexpected situations when I need information immediately (e.g., find a location or contact info).



Stu (latest and greatest) uses a range of services on his phone, communicates extensively with others through sharing of information via multiple technologies, personalizes widgets and services.



Derek (up to date) stays current and keeps himself informed, is efficient and gets things done, frequently checks the status of non-static information to see if it has changed.



Alison (busy and productive) is efficient and gets things done, seeks information to aid the immediate (and beyond immediate) course of action, appears occupied so as not to be bothered.



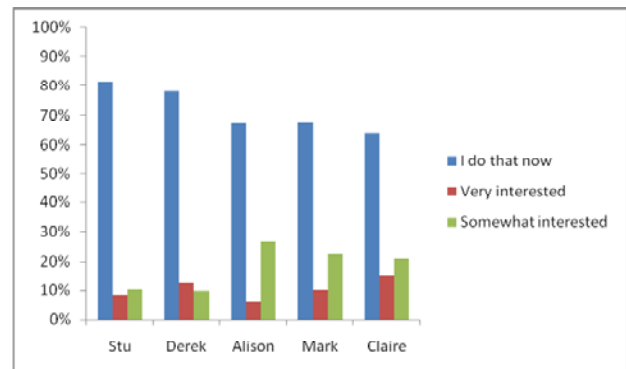
Mark (social and curious) wants to fill time or alleviate boredom, engage with other people, skim for new information of interest without any immediate goals, shares information with others.



Claire (just the basics) keeps phone costs down, has it for emergencies, uses Web occasionally to aid the immediate course of action and rarely for diversion.

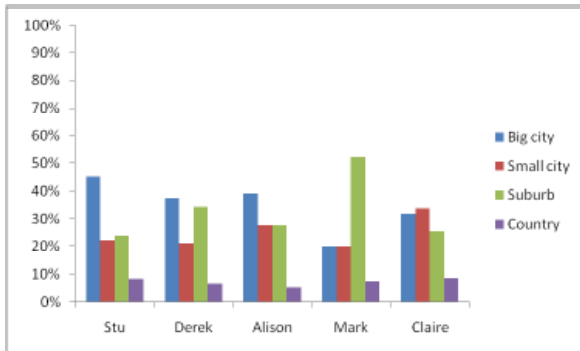
Accessing Mobile Web

In comparing the mobile Web users to the interested users by persona, those most concerned with staying connected (Stu) or staying current (Derek) have the highest instance of mobile Web use. There's an upside opportunity to offer more mobile Web services that are more relevant and appealing to those personas with alternative motivations: Alison, Mark, and Claire.



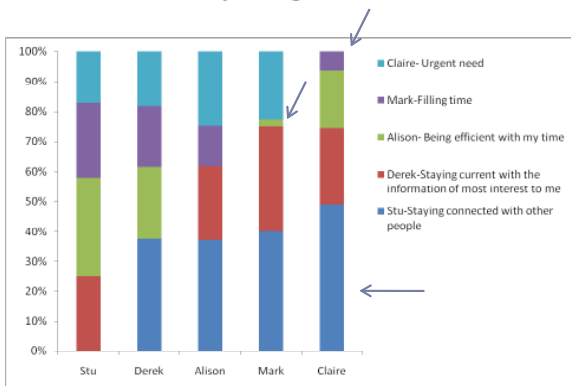
Personas Demographics

Those participants whose primary motivation is staying up to date (Derek) or remaining productive (Alison) were more likely to be male and more affluent. The social and curious (Mark) were most likely to be younger (mean age 34) and live in the suburbs, while the basic user (Claire) was more likely to be older (mean age 38) and live in a small city. Where people live can have a significant influence on how people adopt mobile Web and what types of services are valuable. Understanding the context of their location helps inform effective design.



Secondary Persona Motivations

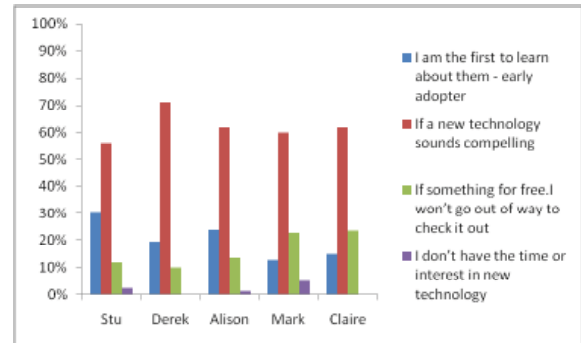
The survey also asked each participant to choose their second most descriptive motivation. Most considered staying connected as their secondary motivation. And most who are motivated by filling time are not motivated by being efficient, and vice versa.



Persona Attitudes towards New Services and Technology

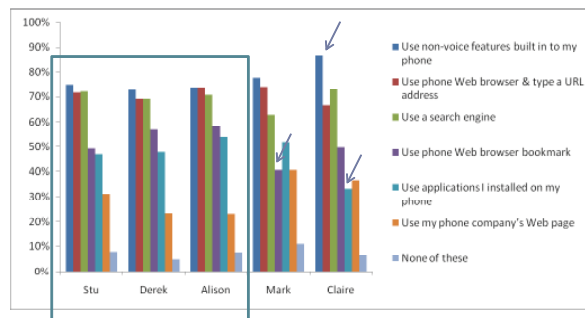
When asked how likely people are to try a new ser-

vice or technology, most indicated they would if it sounded compelling to them. Mark (social and curious) and Claire (just the basics) tend not to be early adopters nor go out of their way to learn about new technology.



How Personas Browse Web Services

Stu (latest and greatest), Derek (up to date) and Alison (busy and productive) are similar in terms of the type of Web browsing they do regularly. Claire (just the basics) spends relatively more time using non-voice features (e.g., calendar, calculator) and less time using installed applications. Mark (social and curious) spends relatively less time using book-marks. All used their phone browser and search engines significantly more than their carrier's Web sites, but both Mark and Claire tended to use their carrier's Web site more than the others.



Phone Type by Persona

No differences were found in terms of number of phones used, types of plans, cell provider, brand of phone, type of phone (smart, feature, or touch screen), or type of phone plan. However, the social

and curious (Mark) are more likely to have only a personal phone. And the busy and productive (Alison) are more likely to use a phone for both business and personal.

How Does Personas PC Behavior Carry Over to Mobile

The extent to which PC Web behavior carries over to mobile Web breaks down similarly by personas compared to the overall population of mobile data users (directional only as sample sizes are small in some instances).

- Derek (up to date) is less likely to carry-over banking onto the phone
- Mark (social and curious) is less likely to carry-over calendaring on the phone

RETENTION	Stu	Derek	Alison	Mark	Claire
Email	82%	80%	88%	86%	82%
Surf the Web	79%	75%	76%	76%	73%
Check bank account	73%	60%	70%	84%	68%
Get daily news	75%	74%	70%	69%	73%
Use maps or directions	82%	74%	84%	91%	89%
Get daily weather	73%	79%	84%	77%	77%
Listen to music	80%	61%	75%	72%	69%
Play games	74%	76%	72%	96%	66%
Visit social networking sites	82%	65%	74%	76%	61%
Watch videos	64%	62%	69%	59%	59%
IM	84%	74%	77%	76%	89%
Purchase things *	65%	41%	64%	37%	52%
Manage Photos	65%	51%	52%	52%	48%
Keep a personal calendar *	83%	73%	83%	50%	88%
Get traffic reports *	76%	81%	79%	75%	100%
Use online dating services *	53%	67%	40%	-	33%

* Note: sample size is less than 20

How Personas Use Data Services and Features

In terms of how each persona uses various services:

- Stu (latest and greatest) is more likely to actively text than other personas.
- Derek (up to date) and Stu (latest and greatest) are on

email and the Web more than other personas.

- Stu (latest and greatest) is slightly more likely to use task memos, voice notes, and calendar than other personas.

Summary

Overall, the study revealed these significant observations regarding mobile Web use:

- Mobile Web users are heavy texters (70%) compared to those interested.
- Communicating (79%) and scanning for new information (50%) are top behaviors.
- Typing URL's (71%), searching (71%), and using saved bookmarks (52%) are more common than accessing carrier sites (48%).
- Significantly more mobile Web use takes place at home (44%) and work (38%) than in mobile contexts.
- Most mobile Web access is done while alone (49%) and between other activities (46% waiting in line, 43% taking a break from other activities).
- Mobile Web users have more capable devices with full keyboards (50% vs. 12%) and touch screens (29% vs. 4%) than interested users.
- Examine the characteristics of the personas who are not early adopters to create services more relevant to larger numbers of people.

Increasing mobile Web adoption does not necessarily mean introducing entirely new categories of service with a big bang. With rare exception, new categories of services are most often taken up by the early adopters and ignored by the masses. Only by carefully examining the behaviors and motivations of current and potential mobile Web users, we can develop more valuable and relevant services that fit with people's daily lives and improve overall adoption of the mobile Web.

Survey Sample

The national incidence was determined based on qualifying survey questions:

	US Adult Pop (217.8 million)	US Online Pop (200 million)	Sample (2,439)
Have cell phone for personal use	202,554,000	186,000,000	93%
Make decisions regarding personal cell features	182,952,000	168,000,000	84%
Have interest or mobile web	128,502,000	118,000,000	59%
Current mobile web users	34,848,000	32,000,000	16%
Very interested in mobile web	26,136,000	24,000,000	13%
Somewhat interested in mobile web	65,340,000	60,000,000	30%

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1. University of Washington Department of Technical Communication, Directed Research in Mobile User Experience: <http://www.uwtc.washington.edu>.
2. Taylor, C., Ramey, J., Anicello, O., Samuels, N., Somohano, S., Whitaker, L. A Framework for Understanding Mobile Internet Motivations and Behaviors. CHI 2008. ACM 978-1-60558-012-8/08/04.

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US Corporate Headquarters

601 108th Ave. NE / Suite 900 / Bellevue, WA 98004 / T. +1.425.957.6200 / E. info@motricity.com

EU Headquarters

1st Floor Hollywood House / Church Street East / Woking, Surrey GU21 6HJ / England / T. +44.1483.545.500 / E. info@motricity.com

Durham Office

210 West Pettigrew Street / Durham, NC 27701 / T. +1.919.287.7400 / E. info@motricity.com

Netherlands Office

Poldermolen 4 / 3352 TH Papendrecht / Netherlands / T. +31.78.641.7777 / E. info@motricity.com

France Office

234 Rue Championnet / 75018 Paris / France / T. +33.685.838.201 / E. info@motricity.com

