Introduction

We are in an odd situation in the Mobile Industry. The success rate for past services such as WAP is quite low yet we are still rolling out new services that appear to be the same wolf in different clothing. Photo Messaging, Instant Messaging, and even SyncML are all services that appear to be doomed to repeat the rocky road that WAP has been following. There seems to be more of a bravado approach to presenting new technologies as the next big thing instead of a more detailed discussion as to what has been successful, what hasn't, and why. Instead of forging ahead, we need to pause a bit and lift our collective heads. As an industry we need to discuss both the wins and failures in this industry and learn from our mistakes.

However if you go to any Wireless Portal you tend to find articles promoting how to increase ARPU (average revenue per user). The goal seems almost draconian. Independent of customers perceived value, make them pay more! While there is clearly a viable business need to increase ARPU, focusing purely on the need for money and then groping around for a service to fill that need is surely doomed to fail as consumer backlash will eventually follow. The point isn't that increasing ARPU is wrong. It is just poorly motivated.

So what should we do then? Flip the problem on its head. Do what the big boys do in the consumer industries such as food and automobiles: get closer to the customer. Figure out what is important to them and satisfy that need. If you do that, the money will follow. This isn't a radical concept, it’s been around from the dawn of marketing time. What is surprising to me is how long it is taking the mobile phone industry to start this process.

However, time and again when I talk to people in the industry, it is clear there are dozens, if not hundreds of service ideas. The telcos are practically awash in ideas. It isn't surprising that there is a belief if you just pick the right one, charge $5/month for it, and you're golden. While indeed there may be some obvious little gems scattered around that may work this way. I would claim that we have had such a dismal track record in rolling out services in the past that we owe it to ourselves to step back and stop selling $100 lemonade for a while. Step back and think about our approach and what this space is all about.

This paper will look at what I call the "WAP Attitude", the approach we've taken in thinking and rolling out mobile services. It is important to understand this approach, as it appears to be happening all over with new 3G services as well. It is all too easy to only criticize, so I'll show how understanding the WAP Attitude can suggest fixes to common problems that exist with some common services being rolled out today.

However, if we really want to move forward, we have to start looking beyond technology and start understanding the broader concerns/issues that customers value. This is clearly a long-term approach, but the only one which will encourage new product concepts that will have any lasting value to the consumer.

Finally, I'll discuss the Mobile Research Group of out New Zealand. A research consortium organized by MediaLab South Pacific that is working on next generation mobile services with this people centered approach firmly in place.
The WAP Attitude

The trouble with the world is that the stupid are cocksure and the intelligent are full of doubt.

Bertrand Russell

The world tends to be a subtle place and there are rarely simple answers to important questions. However, the world is also a very complex place and there are times when you need a coping mechanism to deal with the overwhelming pace and choices available. The WAP Attitude is just that, a default way of thinking that trades assurance for accuracy.

There are five aspects to the WAP Attitude: Techno-Lust, Customer Blindness, Legacy Thinking, Ergonomic Blindness, and Standards Blindness.

Techno-Lust

Back in middle 1990's when we were first discovering WAP, the web was a very hot market. Phones too were becoming quite hot as well. It seemed to be a marketers dream: merge the too hottest markets on the planet, the result had to be even hotter! The concept was exciting solely because it was possible. Merging these two markets was both obvious and even better that either on its own. Clearly the world has cooled a bit since then but we shouldn't forget the techno lust we all had in our eyes back then. WAP was just 'obvious' and if you criticized it, you clearly didn't 'get it.'

The reality is that no matter how hot a concept is, if customers just don't get it, they just vote with their wallets. There is no doubt that WAP as a concept appeared obvious. The problem was that WAP’s proponents just didn't care much to think about the feasibility. There are many reasons why WAP just doesn't work, some of which I'll discuss in the next section. However, when techno lust kicks in, it doesn't matter. A strong enough concept will ignore any number of concerns.

Of course the world is also full of nay sayers and just it is easy to find fault with any solution. The point is that techno-lust takes a concept on face value and either ignores obvious concerns or just assumes that the details will take care of themselves. Here in lies the trap. WAP died not for one reason but many, it died a 'death of a thousand cuts.'

Classic WAP interaction

Here are the 21 WAP screens I needed to traverse in order to find out which movie was playing near my office. This process took over 7 minutes and involved several bizarre selection decisions that I can safely say would have stumped the vast majority of consumers.

Techno-Lust just assumes that services like this will ‘get better’ over time. We’ve had 6 years of WAP experience, how much time do we need?
Customer Blindness
There is a strong feeling that we know who our customers are. But do we really know this? If so, is it possible to explain why SMS is so popular? I've asked many executives this question and almost always get a different answer. SMS is one of the most successful services ever rolled out over mobile phones and yet there isn't clear consensus as to who uses it and why. Of course many people say something about teenagers and cost savings but is there a good understanding as to what they are doing with SMS? Is there a discussion of when teenagers enter the work force and have significantly more disposable income they continue to use SMS? There are deep issues here that should be completely understood and shared within the industry. Not knowing this is a clear sign that we do not know our customers well enough.

We are surrounded by reminders that we often get it wrong. Take credit card pay terminal on the left. Even this fairly straightforward concept was unsuccessful, prompting the company to provide a band-aid fix with the large red sticker to ‘Press this button’.

This is a parable for mobile phone designs. Consumers aren’t stupid. They just have entrenched tasks and roles and don’t easily shift into new ones. If we are trying to create a product and a brand that is meant to work across an entire country, we need to appreciate this.

The blindness persists in that most companies still think of their target user as a computer user. This may indeed be the case but it doesn’t mean the wish to be a computer user all the time! In many situations, especially mobile ones, even advanced users want simple designs that do just the right thing quickly. My concern for eWallet type of transactions over mobile phones is that they are going to be significantly more complex than just swiping a card. Of course there will be benefits using the phone that a card can’t match but most consumers won’t care. If it is twice as complex as a card, it just won’t work. I’m very concerned that the mobile industry doesn’t appreciate this.

The WAP Attitude is customer blind in that it really doesn't know who the customer is. It thinks it does, and here lies the danger. It assumes they'll have all sorts of tolerances that simply do not exist. The only surprise is that when products such as WAP fail, people are surprised at all.

Legacy Thinking
Legacy thinking is something we see throughout the history of technology. As an example, early uses for movies in 1900 was expected to be the filming of stage plays. Another was the potential use of the telephone to listen to opera from a distant city. History has shown repeatedly that most new technologies are often applied to an existing, backward looking task. These first uses aren’t wrong, only naïve, as they overly proscribe uses of a technology by applying it to existing tasks. In retrospect, the new technologies provided vastly different uses than those initially presented. It took time before the full impact of these technologies was understood.

The same is true with mobile phones today. Once they had wireless data capability, the ‘obvious’ thing to do was to look backwards and see the web. This lunging grasp isn’t necessarily bad, only uninspiring as it is yet another example of legacy thinking. Of course, this doesn’t “prove” that WAP is doomed, only that it is part of an obvious, if uninspired, trend. History indicates there will most likely be a much stronger and more meaningful use of data enabled phones that goes well beyond the ‘web on a phone’ concept.

Now that the bloom has faded on the WAP revolution, cooler heads are prevailing and simpler concepts such as wireless data for laptops are coming around. While not nearly as flashy as WAP, it is a much stronger concept in that it is taking an existing customer, the PC user, and offering them a clear service: to go mobile with their network. The applications stay the same, the ergonomics stay the same, in fact everything stays the same but now the wire from the wall is gone. Now, for example, you can get your email in the airport lounge. But it’s more than just reading your emails. As we haven’t reinvented the world, these emails have an environment with them as they are: 1) on your main computing device using 2) your standard full featured email client with 3) access to all of your standard computer files. Instead of making a new device to get your email on the move, you bring your old device with you.
Now this simpler view certainly isn’t very flashy. In light of the hype over the last few years it appears almost boring. However, it is a deep and clear product concept being based on known products and a known user. It meets a clearly obvious need as you are taking an existing product and customer and giving them a evolutionary path. In fact, for the laptop crowd, this untethered PC may be so compelling that instead of creating big phones to browse the web, I see the potential of tiny laptops, a trend we are already seeing, becoming even stronger.

The Legacy thinking component of the WAP Attitude is dangerous as it puts tremendous energy into the 'obvious' thing to do. This distracts us from the more important, and admittedly harder, step is to discover the new disruptive uses of this technology.

**Ergonomic Blindness**

Most people in this business tend to be blissfully ignorant of ergonomic issues of mobile phones. These devices have screens that are 50 times smaller than a desktop PC, their interaction style is many times more clumsy and the text input style is very slow as well. In short these things are a pain to use. There tends to be a belief that phones can be thought of as an impoverished PC. Everyone acknowledges that they are clumsy and not remotely like a PC when it comes to input, but nevertheless, they still believe that things just somehow will workout. They just don't believe it is really all that bad. The customer will somehow muddle through.

Our experience with WAP has pretty conclusively shown that this is no longer the case. Even something as simple as a login window is enough to kill a WAP site. Most people just can't be bothered with such difficult requirements on a phone. What we're now beginning to understand is that phone interaction tends to be 'high concentration' over short periods of time. They are also done in a very hectic and social setting. Most people just don't want to go it high concentration pc mode to answer a few questions. They want the phone to act more like an appliance than a PC, giving them what they want with as little fuss as possible.

**Advertizing the manual**

A sure sign that we are not understanding the impact of ergonomic and design issues in the mobile space is that companies are forced to take out ads on how to user their services.

The ergonomic challenges of the mobile phone doesn’t doom any attempt, it just makes it more challenging. If the value is high enough, users will actually put up with quite a bit. The trick is in knowing if the value of a proposed service has that value. The WAP Attitude tends to discount this hurdle, assuming that if users just read the manual, things would work out.

**Standards Blindness**

As an industry, we are understandably lazy. The 'topology' of our industry is exceedingly complex: there are dozens if not hundreds of handsets, each with unique features. There are many server platforms and even more telcos. The very idea that any phone could use any service in any country seems nearly impossible.

Standards are clearly the road forward as they unite this disparate mixture of hardware so there is at least a chance that services can be rolled out. The problem is that we overly rely on these standards. We sit back and wait for syncML, WAP 2.0, or MMS to come our way and deliver service opportunities. Not only that, when they arrive, we tend to take them at face value, assuming we have to swallow them as is and not innovate on top of them. This attitude is clearly the least risky. Of course someone will innovate and create a new service concept that is just slightly ahead of the curve. That is the risk that is inherent in any innovation. Take a look at Blackberry email platform or Nextel's Push to talk services. These clearly
are non standard concepts that have proven to be very successful.

By no means do I want to suggest that this approach is easy or without cost or risk. However a commonly held belief in business is that the best defense is strong offense. Waiting for standards to deliver you turnkey solutions is purely a defensive strategy that will likely backfire on you.

The WAP Attitude is at its heart a coping strategy. It is a collection of assumptions that help navigate the confusing and fast paced industry we are in. The only problem is that these assumptions are off the mark and encourage decisions that are almost guaranteed to fail.

Ultimately I'm selling a new attitude to replace the WAP Attitude. Understand people, their needs, purposes, and reactions. Then bend technology to meet those needs. Because ultimately, technology can bend, people rarely do. That is my reason for calling out the WAP Attitude to strongly. We have to understand how we have ignored the user to the point that we expect them to bend to our technology offerings. That is arrogance at its highest level. It is we who have to bend to the consumer. Those that do will ultimately win.
3G is looking the same

The greatest obstacle to discovery is not ignorance — it is the illusion of knowledge

Daniel Boorstin

It may seem that I have it in for WAP. I’m certainly not alone as it is clearly the rage these days to predict its failure as a certainty. However, its success or failure is irrelevant to my thesis. The critical point is WAP’s approach, motivations and assumptions that are slowing it down. Unfortunately, I see 3G today doing the same thing, focusing on technology as WAP did and setting itself up for yet another disappointing consumer reception.

This attitude is apparent as most 3G proponents are only able to advocate its improvement in data speed. Clearly, at its base, that is the primary technical accomplishment of 3G. However the 3G proponents don’t appear to know what to do with this speed other than to say it will aid downloading WAP pages and enable video. This is the WAP Attitude all over as it confuses the problems of the Web space, the need for broadband, with the needs of phones.

When discussing product concepts and user needs, technology is the last refuge of the clueless. With no important understanding of where the market is going or what people need, the proponents can only give feeble technology sound bites like “video” or “location based services” with no real understanding of how they would be used. More importantly, there is no clear concept of what people need done in their lives. Again, don’t assume I’m advocating a black and white analysis. These new service ideas are not useless, only unmotivated. They are nothing more than a favorite technology pet. Video and it’s ilk may indeed be the next big wave, I would just like to discuss it a bit further, understand the user need and motivation before I’m sold. This type of discussion unfortunately doesn’t happen much today, as the space is seen as “obvious”. I feel like I’m trapped in an odd techno version of “Field of Dreams”: build it and they will come... It is nothing more than the dancing bear theory of marketing, the bear doesn’t dance very well, but you’ll go see it just because it can. I need a little more to go on to believe this is the next big wave.

What needs to take place is a discussion of people, their needs, and tasks. Without it, we are just doing the equivalent of technological posing. Even WAP 2.0, as flawed as it is, has tried to do this. Its major weakness is limiting the discussion to what occurs inside the “internet bubble” of the mobile phone. A space I’ve already discussed as certainly not doomed, but just limited and backward thinking.
Local Fixes

Simple things should be simple and complex things should be possible.

Alan Kay

At this point I should stop proselytizing and actually say something constructive. I've spent a good deal criticizing the approach of the industry, I'd like now to propose a few solutions. Let's take the observations made in the WAP Attitude and apply them to both WAP and SyncML.

WAP

WAP does have significant problems but it truly does have potential. All you have to do is look at the success of iMode and see that it is working somewhere in the world. What amuses me is that no one really talks about the differences between WAP and iMode. A healthy dose of WAP Attitude just assumes they are the same and our success is only a matter of time.

One key difference between the two is the hardware 'imode' button itself. A dedicated (and I mean really dedicated single icon, just push it once) button that brings up your book marks would go a long way to increase use and satisfaction. Note how even this small step starts to break down the 'PC approach' that WAP encourages. Instead of going to the Menu to launch the browser and then choose from the bookmark list, the iMode-style button just short circuits the entire process and puts the bookmarks at the very top level. It even starts to breakdown the concept of an application, you just go to the weather place. The very concept of a browser starts to disappear.

iMode goes even further and has the bookmarks dynamically update. This brings in new services effortlessly. The goal is a simple one: let users discover new services without ever having to type a URL.

Two technical changes that would go a long way to improve WAP would be to increase the deck size of WAP decks so that you don't have to limit content to the tiniest of nibbles, forcing the user to repeatedly push the 'more' button every few words.

The other technical suggestion would be to use push so that the items in the bookmarks are all pushed to the phone so they are there instantly. Clearly all things can't be pushed down but it would go a long way to making the experience feel faster and more interactive.

However, quite a bit could be done just in streamlining the content of the WAP pages themselves. There should be a mantra amongst us all that anyone who releases a deck that requires more than 4 levels of hierarchy should be shot.

If there is a billing page for your customers, make it one page long! You go to the page that displays your data. There is no need for any clicks at all. The same should be true of email. No login should be required. To go further, no setup should be required either.

I realize these are not as simple as I suggest. Most require some type of 'cookie' in order to identify the user. However, remember that ultimately technology bends easier than users. If we can solve these types of problems and present services this cleanly, users will start to use them.

SyncML

SyncML is one of those 'monolithic' standards that I tend to criticize. Its underlying technology is not really at fault. My problem is in the manner in which the technology is presented to the user. In order to actually use it, there are many required steps, mostly in configuration but even in the basic, initial use.

Consumer reactions are strong and immediate. A bad first impression is 100 times more damaging than a positive one is encouraging. Configuration and first use for SyncML are it's most vulnerable points in that if it goes poorly, the consumer, even a business consumer, is unlikely to try it again.

The second problem is even if you get past the first use, there is the question of repeated use. Backing up your contacts, one of the key selling points of SyncML is a little like trying to sell insurance. They only really want it after the accident. Even if you do get the consumer through the first sync, they will rarely do
another which means when they do loose or break their phone, they will still loose valuable data and be unhappy with the service.

These three problems, configuration, first use, and user mandated updates are results of what I referred to earlier of being "Standards Blind". The assumption is that if the standard is 'rolled out' in the network as is, the problem is solved. Of course the standard will never be complete and waiting for it to mature to solve your problems is just waiting for the next round of disappointments.

The solution is to wrap a little customer care and a little technology around the problem to iron out these wrinkles. There are many solutions to auto configure the service so that out of the box, there is a default location for the server. The first sync, which is usually the longest, can also be addressed by having it done in the shop before leaving. In the case of an internet signup, there can be step by step instructions to alert the user to the issues so they can be prepared for it.

Probably the most important solution would be to work out a means of automatically triggering the sync without any user intervention at all. One possibility is to use a service level SMS to trigger the sync to occur overnight when the network traffic is low. This is the best of all worlds as the consumer now has complete backup protection and they don't do anything at all. The network wins as well as the majority of the data transfer is now done during low utilization times.

**Practical?**
Both of these discussed solutions to WAP and SyncML require ‘local work’ that goes beyond the basic standard. I’ve discussed a range of solution types ranging from just better instructions to technological wrappers. Some of these are easy and some are undoubtedly not. Seeing the problem is the first step. Understanding the problem from the consumer's point of view gets you out of the WAP Attitude and starts seeing the business dangers to your company. While the most effective solutions will most likely cost non-trivial amounts of money keep in mind the magnitude of the problem. What will it cost you if you don't concern yourself with these issues?
Beyond technology

Understanding human needs is half the job of meeting them

Adlai Stevenson

It is time for us to mature as an industry, to realize that the next level of innovation is not with the technology but the access to technology. Focus on the consumer and how they interact and communicate. Only then will we stop looking backward, shed our Legacy Thinking and start looking forward to the truly breakthrough services that mobile technology can offer.

Voice and text messaging are shipping, killer applications in the phone space today. In fact, text messaging is so strong that the British Medical Journal observed smoking was down for teenage girls in the UK due to their spending on mobile phones (BMJ 2000;321:1155 4 November). I have never seen an example of a technology that was more powerful than a chemical addiction. This is very strong stuff. We need to understand the attraction that this represents. It implies that there already is a very strong service being offered by phones today. Understanding the social forces that give this value and then creating services around this understanding offers great promise in designing future services.

The existing wireless handset ‘world view’ is similar to the web model: it sees the wireless market as a sea of individuals chasing information on a few big servers. This model shapes the definition of the problem of what people need from 3G. It really isn’t a surprise this model considers technologies such as WAP and speed as complimentary and compelling.

I claim that SMS and voice are successful in part because they extend social protocols. They allow people to extend the social experience. Boyfriends can send a goodnight text ‘kiss’ to their girlfriends before bed. Parents can call home and check on their children. Friends can find each other at a large outdoor concert. People need fuzzy, messy things like reassurance, comfort, control, and power. This is what the mobile phone and text messages, in part, give them today. This insight into social protocols and how phones allow this to be extended over distance and time is a perspective shift, one which allows us to see things differently from the previous point of view.
However, don't be fooled by this lofty talk of consumers and social insights. This is a down and dirty business insight. Keep in mind that the number one user of voice services, especially roaming, is the classic business user. Keying into these soft 'social issues' cuts across typical marketing categories and creates services with appeal to teenagers and business users alike. Deep consumer insight is sound business sense.

So what types of services might we be talking about? MMS (MultiMedia Messaging) is an interesting start. It certainly is attempting to extend the success of SMS by offering photos on top of the SMS experience. It is currently having a rocky start that doesn't have an obvious answer. Pricing may be an issue. Another may simply be that photos in the mobile context just aren't that valuable. My personal viewpoint is that it is missing the true social need. People want to send photos while they are talking, not instead of talking. Adding a photo to a situation like "I'm lost" or "Which one do you want?" or "Would you like me to add this to your order?" are all much stronger concepts. This clearly isn't possible today but it is this type of thinking that allows us to start shaping the future.

Instant Messaging clearly hasn't done well on mobiles but the 'sub feature' of presence has enormous potential. The ability to extend social protocols so that I can 'peek' into your current situation before sending an SMS or making a call has tremendous potential. Presence is nothing more than 'seeing' you through the phone. This can be something as simple as knowing if your phone is on and in phone coverage. However it can be extended to show your current profile setting which can be used to show if you are in a meeting, or at home. This may seem small but it allows people to be a more human, seeing the other side of the phone so they can make better decisions such as sending an SMS vs calling or waiting to call at a more appropriate time. It is even possible that the phone could alert me when you come out of silent mode/come into coverage/etc so that the phone itself will drive when I make voice calls.

The other very promising area is extending the SMS concept. Most people believe that SMS is about sending an email-like chunk of text. It is actually more about sending a directed message that doesn't involve you in a standard conversation. Whether this is as trivial as a teenager sending a goodnight kiss to his girlfriend or a business user sending a "I'll be 20 minutes" late message. It is becoming clear that SMS is a new type of communications channel that is often preferred to a voice conversation.

This means that SMS is more about social issues that the text itself. That is why a VoiceSMS type of service would go a long way in the market place. But if it isn't blindly simple, no more that a few button presses, it won't ever be accepted. Click, record message, click, pick recipient, click to send. If it is anything more it just won't fly.

Another service would be to extend the point to point SMS into a more group concept, friends sharing a text conversation. Again, this has been tried but usually through WAP which involves so much hassle that it is doomed to fail. The service needs to be integrated within the messaging application and no more than a few steps more complex that sending an existing SMS is today.
MediaLab: Mobile Research Group

Months of programming can save you days of critical thinking.
Anonymous

Of course the real issue comes down to how you actually create these new concepts. It is all well and good to stand up here and spin off visions. Actually delivering them is the real issue. That is why I'm excited to be involved with a new research consortium in New Zealand that is a collaboration of industry, academia and the New Zealand government. The goal of the Mobile Research Group (MRG) is to explore these next generation services.

The problem in predicting future products is that there is a “Heisenburg Uncertainty” effect. The closer you get to the problem, the more you change the outcome. This is especially true in a very technology rich environment. It is very hard for consumers to wrap their heads around some of these new concepts. The reason for this is simply the concepts are so disruptive, it is hard for them to extrapolate how it will affect them and have any long lasting value to them.

We all are familiar with the microwave. For most of us, it appeared to be a bit of a toy but once we actually had a chance to use one for a few weeks, it became indispensable. The MRG's approach is to appreciate this disruptive nature of these new technologies and to get concepts into consumers hands and have them live with a service for a while before judging it.

Our approach is fundamentally based on the need to understand customers, what they do and what they value. The next step is to take a stab at what they want by running concept testing and rapid turn around product trials. This is the aspirational aspect of our group, creating concepts that are for the most part, independent of technology concerns.

Our next step is to create a series of papers we call Technology Insight Papers or TIPs. TIPs attempt to summarize the numerous technical documents that make up the technology soup of our industry. The goal is to create an application overview, calling out the application lego bricks that a technology offers. The goal isn't to create an application but more of an application range, what is this technology good for and what types of services could be built with it. In addition, it will call out risks as well. The goal is to push the technology a bit as well. For example there are some very interesting corners to the MMS specs and the WAP 2.0 specs that need some real teasing out. There could be some very interesting uses of these technologies if used in a slightly odd way. The goal of the TIPs is to look for these interesting corners as well.

With the consumer research in place from the top and the TIPs from the bottom, the goal is to then brainstorm products that actually meet somewhere in the middle. The idea is to create concepts that have value yet are fairly easy to implement. The goal of the MRG is to create fairly short-term product research, products that can see the light of day in less than 2 years.

Conclusion

Our industry is blinded by the WAP attitude. When considering new mobile services, it looks backwards to the PC/Web market for inspiration. Now that WAP is loosing its luster, we need to raise our heads and understand how our previous thinking on these issues set us up for failure.

Once we understand this we can start to see that technology is not synonymous with innovation. To be truly innovative, we need to design the technology to meet people’s needs. I proposed several solutions to both WAP and SyncML that would go a long way in making those services much easier to use and more likely to succeed in the marketplace.

However, the long term success of our industry would be helped by understanding that the break through services won’t come from better web pages on the phone but in understanding the social grounding of the use of mobile phones. Services that build on this understanding have the greatest long term potential.