The Apple Watch Case Study

What we can learn and apply from an affordance analysis

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Apple Watch Case Study

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to quickly assess products and services,
from an end user perspective as well as from an
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The technique can be employed by one person
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Apple is estimated to have sold several million watches thus far, making it the best-selling smartwatch – as of this writing. At the same time, the Apple Watch has been derided by critics who say it is a complete and utter flop that underwhelms and fails to excite potential buyers.

Who's right? Why is there this flap over flop versus fortune?

An affordance decomposition helps predict how a product or service fits into people's lives, in addition to identifying opportunities for innovation and obstacles to success.

None of us have a crystal ball, so we can't predict the future. Or could we, somehow? If we only had an app for that!

What we can do, though, is make use of a technique available today to project into the future along a couple of dimensions to help offer some guidance. We can look at the Apple Watch and do an affordance decomposition, a type of analysis that can help predict how it might fit into people's lives, and where there might be innovations that could delight users, as well as features and functionality that could undermine widespread acceptance.

The purpose of this white paper is to share with you my analysis, following this affordance decomposition technique, so you can see an example of how it applies to a specific product, the Apple Watch Sport, and see the benefits of the ecosystem insights that design and development teams can receive, which may help to influence the success of the product.

The Apple Watch app screen

Granted, from a usability perspective, this first generation Apple Watch does have its share of challenges, as reviewers have been quick to point out. These include inconsistencies in the different types of notifications, favoring recall over recognition on some of the functions, small targets on the screen, and perhaps, in general, focusing a bit more on the industrial design at the expense of the overall user experience. No need for me to rehash the reviews. Also, my comments here are not given to pass judgment, but rather as a way to help others learn more about design from both a user and ecosystem perspective.

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Before I get into further details, let's be clear about where I'm coming from in doing this analysis.

Disclaimer 1: For the record, I've used both Mac- and PC-based systems over the years, and I'm fairly pragmatic about the whole thing. I'm neither an automatic fan of Apple, nor am I a rabid detractor. I currently own an iPhone, but I've had other brands before it. So I think I'm able to evaluate from a balanced perspective.

Disclaimer 2: I should also note that I am unapologetically not an early adopter type of person. You won't find me camping outside of any store for the latest big thing. I'm very comfortable within the much larger ranks of the early- to late-majority category of the adoption curve. Therefore, I'm less swayed by all the hype about the Apple Watch, one way or the other.

Disclaimer 3: Over the past few years, I've stopped wearing anything on my hands or wrists, except for a small watch on those occasions when I'm out teaching. So for me personally, the first hurdle was seeing if I could tolerate wearing something fairly large on my wrist all the time.

Background

I have the original Apple Watch Sport running Watch OS 1. I wore the larger 42mm model and white sport band for the first two weeks; although I'm not a big person, it surprised me by being extremely comfortable.

Then I switched to the 38mm version. The changeover and restoring of my data went exceptionally smoothly, too. I honestly haven't noticed any meaningful difference with the smaller watch, so all the comments I made while wearing the 38mm also apply to the 42mm. Sure, in my head I know it's about ¼" slimmer all the way around, but that hasn't affected the readability of the screen or my ability to accurately tap the target areas.

Neither watch face twisted away on my wrist, an annoyance I've had with other watches in the past. And, until I take it off at night, I don't notice the little bit of moisture on the back of the watch where it contacts the skin to measure heart rate.

Perspective

The Apple Watch is not a smaller smartphone. Period. It was not intended to be, and it's clearly not how you would perceive it if you had it on your wrist. Rather, it's an extension of your iPhone, making things more convenient.

This distinction is important since expectations do influence perceptions. Apple has marketed the Watch as a lifestyle accessory. As a smartwatch, its job is to filter out things and present only the relevant information you need to see immediately. This reduces distractions until you have more time to attend to the fuller data available on your phone, or more complete interface on your tablet or laptop.

Also, the Watch frees up your hands, which is especially helpful when smartphones just keep getting bigger and bigger. Remember that women are still hampered by mostly impractical clothing designs that continue to omit pockets. So the phone gets stashed in the purse or backpack, thus representing a minor (or major) inconvenience when retrieving it. No such problem exists with the Apple Watch. It's right there on your wrist where you need it.

Affordance Decomposition

Now on to the detailed results of the Affordance Decomposition, a technique created by Apala Lahiri, HFI's Global Chief of Technical Staff, who also is head of the Heterotopian Design Group and CEO of HFI's non-profit Institute for Customer Experience (ICE).

The concept of affordance builds on the idea put forth by Marshall McLuhan that "all media have characteristics that engage the viewer in different ways; for instance, a passage in a book could be reread at will, but a movie had to be screened again in its entirety to study any individual part of it." Others have written about affordance as well, including William Gaver, who defined it as "the properties of the world defined with respect to people's interaction with it."

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The steps of an affordance decomposition are deceptively simple: assess the product or service from four perspectives.

Affordance Decomposition is a technique that enables you to quickly assess products and services from an end user perspective as well as from an ecosystem perspective. It can be employed by one person or together with input from a team. Performing this type of analysis early on helps uncover factors that might slow or even sabotage widespread adoption.

It's one of the techniques I teach in our HFI Omni-Channel UX Strategy and Innovation course. The steps of an affordance decomposition are actually deceptively simple: assess the product or service from these four perspectives – Functions, Meaning, Limitations, and Challenges.

The following example is a particularly instructive one that we present in the course. The power of spending even five minutes doing an affordance decomposition can be illustrated by the hard lessons learned from Pfizer's Exubera insulin inhaler device which was designed and released about a decade ago. The product took 11 years to bring to market, and it included a tube about the size of a flashlight which dispensed a newly developed form of inhalable insulin. As a medical device, it required full FDA approvals. But it was pulled from the market after losing $2.6 billion in its first year – the biggest failure ever in the drug industry.

Some analysts attributed the failure to Pfizer's poor marketing to physicians, nurses, and certified diabetic educators. The company itself attributed the failure to not communicating more effectively with the physician community early on. Both of these views completely miss the most important factor: the patients themselves and how this device would fit into their lives. The device was unwieldy and inconvenient. The insulin was less effective and so the cost to the patient was greater. All of this indicated that it wouldn't fit into users' lives and into their ecosystem. No amount of marketing could solve these issues, which should have been obvious years beforehand. Even when investors and patients did balk at the bulky inhaler, it wasn't enough of a red flag for Pfizer.

The stakes are equally high for Apple. Let's see what an affordance decomposition can tell us about the Apple Watch. I'll look at things from the original launch perspective, but I'll consider what's immediately on the horizon, as well as some innovations further out on the time scale, yet within the realm of possibility.

Functions	What can be done or offered to the user?
Meaning	What could this mean for the user psychologically?
Limitations	Restrictions, based on technology or business requirements?
Challenges	Obvious problems foreseen from the technology or offering?

The four steps of an affordance decomposition analysis

The critics who complain that the Watch is an expensive luxury understate the value of convenience.

FUNCTIONS – Convenience

The convenience of having your phone available on your wrist is primary. Think back to the age of pocket watches. Why else did wrist watches become dominant? It's convenience.

The Apple Watch provides notifications and alerts for a host of things. Many, but not all of these, enable you to take short typical actions on the Watch itself. The usefulness will grow as more apps add this capability. For now, some of them point you back to your phone for more extensive information or action, and the handoff needs to be smoother and more consistent across apps.

Some critics complain that the Watch is an expensive luxury since it can't do everything that your phone does. But I believe they may underestimate the value of convenience.

The justification for how business travelers could benefit from an Apple Watch is fairly apparent, given the logistics of schlepping yourself and your luggage on each trip. From notifications on your wrist while in transit about the arrival of your Uber driver, status updates about your train or air travel, contactless Apple Pay at Starbucks, package tracking from FedEx, paperless TSA check in and boarding pass, direct access to your rental car, turn by turn travel directions, automatic hotel check in and unlocking your room door without the need to hold a separate device. Whew! Sure, businesses might be more willing and able to pay for the Watch for their travelers. But it's not just business travelers who stand to benefit, and who could justify the cost.

Health and safety monitoring is made so much easier by the closeness of the app being right on your wrist.

Individuals and families could benefit from functions such as customizing their smart home, since the Watch would assist in recognizing individual usage patterns. Same thing with offices, where automatic unlocking and control of workspace lighting and environment would be useful.

But further analysis extends to persons with disabilities. For someone with multiple sclerosis who uses forearm crutches, the convenience of having even just some of these functions on their Watch would be significant. Same thing for those with traumatic brain injury or Alzheimer's. Even if someone only has a temporary physical or mental injury, the convenience of the functions could be valuable.

FUNCTIONS — Health and Safety Monitoring

The list of functions related to health and safety stretch even longer, from what is available today to what could be added into the Watch itself, or into future specialized watch bands or connected devices. Biometric monitoring for your and your baby's heartbeat is just the beginning. Recognizing the epidemic of diabetes occurring in this country, Dexcom's continuous glucose monitoring app displays glucose data on the Watch. MyNetDiary helps users count carbs, calories, and more. These are not unique activities, but they are made so much easier by the Watch's proximity to your wrist.

For the growing population of seniors, given the limited supply of caregivers, the function of automatic fall detection would be priceless. Emergency assistance could also speak directly to the elder through the Watch. Because of its Bluetooth connection to an iPhone, assistance can be provided over a much longer distance than a base station would offer.

FUNCTIONS — Movement and Fitness Tracking

Of course the Apple Watch can track your fitness data in a myriad of ways. Fitness tracking is one of the primary uses for the Watch. But look beyond the typical analysis available for running, golfing, skiing, etc., and a whole world of options open up regarding motion sensing.

The "proximate possible" points to enhancements and add-ons of technology that exist today and could be adapted. Whether the components could be added to the Watch itself, or added to specialized wrist bands, or even tied to other companion technology via Bluetooth, the point is that having the capability to track and control movement via your wrist is a very important function the Watch offers. Myo offers some similar capabilities today with its wearable gesture control and motion control capabilities, all from the device on your arm.

There is an emotional value to the Watch's benefits, which may not be quantifiable but make the product sufficiently compelling.

For musicians, or those just learning, vibrotactile feedback – communicating vibrations and/or sound through physical contact with the skin – could assist them in refining their technique when playing violin, piano, guitar, etc.

Taking this even further, by sensing which muscles in the hands and arms are being used, combined with an accelerometer and gyroscope, it might be possible to transmit and instantly translate sign language. Think of the possibilities of being freed from a keyboard or pen and paper, and what this could mean for those who are impaired and their communication with each other, as well as their communication with those who are not similarly impaired.

MEANING

For the business traveler, or even just the regular office commuter via public transit, it could mean a lot less hassle and provide relief from some anxieties. For parents of young kids and teens, as well as caregivers of elders, it could mean the freedom from at least a few worries that come with attending to the needs of loved ones.

For individuals themselves, having greater control over data concerning their own health and fitness could be empowering, and hopefully encouraging for them to follow better lifestyle activities and choices.

For medical personnel, it could mean greater connection to and empathy with their patients, especially in an era when face time with doctors may become more constrained by insurance company reimbursements.

For persons with disabilities, either permanent or temporary, the assistance provided by the Watch could mean just a little less stress in their daily lives, and we're all aware of the toll that chronic stress can have on the human body and mind.

A limitation is the inability to customize and extend the length of time the screen stays lit when not being rotated.

For any user, the particular choice of watch model, wrist band style, and watch face customization is an opportunity for self-expression, just like we have seen users personalize their mobile phone wallpaper and phone cases.

In addition, for each one of these examples, there is also an emotional value to the benefits, which may not be quantifiable but are sufficiently compelling nonetheless for using the Watch. However, it's not all roses and blue sky for the Watch, either.

LIMITATIONS

First and foremost there is a power consumption issue that must be addressed. Some users object to the need to typically charge the Watch daily. Personally, I've not run into any low-battery issues, and I don't mind charging the Watch each night right next to my phone.

But if the Apple Watch is to get a built-in GPS receiver, then even more life will need to be squeezed into the Watch battery, along with techniques for apps to conserve as much power as possible during their operation. Such an arrangement for a built-in GPS would consume too much of the Watch's battery, which is already limited. The current work-around is to rely on the iPhone's GPS. But that requires that you still strap on the phone when going for a run with the Watch. Perhaps already on the drawing board are some Bluetooth wireless headphones with built-in GPS? Or even GPS in a 3rd party watch band?

Speaking of Bluetooth, I should mention that there is no port, such as a headphone jack, on the Watch. Given space limitations, battery considerations, and need for water resistance, it makes sense not to have the Watch case vulnerable. The demand for being truly waterproof will certainly increase. Plus, as the Watch design inevitably becomes thinner, connection via Bluetooth would be the preferred method.

Related to battery usage is the inability to customize and extend the length of time the screen stays on when you view some notifications, or the watch face itself. I would gladly sacrifice some battery life for the convenience of a few more seconds of screen time.

Another limitation is being unable to personalize the arm motion to turn on the watch face. Only the traditional horizontal arm rotation will work. I want to have options for the watch face to turn on when I rotate my arm in the vertical position, and maybe from one or two other motions which I have yet to determine. This ties back to the convenience factor, but also leads us to the final step in the analysis where we look at challenges.

CHALLENGES — Privacy

The biggest challenge for the Apple Watch is the pressure to include a camera in a future release.

Without a doubt, the biggest challenge I see for the Apple Watch is the pressure to include a camera in a future release. It's possible that privacy concerns about a built-in camera could overshadow the rest of the perceived benefits from using the device. Shades of Google Glass, anyone? Granted, for a couple of years now, the Samsung Gear 2 smartwatch has had a camera and can shoot video. However, Samsung overall hasn't attracted as much of the public eye, or potentially its ire, as the more well-known brands of Google and Apple, for perceived missteps.

Fitness tracking is a big part of the appeal of the Apple Watch.

Sure, an ordinary smartphone has a camera. However, it's usually pretty obvious when the phone is pointed at you. Plus, if you are required to put away or even surrender your smartphone in certain situations, it's not that awkward.

But think about the ecosystem of the Apple Watch. Fitness tracking is a highly significant selling point. But if your smartwatch has a camera and you have to remove your Watch when entering the locker room, all those benefits of exercise and health monitoring on the device now have to be weighed against the inconvenience factor of stowing your watch when going into the locker room situation. It's a delicate line that fitness center managers and physical education teachers need to sort out. But privacy regarding cameras in smartwatches will and should trump the other factors. And therein lies the rub, and the warning: failure to fully understand and predict the needs of the typical customer and the public could be very costly. Lessons learned from the Segway personal transporter that was launched years ago, but failed to gain widespread acceptance, should be taken into consideration.

The temptation for students to cheat while wearing the Watch may be too great.

CHALLENGES: Security

Another challenge I foresee for the Apple Watch is related to its use in classroom situations. Similar to privacy concerns with the locker room example, there may be foreseeable security concerns regarding wearing the Watch in schools. Putting away a smartphone, or silencing it at a minimum, is different from having to take off the Watch and stash it. The temptation for some students to potentially cheat while wearing it is too great, even if it is silenced. A visible and enforceable 'classroom mode' might be invented to be part of the solution, but at what cost? And with what unintended consequences?

A different example connected to security is that of boarding pass scanners and TSA checkpoints at airports. Some scanners face up, others face down, and not all of them have enough physical space to scan a Watch when it's still attached your arm. Yet another ding against the convenience factor. Any potential upgrading of airport scanners would represent a non-trivial expense to the airlines and the TSA.

CHALLENGES — Battery

As noted previously, the life of the battery represents a challenge, especially for power users. (Pun intended.) As more apps tap into the native functionality of the Watch, it's possible to foresee demands on the battery only increasing. Yet this might also present an opportunity for Apple itself, or a 3rd party developer of watch bands to invent a way to recharge the device via body motion. Remember the "proximate possible" in that this kind of technology already exists.

For those who want to stay completely tethered to their Watches and don't relish the idea of taking them off at night for battery charging, there's the possibility that a watch band could be created to facilitate charging while still on your wrist via a longer cable and connector. It's not so awkward when you consider that some people already have medical equipment hooked up overnight by cable, such as CPAP head gear (continuous positive air pressure machines for those persons with sleep apnea), or insulin pumps for diabetics. It's just a matter of how motivated someone might be regarding the battery issue, and how much the convenience factor for them is affected.

Will the convenience of the Watch cause us to outsource some of our thinking and memory, even more than with other digital technology?

CHALLENGES — Brain

My last point in this section regarding challenges is a bit more subtle. It has to do with the effect that the Apple Watch might have on our brains. By outsourcing even more of our brains to technology — meaning some of the functions of thinking and remembering — will the Watch cause us to slowly lose some aspect of that capacity, or else possibly the speed at which we perform these functions unaided? It remains to be seen whether some of these potential outcomes will be viewed as positive or negative on us as humans. Certainly, the invention and widespread use of calculators has freed up our brains so we don't have to memorize times tables and formulas. And that's probably viewed as a good thing, at least from my perspective. But we should at least pause to consider these potential outcomes as we round out our affordance decomposition analysis.

Opportunity Points

Taking this investigation further, let's also look at the two types of opportunity points that the Apple Watch offers within the user's ecosystem. It's another technique I teach in our HFI Omni-Channel UX Strategy and Innovation course. This approach using the opportunity points was developed by our HFI CEO and Founder, Dr. Eric Schaffer.

From the insights gained by studying users and their ecosystems, it's possible to discover opportunities for innovation. The opportunity points you uncover from your research can be classified as either choke points or pressure points.

CHOKE POINTS

When something is difficult to do, like parallel parking with your car, it can be referred to as a choke point. Figure out a way to solve it and you can make money from your solution, as the various carmakers, including Toyota, Ford, and BMW, have done with their automated parallel parking feature. Car buyers are willing to pay for convenience, and so are smartwatch buyers. There are only limited ways that users can take action on the data displayed on the Watch. With the opening up of native capabilities, such as access to the health sensors, and hardware like the microphone and speaker, app developers will be able to build in more convenience. With more data detectors, you'll be able to tap to call a phone number displayed in a text message, or tap the ID to open up the UPS site to track your specific package.

Any action that requires tapping on the interface with precision is not that easy. Standard usability guidelines regarding the size of the targets for our fingertips bear this out.

CHOKE POINTS Passcode

However, for the Apple Watch, any action that requires tapping on the interface with precision is not that easy. Standard usability guidelines regarding the size of the targets for our fingertips bears this out. The recommended size for a target area is 10mm x 10mm, yet the Watch's lock screen numerical keys are about four times smaller. This makes tapping harder to do with accuracy. My hands are small and I've not had trouble with this personally, but there are plenty of other potential users who will encounter issues.

Alternatives do exist for this particular choke point: use swipe patterns, voice, or other biometric data.

For one of the most basic alternatives, let's consider Capital One and their SureSwipe feature of pattern sign in for their mobile banking application on smartphones. It allows you to designate a quick custom pattern with your finger on the screen, instead of pressing an alpha numeric password. If Apple could implement something like this gesture pattern for unlocking the Watch's numerical keypad, it could sure make it a lot easier.

Voice is another option, since our vocal fingerprints are unique. However, thinking through how someone might potentially abuse the feature to gain access to the device, Apple would not want to unintentionally facilitate 'watch-jacking' whereby someone could possibly force the Watch owner to speak their passphrase. So let's consider a different option.

For the bulk of everyday activities where high security is not required, why not use the biometrics of an embedded electrocardiogram (ECG) sensor to recognize the unique cardiac rhythm of the user? In other words, let the user's own heartbeat be the key to unlock and authenticate. This method has already been pioneered by other wearable device manufacturers like Nymi. A more secure combination might be biometric plus other factors. Each person's heartbeat is unique, and the ECG sensor doesn't require much power to detect it. Since your heartbeat is part of your own body, no one can steal it. For those higher security applications where accuracy is critical, simply increase the threshold by requiring 2-step authentication or more. But I defer to the security professionals who know where the limitations are.

Yet think of the possibilities whereby your heartbeat unlocks and customizes a host of things for you, making your life that much easier. Connecting to something like your home thermostat control system, your temperature and lighting preferences could be automated and triggered by your presence with the Apple Watch. Same thing for your office, or hotel room, or car, etc. And your ECG biometrics could personalize your settings for the workout equipment you use at the gym or home.

Think of the possibilities whereby your heartbeat unlocks and customizes a host of things for you, making your life that much easier.

CHOKE POINTS — Keystrokes to Text Entry

Moreover, since the Apple Watch currently allows drawing doodles on the screen, via the Digital Touch feature, enabling you to send doodles to your special friends who also have Apple Watches, the interface is already equipped to allow more sophisticated input. Perhaps in a subsequent upgrade of the Watch, where developers have been allowed to make use of more native functionality, a variant of the Graffiti single-stroke shorthand writing recognition system used by the old Palm Pilots could be included. This would solve the text entry choke point when you want to do it quietly. Sorry Siri, there are times when you're not the right mode to use!

CHOKE POINTS — Natural Language User Interface

The Doodle screen on the Apple Watch could possibly be used for a single-stroke shorthand writing recognition system like Graffiti.

And speaking of Siri, it's great that this natural language user interface is included on the Apple Watch. You need a very simple way to interact with the Watch, especially given the small form factor. "Hey Siri" seems to work fine for most short typical requests. Once or twice, with longer and more complex audio dictation during my testing, I had to repeat and try it all again from the beginning. But on the whole, Siri works very smoothly and accurately.

The Evernote app has its own way to make audio notes and speech to text. Upgrades to iOS promise to expand the functionality for Siri and Apple's apps, as well as 3rd party apps. It should be obvious that there are limitations to using Siri in noisy environments, or when you (or the people around you) don't want to hear the one-sided conversation of someone blabbing in public.

CHOKE POINTS — No Undo

One choke point for the Apple Watch seems to be the absence of an undo function in many places.

One choke point for the Apple Watch seems to be the absence of an "undo" function in many places. (I offer a sincere thank you to Messrs. Miller and Thomas of I.B.M., and the programmers at Xerox PARC for their work years ago every time I use Control+Z on my laptop to safely undo some unintended action!) Sure, there's the occasional "Cancel" button that can be tapped on the Watch. But something as simple as a certain kind of motion of the watch, not unlike the shake gesture of the iPhone, with a short confirmation choice to Cancel or Undo would be useful. The Force Touch of pressing harder on the Watch screen does not apparently have any consistent usage across apps, so this would not be a good choice for undo. But this new Z axis does offer some interesting possibilities of perhaps enabling users to go deeper into the alert or notification in a way that's different from merely responding with a typical action to an alert.

CHOKE POINTS — Viewing Angles

The Watch screen is designed to display your chosen clock face upon the typical horizontal motion of rotating your wrist. Yet that's not the only way that we view our watches. As noted previously, I believe that activation via rotation of your wrist when in the vertical position is also needed, at least as an optional setting. Otherwise, it takes extra effort and motion of your arm just to receive the basic watch functionality.

CHOKE POINTS — More Adjustive Design

Repositioning icons on the screen to arrange them according to user preferences is already standard on the Watch. This helps when dealing with the small form factor of the screen. I personally moved my frequently used apps closest to the center of the interface so they're easier to tap with my fingers. The upgrade to Watch OS2 enables the ability to customize watch faces, among a host of other enhancements. By Apple and 3rd party developers providing even more adjustive design capability in the future, users will be able to position critical interface elements into prominent positions, and drop off lesser used elements.

One bit of watchmaking terminology that might start growing in our lexicon for talking about smartwatches is that of complications, which are any features that go beyond the simple movement of just displaying the time.

With third party developers having access to native functionality, there are myriad opportunities for adding "useful complications" on the Watch's interface. Seems like an oxymoron. But the select addition of important pieces of information on the Watch face could reduce some of the hassles regarding commuting, and transit in general. And these are just one example.

CHOKE POINTS — Apple Pay

With third party developers having access to native functionality, there are myriad opportunities for adding "useful complications" on the Watch's interface.

Functionality such as Apple Pay aims to increase the security and convenience of making purchases, and the Apple Watch seems to make it easy. I didn't personally test this feature — remember I'm not an early adopter — but there are enough videos and reviews to get the gist. And as more folks take advantage of the leave-the-wallet-at-home while they are out jogging, they can still stop at their local Starbucks for a beverage and pay for it using the Apple Watch, sans iPhone. This raises the convenience factor. With the platform of Apple Pay as the basis of secure transactions, it's reasonable to anticipate that other secure functions using the Apple Watch can't be far behind.

PRESSURE POINTS

Now that we've explored some of the choke points, let's look at various pressure points, which deal with some type of psychological need. With the significant price for the basic model, and the even higher price points of the other models and bands, Apple is strategically appealing to the pressure points of high status and coolness, and their customers' desires for style and luxury.

PRESSURE POINTS — Status

Think of the status conferred on those Apple Watch owners who manage to snap up the scarce Hermes-designed watch bands. Even more interesting regarding status, is Apple's strategic approach to the roll out of Apple Transit, available in only 6 cities in the U.S. so far, due to the lack of uniformity among municipal transit organizations. Is your metro area part of the initial short list? But Transit is available for more than 300 cities in China since there is more standardization among those systems. Apple is hoping to make inroads into the significant Chinese market.

PRESSURE POINTS — Coolness

Without a doubt, coolness is quite a big factor for the Apple Watch. Many a reviewer has used the word 'cool' when describing some particular feature or functionality. What better way to express delight from an end user's perspective. "Cool" says it all. Simple. To the point. We all know what it means.

PRESSURE POINTS — Style

Many reviewers describe some feature or functionality as "cool." What better way to express delight from an end user's perspective.

There's no mistaking that Apple's targeting of the fashion and design industries, positioning the Watch as an accessory, will resonate with certain fashionistas. However, some reviewers have questioned this approach, implying that the Watch lacks sufficient breakthrough functionality; they believe that the marketing of it as a fashion item is necessary to improve the Watch's attractiveness. From what I have seen of other existing smartwatches, I don't feel that they would compete with the Apple Watch in terms of style. One would expect Apple to put their best foot, or rather their best wrist, forward. With the release of additional colors for the Watch and bands, such as rose gold for the case and antique white for the band, Apple is looking to enhance its appeal, especially to Asian buyers.

PRESSURE POINTS — Luxury

In this first release, the most basic model of Apple Watch is priced at $349. The Apple Watch Edition models are priced from $10,000 to $17,000 (for the 18K gold model). Brikk's Lux Watch Omni priced a specially designed first release Apple Watch at $144,995 for 18 carat gold with diamonds around the face, buttons, and strap clasps. Brikk's strategy is profit for philanthropy: sell to the rich and use a percentage of the price to donate profits to charity. It's clear that by any measure, the Apple Watch is positioned as a luxury item. It's not priced for everyone since Apple is able to charge a premium for the brand. There are other smartwatches out there, and those companies can duel it out on the low price end.

PRESSURE POINTS — Safety and Privacy

When all is said and done, it's important to step back from the questions of usefulness, affordability, and style, etc., and ask a much more basic question on Maslow's hierarchy of needs: is it safe?

It's important to step back from the questions of useful-ness, affordability, and style, etc., and ask a much more basic question: is it safe?

The back of the Apple Watch has four sensors, which include infrared and visible-light LEDs, in addition to photosensors.

I'm not referring to the previous "cell phones cause brain cancer" rumors that have been scientifically refuted thus far. Rather, I'm referring to the safety issues that may arise from the cumulative effect of radiofrequency (RF) radiation exposure from all our interconnected devices. Plus, a smartwatch, by its nature, stays on one specific part of your body for all your waking hours, day after day, week after week, month after month. You know where this is headed. It's sustained close exposure, even if it's Bluetooth technology, which puts out lower levels of RF than cell phones or WiFi signals. In this brave new world of wearables, the cumulative effects from the proximity of these devices to brains and reproductive organs should at least be considered by manufacturers as well as purchasers.

In a similar moment of retrospection, we need to look at privacy, too, beyond the already examined areas of financial transactions. I'm referring to the chance to maintain some degree of privacy within the overall ecosystem that Apple has developed. I believe that users will have a relatively lower risk of exposure within the Apple ecosystem than within the Google / Android one. Think about it. Google makes its money from selling the data it has collected. On the other hand, Apple makes its money from the products it sells. Say what you will about the futility of keeping any electronic data private, even government and health data, in this era of rising cyberespionage. But why make it any easier for your very personal data to be harvested?

Sure, if someone were truly alarmed at this possibility, they wouldn't be the type of person buying a wearable device in the first place. Granted a person could turn off much of the tracking, but without all the connections, the value proposi-tion for a smartwatch becomes fairly weak quite quickly.

Apple Watch Case Study

Conclusion

Regardless of whether you believe some estimates that Apple Watch sales aren't so hot, or whether you believe other estimates that the Apple Watch, in terms of market share, is virtually defining the smartwatch market with sales that may be six times bigger than its nearest competitor, the Watch is successful enough, despite some initial shortcomings. Smartwatches are still a fairly new category, and will take more time to develop.

The key value proposition for users is convenience. That's what's compelling, and it's not due to any single app. For me personally, the original Apple Watch is definitely useful enough and usable enough to keep it. It has value today, and I believe it will only grow in utility and ease with subsequent upgrades. It's a handy device that works by delivering only essential information, providing a portal to content, and it will likely get even better as designers provide that information in more contextually relevant ways that become even more integral with the activities of daily life.

Through performing an affordance decomposition, and conducting an analysis of opportunity points, I've been able to look beyond just a classical usability perspective to see the larger ecosystem of the Apple Watch, and to assess the overall user experience and how the Watch currently fits into people's lives, as well as how the Watch might be enhanced or diminished through the addition of certain capabilities. Next time you or your organization consider developing a new product or service, make the time to do these types of analyses early on. They're not foolproof, but they can provide critical insights which may help reduce risk and boost the potential likelihood of success. Let's see how this turns out regarding the Apple Watch.

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About Mary

Mary M. Michaels has more than 15 years in the field of user-centered design. Her expertise includes all aspects of user-interface design: stakeholder and user interviews, personas and scenarios, task analysis, information architecture, wireframes, visual design, usability testing, and institutionalization of usability. She is skilled in strategy development and design for Web sites, intranets, and applications. Industries include: e-commerce, financial services, government, healthcare, insurance, nonprofits, and telecom.
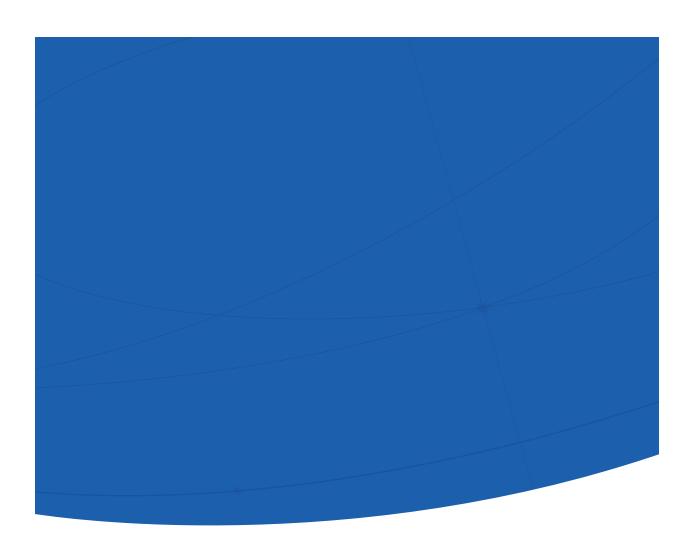
Mary oversees and manages HFI's training courses, their content, and the instructors for HFI worldwide. She also leads and performs test development and item writing for the CUA and CXA certification exams for individuals.

She has taught over 100 courses, in both public sessions as well as onsite at clients, across the U.S., the U.K., Ireland, The Netherlands, and South Africa. She has moderated over 500 usability sessions, both in-lab and remote, within the U.S. and across several countries around the globe.

Before joining Human Factors International, Mary's experience included: Senior Web Project Manager, The McGraw-Hill Companies; Project Manager, Princeton Partners, Inc.; Project Leader, Educational Testing Service (ETS); and Director of Operations, Microcon Computer & Software Center.

She is currently a member of the User Experience Professionals Association (UXPA), and served for five years as treasurer of the New York City Chapter of the UXPA. Mary also is a practicing visual artist. You can view her work at marymichaels.com.

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