How people really use the iPhone
October, 2008
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Who is Create with Context?

We are a strategic design and research firm focused on web, mobile, desktop, and consumer electronics applications.

We help companies with **complex, strategic innovation** projects: reinventing existing digital products, inventing entirely new digital products, and bridging the gap between physical products and the digital world.

- Consumer and business-to-business behaviors
- Ecommerce and social commerce
- Social media and communities
- Internationalization and multi-cultural experiences
- Multiplatform products (such as consumer electronics+web+ecommerce)

Clients range from the Fortune 500 to technology startups
Founded 2005, with headquarters in Santa Clara, California
What we’ll talk about today:

Our research
How people really use the iPhone
Purchasing applications
Eight rules of thumb
Our research
Research goals

Understand how people interact with the iPhone platform

What works, what doesn’t work, and why?

Are there mismatches between expectations and platform?

Where are there usability and/or usefulness issues?

Where does the iPhone UI excel, and where doesn’t it?

Observe how the mass market - not the experts - uses the iPhone
Research approach and structure

Combination of in-lab and expert heuristic evaluation

Interviewed blend participants at our Santa Clara research lab
- People who currently own iPhones
- People who have hands-on knowledge of the iPhone, but do not own one
- People who had never touched an iPhone

Research focus on older, non-trendy demographic
- Ages ranging from 30-55
- Based on previous research, this target market has disposable income and purchases technology for self-consumption

Participant session structure
- Funnel approach, beginning with broad interview
- Followed by specific tasks and workflows
How people really use the iPhone
How people really use the iPhone

As iPhone developers, it’s tempting to believe that everyone knows how to use all of the iPhone applications and interactions.

In our research, however, we found that take-up of interactions - even when these were consistent across applications - was often quite slow.

And even ‘expert’ users were not aware of the ins-and-outs of every interaction - for example, our ‘expert’ participants didn’t know the two-finger single tap to zoom out on Google Maps.
Browsing the New York Times website

Placement of text box mirrors the desktop browser, suggesting that URLs go here.
None of the novice users understood the use of the (X) button.
Browsing the New York Times website

And some novices thought it was the Go button like in early IE
Users quickly figured out that they could swipe to scroll, in part due to clipped lines.
However, when they needed to zoom, users became confused.

“There’s a book here. Does that mean you can read?”

“The magnifying glass took me out of the (New York Times) and into Google.”
Browsing the New York Times website

“I keep thinking the plus sign is to make it larger”

Definitely not what was expected
Browsing the New York Times website

Some felt this icon would zoom them out to the entire page.

But this wasn’t what they expected to see.
Setting an alarm

All users quickly found the Alarm button.
Setting an alarm

In this instance, the (+) was easy to find.

The spinning dials were relatively intuitive for all users.

However, some novices began their swipes outside of the widget.
Setting an alarm

When asked to change an alarm, many users tapped on the time, instead of Edit.

And then deleting is visually highlighted, but not editing.
Creating a calendar entry

Most users first hit the right arrow to get to November.

Although several tried to swipe horizontally.
Creating a calendar entry

And then they selected the first of the month.

When they could have pressed the (+) right at the beginning.
Finding the current location on the map

100% of participants found the crosshairs
Searching for a Starbucks

When Address Book entries appeared, some felt they had ‘entered the wrong mode’

Users guessed that the highlighted shop was the closest, but were not sure

“I guess it's this one, but I’m not sure if that's why one of them has a pop-up balloon”
Searching for a Starbucks

One participant felt that the blue arrow itself pointed to the location of the Starbucks.
Seeing a satellite image

Users chose this button out of trial and error, not visual affordance.

Novices zoomed in by tapping; experts by ‘unpinching’.

One user exited Maps twice trying to get back to Map view, because forgot about this icon.
Finding a video on YouTube

All participants quickly gravitated to Search.

However, many hit the blue arrow, rather than the video itself.
Finding a video on YouTube

When landing on this page, participants tapped the video thumbnail.

All participants were comfortable with the display auto-rotating.
Playing Air Hockey

Direct, 1:1 manipulation brought a smile to every participants’ face.

Real-world affordances make it possible to play immediately, with no instructions needed.
However, (i) button disappears, leaving users to wonder how to configure application.

Direct, immediate feedback to exploratory manipulation worked well to engage users.
Most users picked up on direct, real-time display of changes to settings.

However, one said “I was expecting more instant feedback.”

Most tapped the water to close the drawer, but one ‘pushed’ it to the bottom to close.

Lack of strong highlighting caused confusion as to which options were selected.
Playing Labyrinth

Level selection was difficult as users had to click on this icon rather than the text.

“There’s no real way to see how to choose the level pack.”

Real-world, direct manipulation was easy for all users to pick up.
Purchasing applications
Purchasing applications

We also investigated participant attitudes and behaviors surrounding the purchase of applications through the on-phone iPhone App Store.

Attitudes towards ratings and reviews closely mirrored those seen in research we have performed for desktop browser-based ecommerce.

Participants provided insights into what’s considered - at first glance - a ‘good’ or ‘trustworthy’ application.
Find and purchase a To Do application

Clipped icon and stars helped users see that the list was scrollable

All participants quickly gravitated to Search
Initial perception of application quality is largely influenced by icon design.

“Bright red feels like it's saying 'error, don't take this one.'”

“If it was a poorly-designed icon, I'd go right past.”

“Nice and crisp [icon]... does have a big impact on my actually going to look at what that is.”

“I also like vibrant colors ... a hi-res icon.”
Application names

For some users, catchy names get their attention.

But when looking to launch an app, simple names were found more quickly.
Star ratings can influence purchases, but are ‘taken with a grain of salt’

“I’ll still give it the benefit of the doubt [if it has a bad review].”

“If a friend of mine liked it, I would try it [even though it had negative reviews.]”

The reviews … I will go in and check them out, I won’t get swayed by the stars …
The reviews … I will go in and check them out, I won’t get swayed by the stars …
Application pricing

$4.99

“$4.99 is reasonable”

“Seems reasonable”

“Would be a good price, although I’d be more willing to pay that for something like Quicken than for a memo pad.”

“It’s not bad … I'll do research to see if I should buy it.“

“That seems pretty inexpensive. If it was something I wanted badly enough to go looking for it, I wouldn't be hesitant to [buy it].”

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$0.99

“I'd wonder what it was, does it really have that much value to me? ... Anything sub-$5 may not be a money-making enterprise, or has malware.”

“I usually look at the apps that are Free or cost around $0.99 because I've gotten to used to the iTunes store (for music).”

“Very good, very easy to buy. $0.99 means it’s been around a long time, there’s a promotion going on, or it’s not a complex app.”

“Not a huge difference (from $4.99)”
Application pricing

$14.99

“Seems reasonable to me … for a World Clock widget with timezones, I'd pay that.”

“Not a lot of money … would not be expensive, considering I’m doing it from an iPhone that costs hundreds of dollars.”

“There's so much that's free … $14.99 seems like an awful lot to pay. That's how much we used to pay for kids' software on the PC.”

“I'd do extensive research, but I'd buy it. If [turn-by-turn GPS] was $50, I'd buy it right away.”

“If you can get a PS3 XBOX game for $30-40, then $15-20 seems expensive for this platform.”
## Application pricing

| **Free demo** | "Free trials, I love those."

“If it's $4.99 and they don't have a trial version, I'd say ‘forget it.’ I would not blindly pay for it, even if it did get a good review.”

“I want a demo. I liked [Blue Skies Light] enough to buy the full version.”

“I'd like to get the real app with a timeout. **Light versus full creates confusion** - are you getting all the features in the light version?”

“If it worked out for me, I'd purchase whatever it was once the free one expired.” |
Application safety

In many research studies we have done, users are especially wary of installing applications from third parties

- Concerned about viruses
- Worried about recurring surcharges and SMS spam
- Don’t entirely trust the application provider (download website)

These concerns were repeated among novice users

- “[Worried about] breaking it temporarily, because I depend so much on my phone … I would think twice about apps I’m downloading.”
- “If apps are not well-known to me, I wouldn’t do it. I’ve done things in the past years that have spammed my whole list of friends, things like that.”
- “There’s a security concern when you download anything.”
Application safety

Although advanced users largely trusted that Apple had vetted things in the App Store, they still felt that a bad app could access or damage iPhone data.

“Apple has made [installing applications] so painfully straightforward, [that] I'm not actually quite sure what's going on. I'd like warning to know when the app is touching phone data.”

“If there's just one review and it's a location-based thing, I'll wait. But if it has 300 reviews then I'll pretty much take their word for it.”

“if it has 300 reviews then I'll pretty much take their word for it.”
Eight rules of thumb
1. Take advantage of learned behaviors

Users (especially novices) were most successful when they could transfer a specific behavior from one application to the next.

Make sure to follow both the recommended UI guidelines as well as any undocumented (but de-facto) cues in the built-in applications.
1. Take advantage of learned behaviors

Search boxes at the top of the screen
1. Take advantage of learned behaviors

- Major areas of functionality across the bottom
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2. Avoid interaction inconsistencies

While the UI guidelines are fairly consistent regarding how the various interactions work, there areas of conceptual inconsistencies.

For instance, most things in the interface can be directly manipulated by tapping; however, for others users need to first tap the Edit button.
2. Avoid interaction inconsistencies
2. Avoid interaction inconsistencies

(+) to create a new calendar entry

(+) to create a new world clock

Create a new bookmark … different icon, different location?
2. Avoid interaction inconsistencies

Upper-left: Go back from here, pop up a level

Upper-left: Cancel this activity, pop up a level

Upper-left: Continue this activity, go down a level
2. Avoid interaction inconsistencies

Directly tap to take action (editing)

Directly tap to take action (get directions)

Tap Edit first, then interact with the item?
3. Provide clear conceptual link across widgets

Some did not readily understand link between buttons and search field.

URL manipulation is in two locations.

And page manipulation is in two locations.
4. Put space between action widgets

One novice hit (+) instead of (>)

“I want it to take me [to December] when I press on [the arrow]”

And became very confused when they landed in Add Event

Danger! Delete and Go side-by-side

Put action buttons far way from data entry buttons, especially if action is substantial
5. Plan for accidental overswiping

Several users accidentally hit “Top 25” when trying to scroll vertically.
6. Don’t rely exclusively on multi-touch

Some users found pinching and unpinching to be cumbersome

“I assume whatever I touch … is going to take me to somewhere else on the phone.”

“I get the model, but my manual dexterity (won’t let me do it)…”

Provide multiple methods to achieve the same action
7. Provide visual feedback for taps

“I want it to go there when I press it”
7. Provide visual feedback for taps

- Sweeping motion to the left to indicate erasure
- Wrap entire pane off of the left, bringing new one on from the right
- Grow “Add Event” pane from the upper-right
8. Provide interaction affordances

Images ‘show through’ header to indicate vertical scrolling is possible

All novice participants figured out they could drag to scroll horizontally

(Interestingly, one said “I buy music now without knowing what the cover art is”)
Eight rules of thumb for iPhone app development

1 Take advantage of learned behaviors
   “Oh, this works just like the calendar”
2 Avoid interaction inconsistencies
   “This is weird, cancel is usually over there”
3 Provide clear conceptual link across widgets
   “This button must be related to that box, they’re next to each other”
4 Put space between action widgets
   “Oh man, I didn’t mean to send that SMS!”
5 Plan for accidental overswiping
   “I keep accidentally changing to a different screen”
6 Don't rely exclusively on multi-touch
   “It’s hard to do this while I’m holding something in the other hand”
7 Provide visual feedback for taps
   “Did I hit that button? I’m not sure.”
8 Provide interaction affordances
   “It’s obvious that you’re supposed to swipe left-and-right.”
Thank you!

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