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Developing User Assistance FOR Mobile Applications

BY JOE WELINSKE

User Assistance (UA) in a Mobile World

The ubiquity of cell phones means that almost all of us have experienced mobile voice calling and texting: instant communication with anyone, anytime. We are used to getting what we want extremely fast and in just the way we like. Most consumers have brought those same expectations with them as they move to smartphones and mobile applications (apps). The apps of today are all about speedy access to discrete actions and specific information. This is a very different environment from the fixed workstation, large-screen desktop environment of traditional enterprise applications.

There is no question that smartphones have sparked a huge, new software segment—the mobile app. The Apple iTunes App Store hosts hundreds of thousands of apps that have been downloaded billions of times and generated billions of dollars in revenue. Google's Android operating system is now in the hands of more consumers than any other smartphone and has a growing inventory of apps. Windows Phone 7 is off to as strong a start as the iPhone had four years ago. Other names like Blackberry and Nokia are making moves to get a piece of the action as well. There are not many computer/software organizations that don't have a mobile strategy for their products and services.

According to the independent Pew Research Center, "The mobile device will be the primary connection tool to the Internet for most people in the world in 2020." The next few years are going to see a very rapid conversion in the IT industry in the way software is designed, implemented, and consumed. This creates an important pair of questions for user assistance (UA) professionals: What is our role going to be in mobile and how can we prepare to take that on?

The images from this article are available through the following resource page: *Developing UA for Mobile Apps* site: www.writersua.com/mobile/.

There Is a Role for UA in Mobile

There is no question that there is a role for user assistance in the mobile world. Our skills and experience are definitely applicable. But the nature of many of our deliverables is likely to be very different from what we have done in the past. The single most important lesson of this article might be that bringing over Help designs from desktop applications is a really bad idea. The most useful and interesting user assistance approaches try to match the environment of the apps they support.

The iPhone, Android, and Windows Phone 7 are successful because the designers recognized that the mobile user environment is very different from the desktop. Mobile app developers tend to be very sensitive to the differences between mobile and desktop software. If you try to bring your desktop Help designs into a team meeting, you may find a lot of people rolling their eyes.

As user assistance professionals, we need to break away from the traditional online Help designs and consider what

it means to be mobile. The best mobile UA is going to be where the UA content is customized, as closely as possible, to the user experience of individual apps. This may not always be possible, but it should definitely be the ideal.

Complexity and minimal screen real estate don't easily mix

The current crop of smartphones is limited by the amount of space on the screen. Some devices have crept up to a larger viewing area. Others have worked on improving the resolution of the screen. As tablets emerge, we have a form factor that is somewhere between a smartphone and the desktop.

Ultimately we are dealing with a small viewing/work area. This affects our ability to embed user assistance in the app. It is often a struggle to wrangle UA space in desktop applications. In mobile, it is even tougher. Our UA solutions have to really shine to get a place in the apps.

Multi-touch and multi-key controls are not easily discoverable

Many mobile apps are using multi-touch gestures to trigger certain features. For example, pressing and holding in a certain part of the screen will pop up a control box. A double-tap might have a different function than a single-tap.

Figure 1 shows three multi-touch examples. In Quickoffice, a touch and hold on a dividing line between two rows will activate a control for increasing/decreasing row height. In PhotoPad, once an image is displayed in the editor you can touch and hold to crop the image or pinch to shrink it. In AccuTerra, you need to tap a placeholder icon to reveal the name associated with that marker.

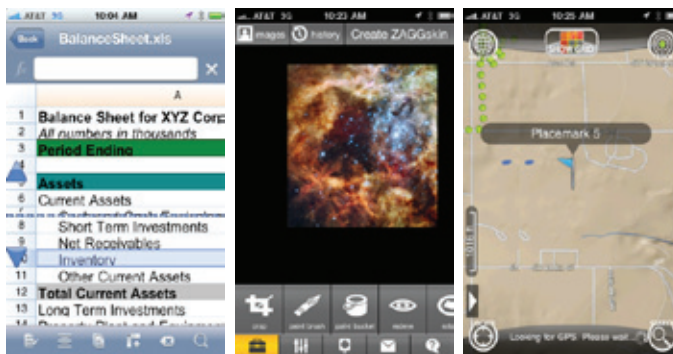


Figure 1. Multi-touch examples (l-r) Quickoffice, PhotoPad, and AccuTerra

How do those concepts get communicated to first-time users? It is a difficult problem to solve. Part of it is technical and part of it is design. On the technical side, there are limitations on how information is presented to the user in certain contexts. On the design side, we need to come up with a good solution for explaining multi-touch gestures. We are also again confronted with minimal screen real estate.

Conceptual, contextual information is still important

The 99-cent price of many apps makes it a no-brainer to just download and try them out. At higher prices, users are likely to want more information if they can't try before they buy. If an app has many features, it makes sense to have user assistance that addresses this. This might take the form of a tour, a video, or Help section that may or may not be embedded in the app itself.

For corporate apps, there is a high level of urgency in this area. It is of value to your organization that employees know how to effectively use a mobile app in their work. Figure 2 shows the Chevy Dealer Mobile Workbench. This is an on-the-go version of a desktop application that salespeople use at the dealerships. A Web-based video describing how the mobile app works can be integrated with the tools they are already familiar with. The five or ten minutes a user spends with an instructional video will pay off many times over through more effective use of the mobile app.



Figure 2. Chevy Dealer Mobile Workbench Web video

More apps are appearing that are robust and “corporate”

The most popular mobile apps are basic in terms of what they can do. The ones in the iTunes Top Ten lists tend to be for mainstream consumers and consist mostly of games and widgets. If you dig deeper, you start to find paid apps that offer more functionality. What you don't see in the app store is the growing number of apps that are “sidecars” to full-featured enterprise applications. The corporate categories include banking, automotive, healthcare, and engineering. Within those categories are functional areas like human resources, sales, and customer service. Many, if not most, of these apps are available on iTunes, yet are password-protected, and require a prior relationship with the organization. One of the biggest UA challenges is to provide a seamless, consistent user experience between mobile and desktop applications.

Figure 3 shows apps that provide mobile customer service. They support a broader relationship with the customers. For example, the Safeco Insurance and

MyHumana apps are for customers who already have purchased insurance with the company. Ingram Micro is a very large European wholesaler of technology products.



Figure 3. Apps for customer support (l-r) Safeco Insurance, MyHumana Mobile, and Ingram Micro Mobile

Figure 4 shows examples of apps that provide functionality tied to other products and services. The apps were developed to help boost customer satisfaction with those products and services. HP ePrint lets you use your mobile device to send a print job to a remotely located, Web-connected printer. TotalConnect lets Honeywell customers remotely control an alarm system. System administrators can manage servers remotely with IBM Mobile Systems Remote.

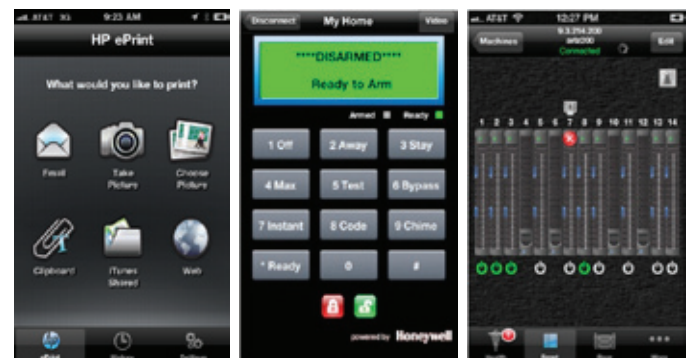


Figure 4. Apps tied to other products and services (l-r) HP ePrint Service, TotalConnect, and IBM Mobile System Remote

The Mobile UA Skill Set

If you have been involved with user assistance for traditional software applications, you are in a good position to move into support for mobile UA. If you are new to the discipline, you will find it useful to learn the fundamentals of technical communication. While mobile apps represent a new way of thinking about software development, most of the skills involved with desktop application development are still very relevant.

Designing the UA

Many of the general categories of user assistance for desktop applications apply to mobile. These include tutorials or guided assistance for first-time users,

embedded helpful information in the user interface, and the creation of a section of more detailed Help info. An app might use one or more of these approaches. The difference from traditional UA lies in how those items are executed or accessed.

An important skill for mobile UA is usability testing. Even the smallest elements of an app can have a disproportionate effect on whether a customer enjoys the app or not. The very fact that mobile devices are mobile makes it easy to present apps to people for testing. The simulators available for the various mobile platforms provide a great way to make quick user interface iterations—largely without the assistance of a programmer. There is a huge body of information available about what usability testing is and how to do it well.

The *most* important design skill might just be thinking outside the box. Apps represent a significant break from decades of software design. The best apps creatively envision new ways for people to work on the go. Our user assistance needs to match that creativity by moving away from the legacy designs of fixed workstation computing. One of the least useful entities is the venerable “Help system” with its navigation hierarchy and repository of topic pages.

Creating content

There are countless quotes by famous people along the lines of Mies van der Rohe’s “less is more.” This concept definitely applies to mobile UA. Effective UA for apps is more about crafting words and phrases and less about generating volumes of content. Large-scale documentation probably doesn’t have a place in the mobile world. That being said, our foundation skills of writing, editing, task analysis, and SME interviewing are still extremely important.

In mobile, writing is about spending more time coming up with precisely the right words. During the editing process, the emphasis must be on strictly limiting the volume of text while maintaining quality and usefulness. Knowing the customer and the task at hand is still critical to developing the right UA approach. Procedures, reference information, wizards, embedded Help, and user interface text are still key elements. They just have a very different form factor in mobile.

Knowledge of information design and content management is going to help your overall mobile UA effort. However, many of the processes used to support traditional software development may be too unwieldy for mobile purposes. For example, mobile UA emphasizes embedded, brief content. It would be difficult to manage this with most of today’s content management systems. In the coming months and years, keep an eye out for evolving best practices.

The use of well-crafted images and video is definitely part of today’s mobile UA. This is an area on which to spend more time.

Indexing and search techniques are of less use in mobile. If a user needs to search for Help content, then the user assistance material is probably far too extensive.

Building digital deliverables

For much of the past two decades, an important aspect of user assistance has been converting our designs and content into a digital format for consumption by our users. This includes creating HTML Help, support pages on a website, or embedded text in the user interface. While the look and feel of these deliverables has changed with mobile apps, ultimately we are still working with software.

There are a couple of key process differences from desktop application development. One is the rapid iteration/evolution of operating systems. The other is the high level of control imposed by platform gatekeepers on how apps are compiled. What this boils down to is a constantly changing environment for how mobile apps are designed and built.

Experience with HTML, Cascading Style Sheets (CSS), and JavaScript continues to be important. A focus on HTML5 is critical to working with the mobile platforms. The iPhone/iPad ecosystem is already highly dependent on HTML5. Using CSS helps to minimize the size of our code that is stored in an app and delivered over the air. Mobile is moving faster than the desktop in this area. As for Flash, Adobe will be discontinuing support for that technology in mobile devices.

Understanding how apps are built can really make the difference in how effective you are in your UA efforts. The technical limitations and opportunities of mobile apps are very different from desktop computing. Programmers are really good at sniffing out whether we have any clue as to the challenges involved in building software. It is to your benefit to learn as much as you can. Fortunately, the development tools for mobile are very accessible and relatively easy to use. The Mobile UA resources page listed earlier in this article has links to the development tools for the major mobile operating systems.

Other areas of interest

One of the fun things about user assistance is that there are so many peripheral disciplines that align with our core competencies. Some of these areas map to mobile UA more than others.

- ▶ **Localization/Translation:** Mobile apps have a variety of language strategies but they might not easily fit in with existing desktop production schemes. Text expansion due to different languages is an important consideration.
- ▶ **Instructional Design and eLearning:** The use of tutorials and videos definitely fits into the mobile arena. The difference is scale. How do you embed training content into a mobile environment? How do you adjust length and detail for an on-the-go experience?

- ▶ **Agile Development:** The creation of mobile apps is fast-paced and highly iterative—almost by definition. If anything, a team needs to be even more tightly integrated when putting together a mobile app.
- ▶ **Structured Authoring/DITA:** Organizing our valuable content is always a good thing. Separating content from presentation also has a lot of merit. The question is whether a process like structured authoring or a framework like DITA is useful in a setting where large-scale documentation is ill-advised. A related issue is if and how traditional content management systems can be adapted to support mobile development.
- ▶ **Help Authoring Tools:** The very different nature of UA for mobile means that we need to look to very different types of tools for creating that UA. The Help designs for desktop applications are generally not suitable for mobile UA. Tools that only support those kinds of designs are not likely to be very useful.
- ▶ **Social Media:** There are many ways that user assistance can employ the collaboration and community building of Twitter, YouTube, FaceBook, and similar entities. Mobile apps are generally always “online” so it makes sense to integrate social media wherever appropriate.

Now is the time to position yourself as an expert in this area. Mobile apps will continue to increase in visibility in software development. Look for opportunities within your own organization.

Finding Opportunities in Mobile

User assistance has an important role in the development of mobile apps. However, it may be difficult to identify opportunities. It is important to look beyond mainstream apps and search out apps tailored to specific business contexts. Keep a lookout for emerging mobile development in your own organization.

As you begin to work with mobile apps, try to disengage from legacy design and implementation techniques from the desktop world. Look at this as a completely new medium and tailor your UA accordingly. There are many unique challenges including screen real estate and multi-touch gestures.

Your past experience with UA will be extremely valuable. Fundamentals of communication still apply to mobile. Usability testing may be the most important skill to acquire and hone.

If you're serious about working with mobile apps, you need to get one or several mobile devices. Developing Help for a mobile app without having a smartphone would be

like creating Help for a desktop app if you could only view the app on a TV. You can probably get it done but it is not likely to result in great user assistance.

If you are buying a smartphone mainly for your own personal use then the world is your oyster. There are dozens of choices out there for you. However, if you're buying one with an eye on learning about mobile UA, you need to give it a more focused consideration. You'll need to balance the high cost of the devices and associated service contracts against the value it can provide for your professional use. Hopefully the organizations that employ us will start buying smartphones for us to work with just as they provide us with desktop workstations.

Summary

Hopefully this article has helped you to visualize the many opportunities for user assistance in the mobile world. Now is the time to position yourself as an expert in this area. Mobile apps will continue to increase in visibility in software development. Look for opportunities within your own organization. Enterprise applications with mobile accessory apps are sprouting up everywhere and they can be your best chance to break into this field.

Rely on your existing user assistance knowledge experience to help you provide a rich and layered UA experience for your mobile users. Avoid bringing forward designs and implementation from the desktop world that simply don't meet the needs of your mobile customers. Lengthy procedures and documentation sets are anathema to mobile users and developers. Stay away from tools that don't allow you to craft your UA to match the look and feel of your app.

Get a smartphone and immerse yourself in mobile. You can't be a valued mobile team member if your only knowledge of smartphones is theoretical. Get a phone, get apps, and start making mobile a regular part of your daily life. Your knowledge of mobile devices and their development frameworks should be just as robust as your understanding of desktop computers.

Have fun. Mobile apps represent the most exciting and dramatic change in computing since the emergence of the GUI. The opportunities for creativity and innovation are limitless and at your fingertips. **i**

JOE WELINSKE has been involved with software documentation development since 1984. Joe has authored the book Developing User Assistance for Mobile Apps. He has taught at the University of Washington in the department of technical communication, the University of California at Santa Cruz, and Bellevue Community College. Joe served as president of the STC Puget Sound Chapter and as membership director for the Usability Professionals Association's Puget Sound Chapter. He was awarded the Myron L. White award as an international leader in technical communication by the University of Washington.