# Integrating Ux and Agile Development

The user interface of a WebApp is its "first impression." Because of the sheer volume of competing WebApps in virtually every subject area, the interface must "grab" a potential user immediately. Effective interfaces do not concern the user with the inner workings of the system. Effective applications and services perform a maximum of work, while requiring a minimum of information from users. The designer of the WebApp should anticipate that the user might request a download of the driver and should provide navigation facilities that allow this to happen without requiring the user to search for this capability.

Communication. The interface should communicate the status of any activity initiated by the user. Communication can be obvious (e.g., a text message) or subtle (e.g., an image of a sheet of paper moving through a printer to indicate that printing is under way). The interface should also communicate user status (e.g., the user's identification) and her location within the WebApp content hierarchy.

Consistency. The use of navigation controls, menus, icons, and aesthetics (e.g., color, shape, layout) should be consistent throughout the WebApp

Controlled autonomy. The interface should facilitate user movement throughout the WebApp,but it should do so in a manner that enforces navigation conventions that have been established for the application. For example, navigation to secure portions of the WebApp should be controlled by userID and password.

Efficiency. The design of the WebApp and its interface should optimize the user's work efficiency, not the efficiency of the developer who designs and builds it or the client server environment that executes it.

Flexibility. The interface should be flexible enough to enable some users to accomplish tasks directly and others to explore the WebApp in a somewhat random fashion. Focus. The WebApp interface (and the content it presents) should stay focused on the user task(s) at hand.

Fitt's law. "The time to acquire a target is a function of the distance to and size of the target" If a sequence of selections or standardized inputs (with many different options within the sequence) is defined by a user task, the first selection (e.g., mouse pick) should be physically close to the next selection.

Human interface objects. A vast library of reusable human interface objects has been developed for WebApps. Use them. Any interface object that can be "seen, heard, touched or otherwise perceived" by an end user can be acquired from any one of a number of object libraries.

Latency reduction. Rather than making the user wait for some internal operation to complete (e.g., downloading a complex graphical image), the WebApp should use multitasking in a way that lets the user proceed with work as if the operation has been completed. In addition to reducing latency, delays must be acknowledged so that the user understands what is happening. This includes (1) providing audio feedback when a selection does not result in an immediate action by the WebApp, (2) displaying an animated clock or progress bar to indicate that processing is under way, and (3) providing some entertainment (e.g., an animation or text

presentation) while lengthy processing occurs.

Learnability. A WebApp interface should be designed to minimize learning time, and once learned, to minimize relearning required when the WebApp is revisited. In general the interface should emphasize a simple, intuitive design that organizes content and functionality into categories that are obvious to the user.

Metaphors. An interface that uses an interaction metaphor is easier to learn and easier to use, as long as the metaphor is appropriate for the application and the user. A metaphor should call on images and concepts from the user's experience, but it does not need to be an exact reproduction of a real-world experience.

Maintain work product integrity. A work product must be automatically saved so that it will not be lost if an error occurs To avoid data loss, a WebApp should be designed to autosave all user-specified data. The interface should support this function and provide the user with an easy mechanism for recovering "lost" information.

Readability. All information presented through the interface should be readable by young and old. The interface designer should emphasize readable type styles, font sizes, and color background choices that enhance contrast.

Track state. When appropriate, the state of the user interaction should be tracked and stored so that a user can logoff and return later to pick up where she left off. In general, cookies can be designed to store state information. However, cookies are a controversial technology, and other design solutions may be more palatable for some users.

Visible navigation. A well-designed WebApp interface provides "the illusion that users are in the same place, with the work brought to them"

- Reading speed on a computer monitor is approximately 25 percent slower than reading speed for hardcopy. Therefore, do not force the user to read voluminous amounts of text, particularly when the text explains the operation of the WebApp or assists in navigation.
- Avoid "under construction" signs—an unnecessary link is sure to disappoint.
- Users prefer not to scroll. Important information should be placed within the dimensions of a typical browser window.
- Navigation menus and head bars should be designed consistently and should be available on all pages that are available to the user. The design should not rely on browser functions to assist in navigation.
- Aesthetics should never supersede functionality. For example, a simple button might be a better navigation option than an aesthetically pleasing, but vague image or icon whose intent is unclear.
- Navigation options should be obvious, even to the casual user. The user should not have to search the screen to determine how to link to other content or services. A well-designed interface improves the user's perception of the content or services provided by the site. It need not necessarily be flashy, but it should always be well structured and ergonomically sound.