

Usability Pre-Assessment: Understanding Your Users Before You Begin Development

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Introduction

Organizations struggle with making their websites, portals, and other information applications “user-friendly,” in part, because it is easier to focus on the graphics and artistic design elements than it is to understand and ameliorate the root causes of user dissatisfaction. This lack of attention often results in sites that have low user satisfaction ratings, that fail to instill end user loyalty, and that do not yield significant returns on investment.

Usability is much more than simple graphic design. It entails thoughtful consideration of a number of factors, for example:

- Does it make the user's job or life easier?
- Does it provide functionality that cannot be found elsewhere?
- Does it provide content that cannot be found elsewhere?
- Is it easy to use?
- Is it enjoyable to use?
- Does it provide a memorable user experience?
- Is it visually appealing?

Attention to usability must commence at the very outset of a project to make sure all the necessary considerations for the site or application are addressed. Furthermore, a holistic approach that incorporates the component parts of browse, search, graphical design, content, functionality, and user satisfaction will lead to the greatest success in usability and user satisfaction.

A Common Methodology Practically Guarantees Failure

Most development starts with a business-identified need. For example, there is currently no tool, or the current tool is lacking some specific functionality. The business need determines the attributes of the tool and then development commences. While this view is simplistic, it does capture the heart of how many businesses develop in-house applications and sites.

Unfortunately, this all too common methodology practically guarantees failure. Grounded in the credo that “newer is better,” it does nothing to ensure that important content and functionality needs are captured. This approach also excludes conversations with users to ascertain their needs and wants and to gain their support for the project. Employing the best developers does not satisfy the due-diligence responsibilities before beginning work.

Experienced developers frequently have to redo applications because while they delivered exactly what the customer asked, they were asked to deliver the wrong functionality.

The best thing about highly skilled developers is their ability to build whatever you ask them to build. If developers are asked to build a technical marvel, they will ensure they understand the technical specifications and then deliver what was requested.

However, this can be a very dangerous thing. Experienced developers have stories of having to redo applications two and three times because while they delivered exactly what the customer asked, they were asked to deliver the wrong functionality – because no one on either the business or the technical side really asked what the right functionality was for the users.

When an application has functionality that the users will not use, or conversely, lacks the functionality users need, the application offers no value to either the users or to the business. Users' use of an application is influenced by three factors: *content*, *functionality*, and *ease of use*. These same factors drive user loyalty. Loyalty to an application will rise or decline in direct correlation to how much value the users perceive the application to possess.

The efficacy of an application is influenced by three factors:

- *Content*
- *Functionality*
- *Ease of use*

Developers are not designers. Furthermore, developers are generally highly technical people and probably do not well-represent a more novice user group. Allowing developers to design layout and navigation is risky because they will likely design with themselves and their peers in mind. If a highly technical developer designs a customer's application as his/her own technically sophisticated dream application, the more typical novice user will likely be lost, feel overwhelmed, and ultimately avoid the tool at all costs. A tool that was intended to be helpful ends up instead being a source of frustration.

It is the responsibility of the project manager and the business to ensure they are asking developers for the right things.

Preventing Failure by Assessing User Needs

Users define success. Identify the users, understand their needs, ensure those needs are met, and you have a recipe for success. This is the best way to ensure a happy user base and prevent your site investment from being a failure.

User-centered Analysis

There are two main timeframes for assessing the needs of your user base, pre-design and pre-redesign. In a pre-design assessment, a user-centered analysis can be conducted.

This analysis focuses on determining:

- how users think and work in the domain
- the factors that affect user tasks
- what users want or expect from the design
- the users' problems and motivations

When you know what your users need, you know what to build and what not to build.

The purpose of user-centered analysis is to allow user need to drive the design. Put simply, when you know what your users need, you know what to build and what not to build.

User-centered analysis should be done before technical requirements, before wireframes, before any design work, and before any coding. To effectively design for your user base, start by analyzing users' needs with data collected from the source: the users. This data collection can be accomplished directly or indirectly. The level of probing or follow-up required to complete the data gathering will influence which collection techniques would be most effective and efficient to get the job done. Once the information is collected and assessed, user needs and expectations can be turned into the first draft of user requirements, use cases, and wireframes. The table below in Figure 1 summarizes a variety of direct and indirect data collection techniques that may be used to conduct the user-centered analysis.

Direct and Indirect Data Collection Techniques to Assess User Needs			
Data Collection Techniques		Strengths	Weaknesses
Direct	Personal Interview	Users are task experts	Potential for inaccurate info, important details may be omitted
	User Observation	Watch tasks in realistic setting	Users may be disrupted by observers
	Focus Group	High input in short time, group synergy	No behavioral validation; potential for group think
	Usability Roundtable	Users bring work into a neutral setting for observation and analysis	No behavioral validation
Indirect	Survey or Questionnaire	Demographic data	May not represent all users
	Support Line	Data on common problems with existing systems	Sampling may not be systematic
	E-mail or Bulletin Board	Easy for participant use; highest use probability	Sampling may not be systematic

Figure 1: Data Collection Techniques (<http://www.humanfactors.com>)

Usability / Usability Testing

When there is an existing site to be redesigned, information from the existing site, user history, surveys, analytics, and similar resources, can be used to gather historical user feedback. This information can then be used to perform usability testing to assess the needs of the user base.

When preparing for redesign, content and layout already exist. This allows the creation of an evaluation of existing design with set criteria using wireframes, prototypes, or an existing tool to see how people complete tasks. Usability testing generally utilizes real-world tasks (use cases) to expose the strengths and weaknesses of the designs.

The focus in usability testing is to determine whether:

- the design is usable
- the design matches the way users think and work
- the design is effective, efficient, and satisfactory for the user
- users are able to complete their tasks

A redesign usually involves a great many changes to the appearance and navigation of the site and these should be driven by user need and abilities. It is important to be able to accurately describe and quantify the users' needs concerning content and functionality:

- What are the content gaps in the current site/design?
- What are the functionality gaps in the current site/design?
- What, if any, content/functionality should be removed/archived in the redesign?

Unfortunately, many companies think that they do not need to perform any usability testing because they have received feedback on the existing tool and, therefore, have all the information they need to perfect it. In reality, they have data from an often small percentage of the user base, most likely from those who had the time and willingness to give feedback (generally complain). If a company is going to invest valuable resources in redesigning a tool, it should ensure the tool meets the needs of its user base, and that means gathering information from those users.

Assessing an Existing Site

With an existing site, not only does a wealth of historical user data exist, so does the opportunity to conduct an objective assessment or audit of the site. The existing site may or may not follow best practices for findability, content, navigation, and messaging. It may be exceeding, or trailing, the competition. While preparing to redesign a site, valuable information can be gained by taking the opportunity to examine these aspects of the current site and to position yourself to better understand and eliminate any current usability mistakes, and to move forward armed with your audit results, in addition to your user-data results. This combination of resources ensures that your designers and developers understand your user needs and where the existing tool was least successful in achieving those needs.

Guaranteeing Success by Giving Users What They Want

Companies will maximize their return on investment by developing users tools that are thoughtfully designed based on users' needs. However, sometimes they do not know how to elicit the information they need to ensure they are building the right requirements.

The Winning Trifecta: Content, Functionality, and Navigation

There are three things every winning site, portal, and application provides that drive user satisfaction and loyalty:

- Content
- Functionality
- Navigation

When a business is able to accurately determine the content, functionality, and navigation that its user base needs and wants, they have a formula for success. The challenge is to determine what those are, since the user base may not always clearly and readily articulate them.

Through our years of experience conducting field studies, focus groups, and interviews, it is apparent that some people are reluctant to say what they want, while others do not know how to articulate their wants and needs. The challenge for the business is to skillfully facilitate discussion that will support users in identifying and clearly articulating what they want in a manner that the information can be captured and shared with those who are designing and developing the tool. An added benefit of this process is that the users are likely to recognize their feedback reflected in the new design when it is launched.

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Content

Content is one of the most complex needs to capture from the user base because users cannot retain information they were unable to find, they just retain the memory of the experience of not finding what they wanted. To capture content needs, use direct methods to find out what users do and what content they need to support that. Then, use indirect methods, such as reviewing search logs for failed searches, to find where the content gaps exist. Once content gaps are identified, they can be validated with a sample set of users for whom that content would be valuable, thus ruling out poor searches.

It is important to understand who the users are, what they care about, and what they need. Content based on that understanding will be timely, relevant, and actionable. It is important to remember that the users are trying to complete a task, learn a new skill, schedule service, or solve a problem.

Determining how that content is created can be proactive or reactive, and it can come from professionals or from your own user base:

- **User-driven content:** some of the best content comes from users, give them a forum to submit content ideas or actual content items
- **Analytic-driven content:** analytics can help identify what users are searching for, what content is most used, and what content is least used

Content should be kept simple, easy to use, and without jargon or unfamiliar terminology. Make the content user-driven and user-friendly.

Functionality

Functionality is perhaps one of the easiest needs to capture from a user base. Everyone knows what he/she needs to do and can articulate what prevents him/her from accomplishing a task, for example, “it is too hard,” “the functionality doesn’t exist,” “it times out.” Ensure that all of the tasks users need to accomplish are captured and then ensure that all of the supporting business processes associated with those tasks are accurately documented.

Taking the time to understand your user base and what they need allows you the opportunity to take an average offering and make it outstanding.

Navigation

While navigation is an area where everyone has an opinion and where everyone becomes a designer, there are best practices that should be followed. The first is to use language that is intuitive to the user base. Avoid using jargon or acronyms for browse navigation because it will make navigation difficult for novice users.

There are also design best practices for navigation to ensure that the entire user base can effectively use the tool and to ensure there are no issues with accessibility for anyone in your user base.

While your user base can provide valuable input into the intuitiveness of the language and organization used for your navigation, the list in Figure 2 below presents some of the proven approaches related to creating navigation.

Guarantee success by following these navigation guidelines

- ✓ **Organize: Consistently locate tabs, headings, lists, search**
- ✓ **Use breadcrumbs, page titles, etc. to indicate the user’s current location**
- ✓ **Provide a section overview**
- ✓ **Use well thought-out categories, sub-categories, and placement of content**
- ✓ **Be purposeful and well-integrated with subsites**
- ✓ **Use navigation that is clearly navigation (clearly visible and does not have the appearance of advertisements)**
- ✓ **Ensure navigation is easy to use, control, and operate**
- ✓ **Use consistent navigation, in both terminology and location**
- ✓ **Use one navigation technique to create a unified experience**
- ✓ **Use user-defined, jargon-free, terminology**

Figure 2 - Best Practices for Creating Navigation

Conclusion

Whether creating a website, portal, or application, taking the time to understand your user base and what they need allows you the opportunity to take an average offering and make it outstanding. Understanding the users includes understanding that whatever you build for them will need to evolve over time as both your business offerings and your user base evolves. This is a natural part of the development process, and when planned for, it is easy to incorporate user-centered design and usability into everything you develop.

The most successful businesses recognize the need to evolve over time, based on their user needs, and they plan for that by consistently monitoring use and user satisfaction. Then, using the best practices of user-centered design and usability testing, ensure that modifications to content, functionality, and navigation are incorporated into each new iteration.

About Project Performance Corporation

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About the Author

Mrs. James is a Principal Analyst in Project Performance Corporation's internationally known Knowledge Management Practice. She specializes in the development and configuration of portals and other knowledge management tools to serve users of all skill levels. Her areas of expertise include taxonomy design, metadata strategy, and user adoption strategy. Mrs. James is also a web usability specialist with a focus on information architecture, knowledge gathering, and systems design. She has made presentations at national and international Knowledge Management conferences on her experiences with the impact of design and user testing on site adoption and loyalty.

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