

Usability Testing -- Your Means To Assessing Your User's Experience



A Whitepaper Describing How Usability Testing Helps Your Applications deliver The Expected ROI

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Introduction

Testing your applications on the usability parameters helps you isolate and address problems that your users experience. However, because of the subtlety associated with majority of the usability issues, users are often not able to give the right feedback without some guidance.

It goes without saying that usability of an application drives your application’s users’ engagement with your business. This is why it is vital for your development and design teams to understand how to critically examine your applications from a usability perspective.

In each phase of your application’s development cycle, starting from its ideation and business analysis to the launch and the post-launch operations, usability is a concern that should be kept in mind. In addition, not only the application’s development cycle, usability is a concern that extends to success of almost all the user-facing operations of your business, such as advertising, direct and indirect selling, service, outbound and inbound marketing, customer support etc.

This paper intends to help you understand the role of usability testing, how it differs from the functional testing of an application, and the ways to conduct usability testing to meeting your user experience goals.

Usability Testing – Why and What?

Usability testing is the optimum technique to track a real user's experience on your website or an application. Unlike focus groups or interviews that attempt to get users to precisely self-report their own preferences or behavior, a well-designed user test measures authentic performance on mission-critical assignments. In the real-time scenario, if the customer cannot figure out how to complete a checkout process, no amount of “but I really like products on the website!” comments are going to make up for it.

Usability testing is the process to determine how efficiently the actual users from your target audience can achieve their objectives using a given interface. It is typically associated with interactive channels such as websites, mobile applications, software and digital content, such as emails. However, the approach can also be studiously applied to print advertising, in-store journeys, video /TV ad campaigns and direct mail.

What Usability Testing Involves?

The process of usability testing revolves around:

- Real users / Real tasks
- Mapping of tasks with broader business goals
- Specific usability goals/concerns
- Observing and recording the testing
- Data analysis

Points of Time When Usability Testing Plays Up

- Key journey testing (observing users using the built-in solutions)
- Design benchmarking (assessing alternative designs, probably against the existing or competitor designs)
- Pre-launch testing (evaluating the concluded opportunities for enhancement)
- Pre-launch competitor benchmarking
- Post launch in-depth testing

Benefits of Usability Testing

There are several direct and indirect benefits of conducting usability testing of your application(s). Few of the direct benefits are:

- Eradicate key frustrations and impediments from the user experience.
- Adopting usability testing you can maximize return on investment by removing obstacles to completion/sales or minimizing costly call-center inquiries.
- Enlighten business verdicts, so that you can confidently choose designs based on affirmation from users.
- Delivering broader vision about how your targets perceive your product or brand.

Consequent to these finer level benefits, the prime business level benefits a properly conducted usability testing delivers are:

- Customer acquisition
- Improved quality of service
- Customer Retention

The above three may not be the direct benefits of usability assessments, but are facilitated by carefully examining your product from a usability perspective and then, taking definitive corrective actions on improving on the usability shortcomings identified during the testing.

How Usability Testing Differs from Functional Testing of the Software?

Whereas the overall purpose of functional testing as well as the usability testing is to analyze the quality of an application, there exist distinctive reasons why usability testing emerged as a separate method of testing your applications for their quality.

Objective

Functional testing mainly intends to ensure that the intended feature set of the software has been completed to the specification. On the other hand, usability testing focuses mainly on the usage aspect of the application.

People

The people who conduct functional testing come mainly from the software testing background who have their pre-established ways of testing against the specifications. However, the usability testers need a better eye for detail from the perspectives of aesthetics, broader business objectives of the application, and expectations of the users. In addition, their skill set also includes some experience in design, creativity, and a domain expertise.

Tools

For manual functional testing, the main tool is a tester's spreadsheet that lists test scenarios and cases in a tabular format. For automated functional tests, there are various record-and-play tools as well as tools that allow writing automated test scripts and test frameworks so that those can run when the software builds are run.

On the other hand, it's mainly a usability tester's eye for detail and his/her understanding of the system as an end-user that acts as the main tool. The spreadsheet used in case of usability testing drastically differ because they are not built against the specifications. They are, instead, built using the inputs from the business needs the software is expected to address.

Outcome

The outcome (list of defects or enhancements) of the functional testing often leads to the developers fixing the defects or working on certain newer features/enhancements. On the other hand, the outcomes of usability testing are mainly the list of difficulties a user might face in using the application, suggestions of placement of UI elements, improvements on the navigation flow, re-ordering of the screens, reduction in the user interaction steps, suggestions to improve conversion rates and ideas to bring a user's attention to the most important elements of a UI.

In a nutshell, *whereas functional testing of software intends to 'correct the broken functionalities', the usability testing intends to 'improve the correct functionality'.*

Steps in Usability Testing

User analysis and Profiling

- Categorize the whole user base into groups profiles
- Define characteristics of all the groups identified
- Identify the target groups for usability testing (based on business concerns/goals or situational needs)
- Develop personas or profiles of users from the identified test user groups

Decision of the UX Research Method and Identification of What to Test

- Identify the prime purpose for the usability tests. E.g. Overall usability of a new mobile app
- Establish the specific objectives. For example, “Is the order completion process simple enough?” Or “Are the search results clear to the user?”
- Select the types of the tests. For example, Understandability, local ability, performance etc.
- Select on the UX Research methods (refer Appendix ‘A’: List of User Research Methods). In order to identify the most suitable method, view these methods on a 3-dimensional framework [Rohrer, Christian. “When to Use Which User-Experience Research Methods.” Neilson Normal Group, 12 Oct 2014. Web] with the following axes:
 - Attitudinal vs. Behavioral
 - Qualitative vs. Quantitative
 - Context of Use

Preparation for the Test

- Decide order of the tasks
- Prepare written test material:
 - Task list for users
 - Written welcome speech/ Intro to be read to user
 - Consent forms
 - Observation forms
 - Pre-task and post task questionnaires & interview questions
- Recruit participants
- Define team member’s roles:
 - Facilitator/Briefer (mandatory): Often only team member to interact with users

- Observation recorder/note taker (mandatory)
- Camera operator (optional)
- Help desk operator (optional)
- Test administer (optional)
- Create written test plan
- Practice: conduct walkthroughs of the testing and if possible pilot test (the pilot test users could even be a team member)
- Prepare test environment

Test Execution

- Greet & Brief participants:
 - Read/say welcome
 - Emphasize that you are not testing them, but the product and that they should act as natural as possible
 - Explain think-aloud protocol [Neilson, Jakob. "Thinking Aloud: The #1 Usability Tool." Neilson Normal Group, 16 Jan 2012. Web]
 - Emphasize how user tells you she has completed a task
 - Stress that the testing is "anonymous"
- Be unbiased (especially, the Facilitator/Briefer)
- Intervene carefully (avoid as much as possible)
- Observe and record data
- Debrief user

Data Obtaining and Analysis

- Gather checklists filled in by the testers/users and group them based on the categories
- Convert data into your key findings
 - Use either the top-down approach or the bottom-up approach. In case of the top-down approach, you start with categories, navigate through the data and put the data into the right categories, such as navigation, design, labels, terms, taxonomy, UI placement etc. In case of the bottom-up approach, put observations onto cards (or spreadsheet cells) and sort them based on categories later.
 - Examine the data for every user, user profile, and task category. You can use statistical techniques to analyse the data.
- Perform Root-Cause Analysis and Make Recommendations
 - Identify the root causes of the identified issues

- Determine the severity, scope, and priorities of the issues
- Make recommendations
- If required, create a project plan for UX makeover or incorporate the recommendations into your existing project as change requests
- Report findings, recommendations, next steps and if possible, the plan of correction action

Conclusion

A great product requires as much attention from the usability perspective as it does from a technical standpoint. However, because it is typically not within the skill sets of the programmers to have the right focus on usability, presence of usability issues in an application is almost inevitable. This is why it is vital to assess the usability of the applications for their optimum usage by their users and also, to ensure that those application really deliver the expected ROI.

The degree to which attention should be paid to usability testing of a product also varies from application to application, depending on whether your product falls in the categories of 'systems of engagement', 'systems of record', 'systems of differentiation' or 'systems of innovation'. Indirectly, this means that your focus on usability of an application should be directly proportional to:

- How much impact your application has on your operational, reputational, and financial aspects of your business.
- The usage frequency, if the application under question is accessed by the users. For example, an enterprise application meant only to connect multiple applications might not need as much focus as an online storefront.

When you are planning to conduct usability testing for your application(s), it is also important to choose the people who are experienced at leading such a project. JKT can help you conduct your usability assessments and to help transform your application from the perspective of usability. Our trained experts help with their sound understanding of human-computer interaction and its relevance to typical business needs of various industry verticals.

Appendix 'A': List of User Research Methods

[Rohrer, Christian. "When to Use Which User-Experience Research Methods." Neilson Normal Group, 12 Oct 2014. Web]

Usability-Lab Studies

Participants are grouped into a lab, further go in one-on-one with a researcher and allotted a set of scenarios/cases that lead to activities and usage of specific interest within a product.

Ethnographic Field Studies

Researchers meet and do analysis on participants in their natural environment where they would most likely confront the product.

Participatory Design

Design elements or creative materials are given to participants to build their experience which disclose what matters to them most & why.

Focus Groups

Groups of 3-12 participants have discussion on set of topics, giving verbal & written feedback through exercises.

Interviews

Researcher meets participants and take inputs in one-on-one discussion to gather in depth what they think about the particular topic.

Eye tracking

Used to precisely measure where participants look as they perform tasks or interact naturally with websites, applications, products or environments.

Usability Benchmarking

Several participants are involved in tightly scripted usability studies using rigorous and agreed measures of performance.

Moderated Remote Usability Studies

These are conducted remotely using the tools such as screen-sharing software & remote control capabilities.

Unmoderated Remote Panel Studies

Trained participants panel uses a website or product who have video recording and data collection software installed on their own personal devices, whose experience is recorded for immediate playback and analysis by the company.

Concept Testing

A researcher shares an approximation of a product that captures the key essence of a new concept or product to determine if it meets the needs of the target audience. This can be done one-on-one or with huge numbers of participants and either in person or online.

Diary/Camera Studies

Mechanisms like diary or camera is given to participants for recording and describing aspects of their lives relevant to a product.

Customer Feedback

Data provided by a self-selected sample of users through a feedback link, button, form or email.

Desirability Studies

Participants are offered different visual-design alternatives and are expected to associate each alternative with a set of attributes selected from a closed list.

Card Sorting

It asks users to organize items into groups and each group is assigned categories. This helps create or refine the information architecture of a website by exposing users' mental models.

Clickstream Analysis

This analysis the record of screens or pages that users clicks on and sees, as they use a website or software product or application.

A/B Testing

Also known as "multivariate testing," "live testing," or "bucket testing": a method of scientifically testing different designs on a site by randomly assigning groups of users to interact with each of the different designs and measuring the effect of these assignments on user behavior.

Unmoderated UX Studies

A method which uses a specialized research tool to record participant behavior through software which is installed on participant computers or browsers & attitudes through survey questions. This is achieved by giving participants goals to perform with the website.

True-Intent Studies

It is a method that asks random website users what their goal/intention is upon entering the website or application & further asks whether they were successful in achieving their motive upon leaving or closing the website.

Intercept Surveys

It is triggered during the usage of a website or application.

Email Surveys

In the email surveys, participants are recruited from an email message.



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