Middle-East Journal of Scientific Research 20 (4): 475-478, 2014
ISSN 1990-9233

DOI: 10.5829/idosi.mejsr.2014.20.04.21036

Web Usability Testing Technique Using Clear Methodology

[1]A. Rama and [2]S. Vignesh Dhanraj

[1]Bharathi University, India
[2]Tagore Engineering College, Anna University, Chennai, India-600 127

Abstract: Usability testing is a technique that is used to elicit the quality of systems and sites by regular tests carried with the potential users. In this project we are using the CLEAR methodology, which is the best one for web usability testing. (CLEAR Cheap, Loading speed, Efficient, Accurate and Reliable testing) And also here we are checking the loading speed of the web page, this will also very helpful to test the website. So we can test the usability of web site effectively.

Key words: Technique · Project · Accurate and Reliable testing · CLEAR Cheap · Usability

INTRODUCTION

Through past decades, it became obvious that one of the most impotent qualities of software product would be the ease by which the end user can learn and interact with the product. In general, the quality attributes of a system (e.g., reliability) are the ones that are blamed for a system reengineering and they are independent from system functionality. Software quality includes reusability, reliability, usability, etc. it is often noticed that people spend huge amount of money on fancy design for an application rather than spending comparatively less to check this quality [1].

Usability of a system is considered as a key quality because it contributes to user dissatisfaction and frustration that eventually will result in the total abandonment of the system. With the increase in web activities like e-commerce, e-banking etc., the test for web usability is a fact-finder revealing the extent to which the product is found to be useful by Specified users in achieving specific goals, as an outcome of the evaluation and usability test, come adjustments that improve the system.

The CLEAR methodology was an outcome of our intention to perform usability test on any websites. The developer had not sought any input from the users during the creation of this website. So a quick round of pre-launch usability testing of the website was seen as a requisite. The above methodologies of usability evaluation can be divided into two broad categories:

- Those that gather data from actual users and those that can be applied without actual users present [2].
- We wanted to concentrate more on the data from actual users thus leading to more methods that involve actual users.

Usability testing like any component of development, involves a certain amount of planning, thought, process development and execution. combination of different factors that affect the user's experience with the product or system include ease of learning, efficiency of use, memoability, error frequency and severity and subjective satisfaction.

Our contribution towards usability testing and the steps in conducting the CLEAR method to test for usability. The implementation of the CLEAR method on a product is presented as a case study in the later section and concludes with the result of the test and future work [3].

Clear Method: By performing the best test method, we can over come the problems, which is belongs to the old one. Our CLEAR methodology gives the better solution for the exiting methodology's defects and also provided extra feature. By using source code of the web page we can judge the loading speed of the website. By analyzing the users report we can find out user interaction with the web page [4-6].

Corresponding Author: A. Rama, Bharathi University, India.

Related Work: Jacob Neilson has done study on implementing usability test in a short time. But we wanted to create a methodology to conduct the test not only in a short period but also with fewer resources and less budget. The different method available for usability testing e.g., CARE) is divided into three main categories: 'Inquity', 'Inspection' and ' Testing'. We avoided the mode of testing through inspection mainly because it does not involve real users but goes by the experts' attitude and it costs a lot to hire experts. A study of some of the other methods left us with the list of the following five methods:

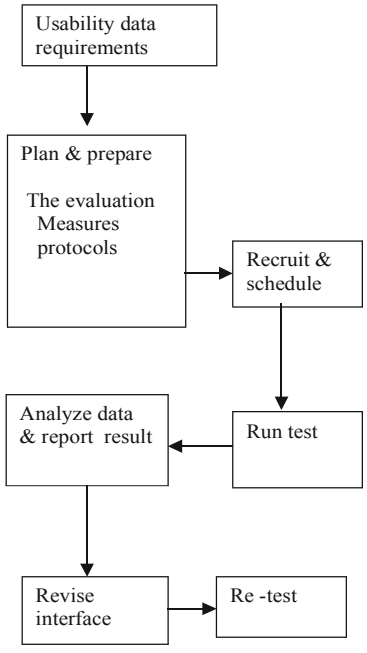
- User Testing [1, 7] is a typical approach, where participants (target audience), one at a time or two working together, use the web application to perform predefined tasks, while one or more observers watch, listen and take notes. Eliciting affirmative results that are more convincing to the experts is the advantage of this method in spite of the fact that it is expensive.
- Thinking aloud protocol [4] is also a popular technique where the users vocalize their thoughts, feelings and opinions while interacting with the product. The result is valuable insight into what the participant is thinking on the spot. Being exhaustive for the users to verbalize a thought process throughout testing is a drawback.
- Question asking protocol [8] takes thinking aloud one step further where testers prompt users by questioning about the product. A better understanding of the user's mental model and interaction with the product along with focus on specific areas makes the method advantageous. On the other hand, the method often causes the users to modify their performance.
- Co-discovery method [9] is one that has two participants helping each other in the same manner they would if the were working together on a common goal. Its interactive nature potentially produces many relevant issues and insights while it is difficult to watch two people working and turns out to be expensive.
- Questionnaire [3] is defined, in a more structural way as "a method for the elicitation and recording and collecting information". The relatively inexpensive method allows flexible administration and describes characteristics of a large population but is devoid of direct observation, with the summary of the pros and cons of various methods, we envisioned our methodology.

Our Approach: Select a small group people who are representative of the real audience. Watch the user performing assigned tasks on the website and note where they fail. Examine the data gathered from direct observation of user, figure out why the subject fails to perform tasks. Explain the problem area to the designers and the site owners and take corrective action. Finally, start over testing the supposedly corrected site again with a new group of users.

Existing System: By using some aspects we are finding the quality of the websites such as cost, user interaction, attractiveness etc… Some of the web usability testing methodologies is available. They are all testing the website usage, the user interaction and cost. If you are using the old methodologies that will be give the approximate result. So if you are following the olden test methods that will be some difficulty in maintainability.

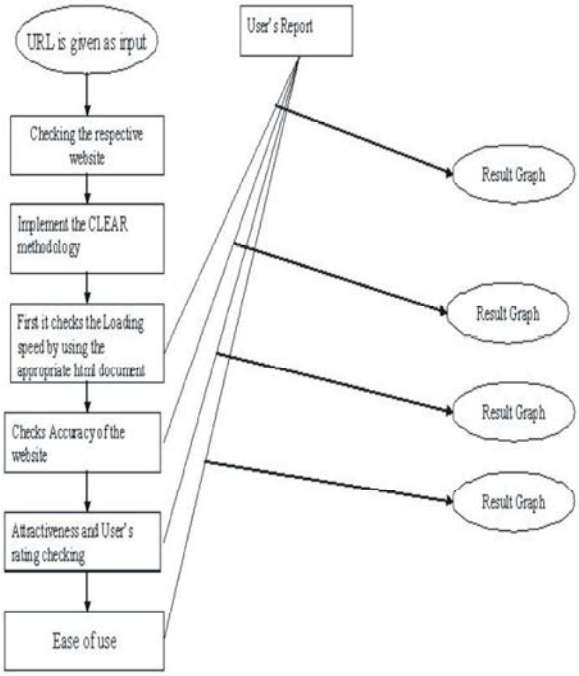
Proposed System: CLEAR methodology, which tests the accurate, reliable, efficient and the important one, is loading speed of the web page. Here we are following the CARE methodology and also we have added some aspects for improving the usability test effectively. We are testing Cheap, Accurate, Reliability, Efficient testing and also the loading speed of the web page. So we can perform the test effectively and review the website as per our aspects.

Functional diagram



Flow Chart

Methods	Low cost	Reliable	Less time	Less Resource	Loading speed
User Testing	NO	YES	YES	NO	NO
Thinking aloud Protocol	NO	YES	NO	NO	NO
Question asking Protocol	NO	YES	NO	NO	NO
Co-Discover Protocol	NO	NO	NO	NO	NO
Question Method	YES	NO	YES	YES	NO
CLEAR	YES	YES	YES	YES	YES



Testing Usability with CLEAR Method: The testing a websites using CLEAR method given.

Requirements: The constraints on time and resource. So the method had relatively few requirements.

Problem Definition: Identifying the problem statement or objective of the test is the key element of designing an effective usability test.

Preparation of Task List: A set of predefined tasks are prepared for the users to perform during usability testing. recognizing exactly which part of the application needs testing. it is important to select relevant tasks to try.

Schedule and Conduct the Test: The test is scheduled according to the user's convenience and conducted accordingly. A formal test is always accompanied by a trained facilitator to interact with the user.

RESULT AND DISCUSSION

The objective of testing is to see if the users feel the application efficient and easy to use. So the users comments, remarks and suggestions make together the test result [10-14].

Data Collection: The data that is collected during test helps in ascertaining the usability level of the application based on the analysis made on the collected data, the changes are made to make the application more effective.

CONCLUSION

Web usability testing technique is important one, so we are developing a best way to achieve that. By using the CLEAR methodology we can perform the web usability testing better. We have decided to add some extra aspects such as loading speed to do the test better.

REFERENCES

1. Arthi Amanda, Senthil Dhandapani, Hassan Reza and Karthik Namasivayam, 2006. Web usability testing- CARE methodology Year of Publication.
2. Jacob Nielsen, Designing web usability. The practice of simplicity New Riders publishing, Indianapolis ISBN 1-56205-810-x.
3. Nigel Bevin, Carol Barnum, Gilbert Cockton, Jakob Nielsen, Jared spool and Dennis Wixon, 2003. Accepted Panels: The "magic number 5, is it enough for web testing?",USA, Year of publication: ISBN: 1-58113-637-4.
4. Bartek, V. and D. Cheatham, Experience Remote Usability Testing, Part 2: Examine the Benefits and downside of Remote Usability Testing. Retrieved from http://www-106.ibm.com/developerworks/web/library/wa-rmusts2.html.
5. Ransdell, S.E., 1995. Generating thinking-aloud protocols: Impact on the narrative writing of college students,"Amer. J. Psychol., 108(1): 89-98.

6. Jakob Nielsen and Kara pernice coyne, 2001. A Useful Investment: Usability testing costs-but it pays for itself in the long run, published by CIO article in 2001.
7. Czaja, Ronald and Johnny Blair, 1996. Designing Surveys, Pine Forge Press. ISBN 08039-9056-1.
8. Tom Brinck, Darren Gergle and Scott Wood, October, 2001. Usability for the web, Designing Web Sites that Work", Publisher: Rebound by Sagebrush, ISBN: 0613920546.
9. Kato, T., 1986. What question-asking protocols can say about the user interface, international Journal of Man-Machine Studies, 25: 659-673.
10. Jazayeri, M., A. Ran and F. Linden, 2000. Software Architecture for Product Families, Addison-Wesely.
11. Wilson, C. Pros April, 1998. Cons of co-participation in usability studies. Usability Interface, 4(4).
12. Pattanayak Monalisa and P.L. Nayak, 2013. Green Synthesis of Gold Nanoparticles Using Elettaria cardamomum (ELAICHI) Aqueous Extract World Journal of Nano Science and Technology, 2(1): 01-05.
13. Chahataray Rajashree and P.L. Nayak, 2013. Synthesis and Characterization of Conducting Polymers Multi Walled Carbon Nanotube-Chitosan Composites Coupled with Poly (P-Aminophenol) World Journal of Nano Science and Technology, 2(1): 18-25.
14. Parida, U.K., S.K. Biswal, P.L. Nayak and B.K. Bindhani, 2013. Gold Nano Particles for Biomedical Applications, World Journal of Nano Science and Technology, 2(1): 47-57.