Mobile-Usability-Evaluation Suite

SSD - Project

TEAM - Full-Stack Squad

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Introduction

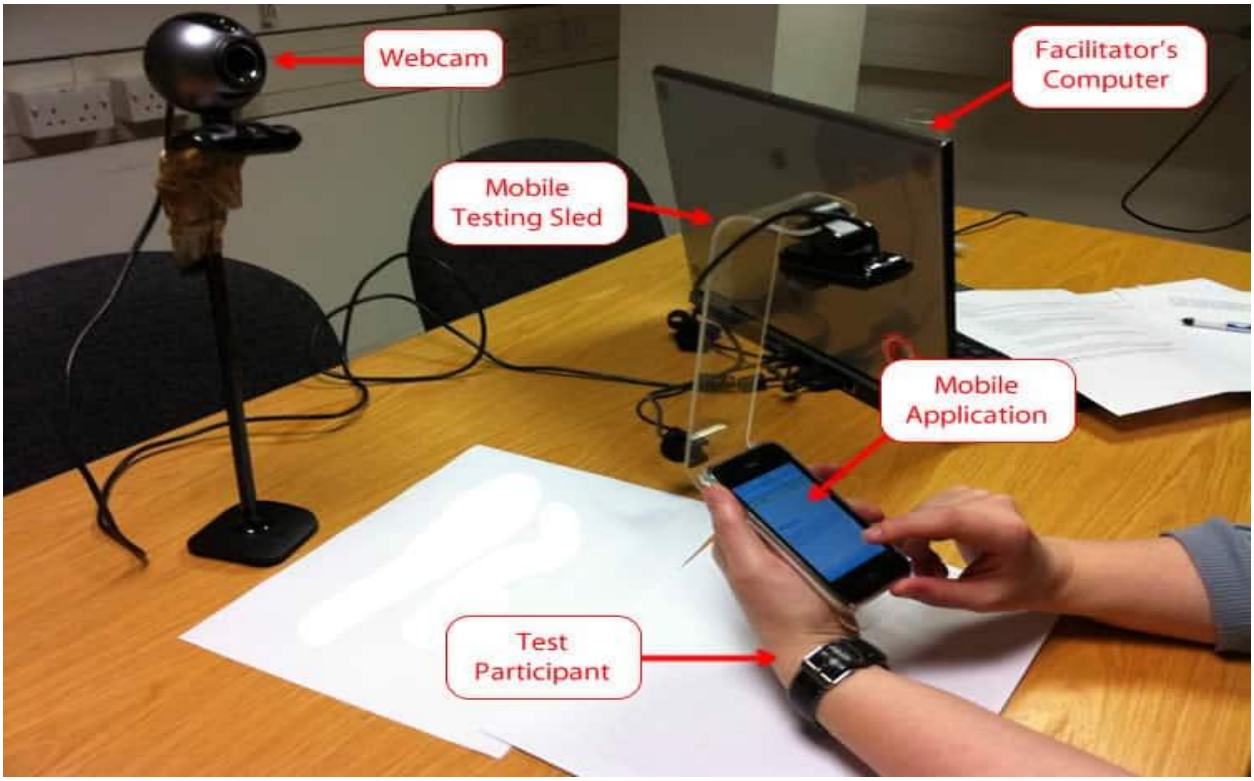
The objective of this project is to design a web application which can be used for testing the usability of mobile applications. Usability determines how easy a task is achievable by the user using an application. It is referred to as the ease of use and suitability of a system for a specific class of users carrying out specific tasks in a precise environment .

Mobile Usability Testing is a non-functional testing technique to measure the level of how a user is comfortable in using a particular application. It is the best way to understand how a user experiences the application i.e. whether it is flexible in handling controls and checking its ability to meet its goals.

Our web application uses the idea of laboratory-based usability testing. This testing method enables the testing of mobile applications by involving real users using real devices. In it, the observer has full control over the test and can easily set the tasks – thus enabling him/her to test all usability aspects.

Project Information

To develop a web based application for mobile usability evaluation using desired web technologies, which can be used to test and evaluate the performance of various mobile applications.



There will be two types of roles:

1. Observer
2. Participant

Observer will assign various tasks to the participant for evaluation of the application , the participant then performs those tasks, and the observer will start recording of the task performed by the participant and save it. Later the Observer will see the recordings and add the Notes to the video and mail it to the developer of the application for the review.

Roles	Responsibilities
User/Participant	Participant or the end user who will be performing the provided tasks as per the given instructions and guidelines while using his own conscience.
Observer	The main person who will monitor what the user does and will later analyse the entire process regarding the user experience.
Developer	The person who will be responsible to do the changes in the application as per the need.

Software Used

Front End: HTML, CSS, JS, jQuery and Bootstrap
Backend: Python, Django
Database: Sqlite3

Workflow

Firstly, we need to register the project/mobile app that needs its app to be tested. While registering, the list of the required tasks that the user/participant needs to perform will be asked.

After the project is registered, the user/participant will be registered. Every user will be associated with a project and will only perform the tasks that are assigned to him corresponding to that project.

After the user registration is done, the observer will go to the recording section of the web app and will record videos for each of the tasks that the user performs. When the user is done with all of its tasks, the observer will move on to the testing phase where he/she will see the recording of the user corresponding to each task he/she has done. The observer will analyse the video recording and will list the problems faced by the user while operating the app.

Finally, the observer will mail all these details to the respective developer of the project.

GitHub link

https://github.com/Jeevesh-Joshi/Mobile-Usability-Evaluation-Suite

Video link

https://drive.google.com/file/d/1dFNzOZVkT6FypBr_x80V6AlZ5BBpIzBo/view?usp=sharing

Individual Contribution Details

1. (2021201041) Maneesh Gupta NVSS

- Created the front end part of the dashboards using HTML, Bootstrap, Vanilla JS.
- A dashboard that takes the user details and assigns tasks to the user.
- Another dashboard screen for the product registration.
- Added the send email functionality.
- Script in Python that uses the smtplib module which is responsible for sending the mail to the desired email address.

2. (2021201028) Aman Izardar

- Created front end part of the observer dashboard.
- Testing the website.
- Report Creation.

3. (2021201040) Sai Teja G

- Created the front end part of the video recording tab using HTML, Bootstrap, JS.
- A recording page that takes the user's permission to record the video of the user. The user has to select the user and the task in the same page for which the video has to be recorded.
- Then, when the user stops the recording, there is an option for the saving of the video to the folder in the local.

4. **(2021201019) Jeevesh Chandra Joshi**

- Designed the theme of the website and created its landing page.
- Capturing, recording and saving video functionality.

- Populated the dependent dropdowns dynamically wherever required with the help of Ajax requests.
- Integrated and routed the entire front-end w.r.t backend.
- Formatted the entire frontend into the respective template language so that it's parsed by the backend efficiently.
- Handled all the Http requests and processed the data that is provided from the front end to the backend and vice-versa.
- Created the database schema for storing user data and to decide the flow of the application.

Conclusion

The designed web application can be used to test the usability of a mobile application in an efficient manner.

References

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- https://www.dynamsoft.com/codepool/web-camera-recorder-oepncv-flask.html
- https://usabilitygeek.com/usability-testing-mobile-applications/