IT351 HUMAN COMPUTER INTERACTION

Assignment – 6 : Forest Census Application (Mobile and Web)

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Objectives:

1) To create User interfaces for forest tree census(web app and android app)
2) To Analyse on the two interfaces
3) To Evaluate the time efficiency of the two interfaces with expert users

Introduction:

Forest Tree Census or simply Forest Census is a periodic exercise conducted by the Forest Department at the District, State and National Levels. The aim to conduct the census is to get an idea about the vegetation of that particular area which would be further helpful in policy making and welfare schemes decisions. The major points recorded in the Forest Tree census are the height, girth of the trees, their location and the flowering and fruiting season. Also the date and time of the survey is recorded along with the signature of the survey officer.

Instructions to Run:

Web Application:

Web app is hosted online and it can be accessed using the url: https://forest-census-hci.netlify.app . The Web app can also be used on the local system by downloading the web app code and running the index.html file on the browser.

Mobile Application:

The Mobile application is developed for the Android Platform and it can be used by downloading the apk file inside the Mobile App directory and installing the apk file on any android device. It will ask for permission to access device location which should be granted by the user.

HCI Principles and Guidelines used:

1) No element of surprise. Users can perform the same tasks in the usual way.
2) Wide range of the user-design process considered for all types of users.
3) Control is given to the user.
4) Proper error prevention methods have been used.
5) Application is Flexible and efficient to use
6) Relevancy, simplicity, minimum amount of labels and uncluttered graphics are used.
7) Users can easily recognize options in the system rather than recall them.
8) User control and freedom.
9) Support of undo and redo operations.
10) Overall, the interface is very simple and easy to use.

Screenshots of the Web App:

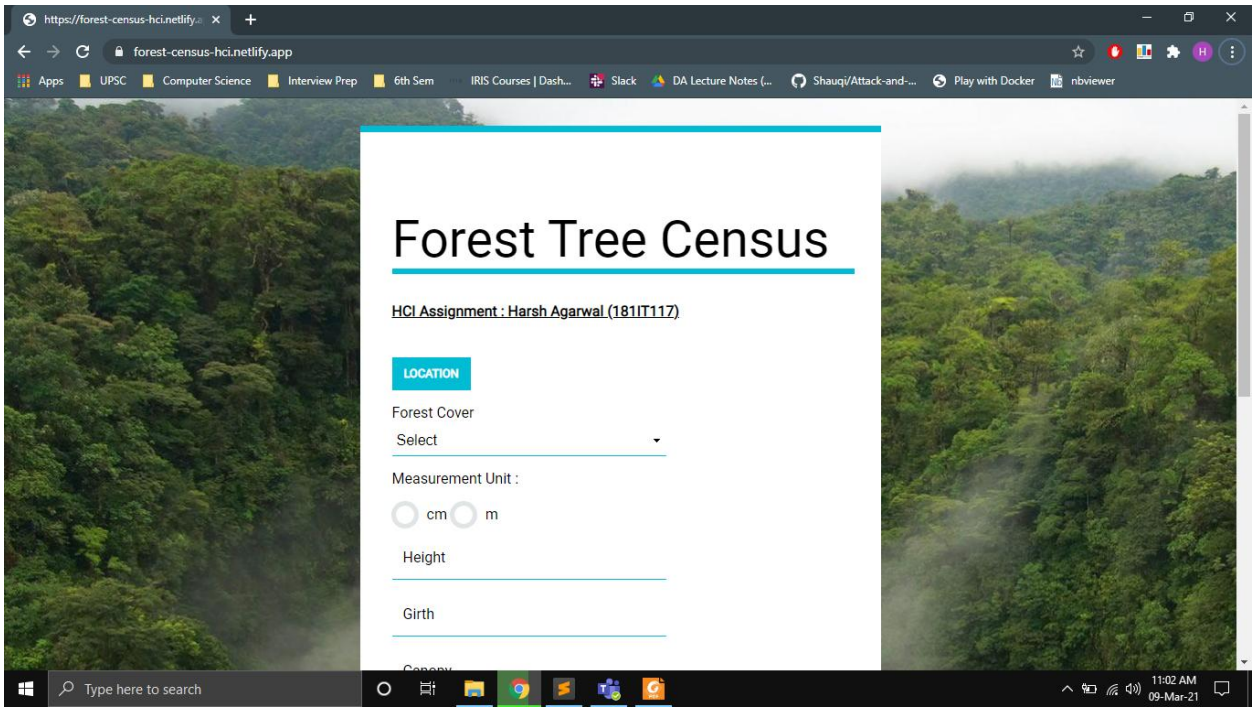


Fig.1: UI of the Web App

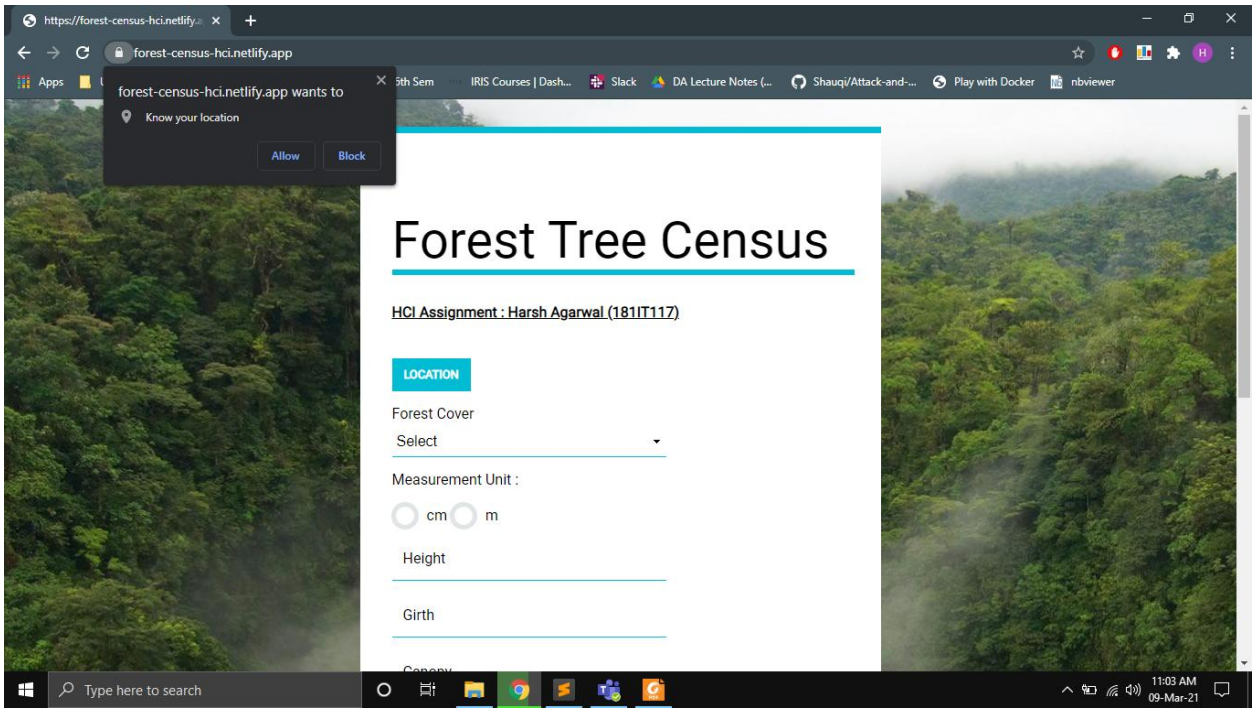


Fig. 2: Permission to access location

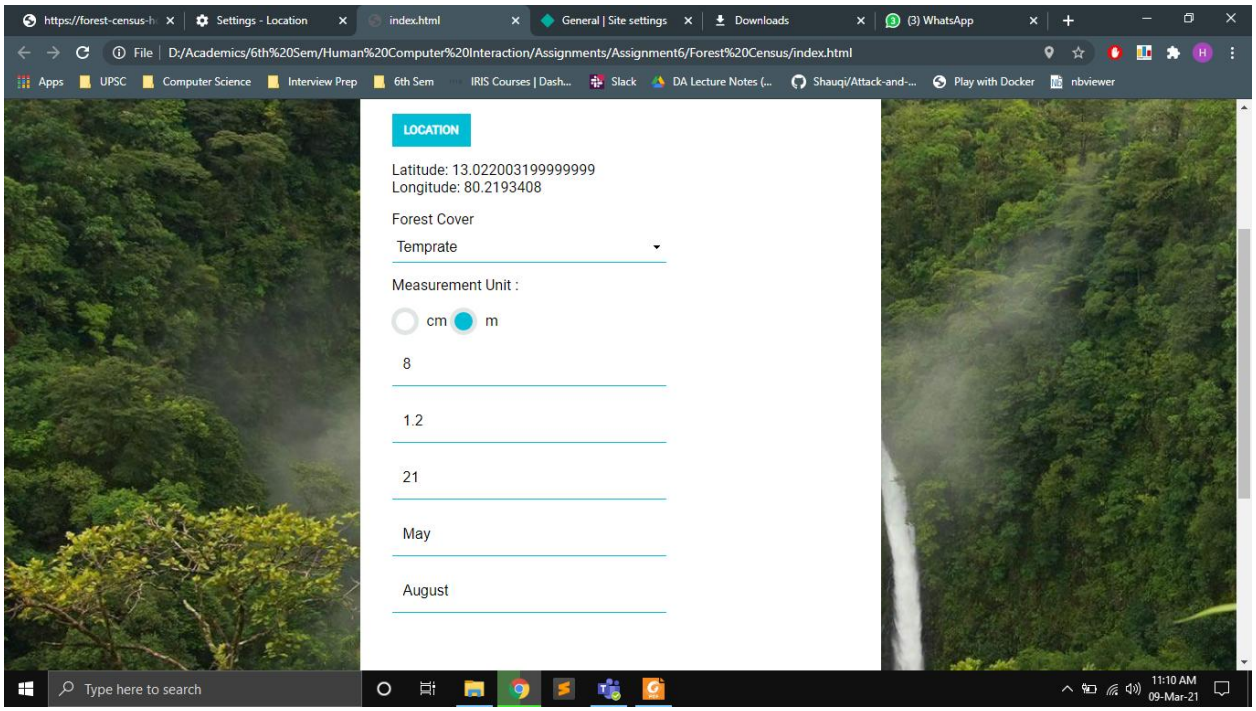


Fig. 3: After fetching the latitudes and longitudes and entering other values

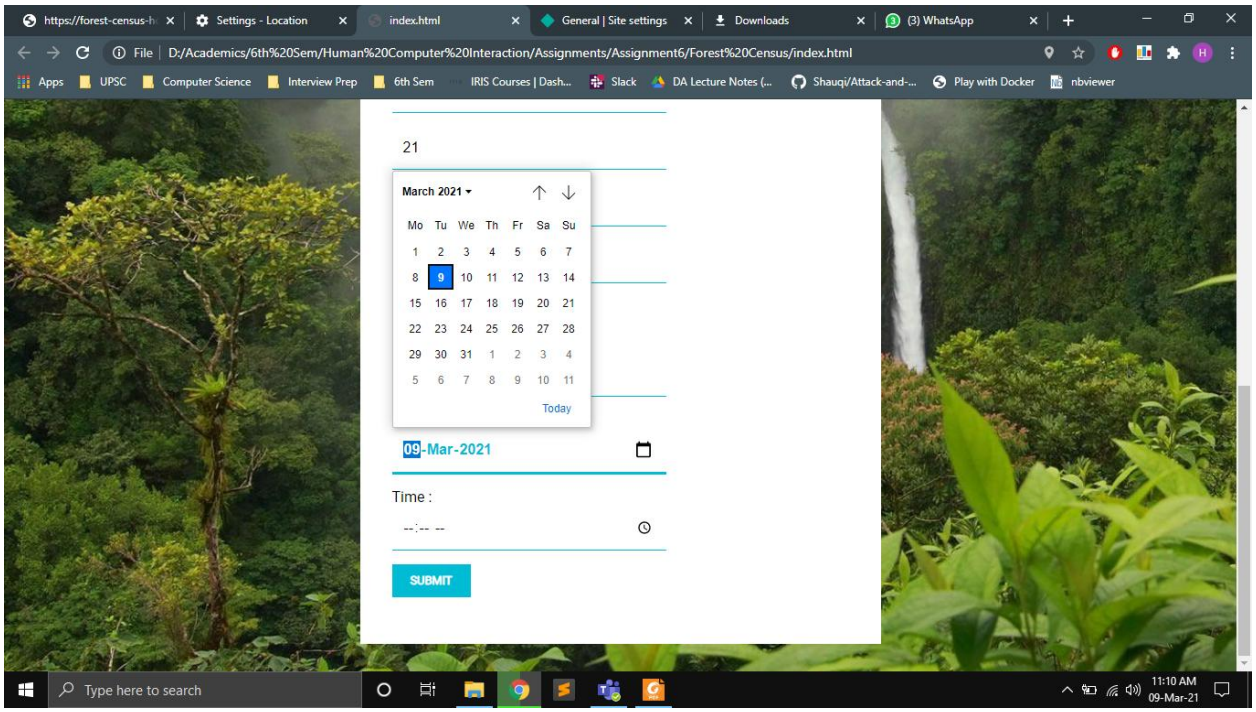


Fig. 4: Selecting the date

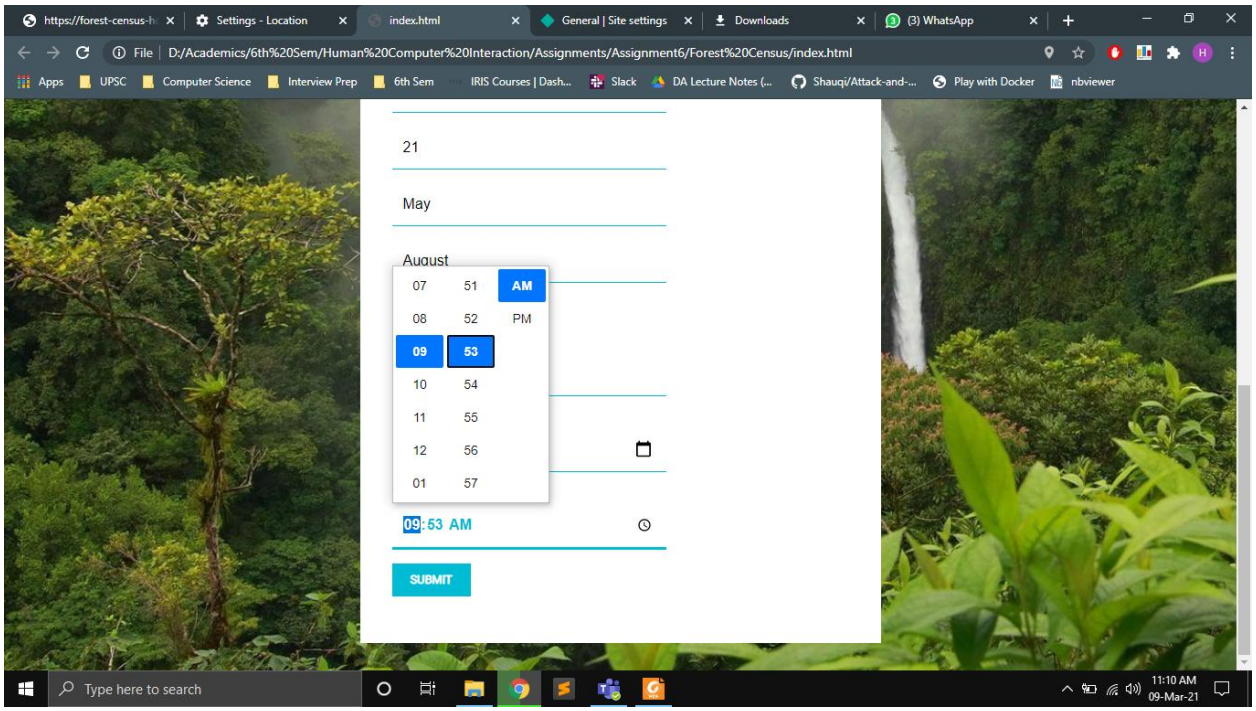


Fig. 5: Selecting the time

Screenshots of the Mobile App:

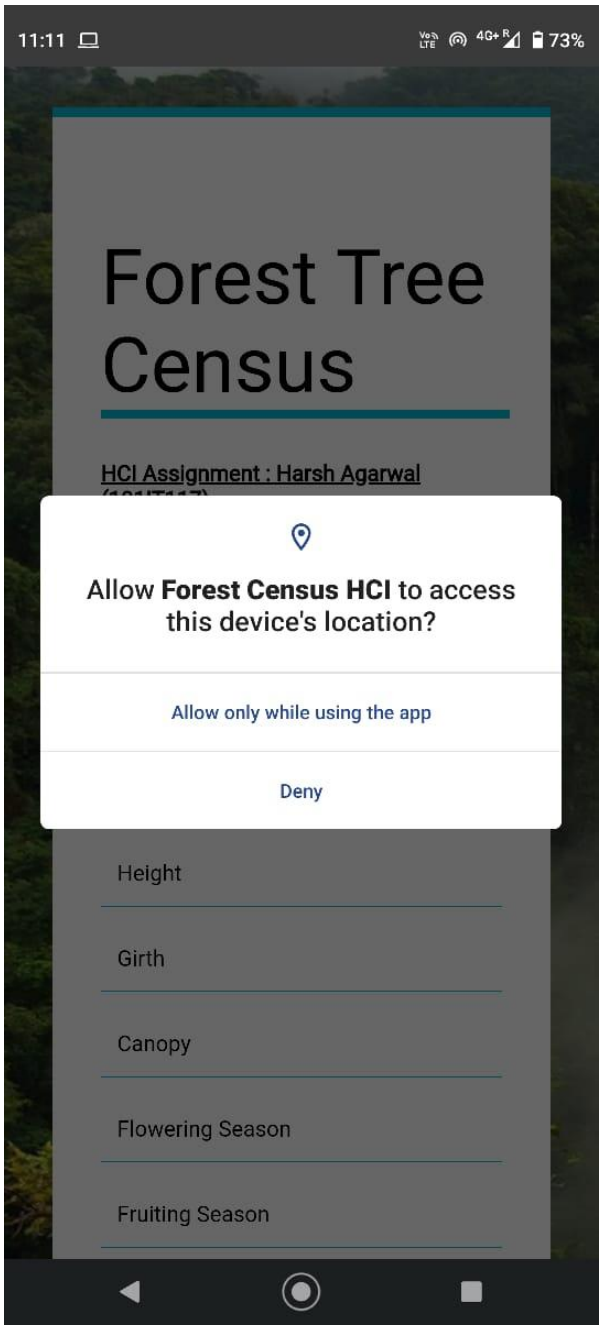


Fig. 6: Location Access

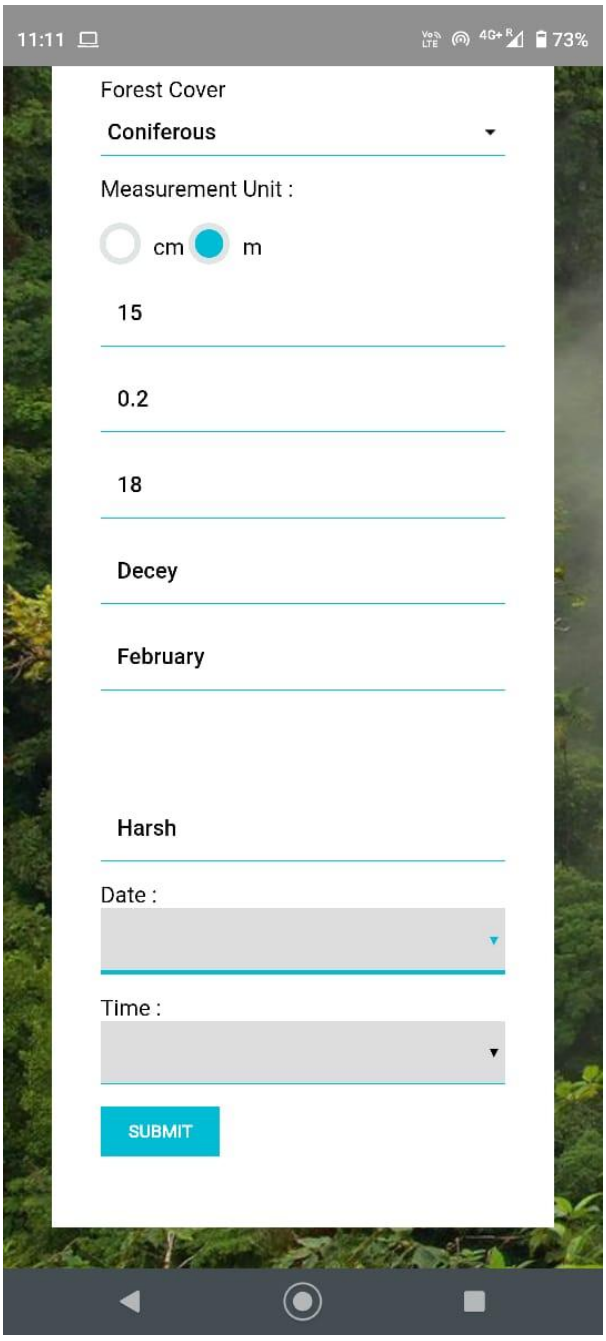


Fig. 7: Mobile UI

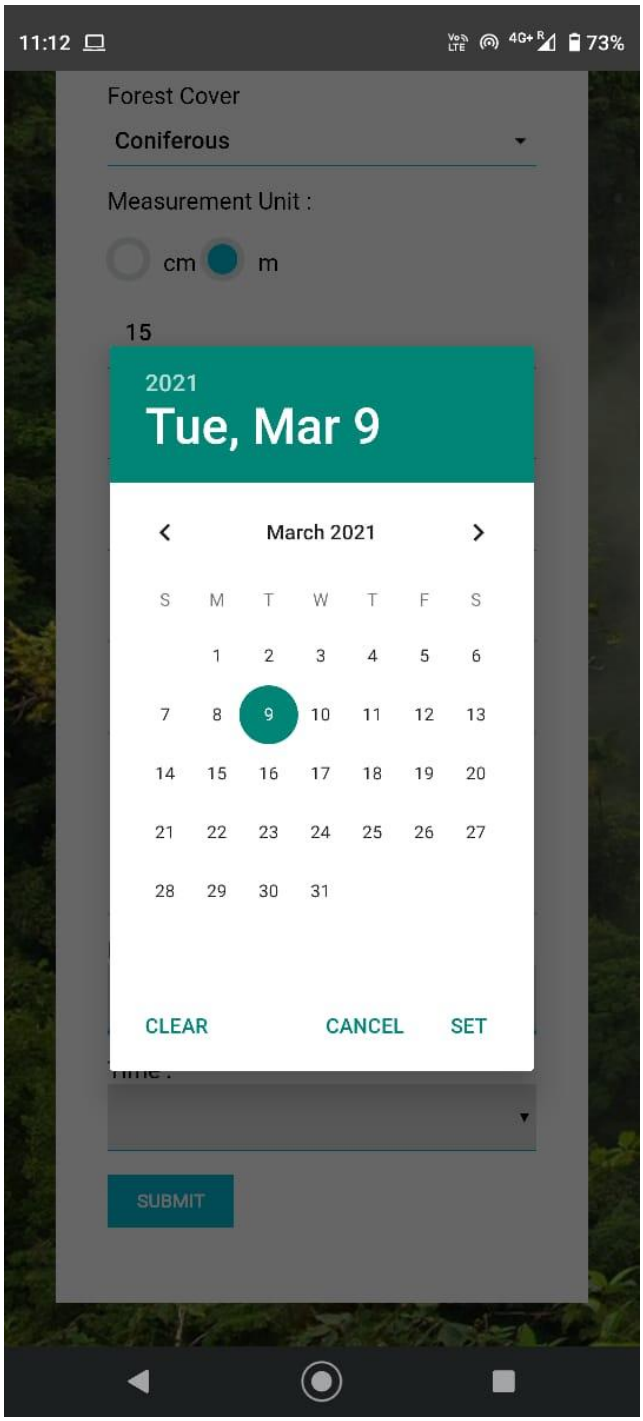


Fig. 8: Selection of Date

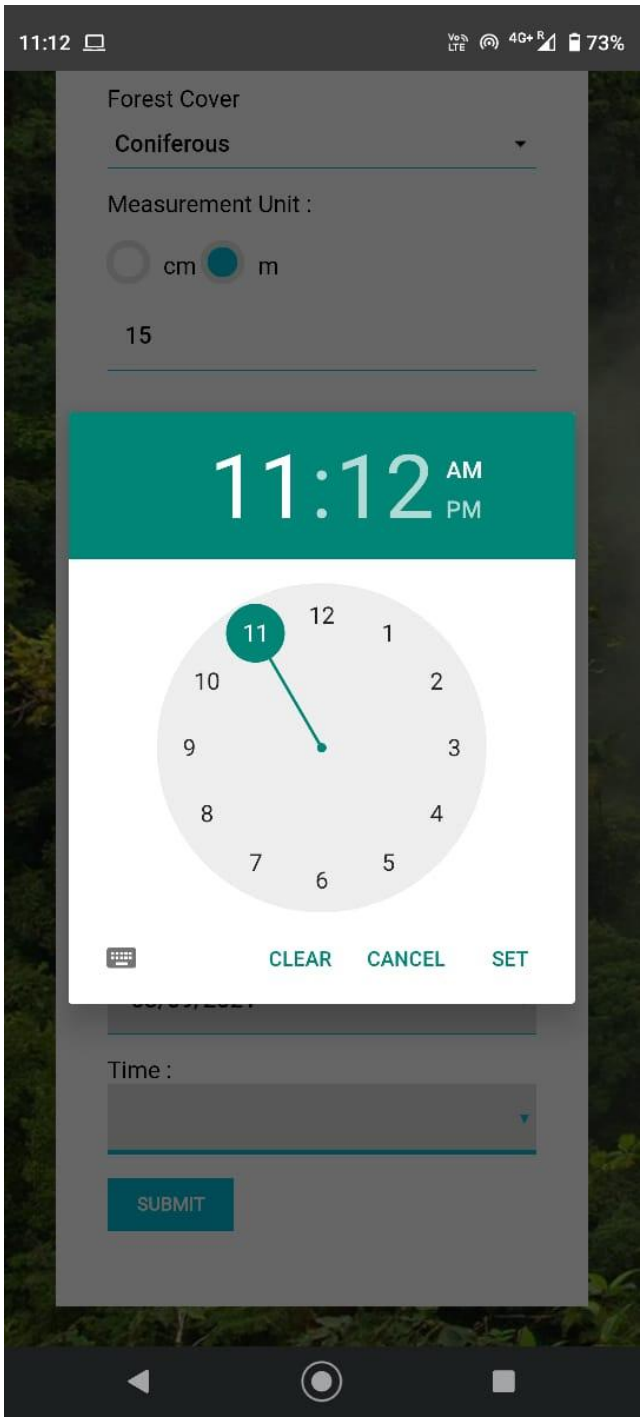


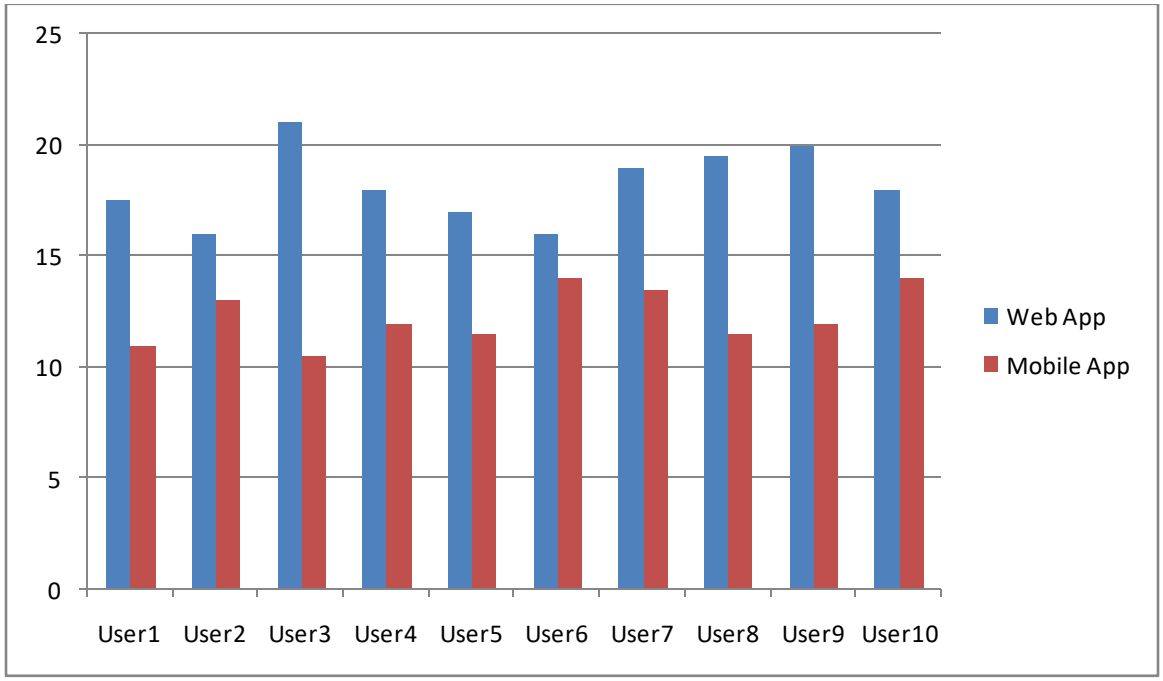
Fig. 9: Selection of Time

Analysis of Web App v/s Mobile App:

S.no.	Web App	Mobile App
1	UI of selecting Date and Time is not very pleasant looking	The UI for selection of date and time looks aesthetic and is easy to use
2	Undo and redo options are difficult	Undo and Redo Options are easy
3	Location feature sometimes is not supported by some browsers	Location feature is always supported by Android Devices
4	Users take more time to fill in the census form	Users take comparatively lesser time to fill the form
5	Integration with other services is difficult	Integration with other services is easy
6	Scrolling takes considerable time	Scrolling is quick
7	Provides average experience to User	Provides the best experience to user

Time Efficiency Analysis:

10 expert users were asked to complete the Census Form in both the Web and Mobile Interfaces and their time taken was recorded in the following Bar Graph:



Conclusion:

It can be clearly seen from the Time Analysis Graph that the users are taking less time to complete the census survey in the mobile app as compared to Web App. Taking the HCI principles into consideration as discussed in the analysis section, we can infer that the Mobile Application is a better choice for Forest Tree Census as compared to Web Application.