

HCI - PROJECT 4

Group 13

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Study Design

1. Population:

This app has been designed for those who are looking for a travel companion and have plans to live in city of Gainesville for a short period of time. This is chosen as fundamental principle of picking participants because these set of students will have a different mind set of exploring places than those who are staying here relatively for a larger time period. Thus the target population is the 'Senior Certificate Program Students' who are staying in Gainesville for one semester as of now.

Participants in the study: 'Senior Certificate Program Students' who have visited Gainesville for first time & their staying period is six months as of now. They are total ten in number and belongs to a age group of 20-24 years. Thus this niche set of population will give constrained results & lower variance.

Population excluded from the study: Population who have stayed there for more than six months will be excluded. Also those Certificate students who plan to stay for six months but have already visited Gainesville earlier for at least five days have been restricted to take part in the study. This has been based on assumption that these students have already covered many places and hence will not show similar interests than those who are here for first time.

Recruitment Procedure: A Focal group interview has been conducted and the objectives of the user study were stated clearly. Afterwards publicity was done through developers professional websites & through social media. Meanwhile, the prepared questionnaire for this user study was also presented among the desired participants. After a rigorous procedure, 10 students were shortlisted from the volunteer applications who fulfilled all the above criteria. Finally, an IRB form was filed & signatures have been taken from all the participants on the consent form. Also all the participants are advised to undertake CITI training before participating in the study.

2. Hypotheses (and null hypotheses):

2.1 Primary Hypothesis: The usability rate of my interface for planning trips by a participant will be more than that of any other existing interface for planning trips.

Primary Null Hypothesis: The usability rate of my interface for planning trips by a user will be less than or equal to the usability rate of any other existing interface for planning trips.

2.2 Secondary Hypothesis: The satisfaction rate of participants who planned trips through my interface will be more than that of ones who planned trips through any other existing interface..

Secondary Null Hypothesis: The satisfaction rate of participants who planned trips through my interface will be less than or equal to that of ones who planned trips through any other existing interface.

3. Study Conditions:

As we have stated earlier the pool of our participant population are the ones who wish to explore Gainesville in short duration. The major study conditions included the spring break when participants were looking for the travel mates to plan a trip with similar interests people. In the first step, participants are asked to plan trips based on suggested results before the spring break as given in Primary Hypothesis. Then their satisfaction level is measured to deal with secondary hypothesis. Another phase of study condition was St Patrick's day when most of the participants were looking for social nights. Then finally the present study conditions are the targeted populations who are looking for travel companions just after the end of semester. The participants are allowed to perform tasks in normal mental & physical conditions with no exterior pressure to take their decision regarding their planned trip & feedbacks.

4. Participant Procedure:

- Firstly participants who are residing in Gainesville for short duration & have arrived here for first time were asked to sign up for a time slot.
- The participants are required to sign a consent form where they have been informed of tasks they need to do to participate in the study. It also mentions about the risks and benefits associated with the study and if any compensation is provided to them. It also discusses about the confidentiality of the user along with their right of voluntary participation and the right to withdraw at any point of time. Consent form also contains the time period of the study and the contact information of the Experimental Staff & the Principal Investigator.
- The next step was to execute the study. It includes the testing procedure when participants are required to login to the web app & go through the questionnaire. Then they are asked to rate their satisfaction level & give their feedbacks.
- A questionnaire has been discussed with the participants which contains questions related to the current interface & checked if it satisfies the user's need. Also project objective is debriefed.
- Finally participants were thanked for their contribution & compensated if they were supposed to be. Their valuable feedbacks were recorded and have been implemented to improve the basic prototype.

Detail the procedure for each participant (what are participants actually doing as part of your study). Correctly explaining the procedure for each participant – 20 points

5. Metrics: List both primary and secondary metrics and how you will measure them. Correctly identifying metrics and methods of measure - 10 points

The usability of the web Application Gator Application has been measured through several statistics.

- **Primary Metrics:** A SUS survey (Qualtrics Survey) was conducted on three different users. Final numerical values were obtained.

The questions were calculated based on the above algorithm. Some of them are listed below:

Do you think various functions in the system are well integrated ?

Do you need support of a technical person to be able to use this application.

The results were as follows :

1st value = 85

2nd value =85

3rd value =80

The average for SUS is nearly 68%. We got our percentage as 83.3 % which is far above than the average. Thus, we can very well accept our primary hypothesis and reject our null hypothesis.

- **Secondary Metrics:** The satisfaction was measured through the user feedback. Following questions were asked :

The objective ones are : -

- Were you satisfied with the table and the output ?
- Were you satisfied with the choices provided ?
- Was there any time lag for the output ?

The subjective ones are:-

- Did you like the interface ?
- Did you face any problem while entering the choices.

The answers were positive for 95% of the participants. Thus, we can definitely reject our secondary null hypothesis and accept the secondary hypothesis.

6. External Validity: The output of the interface is close to the real world as the semester end is near and the target population is actually looking for an outing and some travel companions. It performs sorting operation and gives results of the top five closely related answer preferences. The results are quite similar to the already existing applications like triptogogether.com, triposo app, etc. The study uses accepted similar set of questionnaire to conduct feedbacks & accepted methods like weighted algorithm for performing calculations. The findings associated with the app are representative of humanity and neither harm physically to the participants nor exceeded the bearable level of mental pressure for conducting the study. Expert feedbacks are frequently implemented. The study fits well not only in experimental setting but also in practical setting.

Contributions to External Validity: A realistic contribution is using the most important factors as a fundamental basis to perform matching. A three step guide to the user also contributes to it.

Distraction from External Validity: The tab 'Places' suggests nearby places in Gainesville to explore. Practically, users already have a mindset of a destination & chances are quite bleak that one person jump to the Places tab. Thus this feature detracts from external validity.