

## HCI Project 6

*"On my honor, I have neither given nor received unauthorized aid in doing this assignment."*

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### **1.1 Study Design Changes:**

- **Unbiased Participation:** Participants will be set free to navigate the system in their own way.
- **Brief Introduction:** Only brief info will be given instead of detailing & their intuitive steps will be analyzed.
- **Record Verbal Suggestions:** Participants will be interviewed personally to trace personal experience.
- **Altered Trial Period:** Initially we thought of conducting SUS survey after three days of our user study but then we extended the trial period to one week to analyse if people are actually successful in planning trips through our interface.
- **Revised Primary and Secondary Hypothesis:** As per the suggestions received in previous phase, we modified our primary hypothesis. Earlier our interface was comparable to every other existing interface but now we kept very specific & the comparisons has been made against existing 'Back Packer' interface.

**1.2 Name of the statistical test:** We performed the following tests for calculating the statistical values of our interface comparing it with the existing system Backpackr.

- T test
- P Test

### **1.3 Number of participants in each condition:**

No. of participants for conducting user study: 32

Target Population: Students who are in Gainesville for short duration

Age Group: 20-24 years

All the 32 participants were first requested to use both backpackr and Gator Companion & then their results were analyzed through SUS and qualtrics survey.

### **1.4 Means, Standard Deviations , P Value, T Value :**

**Primary Hypothesis:**

	<b>BackPack r</b>	<b>Gator Companion</b>
Mean	6.3125	7.8125
SD	1.0906	1.7121
Variance	1.1895	2.9314

- P Value= 0.007223
- T-value= +4.18

## Secondary Hypothesis:

Secondary:	BackPackr	Gator Companion
Mean	6.125	6.7188
SD	1.1476	1.474
Variance	1.3171	2.173

- P Value=0.0290
- T value= +1.98

### 1.5 Accept or reject the hypothesis:

- Accepting Primary Hypothesis and Rejecting Null Hypothesis on behalf of statistics arrived
- Accepting Secondary Hypothesis and rejecting Null Hypothesis on behalf of the statistics analyzed in next section.

#### 2.1 Acceptance of Primary Hypothesis

**Primary Hypothesis:** The usability rate of our interface for planning trips by a participant will be more than that of existing interface like Backpacker and Trip Together, for planning trips in Gainesville.

P value for Primary Hypothesis: 0.0007223 (<0.05)

**Conclusion Arrived:** Since the p value is less than 0.05 in primary hypothesis making the difference statistically significant

*Thus we accept Primary Hypothesis & reject Primary NULL Hypothesis.*

We derives to the conclusion that people will prefer Gator Companion App more than the 'Back Packr App for planning trips in Gainesville as its usability rate is higher.

#### 2.1 Acceptance of Secondary Hypothesis

**Secondary Hypothesis:** The different matches found from our interface will be better than the matched suggestions of existing interface like Backpackr and Trip Together for planning trips in Gainesville.

P value of Secondary Hypothesis: 0.029 (<0.05)

**Conclusion arrived:**

Similarly, in the case of secondary hypothesis p value is again less than 0.05 which means again counts for significant difference.

Thus we accept Secondary Hypothesis & reject SeconadryNULL Hypothesis.

So, we could confidently say that a user who is using our application for planning trips in Gainesville will be able to find best possible matches and would use it more frequently than the existing interface like Back Packr.

### **2.3 Discussion on each hypothesis and its means to other developers**

**Primary:** The statistical data state that the p value is less than 0.0001( $p < 0.0001$ ), which is significantly less than 0.5. Thus, we accept our primary hypothesis. So, we could confidently say that a user who is using our application for planning trips in Gainesville will be firstly satisfied and secondly would use it more frequently than the existing interface like Back Packr and Trip Together. The match results will give them a better idea of people who are going to the same place in similar ways.

**Secondary:** The statistical data state that the p value is equal to 0.026 ( $p = 0.026$ ), which is again significantly less than 0.05. Thus, we accept our Secondary Hypothesis and reject the null hypothesis. So, we could confidently state that people will be satisfied using our application because of the perfect “nearest match” results. This will help a user to directly contact the people with whom the results have matched. The matching algorithm is better than the existing match suggestions given by ‘Trip Together’ or ‘Back Packr’.

**Relation to each other:** The Primary hypothesis and Secondary hypothesis are inter-linked. For the Primary Hypothesis to be true the secondary must hold strong grounds. This is visible by the statistical data. The p-value for each hypothesis is less than 0.05, so accepting both the hypothesis. This thus relates that the user who is new to Gainesville will use our application more than the existing system like Back Packr or Trip Together. This is so because, he will be satisfied by the results of the match provided to him once he plans the trip and enter the details as required in our application. This in return substantiate the acceptance of secondary hypothesis. If the secondary hypothesis would have been loose on the ends then it would be hard to accept the primary hypothesis.

### **Usefulness for other developers:**

The other developers could focus on the following points:

- From our secondary hypothesis, we get that travel mate matching is very important. So the developers should not forget to work on the strong underlying algorithm for best results.
- As users prefer good interface designs for easier usability, the developers could work more on the design to make the app more intuitive and straightforward.
- More number of questions and more choices of answers can be incorporated as it would make the matchmaking process more accurate and reliable.
- The developers could also incorporate additional features like chat option so the users can talk to the matched users. From our primary hypothesis we get to know that usability rate of

our website is better than the already existing websites but other developers can enhance the usability by adding additional features.

### **3.1 Aspects of the project that worked out as you anticipated**

We were sure that a suitable match would be provided to the users as we used a weighted average matching algorithm which was sure to work well. The users were impressed to find out people who were thinking of going to a similar place with similar interests. Many users even finalised their outing with their respective matches too.

We were so happy to know that three of our final user study participants are going for clubbing(social night) this Friday.

### **3.2 Aspects of the project that worked out differently than you anticipated**

We had anticipated that the users would first go to the ‘Places’ tab to explore the different places in and around Gainesville and then follow to the login and eventually start with the match making. But to our surprise, they did not explore the places at all. Straightway headed to the matchmaking tab to find prospective travel mates. Most of the users, skipped going through places tab at any point of the time of using our web application.

## **4. Proposing HCI guideline(s) that we derived from having run this study**

### ***HCI Guideline #1: The design should be consistent and analysed using a user’s initial instinct***

Experimenting with different interfaces and conducting user testing during each phase with different users is a good decision before finalizing a design, because the effect that the interface have on the user is intense. During each of our user study, we showed the participants prototypes of our application’s design and asked for their comments and suggestions to improvise and make it intuitive.

At the end, we came up with a simplistic, straightforward interface which users appreciated. In our final interviews with the users most of them talked about how easily they could navigate through the web application.

Using the p-test, we accepted our Primary Hypothesis that said the usability rate of our interface for planning trips by a participant will be more than that of existing interfaces like Backpackr and TripTogether for planning trips in Gainesville. So, we can easily conclude from the statistical analysis that a straightforward interface helped the users to interact better.

## Appendix:

LINK to our web application: <https://rchander716.000webhostapp.com/index.php>

### I) Web application's screen shots



Img\_01: Home page



Img\_04: Terms and Conditions page

**GATOR COMPANIONS**

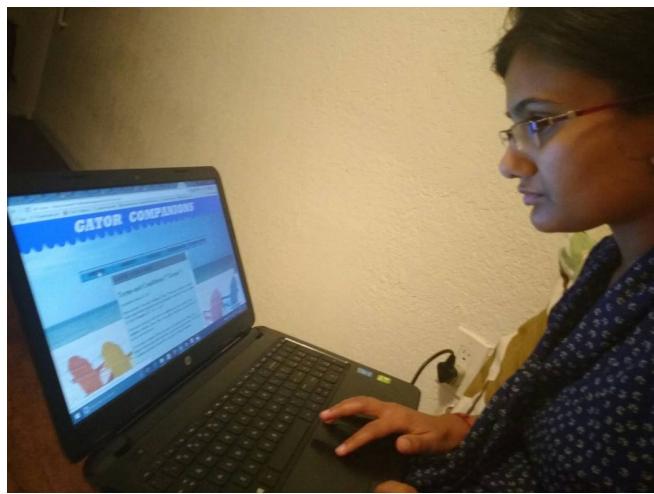
HOME    ABOUT    PLACES    FEEDBACK    DEVELOPER

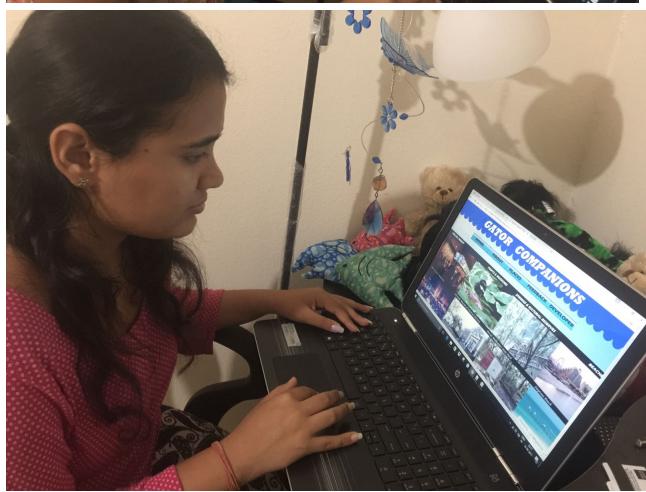
Enter your name and answer the following question for your desired trip:

Name: <input type="text" value="Richel Robert"/>	Destination: <input type="text" value="Springs and Natural Reserves"/>	Budget: <input type="text" value="greater than \$150"/>	Transportation: <input type="text" value="Uber"/>	Lodging: <input type="text" value="Resorts"/>	Duration: <input type="text" value="1-2 days"/>
1. What is preferred idea of an outing ?	Stephen Iring	Springs and Natural Reserves	greater than \$150	Uber	Resorts
2. What is your estimated budget ?	Daniel Kroff	Springs and Natural Reserves	greater than \$150	Uber	Resorts
3. What are your transportation preferences ?	Katherin Farnader	Springs and Natural Reserves	greater than \$150	Uber	Resorts
4. What are your lodging requirements ?	Richel Robert	Springs and Natural Reserves	greater than \$150	Uber	Resorts
5. What is the duration of your outing ?					1-2 days

Img\_05: Matches found

## II) Participants using our web application





**III) Graph showing the ratings given by different participants in our user study**

Q13 - On a scale of 1-10, how would you rate the website, GatorCompanion? (with 1 being...

Page Option

