HCI Project1

1. InVision screenshots

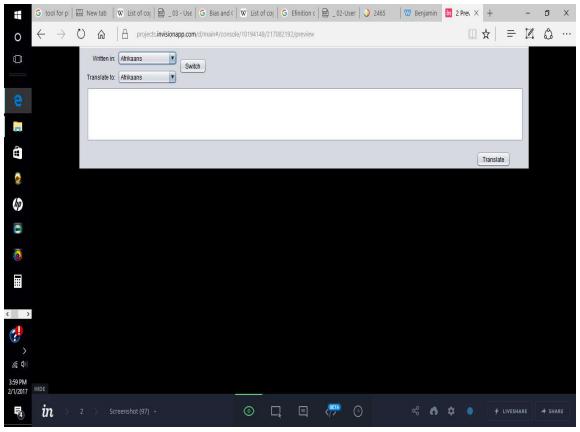
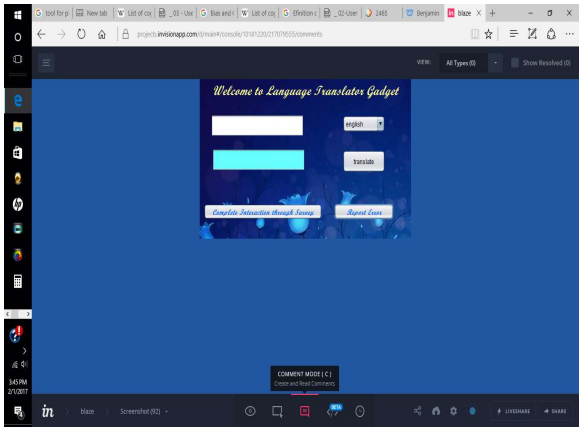


Fig1(a): Screenshots of design1



(b) Screenshot of design2

2. Use Cases

USE case1 : How to get a phone connection?
Primary Actor : Participant A
Scope: Query of how to get phone connection
Goal Level: User Goal
Main Success Scenario : Participant A opens the translator app & selects a language from drop down for writing a question. It gets successful when a translation is made in desired language.

USE Case 2: How do I get to Disney world?
Primary Actor: Participant B
Scope: To get means to reach to Disney world
Goal Level: User goal
Main success Scenario: Participant B opens the given jar file & selects language & write the query. Again the desired result in specified language makes it successful.

3. Discussion about design decisions made based on user comments :

Following comments led me to improve the design 1 to design 2:

- Adding 'Complete Interaction' & 'Report Error' button specified the next action of the user.
- Adding background made the webpage lively
- Increasing the font size to make it readable
- Giving a title to each webpage

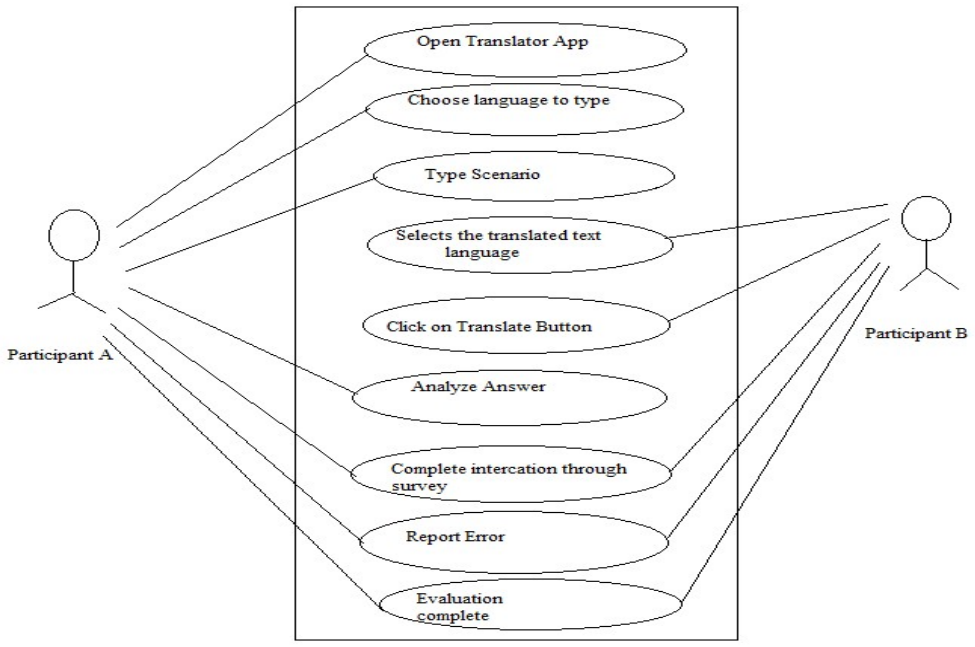


Fig 2: Use Case Diagram of Translator App

Study Design

1. Hypothesis: Students using my interface at University of Florida for communication to find directions in campus with a student of different native language than theirs will endorse it to their friends more than Google Translate.

Null Hypothesis : Students using my interface will endorse it to their friends at the same or less than Google Translate.

2. Metrics

- **Objective**: The ratings of survey questions with the help of System Usability scale on a scale of 1 to 10 reflected the objective view of metrics.
- **Subjective:** Comments made by the user on interface reflects subjective metrics.

3. Procedure

Procedure included following steps:

- Interface is designed by individual students
- A cross evaluation is done by students with the prior consent of every student
- Students executed the study for communicating 8 different scenarios
- A survey was being made to precisely conclude the satisfaction level of participants

Data Analysis

1. For the hypothesis:

a. Report means, standard deviations, t-values, p-values

Points gained by participant: 4,7,9,6,8,9,8,6

	Group1(one participant)	Group 2 (Including all Participants)
Mean	7.125	6.90
Standard Deviation	1.7268882005	2.307740723
N	8	673

- T value = 0.94
- One tailed P value = 0.182859
  Two tailed P value = 0.365718
- **Confidence interval:**
  The mean of Group One minus Group Two equals 0.225000000000
  We have 95% confidence interval of this difference:
  From -1.393089964263 to 1.843089964263

b. Reject/accept null hypothesis and hypothesis

On the basis of the statistics, we notice that the difference between means for the 2 groups is different. Also by conventional criteria this difference in p values is considered to be not statistically significant since it is less than 1.96 , hence we can reject our Null Hypothesis.

c. Interpretation of Statistical Results

- Lower P values increases the significance of the system. Lower P value indicates that there are less chances of random sampling error. In the case of single tailed P vale, 18% is the chance that our hypothesis will fail due to random sampling error.
- On throwing light on the confidence level, there is a 95% chance that the 95% Confidence Interval(CI) contains the true population mean. In other words, if you generate many 95% CIs from many samples, you can expect the 95% CI to include the true population mean in 95% of the cases, and not to include the population mean value in the other 5%

2.Error Tracking:

- Interface provided two buttons after the translation namely, 'Complete Interaction' & 'Report Error'
- Participant who faced any problem while interaction has the right to report error for the same
- Every click on the error button gets recorded & a pop up comes with the count.

Correlation between errors & User Recommendation

- It has been observed that as the no. of error count rises, comments for suggestions for improvement has also risen.
- An example of user recommendation stated that 'more space required for writing text'. It can be interpreted as user didn't find sufficient space for writing content & is expecting to be provided with large view area of textbook & hence he must have reported an error here.

Conclusions

Biases: Biases signify the inclination of a person's opinion towards a specific thing which is influenced by some means.

- **Learning Bias**: It means that a user gets familiar with a particular task. Statistics reveal that users initially gave less rating like this interface first rating was '4' but slowly & steadily when user gets familiar with the task, it has been observed that rating also increases. A rough comparison showed that initial four readings are somewhat less than the mean while the case was reverse in second half.
- **Focusing Effect Bias**: This bias deals with focusing too much importance only on one factor. While evaluating peers interfaces, it has been felt that in some cases too much importance is given to insertion of Google Map which dimished the main motive of interface that is translation.
- **Experimenter Bias** : It means Subconscious bias of data and evaluation to find what you want to find. For instance there are users who knew two languages on being the native language of participant 2. Thus in case user is already aware of answer and hence he/she would have not paid much attention to the translator's results. This is experimenter bias.

Confounds: Those factors that affect outcomes, but are not related to the study.

- **Population Confound**: The level of expectations from interface is different for different groups. Same interface could be rated as 9 by one group & 5 by another group.
- **Design Confound**: Out of the 8 scenarios, its quite possible groups have digger bit more in one scenario like food places which has multiple places which some scenarios like 'to buy a ticket for football match' has been given less attention. Thus its likely food places is an interesting conversation & might have attracted higher ratings.

2.Design Lessons Learned

User	Scenario	Design Lessons Learned
A	Where to go to do something fun?	• Gainesville Tourist Link can be included
B	Where to get football tickets?	• Football tournaments dates can be there
A	How to get a phone connection?	• Mobiles plans can also be showed
B	Where do I get furniture?	• Furniture showrooms can be listed

- ❖ Above mentioned are the extra featured which an interface can include to complement the translation. It can give additional information & thus provides easy navigation.
- ❖ User entry field should be large enough which at least can comprise a small paragraph. Font & size menus can enhance readability.
- ❖ Using graphical icons like fitness symbol, travel & tourism symbol , home icon can make the interface more user friendly & thus highlights the design scope.