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| HCI - COMP 171 |
| Assignment 9 |
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| 4/20/2012 |

**Summary of user demographics**

The second usability testing of Restaurant Locator application was conducted at Worcester State University’s cafeteria and Student Center so most of the users were students and faculty of WSU. Below is the demographic information of users.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| User # | Age | Computer Background | Area of study | Profession |
| User1 | 28 | Frequent user | Arts | Student |
| User2 | 35 | Frequent user | Psychology | Student |
| User3 | 55 | Novice | English | Professor |
| User4 | 24 | Expert | Computer Science | Student |
| User5 | 30 | Expert | Electrical & Computer | Engineer |

Mean age for the above user group is 34.4 and standard deviation being 12.18.

**Aggregate results and graphs**

Below is a bar chart representation of Restaurant Locator application’s user rating. Majority of the users rated the system between 4 to 5 on a scale of 1 to 5. This makes me think that the system met most user expectations.

**Test Result**

I gathered two types of data during testing: quantitative and qualitative.

**Quantitative data**

This section includes the following data: how many users completed each task, how many incorrect paths they followed before completing tasks (for tasks completed correctly), time taken and path followed for each task.

**Task Completed and incomplete path taken**

Table below lists user and each task. Task completed successfully without any help are marked with Green and Columns marked with Orange represent task completed with questions/help. Task missed or incorrectly performed are marked in Red along with a foot note reference.

The task list given to users is as below:

**1a:** Select Italian cuisine from home page

**1b:** Change Italian to Chinese cuisine, Enter Boston in Where box and click on search button

**1c:** Select one restaurant from search results list and check its Menu, Gallery, Review and then Reserve two seats for 4/20/2012 from RESERVATIONS Tab.

**2a:** Go to same restaurant home page and update the reservation date to 4/25/2012 then check the seat availability and then reserve again.

**3a:** Go to the Reservation Tab and cancel the reservation

**3b:** Go to the Search result Screen and choose another restaurant

**3c:** Take direction from Medford, MA by Car

**4a:** Go to same restaurant home page and post your review

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1a** | **1b** | **1c** | **2a** | **3a** | **3b** | **3c** | **4a** |
| **User 1** |  |  | 1 | 3 |  |  |  |  |
| **User 2** |  |  | 2 | 3 |  |  |  |  |
| **User 3** |  |  | 2 | 3 |  | 4 |  |  |
| **User 4** |  |  |  |  |  |  |  |  |
| **User 5** |  |  |  |  |  |  |  |  |

**Note:**

1 - The user didn’t check the check the Menu, Gallery and Review instead went to reservation screen.

2 - User missed menu category listed on the Menu screen

3 - Took wrong path to update the reservation

4 - Took wrong path for choosing another restaurant.

**This section includes the time per task and the paths followed for each**

**Task 1**

1. Select Italian cuisine from home page
2. Change Italian to Chinese cuisine, Enter Boston in Where box and click on search button
3. Select one restaurant from search results list and check its Menu, Gallery, Review and then Reserve two seats for 4/20/2012 from RESERVATIONS Tab.

|  |  |  |
| --- | --- | --- |
|  | **Times Taken** | **Path Taken** |
| User 1 | 4 min | Selected Italian cuisinechanged Italian to Chinese Enter boston on where box filedclicked search button selected restaurant title link clicked reservation tabclicked RESERVE buttonfilled required informationclicked RESERVE button |
| User 2 | 6 min | Selected ItalianChanged Italian to Chinese from search screenEnter Boston on where box field clicked search button selected restaurant title linkClicked menu tabclicked Review tab Scrolled the page up and down clicked reservation tabFilled the required informationclicked RESERVE button |
| User 3 | 5 min | Selected ItalianChanged Italian to Chinese from search screenEnter Boston on where box field clicked search button selected restaurant title linkClicked menu tab clicked Review tab Scrolled the page up and downClicked reservation tabFilled the required informationclicked RESERVE button |
| User 4 | 2 min | Selected ItalianChanged Italian to Chinese from search screenEnter Boston on where box field clicked search button selected restaurant title linkClicked menu tabClicked each menu categories labelClicked the Gallery tabClicked Review tab Scrolled the page up and downClicked reservation tabFilled the required informationclicked RESERVE button |
| User 5 | 3.20 min | Selected ItalianChanged Italian to Chinese from search screenEnter Boston on where box field clicked search button selected restaurant title linkClicked menu tabClicked each menu categories labelClicked the Gallery tabClicked Review tab Scrolled the page up and downClicked reservation tabFilled the required informationclicked RESERVE button |

**Task 2**

1. Go to same restaurant home page and update the reservation date to 4/25/2012 then check the seat availability and then reserve again.

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| --- | --- | --- |
|  | **Times Taken** | **Path Taken** |
| User 1 | 2 min | Clicked ChineseEnter Boston on where box field clicked search button Selected restaurant title link Clicked reservation tabChanged date on the reservation screen clicked RESERVE buttonClicked RESERVATION MANAGERClicked UPDATE buttonEntered the CALL NOChanged the information (Ex: date, time, seat)Clicked OK button. |
| User 2 | 1.40 min | Clicked ChineseEnter Boston on where box field clicked search button Selected restaurant title link Clicked reservation tabChanged date on the reservation screen clicked RESERVE buttonClicked RESERVATION MANAGERClicked UPDATE buttonEntered the CALL NOChanged the information (Ex: date, time, seat)Clicked OK button. |
| User 3 | 2.5 min | Clicked ChineseEnter Boston on where box field clicked search button Selected restaurant title link Clicked reservation tabChanged date on the reservation screen clicked RESERVE buttonClicked RESERVATION MANAGERClicked UPDATE buttonEntered the CALL NOChanged the information (Ex: date, time, seat)Clicked OK button. |
| User 4 | 1 min | Clicked ChineseEnter Boston on where box field clicked search button Selected restaurant title link Clicked reservation tab Clicked RESERVATION MANAGERClicked UPDATE buttonEntered the CALL NOChanged the information (Ex: date, time, seat)Clicked OK button. |
| User 5 | 1.20 min | Clicked ChineseEnter Boston on where box field clicked search button Selected restaurant title link Clicked reservation tab Clicked RESERVATION MANAGERClicked UPDATE buttonEntered the CALL NOChanged the information (Ex: date, time, seat)Clicked OK button. |

**Task 3**

1. Go to the Reservation Tab and cancel the reservation
2. Go to the Search result Screen and choose another restaurant
3. Take direction from Medford, MA by Car

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| --- | --- | --- |
|  | **Times Taken** | **Path Taken** |
| User 1 | 4 min | Clicked RESERVATION tabClicked RESERVATION MANAGEREntered CALL NO: Clicked CANCEL button Clicked the BACK TO RESULT BUTTON Clicked another restaurant title link Clicked the direction tabentered Medford on address boxselected medium as carclicked GET DIRECTION button |
| User 2 | 3.5 min | Clicked RESERVATION tabClicked RESERVATION MANAGERClicked CANCEL buttonEntered CALL NO: Clicked CANCEL button Clicked the BACK TO RESULT BUTTON Clicked another restaurant title link Clicked the direction tabentered Medford on address boxselected medium of transportation as carclicked GET DIRECTION button |
| User 3 | 5 min | Clicked RESERVATION tabClicked RESERVATION MANAGERClicked CANCEL buttonEntered CALL NO: Clicked CANCEL button Clicked Restaurant Locator Home linkSelected ChineseEntered location Boston  Clicked restaurant title link Clicked the direction tabentered Medford on address boxselected medium of transportation as carclicked GET DIRECTION button |
| User 4 | 2 min | Clicked RESERVATION tabClicked RESERVATION MANAGEREntered CALL NO: Clicked CANCEL button Clicked the BACK TO RESULT BUTTON Clicked another restaurant title link Clicked the direction tabentered Medford on address boxselected medium of transportation as carclicked GET DIRECTION button |
| User 5 | 2.5 min | Clicked RESERVATION tabClicked RESERVATION MANAGEREntered CALL NO: Clicked CANCEL button Clicked the BACK TO RESULT BUTTON Clicked another restaurant title link Clicked the direction tabentered Medford on address boxselected medium of transportation as carclicked GET DIRECTION button |

**Task 4**

1. Go to same restaurant home page and post your review

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| --- | --- | --- |
|  | **Times Taken** | **Path Taken** |
| User 1 | 2 min | Selected ChineseEntered Location BostonSelected Restaurant title linkClicked the REVIEW tabClicked ADD REVIEW buttonFilled required fieldsClicked SUBMIT button |
| User 2 | 2.1 min | Selected ChineseEntered Location BostonSelected Restaurant title linkClicked the REVIEW tabClicked ADD REVIEW buttonFilled required fieldsClicked SUBMIT button |
| User 3 | 1.45 min | Selected ChineseEntered Location BostonSelected Restaurant title linkClicked the REVIEW tabClicked ADD REVIEW buttonFilled required fieldsClicked SUBMIT button |
| User 4 | 1.30 min | Selected ChineseEntered Location BostonSelected Restaurant title linkClicked the REVIEW tabClicked ADD REVIEW buttonFilled required fieldsClicked SUBMIT button |
| User 5 | 1.50 min | Selected ChineseEntered Location BostonSelected Restaurant title linkClicked the REVIEW tabClicked ADD REVIEW buttonFilled required fieldsClicked SUBMIT button |

**Qualitative Results**

In this section I gathered the data based on the comments and emotions expressed by the users during testing. I also conducted an informal interview after testing. This data falls into three categories: Appearance, Functionality and Labeling

**Appearance:**

Overall appearance of the system got a positive feedback from the users. The user didn’t say anything about the appearance while testing. In the post-test questionnaire one user felt the look and feel of the pages to be excellent, 3 users felt it to be good and one user thought it to be neutral. Below is graphical representation of the same.

**Functionality:-**

The functionalities got both positive and negative feedback. Some of the negative feedback I received from users during testing and post-test questionnaire is as below:

* Each screen had some delay while loading
* No option to go to home page from Search results screen

Some of the positive feedbacks are as below:

* Selection of cuisine type with help of image.
* Unified interface
* Simplicity of the interface
* Ability to make Reservation

Most users thought that the Menu and Function organization was Very Easy. Below is a bar chart representation of user rating for Menu and Function Organization.

**Labeling:**

From the post questionnaire and user expression while testing I noticed some users missed menu category on the menu screen. After testing I asked users about it and two users said that the position of the label was not easily visible and one user suggested increasing the font size.

Additionally, some user had some confusion on the direction screen on where to fill the restaurant address. But overall 80% of users felt that the navigation was easy and 20% felt it to be very easy.

There were also some positive findings with labels in that most users were able to perform their tasks without needing any on screen help. Some users commented that labels on the search screen and search result screen guided them in a correct way. Also most users liked that the system displayed appropriate pop-up labels on making any mistakes or on missing any required fields. Below pie chart displays that most users found it easy to use Restaurant Locator.

**Analysis of results**

From the aggregated result of Usability testing I could easily make an assumption that the restaurant locator application has more positives than negatives compared to an existing system like “OpenTable”.

Below table shows the comparison between Restaurant Locator and Opentable. I have highlighted Restaurant locator’s drawbacks in yellow.

|  |  |
| --- | --- |
| **Restaurant Locator** | **Open table** |
| Search based upon cuisine type and location | Search based only on location |
| Cuisine image | No cuisine image |
| Restaurant Listed by distance | Restaurant listed by price |
| No option to register as a member | Option to register as a member so members may get message about any current deals and events at the restaurant |
| Option to manage reservation | Allows making reservation but no option to manage |
| No option to see the future time availability, only shows availability at the particular time based on users selection | Allows to see the future time availability |
| Simple and clean interface | Hard to find out things, data is cluttered |
| Option to print directions from customers home | No option to print directions |

Restaurant Locator application allows searching a restaurant based on Cuisine type and location but Open Table allows looking for a restaurant only by location. Secondly during the past two usability tests most users mentioned that they liked having cuisine images on the front page of the restaurant locator also as per users images give a better visual picture of the food they are looking for. Open Table does not provide for such an image based selection. Open Table has no option to manage reservation such as cancel or update an existing reservation. Restaurant Locator provides for this desired and most liked functionality. Another important thing is almost half of the Restaurant Locator users liked its simplicity and during my comparison with Open Table I felt that though Open Table provides lot of functionalities the data seems to be cluttered and at times it was difficult to even find simple things.

There are also some things which work better in Open table such as it provides for an option to register; this functionality can be very useful to quickly navigate to users saved favorite restaurants. Open Table also provides rewards points for using the application. Another useful feature in Open Table is the option to see future seat availability; this allows users to look at all available times in future.

**Future Experiment**

For my next level of testing, I will try to eliminate the problems I found while testing. I had already redesigned some parts of the system based on comments and suggestions I got during first level of testing but unfortunately some of the changes did not yield expected feedback from the users. One of them being Menu categories labels on the menu screen. In my previous design I had implemented these as buttons but in the first usability testing one user commented that it needs to be simpler. So based on this feedback during the redesign I changed button to linked label and also changed its position. But during the second usability testing I observed that most users missed clicking these new labels.

Secondly, users were confused about the “Home Address box” on the directions screen. In the previous design this was labeled as ”Address box” and was causing confusion in some users on whether to fill the restaurant address or home address. Based on this I had changed this to “Home Address” but still saw confusion from some users during the second testing.

Finally, the new functionality RESERVATION MANAGER also caused some confusion. During testing I found that three users took wrong path for updating their reservation and all of them made the same mistake of trying to change date, time and party size instead going to reservation manager form.

From this evaluation I can make a conclusion that there are areas which need some changes. After my research I found that on most online shopping sites like [www.walmart.com](http://www.walmart.com/), [www.amazon.com](http://www.amazon.com/) items are arranged in the left corner of the screen and also it doesn’t display any buttons or linked labels unless the user hovers the mouse over the item. Although the button or linked labels are not visible initially it seems very intuitive for the user to use. I feel this may also be because of its position and font size. After my usability testing most users mentioned that they did not see the labels and hence missed the menu category labels.

For my next level of experiment I will try to incorporate the idea I got from these sites and will make a task list and post-test questionnaire focusing more on the areas where I had problems in the current design. During testing I will measure the time taken for each task and how many people successfully completed the given task? How many took wrong path before completing a task? Once I gather this data I will compare this data with the current data that will help me to analyse whether the changes are acceptable or not.