

# The Restaurant Locator-HCI project-Spring 2012

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## ABSTRACT

This paper is a project report of the “The Restaurant Locator” developed for the Human Computer Interaction course. It primarily focuses on developing a project for the restaurant customers who approach online for finding a restaurant. The project explores the various phases of software development life cycle like requirement gathering, analysis, design and implementation. It goes through an iterative testing process with paper prototyping and evaluation, medium fidelity prototyping and evaluation, high level prototyping and user testing.

The major tasks involved are as follows:

- Customer’s choice of cuisine selection in and around a specific area.
- Restaurant selection, read/write reviews, check menu, make reservation and get directions.

This paper discusses the various design strategies which revolve around the user interface problems and solutions for it. It includes task analysis wherein users are given a simple task to perform during the two types of prototyping i.e. paper and computer prototyping. And the final one is a type of feedback mechanism given by the test users.

**Keywords:** Restaurant Locator; User Friendly; Unified Interface; Visually Appearance.

## 1 INTRODUCTION

Everyone likes eating outside but finding a good restaurant is a tedious task. Most people do this task with the help of search engines like Google, Bing etc. This requires user to search for a restaurant and then check links of each restaurant one-by-one. If the user intends to read reviews, check menu, make reservation or get directions he has to go different sites for each task. Amount of effort to do this research spoils customer’s interest even before going to a restaurant.

The Restaurant Locator web application aims to solve this problem by providing a unified interface for performing all the operations associated to visiting a restaurant. It helps the customer to find the restaurant of their choice easily and also saving their time at the same time. Restaurant Locator also allows the customer to read/write reviews, check menu/photos, reserve/manage reservation, get directions all within one single application. The interface of this application is very simple and user friendly allowing anyone with basic reading and writing skills to search a nearby restaurant of their choice.

When the user opens the Restaurant Locator application it provides user a screen to select a cuisine of his choice. Once the user selects the cuisine he needs to type location in which he wants to search the restaurant. On selecting a restaurant from the search results the user has the option to check menu, read/write reviews and get directions. Once the customer decides on a restaurant he just needs to enter his address and he can get

directions to the restaurant. Another feature that this application provides is to reserve a table without the need to call a restaurant. The user is also provided with a reservation confirmation email including the call number which the user can use later to cancel or update their reservation. Restaurant locator also provides user the option to see the availability at the restaurant before making their reservation.



Figure 1. Restaurant Locator Homepage

The idea behind Restaurant Locator application came to me while using “Open Table” web application. I felt that there were lots of things missing in Open Table, some of them being check menu, Review, get directions, etc. Another thing I felt was that all the data was cluttered on Open Table making it difficult for customers to find what they are looking for. So I decided to make a system that provides the all the functionalities customer needs to find and reserve a restaurant but at the same time keeping the system simple and user friendly. I hope that Restaurant Locator makes finding and going to a restaurant a joyful experience.

## 2 SYSTEM DESCRIPTION

Restaurant Locator is a web application which focusses on restaurant customers. This application helps customers find a nearby restaurant easily and effortlessly. It also allows customer to look through the restaurant menu, photos, reviews, directions and make reservations. The concept behind Restaurant Locator is to provide a unified interface where customer can look through all the information about a restaurant and can then make his selection.

Restaurant locator lists the images of ethnic cuisines from all around the world on the home page. These images provide a visual appearance as to how the cuisines look like and make the task of selection easy. Once customer selects a cuisine from the home page Restaurant Locator leads customer to the search page where they need to enter the location they plan to eat at. System performs the search operation based on the location and cuisine. After searching, system displays the search result including little information about the restaurant. Customer can select a restaurant

of their choice. From the restaurant home page, customers have the option to read/write the reviews, check menu, photo, make reservation and get directions to the restaurant. Another important feature is customer also has the option to manage their reservation such as cancel or update their reservation based on the call no. "Call no" is a number which the system generates while making reservation.



Figure 2. Restaurant Homepage

### 3 EVALUATION

The testing of the system was subdivided into three parts consisting of paper prototype testing, medium fidelity testing and high level prototype testing. The medium fidelity and high level prototype testing were conducted at Worcester State University with the help of one of my professors at WSU. The users came from a variety of backgrounds, professions and expertise. The test was conducted at the University's Cafeteria and Student Center. The users were an excellent representation of the user population that the application is being developed for, as they were from age between 23 to 55. The details of the three testing methods have been mentioned below.

#### Paper Prototype Evaluation

For this evaluation I chose one user from my neighborhood and first gave him a brief idea about the system and the evaluation process. The test was conducted in his apartment and lasted around 15 minutes. The user was first given a print out of the briefing of the "Restaurant Locator" which outlined the purpose of my application. This was followed by user performing three different tasks one at a time. The tasks were printed on an index card. During the testing I gathered all the comments and emotions expressed by the user. After the testing, I had to assign a severity rating i.e. Cosmetic, Minor, Major and catastrophic to each of the comment and also brainstorm a solution for each of the comment. Before the second evaluation I fixed most of the problems that I felt needed immediate attention.

#### Medium fidelity prototype Evaluation

As part of medium fidelity prototype evaluation, I developed the software prototype using VB. Net. The evaluation was conducted with five users of different age groups and area of studies. I got an opportunity to test the system with novice as well as expert users. These parameters helped me to see how people of different ages, studies, and skills approach the system. In this evaluation, I provided users with a user manual and task list as in the previous testing. While testing I noted each users start and end time, path taken, comments and expression for each task. This data helped me to analyze each user response thoroughly. Based on this I

could easily figure out which part the users had problems with. Beside this I also got lot of valuable comments and suggestion some of which I incorporated in my system.

#### High fidelity prototype Evaluation

In this phase I rebuilt the system based on the previous prototype evaluation as well as the user's suggestions. Some of the important changes I made to this prototype were: adding additional functionalities such as Update or Cancel reservation, Check seat availability. Additionally, I gave more visual impact to each screen. This testing was also conducted at the Worcester State University cafeteria and food court with help of five users from different age, profession and skills. In this evaluation I provided the customers a welcome note, user manual, task list and post test questionnaires. While testing I gathered two type of data quantitative and qualitative.

### 4 RESULT

I believe that above evaluation helped me to change the Restaurant Locator application into a well organized system. I could see a clear transformation at each level of testing based on the user's feedback and comments. However, some of the highlighted results were the idea to incorporate reservation manager functionality to the system and changing background screen color, font size, button and label organizations so that its easy for old age people too. In the final prototype I spent a lot of attention to incorporate these suggestions and eliminate issues.

In the final evaluation most users gave high rating to the system. Most of the people commented that they liked unified interface and reservation functionalities of Restaurant Locator. Some users commented that the cuisine image on the front page gave a good visual appearance about the cuisine. Even appearance and labeling got a very good rating.

### 5 CONCLUSION AND FUTURE WORK

Finally I conclude this report by giving some facts about the projects as well as the things I learnt in the entire process.

As mentioned previously working on "Restaurant Locator" allowed me to explore the various phases of software development life cycle like requirement gathering, paper prototyping, Medium fidelity prototyping, high level prototyping and user testing. The major tasks performed by the users are as follows: 1) Find a restaurant check its review and menu. 2) Make reservation and take directions to the restaurant. 3) Cancel or update the reservation.

Below are few things I learnt in the entire process: 1) People are best source for gathering ideas 2) Inorder for the system to be usable by all ages make sure the font sizes are not too small and back ground colors are not too dark. 3) Make improvements without making the system overly complicated.

As a future expansion of this project I will try to change the system environment to tangible user interface with the help of RFID technology to make the system more user friendly.

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