Software Requirements Specification

for

Restaurant Advisor

Version 1.0 approved

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

The purpose of this document is to describe the Restaurant Advisor product with the release number 1. This document contains the functional and non-functional requirements of the project. This document contains the guidelines for system engineers and designers to start working the project.

1.2 Document Conventions

The format of this SRS is simple. Bold face and indentation is used on general topics and or specific points of interest. The remainder of the document will be written using the standard font, Times New Roman.

1.3 Intended Audience and Reading Suggestions

This project is helpful to college students, faculty and mostly all the people living in Manipal for getting information about Restaurants based on their preferences.

1.4 Product Scope

The software to be produced is a Restaurant Advisor. The user will be able to search for a restaurant on the basis of some pre-defined criteria like user's budget, current time, Veg or Non-Veg preferences etc.
A list of restaurants will be provided on the basis of user's inputs and the user will be able to select any restaurant they are interested in. After selecting a restaurant another window will open with the restaurant details including specialty of the place, reviews, ratings, restaurant timings etc. The user can then decide whether they want to go there or choose some other place.

1.5 References

- IEEE Software Engineering Standards Committee, "IEEE Std 830-1998, IEEE Recommended Practice for Software Requirements Specifications", October 20, 1998.
- Davis M A, "Just Enough Requirements Management: Where Software Development Meets Marketing", New York, Dorset House Publishing, 2005.
- Karlsson J, "A Cost-Value Approach for Prioritizing Requirements", Norges Teknisk-Naturvitenskapelige Uni. 1997

2. Overall Description

2.1 Product Perspective

The objective of the "Restaurant Advisor" is to help the users search for restaurants based on various pre-defined criteria. Since this is a data-centric product it will need somewhere to store the data. For that, a database will be used to maintain the details of the Restaurants.

2.2 Product Functions

With the application, the users will be able to search for restaurants. The result will be based on the criteria the user inputs. There are several search criteria and it will be possible for the administrator of the system to manage the options for those criteria that have that.

The result of the search will be viewed either in a list view depending on what criteria included in the search. The list view will have one list item for each restaurant matching the search criteria and show a small part of the restaurant information so the user can identify the restaurant.

2.3 User Classes and Characteristics

There are two types of users that interact with the system: application users and administrator. Each of these two types of users has different use of the system so each of them has their own requirements.

The application users can only use the application to find a restaurant. This means that the user have to be able to search for restaurants, choose a restaurant from that search. In order for the users to get a relevant search result there are multiple criteria the users can specify and all results matches all of those.

The administrators can interact with the application. They are managing the overall system so there is no incorrect information within it. The administrator can manage the information for each restaurant as well as the options for both the application users and the restaurants.

2.4 Operating Environment

The Restaurant Advisor is a Java Application and shall operate in all the versions of Windows after

7, for a model we are taking Windows 8.1, with NetBeans IDE 8.0.

2.5 Design and Implementation Constraints

- The information of all users and Restaurants must be stored in a database that is accessible by the application.
- MySQL will be used as SQL engine and database.
- The Restaurant Advisor System is running 24 hours a day.
- Users must have their correct usernames and passwords to enter into their accounts and do actions.

2.6 User Documentation

The user documentation will be delivered along with the software, which includes online help, video tutorials and user manuals which would support the user and help them achieve a better understanding of the software and enable them to incorporate security into their systems easily and efficiently. The user manual should be available in the Open Encoded Format such as HTML, XML for the specialized users of the community, which is accessible with all current web technologies. It should also be available in Hybrid Format such as PDFs, as this format is used by all kind of users, including the naive users.

2.7 Assumptions and Dependencies

One assumption about the product is that it will always be used on machines running Windows 7 or above that have enough performance. If the machine does not have enough hardware resources available for the application, for example the users might have allocated them with other applications, there may be scenarios where the application does not work as intended or even at all.

The product needs the following third party products:-

- MySQL server to store the database.
- NetBeans IDE to develop the Product and for the administration to interact with the application.

3. External Interface Requirements

3.1 User Interfaces

A user of the application should see the log-in page when he/she opens the application. After logging in the application, a search page comes up. When a user searches by price, this view should be the default one. The sorting header allows the user to sort the results according to price, restaurant name and restaurant type. Each result item includes information about the restaurants, a link to the restaurant's web-page. There is also a filtering option, where the user can choose to filter the results by increasing or decreasing the budget.

3.2 Hardware Interfaces

Since the application does not have any designated hardware, it does not have any direct hardware interfaces. The hardware connection to the database server is managed by the underlying operating system on the system.

3.3 Software Interfaces

The communication between the database and the application consists of operation concerning both reading and modifying the data.

3.4 Communication Interface

The communication between the different parts of the system is important since they depend on each other. However, in what way the communication is achieved is not important for the system and is therefore handled by the underlying operating system for the application. The system connects to the database offline. The code itself therefore, does not specifically use internet connection to do any work.

4. System Features

4.1 Login

4.1.1 Description and Priority

Given that a user has registered, then the user should be able to log in to the application. The log-in information will be stored in the database.

4.1.2 Stimulus/Response Sequences

The user will be shown the login screen wherein he/she will enter the login details. If correct, the search page will be shown but if not then a message will be shown indicating invalid login credentials.

4.1.3 Functional Requirements

REQ-1: A registered user should be able to log in to the application by providing correct login credentials which will be matched to the data stored in the database. If correct login credentials are provided, the search page will be shown.
REQ-2: If incorrect login credentials are provided, then a message will be shown stating that the credentials provided are incorrect and that the user should try again.

4.2 Search Criteria

4.2.1 Description and Priority

The user should be able to search for a restaurant, according to several search options. The search options include Budget, Current time and Restaurant type etc.

The system shall provide an option to specify user food preferences from a set of predefined *search attributes* (see Appendix A) to be used in the search/find restaurants feature.

4.2.2 Stimulus/Response Sequences

The user will be shown a list of predefined criteria from which the user will choose the required options depending on which the list of restaurants will be shown.

4.2.3 Functional Requirements

REQ-1: Given that a user is logged in to the application, then the first page that is shown should be the search page.
REQ-2: The user should be able to search for a restaurant, using the various built-in search options. The search options include Budget, Current time and Restaurant type etc.
REQ-3: A user should be able to select multiple search options in one search based on which the results will be displayed.

4.3 Search Results

4.3.1 Description and Priority

Search results can be viewed in a list. Each element in the list represents a specific restaurant including the restaurant name, *restaurant contact information* (see Appendix A), type of food and average price and a link to the review of the selected restaurant.

4.3.2 Stimulus/Response Sequences

When the user clicks on the search button after selecting the required options in the search page, a new page will be displayed having the list of required restaurants based on the criteria. The system shall display the results in a list view.

4.3.3 Functional Requirements

REQ-1: After the user clicks on the search button after selecting the required options in the search page, the search results will be displayed in a new page having the list of required restaurants based on the selected criteria.
REQ-2: Search results should be provided in a list view. Each element in the list represents a specific restaurant. Each element should include the restaurant name, telephone number, type of food and average price and a link to the review of the selected restaurant.
REQ-3: The current system time should be used to show only the restaurants open at the particular time.

4.4 View Reviews

4.4.1 Description and Priority

Each restaurant will have its own review page which the user can view by clicking on the button provided in the result page.

4.4.2 Stimulus/Response Sequences

When the user clicks on view review button, a new window will open showing the reviews of the selected restaurant.

4.4.3 Functional Requirements

REQ-1: When the user clicks on view review button provided in the search results page, a new window should open showing the reviews of the selected restaurant.
REQ-2: A button should be provided on this page to go back to the search results page.

4.5 Provide Reviews

4.5.1 Description and Priority

In this page, the user will be provided a list of restaurants from which he can choose a restaurant and provide review for it.

4.5.2 Stimulus/Response Sequences

The user selects a restaurant from the list provided which opens a new window, where the user can provide his review.

4.5.3 Functional Requirements

REQ-1: The user will be provided with a list of restaurants.
REQ-2: The user can select any restaurant from the list provided after which the user can provide his review about the selected restaurant.
REQ-3: The review will be stored in the database and can be viewed later using the view review function.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

- The software is required to have satisfactory performance, which can be reasonably expected from the specified software platform.
- The software will be able to handle the vast amount of the necessary information.

5.2 Safety Requirements

- System use shall not cause any harm to human users.
- Sensitive user information should be protected and not be accessible to everyone.

5.3 Security Requirements

- System will use secured database.
- Users can just read information but they cannot edit or modify anything except their personal and some other information including their reviews.
- System will have different types of users and every user has access constraints.

5.4 Business Rules

- Only the logged in Users can have the access of the system features.
- It is the administrator only who can update any information about the Restaurants.
- The reviews written by the Users cannot be changed by the administrator.

5.5 Software Quality Attributes

Availability: Checking that the system always has something to function and always pop up error messages in case of component failure. In that case the error messages appear when something goes wrong so to prevail availability problems.

Usability: Checking that the system is easy to handle and navigates in the most expected way with no delays. In that case the system program reacts accordingly and transverses quickly between its states.

Functionality: Checking that the system provide the right tools for editing question databases, creating session tests and analyzing the test sessions. In that case the tools that the Database editor provide are the ones that provide that attribute.

6. Other Requirements

Appendix A: Glossary

Terms	**Definitions / Details and Examples**
Search Attributes	System parameters that are used to customize restaurant search results as per user preference selection. Examples → Customer's preference type (Veg/Non-Veg), price range, current timings, etc.
Restaurant Contact Information	Mandatory Fields → Restaurant Name, Contact Number, Restaurant address.
Review Fields	Optional text fields to be filled by the user to submit their reviews.

Appendix B: Analysis Models

Graphical User Interface

The **Graphical User Interface** for our project will be concatenated with the help of the following GUI's listed below.

Figure1 – Login Page

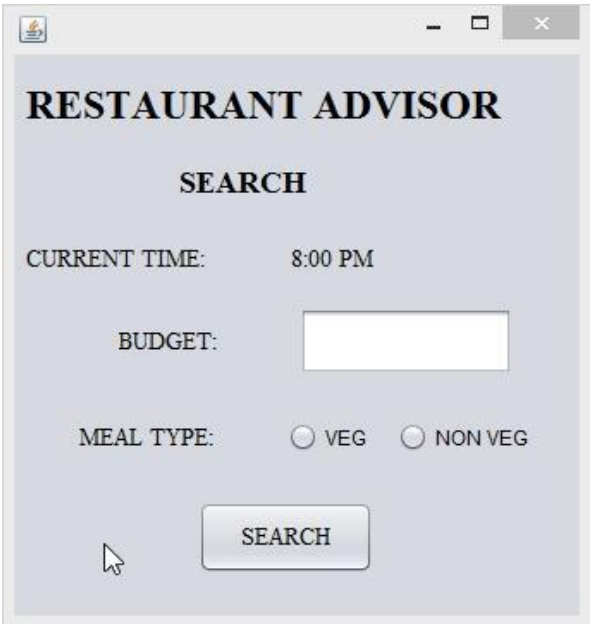

Figure2 – Search Page

Figure3 – Read Review Page

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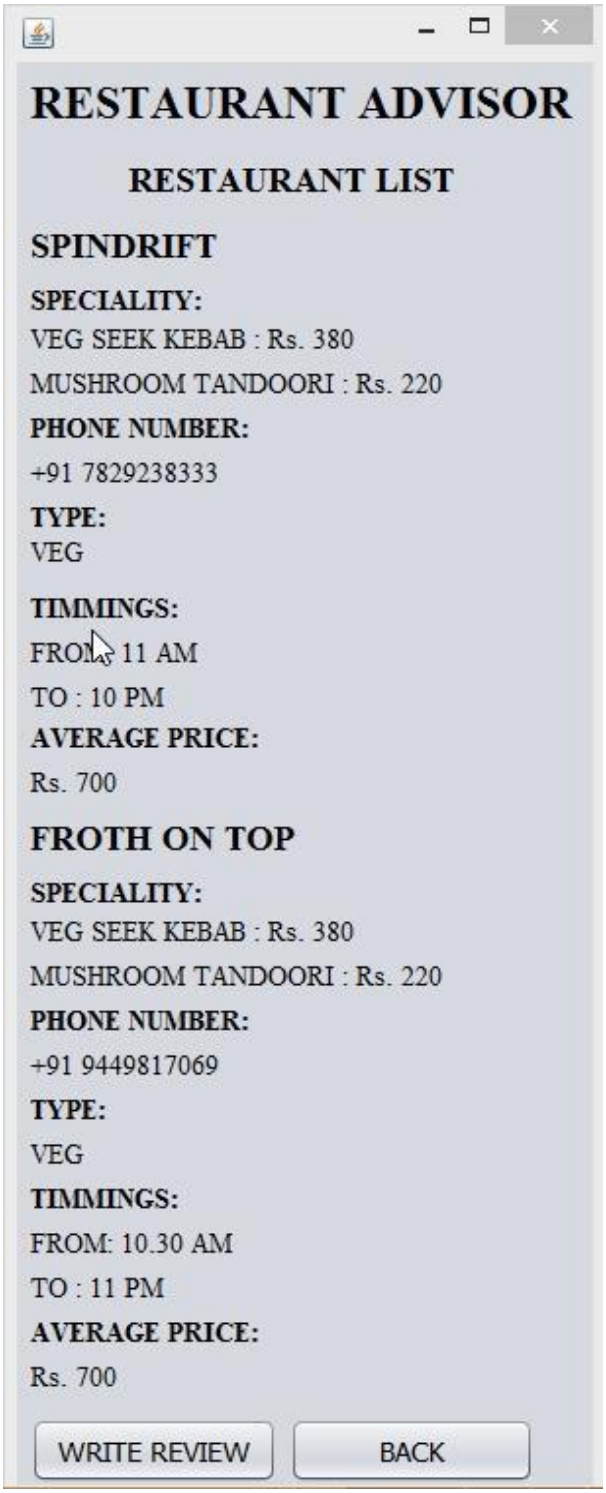

Figure4 – List of Restaurants

Figure5 – Write Review Page

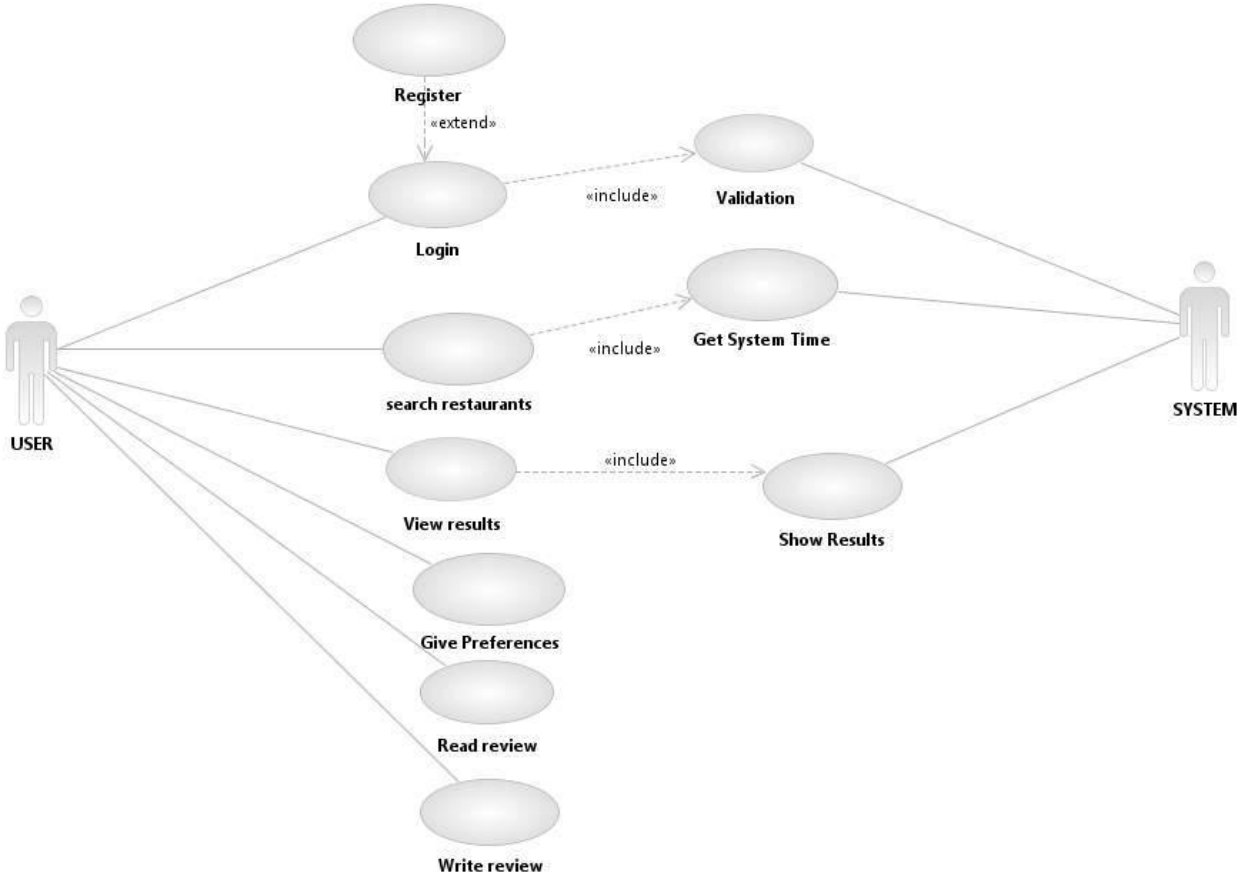

Figure6 – Use-Case Diagram

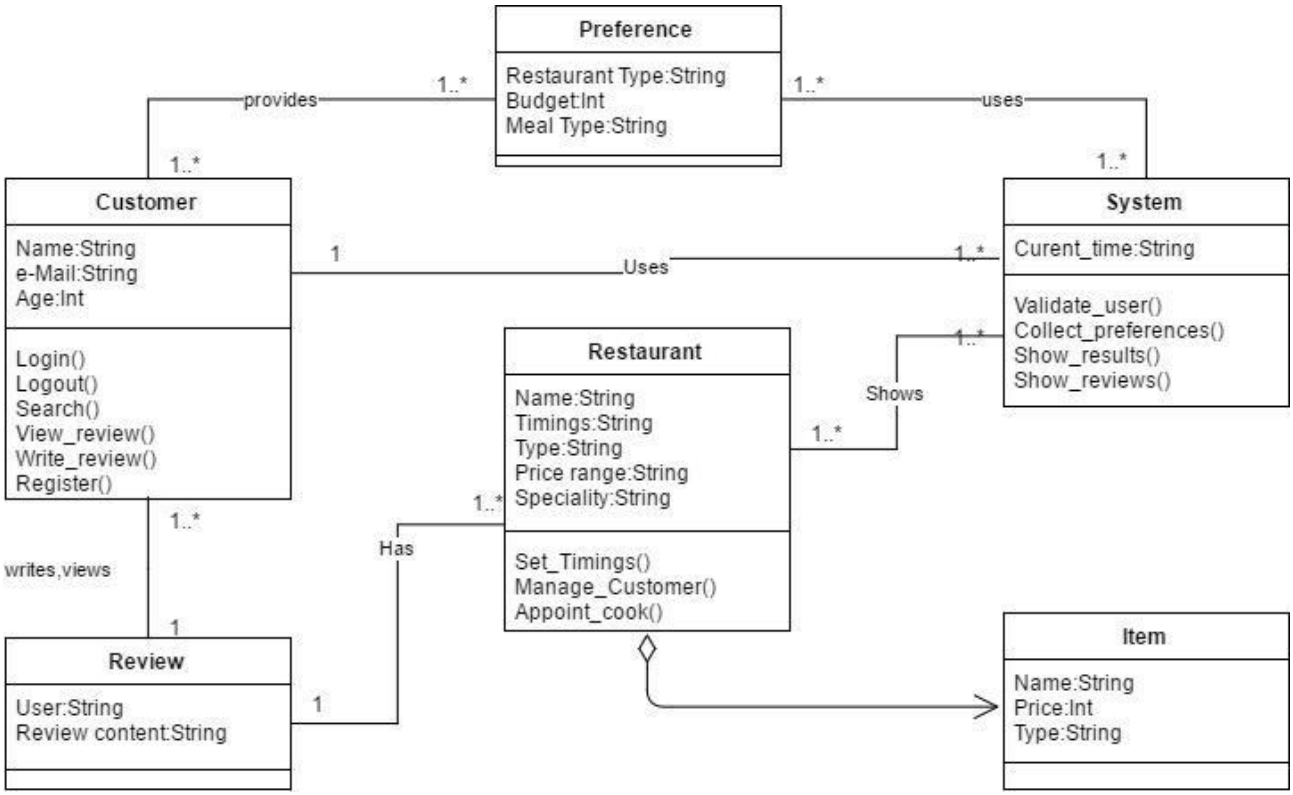

Figure7 – Class Diagram

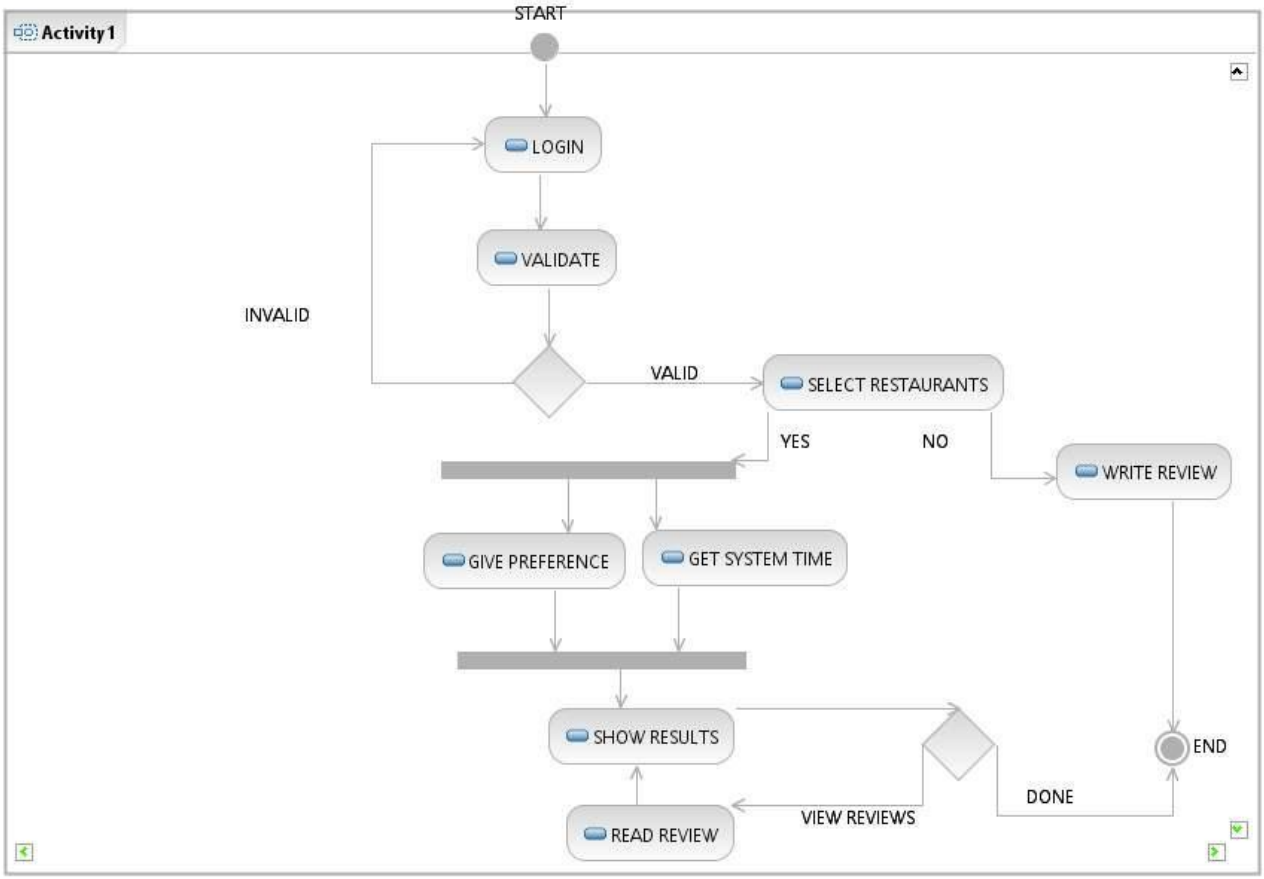

Figure8 – Activity Diagram

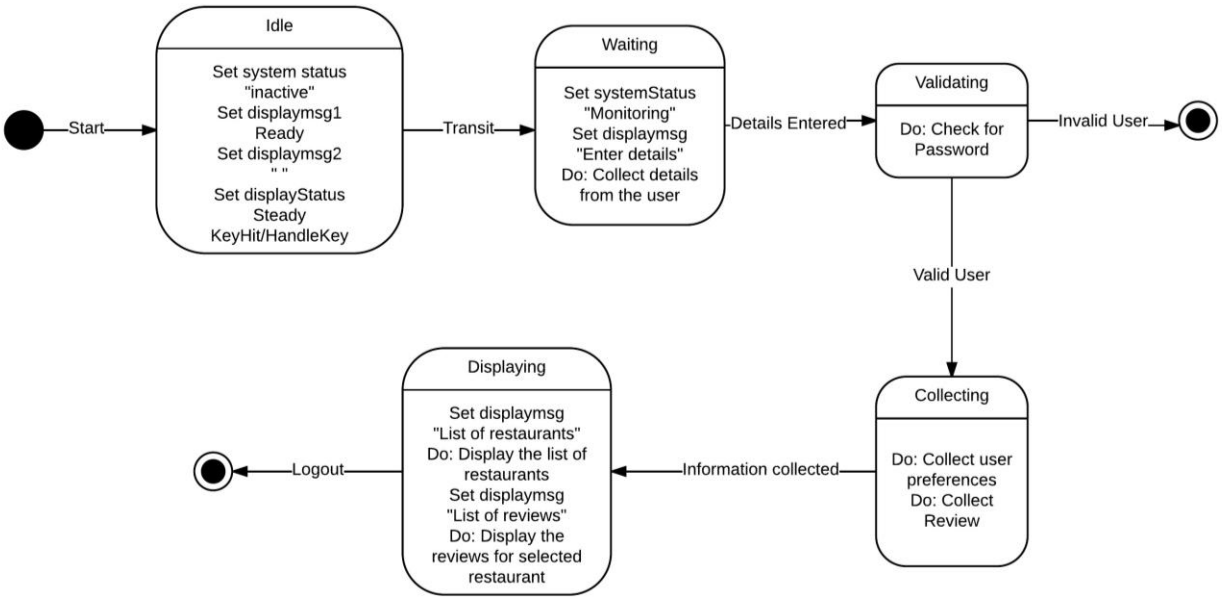

Figure9 – State Machine Diagram

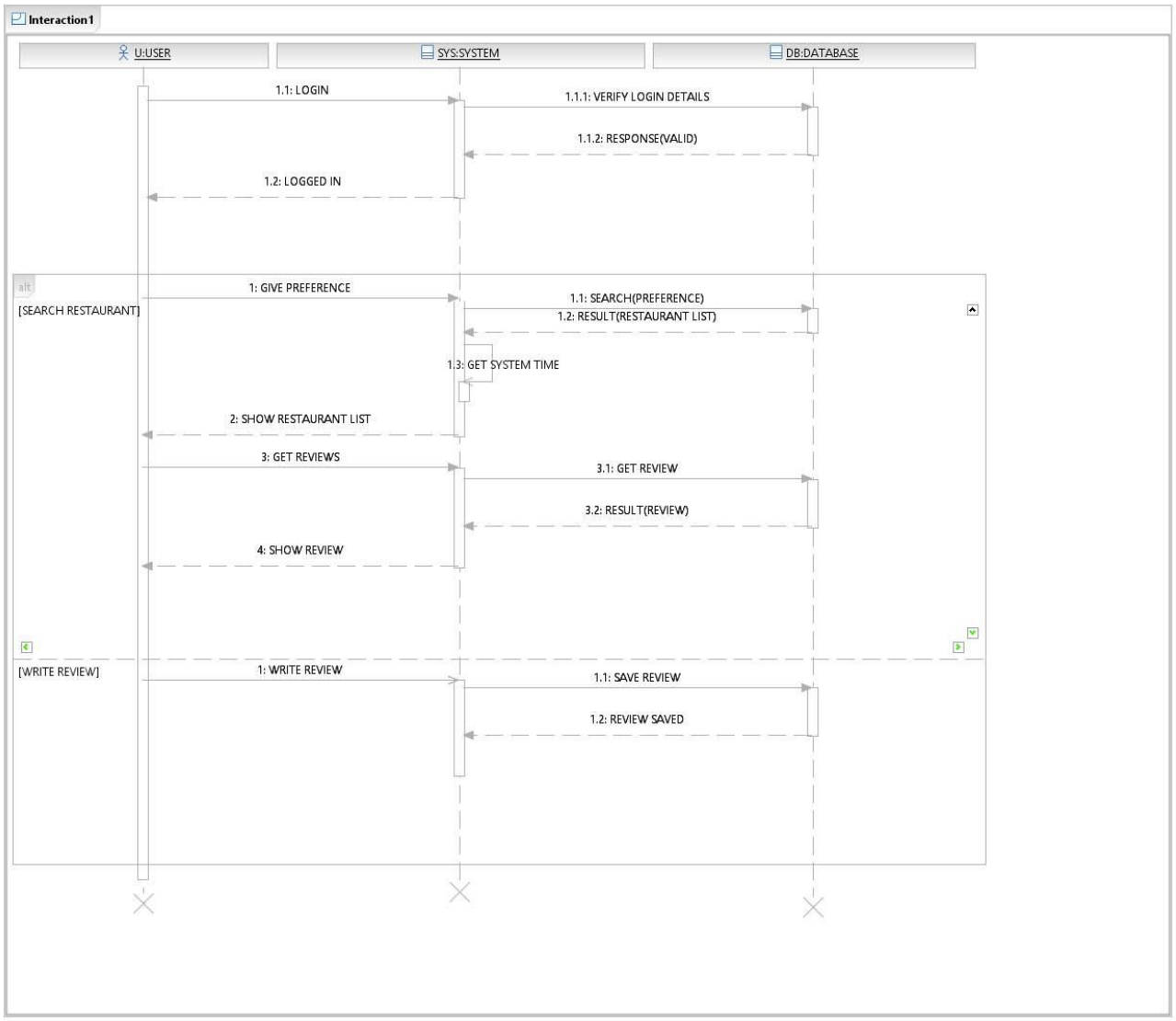

Figure10 – Sequence Diagram

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