Software Requirement Specification
For
House Rental Management System
Prepared by
Abrar Hossain Asif
Rahat Uddin Azad
Al Jaber Nishad
Kamruzzaman Shekh
Department of Software Engineering
<Date>

Table of Contents

1 Introduction

This Software Requirement Specification(SRS) document provides a full overview of House Rental Management System by defining the problem statement, scope of the system and purpose.

1.1 Problem Statement

Over the years landlords/property managers have had a problem in maintaining and managing their customers and their own records. Management has become difficult because of data growth, lack of computerized system and storing records manually. Also when a tenant wants to rent house it's been very defficult for him to find within time. This system decreases the problems for both tenants and the landlords.

1.2 Purpose

This House Rental Management System is developed to provide the following services:

- Online House/Room Booking: A tools through which customers can book available House online prior to their date of using the house instead of walking around and asking for a vacant house.
- Customer's registration: A registration portal to hold customer's details, monitor their transaction and used same to offer better and improve services to them and user account where he/she can view her/his details instead of the poor existing systems where only the administrators control their customer details.
- Rentals Notice and Blog: A tool where customers can see and view the details of near by available House for rent/sale, and also view the current economic design of houses.

1.3 Scope

This project traverses a lot of areas ranging from business concept to computing field and required to perform several researches to be able to achieve the project objectives. The following are the scopes of work:

- Developing a smartphone app as around 97% user uses smartphone now a days.
- Studying the existing systems and learning their weakness hence developing a new system to cater for the challenges the local and world domains faces when dealing with house rental issues.

1.4 Grossary

i. MB Megabytes

1.5 Overview

Roam around to rent a house has always been a hassle for people. Especially, on recent times, people have so many priorities based on which they have to rent their house. Some people want their house to be in the commercial space, or some want in a chaos free space. Some people prefer to choose the area of their house relating the religion they belong. Again there are a lot of people who love pets; therefore they want a house which has pet allowance. Basically, in this era of modernism people want to rent their house like online shopping. To rent a house in physical world has become less popular now a days . No one wants to roam around here and there to search for a house. People would prefer a virtual system to rent a house . In general youths face much bigger problems while renting a house. They don't give house on rent to bachelors and lot of rules and restrictions by the landlord.

To decode this situation and to represent a hassle free environment to the people a dynamic system can be implemented. We represent a home rental system which provides every needed facility The primary focus of our work is to implement constraint satisfaction problem in the search option of our home rental system. Our home rental system will have dynamic values for searching and for which constraint satisfaction problem implementation is a better preference. Not only this but also a combination of public transport tracker and a dynamic chat server between admin and agent is also a feature of this rental system. Additionally, there is a dynamic mail alert system in which if any user put any request in the wish list, they will be notified by this system.

2 User Classes and Characteristics

There are 3 types of stakeholders in our House Rental Management System. Such as

Police Officers: Police Officers will get a same version of the application but the authorization will be different. They can see and collect the tenant information like NID card number, number of people and their name for a house.

Tenant: Tenant also use the the application but they can only see the house information and the contact number of the landlords

Landlords: Landlords are the main stakeholder. Here they can create ads for their house and add the information of a tenant.

3 Design and Implementation Constraints

4 Requirement Specification
All the requirements based on elicitation process is described in this section.

4.1 Functional Requirements
Functional requirements are those requirements that are used to illustrate the internal working nature of the system, the description of the system, and explanation of each subsystem. It consists of what task the system should perform, the processes involved, which data should the system holds and the interfaces with the user.

4.1.1 Tenants wants to rent a house

Requirement 1	Tenants wants to rent a house
Description	Tenant can search for house ads and can see the house information. From the given information if the house is good for him then he will contact with the house landlord.
Stackholders	Tenants

4.1.2 Tenants wants to search a house based on specific criteria

Requirement 1	Tenants wants to search a house based on specific criteria
Description	Tenants wants to see those ads which are nearby to his location or a specific location. Also he can search by flat size and rent per month.
Stackholders	Tenants

4.1.3 Landlords wants to give ads for his house

Requirement 1	Landlords wants to give ads for his house
Description	Landlords will upload his house info like rent per month, gas and water bill, picture of that house, deposit paid, terms and conditions to follow acceptance, how many days he want to show the ads. And new ads is created based on the given information.
Stackholders	Landlords

4.1.4 Landlords wants to boost his ads

Requirement 1	Landlords wants to boost his ads
Description	Landlords can boost the ads when they are creating ads. For boosting the ads they have to choose the specific payment credential and need to pay the exact amount of money. They also can boost existing ads doing the above process.
Stackholders	Landlords

4.1.5 Landlords wants to Remove the ads from the application

Requirement 1	Landlords wants to Remove the ads from the application
Description	As landlords house get rented so they don't want to show the ads. For so they have to go to the ads and select it and then remove. When removing if they selected for 30 day to show the ads and removing it at 5th day of showing then they will get money for other 25 day.
Stackholders	Landlords

4.1.6 Tenants wants to rate a house

Requirement 1	Tenants wants to rate a house
Description	For giving rating to a house tenant needs to be live at that house before or now. And select the house and give a rating to the house.
Stackholders	Tenants

4.1.7 Tenants wants to notify a specific area

Requirement 1	Tenants wants to notify a specific area
Description	While tenants wants to notified when there a house nearby him or on a specific area tenants wants to; for so, tenants needs to enable there notification. And whenever there is a house tenants will be notified.
Stackholders	Tenants

4.1.8 Tenants wants to search a house based on his location

Requirement 1	Tenants wants to search a house based on his location
Description	Tenants only needs to click on an option “House nearby” and it will list all the available houses near his area if any exists.
Stackholders	Tenants

4.2 Data Requirements

For our application most of the data are coming from landlords. Landlords will upload their ads information, house information and tenants information. Also images from the houses needs to be within 3 MB. And rating of a house from tenants.

4.3 Perfomance Requirements

It is important to maintain performation of the software system. To ensure performance we maintain these steps:

4.3.1 Speed and Latency Requirements

Loading the ads information will be faster and can load it within seconds. And any search result will show up within 1 seconds and images of the house will load within 5 seconds if the network speed is good.

4.3.2 Precision and Accuracy Requirements

It’s very important to show a search result with a specific criteria like nearby, rent per month money, flat size.

4.3.3 Capacity Requirements

This system can load upto thousands of tenants information and thousands of ads information.

4.4 Dependability Requirements

If House Rental Management system can provide availability, relaiability, safety, security then this system will be dependable.

4.4.1 Availability and Reliability Requirements

This system will be available for 24 hours. Stackholders can use the system anytime they wanted and can see ads or rate a house and upload information which is very reliable for stackholders.

4.4.2 Safety Requirements

This system will not contain any malware and this will not harm the stackholders device.

4.5 Maintainability and Supportability Requirements

It’s very important to provide service to the end users.

4.5.1 Maintainability Requirements

MR-1	Update information
Description	It is very important to update tenant information as tenants will live various houses.
Stackholders	Landlords

4.5.2 Supportability Requirements

This system meets Testability, Maintainability, Compatibility, Configurability, Serviceability, Install ability which are related to supportability requirements .

4.6 Security Requirements
Securing information is much more important for a system to get users depenability. Here is some of them:

4.6.1 Access Requirements
For accessing information the system will use some authorization techniques to ensure that correct data is used by correct user.

4.6.2 Integrity Requirements
Integrity requirements refers to a security system which ensures an expectation of data quality. It also ensures that all data of the system would never be exposed to the malicious modification or accidental destruction. For preventing anonoymus access to user password the system will use encryption technique called Hash Function for encrypting user password.

4.6.3 Privacy Requirements
Privacy requirements enhances to protect stakeholder's privacy. In this way, all data or a partial part of data are going to be disclosed according to system's privacy policy. To ensure privacy, the central database should be protected by the anonymous. Users are permitted to get access to those data which are being associated by them which can be ensured by the user log in system.

4.7 Useability and Human-Interaction Requirements
This system will provide more user friendly environment.

4.7.1 Ease of Use Requirements
Our system will be more easy to use by any type of people and they don't need any trainning to use the system.

4.7.2 Personalization and Internationalization Requirements
There are no personalization and internationalization requirements in our system.

4.8 Look and Feel Requirements
Look and feel requirements maily refere how the system will look like.

4.8.1 Appearance Requirements
All texts and description will be at a good font size so that users can understand what is important and mandatory input fields will be kept red colored until user put correct information.

4.8.2 Style Requirements
There are no style requirements in our system.

4.9 Operational and Environmental Requirements
Operational and environmental requirement refers to the capabilities, performance measurements, process, measurements of effectiveness, measurements of performance, measures of sustainability, measurements of technical performances etc.

4.9.1 Expected Physical Requirements
There are no expected physical requirements in our system.

4.9.2 Requirements for Interfacing with Adjacent Systems
There are no requirements for interfacing with adjacent system for our project.

4.9.3 Release Requirements
There are no specific release requirements in our system.

4.10 Legal Requirements

Legal requirements normally refer to the terms and conditions or privacy policy of any organizations. The terms and condition of our application is that, no third party software or person are allowed to engage to use our data for their business purpose.

5 Requirement Engineering Process

Requirements engineering refers to the process of defining, documenting and maintaining requirements in the engineering design process. It is a common role in systems engineering and software engineering.

5.1 Requirement Elicitation Techniques

Requirement Elicitation and Analysis is the process of interacting with customers and end-users to find out about the domain requirements, what services the system should provide, and the other constraints. We mainly use these technique for gathering Requirement:

- Interview
- Questionnaire
- Existing System

5.1.1 Interview

Interview is a good technique to investigate issues in-depth, to discover how people think and feel about certain topics. We hold interviews that can be performed with a small group of stakeholders. We mainly perform our interview based on some specific criteria.

- Short description about project(Goals and objectives)
- Registration process
- Ways of search a house
- Security
- Availability
- Advertisement of a house
- Boosting

5.1.2 Questionnaire

Questionnaire is a useful technique to investigate trends, shifts in user attitudes and opinion, user satisfaction with priorities and preferences. We created two types of questions set for proper survey. One for tenants, and one for landlords. We try to Keep the questionnaire as short as possible – don't bore or frustrate the respondent. Have an underlying reason for every question and Group topic areas together to keep the respondent focused. The main advantage behind this survey is responses are gathered in a standardised way. Information can be collected in short period of time from a large number of people, often geographically dispersed.

5.1.3 Perform Existing system Analysis

Existing system Analysis can help reveal how systems currently work or what they are supposed to do. Analysis includes any written information about current systems, business processes, requirements specifications, competitor research. Reviewing and analysing can help identify functionality that needs to remain, functionality that isn't used.Currently the most property managers manage property and tenants details on papers. After existing system analysis we found many several problems on existing system.

Problems of existing system:

- With the current system recording the details of various activities of user is completely manual and entails a lot of paper work.
- The existing system only provides text based interface which is not as user friendly as Graphical user interface
- The transactions are not secure as papers may get lost or damaged.