Software Requirements Specification

B&B Monitoring System

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1. Introduction

This section is an introduction to the project and gives an overall view of all things included in the SRS document.

* 1. Purpose

The purpose of this document is to give an in depth description of the requirements for the “Bed & Breakfast Software” (BBS). It contains instructions for the development of the software along with constraints, interface and applications. This document is to be delivered to the customer for approval and the development team for production.

* 1. Scope

The “Bed & Breakfast Software” system is to manage the reservations and monitor expenses and profits. When a potential customer calls for a reservation, they will check the calendar, and if there is a vacancy, they will enter the customer name, address, and phone number, dates, agreed upon price, credit card number, and room numbers. Reservations must be guaranteed by 1 day’s payment. Reservations will be held without guarantee for an agreed upon time. If not guaranteed by that date, the reservation will be dropped.

* 1. Definitions

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| **Term** | **Definition** |
| User | Someone who interact with the B&B application |
| Administrator | A user with extra privileges |
| Stake Holder | Any person who has interest with the system and he is not a developer. Usually a customer |
| Database | Collection of information that is used by the system |
| Software Requirements Specification | A document that completely describes all of the functions of a proposed system and the constraints under which it must operate. For example, this document. |

* 1. References

IEEE. *IEEE Std 830-1998 IEEE Recommended Practice for Software Requirements Specifications.* IEEE Computer Society, 1998.

1. Overall description

This section gives an overview of the system as a whole. The system will be demonstrated to display the system interactions and give a preview of functionality. The types of user that will use the system and their functionality access will also be defined. Finally, the system constraints, assumptions and dependencies will be declared.

* 1. Product Perspective

The system will consist of the management platform and a database. The management platform will be used by employees to view booking time slots, set customers up with a reservation and take payment. The database will store reservations and customer information to be used in the management platform.

* 1. Product Functions

The system will consist of a platform where customers can book rooms and be able to pay for them. The transactions will be passed to an accounting system, within the software, which keeps track of all financial information. A database will be used to store all information including, financials, bookings dates, price, guest name, guest phone number and guest address. From the database the software will generate reports in order to monitor daily business.

* 1. User Characteristics

There are two defined users for the “Bed & Breakfast Software” system. The first, an associate user, can book and assign/delete rooms for potential customers and process payment. The second, an administrator can add users such as associates to the software, access the database to view business information and generate financial reports.

* 1. Constraints

The system constraints are confined to internal processes. Since the system does not connect to the internet or any other external environments, It is limited to the functionality build into it. The same goes for its users which have an even more limited functionality within themselves.

* 1. Assumptions and dependencies

The system is dependent upon there being an associate available to interact with it. If an associate is unavailable to take a customer’s call and create their reservation. This assumes that there is sufficient room in the database to store the customer’s information and create a record.

1. Specific Requirements

This section contains all of the functional and technical requirements for the “Bed & Breakfast Software” system.

* 1. Internal Requirements

This section provides a detailed analysis of the inputs and outputs of the system. It will depict different use cases and scenarios for the software, provide a data flow diagram and class diagram.

* + 1. User Scenarios

There will be two different types of users for the system, an associate user and administrator user. Both have different types of access therefore two different user scenarios. The associate user will create a customer information report, determine date and room availability, if availability exists create reservation and take payment. The administrator will edit associate users for system access and access the data base to generate reports.

Use Case Diagram

Administrator user

Associate user

Take customer call

Create and update associate user credentials

Create customer information Report

Access database

Determine date and room availability

Generate financial report

Condition: If date and room are available

Generate business report

Create reservation

Process Payment

* + 1. Software Data Flow

All users within the system communicate with the database, whether directly or indirectly. The associate user can write to the database from the system to input customer information. The administrator can generate reports from the database and add users.

Data Flow Diagram Level 0

User input Customer credentials

Customer Information

Store: customer, payment and reservation information

Database

Organizes information for database

Generate Reports and Checks Availability

Bed & Breakfast Software

Payment Information

Processed payment report

Payment Processing

Data Flow Diagram Level 1

Customer Information

Database

Payment Processing

State Diagram

Reserved

1

Open

A: Reserve

2

Reserved

A: Open

Open

* + 1. Class Diagram

|  |
| --- |
| User |
| First name: String  Last name: String  User ID: Int |
| getFirstName()  getLastName()  getUserID()  setFirstName()  setLastName()  createAdmin() |

|  |  |  |
| --- | --- | --- |
| Associate |  | Administrator |
| Customer Name: String  Customer Address: String  Customer Phone: Int  Customer Reservation Date: String  Reservation Price: Float  Payment Type: String  Payment Information: Int  Room Number: Int |  | Reservation totals: Int  Income: Float  Profit: Float  Customer Retention: Int |
| checkResorvationDate()  createResorvation()  createCustomerReport()  processPayment()  calculatePrice()  getCustomerName()  getCustomerAddress()  getCustomerPhone()  getCustomerResorvationDate()  getReservationPrice()  getPaymentType()  getPaymentInformation()  getRoomNumber()  setCustomerName()  setCustomerAddress()  setCustomerPhone()  setCustomerResorvationDate()  setReservationPrice()  setPaymentType()  setPaymentInformation()  setRoomNumber() |  | setUserID()  generateReservationReport()  generateIncomeReport()  generateCustomerReport()  updateCustomerInfo()  deleteUserID()  getReservatonTotals()  getIncome()  getProfit()  getCustomerRetention()  calculateReservatonTotals()  calculateIncome()  calculateProfit()  calculateCustomerRetention() |

* 1. Performance Requirements

The “Bed & Breakfast Software” system will be hosted on an in house server. This means that the only computers able to access the system will have to be on the premises. This allows the system to only be run during hours of operation and will be accessible to the employees.

* 1. Design Constraints

Since the system is disconnected from the internet it will require minimal processing power to run. It has to be simple enough for new employees to be able to learn it fast. Accuracy is also key because double booking a room is unacceptable.

* 1. Software System Attributes

The system must be reliable and accurate up to 100% of the time. Availability is to bet set during business hours. The security should prompt users to change passwords every 90 days. Maintenance should be a three step process and access to the server must be unrestrained.