

Documentation. SRS

Software Requirements Specification

1. Introduction

1.1 Purpose

This SRS describes the functional and nonfunctional requirements for software release 1.0 of the Hotel Management System (HMSys). It gives a comprehensive view of how the system is supposed to work and the expectations of the end users. This document is intended for both the stakeholders and the developers of the system. It also can be used in future as basis for project understanding for future system modifications. Unless otherwise noted, all requirements specified here are committed for release 1.0.

1.2 Document Conventions

No special typographical conventions are used in this SRS.

1.3 Intended Audience and Reading Suggestions

The document is intended for both the stakeholders and the developers of the system. Before reading this document it is highly recommended to read the Vision Document to get an overview of the product.

1.4 Product Scope

The HMSys is designed to streamline hotel management processes, making them more efficient and reliable. Guests will benefit from the convenience of online booking, allowing them to select rooms according to their preferences and save time. The system will also replace the cumbersome task of managing large amounts of customer information, reducing the potential for errors during the reservation process.

Guests will be able to check available rooms, make reservations, and pay for their room in advance or cancel their reservation. Receptionists will be able to create reservations and update booking details. Managers will be able to generate reports to aid in decision-

making. With the HMSystem, hotels can provide a more efficient and reliable service to their guests.

A detailed description is available in the Hotel Management System Vision and Scope Document [1], along with the features that are scheduled for full or partial implementation in this release.

1.5 References

1. Victoria Lebedeva. Hotel Management System Vision and Scope Document, \hotel-management-system\V&S.md
2. Victoria Lebedeva. Data Dictionary, \hotel-management-system\Data Dictionary.md

2. Overall Description

2.1 Product Perspective

The Hotel Management System is a new software system that unites existing hotel booking services, the current manual hotel management processes and provides fast decision-making pprocess. The context diagram in Figure 1 illustrates the external entities and system interfaces for release 1.0. The system is expected to evolve over several releases.

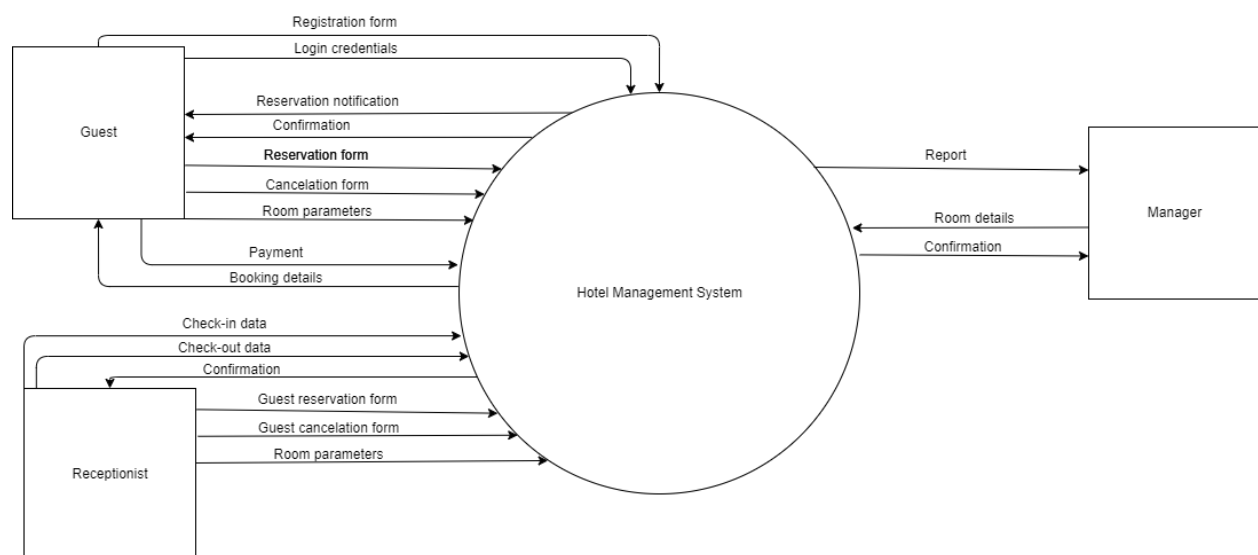


Figure 1

2.2 Product Functions

Product Function	Description
add/update/delete room description	Allows Managers to add new room information in the system, update room details or delete them.
create report	Allows Managers to create report for the particular period using various metrics.
view booking list	Allows Receptionists to view all bookings for the particular period of time.
create/update/cancel booking	Allows Guests and Receptionists to create booking easily and cancel it. Receptionists can also update booking details if it is necessary.
find available room	Allows Guests and Receptionists to search for the available room for the particular date and room preferences.
check-in/check-out	Allows Receptionists to check-in/check-out Guests.
log in/log out	Allows Guests to log in/log out in the system if they are registered in the system.
create/delete account	Allows Guests to create or delete their accounts out in the system.
update account details	Allows Guest to update the personal data in their accounts.
print booking details	Allows Guests or Receptionists to print particular booking details.
confirm reservation	Allows Guests confirm the reservation via email or messenger.
send notification	Allows Guests to receive notification about their future bookings.

2.3 User Classes and Characteristics (Эту часть можно улучшить)

There are 3 end users of the system:

- **Guest**

Guests are vital part of the system. They have access to the information about the available rooms. They should be able to create reservation, pay for the room, confirm reservation and cancel it if it's necessary. Guests will have access to Booking Service. They should be able to use the web UI interface with ease.

- **Receptionist**

Receptionists can manage the booking details. They can search for the available rooms, manage reservations. Receptionists will have access to Booking Service. They should be able to use the web UI interface with ease.

- **Manager**

Managers have full access to the system. Managers are responsible for managing hotel resources and staff. They have access to The Booking Service, Report Service, Hotel Service. They can view various reports and dashboards in order to make decisions about the room price, bonuses for Guest, etc. Manager is required to have experience in hotel management and have basic knowledge about databases.

2.4 Operating Environment

TBD after Systems Design Specialization.

2.5 Design and Implementation Constraints

TBD after Systems Design Specialization.

1. **Memory:** (дописать)
2. **Language Requirement:** (дописать)
3. **Budget Constraint:** (дописать)
4. **Implementation Constraint:** (дописать)
5. **Reliability Requirement:** (дописать)

2.6 User Documentation

The end-user documentation will be available as a web page. Access to parts of it will be differentiated according to the user's role.

2.7 Assumptions and Dependencies

TBD after Systems Design Specialization.

4. System features

Booking Service

Booking Service is used by Guests and Receptionist in order to manage Hotel booking History. It consists of features, which allow to find available room for particular dates, create or cancel booking or update booking details.

4.1 Create Booking

ID and Name	UC-1 Create Booking
Description	Guest wants to book a room for a specific date on his own or with the help of a Receptionist.
Actors	Guest/Receptionist
Preconditions	PRE-1: Guest is registered and logged in the system; PRE-2: There is an available room for the particular date.
Postcondition	Guest receives email notification about the succesfull booking.
Normal Flow	1.0 Guest creates booking on his own; 1. Guest selects an available room; 2. Guest enters information about himself; 3. The Booking Service assigns a room to the Guest; 4. The Booking Service generates a booking confirmation and sends it to the Guest; 5. The booking information appears in his account.
Alternative Flow	1.1. Guest creates booking with the help of a Receptionist; 1. The Guest requests a room booking from the Receptionist; 2. The Receptionist enters the Guest's information into the Booking Service; 3. The Booking Service assigns a room to the Guest; 4. The Receptionist confirms the booking details with the Guest; 5. The Guest confirms the booking details; 6. The Booking Service generates a booking confirmation and sends it to the Guest.
Exceptions	1.1 E1 No rooms available: 1. If no rooms are available, the receptionist informs the guest and suggests alternative dates. 1.1 E2 Guest gives wrong data and want to correct it: 2. If the guest wants to change the booking details, the receptionist modifies the booking information in the system. 1.1 E3 Guest does not confirm the booking details: 5. If the guest does not confirm the booking details, the receptionist cancels the booking.
Priority	High
Other Information	1.0 OI1 Guest has an account and wants to create booking; 2. If Guest has an account then the booking form is first filled with data from the account.

4.2 Cancel Booking

ID and Name	UC-2 Cancel Booking
Description	Guest wants to cancel a booking on his own or with the help of a Receptionist.
Actors	Guest/Receptionist
Preconditions	The Guest has a confirmed booking.
Postcondition	The booking is cancelled in the system and the Guest receives confirmation of the cancellation.
Normal Flow	2.0 Guest cancels booking on his own; 1. Guest logs in his account; 2. Guest selects booking, which he wants to cancel; 3. The Booking Service sends a confirmation of the cancellation to the Guest.
Alternative Flow	2.1. Guest cancels booking with the help of a Receptionist; 1. The Guest contacts the Receptionist to cancel a booking; 2. The Receptionist retrieves the Guest's booking information; 3. The Receptionist cancels the booking in the Booking Service; 4. The Booking Service sends a confirmation of the cancellation to the Guest.
Exceptions	2.0 E1 Less than 24 hours before the reservation date: 3. If it is less than 24 hours before the reservation date, the Guest is redirected to the payment page. 2.1 E2 Less than 24 hours before the reservation date: 3. If it is less than 24 hours before the booking date, the Receptionist informs Guest that he needs to pay for booking cancellation.
Business Rules	BR-1 (In case of cancellation less than 24 hours before check-in date, the guest will have to pay 30% of the price of the reservation.) вынести эту штуку отдельно
Priority	High

4.3 Find available room

ID and Name	UC-3 Find available room
Description	Guest wants to find an available room for particular dates on his own or with the help of a Receptionist.
Actors	Guest/Receptionist
Postcondition	Guest or Receptionist gets a list of the available rooms.
Normal Flow	3.0 Guest/Receptionist searches for available room; 1. Guest/Receptionist navigates to the room search function; 3. Guest/Receptionist selects their desired search criteria, such as date range, location, room type, and

	occupancy; 4. The Booking Service displays a list of available rooms; 6. The Guest/Receptionist selects a room from the list.
Exceptions	<p>3.0 E1 Guest's search criteria doesn't match any available room: 1. If the Guest/Receptionist's search criteria doesn't match any available room, the Booking Service displays a message indicating that no rooms are available and prompts the Guest to revise his search criteria.</p> <p>3.0 E2 The check-in date is later than the check-out date: 2. If the Guest moves the check-in date later than the check-out date, the Booking Service displays an error message and asks for the data to be entered correctly.</p> <p>3.1 E2 Receptionist's search criteria doesn't match any available room: 1. If the Receptionist's search criteria doesn't match any available room, the Booking Service displays a message indicating that no rooms are available and Receptionist prompts the Guest to revise his search criteria.</p>
Priority	High

4.4 Update booking details

ID and Name	UC-4 Update Booking Details
Description	The Receptionist updates the booking details in the system, such as room type, dates, or guest information, upon request by the Guest, or to correct errors or changes.
Actors	Receptionist
Preconditions	Receptionist is logged into the Booking Service and has access to the booking records.
Postcondition	The booking record are succesfully updated and the Guest receives an updated confirmation.
Normal Flow	<p>4.0 Receptionist updates booking details; 1. Guest requests update to booking details; 2. Receptionist accesses the booking record in the Booking Service; 3. Receptionist verifies the Guest's identity and confirms the changes requested; 4. Receptionist updates the booking details in the Booking Service; 5. Booking Service confirms the changes and sends updated confirmation to the Guest.</p>
Exceptions	<p>4.0 E1 Receptionist cannot verify the Guest's identity: 1. If the Receptionist cannot verify the Guest's identity, the update request is denied.</p> <p>4.0 E2 Requested changes are not allowed: 3. If the changes requested are not allowed, or if there is a conflict with other bookings, the Receptionist informs the Guest and offers alternatives.</p> <p>4.0 E3 Update cannot be processed: 4a. If there is an error in the system or the update cannot be</p>

	processed, the Receptionist informs the Guest and seeks assistance from the system administrator.
Priority	High

Reporting Service

4.5 Create report

ID and Name	UC-5 Create Report
Description	Manager requests the report for the particular period.
Actors	Manager
Preconditions	Manager has access to Reporting Service.
Postcondition	Manager gets a report for the particular period of time as a web page.
Normal Flow	5.0 Manager requests the report; 1. The Manager requests a report about hotel processes for the particular period of time; 2. The Reporting Service prompts the manager to select the type of report to be generated; 3. The Manager selects the desired report type (e.g. occupancy rate, revenue, guest satisfaction, etc.); 4. The Reporting Service generates the report based on the selected report type; 5. The Reporting Service presents the report to the Manager for review; 6. The Manager reviews the report and can request any necessary changes; 7. The Reporting Service finalizes the report and makes it available for sharing or saving.
Exceptions	5.0 E1 Manager is unsure of what type of report to generate: 2. If the Manager is unsure of what type of report to generate, the system can suggest popular report types based on the hotel's needs. 5.0 E2 Selected report type requires additional data: 4. If the selected report type requires additional data, the system prompts the Manager to provide the necessary information. 5.0 E3 Manager requests changes to the report: 6. If the Manager requests changes to the report, the system makes the requested changes and presents the revised report to the Manager for review.
Priority	Low

4. Data Requirements

4.1 Logical Data Model

4.2 Data Dictionary

A detailed description is available in the Data Dictionary Document [2].

4.3 Reports

4.4 Data Integrity, Retention, and Disposal

5. External Interface Requirements

5.1 User Interfaces

TBD after Systems Design Specialization.

5.2 Hardware Interfaces

TBD after Systems Design Specialization.

5.3 Software Interfaces

TBD after Systems Design Specialization.

5.4 Communications Interfaces

TBD after Systems Design Specialization.

6. Other Nonfunctional Requirements

TBD after Systems Design Specialization.

6.1 Performance Requirements

TBD after Systems Design Specialization.

6.2 Safety Requirements

TBD after Systems Design Specialization.

6.3 Security Requirements

TBD after Systems Design Specialization.

6.4 Software Quality Attributes

TBD after Systems Design Specialization.

6.5 Business Rules

TBD after Systems Design Specialization.

7. Other Requirements

TBD after Systems Design Specialization.

Appendix A: Glossary

TBD after Systems Design Specialization.

Appendix B: Data Flow Diagramms

TBD after Systems Design Specialization.

Appendix C: Entity Relationship Diagramms

TBD after Systems Design Specialization.