CaBelle: Hotel Booking System Project
Software Requirement Specification

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1. **Introduction**

a. **Purpose**

    i. This SRS (Software Specification Requirements) document aims to outline the specific software needs and requirements for the CaBelle application. This application will be used for booking rooms in a hotel. The aforementioned requirements must be met and tested by the end of our CPSC 362 Software Engineering course in the Spring of 2024.

ii. **Scope**

    1. See the use case diagram on page 10.

    2. In this project, we will be creating a software application called CaBelle (name inspired by call bells in hotel lobbies) which will allow hotel employees to record and manage reservations, check-ins, and check-outs. This program will also generate booking/billing receipts for managers and send a confirmation email to the customer once they have finished reserving a hotel room.

    3. Client Access

        a. Login Page:

            i. Users can sign up via email or access as a guest user.

        b. Navigation

            i. The search bar will have a filter option that allows users to choose their hotel location of choice, date, price range, and number of travelers. They will also be able to check room availability.

        c. Hotel information

            i. Refund policy

                1. There will be a cancellation fee charged to the user if they decide to cancel their reservation. A pop-up will warn users before the fee is in effect.

            ii. Hotel ratings and awards are displayed on the front page of the application to assure users that the hotel will be able to meet all of their needs and demands.

   iii. A facility list will also be displayed on the home page. The following are examples of facilities that will be shown:
1. Dining hall
2. Gym
3. Pool
4. Bar
5. Spa
6. Cupping therapy

   iv. Special events that occur in the hotel will be promoted.

   v. Contact information
1. Social media
2. Phone number
3. Hotel customer service email

   vi. To confirm the type of accepted payment forms that a user may use, a list will be displayed.
1. Credit cards, online payment, etc.

   vii. Information on nearby tourist activities can be provided by the user's request.

   viii. Hotel policies will be listed in a separate tab so users can fully understand hotel etiquette.

4. Employee Access
   a. Login Page:
      i. Managers or employees can sign in using their work email or employee code.
   b. Navigation
      i. Employees can see how long someone is staying, what suite they're staying in, and their confirmation booking information.
      ii. Employees can choose to modify existing reservations:
         1. Change rooms
         2. Arrival/departure dates

3. Basic information (i.e. update address, payment information, etc.)

    iii. Employees have access to upgrade suites for users.

    iv. Employees/Managers can contact the users via email.

    v. Once a guest has returned the hotel key, the employee can use the system to grant the access of the hotel room to another guest.

iii. Definitions

1. Application
   a. A program or a piece of software that is designed to fulfill a particular purpose of the user.

2. Back End
   a. This is part of a computer application that the user cannot access. It stores and manipulates data.

3. Home Page
   a. This is an introductory web page where users can browse information, login into their accounts, or create an account. This page is similar to a table of contents.

4. Front End
   a. This is part of a computer application that the users directly interact with.

5. Login Page
   a. This is a web page where users can create or sign into an account.

6. Program
   a. This contains a series of instructions to control the operation of a computer or web browser.

7. Software
   a. This contains a set of instructions that allows a computer or web application to operate and execute specific tasks.

8. Software Interface

       a. This is where applications communicate with each other via programming languages.

9. <u>Software Specification Requirement (or SRS)</u>

       a. This document is a SRS. The purpose of this document is to serve as a foundation for understanding and documenting the project's scope, objectives, and functionalities. This is a critical phase in the software development lifestyle.

10. <u>UI (or User Interface)</u>

       a. Allows users to interact with designated programs or web applications

11. <u>User</u>

       a. A person that uses or has access to a program or web application.

12. <u>Web Browser</u>

       a. An online software that allows users to access websites or web applications as long as the user has access to the internet.

iv. References

1. Hilton Hotels. "Hilton Hotel and Resorts." *Hilton Hotels and Resorts - Find Hotel Rooms,* 2024, https://www.hilton.com/en/brands/hilton-hotels/. Accessed 08 February 2024.
2. SRS Example Document
3. Week 4 UML Use Case Diagram Presentation

2. Overall Description
a. Product Perspectives
i. System and Software Interface
1. For our front end (UI), we will be using Java Script, Css, Html, Node.js, and firebase.
2. HTML is used for structuring and presenting different utilities a client can use when visiting our website.
3. Java Script is utilized for more interactions between the client and the website such as: website sliders, pop up messages, and other interactive responses from the user.
4. CSS is utilized for visual presentation for the website such as: styling of text, headings, font size, spacing, links, and paragraphs.
5. Firebase is used for storing, retrieving data, and user authentication.
6. For the back end, we will be using PHP and MySQL.
   a. PHP is used to create a management system for the website. PHP can be embedded into HTML.
   b. MySQL is a relational database management system that handles large databases. This helps build and maintain web applications. A relational database that uses SQL query.

ii. User Interface
1. User is using *Guest Login*
   a. The user can see the hotel logo and pictures of the facilities. They can search the description for each facility by clicking on the images.
   b. If the user does not have an account, then they can create one via the register link or from the new user icon in the login page. Users must input their email and password of choice.
      i. If users forget their login information, they can request a password reset link to be sent to their emails.

      c. Guests may use an advanced search system to search for suites in their price range for the time frame they want to stay. They can select how many guests are staying per room. It will also display the price per night and the total price for the day and nights the guest(s) decide to stay.

2. User is signed *out*
    a. The user will return to having the same access as a guest user.
    b. Users will be redirected back to the home page and be given the option to sign back in or sign in as a guest.

3. User is signed *in*
    a. Users will be taken to the login web page after entering their login information.
    b. Users can input their zip code to search for the nearest affiliated hotel.
    c. Users that are signed in can use an advanced search system to search for suites in their price range for the time frame they want to stay. They can select how many guests are staying per room. It will also display the price per night and the total price for the day and nights the guest(s) decide to stay.
    d. If the user wants to log out or delete their account, they can access this through the same login web page that they used to sign in. This web page will also be where they can update their password, address, and other sensitive information.
    e. A user may retrieve the information of their previous stays/reservations.

4. Employee is signed *in*
    a. By inputting their employee email, they can access a separate page that allows them to access information about guests. They will use this page to check in guests and assign hotel keys.

5. Employee is signed *out*

   a. Employees can no longer access guest information after they are logged out.

b. Product Functions

 i. Users can curate their searches based on their preferences. They can interact with their account by signing up, logging in, logging out, changing their password, or deleting their account.

c. User Characteristics

 i. The user may perform the following actions:

  1. Stay signed out via guest log in
  2. Input user information (i.e. email, address, etc.)
  3. Create an account
  4. Retrieve the history of previous reservations
  5. Update user information
  6. Delete account
  7. Reset password
  8. Interact with application

d. General Constraints
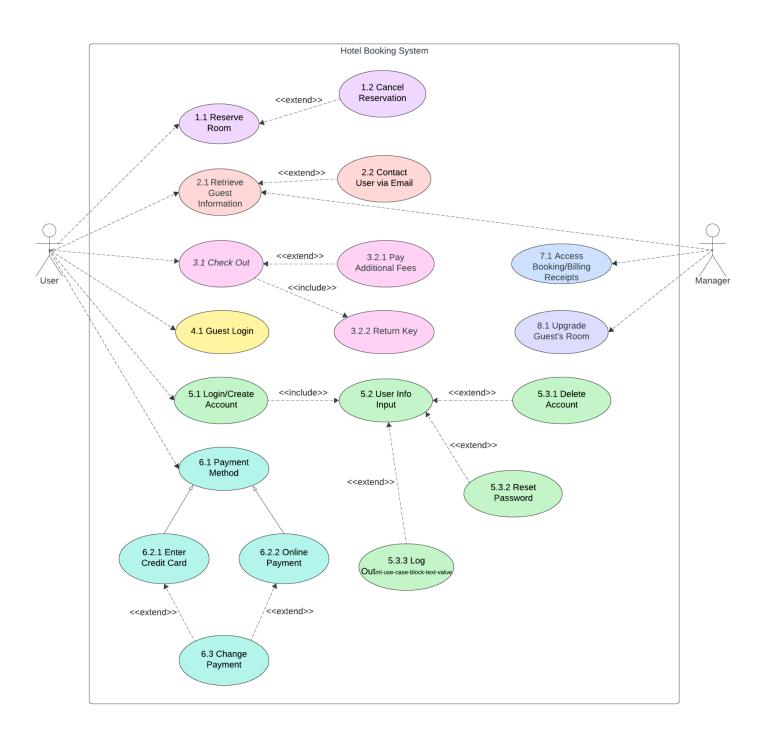
 i. Since this is a semester-long project, there is a time constraint, and we will not be able to get real user input.

 ii. Developing an application for the first time in a team environment may be a challenge.

e. Assumptions and Dependencies

 i. Assume the programming software will work as intended without difficulties occurring.

 ii. Assume users have internet access on their devices to access the webpage.

 iii. Assume the user will have the ability to easily navigate through the webpage/application.

 iv. Assume the user is able to understand and read in English to understand the functionalities the hotels offer.

 v. Assume the guest will return the hotel key at check out.

3. Specific Requirements
a. Functional Requirements
i. Case Diagram:

1.1 Reserve Room

- Users reserve a room based on their preferences. For example, users may reserve a room in their desired price range for a certain amount of day(s) and night(s) from the closest affiliated hotel.

1.2 Cancel Reservation

- The user may cancel their reservation if desired. This will prompt a notification detailing a cancellation fee.

2.1 Retrieve Guest Information

- Users input their information (i.e. name, birthdate, email, etc.) so managers may view and verify the reservation.

2.2 Contact User via Email

- Users will be contacted by email so the hotel can email a copy of their reservation receipt.
- Users may subscribe to the hotel's newsletters for additional general information, promotional discount offers, or information about special events.

3.1 Check Out

- Users must check out at the time that is specified by the hotel on the last day of their visit.

3.2.1 Pay Additional Fees

- By using certain facilities (i.e. spa) in the hotel, there may be an additional fee that users must pay on the last day of their visit.
- There may be additional fees when a user orders room service, or consumes the snacks and drinks that are provided in the mini bar of each hotel room.

3.2.2 Return Key

- Users must return their hotel room key at the time specified by the hotel on the last day of their visit.

4.1 Guest Login

- Users may choose to browse the application as a guest user.

5.1 Login/Create Account

- Users may log into their existing account in the login web page. Through this page, users can edit their private information or access information about their previous reservation(s).

- Users may create an account if they do not have an existing account via the login page. Users will have to input their email and a new password.

5.2 User Information Input

- Users must input information, like their name or address, after they have finished creating an account. This information will be stored for the billing process.

5.3.1 Delete Account

- Users may delete their account at any time. Their information will no longer be in the hotel's application after this occurs.

5.3.2 Reset Password

- Users may reset their password at any time.
- Users may reset their password if they have forgotten their previous password. They will receive a URL link in their email that will redirect to the reset password page.

5.3.3 Log Out

- Users may log out of their account once they are finished browsing the application or finished booking their reservation. Users will return to having the same access as a guest user and will be redirected back to the home page.

6.1 Payment Method

- Users will have to input their payment type to finish their reservation. They may use a credit card or a form of online payment.

6.2.1 Enter Credit Card

- Users may use their credit card information to pay for their reservation. This application accepts all types of credit cards for all available banks.

6.2.2 Online Payment

- Users may choose to pay for their reservation via an online form of payment like PayPal, Apple Pay, etc.

6.3 Change Payment

- Users may choose to change their form of payment before finishing the transaction if they change their mind. However by doing so, they will need to re-enter the required information for the room they would like to reserve.

7.1 Access Booking/Billing Receipts

- Managers may access guest reservation invoices. They may use this to verify the user's information before they finish checking the guest(s) into the hotel.

8.1 Upgrade Guest's Room

- Managers have access to upgrade a guest's room if there are rooms available. The guest will have to pay the remaining amount for the price of the room through the manager.

b. Non-Functional Requirements
  i. The system should be able to load the required information within 3 seconds.
  ii. The system should be available 24/7 without crashing and no down time.
  iii. The application should be easy to navigate.
  iv. The system should be able to protect user information without leaking sensitive user data.
  v. The system should be able to be compatible with all web browsers and mobile devices.

c. Design Constraints
  i. The user must have access to the internet and a web browser to access the system.