Online Booking System

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CST-451 Capstone Project Proposal

Grand Canyon University

Instructor: Matthew Landreth

Revision: 3.0

Date: August 08, 2024

**ABSTRACT**

The online hotel booking system aims to develop a user-friendly web application that enables users to select, view and reserve hotel rooms online. It will feature a database of hotel rooms with room availability, pricing information, and details. Users will be able to create accounts and manage their bookings. The application seeks to streamline the hotel booking process enhancing convenience for users.

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| History and Signoff Sheet |

**Change Record**

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| --- | --- | --- |
| **Date** | **Author** | **Revision Notes** |
| 10/22/23 | Arleth Martinez | Initial draft for review/discussion |
| 07/22/24 | Arleth Martinez | Updated scope due to timeline constraints |
| 08/03/24 | Arleth Martinez | Finalized the details and completed the document. |

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| **Overall Instructor Feedback/Comments** |

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| **Overall Instructor Feedback/Comments** |

**Integrated Instructor Feedback into Project Documentation**

Yes  No

**Project Approval**

Professor Mark Reha

**TABLE OF CONTENTS**

Project Overview and Project Objectives 4

Project Scope 5

Project Success Measures 6

Project High-Level Solution 7

Project Controls 8

Project Cost and Schedule 10

Appendix A – References 11

Appendix B – Copyright Compliance 12

Project Overview and Project Objectives

**State the Problem and Background**

In order to book a hotel room, you have two options: using a booking system or calling the hotel. Hotel booking systems can be complicated to use and waiting to speak with a hotel representative could take several minutes depending on bandwidth. The purpose of this system is aimed to simplify the way users find and reserve accommodations giving them 24/7 access through the web. This will eliminate the need for a hotel representative giving users maximum convenience for any last-minute needs. Convenience and efficiency are crucial for business, and this platform seeks to streamline the process of hotel bookings, making it effortless and enjoyable for a global audience.

**Project Objectives**

1. Create a user-friendly system that allows users to easily view, book, and cancel a room.
2. Provide a straightforward registration process allowing users to create accounts and login with ease.
3. Provide a real-time availability of rooms.
4. Create an appealing, eye-catching user interface.
5. Create a reservation page allowing users to see their reservations.
6. Develop an API that connects the booking system to the hotel database.

**Challenges**

I faced obstacles from the beginning due to my lack of knowledge in ReactJS. This is the same reason I chose this as my foundation. I wanted to challenge myself to build a dynamic and responsive web application. That being said I struggled with the Reservations page of my application page most. This page allows one to view their bookings and cancel if needed. Passing the user who booked the room from the parent to the child page via React hooks was a struggle.

**Benefits and Opportunities**

I believe my application is nicely developed and a great foundation for future development. In the future, I definitely want to add new features to make the system easier to use. One feature that will be added is a calendar. This will allow the user to book many months in advance and have a visual aid. I also think a nice feature would be integrating Google accounts so users can sync the calendar and email reminders with their accounts.

***NOTE: If necessary, you may add subsections to those listed in order to match the requirements in the assignment description. Do not remove any top-level sections (those that are listed in the Table of Contents).***

Project Scope

1. The project scope for the booking system includes:
   * User Registration
   * User-friendly web-based UI
   * Room availability and pricing
   * Individual User Reservations page
   * User and Room data stored via MySQL databases
   * Hotel API used for CRUD operations

Out-of-scope items include:

* User reviews
* Checkout
* Data encryption
* Cloud deployment
* Room search & filtering
* Hotel Admin view (add or remove rooms)

1. Use the template to list all known stakeholders and contacts, if applicable, including self (for some projects self may be the only name listed)

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| --- | --- | --- |
| Stakeholder Name | Role(s) | Responsibilities |
|  |  |  |
|  |  |  |

1. List the work breakdown required to satisfy the project objectives. Identify teams and other resources that may be required to successfully complete the project.

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| Work Breakdown Structure | | | | | | | | | | |
| ID | Task | Dependencies | Status | Effort Hours | Cost | Start Date | Planned Completion | Estimate to Completion | Actual Completion | Resource |
| 1 |  |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |  |

Project Success Measures

1. Describe what measures will be used to calculate project success.
2. Use the template to list the project completion criteria.

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| Project Completion Criteria |
| 1 – Application is developed within allocated time |
| 2 – The user can create an account and login. |
| 3 – Users will be able to view available hotel rooms and details. |
| 4 – Users will be able to view their individual reservations. |
| 5 – Users will be able to book available hotel rooms. |
| 6 – Users will be able to cancel a reservation via the reservation page. |
| 7 – The hotel room database is updated when a room is booked or canceled. |
| 8 – The hotel API is used to fetch hotel room availability. |

1. Use the template to list the project assumptions and constraints, if applicable. An assumption is an educated guess that a likely condition or circumstance is presumed to be true. A constraint is a limiting condition or circumstance that defines the project boundaries. Assumptions allow the project to succeed. Constraints restrict or limit the project execution.

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| --- | --- | --- | --- | --- | --- |
| Assumptions and Constraints | | | | | |
| ID | Description | Comments | Type | Status | Date Entered |
| 1 | Product completion | Project will be measured by product completion not performance |  |  | 10/22/23 |
| 2 | Traveler view | This project will only consider the traveler’s point of view. It will not support any hotel employee or administration operations. |  |  | 10/22/23 |

Project High-Level Solution

**Introduction**

The hotel room database will contain information about each hotel room such as price, availability, room number, etc. The user database will be used to store user information. The web app will directly connect to the user database to store newly created users and validate user login information. The hotel room database will be accessible to the web app via the Room API interface. Through this interface, the web app will be able to perform CRUD operations such as reading all the available rooms and updating the availability.

**Solution**

**A diagram of a computer

Description automatically generated**

Project Controls

1. Use the template to define the risk and list the steps to prevent the risk from occurring or the steps to minimize the chances of it happening. The contingency plan describes alternative solutions to reduce the impact of the risk. An example of a contingency plan is to provide the customer a temporary web server if there are delays in delivery/completion. If the risk has already happened then provide an entry in the issue log.

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| --- | --- | --- | --- | --- |
| Risk Management | | | | |
|  | **Risk Probability** | **Risk Impact** |  |  |
| **Event Risk** | **(high, medium, low)** | **Risk Mitigation** | **Contingency Plan** |
| What is the risk? | What is the probability? | What is the impact if the risk occurs? | What can be done to minimize the risk? | What can be done to minimize the impact of the risk? |
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| Issues Log | | | | | | | | |
| **ID** | **Description** | **Project Impact** | **Action Plan/Resolution** | **Owner** | **Importance** | **Date Entered** | **Date to Review** | **Date Resolved** |
| 1 | What is the issue? | How will this impact scope, schedule & cost? | How do you intend to deal with this issue? | Who manages this issue? |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |  |

1. All projects have either anticipated and planned or unexpected changes. Describe any issues in management or change management due to the anticipated and planned or unexpected changes. Use the template to list anticipated and planned or unexpected changes.

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| Change Control Log | | | | | | | | | |
| **ID** | **Change Description** | **Priority** | **Originator** | **Date Entered** | **Date Assigned** | **Evaluator** | **Status** | **Date of Decision** | **Included in Rev. #** |
| 1 |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |

1. Use the template to describe how the end user is involved in the software development, if applicable. Include relevant information about meetings, reviews, presentations, etc.

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| Roles and Responsibilities | | | |
| Name | Team | Project Role | Responsibility |
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Project Cost and Schedule

1. Create a spreadsheet of costs related to the scope of the project, with all necessary material and elements required to accomplish it effectively, and the allocated resources. Note: If the project being designed will not require any cost calculations, please state that here.
2. Create a project schedule after all project tasks have been defined and prioritized.
3. Set a programming schedule by implementing work breakdown and task time estimates. Create a timeline with dates for completion of key components of the project.

Appendix A – References

*List all references using APA style*

Appendix B – Copyright Compliance

For each external technical tool or code used, provide a reference to its copyright policy, clearly showing your right to use it. For each external technical tool or code used, detail how you used it, how you adapted it, how you modified it (if permitted), and why did you use it as opposed to write your own. Only a small portion of your project may rely on external code. When code libraries/packages are used, explain why this was necessary/required/recommended. Seek instructor approval for using external resources prior to beginning to work on the project.