Holly Hotel Reservation Management System

Statement of Work

# Purpose

This project will provide a computerized management system that will allow Holly Hotel staff to efficiently manage reservations, assignment and billing of their facilities. The project will include:

* Design and develop and appropriate database, normalized to 3NF
* Design and develop an application to use the database to manage hotel operations
* Design and populate the database with mock data for use by the development team
* Design testing criteria and use cases to extensively test the application and database

# Background

## Opportunity

Holly Hotel is a single complex Hotel facility that has grown rapidly over the past few years. Aside from outgrowing their original facilities, Holly Hotel has outgrown their current system that manages their reservations and related operational functions. Holly Hotel is in a unique location in the market, as most of their competitors are part of large hotel chains that use centralized reservation software. Though there are multiple alternative packages available such as ResNexus, due to the ongoing costs and other factors, Holly Hotel has requested a custom system.

## History

Holly Hotel’s current system of managing reservations and related activities occur on multiple forms. This system, though well suited for a small establishment, is now impeding current operations at Holly Hotel. The primary constraint of the current system is the inefficiency of the system. Due to the number and types of rooms that Holly Hotel now offers, it is nearly impossible for a staff member to know what options a specific room may has to offer, who the room has been assigned to, or if it is clean and available. Another major shortcoming of the current system is the ability to accurately review current accumulated expenses for clientele in a timely fashion.

## Project Goal

This project will attempt to provide a multi-user tool that is accessible throughout the facility that will manage the reservation for rooms and their assignments to guests and hosts. The tool will improve occupancy, reduce over-booking, improve accuracy all of which will help Holly Hotel to improve their customer satisfaction and increase profitability.

## Project Description

## Scope

The scope of this project entails satisfying the following requirements:

1. Allow the reservation of a room for up to two years in advance
2. Allow the addition of Buildings, Wings, and Rooms to the system
3. Allow staff to look up room availability based on room type or other criteria (beds, etc)
4. Allow staff to convert reservations into room assignments
5. Allow staff to record, review, and update customer/host information
6. Allow staff to specify separate billing party to that of the guest/host of the specified room
7. System will maintain accurate billing information per billing party
8. Allow staff to manage and record room maintenance

## Stakeholders

* Holly Hotel Management
* Hotel employees (users)

## Data

## Processes

1. Add a Reservation
2. Delete a Reservation
3. Check-in customer
4. Check-out customer
5. Change customer room
6. Change billing-party
7. Create event
8. Mark room un-available for renovations
9. Mark room available
10. Mark room clean
11. Add Guest/Host/Billing Party/Organization
12. Add Buildings/Wings/Rooms and designate features
13. Reserve blocks of rooms for conventions / parties
14. Associate a guest with a particular party

## Locations

This project will be developed off-site at the developers’ premises. Meetings with the stakeholders will take place at Edgewood College’s Deming Way Campus.

# Project Approach

## Route

This project will be developed in 4 separate phases

1. Scope Definition
2. Requirements Analysis
3. Logical & Physical Design
4. Construction & Implementation

The project will be reviewed by the stakeholders at the end of each phase. Due to the constraints of the project timeline, testing will occur during construction.

## Deliverables

The completion of a phase will result in the following deliverables:

Phase 1: Scope Definition

* Statement of Work

Phase 2: Requirements Analysis

* Functional Decomposition

Phase 3: Logical & Physical Design

* Use Case Diagrams
* Activity Diagrams
* Sequence Diagrams
* E-R diagram
* Normalized Tables
* Data Dictionary

Phase 4: Construction & Implementation

* Functional Application
* Test Plan based on cases and scenarios
* Implementation plan
* Basic End-User training material

# Managerial Approach

## Team Building Considerations

To reduce redundant work, and foster teamwork the team is using a version control system (git) that will allow us to work together in real time from separate locations. This allows us to collaborate on documents, and code despite having schedules that may prevent physically meeting at the same location.

Team members can also (attempt) to collaborate using Google Hangouts, or similar “chat” style technology to simulate group work sessions when two or more members are available.

## Manager and Experience

Patrick Harsh will utilizing 10 + years in the IT to manage the development team to make sure that the team stays on task and on budget. Bob Moore will utilize his experience as a Web Developer and lead the development effort and assist the other developers in troubleshooting and providing a consistent end product. Oliver Silva will lead the documentation and training process.

## Training Requirements

The users will be presented with electronic user manuals documenting the processes with the use of screen shots.

## Meeting Schedules

The development team will meet in-person every Thursday until the end of the project. The development team will meet other times in the week using a combination of in-person meetings and remote meeting software.

## Report Methods and Frequency

Individual Contributions: GitHub tracks user “commits” and reports usage analytics. The project manager will be responsible for reviewing the commit reports by team members supplied by the version control analytics.

## Conflict Management

Any issue that arises will be addressed by the project manager. If the issue is severe enough to impact the original scope of the project, the project manager will meet with the stakeholders to get approval on an amended statement of work/scope modification document.

The team will use the issue tracker provided by gitHub to document any technical issues or conflicts related to the work that arise, in order to a) keep each team member accountable b) provide a means of tracking and resolving issues to ensure they have been addressed.

## Scope Management

Any changes in the scope or deliverables will need to be approved by the project sponsors. If a need arises to modify the project in this manner, the project manager will develop an Amended Statement of Work/Scope Modification document. The project sponsors will need to approve these changes prior to the development team proceeded.

# Constraints

## Start Date

1/15/2015

## Deadline:

2/26/2015

## Budget

This project will be completed at the no cost to the customer; all expenses for the development team’s time and material will be absorbed by the development team.

## Technology

The application will run on an open source Web Application stack, primarily utilizing AngularJS for the bulk of the application. Angular is a MVC (Model-View-Controller) framework that will allow us to take advantage of web technologies while maintaining a separation between the UI, data manipulation, and data storage for maximum flexibility. The back-end data will be stored and manipulated on a MySQL Database, initially deployed on the web server.

Using Web Application technologies offers several advantages:

* There is no installing software on individual machines – no vendor specific hardware limitations for terminals.
* The program can run from a single, on or off site server – no syncing or distributing databases
* Portability – it can run on any machine that can load a web browser, including portable devices that staff could have on the premises.
* Maintainable – The MVC design pattern allows for incremental updates to one area of the application without major re-construction of the entire system.

Using Web Application technologies also offers disadvantages

* A learning curve for the development team – all of us are familiar with the basics of the technology being used, but may have to spend time debugging some of the finer points.
* Potential data-breaches if the LAN is not configured correctly to prevent outside access and/or unauthorized access.

# Ballpark Estimates

## Schedule

Phase 1 - Scope Definition – One Week

Phase 2 - Requirements Analysis – One Week

Phase 3 - Logical & Physical Design – Two Weeks

Phase 4 - Construction & Implementation – Two Weeks

## Budget

122 cups of coffee will be supplied by Edgewood College to support the development of this system over the next 6-weeks.

# Conditions of Satisfaction

## Success Criteria

* Users are able to manage guests, rooms, and parties / conventions in an intuitive manner that is up to their own satisfaction.
* Training material has been developed to instruct new users on the use of the system.
* The database has been populated with mock data to simulate operation, and has been tested extensively against use-cases, and been accepted by the development team as successful.

## Assumptions

1. The users who will evaluate the system will be experienced with web based applications.
2. The system will be installed on an internal system that is not accessible from outside of Holly Hotel
3. The system employs some type of user authentication to protect sensitive user data

## Risks

1. The timeline is a risk due to the workload that the development team is currently assigned through scholarly commitments as well as through their employers.
2. Development bottlenecks due to debugging unfamiliar code – we will mitigate this risk by having a conservative scope, and only accepting scope changes if they are a) necessary for the core operation, or b) they fit within the allotted time.