California State University of Fullerton

System Specification Document

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Table of Contents

Executive Summary

Summary

This document outlines the proposed Event Planning and Booking system for Cowboy Hotel. The system is designed to streamline conference room bookings, improve data tracking, and reduce errors, ultimately enhancing operational efficiency and customer satisfaction. Key components of the proposal include feasibility analysis, system requirements, design documents, and a recommended acquisition strategy.

Project Overview

- Project Sponsor: Jaime Bradson, Hotel Manager
- Business Need: Comprehensive system to facilitate conference room bookings and reduce double bookings and data-entry errors

Projected Value:

- Year 1: $125,000 from conference rooms, $35,000 from hotel rooms/suites
- Year 3: $150,000 from conference rooms, continued revenue from hotel rooms/suites

Feasibility Analysis

Technical:

- Reservation form for booking details
- Customer engagement with the system

Economic:

- Purchase of 2 new computers and Office 365 licenses
- Hiring of a Booking Specialist and assistant
- Projected 25% increase in revenue (potentially 30%) from conference bookings
- 7% increase in hotel room revenue

Recommended Acquisition Strategy

- Pre-packaged Solution: Cloudbeds Hospitality Platform
- Annual Cost: $1,056 per year, totaling $3,168 over three years
- Features: Integrated booking engine, channel manager, guest engagement tools, reporting, and analytics
- Benefits: User-friendly interface, comprehensive features, scalability, and robust support

Project Work Plan

- Timeline: January 23, 2024, to May 15, 2024
- Planning Phase: Completed by February 6, 2024
- Analysis Phase: Completed by March 29, 2024
- Design Phase: Completed by May 15, 2024

Requirements Definition

- Functional Processes:
- Reserve, cancel, and modify conference room bookings
- Review room statuses
- Functional Information:
- Retain reservation details and caterer information
- Document transactions and financial statements

Scope

- Development Timeline: January 23, 2024, to May 20, 2024
- Key Milestones:
- System Request: Completed February 1, 2024
- Cost-Benefit Analysis: Completed February 1, 2024
- Project Work Plan: Completed February 6, 2024
- Requirements Gathering: Completed February 27, 2024
- Use Cases: Completed March 5, 2024
- Process Model: Completed March 12, 2024
- Data Modeling: Completed March 19, 2024
- System Proposal: Completed March 29, 2024

Use Cases

- Key Use Cases:
- Create reservation, customer account, caterer profile
- Cancel/modify reservations, track payments, generate reports
- Register employee account, link caterer/payment/employee/customer to reservations

Conclusion

Implementing the new Event Planning and Booking system will significantly reduce booking errors, increase revenue, and enhance the efficiency of conference room management. The booking specialist, supported by an assistant and overseen by the hotel manager, will manage the system post-implementation.

Purpose

This document outlines the framework for an Event Planning and Booking system for Cowboy Hotel. The planning phase commences with the system request form, detailing project sponsor Jaime Bradson, the Hotel Manager. The identified business need centers around establishing a comprehensive system to facilitate conference room bookings, data tracking, and error reduction, particularly in addressing issues such as double bookings. By streamlining the booking and planning processes, the hotel aims to mitigate data-entry errors and inconsistencies, ultimately enhancing operational efficiency and customer satisfaction. Projected value creation includes anticipated sales of $125,000 from conference rooms in the first year, escalating to $150,000 in the third year, along with an estimated annual revenue of $35,000 from hotel rooms and suites. This document serves as the initial step in conceptualizing the project, laying the groundwork for the development of crucial system components

The Cowboy Hotel's feasibility analysis lists the technical, economic and organizational Feasibility for the system. Technical risks include completing a reservation form enabling them to input date, time, and other booking details to make a conference reservation, hiring an IT consultant for the system, and significant customer engagement with the system. Economically, there are 2 new computers purchased for the hotel, software licenses for Office 365 to access Microsoft Suite products, and additional 2 new employees of the Booking specialist and their assistant. With implementing this conference room booking software, There is a projected 25% increase in revenue based on other bookings in the area, and has the potential to increase to 30%. This will also lead to a 7% increase in hotel room revenue due to people staying after conference events. Organizationally the Booking specialist relies on this system to efficiently provide conference room numbers, dates, times, and other related details for preparing conference rooms. If changes are not updated promptly after entry, the system fails to meet its intended requirements.

For our pre-packaged solution, we are going with Cloudbeds. Cloudbeds' award-winning, cloud-based hospitality management software seamlessly combines solutions for front desk, revenue management, distribution, guest acquisition, and guest engagement in a single unified system, enhanced by a marketplace of third-party integration (https://www.cloudbeds.com/pricing/). The SaaS company creates modern, all-in-one hotel management software for hoteliers and hosts worldwide. Cloudbeds offers an all-in-one hotel management solution that includes property management, booking engine, and revenue management. We will be doing annual payments, totaling $1,056 per year and in three years it totals $3,168.

The Cloudbeds Hospitality Platform is designed to streamline operations, grow revenue faster, and deliver easy and quick guest experiences. Some of the features that will meet our requirements include an Integrated booking engine for direct reservations, a channel manager to

synchronize reservations across multiple platforms, guest engagement tools, and reporting and analytics. This pre-packaged software has a user-friendly interface, comprehensive features, and reporting and analytics. Cloudbeds will meet our needs to run our business as it has all the features we require.

The Project work plan is a comprehensive 4-month outline starting on 1/23/24 and ending on 5/15/24. This is the last step in the planning phase and ends on 2/6/24. The ERD diagram is the last completed step in the project which was finished on 3/26/24.

Through a joint application development (JAD), the team identified the requirements for the systems. The requirements definition document encompasses various aspects, including Functional Processes such as enabling booking specialists to reserve conference rooms, allowing hotel managers to cancel reservations, and modifying existing room bookings, alongside the ability for both roles to review room statuses. Functional Information entails the system retaining reservation details, maintaining information about caterers, and documenting all transactions and financial statements. Nonfunctional Requirements encompass Operational specifications mandating compatibility with Microsoft Windows for use by booking specialists and hotel managers, multi-user accessibility across different desktop devices simultaneously, and operation on the latest version of Office 365. Performance criteria necessitate 24/7 availability, immediate updates post-process completion, and interactions not exceeding a 5-second response time. Security measures dictate restricted access solely to hotel managers and booking specialists, system accessibility within the hotel's secure network, and automatic logout post-use. Finally, Cultural and Political considerations adhere to company policies mandating the purchase of computer equipment from Microsoft and ensuring the confidentiality of all personal information

The Cowboy Hotel's operations are structured around twelve essential use cases: create reservation, create customer account, canceling reservation, create caterer profile, tracking payments, modify reservation, generate reservation report, register Employee account, link caterer to reservation, linking payment to reservation, link employee to reservation, and link customer to reservation. These use cases delve into the core processes within the system. They are detailed in the level 1 diagrams, offering insight into the operational nuances into the process. A contextual diagram presents the system as an Event Planning & Booking platform, incorporating key entities such as the hotel manager, booking specialist, and customers. This integration of event details, reservations, customer information, and event logistics enables smooth interaction between these entities and the central system, enhancing operational efficiency and customer experience.

The data model (E-R) for Cowboy Hotel incorporates essential entities including "Customer," "Employee," "Employee Type," "Booking," "Conference Room," "Catering," and "Transaction Tracking." Relationships are established between these entities, such as

"Customers" making "Bookings" for specific "Conference Rooms" and requesting "Catering" services. "Employees" are assigned various "Employee Types" and are responsible for managing bookings, catering, and transaction tracking. Additional attributes and relationships may include "Room Types," "Employee Roles," "Booking Details," and "Transaction History." The E-R diagram provides a structured representation of the data flow within the hotel's operations, facilitating efficient management and analysis of hotel resources and services.

Scope

The project scope includes the development of an Event Planning & Booking system for the Cowboy Hotel, with a comprehensive timeline spanning four months from January 23, 2024, to May 20, 2024. The planning phase began on January 23, 2024, which included the system request that was started the same day and completed on February 1, 2024. The cost and benefit analysis began on January 29, 2024, and was completed on February 1, 2024, along with the system request. The development project work plan was also started on January 29, 2024, and was completed on February 6, 2024. The final step in the planning phase is the project charter, which was started on February 7, 2024, and was completed on February 13, 2024. The next step was the analysis phase which was initiated on February 7, 2024, and included the requirements gathering which was started on February 14, 2024, and completed on February 27, 2024. The next step in the process was the use cases which began on February 20, 2024, and was completed on March 5, 2024. After the use cases were completed, the next step was the create process model that was started on March 6, 2024, and completed on March 12, 2024. The next step after the completion of the create process model was the data modeling that was started on March 13, 2024 and was completed on March 19, 2024. After the completion of data modeling, the final step in the analysis phase was the system proposal that began on March 20, 2024 and culminated on March 29, 2024, with the completion and submission of the booking reservation system mid-semester deliverable.

Conclusion

Installing this new system into the hotel will allow for useful error reduction, as well as a 25% increase in revenue for the hotel at the end of the first year. That 25% can increase to 30% after two more years. Increasing the efficiency and business of conference room bookings will also increase the revenue of the hotel’s room bookings by 7% as a result. After the system is installed, the booking specialist will monitor and run it going forward, with the hotel manager overseeing them and helping if necessary. The booking specialist will also have an assistant to aid them in their work.

Recommendation

It is recommended that the Cowboy Hotel management adopt our system proposal which includes the requirements definition document, use cases, process model, and data models to develop the event planning and booking system. Based on our updated planning documents, such as our systems request, project work plan, feasibility analysis, and cost-benefit analysis implementing our system proposal could bring much value to Cowboy Hotel by:

1. Minimize booking errors
2. Reduce cost in the long run
3. Increase revenue in hotel rooms and suites
4. Create better marketing for conference room

Systems Request

System Request – Booking and Planning Events Project
Project Sponsor: Hotel Manager, Jaime Bradson
Business Need: This project has been initiated to create a user-friendly booking and planning software, in which guests can reserve and coordinate an event at one of the many conference rooms at the Cowboy Hotel. ● Conference room reservations are currently being done under a manual system, which is inefficient ● The hotel's current room booking software is unable to handle conference bookings ● Mistakes such as double booking conference rooms occur under the current system
Business Requirements: The conference room is a new initiation to the hotel, customers will be able to book a conference room quickly and efficiently. The system will be able to: ● Schedule reservations for conference events ● Store any data relating to the customer, venue, or event ● View upcoming reservations made by the customer
Business Value: Implementing the software can enhance the hotel process of booking and planning events effectively and efficiently, by eliminating data-entry errors and inconsistencies. This can include reducing double bookings and underutilizing conference rooms. We expect that Cowboy Hotel will increase revenue of rooms and suites along with an increase of sales in conference rooms. Conservative estimates of tangible value to the business unit include: ● $125,000 in sales from conference rooms in the first year ● $150,000 in sales from conference rooms in the third year ● $35,000 annual revenue from hotel rooms & suites
Special Issues & Constraints: This booking system is essential to the Cowboy Hotel and its new conference room buildings. This project is crucial and is required as soon as possible for the Hotel's new conference room to thrive and profit. There are also budget constraints of 50,000 to fund the entirety of the Event Planning and Booking System.

Project Work Plan

			Estimated			Actual				
Task ID	Task Name	Assigned To	Duration (days)	Start Date	Finish Date	Start Date	Finish Date	Duration Variance	Dependency	Status
1	**Plan Phase**	**Too SAD**	**11**	**Tues 1/23/24**	**Tues 2/6/24**	**Tues 1/23/24**	**Tues 2/1/24**	**0**		
1.1	System Request	Too SAD	4	Tues 1/23/24	Fri 1/30/24	Tues 1/23/24	Tues 2/1/24	0		Closed
1.2	Cost-Benefit Analysis	Too SAD	3	Mon 1/29/24	Wed 1/31/24	Mon 1/29/24	Tues 2/1/25	0		Closed
1.3	Develop Project Workplan	Too SAD	7	Mon 1/29/24	Tues 2/6/24	Mon 1/29/24	Tues 2/6/24	0	1.2	Closed
1.4	Project Charter	Too SAD	7	Mon 1/29/24	Tues 2/6/25	Wed 2/7/24	Tues 2/13/24	0		Closed
2	**Analysis Phase**	**Too SAD**	**50**	**Wed 2/7/24**	**Tues 3/26/24**	**Wed 2/7/24**	**Fri 3/29/24**	**-7**	**1**	
2.1	Requirments Gathering	Too SAD	15	Wed 2/7/24	Tues 2/27/24	Wed 2/14/24	Tues 2/27/24	-5		Closed
2.2	Use Cases	Too SAD	15	Wed 2/28/24	Tues 3/5/24	Wed 2/20/24	Tues 3/5/24	-5	2.1	Closed
2.3	Create process model	Too SAD	5	Wed 3/6/24	Tues 3/12/24	Wed 3/6/24	Tues 3/12/24	0	2.2	Closed
2.4	Data Modeling	Too SAD	10	Wed 3/13/24	Tues 3/26/24	Wed 3/13/24	Tues 3/19/24	0	2.3	Closed
2.5	System Proposal	Too SAD	5	Wed 3/27/24	Tues 4/2/24	Wed 3/20/24	Fri 3/29/24	3	2.4	Closed
3	**Design Phase**		**25**	**Wed 4/27/24**	**Tues 4/30/24**	**Wed 4/27/24**	**Tues 4/23/24**	**-15**	**2**	
3.1	Design Architecture	Too SAD	10	Wed 4/27/24	Tues 4/9/24	Wed 4/27/24	Tues 4/9/24	0		Closed
3.2	User Interphase Protoype	Too SAD	10	Wed 4/10/24	Tues 4/23/24	Wed 4/10/24	Tues 4/16/24	-5		Closed
3.3	Logical to Physical DFD	Too SAD	5	Wed 4/24/24	Tues 4/30/24	Wed 4/17/24	Tues 4/23/24	-5		Closed
3.4	Design Databases & Files	Too SAD	5	Wed 4/24/24	Tues 4/30/24	Wed 4/17/24	Tues 4/23/24	-5	3.2	Closed
4	**Implementation Phase**		**13**	**Wed 5/1/24**	**Fri 5/17/24**	**Wed 4/24/24**	**Fri 5/17/24**	**5**	**3**	
4.1	Test Software	Too SAD	3	Wed 5/1/24	Fri 5/3/24	Wed 4/24/24	Fri 5/3/24	5		Closed
4.2	Install System	Too SAD	5	Mon 5/6/24	Fri 5/10/24	Mon 5/6/24	Fri 5/10/24	0		Closed
4.3	Postimplementation	Too SAD	5	Mon 5/13/24	Fri 5/17/24	Mon 5/13/24	Fri 5/17/24	0		Closed

Feasibility Analysis
Cost-Benefit Analysis

	2024	2025	2026	2027	Total
Benefits					
Increased Revenue Rooms & Suite	$ -	$ 35,000	$ 35,000	$ 35,000	$ 105,000
Increased Sales Conference Rooms	$ -	$ 125,000	$ 137,500	$ 150,000	$ 412,500
Total Benefits	**$ -**	**$ 160,000**	**$ 172,500**	**$ 185,000**	**$ 517,500**
Development Cost					
2 Desktops w/ Windows 10 @ $850	$ 1,700	$ -	$ -	$ -	$ 1,700
2 Office 365 Licenses @ $264/yr	$ 528	$ 528	$ 528	$ 528	$ 2,112
2 Linux (Ubuntu Pro Server) Licenses @ $25/yr	$ 50	$ 50	$ 50	$ 50	$ 200
Pre-Packaged Solution @ $1,056/yr	$ 1,056	$ 1,056	$ 1,056	$ 1,056	$ 4,224
Total Development Cost	**$ 3,334**	**$ 1,634**	**$ 1,634**	**$ 1,634**	**$ 8,236**
Operational Cost					
Booking Specialist Salary	$ -	$ 60,000	$ 60,000	$ 60,000	$ 180,000
Booking Assistant Salary	$ -	$ 50,000	$ 50,000	$ 50,000	$ 150,000
Training @ $1000/employee	$ -	$ 2,000	$ -	$ -	$ 2,000
Operational Labor	$ 24,000	$ -	$ -	$ -	$ 24,000
Miscellaneous Cost	$ -	$ 7,500	$ 7,500	$ 7,500	$ 22,500
Total Operational Costs	**$ 24,000**	**$ 119,500**	**$ 117,500**	**$ 117,500**	**$ 378,500**
Total Costs	**$ 3,334**	**$ 121,134**	**$ 119,134**	**$ 119,134**	**$ 386,736**
Total Benefits - Total Cost	**$ (3,334)**	**$ 38,866**	**$ 53,366**	**$ 65,866**	**$ 130,764**
Cumulative Net Cash Flow	**$ (3,334)**	**$ 35,532**	**$ 88,898**	**$ 154,764**	
Return on Investment (ROI)	**33.81%**				

Cowboy Hotel - **Feasibility Analysis**

Technical Feasibility

Risk regarding familiarity with booking requests is high

- Users will complete a reservation form enabling them to input date, time, and other booking details to make a conference reservation.
- The system will accommodate future growth, including additional conference rooms, increased booking volume, and potential expansion to other hotel facilities
- An IT consultant hired by the Cowboy Hotel Manager will construct this system.
- Significant customer engagement will be necessary.
- *Risk regarding familiarity with Technology is moderate*
- The IT consultant has freedom of movement within the system due to the absence of an efficient existing system.
- *Project Size is low-risk*
- The project scope is solely focused on designing a system for managing bookings and event planning for conference rooms.
- The project team consists of IT Consultant
- *Compatibility is low risk*
- Compatibility with existing booking software used for bedrooms and suites is not required for this system
- The system will be built using Microsoft Windows 10 operating system.

Economic Feasibility

Development costs: Salaries will need to be paid for the development team working on the project. There will also be 2 new computers purchased for the hotel, as well as a software license for those computers and an Office 365 license so that the computers have access to Microsoft Suite products.

Operational costs: This will include the salaries of the booking specialist and their assistant, who will be the primary users of the software, as well as any other staff involved in maintaining the hardware and software. The hotel will also consider future costs for training and hiring new staff members. Additionally, the costs of maintaining the hardware and software, including repairs and upgrades, are also other factors.

Booking specialist at $65,000 annually
Assistant at $50,000 annually

Tangible benefits: By implementing this conference room booking software, there is a projected 25% increase in revenue based on other bookings in the area, and has the potential to increase to 30%. This will also lead to a 7% increase in hotel room revenue due to people staying after conference events.

Intangible costs: The new software will lead to a reduction in booking errors, saving time and money for the hotel to use towards the software or somewhere else. This will help improve our brand and customer service by making it more efficient.

ROI over 3 years: 33.81%

Organizational Feasibility

Booking specialist: The booking specialist relies on this system to efficiently provide conference room numbers, dates, times, and other related details for preparing conference rooms. If changes are not updated promptly after entry, the system fails to meet its intended requirements.

Champion: Jaime Bradson is the hotel manager and has knowledge of a running business and understands the hotel's operational needs. As the hotel manager, he will oversee the implementation and ensure the system aligns with the hotel's original goals and improve overall efficiency.

Customers: Customers expect this system to be user-friendly and efficient. The system should allow customers to have easy access to online booking, instant booking confirmation, and modification updates. This will help reduce errors, increase customer satisfaction, and improve the overall booking experience.

Requirements Definition Document

Functional Requirements

1. Functional Process

1.1 The system allows the booking specialist to reserve a conference room.

1.2 The system allows the hotel manager to cancel a conference room reservation.

1.3 The system must be able to modify a reservation of an existing room reservation.

1.4 The system allows the hotel manager and the booking specialist to review the status of a conference room (Pending, Confirmed, or Canceled).

2. Functional Information

2.1 The system should hold information about the Booking Specialist, Hotel Manager, and customer.

2.2 The system should retain all conference room reservation details.

2.3 The system should retain accessible information about the caterers.

2.4 The system must keep a record of every transaction and financial statements

Nonfunctional Requirements	
Operational	**Technical Environment:** Authorized users will always have access to real-time database updates **System Integration:** The system will connect the reservation system to the booking system **Portability:** The system must operate on the Microsoft Windows 10 operating system and require the installation of Microsoft Office Professional 2019. **Maintainability:** The system must accommodate new and updated reservation changes to the booking database **Pre-packaged software:** The system must operate with pre-packed software Cloudbeds, that will allow customers to schedule and cancel conference rooms.
Performance	**Speed:** The system should respond to user inputs or requests within a five-second time limit to provide a smooth and responsive user experience **Capacity:** The system should be able to scale horizontally or vertically to handle increasing loads or accommodate growth in data volume without significant degradation in performance. **Availability & Reliability:** Ensure that the system remains available and accessible to users even in the event of hardware failures, software errors, or other disruptions. The system must implement robust error-handling mechanisms to handle unexpected errors, exceptions, and prevent system crashes or data corruption.

Security	**System Value Estimates:** The system must ensure the integrity and safety of data, processes, and configurations to maintain its values **Access Control:** Access to system resources should be granted based on predefined roles, privileges, and permissions, ensuring that users only access what they are authorized to. **Encryption & Authentication:** Sensitive data, both in transit and at rest should be encrypted using strong encryption algorithms to protect against unauthorized access or interception **Virus Control:** Antivirus definitions and software patches should be regularly updated to protect against new and emerging threats.
Cultural & Political	**Multilingual:** The system should support multiple languages and cultural conventions to cater to a diverse user base across different regions. **Customization:** Administrators should have the flexibility to customize system settings, workflows, and business rules to align with organizational policies and requirements. **Making Unstated Norms Explicit:** The system should be designed and implemented with consideration for cultural norms, values, and sensitivities to avoid accidental offense or misunderstanding. **Legal:** The system should comply with relevant and current laws, regulations, and industry standards related to data protection, privacy, and accessibility.

Use Cases

Use Case Name: Create Reservation	**ID:** UC-1	**Priority: High**
Actor: Booking Specialist		
Description: This use case describes how the Booking Specialist creates a conference room reservation for a client.		
Trigger: A client has contacted the hotel in person or via phone to reserve a conference room.		
Type: ☒ External ☐ Temporal		
Preconditions: 1. Booking Specialist is logged into their account 2. Clients have contacted the hotel in person or via phone call regarding reserving a conference room		
Normal Course: 1.0 Creating Reservation 1. Booking Specialist opens reservation request 2. The system displays available dates, conference rooms, and details such as sizing/capacity a. If a conference room is booked, Booking Specialist checks alternatives dates and times 3. Booking Specialist enter the event details 4. Booking Specialist submits reservation request 5. System creates a reservation ID number and saves the reservation details		
Postconditions: 1. System stores reservation details for reference and tracking 2. System sends the reservation details to the customer with a pending status		
Exceptions: 1. Technical Issues 1. System encounter technical problem 2. Booking Specialist manually writes event details and client information 3. Once system is back on, booking Specialist continues to step 5 of the “normal course”		

Use Case Name: Create Customer Account	**ID:** UC-2	**Priority: High**
Actor: Booking Specialist		
Description: This use case describes how the Booking Specialist creates an account for a customer		
Trigger: Customer wants to create an account to reserve a conference room		
Type: ☒ External ☐ Temporal		
Preconditions: 1. The Booking Specialist is logged into their account 2. Clients have contacted the hotel in person or via phone call regarding making an account to reserve a conference room		
Normal Course: 1. The system prompts the booking specialist to enter the customer's details 2. The booking specialist accurately inputs the requested information into the designated fields 3. If errors occur, the system prompts the booking specialist to fix them 4. Once all information is correctly entered and validated, the booking specialist submits the account request 5. The system updates the customer information data store with the new information 6. The booking specialist proceeds with the booking process using the customer's information stored in the database		
Postconditions: 1. The customer information is successfully stored in the database 2. The Booking Specialist can retrieve customers' contact information easily for future bookings or communication		
Exceptions: **E1. Customers Account Exist** 1. The system provides options to update or confirm the existing data rather than inputting duplicate information		

Use Case Name: Canceling a Reservation	**ID:** UC-3	**Priority: High**
Actor: Booking Specialist, Hotel Manager		
Description: This use case describes how the Hotel Manager cancels a conference room request		
Trigger: Hotel Manager receives notice of conference room cancelation request from the Sales System		
Type: ☒ External Temporal		

Preconditions:

1. A customer must have booked a conference room reservation before.
2. The reservation must be in a cancellable state, if the reservation has already been canceled or if the event has passed, it cannot be canceled again.
3. Cancellation deadline has not passed
4. Only authorized users such as managers or booking specialists should be allowed to cancel reservations.

Normal Course:

1. Hotel manager locates the reservation by name or ID number
2. Hotel manager opens a cancelation request
3. For each hotel or conference room reservation cancellation
    a. Hotel manager enters confirmation number
    b. System searches the reservation datastore
4. Hotel manager acknowledges the reservation has been canceled
5. System transmits notice of reservation cancellation

Postconditions:

1. Reservation status updated to reflect cancellation.
2. Cancelation confirmation message displayed to provide clarity and transparency.
3. Related services updated such as catering services.
4. Updated availability status of conference rooms.

Exceptions:

1. Invalid Reservation- When the customer tries to cancel a reservation that doesn't exist or has already been canceled.
    a. The system will provide feedback stating that the reservation cannot be canceled because it doesn't exist or has already been canceled.

Use Case Name: Create Caterer Profile	**ID:** UC-4	**Priority: Medium**
Actor: Hotel Manager		
Description: This use case describes how the Hotel Manager creates a caterer account		
Trigger: Hotel Manager wants to do business with caterer		
Type: ☒ External Temporal		
Preconditions: 1. Caterer aligns with Cowboy Hotels business mission and values		
Normal Course: 1. The system prompts the Hotel Manager to enter the catering details 2. The Hotel Manager inputs the requested information into the designated fields 3. Once all information is correctly entered and validated, the Hotel Manager submits the account request 4. The system updates the catering information data store with the new information 5. The Hotel Manager proceeds to update reservation details using the catering information stored in the database		
Postconditions: 1. System updates catering service availability 2. System notifies caterer of selection		
Exceptions: 1. Caterer information incomplete a. The Booking Specialist can manually fill missing info later once the caterer's profile is created		

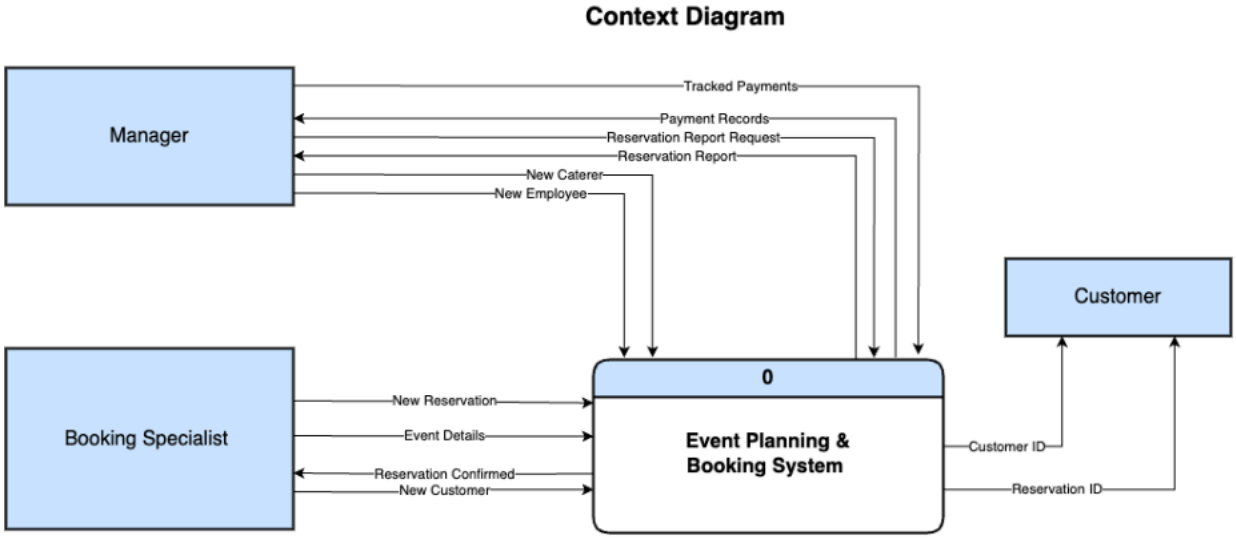
Use Case Name: Tracking Payments	**ID:** UC-5	**Priority: Medium**
Actor: Hotel Manager		
Description: This use case describes how the system tracks payments		
Trigger: Hotel Manager requests to view payments for a event reservation		
Type: ☒ External Temporal		
Preconditions: 1. User is authorized to access sensitive information by logging into system 2. System stores all transactions that are approved and confirmed showing booking ID		
Normal Course: 1.0 Tracking Payments 1. Hotel Manager checks the status of payments 2. System displays all tracked payments 3. All tracked payments are listed starting with most recent 4. System will notify Hotel Manager of any changes in payments 5. Updated payments will be available for access and retrieval 6. The system records details of tracked payment such as User ID, date, and timestamp 7. System sends notification of a successful tracked payment		
Postconditions: 1. System updates tracked payments 2. System is ready to handle additional tracking requests		
Exceptions: E1. Issues tracking payments 1. Issues occur while tracking payment 2. System notifies Hotel Manager Return to Step 2, Normal Course, to see if issue has cleared		

Use Case Name: Modify Reservation	**ID:** UC-6	**Priority: Medium**
Actor: Hotel Manager, Booking Specialist		
Description: This use case describes how the booking specialist or manager can change the conference room for an existing reservation.		
Trigger: Customer requests that their original conference room reservation be modified.		
Type: ☒ External ☐ Temporal		
Preconditions: 1. Original reservation has been booked and confirmed in the system. 2. Conference room size is available on the date and time of their reservation.		
Normal Course: 1.0 Change Room 1. Booking specialist retrieves the customer's reservation number. 2. Booking specialist enters the reservation number into the system. 3. Booking specialist selects the customer's original reservation. 4. Booking specialist selects the new desired room. 5. Booking specialist verifies the selected conference room is available for the desired date and time. 6. Booking specialist apply changes to the updated reservation information.		
Postconditions: 1. Customer reservation updated with new conference room booking. 2. Transaction recorded in system.		
Exceptions: E1: In step 5, if the conference room desired is not available 1. Notify customer and suggest alternate available options. 2. Repeat steps 4 and 5. 3. Once available room is verified, Use Case resumes at step 6 of the normal course.		

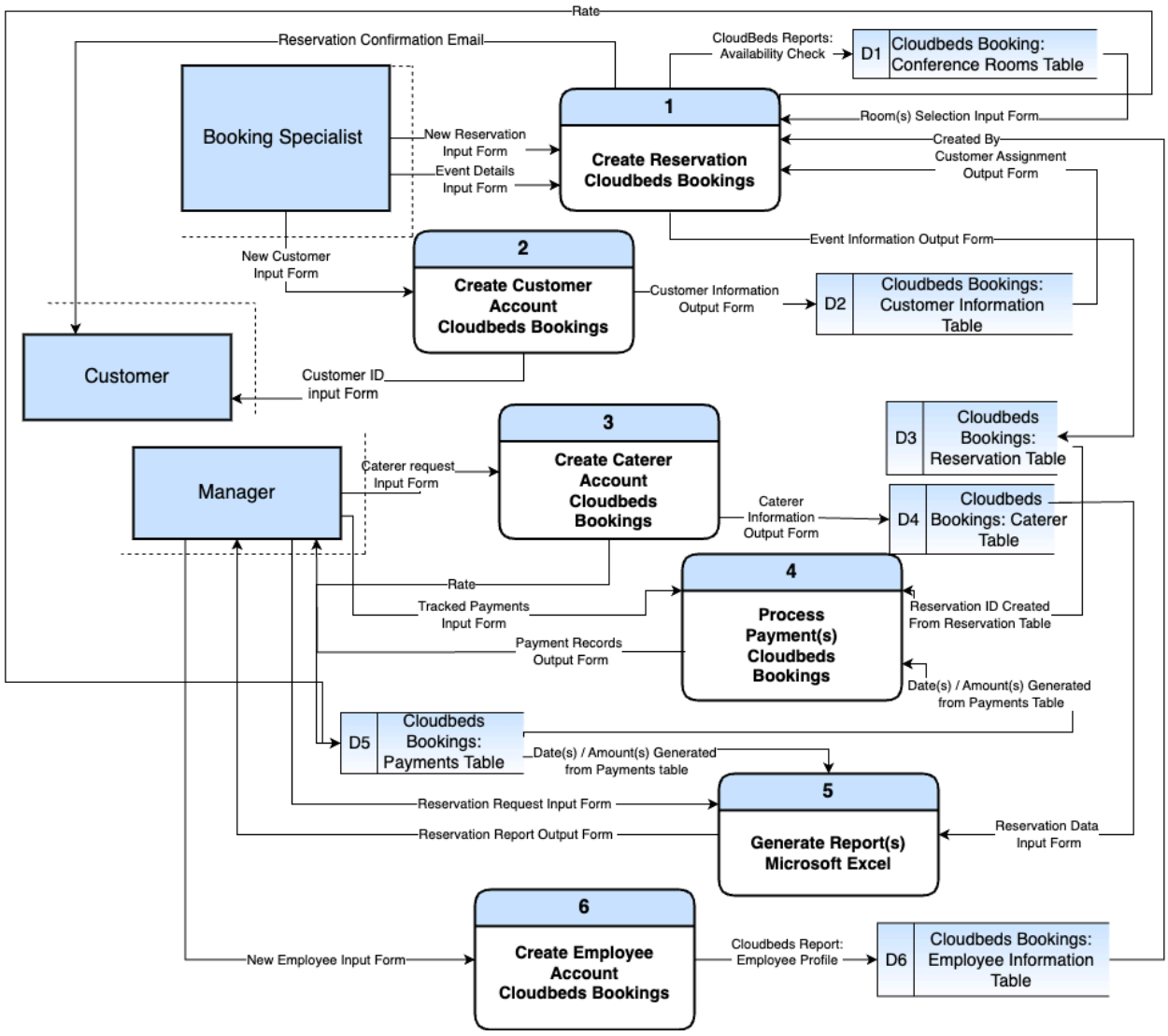
Use Case Name: Generate Reservation Report	**ID:** UC-7	**Priority: Low**
Actor: Hotel Manager		
Description: This use case describes how the manager can receive a full report of a reservations information.		
Trigger: Hotel Manager requests to view reservations information.		
Type: ☒ External Temporal		
Preconditions: 1. Reservation has been booked and confirmed in the system.		
Normal Course: 1.0 Create Reservation Report 1. Hotel manager inputs the Customer ID into the system. 2. Hotel manager requests to view reservation details. 3. System displays categories of reservation information. 4. Hotel manager confirms the type of information to include. 5. Hotel manager selects the “generate report” option.		
Postconditions: 1. Reservation report is created and saved to be viewed by the hotel manager.		
Exceptions: **E1: In step 1, if Customer ID is input incorrectly,** **1. Error message displays.** **2. Repeat step 1.**		

Use Case Name: Register Employee Account	**ID:** UC-8	**Priority: Low**
Actor: Booking Specialist, Hotel manager		
Description: This use case describes how the booking specialist authorizes access to a new hire who will use the system		
Trigger: Hotel Manager hired another Booking Specialist or Manager		
Type: ☒ External ☐ Temporal		
Preconditions: 1. Manager has access and is logged on to the system 2. Booking specialist has password to unlock computer		
Normal Course: 1.0 Register account 1. Booking specialist accesses account registration page 2. Booking specialist provides name/contact/job title info 3. System prompts username/password creation 4. Booking specialist creates username and password 5. System creates account for booking specialist		
Postconditions: 1. Booking specialist has working credentials to log in to software		
Exceptions: 1. Booking Specialist does not create account within system time limit a. System returns user to software login page 2. Booking Specialist creates invalid password a. System prompts them to create a different password following the guidelines		

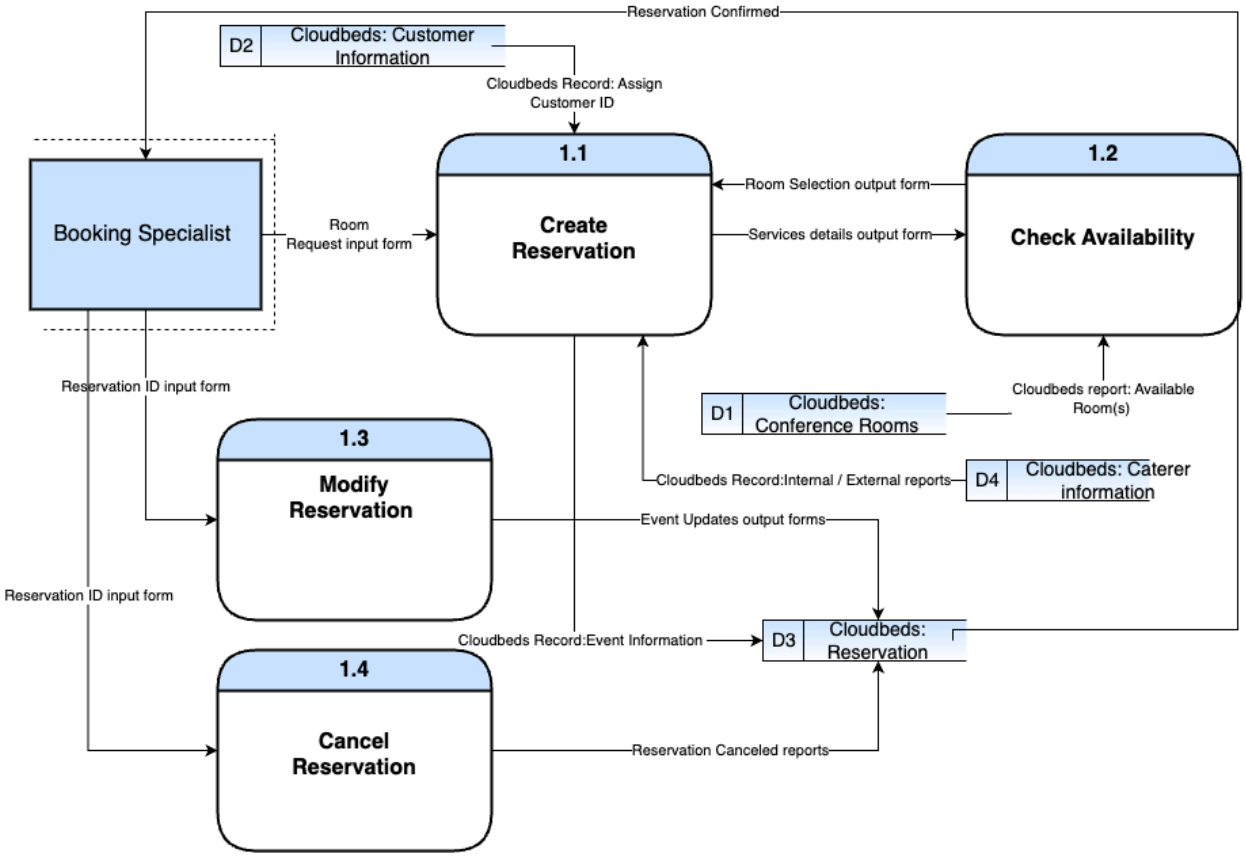
Physical Process Model (DFD)

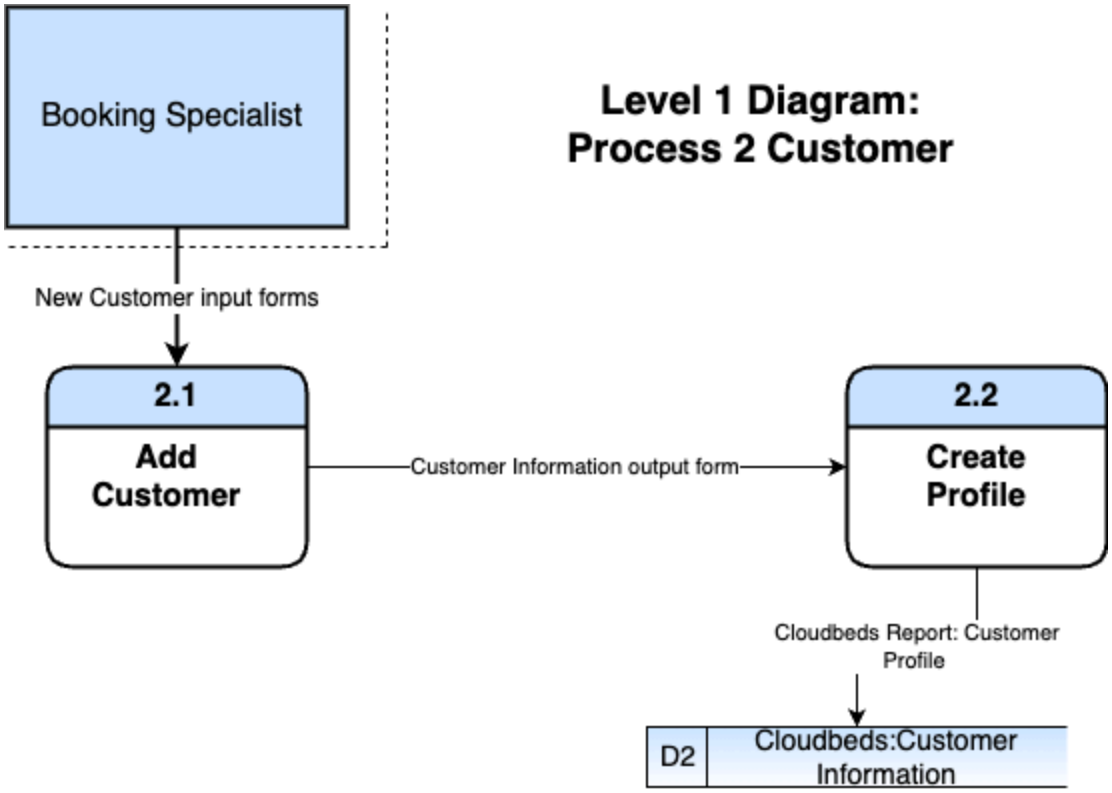


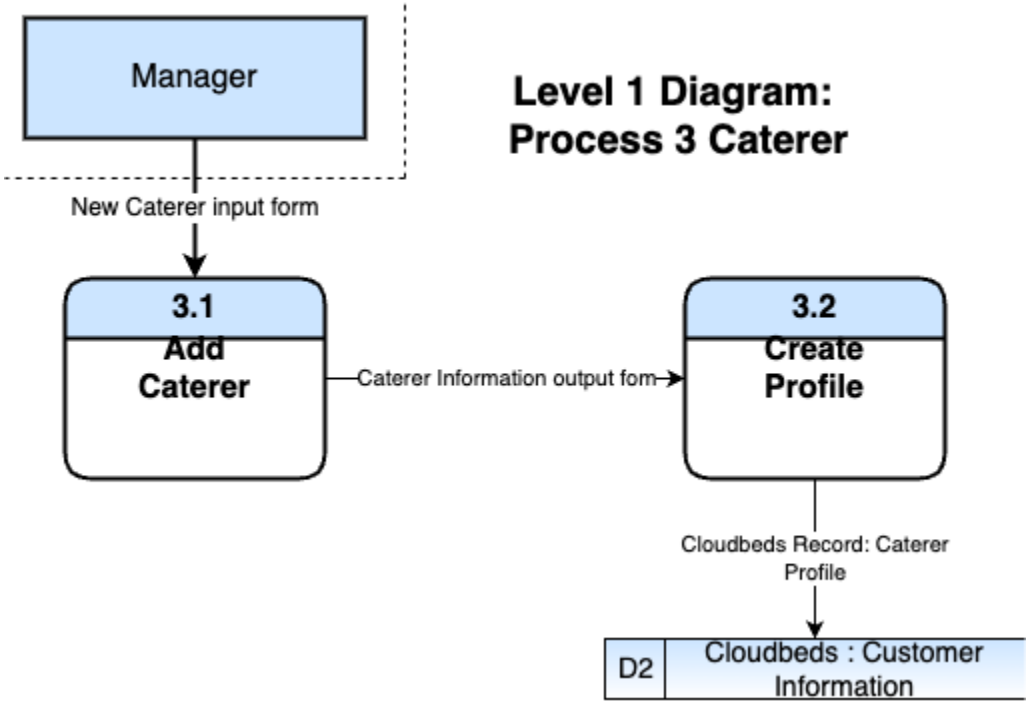
Level 0 Physical Diagram



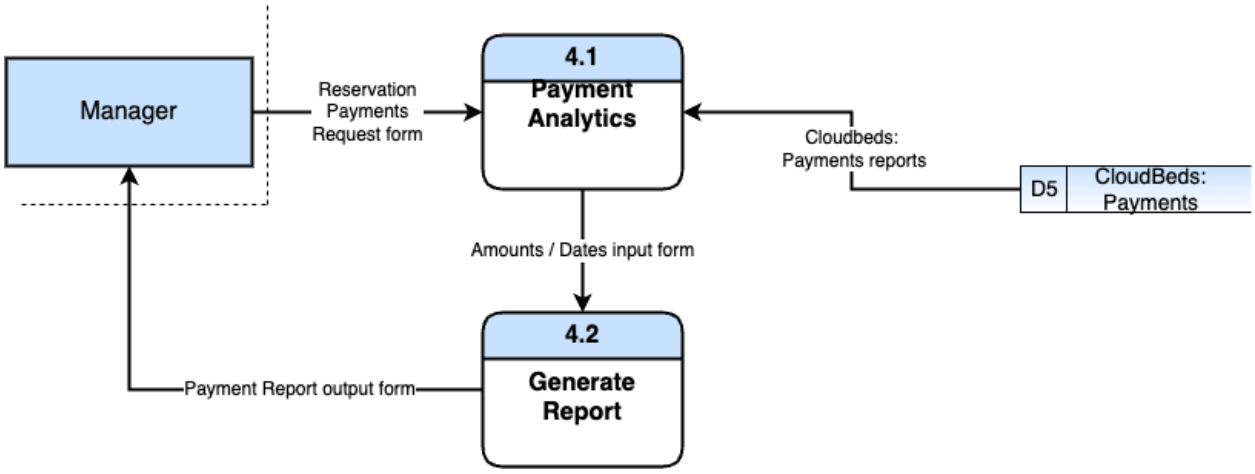
Level 1 Diagram:
Process 1 Reservation



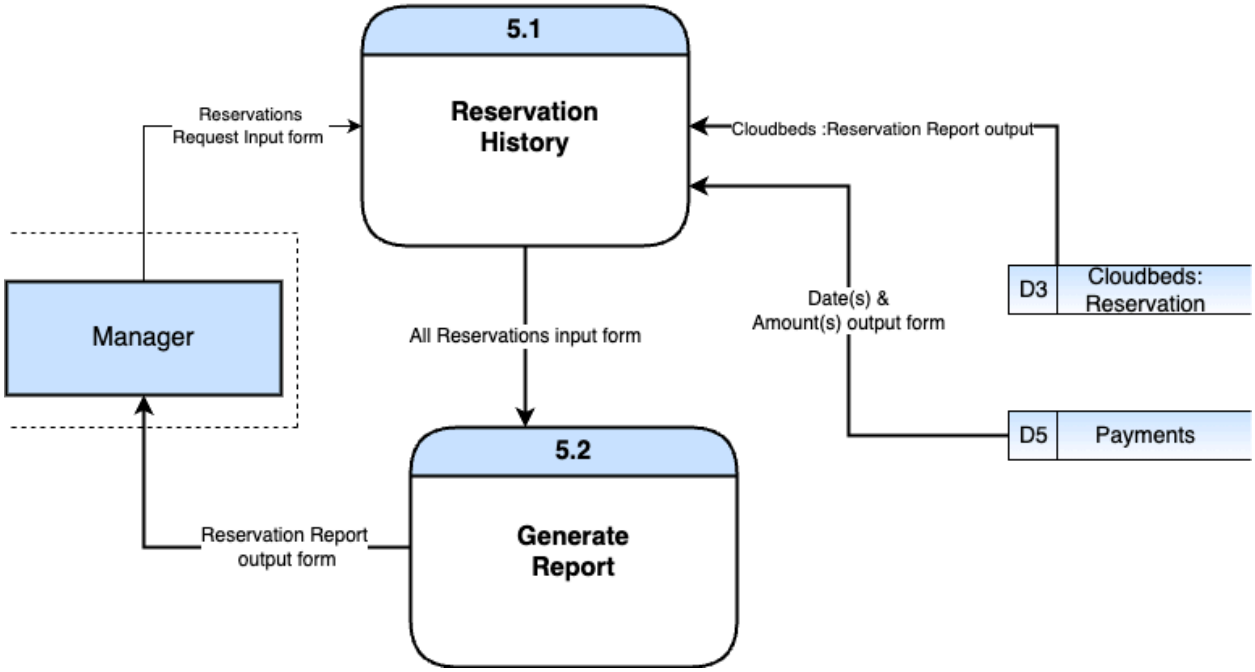

Booking Specialist
Level 1 Diagram:
Process 2 Customer
New Customer input forms
2.1
Add
Customer
Customer Information output form
2.2
Create
Profile
Cloudbeds Report: Customer
Profile
D2
Cloudbeds:Customer
Information

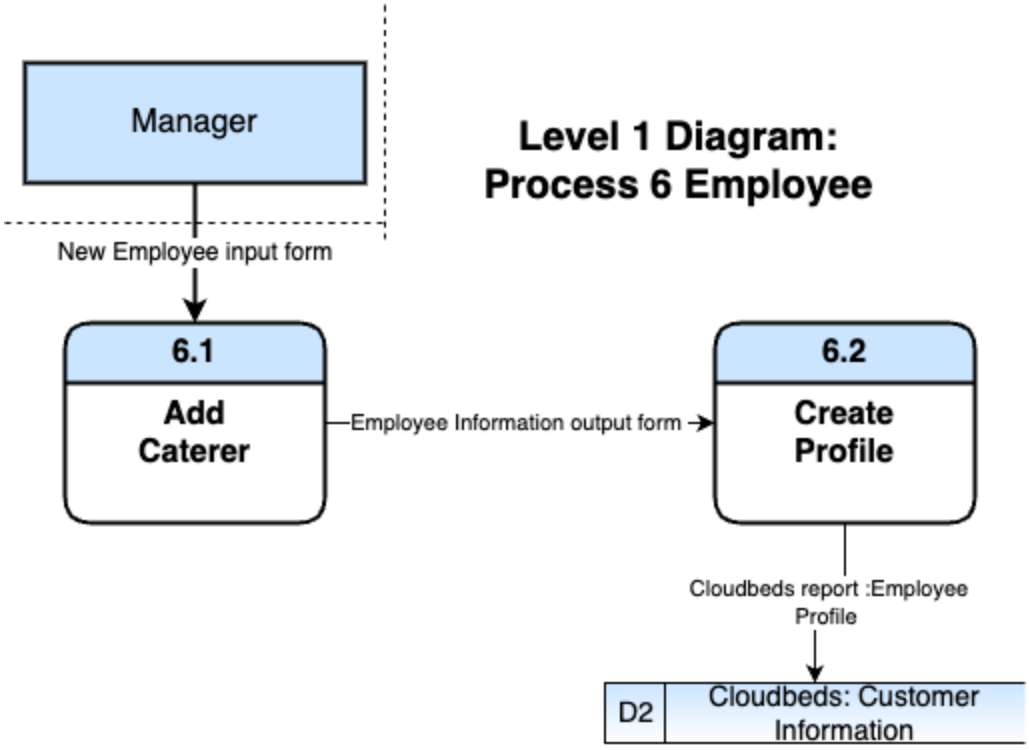

Manager
Level 1 Diagram:
Process 3 Caterer
New Caterer input form
3.1
Add
Caterer
Caterer Information output form
3.2
Create
Profile
Cloudbeds Record: Caterer
Profile
D2
Cloudbeds : Customer
Information

Level 1 Diagram:
Process 4 Payments

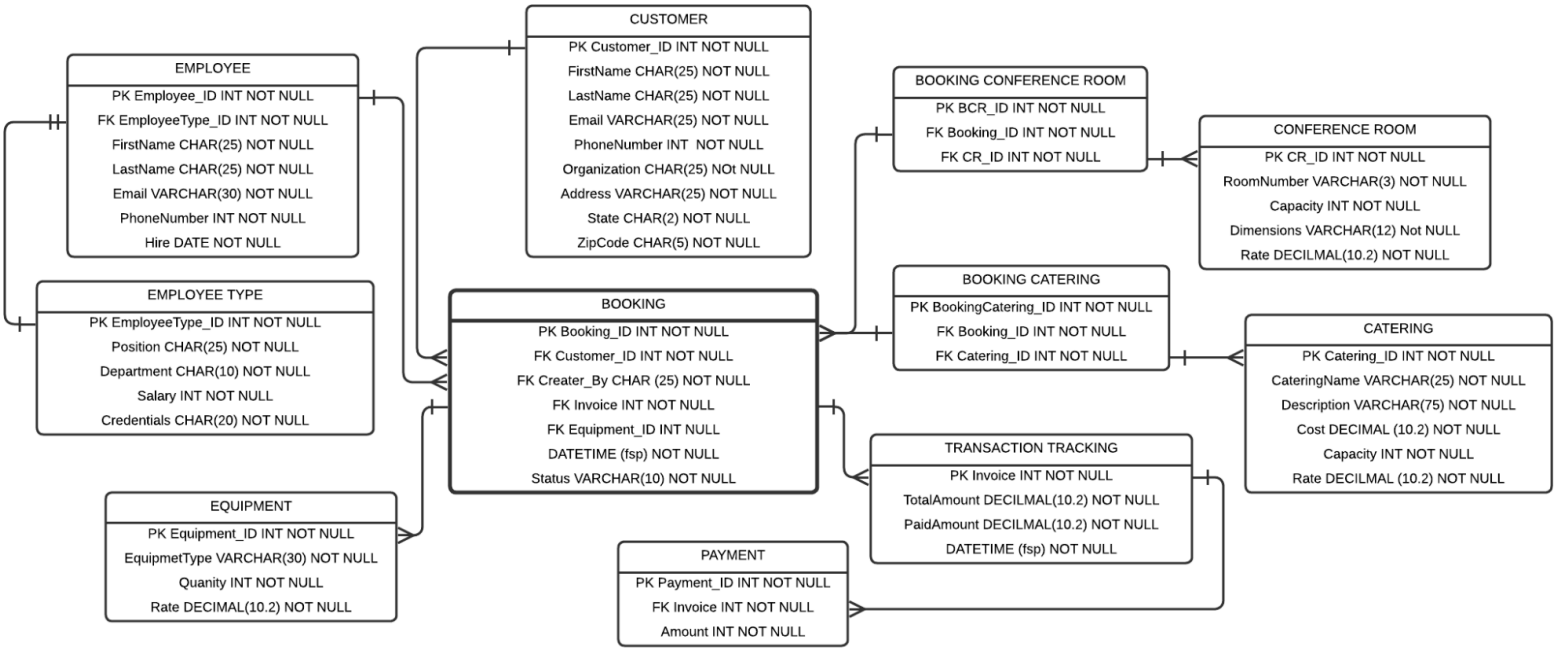


Level 1 Diagram:
Process 5 Reporting




Manager
Level 1 Diagram:
Process 6 Employee
New Employee input form
6.1
Add
Caterer
Employee Information output form
6.2
Create
Profile
Cloudbeds report :Employee
Profile
D2
Cloudbeds: Customer
Information

Physical Data Model (E-R)



Hardware/ Software Specification

	Standard Client	**Standard Web Server**	**Standard application server**	**Standard database server**
Operating system	Windows 10	Linux (Ubuntu Pro Server)	Linux (Ubuntu Pro Server)	Linux (Ubuntu Pro Server)
Special software	Office 365	Apache	Java	Oracle
Hardware	512 GB, 13th Gen Intel® Core™ i5-13500 (24 MB cache, 14 cores, 20 threads, 2.50 GHz to 4.80 GHz Turbo, 65 W)	4 tb disk drive	4 tb disk drive	16 tb disk drive
Network	Always-on broadband	Dual 100 Mbps Ethernet	Dual 100 Mbps Ethernet	Dual 100 Mbps Ethernet

Hardware/software costs:
Estimated Cost of Each Piece of Hardware:

Desktop with windows 10: $850
Linux ubuntu server: $25

Estimated Total Cost of Hardware:

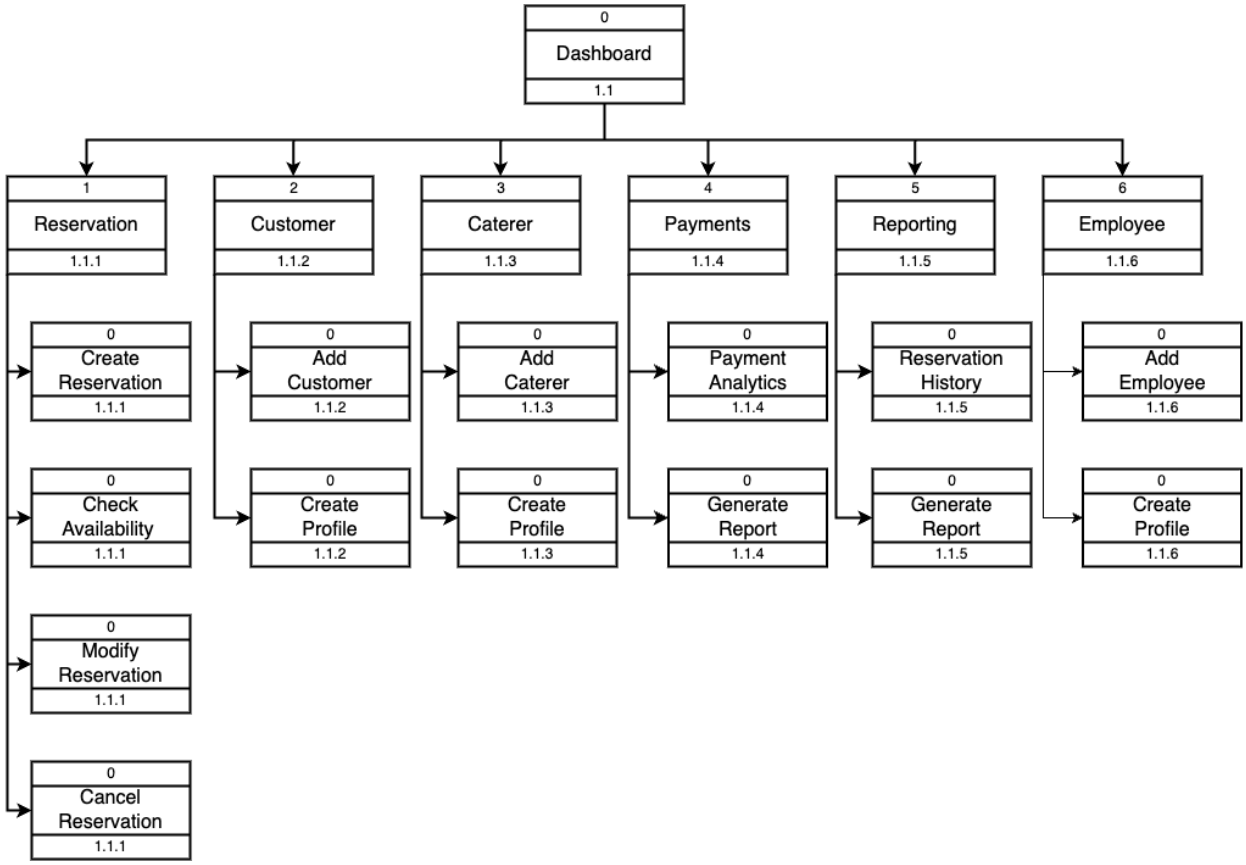
- 2 desktops with windows 10: $1700
- 2 Linux ubuntu servers for desktops: $50

Estimated Cost of Each Piece of Software:
Office 365 business premium license: $264 per year per subscription

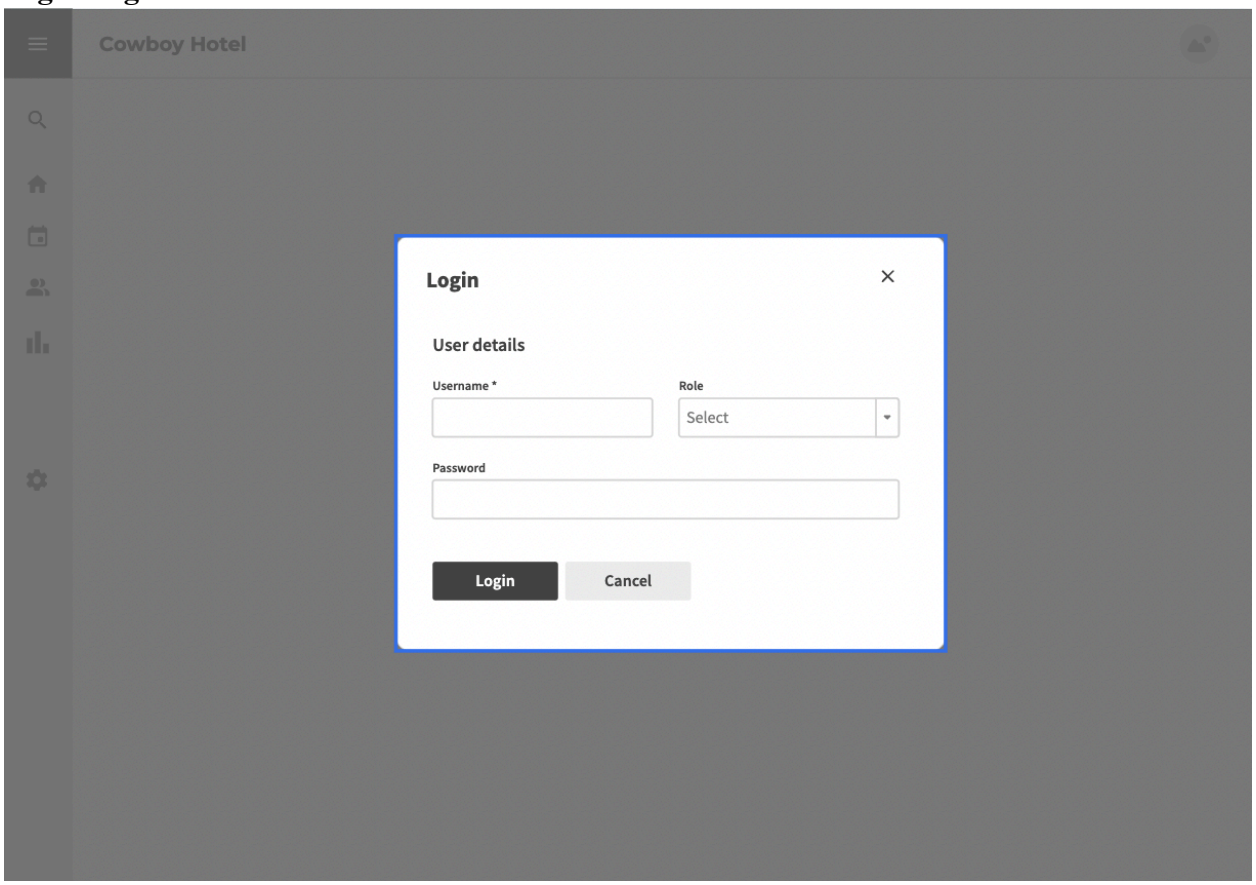
Estimated Total Cost of Software:
Office 365 business premium license for two employees with access: $528

User Interface

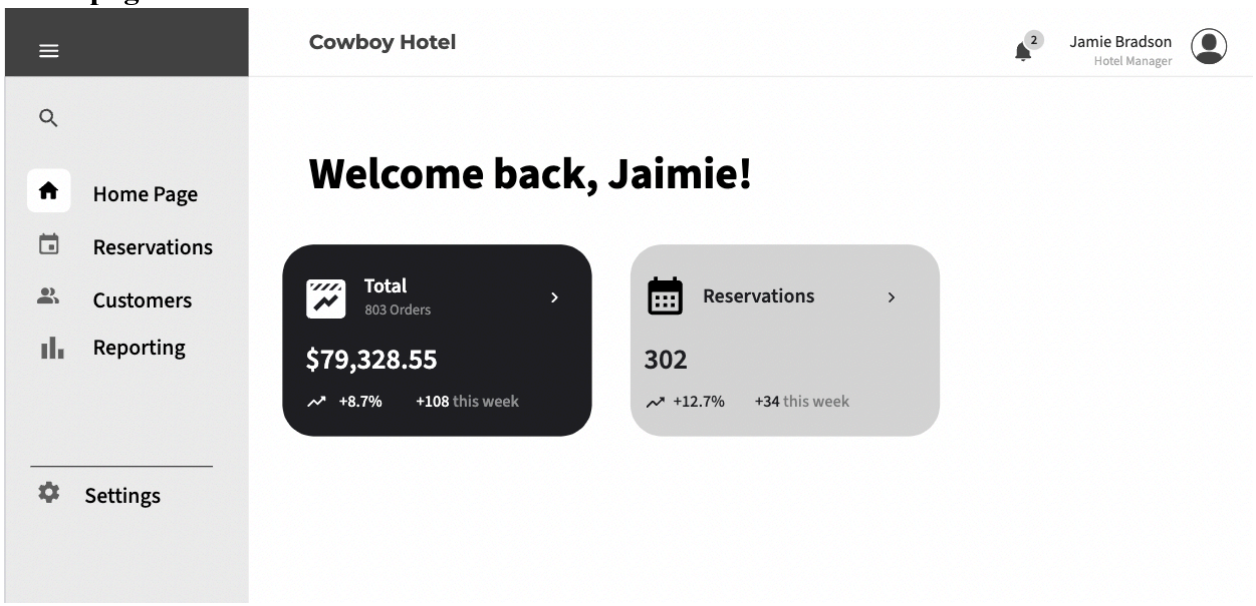
Interface Structure Diagram



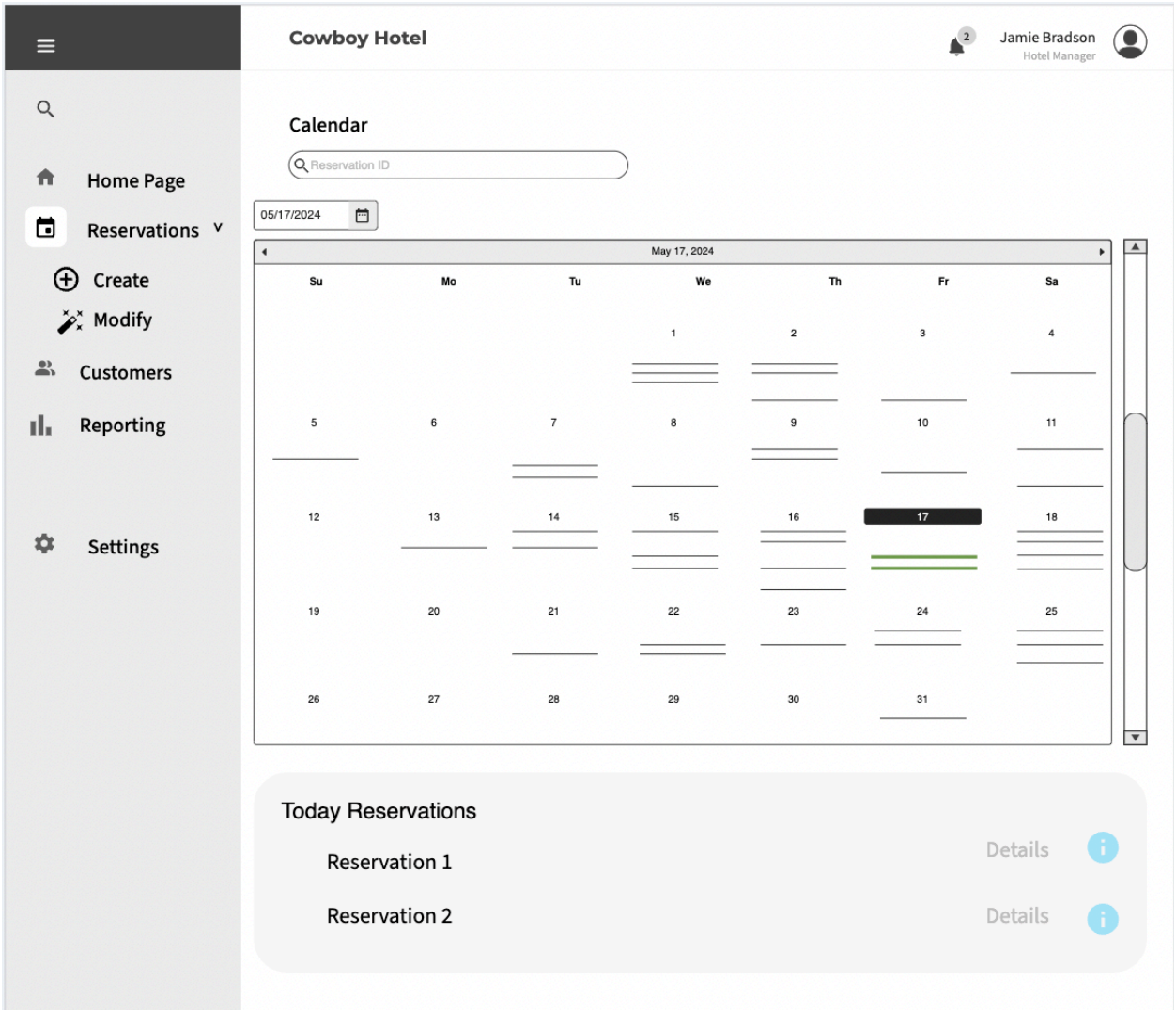
Login Page


Cowboy Hotel
Login
User details
Username *
Role
Select
Password
Login
Cancel

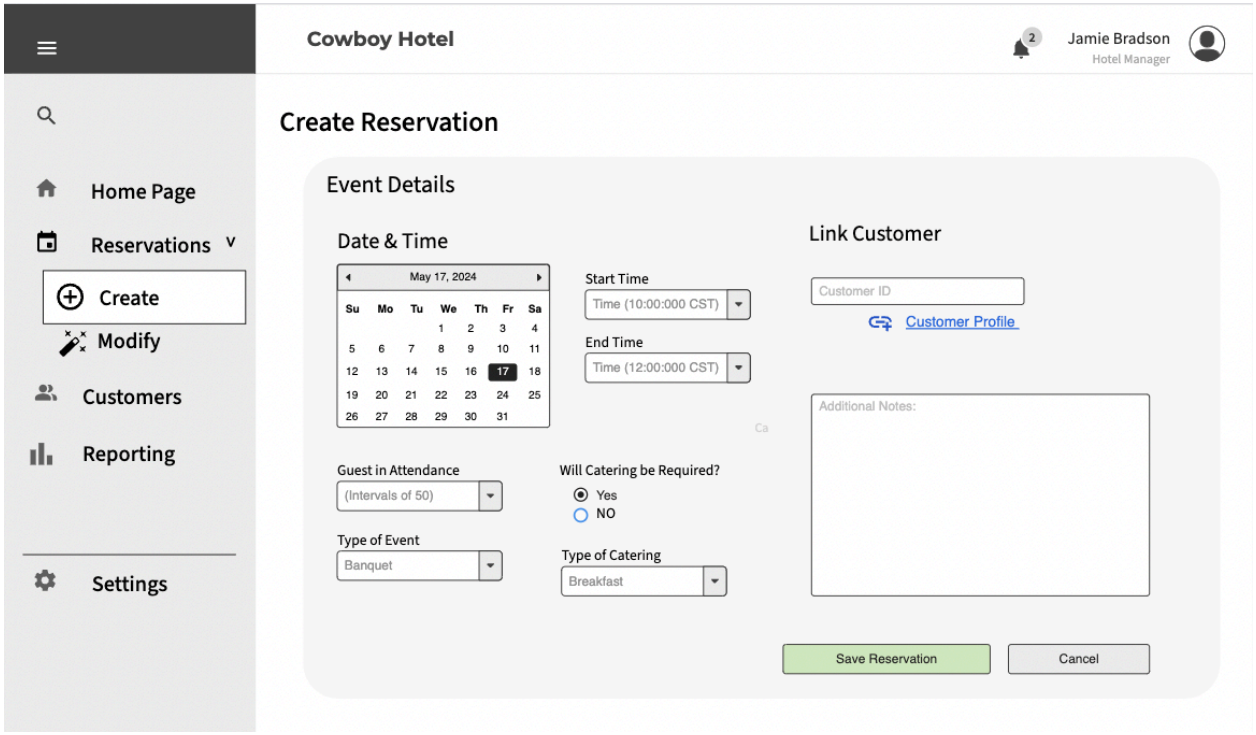
Home page


Cowboy Hotel
2
Jamie Bradson
Hotel Manager
Home Page
Reservations
Customers
Reporting
Settings
Welcome back, Jaimie!
Total
803 Orders
$79,328.55
+8.7%
+108 this week
Reservations
302
+12.7%
+34 this week

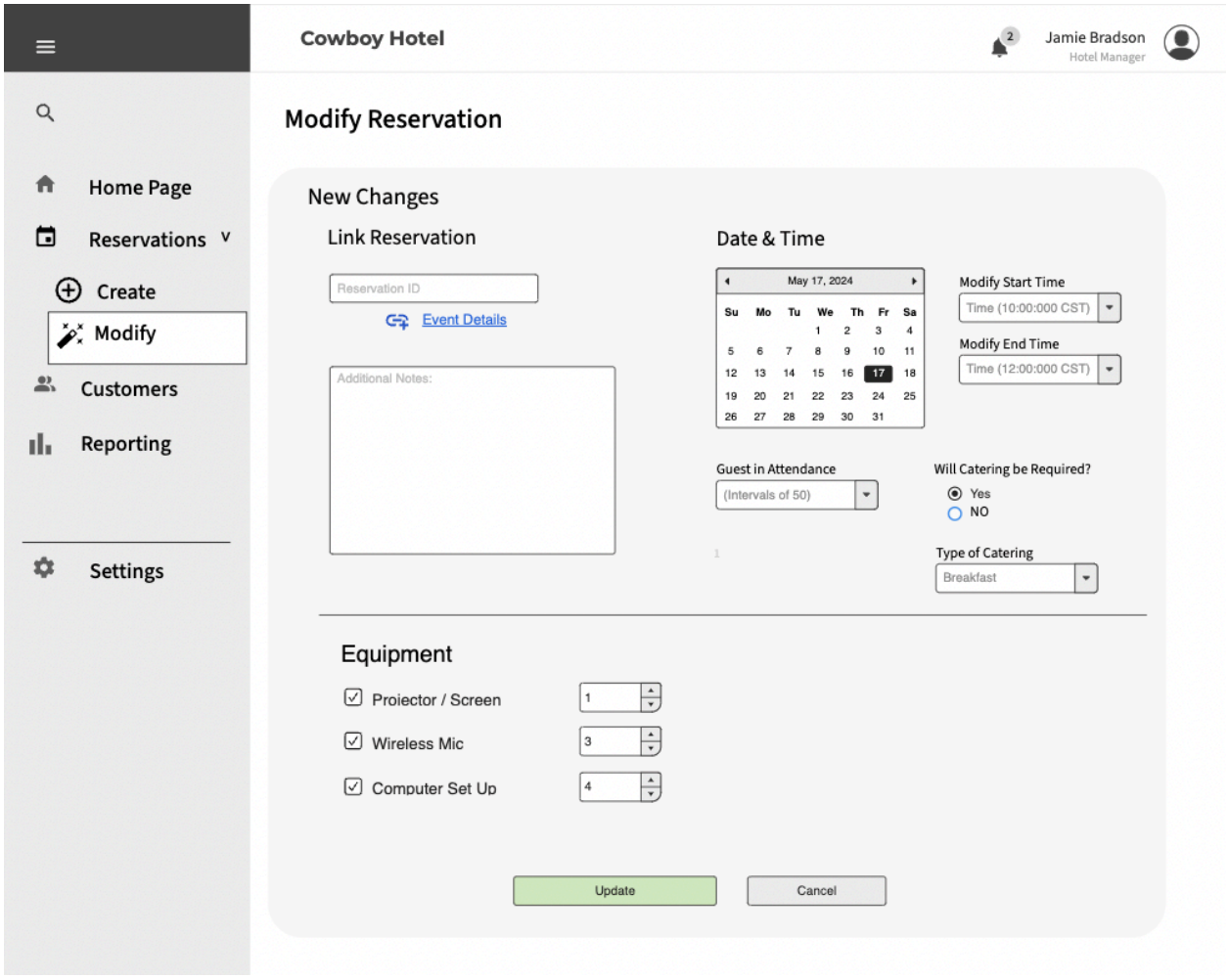
Reservation



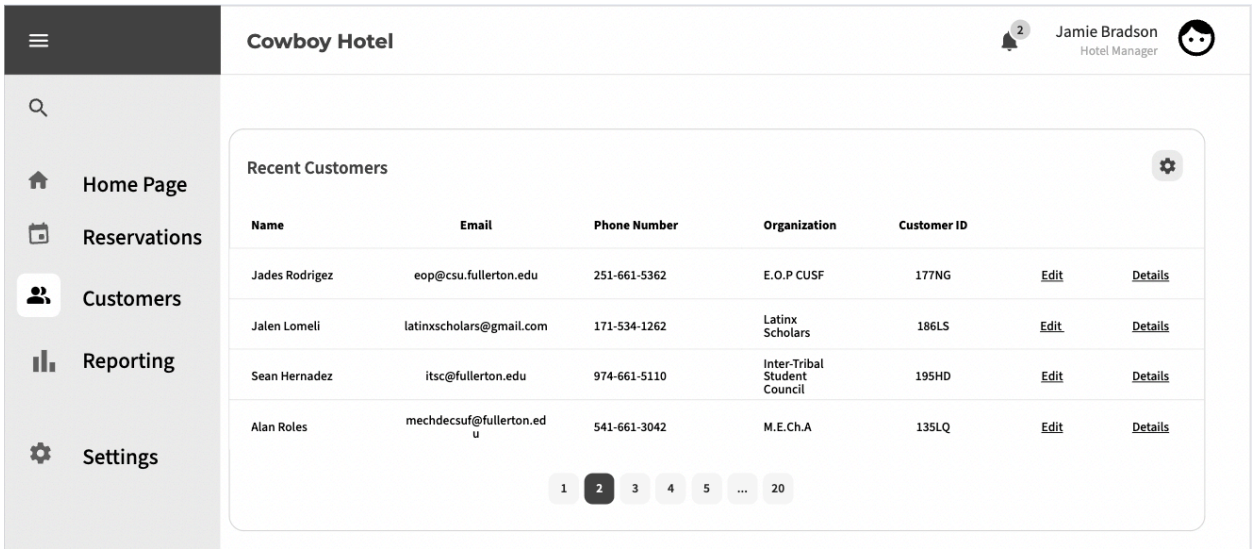
Creating Reservation



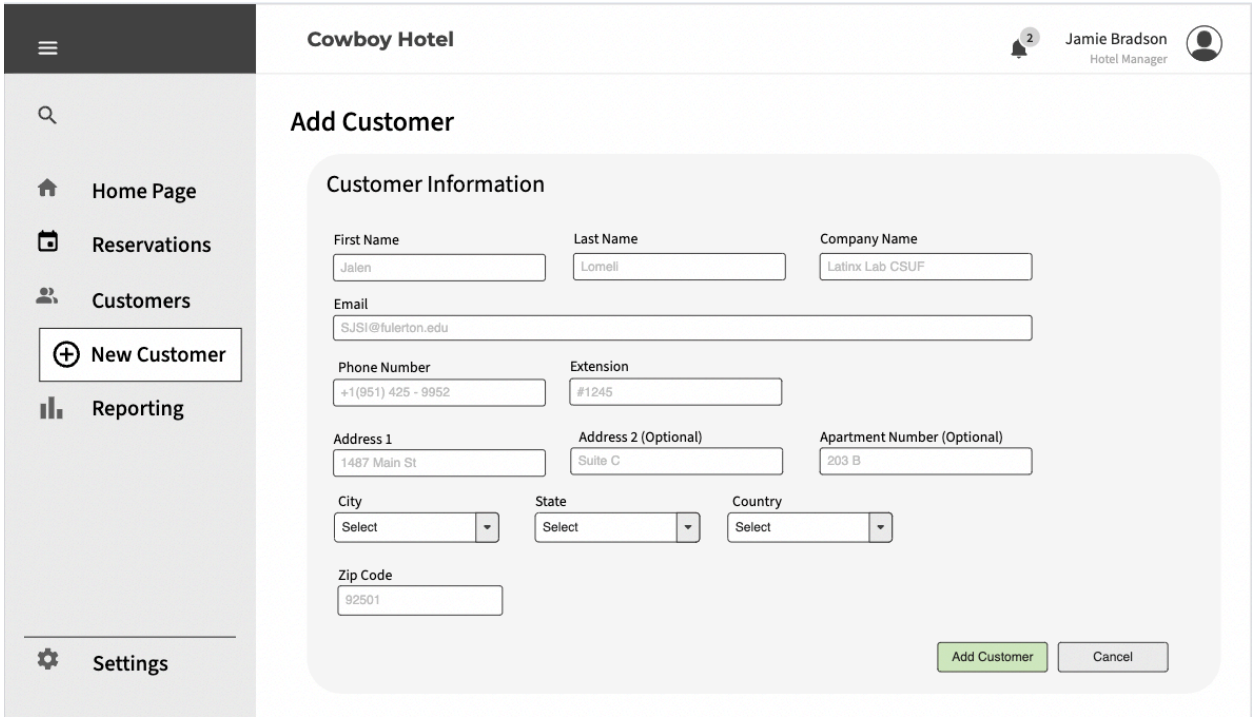
Modify Reservation



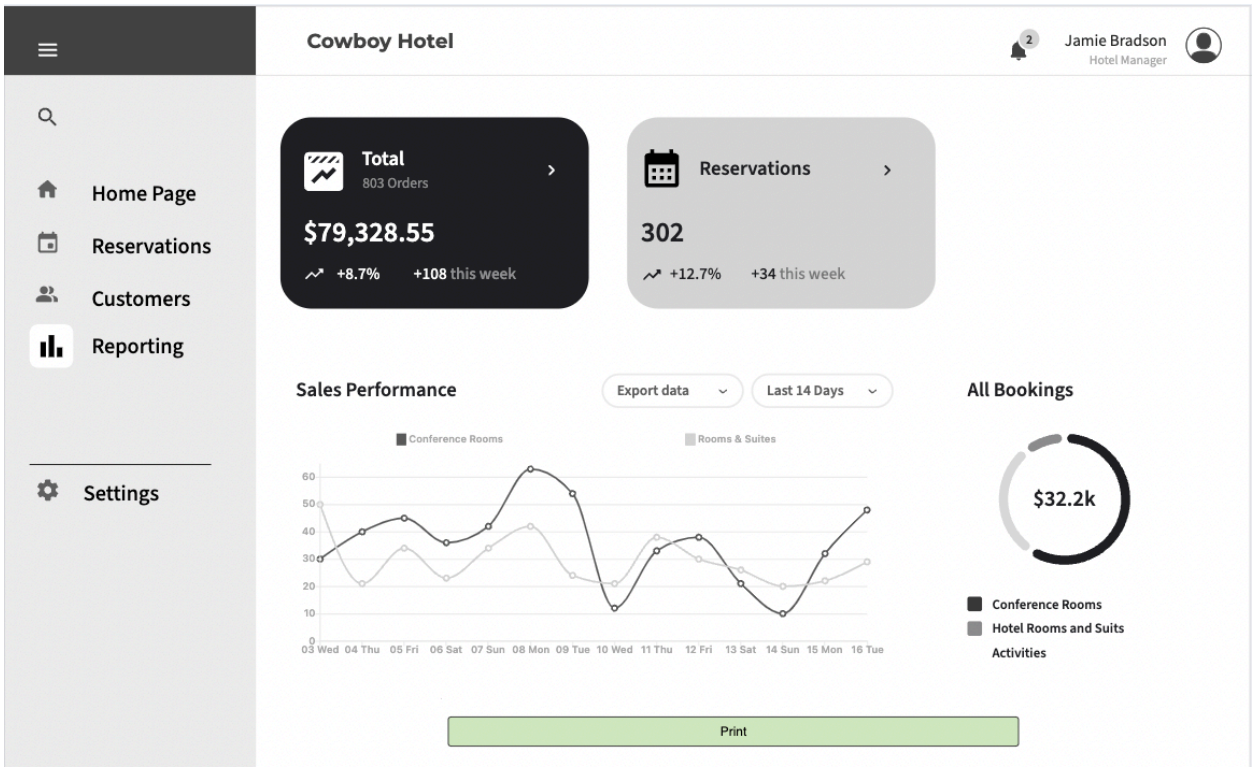
Customer Accounts



New Customer



Generating Reports



Appendix

Project Charter

Project Charter
Team Name: Too SAD
Team Lead: Yesenia Rivera Rayo **Team Members:** Adrian Cruz, Jonathan Flores, Adam Pickard, Diana Ramirez Flores, Yesenia Rivera Rayo, Lizbeth Robles, and Thomas Stenson
Communication Method: ● Discord ● Email ○ Adrian Cruz: adriancruz185@csu.fullerton.edu ○ Jonathan Flores: jflores0331@csu.fullerton.edu ○ Adam Pickard: adampickard@csu.fullerton.edu ○ Diana Ramirez Flores: dianaramirez01@csu.fullerton.edu ○ Yesenia Rivera Rayo: yesierayo02@csu.fullertone.edu ○ Lizbeth Robles: lizbeth.robles09@csu.fullerton.edu ○ Thomas Stenson: 182tds2003@csu.fullerton.edu
Collaboration Technologies: ● Google Docs ● Google Sheets ● Draw.io ● Lucid Chart
Meeting Scheduling ● Tuesday: In-person after class no later than 11:00 pm ● Thursday: Discord Call from 8:00 - 9:00 pm
Work Plan: During our first meeting the team will assign different tasks among themselves. Each member is responsible to finish their own section by the second meeting. During the second meeting of the week each task will be reviewed by the team for approval and to eliminate errors. Any improvements must be completed before class the following week. Before submission all group members need to approve the assignment.

Interview Report

Person Interviewed: Jaime Bradson

Hotel Manager at Cowboy Hotel

Interviewer: Too SAD

- Adrian Cruz, Jonathan Flores, Adam Pickard, Diana Ramirez Flores, Yesenia Rivera Rayo, Lizbeth Robles, and Thomas Stenson

Purpose of Interview:

- Understand what the client wants with the new system and what it will do
- Understand the requirements of the project

Summary of Interview:

- Biggest problems with the current System:
    - Overbooking conference rooms
    - There's only manual access, which limits manager access causing booking errors
- The System must operate on Windows.
- The System must include the following:
    - Be user-friendly, automated, accurate, and fast.
    - Incorporate reservation status indicators (Pending, Confirmed, Canceled, time, date, down payment)
    - Provide room information such as capacity, dimensions, and pricing.
    - Store customer information, such as name, email, phone number, and organization.
    - Store Caterer's information, such as name, location, and internal/external
    - Track metrics and data needed for financial reporting and for improvements in marketing rooms, monthly revenue sheets across each room

In the interview, our group asked multiple questions to determine the functional and non-functional requirements for the project. The interview provided us with more information on what kind of processes are essential to achieve an efficient solution for the reservations system from booking and planning an event at a conference room.

Open Items

- Get information regarding the conference rooms (dimensions, capacity)
- Verify a system
- Reflect in Cost-benefit analysis: Hire two people after 6 months of running
    - Booking specialist at $60,000 annually
    - Assistant at $50,000 annually
    - $7,500 in miscellaneous cost

Detailed Notes: see attached transcript