

Cowboy Hotel

Final Deliverable

ISDS 406-50

Professor Bruce Hunt

Group 3 - The Lucky 7

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Executive Summary

The Cowboy Hotel has determined that their current system cannot efficiently process the expected quantity of bookings for their newly developed conference rooms, in addition to their already existing hotel rooms and suites. In order to resolve this issue, Cowboy Hotel has hired our team to create a new system that will not only assist in streamlining the process by making the data entry process easier for the booking staff, but also ensuring accuracy.

To create a new system that is user-friendly and aids the booking staff in processing new bookings for the conference rooms, the new system will require two additional machines. The system will be trained to scan data entries to process errors or conflicts when it comes to booking, planning, and scheduling. This feature will prevent issues that Cowboy Hotel has had, such as double bookings and lost paperwork. It will also provide efficient storage to allow the staff to search, view, update, and delete data without disrupting other data entries. The system will also provide a user-friendly interface that may also be made available remotely for restricted staff.

We have included the following information that will help in further explaining every process of this new system. In our Systems Request, it is put into detail regarding Cowboy Hotel's business need, business requirements, business value, and any special issues or constraints. Within our Project Work Plan, our planning, analysis, design and implementation phase is described.

In the Feasibility Analysis portion, we explain the cost and benefits to Cowboy Hotel and go into specifics when it comes to development and operational costs. After completing our analysis phase, we discovered our total return of investment would equate to 52.5%. We then go into detail about the system's technical, economic and organizational feasibility. Considering the ease of implementation and training for this system is relatively straightforward, we believe both hotel staff and customers will easily understand how to navigate the system. This new system will not only decrease the difficulty of booking rooms, but also ensure a smooth and successful process.

For the Acquisition Strategy, we decided to outsource to fully implement Cowboy Hotel's conference room booking system. We have a short, yet flexible time frame to meet and outsource the skills needed to properly manage the new conference room booking system. It would be faster to look for another company who is capable of fulfilling the new booking system needs, rather than having to provide training to employees to learn and adapt to the new system, as it can be highly time-consuming and expensive. We are confident that Jaime Bradison is a manager who is more than competent to manage Cowboy Hotel's conference rooms and hotel rooms, while also managing the outsourced company to meet standards in managing guests and business partners, such as third-party vendors. Outsourcing allows us to expand in other ventures since our employees' workload would not be as impacted, giving us more internal resources to utilize.

We move further into covering what we completed during the later phases of this process. We first describe the requirements definition document and touch base on the specific factors that will be added to ensure this process runs as efficiently as possible. Certain things that were incorporated include management of room reservations, customer information, and caterer information. We added non-functional requirements that cover operational, functional, security, cultural, and political factors that will help in easing the process for our entire customers, and will remain inclusive for all.

During the design and implementation phase, we covered all bases in regards to the specifics of what was going to be applied to ensure customers would not have any trouble utilizing this new system. In the Use Cases portion, we go over the specific things that are necessary in navigating the system. For hotel staff, we have created use cases that cover creating new rooms, new caterers, new customers, new room reservations, generating customer statements and reports. For customers, we have created use cases for logging in and modifying room reservations. With these use cases, we have then added these into our physical process models. The main purpose of these models is to illustrate how each process will work so individuals will be able to fully distinguish what is occurring behind the scenes.

To conclude the components that comprise this document, we have the final portions that make up our last phase. This includes physical data models, hardware and software specification, and user interfaces that we will base our actual system on. By looking at these three sections, readers will be able to further grasp the extent of this project and what additional things will be incorporated.

The new system will provide great value to the Cowboy Hotel. After the implementation phase is complete, the hotel will be able to advertise their conference rooms. From the cost-benefit analysis, it is expected that the system will allow for higher volumes of bookings and in turn, higher volumes of revenue. Due to the relationship between conference room bookings and hotel reservations, it is likely to also see a rise in hotel reservations as conference room bookings rise. Our expected tangible values include receiving \$80,000 in sales from bookings by the end of the first year. This would be reached through a smooth and efficient design and implementation process from our team and the Cowboy Hotel staff. As time goes on, we expect \$100,000 in sales from bookings by the end of the first three years. As we do see an increase in profit from conference room bookings, we also expect to see a \$20,000 increase in hotel room revenues, through conference and event guests' reservations. Many companies book conference rooms for special events and work conferences that occur over the span of a couple days. We anticipate the hotel's overall revenue will increase exponentially due to individuals needing hotel rooms for the duration of events they are attending.

As stated previously, we will be going through four different phases during the creation and implementation of this new system. Taking into consideration the planning, analysis, design and implementation phase, this process will take around four months should the process run smoothly. This project is set to begin August 22, 2022 and the projected completion date is December 30, 2022.

Systems Request

System Request – Booking and Events Planning Project

Project Sponsor: Jaime Bradson, Hotel Manager

Contact Information: bhunt@fullerton.edu

Business Need: This project has been initiated to create the capability to plan and book events for the newly constructed conference rooms at the Cowboy Hotel. Currently,

- The booking software for bedrooms and suites cannot handle booking conferences and events.
- The contract with the IT consultant failed, so we have no booking software for the conference rooms yet.
- The entire booking process is handled manually, and it is difficult for the scheduling office to take all the booking paperwork required to fill the conference rooms regularly.
- Many mistakes have already been made with conference room booking, such as double-booking a conference room.
- The conference rooms are not being advertised so as not to overwhelm the conference booking staff.

Business Requirements: Using this system, the staff can easily and accurately process the booking and events planning for the conference rooms on computers. The specific functionality that the system should have includes the following:

- Provide efficient storage of data to search, view, update or delete information
- Automate and streamline the booking and scheduling process
- Process errors or conflicts in booking, planning, and scheduling
- Add features that aid in a user-friendly interface
- Include quality-enhanced reporting
- Provide two additional machines to the conference scheduling office
- Provide access to the system remotely

Business Value: We expect the system will increase sales by a larger volume of reservations year by year. The conference rooms will be advertised to promote sales growth. Due to people staying in the hotel when they arrive for the conferences and events held there, hotel room revenues will also rise.

Conservative estimates of tangible value to the hotel include the following:

- \$80,000 in sales from conference room bookings by the end of the first year
- \$100,000 in sales from conference room bookings by the end of the three years
- \$20,000 increase in hotel room revenue through conference and event guests' reservations.

Special Issues or Constraints:

- \$40,000 is available upfront (during 2022) to fund this project.
- This IT system is necessary for the booking and events planning of the new conference rooms. Hence, the project should be completed as soon as possible.

Project Work Plan

Task ID	Task Name	Assigned To	Estimated			Actual			Dependency	Status
			Duration (days)	Start Date	Finish Date	Start Date	Finish Date	Duration Variance		
1	Planning Phase		14	Mon 8/22/22	Fri 9/9/22	Mon 8/22/22	Fri 9/9/22	0		Complete
1.1	Identify opportunity	Jill	2	Mon 8/22/22	Tue 8/23/22	Mon 8/22/22	Tue 8/23/22	0		Complete
1.2	Analyze feasibility	Sydney	3	Wed 8/24/22	Fri 8/26/22	Wed 8/24/22	Fri 8/26/22	0	1.1	Complete
1.3	Develop work plan	Pham	4	Mon 8/29/22	Thu 9/1/22	Mon 8/29/22	Thu 9/1/22	0	1.2	Complete
1.4	Staff project	Julissa	2	Fri 9/2/22	Tue 9/6/22	Fri 9/2/22	Tue 9/6/22	0	1.3	Complete
1.5	Control and direct project	Elie	3	Wed 9/7/22	Fri 9/9/22	Wed 9/7/22	Fri 9/9/22	0	1.4	Complete
2	Analysis Phase		20	Mon 9/12/22	Fri 10/7/22	Mon 9/12/22	Fri 10/7/22	0		Complete
2.1	Develop analysis strategy	Nickki, Jazz	2	Mon 9/12/22	Tue 9/13/22	Mon 9/12/22	Tue 9/13/22	0	1.5	Complete
2.2	Determine business requirements	Jill, Sydney	3	Wed 9/14/22	Fri 9/16/22	Wed 9/14/22	Fri 9/16/22	0	2.1	Complete
2.3	Create use cases	Team	5	Mon 9/19/22	Fri 9/23/22	Mon 9/19/22	Fri 9/23/22	0	2.2	Complete
2.4	Model processes	Team	5	Mon 9/26/22	Fri 9/30/22	Mon 9/26/22	Fri 9/30/22	0	2.3	Complete

Task ID	Task Name	Assigned To	Estimated			Actual			Dependency	Status
2.1	Model data	Pham	5	Mon 10/3/22	Fri 10/7/22	Mon 10/3/22	Fri 10/7/22	0	2.4	Complete
3	Design Phase		27	Mon 10/10/22	Tue 11/15/22	Mon 10/10/22	Tue 11/15/22	0		Complete
3.1	Design physical system	Julissa	6	Mon 10/10/22	Mon 10/17/22	Mon 10/10/22	Mon 10/17/22	0	2.5	Complete
3.2	Design architecture	Elie	5	Tue 10/18/22	Mon 10/24/22	Tue 10/18/22	Mon 10/24/22	0	3.1	Complete
3.3	Design interface	Nickki	5	Tue 10/25/22	Mon 10/31/22	Tue 10/25/22	Mon 10/31/22	0	3.2	Complete
3.4	Design programs	Jazz	6	Tue 11/1/22	Tue 11/8/22	Tue 11/1/22	Tue 11/8/22	0	3.3	Complete
3.5	Design databases and files	Jill	5	Wed 11/9/22	Tue 11/15/22	Wed 11/9/22	Tue 11/15/22	0	3.4	Complete
4	Implementation Phase		32	Wed 11/16/22	Fri 12/30/22	Wed 11/16/22	Fri 12/30/22	0		Complete
4.1	Construct system	Sydney	7	Wed 11/16/22	Fri 11/25/22	Wed 11/16/22	Fri 11/25/22	0	3.5	Complete
4.2	Install system	Pham	5	Mon 11/28/22	Fri 12/2/22	Mon 11/28/22	Fri 12/2/22	0	4.1	Complete
4.3	Maintain system	Julissa, Elie	12	Mon 12/5/22	Tue 12/20/22	Mon 12/5/22			4.2	In progress
4.4	Post Implementation	Team	8	Wed 12/21/22	Fri 12/30/22				4.3	Open

Feasibility Analysis

Cost-Benefit Analysis					
	2022	2023	2024	2025	Total
Benefits					
Sales from conference room bookings		80,000	90,000	100,000	270,000
Increase in hotel room revenue		20,000	20,000	20,000	60,000
Total Benefits		100,000	110,000	120,000	330,000
Development Costs					
Dell PowerEdge T550 tower server	6,860	0	0	0	6,860
2 HP - ENVY desktops @ \$620	1,240	0	0	0	1,240
2 HP 21.5" IPS LED monitors (2 pack)	180	0	0	0	180
Windows Server 2022 Essentials	500	0	0	0	500
2 Windows 11 Pro @ \$200	400	0	0	0	400
SQL Server 2019 Standard - server	900	0	0	0	900
5 SQL Server 2019 Standard - CAL @ \$210	1,050	0	0	0	1,050
Microsoft 365 Family	100	0	0	0	100
Norton Small Business	100	0	0	0	100
Development labor	28,000	0	0	0	28,000
Total Development Costs	39,330	0	0	0	39,330
Operational Costs					
Hardware repair and upgrades		8,000	10,000	12,000	30,000
Software licensing fees		11,000	13,000	15,000	39,000
Operational labor		32,000	36,000	40,000	108,000
Total Operational Costs		51,000	59,000	67,000	177,000
Total Costs	39,330	51,000	59,000	67,000	216,330
Total Benefits - Total Costs	-39,330	49,000	51,000	53,000	113,670
Cumulative Net Cash Flow	-39,330	9,670	60,670	113,670	
Return on Investment (ROI)	52.5%				

Technical Feasibility

According to the needs and demands of Cowboy Hotel and the guidance of the Hotel Manager, who is also the project sponsor, our team has concluded that we can build the system that Cowboy Hotel needs to automate the booking and managing of their newly constructed conference rooms. In addition, the scope of this project is solely about the booking of their conference rooms and not hotel rooms – The project size is very doable and can be integrated into their existing hotel booking system in the future. Cowboy Hotel already has the processes and steps required to be taken since they have been doing the booking of these conference rooms manually, but this system would be able to do that automatically and more accurately once built. The booking specialists, future users of this system, would already be familiarized with the flow of booking a conference room; hence, implementing a new system would have extremely low risk.

Economic Feasibility

According to the Cost-Benefit Analysis we conducted, it is very beneficial for Cowboy Hotel to build this new conference room booking system. The developmental cost to bring this system to fruition is \$39,330. However, the yearly benefits we would acquire from this project outweigh the developmental costs and operational costs of maintaining this system. Our estimated return on investment with this system's completion and successful usage is 52.5%. The total benefits that we would acquire from this project, considering the development year of 2022 to the operating years of 2023 to 2025, is projected to be \$330,000, while the estimated total cost is just \$216,330.

Organizational Feasibility

The goal of Cowboy Hotel is to attract new customers with this offering, which is why they constructed these conference rooms in their hotels in addition to their already existing hotel rooms and suites. This system will allow them to properly manage and operate a new booking system that is separate from their existing hotel booking system to attract more clients who are not their usual customers. This project fits perfectly with their business strategy of expanding their offerings. The support of this project from the management and its employees is strong because this would streamline the business process. In addition, this would lessen or even eradicate the mistakes committed when manually recording and managing these reservations.

Requirements Definition Document

Functional Requirements

1. Room Information management

- 1.1 The system allows the users to view the conference rooms.
- 1.2 The system allows the users to view available and unavailable dates/times.
- 1.3 The system allows the users to edit/manage conference room details.

2. Caterer Information Management

- 2.1 The system prompts the users to specify whether the caterer is in-house or not.
- 2.2 The system allows the users to view caterers for each reservation.
- 2.3 The system notifies the caterer about the event.

3. Customer Information Management

- 3.1 The system allows the users to create customer accounts.
- 3.2 The system allows the users to view customer profiles.
- 3.3 The system will save customer information to the database.

4. Reservation Information Management

- 4.1 The system allows users to create conference room reservations.
- 4.2 The system allows the users to edit/modify reservations.
- 4.3 The system allows the users to cancel/flag reservations.
- 4.4 The system allows the users to view reservation changes.
- 4.5 The system sends a confirmation email containing the reference number and booking details to the client and manager.
- 4.6 The system will also send final event details to the caterer.

5. Report Information Management

- 5.1 The system allows the users to create reports for specific timelines.
- 5.2 The system sends the generated report to the Hotel Manager automatically.

Nonfunctional Requirements

1. Operational

- 1.1 The system should run on Windows.
- 1.2 The system should be accessible remotely.
- 1.3 The system should run independently of the hotel's existing system, but should be able to integrate with it.
- 1.4 Clients can download full reservation confirmation from the email sent through the integrated system.
- 1.5 Windows apps (applications) are supported
- 1.6 The system will need to update with evolving Windows standards, especially pertaining to the system format.

2. Performance

- 2.1 The system should provide response times of 3 seconds or less.
- 2.2 The booking database must be updated in real time.
- 2.3 The system should be available to use 24 hours a day and 365 days per year.

3. Security

- 3.1 A complete loss of all system data is estimated to cost \$200,000.
- 3.2 Only conference room booking staff and management have authorized access to the system for security and data validation purposes.
- 3.3 Only managers can authorize the cancellation of a conference room reservation.
- 3.4 Passwords will be encrypted from the user's computer to the system to provide secure ordering.
- 3.5 The system includes all available safeguards from viruses, worms, Trojan horses, etc.

4. Cultural and Political

- 4.1 The system will operate in English.
- 4.2 Users will be able to change the format of the telephone-number field in the customer base.
- 4.3 All date fields will be explicitly identified as using the month-day-year format (MM/DD/YYYY)
- 4.4 Personal information is protected in compliance with the Data Protection Act.

Use Cases

UC-1: Logging In

Use Case Name: Logging In	ID: UC-1	Priority: Medium
Actor: Booking Specialist		
Description: Booking specialist needs to log in to access the system.		
Trigger: A booking specialist wishes to access the system.		
Type: ☒ External ☐ Temporal		
Preconditions: Booking specialist has username and password.		
Normal Course: - System requests input of username and password. - Booking specialist enters username and password. - System confirms username and password and logs into the system. - If an invalid username or password is entered, the system will display an error message.		
Postconditions: If the actor successfully logged in they are now in the system, if not the system is unaffected.		
Exceptions: - Incorrect information is entered (occurs in Step 2) - Username or password is incorrect - Return to Step 1 and make modifications - System confirms correct login information - Error message is cleared		

UC-2: Create New Room

Use Case Name: Collect New Room Information	ID: UC-2	Priority: High
Actor: Booking Specialist		
Description: The booking specialist will collect new information regarding the room once the room is made available to the public		
Trigger: Booking specialist is notified that the room is now available to be requested		
Type: ☒ External ☐ Temporal		
Preconditions: 1. Booking specialist is authenticated and signed into system 2. Room is now open and available		
Normal Course: 1. 0 New Room Information is Collected 1. The booking specialist selects document to submit room information 2. Room information is inputted to the system such as room number, capacity, available date, price, etc. a. If all room information is not available, return to Step 1 and save information submission b. If all room information is available, proceed to Step 3 3. Another booking specialist verifies that the information is correct 4. Room information submission is complete 5. Information is transmitted to Room Information file 6. Room information is now shown to customers		
Postconditions: 1. New room information is stored		
Exceptions: 1. Information is found to be incorrect (occurs in Step 3) a. Room availability date is not available b. Return to Step 1 and modify date when it is made available c. Save information in a separate file d. Notify the hotel of the late submission of room information		

UC-3: Create New Caterer

Use Case Name: Collect New Catering Information	ID: UC-3	Priority: High
Actor: Booking Specialist		
Description: The booking specialist will collect new information regarding catering as the room details are finalized.		
Trigger: Room information is complete and submitted to data store		
Type: ☒ External ☐ Temporal		
Preconditions: 1. New room information is stored 2. Booking specialist is authenticated and signed into system 3. Catering is available to be booked		
Normal Course: 1. 0 New Catering Information is Collected 1. The booking specialist selects the document to submit catering information 2. Catering information is inputted into the system such as company name, price, food type, availability a. If some information is unknown, return to Step 1 and manually save information submission b. If all information is known, proceed to Step 3 3. Other booking specialist verifies that the information is correct 4. Catering information submission is complete 5. Information is transmitted to Catering Information file 6. Catering information is now ready to be shown to customers		
Postconditions: 1. New catering information is stored		
Exceptions: 1. Information is found to be incorrect (occurs in Step 3) a. Price is not yet able to be estimated b. Return to Step 1 and modify estimation when provided by company c. Save information in a separate file d. Notify the hotel of the late submission of catering information		

UC-4: Create New Customer

Use Case Name: Collect New Customer Information	ID: UC-4	Priority: High
Actor: Booking Specialist		
Description: The booking specialist will collect new information regarding customer information to be able to contact and communicate.		
Trigger: Customer inquiries a booking for a room at the hotel.		
Type: ☒ External ☐ Temporal		
Preconditions: 1. New customer information is stored 2. Booking specialist is authenticated and signed into system 3. Contact with customer and hotel is now available		
Normal Course: 1.0 New Customer Information is Collected 1. The booking specialist selects the document to submit customer information 2. Customer information is inputted into the system such as name, phone number, email address, home address a. If some information is unknown, return to Step 1 and manually save information submission b. If all information is known, proceed to Step 3 3. Another booking specialist verifies that the information is correct 4. Customer information submission is complete 5. Information is transmitted to Customer Information file 6. Customer information is now available		
Postconditions: 1. New customer information is stored		
Exceptions: 1. Information is found to be incorrect (occurs in Step 3) a. Return to Step 1 and manually make modifications b. Save modifications into the system		

UC-5: Create Room Reservation

Use Case Name: Create conference room reservation	ID: UC-5	Priority: High
Actor: Booking Specialist		
Description: Booking specialist needs to create a conference room reservation for a customer		
Trigger: Customer wants to book a conference room		
Type: ☒ External ☐ Temporal		
Preconditions: 1. Customer information is inputted into the system by booking specialist 2. Customer information is approved by the system		
Normal Course: 1.0 Create a conference room reservation for a customer 1. Booking specialist receives a request for a conference room reservation for a customer 2. System displays customer's request details 3. System provides availability status for room and date based on customer request details (available, not available) 4. For unavailable room and date combinations, system displays alternative dates and/or rooms a. Customer agrees with a change in date/room type; proceed to step 5 b. Customer rejects alternative room/date options; return to step 1 5. The booking specialist selects room that best fits customer's request 6. The system creates and displays preliminary cost estimates 7. Booking specialist may return to step 5 or confirm the reservation 8. Reservations are saved in the Reservations datastore 9. Customer is notified of confirmed reservation via email		
Postconditions: 1. Confirmed reservation is stored in Reservations datastore 2. Booking specialist has access to modify reservation at any time		
Exceptions: 1.		

UC-6: Modify Room Reservation

Use Case Name: Change reservation	ID: UC-6	Priority: High
Actor: Booking Specialist		
Description: The client modifies or cancels a reservation		
Trigger: Client wants to modify or cancel a reservation		
Type: ☒ External ☐ Temporal		
Preconditions: - Reservation information is stored - Modification is submitted and confirmed by client - Reservation Management system is online and available		
Normal Course: - Client modifies their reservation - The booking specialist receives a request from the client to modify or cancel a reservation - Customer's modification request is displayed on the system - Reservation information is inputted into the system - If some information is unknown, return to Step 1 and manually save information submission - Other booking specialist verifies that the information is correct - Reservation modification submission is complete - Reservations are saved in the reservations datastore - Customer is notified of confirmed reservation via email		
Postconditions: Reservation Modification of cancellation information is stored in Reservations data store		
Exceptions: - Reservation Information is found to be incorrect (occurs in Step 3) - Return to Step 1 and modify information provided by client - Save information in a separate file		

UC-7: Generate Customer Statement

Use Case Name: Generate Customer Statement	ID: UC-7	Priority: High
Actor: Booking Specialist		
Description: Booking specialist creates a customer statement based on the customer's and reservation's information.		
Trigger: The booking specialist wants to create a customer statement to the customer, in which this statement includes everything about their order.		
Type: ☒ External ☐ Temporal		
Preconditions: 1. The customer has completed the booking process. 2. The booking specialist must log into their account to access the database.		
Normal Course: 1.0 Create a report 1. The booking specialist requests a customer statement. 2. The booking specialist enters the customer's ID and date of reservation. 3. The system checks to see if the information entered is correct. a. If the information is incorrect, the system displays an "error message" and prompts the booking specialist to return to step 2 b. If the information is correct, proceed to step 4. 4. System begins creating the statement. 5. System accesses the hotel's database to check the reservation's information for any errors. a. If there's any error with missing information, the booking specialist must contact the customer to input the missing information, then return to step 2. b. If there's no errors, proceed to step 6. 6. Booking specialist approves the statement. 7. Statement is successfully created and sent to the customer via email.		
Postconditions: 1. Generated customer statement is sent to the customer.		
Exceptions: 1. Client and reservation information is incorrect (step 3). a. Booking specialist must return to step 1 and re-enter correct information. 2. Reservation is missing information (step 5). a. Booking specialist must get in contact with the customer in order to fill that missing		

information in.

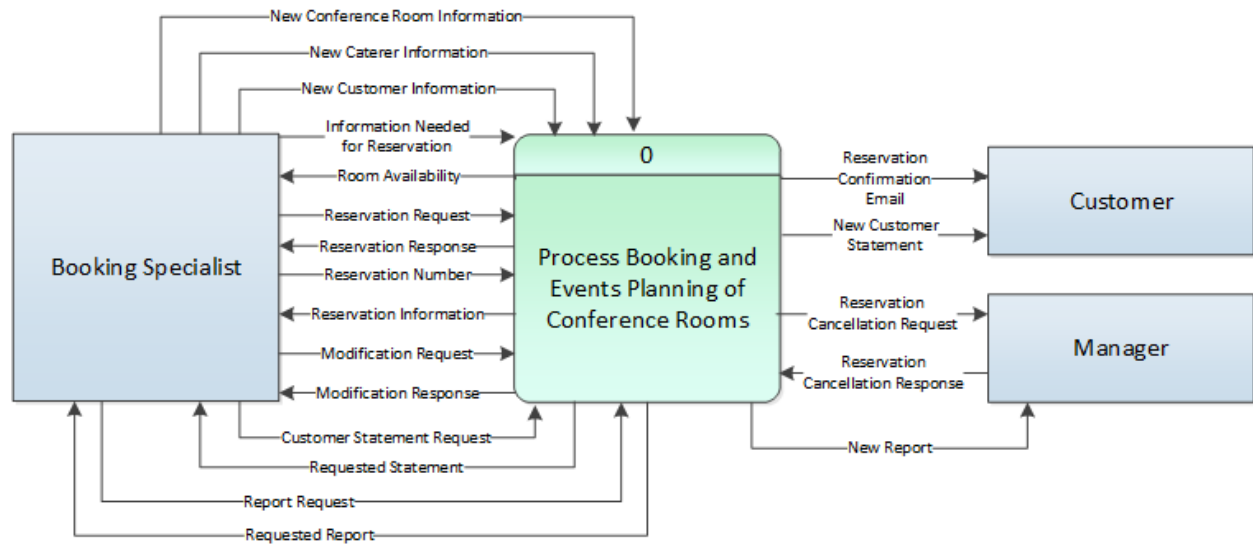
- b. Once the booking specialist has obtained missing information, they must save the reservation.

UC-8: Generate Reports (Revenue/Reservation)

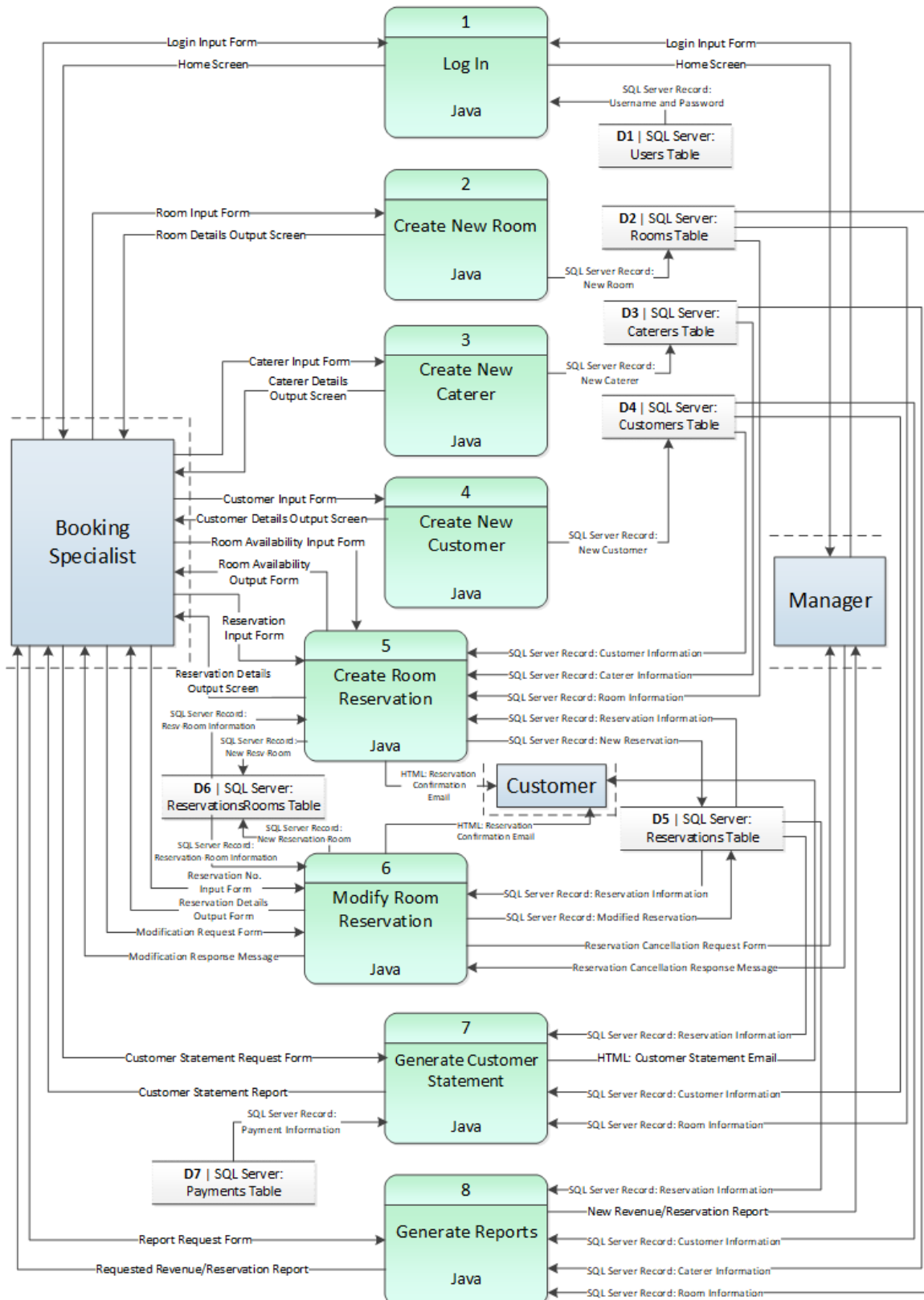
Use Case Name: Create Reports	ID: UC-8	Priority: Medium
Actor: Booking specialist		
Description: This use case describes how a booking specialist creates a revenue or reservation report for the booking manager.		
Trigger: A booking specialist wants to create a revenue or reservation report for the booking manager.		
Type: ☒ External ☐ Temporal		
Preconditions: 1. The booking specialist is authenticated by logging in to his/her account. 2. The booking datastore is up-to-date and online.		
Normal Course: 1.0 Create a report 1. The booking specialist selects the start date and the end date. 2. The system checks the start and end dates entered. a. If there's errors, the system displays the message "Invalid dates." b. If no errors, continue. 3. The booking specialist selects the report type needed (revenue or reservation). 4. The system enables the Generate button. 5. The booking specialist clicks on the Generate button to create the report. 6. The system checks if the database has sufficient information to create the report. a. If there's errors, the system displays the message "No sufficient information to generate the report." b. If there are no errors, the system displays the requested report. 7. The system requests the booking specialist's approval of the report. a. If the report is correct, the booking specialist clicks on the Approve button. b. If the report is incorrect, the booking specialist clicks on the Cancel button and returns to step 1. 8. The system sends the report to the booking manager via email.		
Postconditions: The report is sent to the booking manager.		
Exceptions: 1. Invalid dates for start and end of the report (occurs in Step 2) a. Return to Step 1 to make modifications of correct information to continue		

Physical Process Model

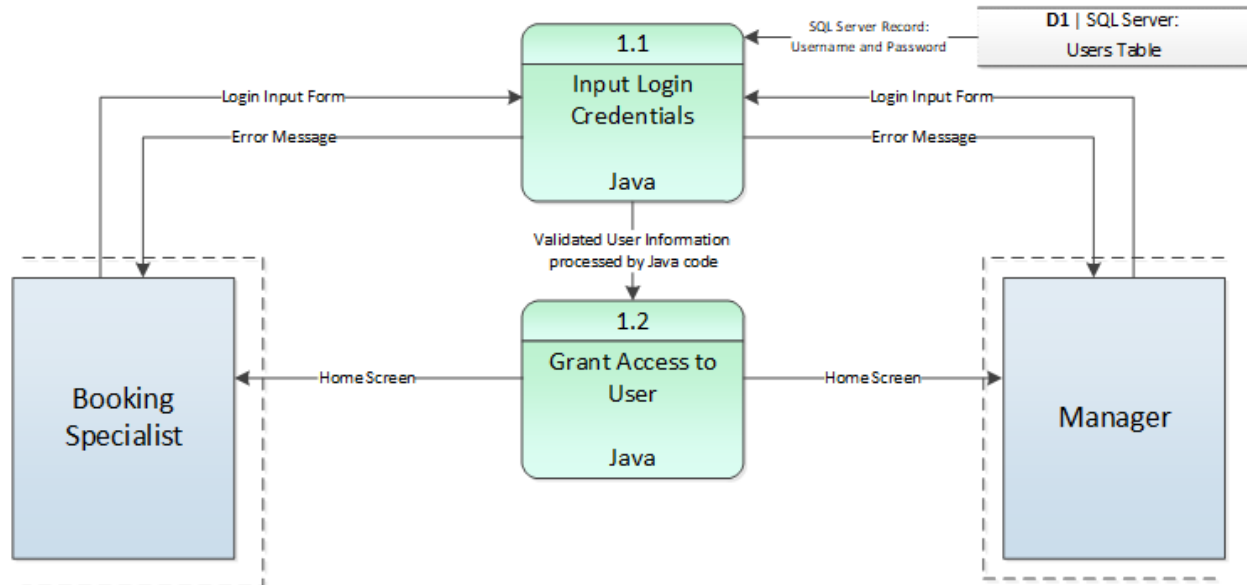
Context Diagram



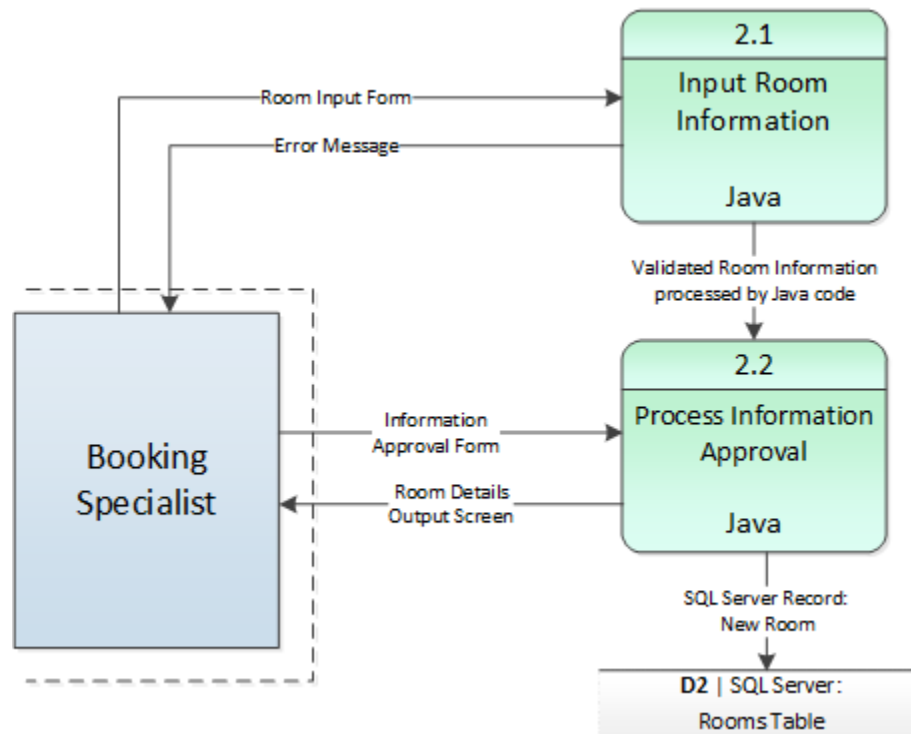
Level 0 Diagram



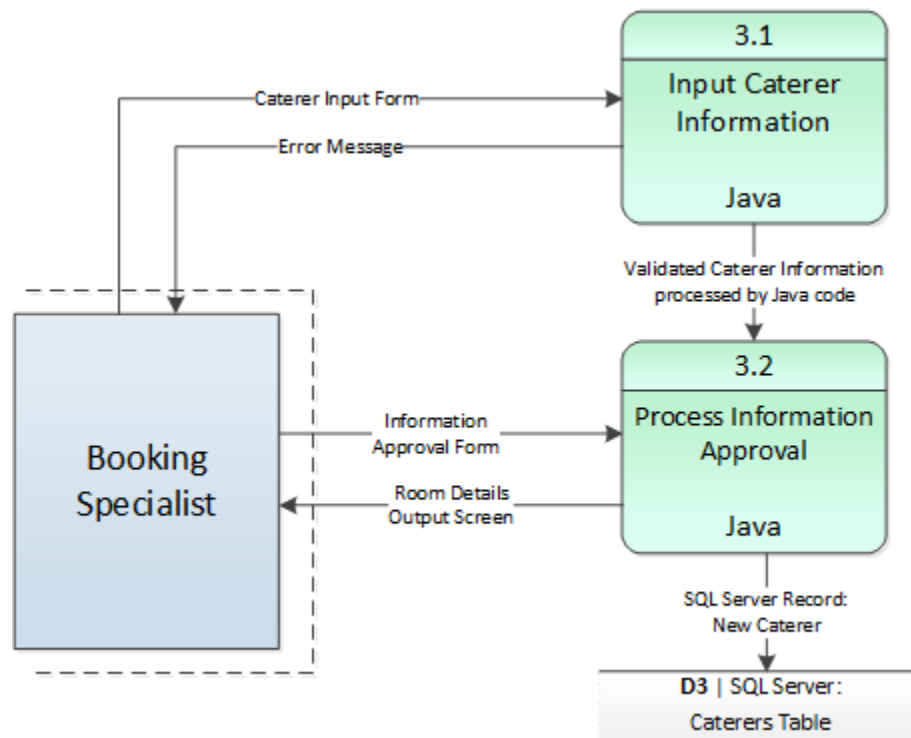
Process 1 Level 1 Diagram (Log In)



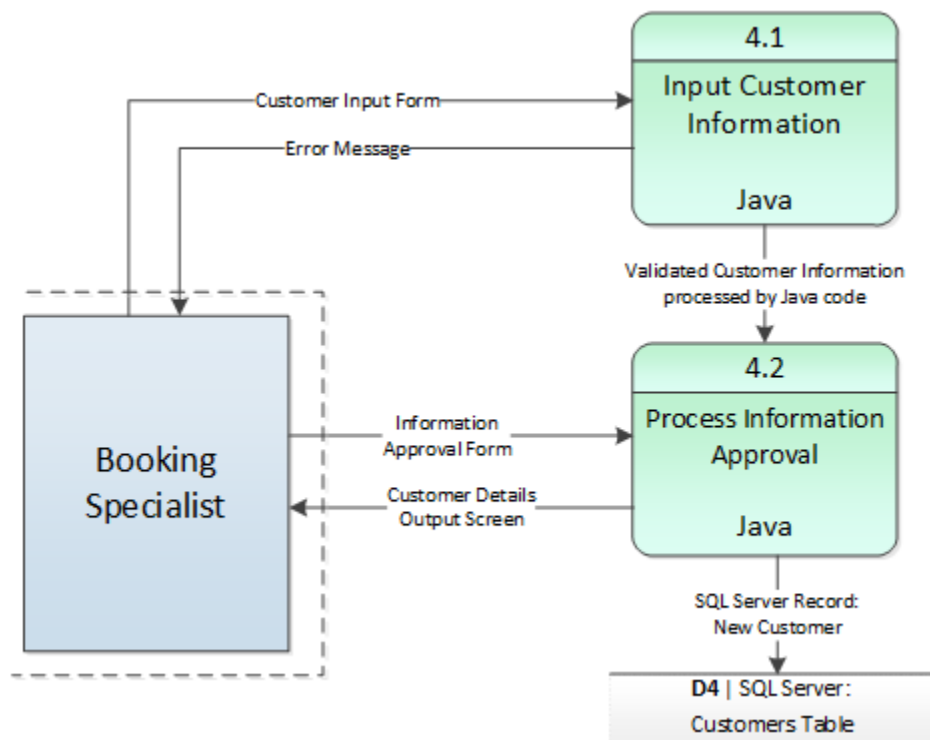
Process 2 Level 1 Diagram (Create New Room)



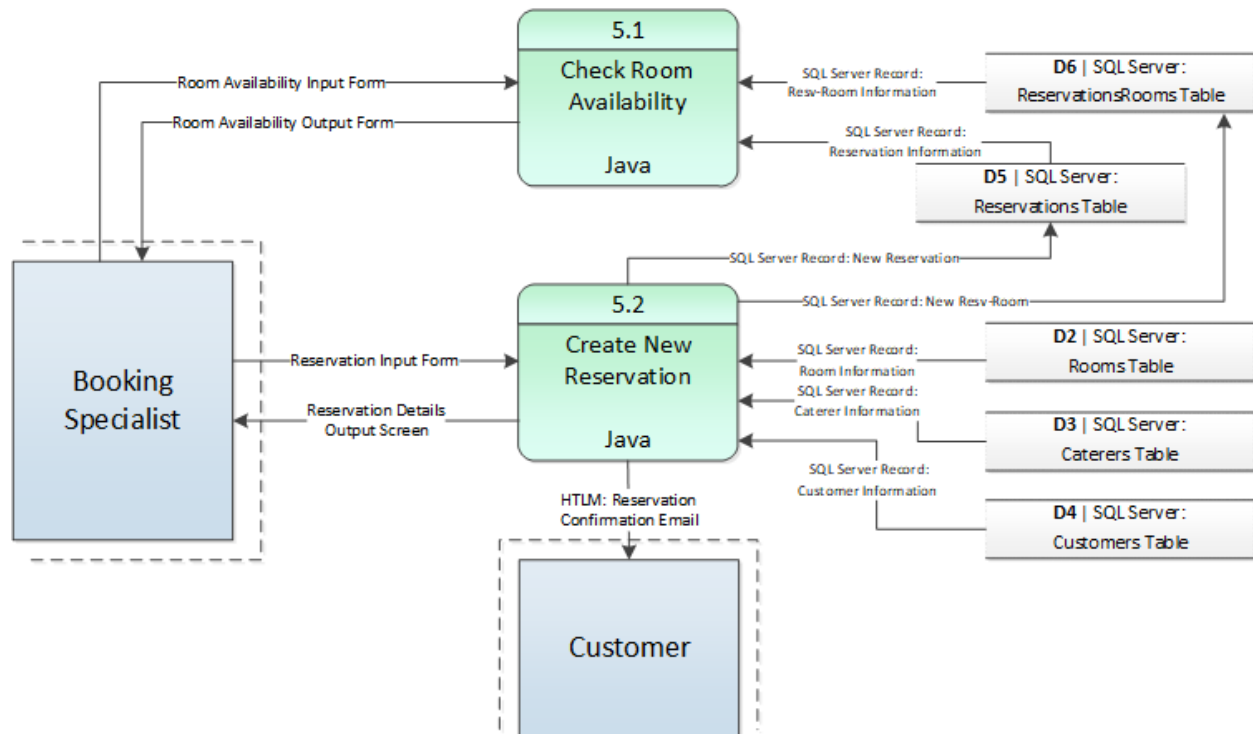
Process 3 Level 1 Diagram (Create New Caterer)



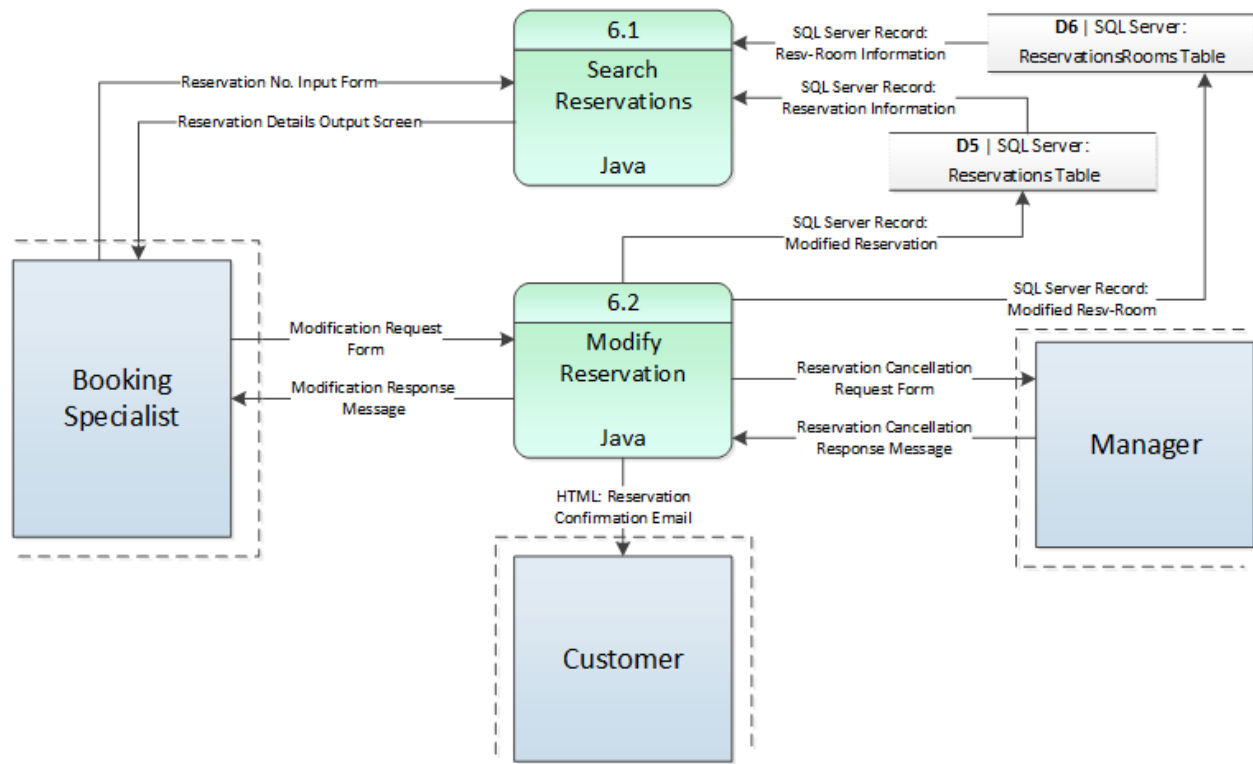
Process 4 Level 1 Diagram (Create New Customer)



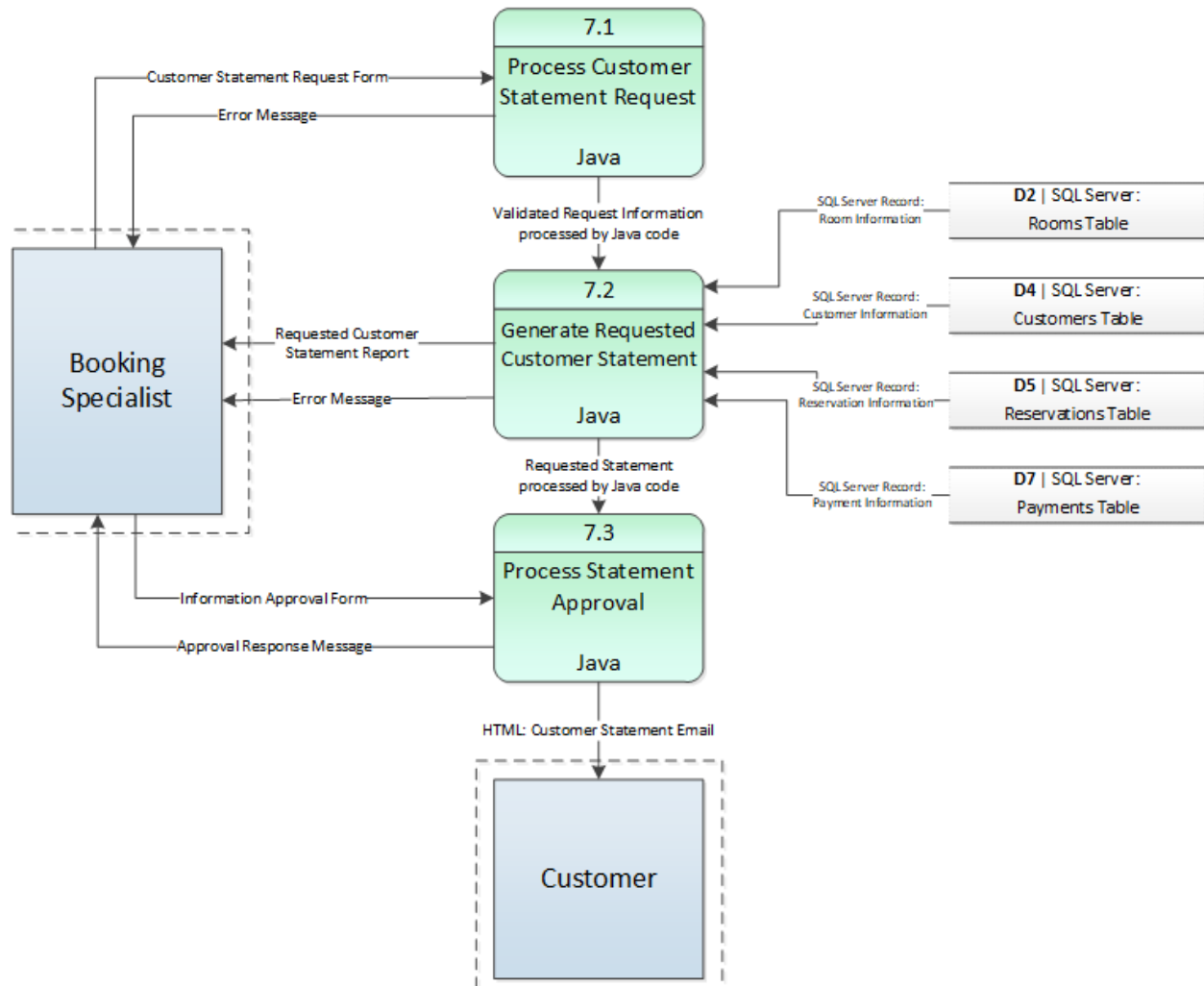
Process 5 Level 1 Diagram (Create Room Reservation)



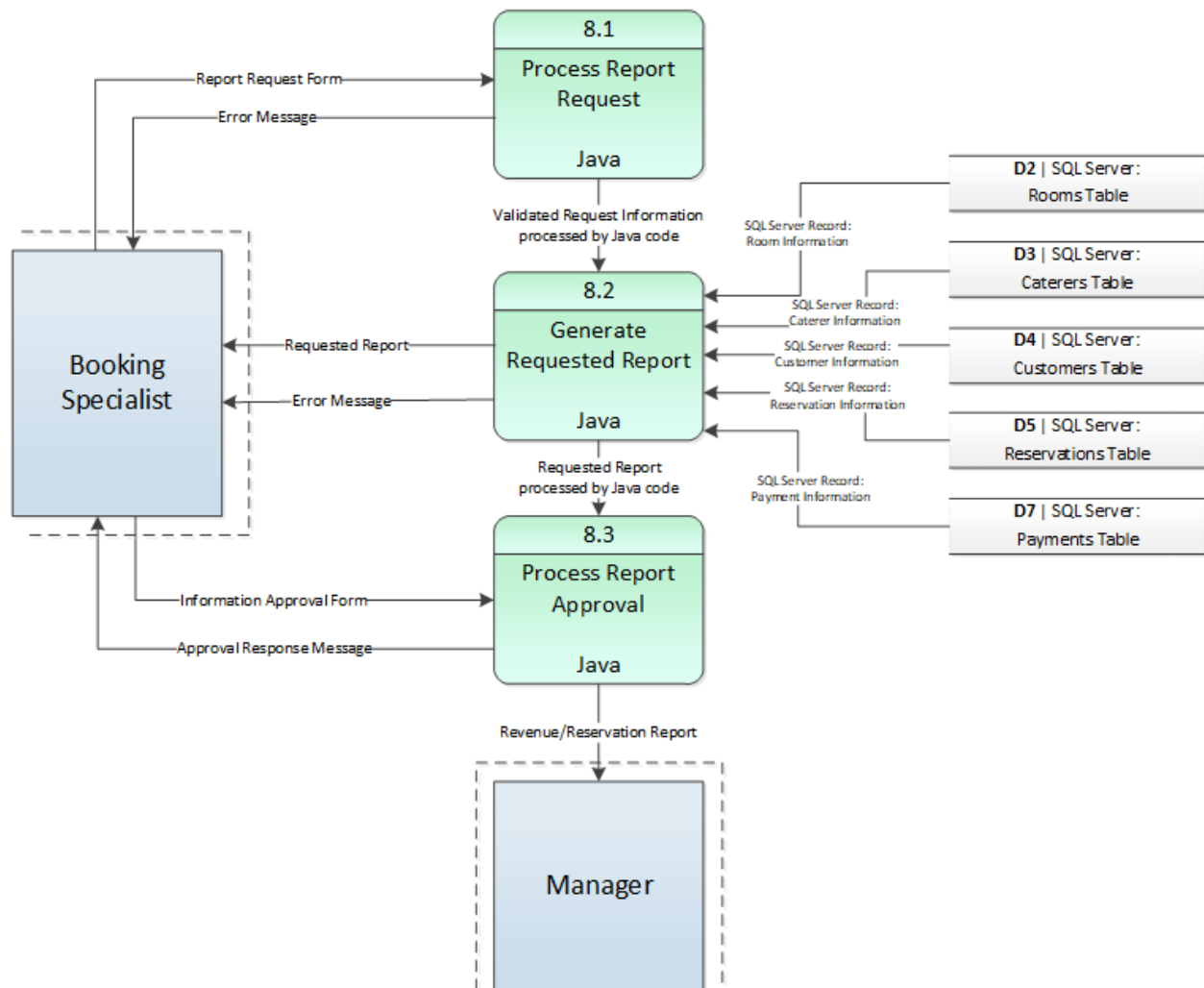
Process 6 Level 1 Diagram (Modify Room Reservation)



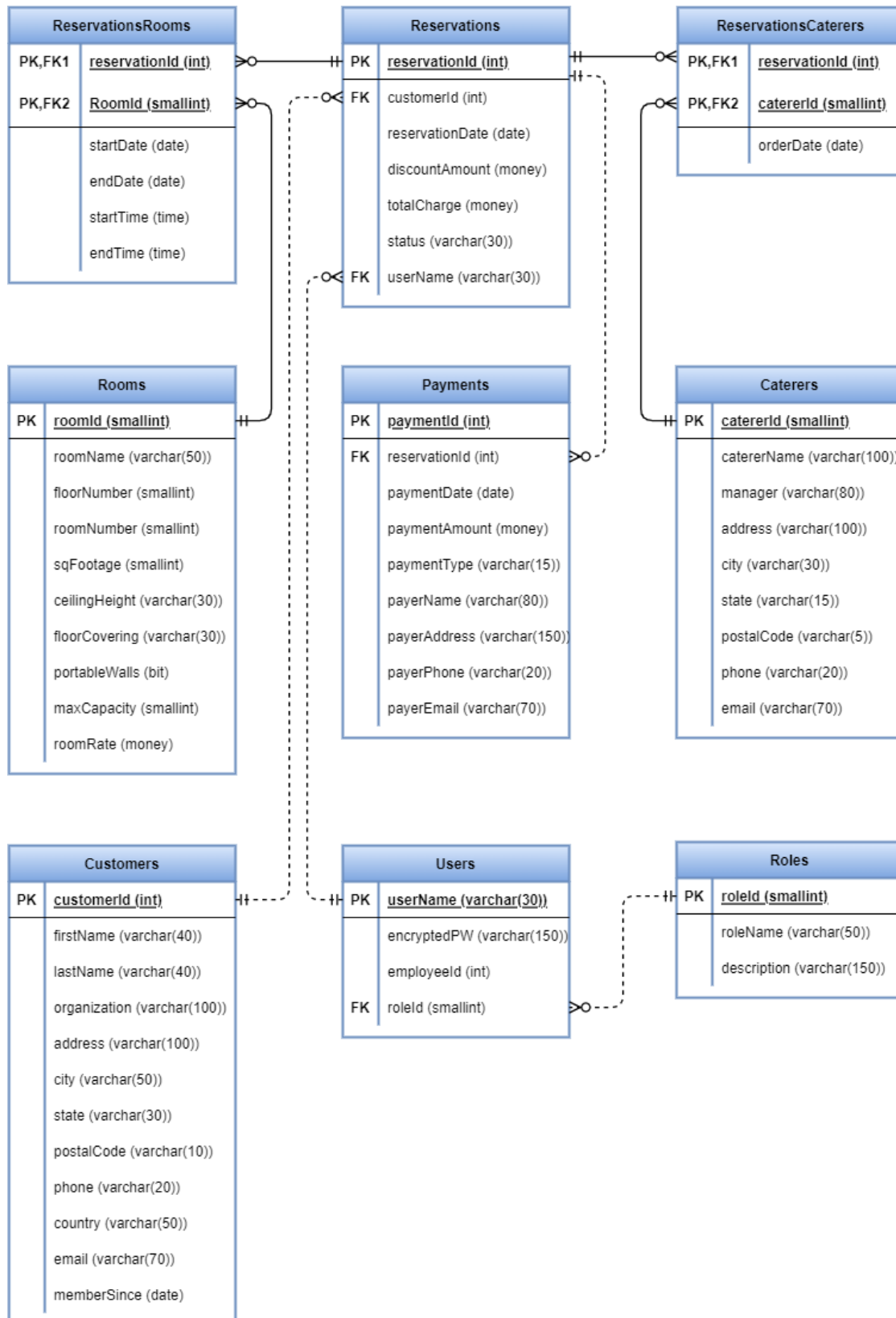
Process 7 Level 1 Diagram (Generate Customer Statement)



Process 8 Level 1 Diagram (Generate Reports)



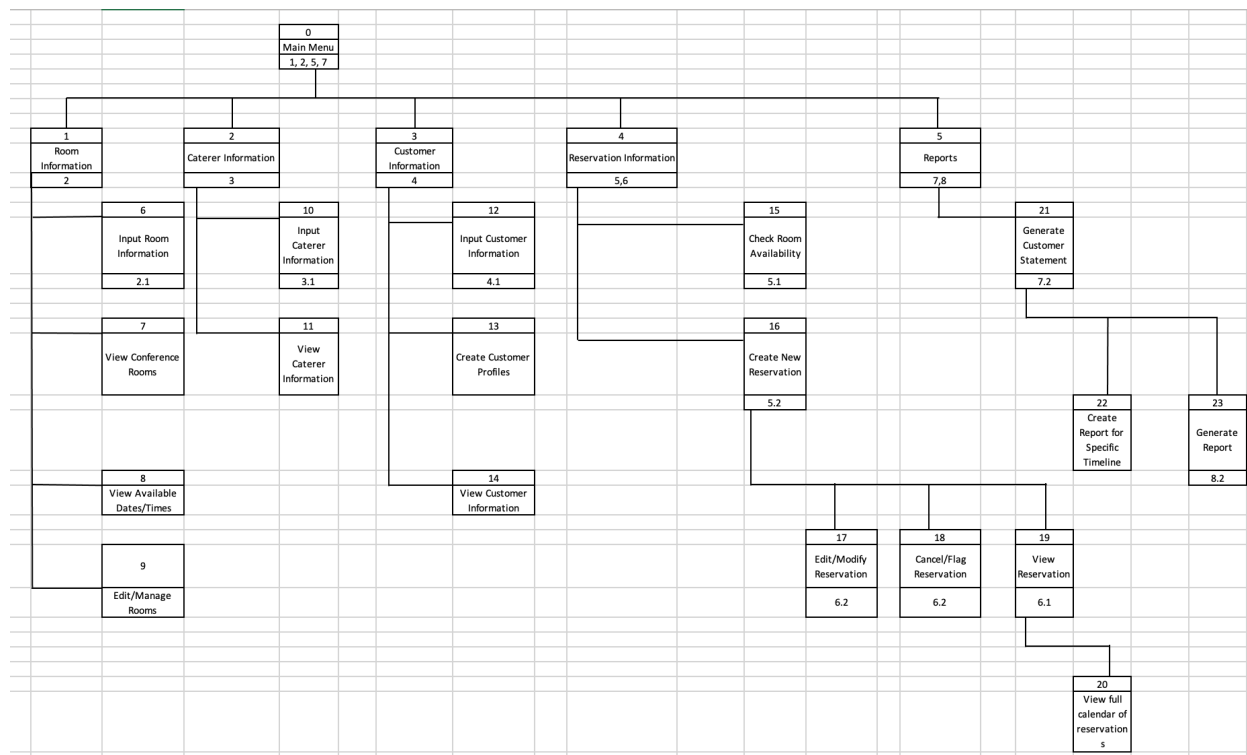
Physical Data Model



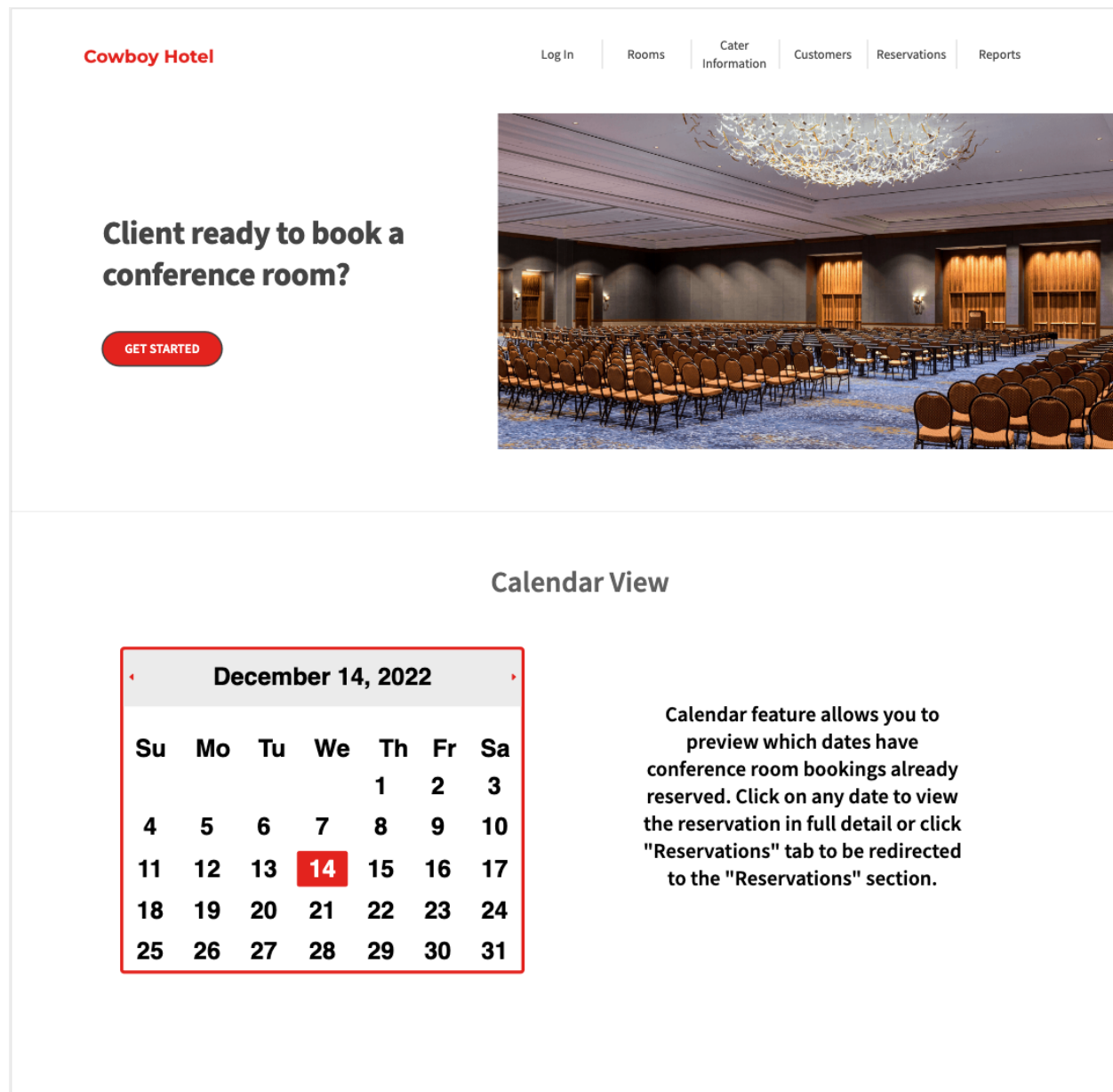
Hardware and Software Specification

	Standard Client	Standard Server
Operating System	Windows 11 Pro	Windows Server 2022 Essentials
Special Software	- SQL Server 2019 Standard - CAL - Microsoft 365 Family - Adobe Acrobat Reader DC - Norton Small Business	- SQL Server 2019 Standard - server - Norton Small Business
Hardware	1 TB disk drive - Intel 12th Generation Core i5 Processor 21.5-inch LED Monitor	4.8 TB disk drive - RAID - Intel Xeon Silver 4310 Processor
Network	Always-on Broadband, preferred	Dual 100 Mbps Ethernet

User Interface: Interface Structure Diagram



User Interface: Home Page Prototype



User Interface: Customer Information Prototype

Cowboy Hotel

Log In

Rooms

Cater
Information

Customers

Reservations

Reports

 Search

Enter Customer Name

Search for existing
customer information or
scroll down to create new
customer profile.

Create New Customer Profile

Enter new customer information here.

First Name

Home Address

Last Name

City

Email Address

Zip

Phone Number

State

Submit

Appendix

Interview with Project Sponsor

Person Interviewed: Jamie Bradson, Hotel Manager, Cowboy Hotel

Interviewer: Group 7 (Jill Mukai, Sydney Walker, Pham Ngo, Julissa Rodriguez, Elie Nguyen, Nickki Aquino, Jazz Lacson)

Purpose of Interview:

- Determine functional and non-functional requirements for the new system.
- Deepen our understanding on what the project entails, and to further discuss what is expected from the creation of this project.
- Distinguish specific information requirements that are necessary in successfully implementing the new system.

Summary of Interview:

- Majority of the features regarding the hotel's booking system will be handled internally
- Financial reports are to be completed on a weekly or monthly basis. These reports should provide:
 - How frequent each room is being booked
 - Which room isn't being booked as much
 - For rooms that aren't being booked, we will implement a marketing campaign that will help in boosting sales.
- The following non-functional requirements are necessary:
 - System (server/client computers) will run on Windows.
 - For the conference booking staff only, all access is given to the manager and booking staff/agent
 - The system supports multiple users, and each person will have their own ID and password.

Open Items:

- Identify everything we need to catch (customer, venues, rate associated with each room)
- \$75-\$100 per hour per room with steep discounts for multiple rooms, discretion of booking specialist for pricing
- Caterers (track contact info, identify which caterer belongs to which event)
- Reservations: start/end date and time, customer#, room#
- The total price charged, the total amount paid → Track payments, track customers for a reservation (know how much they still owe)

- Need to have capability of manager to acknowledge the change/cancellation so they can contact caterer of change/cancellation
- Cancellation, do not delete reservation, mark it → History of reservations and cancellations.
- Hiring two new people for booking
 - Booking specialist: \$40,000/year
 - Assistant: \$30,000/year
 - Misc. Expense: \$5,000
 - (separate line items in cost benefit analysis)
 - Will not hire until after 6 months of going live (example; Jan-July)

Follow-Up Question(s):

1. Do you want personal information (customer information) to be protected in compliance with the Data Protection Act?
2. Are there cultural and political factors and legal requirements that affect the system,?

Detailed Notes:

1. How many employees will be using the new system?
Only a couple (2,3,4).
 - a. Do you want them to have separate accounts or one general hotel account?
Each person will have own ID and password
2. How many conference rooms will be involved with the new system?
20-30, there will be a floor plan about venues included in a sheet
 - a. Do you want to reserve 10-20% of the available conference rooms for emergency hotel use and/or VIP bookings?
No
3. What are the most crucial features the system should have for Cowboy Hotel to run efficiently?
Help book a room, pick a date and time for event, how many people, make sure no double booking, efficient and fast
 - a. Which features should we prioritize first?
Helping pick a date and make sure things can be done quickly
4. In terms of mobile compatibility, is a mobile supported website enough, or do you prefer a separate mobile application?
 - a. If you want a mobile app, what do you want to prioritize more? iOS or Android?
Development is different depending on what operating system.
Neither; will be an internal hotel feature
5. Do you want the availability of Cowboy Hotel Conference rooms to be offered to everyone with an access to the booking system or just within continental United States?
No

6. Do you want to accept full payments online or a non refundable booking fee first?
 - a. Mode of payments accepted?
Processing fee is using the hotel system, system needs to record and track payments per reservation, reservation is not confirmed unless down payment satisfied (check, cash, credit card) handled in existing system
 - b. Payment gateway preference? (Paypal, Amazon Pay, Apple Pay, Square, etc.)
Cash, check, credit card
7. Can they cancel their reservation through the new system, or do you require them to call a certain hotline for employees of the new system to cancel it on their end?
No, handled internally
8. Do you want customers to create an account before booking?
 - a. Alternative login methods? (Sign in with Google, Apple, Returning Cowboy Hotel Guest)
No
9. Should there be a live support hotline/chat just in case a problem occurs during the booking process?
We will handle it internally
10. What should be included in a confirmation email? (Terms and conditions, Breakdown of Charges, Reference number, Contact Info, Extra charges for change in date?)
Confirm reservation, room, date, who, down payment, reference number
11. What is your expected Return on Investment (ROI)?
\$40,000 budget
12. What information does the system need to store about customers, conference rooms, reservations...?
Track name, address, phone number, email address, organization, etc.
13. What reports do you want the system to generate? And when?
Financial report (monthly/weekly basis), What type of revenue we're making by room, frequency of reservations (rooms aren't being reserved and create a marketing campaign to rent those out)
14. Besides preventing double booking of rooms, is there anything else the system needs to check for errors?
Existing reservations
Time limit to book (7-10 days)
Tentative or soft booking
15. Non-functional Requirements:
 - a. What operating system do you want to use for the system server? (Windows, Linux) Windows
 - b. What operating system do you want to use for the client computers? (Windows) Windows

- c. What database management system do you want to use for the system server?
(Access, SQL Server) **Don't know yet.**
- d. How many users at most will use the system simultaneously?
2-3 users
- e. Who has authorized access to the system server?
For the conference booking staff only, all access given to manager and booking staff/agent
- f. Catering is provided by the hotel?
Not necessarily, could be outside caterer
- g. Regarding rates, will there be seasonal rates as well?
Don't worry about that

Interview Report

Your Team Name: The Lucky 7

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Person on your team who took the lead on each step in the assignment:

Prepare a set of interview questions	Jazz Lacson, Jill Mukai, Nickki Aquino, Pham Ngo
Conduct the interview with project sponsor	Jazz Lacson
Take notes during the interview	Julissa Rodriguez, Sydney Walker
Tidy up interview notes and convert to "interview report"	Elie Nguyen
Fill out this sheet	Jill Mukai, Nickki Aquino, Jazz Lacson, Julissa Rodriguez, Elie Nguyen, Pham Ngo

Assess the effectiveness of the interview:

What did you do well? (list 3 things)	Asked crucial questions to build the system
	Took specific and concise notes

What could have been better? (list 3)

For those who weren't able to physically be there for the interview, we made sure to communicate with them to keep them updated, as well as watched the recording of the video to make sure there wasn't anything missed in the notes that were taken.

In our prepared questions, we focused too much on sub-questions regarding mobile application development, since we assumed that the project sponsor would want some kind of mobile application without asking them first.

We could have prepared ourselves more for the interview — in the sense that maybe we could have practiced asking each question prior to the interview so the process could have been smoother.

We could have had more individuals add to the actual interview process, ask more additional questions/concerns, etc.

List at least 3 functional requirements you learned about from the interview

When a soft booking is completed, a confirmation email with a reference number regarding other details of the booking will be sent to the client.

Customers looking to book a conference room should complete the transaction under a certain time limit since availability is limited

Records should never be deleted. It should be modified instead to inform the system users on what happened. All types of records are crucial for record keeping.

List at least 3 nonfunctional requirements you learned about from the interview

The system (server/client computers) will run on Windows.

Only hotel staff and management has authorized access to the system for security and data validation purposes

The system supports multiple users, and each person will have own ID and password.

Which strategy, if any, did you try to use in your interview? (e.g., problem analysis, root cause analysis, etc.)

Outcome Analysis

Why did you pick that strategy? Or if you did not use one, why?

We picked this strategy because Outcome Analysis is best used for redesigning a whole process. Since Cowboy hotel doesn't have an established system for booking conference rooms, this would be a great strategy to take. Also, we wanted to consider desirable outcomes from the customers perspective, and it lets us consider the requests and capabilities that the project sponsor would want to be implemented in the new system.

Alternative requirement elicitation techniques

Would a questionnaire be appropriate for this organization/project? Why or why not?

Yes, because we need to extract data from the respondents regarding what features matter to them the most and how intuitive the user interface is to ease their usage of the new system.

Would a JAD session be appropriate for this organization/project? Why or why not?

Yes, because the input of the project sponsor, and key users will be beneficial for the System Analysts to use in the development of this project.

Would observation be appropriate for this organization/project? Why or why not?

Yes, because proper implementation using time efficiently should be monitored in the initial phases of implementation and testing to ensure accuracy and time organization.

Would document analysis be appropriate for this organization/project? Why or why not?

Yes, we must learn what we can from the existing system. It will be easier to diagnose non-functional requirements and information-based functional requirements.

References (Hardware and Software Specification):

- https://www.dell.com/en-us/shop/servers-storage-and-networking/poweredge-t550-tower-server/spd/poweredge-t550/pe_t550_tm_vi_vp_sb?configurationid=fad14117-bcd7-48be-8975-089f0fb45f10
- <https://www.bestbuy.com/site/hp-envy-desktop-intel-core-i5-12gb-memory-1tb-ssd-black/6498472.p?skuId=6498472>
- <https://www.bestbuy.com/site/combo/all-monitors/a54e0048-888f-4f57-8378-6956804e7133>
- <https://www.microsoft.com/en-us/windows-server/pricing>
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- <https://get.adobe.com/reader/>
- <https://us.norton.com/products/small-business>

