

MIS710
Process Innovation and Management
Individual Assignment
*Reengineering the Conference Room
Reservations Process*

I pledge on my honor that I have not given or received any unauthorized assistance on this assignment/examination. I further pledge that I have not copied any material from a book, article, the Internet or any other source except where I have expressly cited the source.

Signature: Balaji Anand Katakam Date: 11/11/2018

Print Name: Balaji Anand Katakam

Assignment

1. Read and Assess IS system

- Functional specification
- PROCESS constituents
- Relationship map
- Process map

2. Develop SHOULD system

- Narrative
- Change levers - PROCESS constituents
- Identify the key principles of reengineering you plan to use

6. Extend the Vision

- Other Processes Impacted
- Future evolution of the System

3. Develop the following (Rummler)

- SHOULD Organizational goals
- SHOULD Process goals
- SHOULD Process map
- SHOULD Relationship map
- SHOULD Process Map /Sub-Goals
- SHOULD Activity Inputs/Outputs + input screens, output reports
- SHOULD Functional Goal Summary
- SHOULD Job/Responsibility Matrix
- SHOULD Job Model (Design)

4. Develop a high-level conceptual data model (e.g., ER) for the business process

5. Costs & Benefits

- (Not necessarily in dollar terms)

Conference Room Reservation Process: Brief Functional Description (IS)

Some steps in the current Conference Room Reservation Process include:

- Managers or Lead Associates reserve a Conference Room for one-time or recurring meetings
- Reservations are made via phone or email.
- Reservations Coordinator finds an available conference room that suits requirements (Number of People, Need for certain equipment such as a Speakerphone, Projector, Audio, PC, etc.)
- Reservations Coordinator updates Reservations spreadsheet (Excel)
- Reservations Coordinator orders food requirements (if any) and equipment set-up with technicians (if needed)
- The Reservations Coordinator informs receptionist of meeting rooms
- The Reservations Coordinator informs the Accounting Department of requestor's Cost Center and billable charges (food/drink) and nominal charge for Conference Room

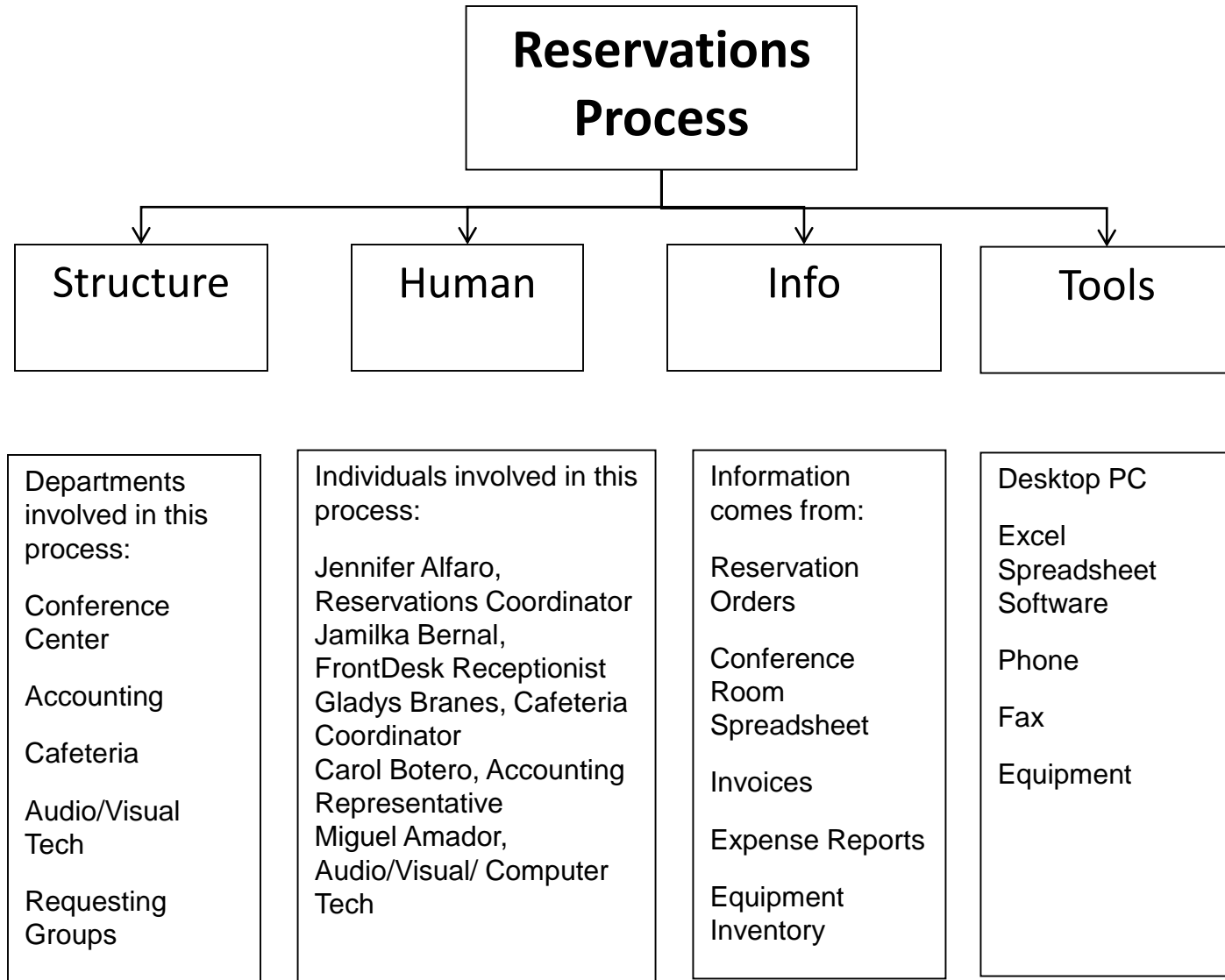
Conference Room Reservation Process : Brief Functional Description (IS)

Some of the problems with current process:

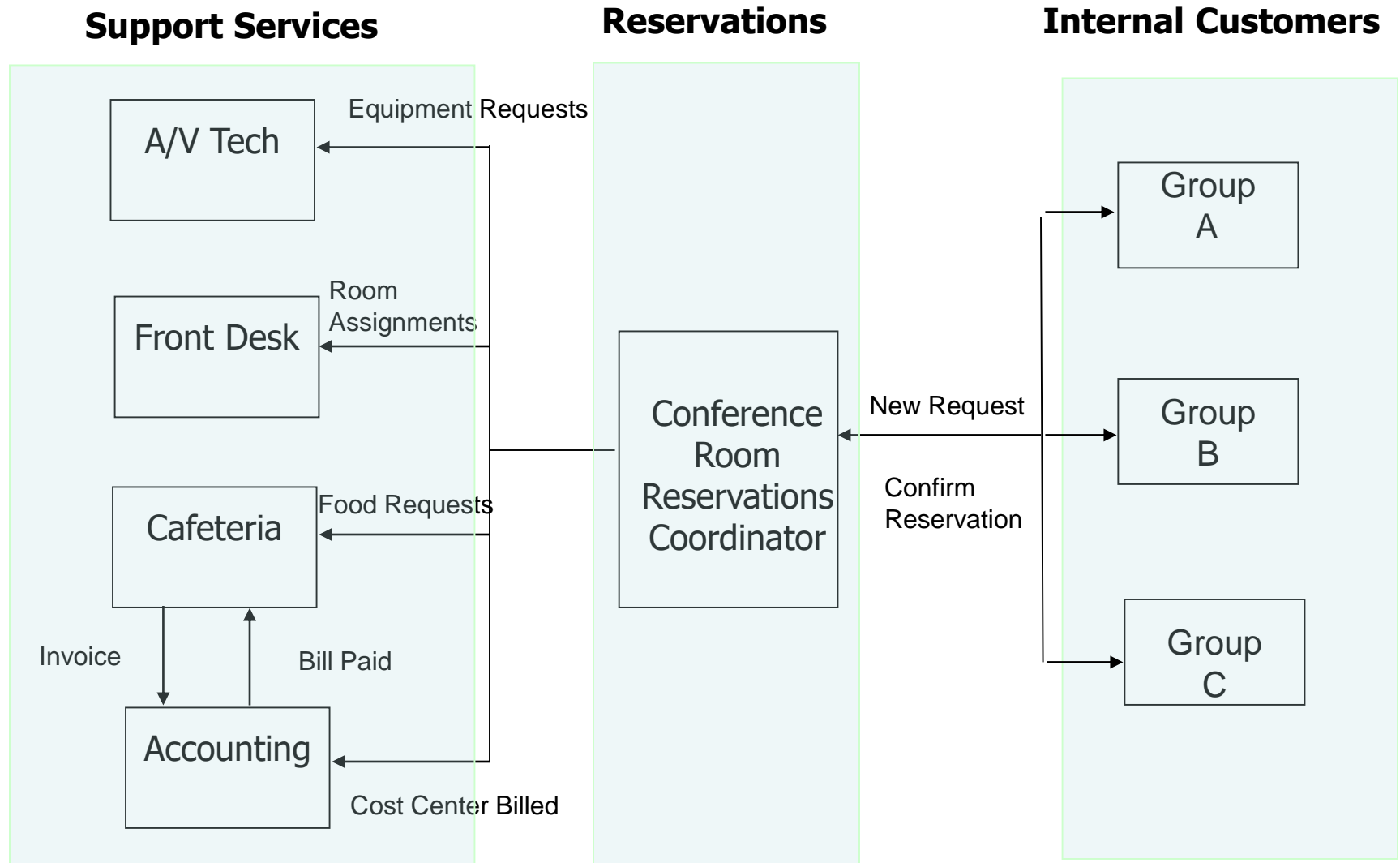
- There seems to be a concentration of activities with the Reservations Coordinator, resulting in bottleneck at times
- Finding the right “fit” for a room is often a series of e-mails going back & forth, negotiating for location and time
- Requesting Groups have no idea if the Conference Room they desire is available or not before making the request
- There were several occasions when 2 separate groups would be in the same meeting room at the same time because of room changes
- A lot of time is wasted on the part of the Reservations Coordinator following-up on the phone and e-mail with the different stakeholders
- Sometimes there is a shortage of meeting rooms because some managers reserve a block of recurring meetings (even though at time they are unused for a particular week)

Conference Room Reservation Process :

PROCESS Constituents (IS)



Conference Room Reservation Process : Relationship Map (IS)



Relationship Map (IS)

Illogical steps

- Internal Customers e-mail request for a Meeting Room without knowing where and if they will get their request fulfilled
- Conference Room Coordinator has to manually e-mail or call all support services and manually relay the confirmation to each requester

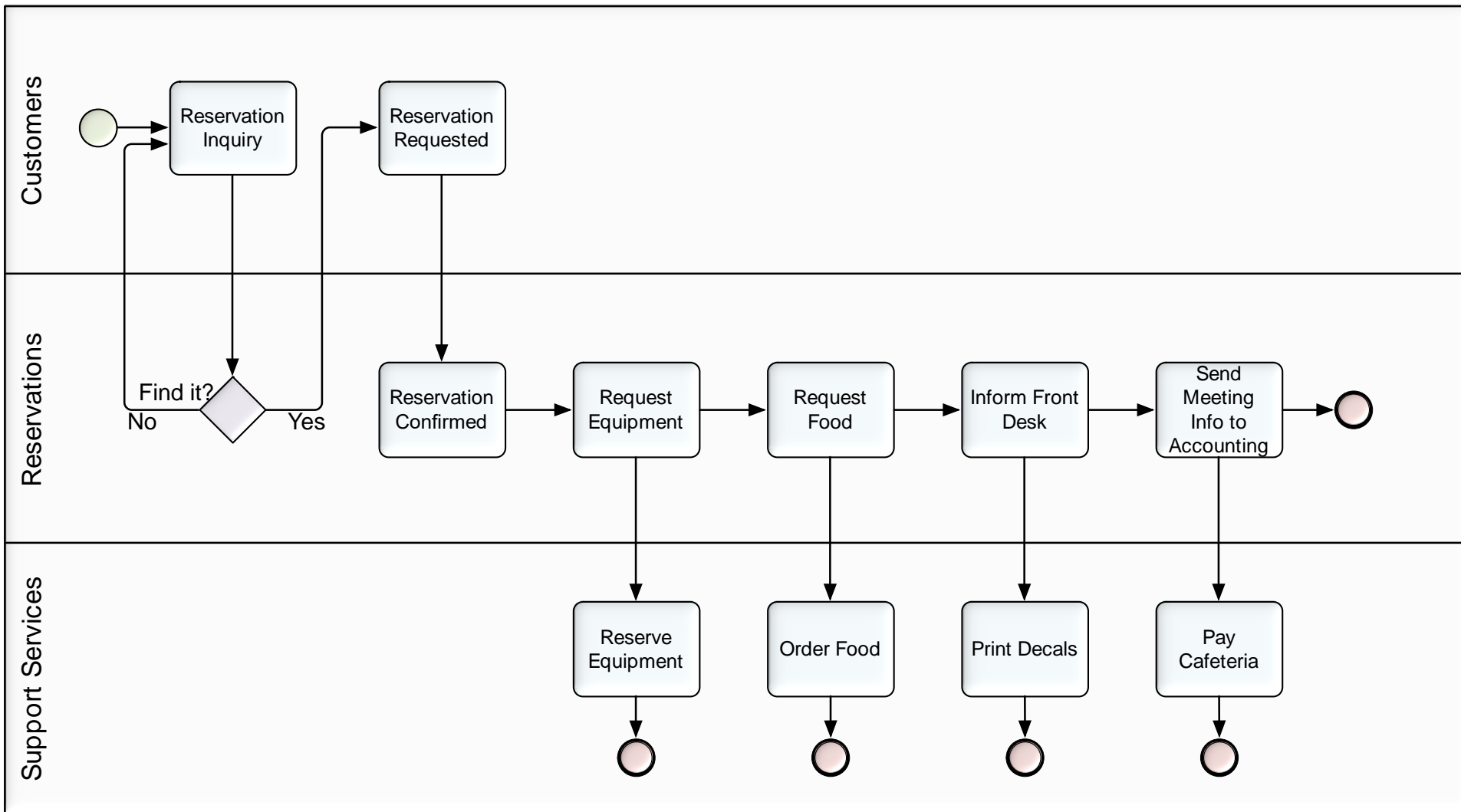
Missing steps

- Time wasted by Conference Room Coordinator trying to find a right “fit” and contacting all service providers and customers
- Internal Customers should know from the get-go which rooms are available and when so they can better schedule meetings ahead of time
- Service providers wait for the Conference Room Coordinator to contact them for requirements

Extraneous steps

- Accounting Dept. has to manually match the invoice from the cafeteria to the Conference Room Coordinator Records

Conference Room Reservation Process : Process Map (IS)



Conference Room Reservation Process :

Functional Narrative (SHOULD)

- A user should be able to register on the website with the company's credentials.
- The user should be able to book a room according to his/her convenience with the required facilities or extra specifications.
- The user can make a booking by using the website portal or by calling the customer support or by messaging.
- The user should be able to create a repeatable/recurring event weekly with specific reminders.
- If a user needs a specific time slot for a specific room or with some criteria that isn't available currently should be able to enter waitlist for the following and as soon as some slot gets cancelled, that should be notified to the user by an automated call and e-mail. If arrangements cannot be made and it's a high priority meeting, the issue can be escalated to the booking manager who will book a conference room at a nearby place with travel accommodation.
- The portal should feature facilities such as option to book snacks, beverages and also custom orders for extra facilities/accommodation.
- The employee's ID will be registered with their specific department which will be charged on booking and reduce the time consumption for the payment process. Thus, the payments will be directly received to the respective department.

Conference Room Reservation Process : Functional Narrative (SHOULD) (continued)

- The portal should be able to communicate with the receptionist for help in case of equipment failure or any problems incurred while using the conference room.
- Incase a room is booked but due to certain problems it cannot be used due to any failures, the booking person should be given another conference room and informed regarding the change.
- The employees should be able to cancel/reschedule the rooms also they should be able to increase or decrease the time duration of the conference room.

Conference Room Reservation Process : Behavior Narrative (SHOULD)

- The requestor should be able login to the portal and check for available rooms, add to a waitlist, view his upcoming and past bookings.
- The user booking the room should be able to view the various types of rooms, the number of people it can accommodate, the facilities, the room number, location.
- Once the user chooses a specific type of room, the user should be able to view all the facilities, choose the facilities, equipment's, also if the user has additional requirements, they will have an option to enter their requirements in a textbox indicating their specification.
- If the user has forgotten their password the user should be able to reset their password
- The user can also make a booking by chatting with a chatbot available on the website that can assist them. The user will just require their user id and date of birth.
- The user can make a booking by calling the automated voice system.
- The user can escalate as a high priority requirement to the chatbot/automated call to transfer control to the receptionist or manager.

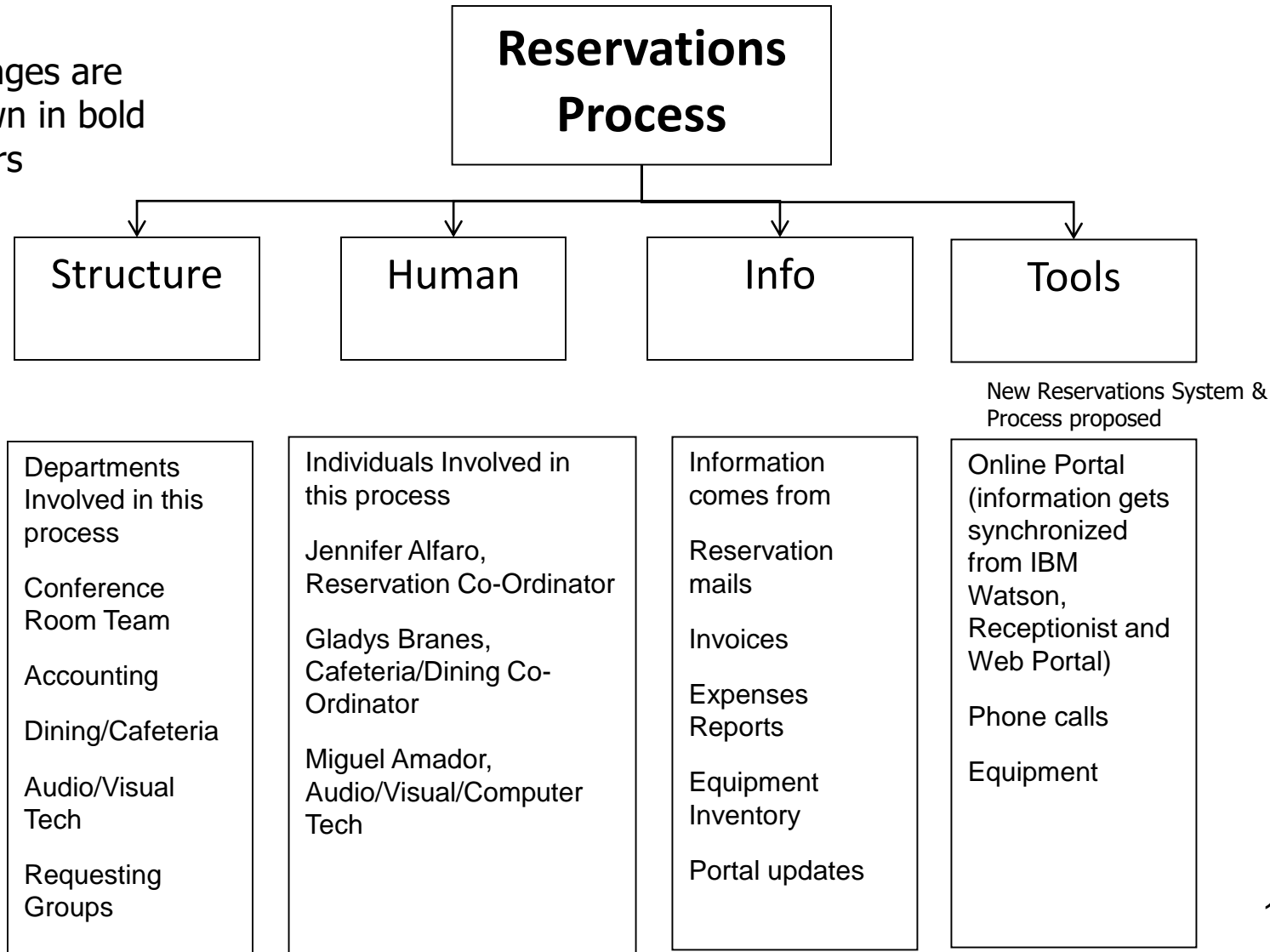
Conference Room Reservation Process : Behavior Narrative (SHOULD) (continued)

- The requestor once confirms the room, timing, requirements, facilities, equipment's and food. The billing amount would be directly added to the department from which the booking is requested. The payment process once goes through, the booking user should receive a confirmation email and calendar event wherein the user can add participants.
- The extra facilities, equipment's requirements will be forwarded to the receptionist who handles the booking with a calendar-based reminder.
- The dining department will receive the order and will be paid for the service
- Incase the user goes into a waitlist the system will automatically reserve and notify the user
- Incase the booking is escalated as a high priority event then the manager will look for a booking at some nearby hotel and arrange for travelling with required facilities and equipments.

Conference Room Reservation Process :

PROCESS Constituents (SHOULD)

Changes are
shown in bold
letters



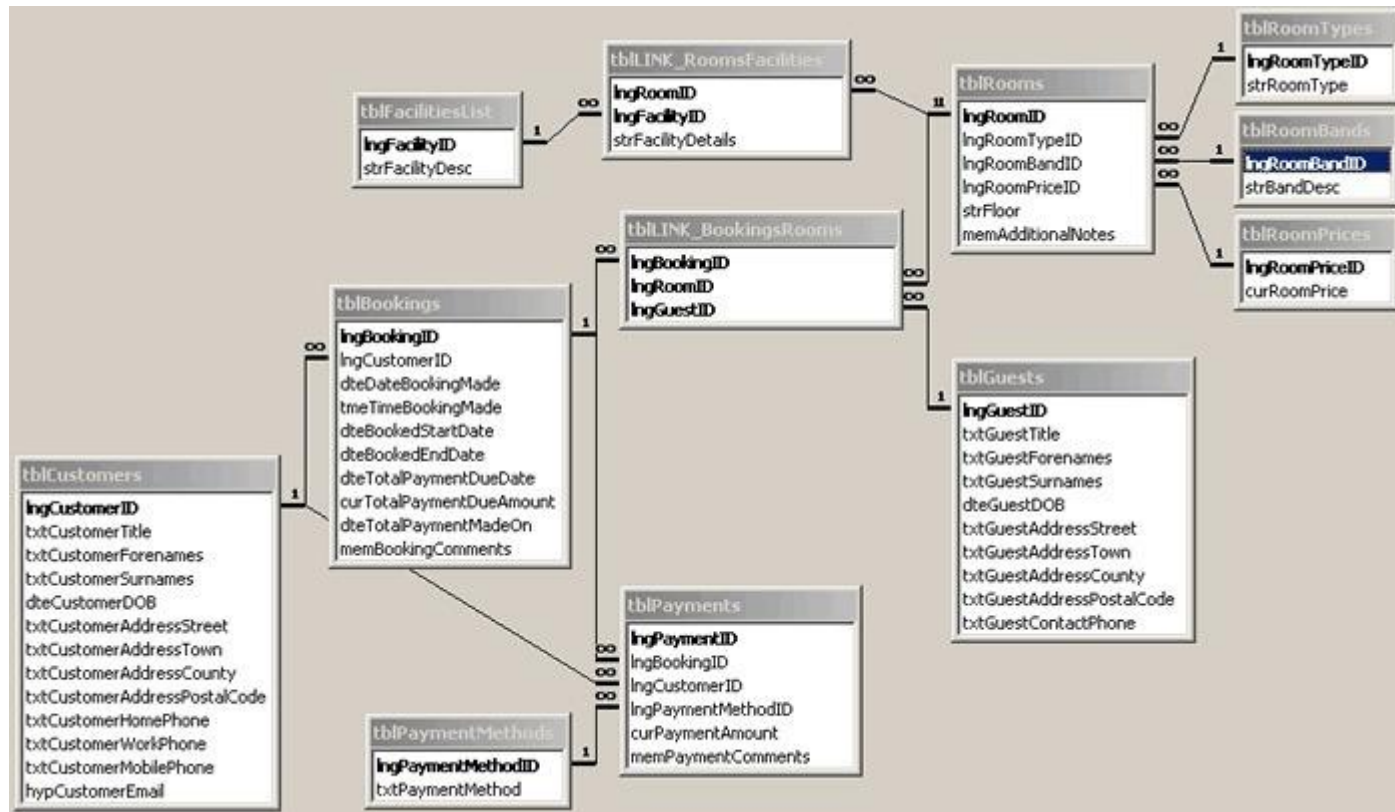
Conference Room Reservation Process :

Key Reengineering Principles (from Hammer) Used

- Principle 4: Self Service: The users can book a room for themselves by either placing a call/chat/or by going to the online web portal
- Principle 6: Reduce Manual Checks: The User need not worry to check if the booking has already been done by someone else at the same point of time.
- Principle 8: Reduced Contact Points: The users need not call the receptionist for a booking.
- Principle 10: Centralization: The process has been centralized and put into a single system with multiple choices of means to make a booking.
- Principle 17: Informate: The system will allow reporting that can help the accounting and auditing department to check the accounts.

Conceptual Data Model (1)

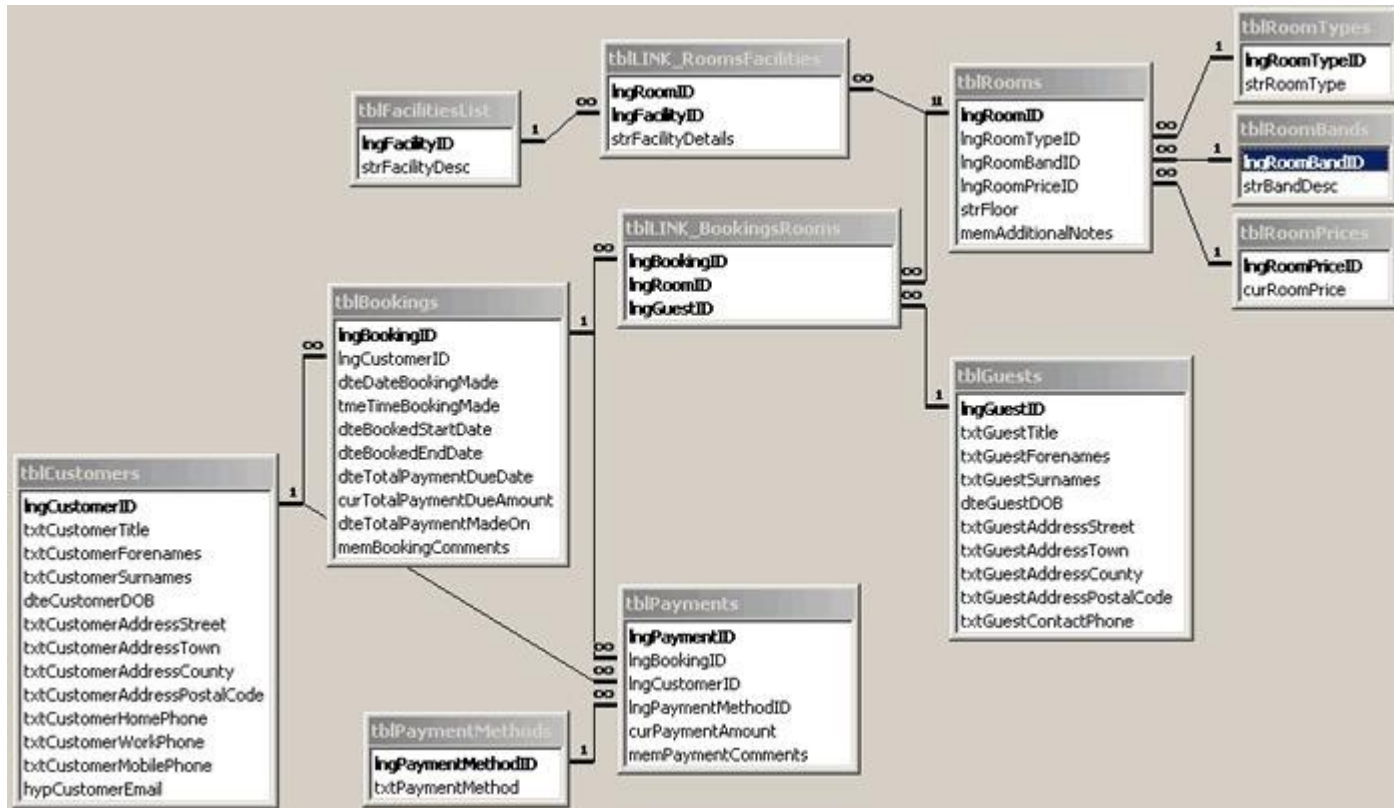
Provide an E-R diagram showing the major information entities that are impacted/used by your process and the relationships between the entities.
Note: this is an E-R that serves as a basis for an IT system (DB + Software) used to support the new supply order process.



References: http://www.databasedev.co.uk/image/hotel_room_booking_data_model_image.gif

Conceptual Data Model (2)

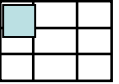
Show the normalized data tables with the data items that are needed to implement the conceptual model in the previous slide. Hint: think about the data elements that would need to enter, to read (management reporting), audit, and analyze.



References: http://www.databasedev.co.uk/image/hotel_room_booking_data_model_image.gif

Conference Room Reservation Process :

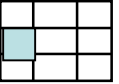
Rummler Matrix: Organizational Goals



- The goal is to book the conference room for managers, lead and users
- The users should be able to order for facilities, equipment's, food and special requirements
- Fasten the booking process
- Automate the procedure
- Reduce/remove humans (human error)
- As soon as a room booking is done the order details related to the specific departments will be pushed to their specific databases with their respective details.
- The departments will carry out the procedures accordingly.
- To achieve 100% booking rate with least hassles
- Avoid overbooking

Conference Room Reservation Process :

Rummler Matrix: Process Goals



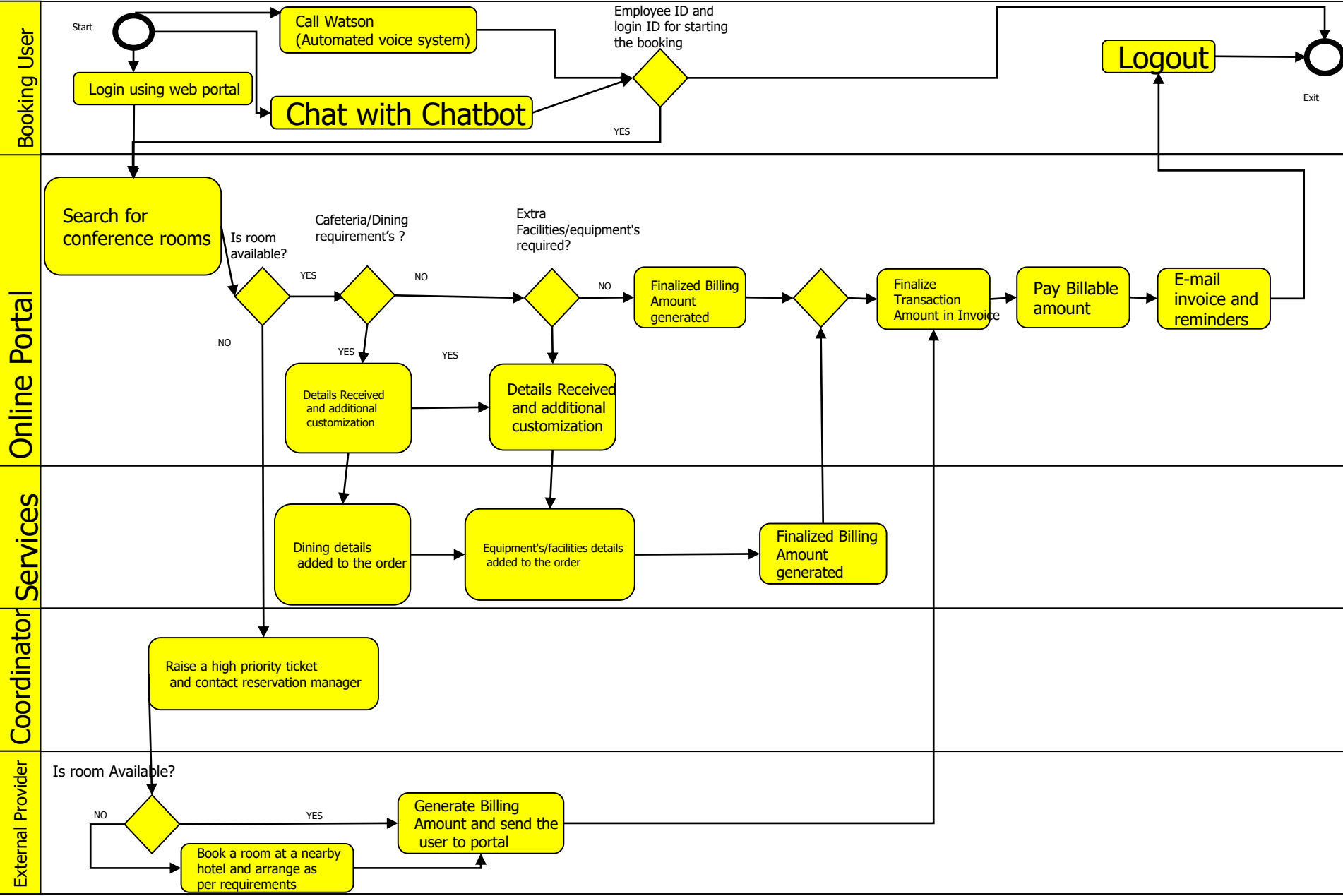
- **Process Design Goals**

- The process of booking a room should be easy to understand and efficient.
- The user interface and the experience for the process should be seamless with real time responsiveness.
- The data should be synchronized with the specific databases.

- **Operating Goals**

- The system should be fully functional and responsive 24*7
- The system should allow all the requirements to be met that a user requires
- The system should immediately book once the bookings are done to avoid overbookings. The systems should be able to handle a decent load of 20 users continuously.

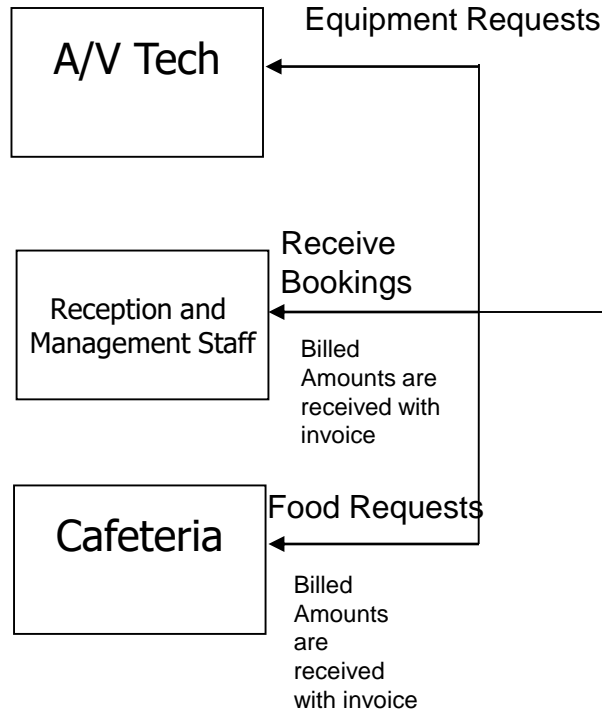
Conference Room Reservation Process :Process Map (SHOULD) – Use BPMN



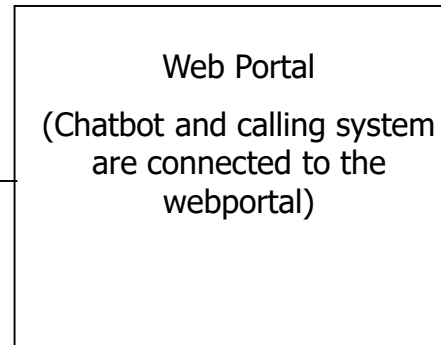
Conference Room Reservation Process :

Rummler Matrix: Relationship Map

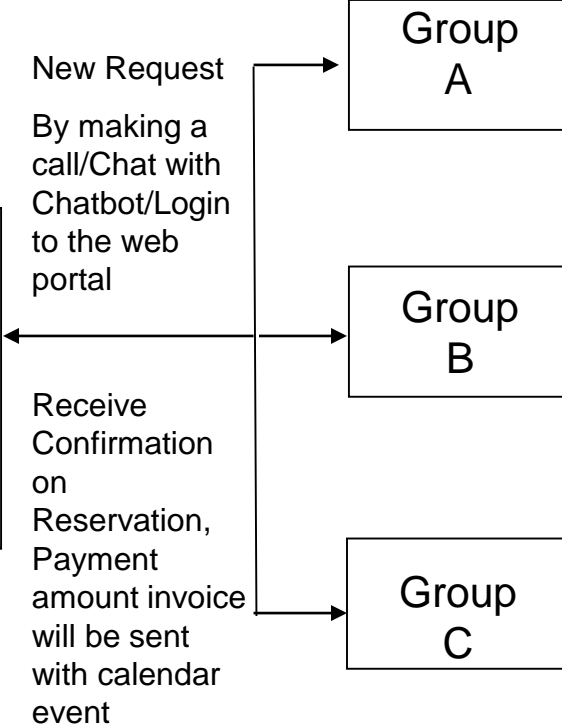
Support Services



Reservations

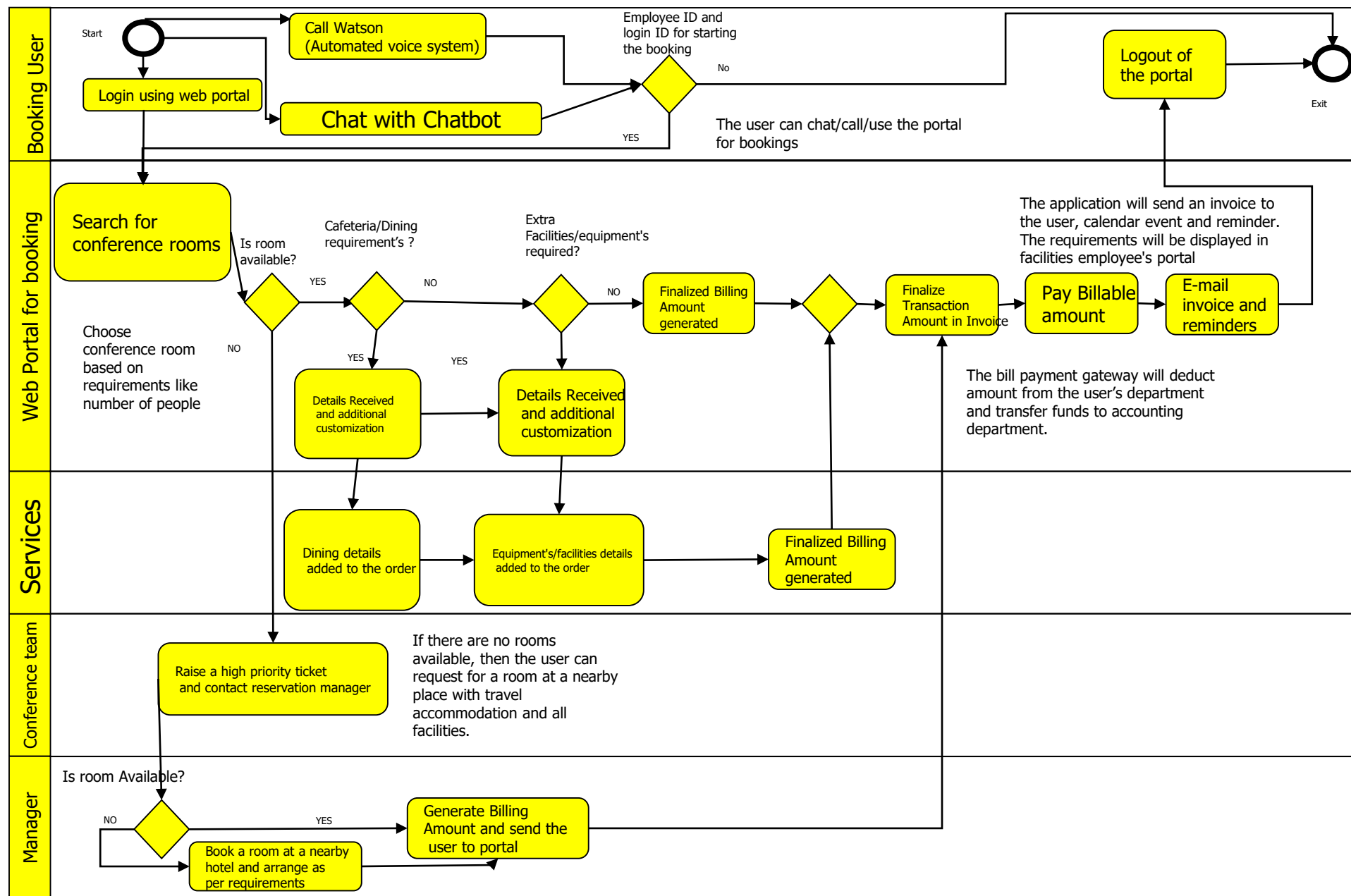


Internal Customers

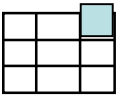


Process Map with Task Sub-Goals

Repeat process map showing the task/activity sub-goals that are needed to realize the overall process goals. (See Figure 5.3 in Rummler 2nd Ed)

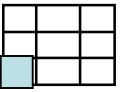


Functional Goals Summary



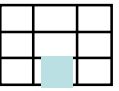
Functional Goals Summary						
FUNCTION	QUALITY		QUANTITY		SPEED OF DELIVERY	
	Measures	Goals	Measures	Goals	Measures	Goals
Total Process	Total Process should be quick and accurate	100%	Booking Accuracy and time consumption	100%	Process time consumptio	3-5 mins
Login/ connection to chatbot/ats	Quick turnaround	Immediate response and easy to use UI	Website Regular maintenances	99%	Should always be available	3-5 secs
Search room	Convenient UI, easy to understand	Rooms of people's choice should be available	Room availabilities	95%	Time taken to search a room	1 mins
Book Rooms and facilities	Rooms should be available	Easily book rooms	Facility availabilities	100%	Time consumed in booking	1 mins
Payment Gateway	Payment should be done and be Secure	The payment should go through securely	Number of times succesfull	95%	Payment Gateway response time	10-15 secs
Equipment Technician	Work done properly and all equipment's available	Should be able to fix technical issues	Training to technicians	99%	Ease of access and use	5 Mins

Job/Responsibility Matrix



Job/Responsibility Matrix						
Major Process Steps	Requestors		Reservations Personnel		Service Providers	
	Accomplishments	Goals	Accomplishments	Goals	Accomplishments	Goals
Search for a conference room	get rooms that meet the user's requirement	Conference room is always available	Show the rooms available	Accurately show the rooms		
Cafeteria/Dining facilities	Request for Snacks/Beverages/ food	Food requirement is placed			Provide beverages/snacks	The requested items are available
Technical Equipment/Facilities needed	Request for Facilities and equipment's	Equipment and facilities are made available			Facilities made available at the time of meeting	All the equipments are available and work properly
Billing and Invoicing			Calculate the bill	Generate a correct total amount	calculate the bill	The price should be correct
Payment processing	Deduct amount from requestor department	Processing correctly done on backend	Room confirmed and blocked	Block room and avoid overbooking	Facilities, Food, and equipment's should be ready	Everything should work correctly
Payment Gateway	The bill will be paid by department	Secure and complete transaction	Successful transaction	Successful transaction	Complete the transaction	Booking complete and confirmation e-mail sent

Job Model (Design)



Role Name			
Requesting User			
Outputs	Critical Dimensions	Measures	Standards
Login to the system	Secure Login	The user should be able to login to the system	Secure login system
Booking the conference room	Ease of access of the user interface	The user experience should be responsive and seamless	The process will be quick and responsive to book a room
Ability to order food	Quality, taste of food and served at the time of meeting	The time to serve should be informed on portal	During the break time snacks will be served in the room
Ability to provide technical equipments and help configure	All possible needs should be available	All equipments will be made available	The technical staff will setup and bring all the equipments required
Pay for the billable amount	Correct amount	Correct totaling including food and extra costs	Totalling mechanisms and audits
Receive confirmation of reservation	There shouldn't be overbooking	Proper database synchronization algorithms	Every person should be able to get a room

Conference Room Reservation Process :

Costs & Benefits

- Costs:
 - Initial Investment
 - Online Portal – 20,000\$
 - Database - \$10,000\$
 - IBM Watson – 15,000\$
 - Operating Costs
 1. Annual System Maintenance: 60,000\$
 2. Licenses and running costs: 15,000\$
- Benefits:
 - Tangible
 - Highly automated reservation system
 - Time saving (Quicker booking procedure)
 - Cost efficient (Reduces Human Work)
 - Increased productivity
 - Intangible
 - I. The booking experience will become seamless and responsive, which will create less stress and higher satisfaction and better feedback.
 - II. There are no chances of nobody not getting a room since the request can be raised to a high priority request
 - III. There are no chances of facing an overbooking.

Conference Room Reservation Process :

Other Processes Impacted

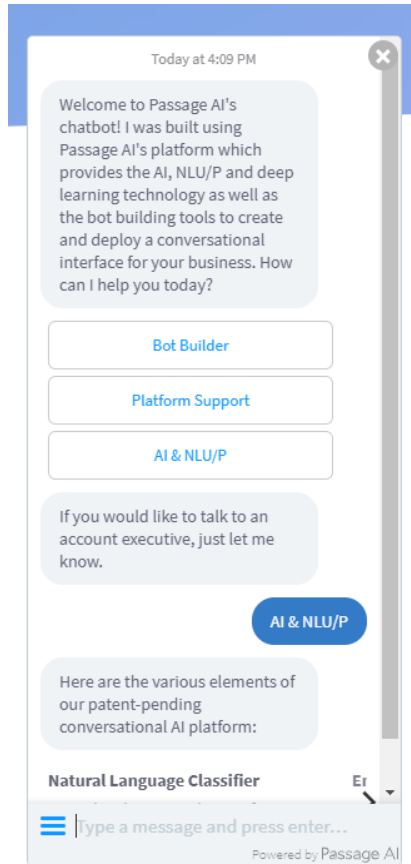
- The system helps the firm get rid of human errors such as over booking/wrong booking.
- Automating this procedure saves over 60-70% of the time consumed generally, which would otherwise consume 15-20 minutes on a call or an email thread of over 20-30 messages. Thus, leading higher efficiency and productivity.
- The firm can cut down cost on the receptionist.
- As soon as a room is requested all the details are directly pushed to the related employee's portal. The cafeteria receives their orders, technician's get timing and required equipment details and the conference team has a copy of all the information.
- It's easier to audit and keep track of all the processes.
- This eases the tasks for accounting department.

Conference Room Reservation Process

Future evolution of the System

- The system will synchronize the booking with user's calendar to check if they are already occupied and will be notified.
- The participants attending the meeting can respond to the meeting invitation with a yes or no.
- The booking calendar will be synchronized with holidays to avoid wrong bookings.
- The firm can conduct data analysis over past bookings to find which time of the week/month/year the rooms are full and there are high number of waitlists. This can help them to identify bottlenecks.
- Further, using this analysis they can check the amount spent in booking rooms outside the organization. If the amount is equivalent to investing and building conference rooms in the firm, then they can plan to build new conference rooms in the premises. Else the specific times of the months can be given out as a contract at specific hotels for mass bookings to help reduce costs.
- Commonly ordered food items will be made available on a frequent basis and help in ordering food ingredients from wholesale vendors.

Chatbot



IBM Watson



Stevens Library Example for meeting room booking



SAMUEL WILLIAMS LIBRARY

FIND - RESEARCH HELP - SERVICES - STEVENS ARCHIVES - ABOUT -

Stevens Institute of Technology / LibCal / Group Study Rooms

Group Study Rooms

Group Study Rooms

For any number of people

Nov 2018

Su	Mo	Tu	We	Th	Fr
				1	2
4	5	6	7	8	9
11	12	13	14	15	16
18	19	20	21	22	23
25	26	27	28	29	30

Wednesday, November 21, 2018

	1:00pm	2:00pm	3:00pm	4:00pm	5:00pm	6:00pm	7:00pm	8:00pm	9:00pm	10:00pm	11:00pm
Burchard Team											
209 Media Room											
210 Group Study											
309 Group Study											
311 Group Study											

Available - To book, click on any available slot.

Booking Details

Note: A Daily maximum of 4 hours can be booked.

309 Group Study Room 7:00pm - 8:00pm, Wednesday, November 21, 2018

Policy for the Use of Study Rooms (2nd and 3rd floor)

Second floor group study rooms:

- 209
- 210

Third floor study rooms:

- 309, 311
- 310
- 312, 314, 316, 318