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Planning & Management

Northeastern University

Assignment Name:
Individual Project

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2. Assignment

2.1. Case

Using the given project mandate create a full project assessment document include required project information

2.2. Project Mandate

Work with the assigned datasets to perform/create the following:

2.2.1. PURPOSE

Southwest Airlines Company ranks among the best-performing carriers in the United States, according to the annual Airline Quality Rating evaluation of flight cancelations and delays, passenger complaints and how often travelers are bumped from flights. "every customer has had the experience of boarding a plane after checking their bag and wondering if it was there".

2.2.2. AUTHORITY RESPONSIBLE

Chairman of the Board and Chief Executive Officer Executive Vice President and Chief Financial Officer Vice President and Chief Technology Architect

2.2.3. BACKGROUND

Southwest Airlines Co provide great interest to customers, provide them with the means of convenience and work hard to provide them with the best services. Where Southwest Airlines Co has won the highest ranking in customer service. The problem they are facing now is the loss of luggage. Therefore, by creating a luggage tracking application, the customer will be. Bags go awry, get lost, or are forgotten. Each year, over 23 million bags are mishandled, and 79% of those are delayed, resulting in both additional costs for the airline and inconvenience and dissatisfaction for customers. SITA estimate mishandled baggage costs the airline industry US$ 2.3 billion in 2015. In the air baggage handling application, the RFID tags are used to enhance the ability for baggage tracking, dispatching and conveyance to improve the management efficiency and the users' satisfaction.

2.2.4. PROJECT OBJECTIVES

Cost Savings -Allows passengers to track baggage in real-time and creates passenger loyalty -Decrease need for manual processing, which helps free up staff for other value adding tasks -Efficiency Improvement - Potential Worthiness

2.2.5. SCOPE

track baggage in real-time -The goals of RFID implementation are to increase customer services, eliminate mis sorts, improve read rates and visibility, reduce maintenance costs and manual labor, reduce delivery delays to and from the aircraft, and perhaps most importantly, improve customer satisfaction.

2.2.6. CONSTRAINTS

This project works with internal flights Because Internet access is available on internal flights so that the customer can track the bag

2.2.7. INTERFACES

This project INTERFACES with projects that are interested in customer service in Southwest Airlines. Southwest Airlines has a project called OpsSuite , It will improve the performance of the internal tasks of employees, the "Air Baggage Handling System Based on RFID" project will increase the likelihood of success of the OpsSuite project because it provides a service for both sides of the customers and employees

2.2.8. QUALITY EXPECTATIONS

The goals of RFID implementation are to increase customer services, eliminate mis sorts, improve read rates and visibility, reduce maintenance costs and manual labor, reduce delivery delays to and from the aircraft, and perhaps most importantly, improve customer satisfaction.

2.2.9. OUTLINE BUSINESS CASE

Enhanced services for passengers such as real-time baggage tracking -Reduced mishandling of baggage -Improved operations – saving costs and making baggage handling more efficient with automatic scanning

3. Requirements Documentation

3.1. Project Objectives

Specific: RFID delivers a significantly higher read rate than the currently used traditional methods to achieve 99% efficiency in the baggage environment.

Measurable: The service scope of the app increases the number of customers by 35% Due to which the company is able to improve revenue by 3 to 4.5% on the investments of the application for the first two years.

Relevant: To reduce cost and complexity whilst improving passenger convenience. To decrease the friction towards completing a particular task.

Time-related: Within 3-6 months' timeframe, the number of users using the application reaches 95K+

3.2. Deliverables & Success Criteria

Deliverables:

- Provide real-time information about the luggage of the customer that the airline manages
- Handling everything from the onsite analysis to quality implementation of both the hardware and the tagging
- Available on internal flights so that the customer can track their bag
- Hold meetings to communicate the changes in luggage handling to employees
- Improve asset visibility, leading to improved asset utilization and working capital efficiency

Success Criteria	Detail Including Measurements	Impact
Skills (Quality)	Improve Customer satisfaction	High
Technical Improvement (Scope)	The company is equipped with software tools for handling the loss of luggage	Medium
Time	Use of application reduces time required for handling luggage as compared to the traditional methods and decrease need for manual processing, which helps free up staff for other value adding tasks.	Medium
Cost (Savings)	An average of 75% of investment is expected to be saved over a period of one year	Medium
Cost (Investment)	The saved money is expected to be re-invested in new projects reducing dependency on external investments and risks of debts	Low
Cost (Resource)	Reduce maintenance costs and manual labor	High
Cost (Revenue)	Improved efficiency and investments will bring in more Customers and thus, more revenue	High

3.3. Assumptions

Resources: Target users will be accessible to test the application during the time they agree to and will be given a demo of how to use the application after web checking or boarding the flight

Delivery: Correct number of devices arrive on target delivery date with no delays

Budget: Project costs will be slightly flexible to the initially budgeted costs

Scope: Track baggage in real-time is the main feature of the application

Schedule: All logged data to be checked thoroughly by a Project Manager and Software System**.** Vendor contracts will be fully executed within two months of vendor Selection

Methodology: Project will follow team Governance guidelines, Quality Control Process

Technology: Employ Fusion Table and RFID programming data integrity checks

Architecture & Design: TTTCheck is an algorithm-based system, which allows you to set some parameters and have your logs checked in seconds.

3.4. Risks and Issues

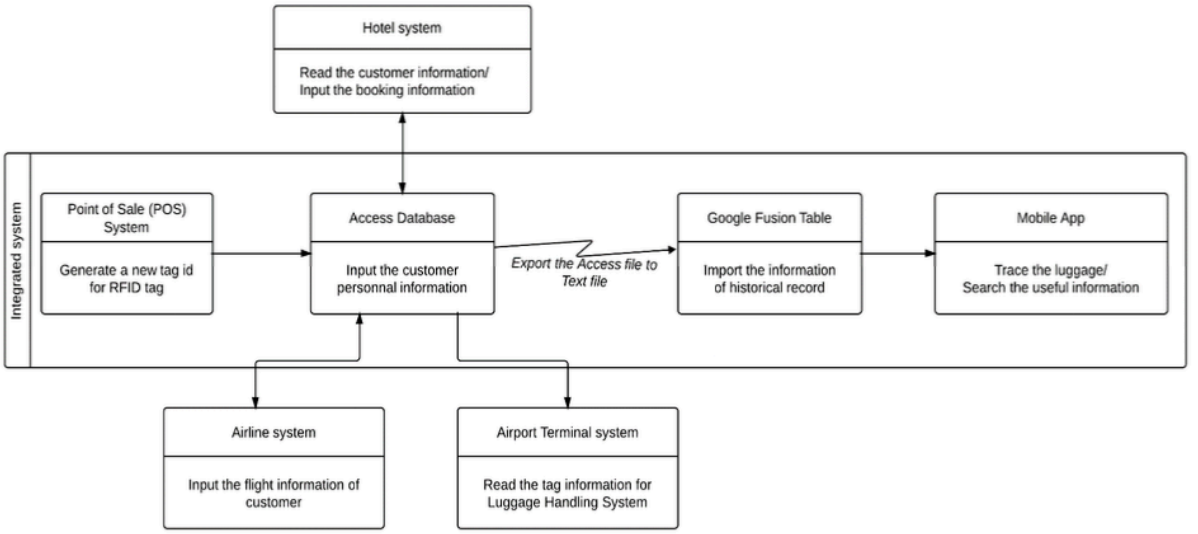
Risk	Prob	Impact	Scope Creep Cause	Mitigation
Schedule risk	High	Slippages in schedule typically increase costs and, also, delay the receipt of project benefits	• Planned the unrealistic budget • Defining the structure by inexperienced experts	• Plan Regular Schedule Reviews • Contingency reserves
Strategic risks	Medium	Directly will impact the outcome that was expected	• Misunderstanding of scope resulting in unrealistic objective	• Escalate to sponsors • Brainstorming, effective communication techniques between cross functional teams
Operational risk	High	Impact the project definition (scope document, charter etc.) or delivery contract	• Lack of communication	• Defining the scope by experts • Break the approved deliverables into actual work requirements
Cost risk	Medium	Leads to performance risk if cost overruns lead to reductions in scope or quality to try to stay within the baseline budget	• Due to Schedule risk	• Evaluate risk interactions and common causes

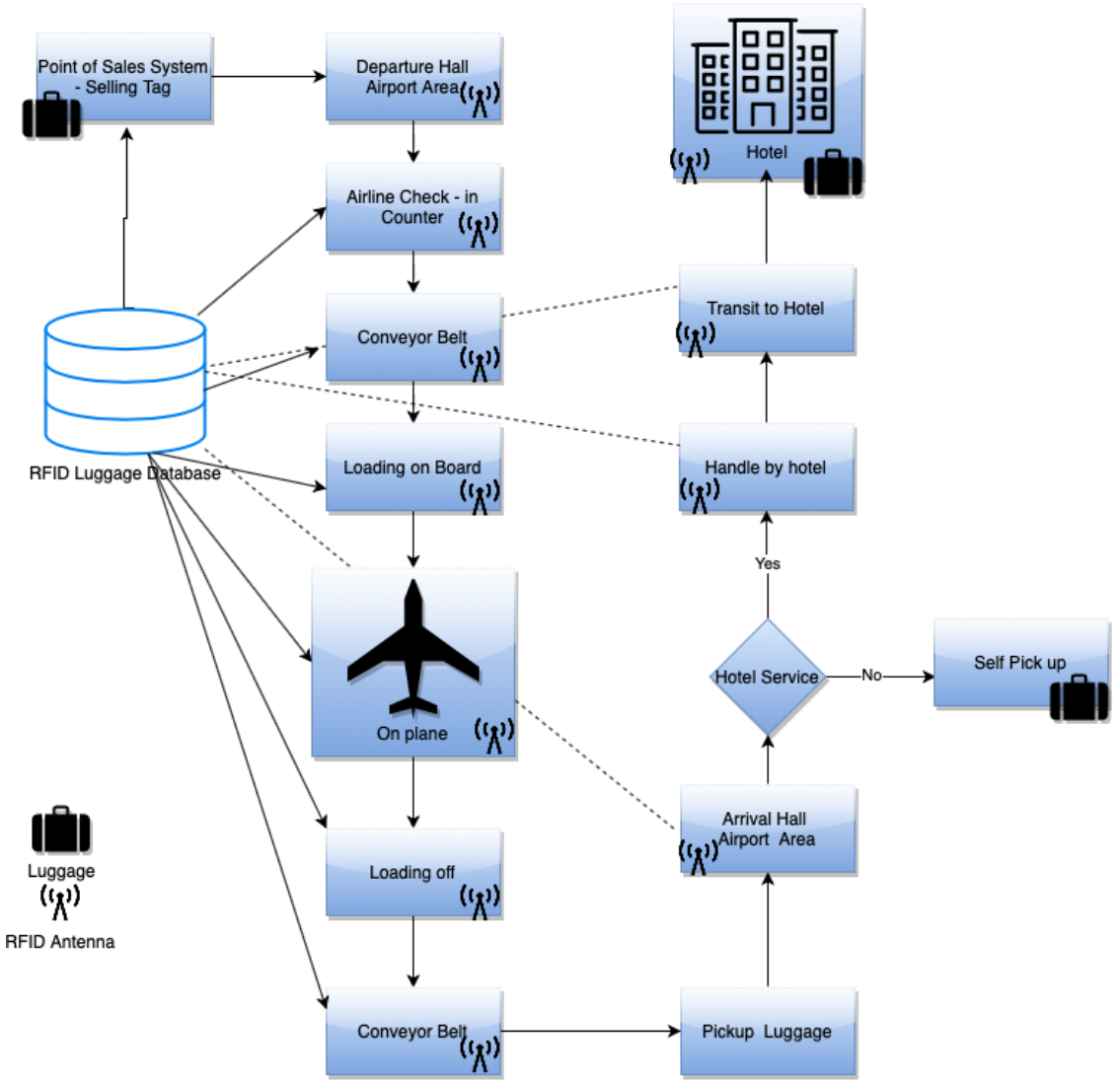
Catastrophic risks	Low	Major threats to the project performance, ES&H, cost, or schedule	• Poor information transformation and control	Qualitative risk assessment
Risks associated with external hazards	Low			This risk occurs rarely due to external factors like terrorism, labor strikes, and civil unrest, etc.

3.5. Data Mapping and Integration

Data Mapping and Integration :

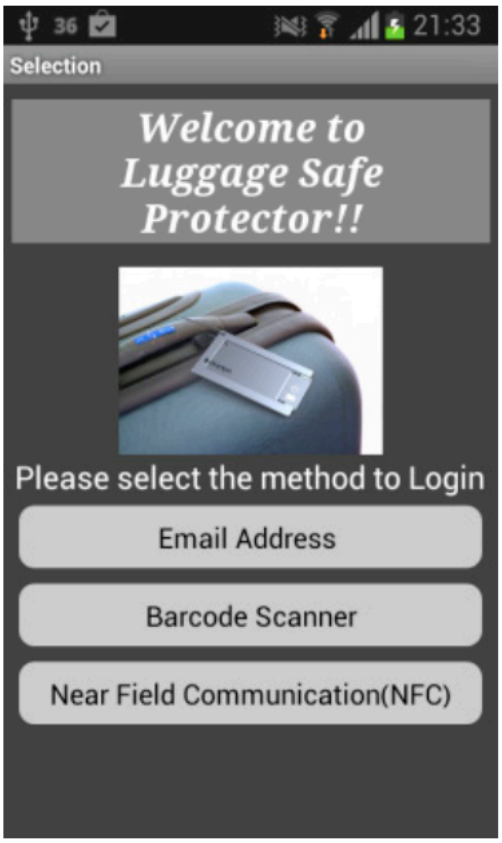
The developed integrated system consists of a web & database server. The web server covers the operation of the webpage and the communication between the external and internal servers. The communication includes queries and commands transmitted through the web server. The database server connects the RFID reader, stores the data and also manages the information of the RFID tag. The architecture of the integrated system as well as the communication protocol are shown in diagram below. The reader, with 2-way radio transmitter-receivers sends signals to the tag and reads the received responses. New tag identification is generated for the RFID tag by the Point-of-Sale (POS) system and then the data will be passed to the Access database. Further customer personal information could be input in the POS or the database directly. The Access file is automatically exported to the Google Fusion Table, which stores the latest and historical record of the luggage tracking details. The information is updated in the Mobile App for users to trace the luggage and search useful information related to the luggage and flight schedules.





Data Mapping and Integration

The user interfaces on login page and main page of mobile tracking app



3.6. Scope

The installation and maintenance of RFID tags and technology in Southwest Airlines will help to effectively monitor the luggage and ensuring that the luggage is tracked at every step till they reach the final destination. This will help the company is effective customer services and reduce complaints, delays in responding to customers because through the use of application, the customers will be able to track their luggage without having to contact us. The initial investment in RFID technology will ultimately lead to lowered expenses in the long run and at the same time will help in attracting new customers while retaining the old ones

3.6.1.1. In scope

- To integrate RFID Technology to achieve systematic customer luggage handling and tracking
- Achieve Real-Time Monitoring of luggage and Excellent control of Product Quality within Distribution Network

- Maximize data accuracy for the ability of baggage tracking, dispatching and conveyance to improve the management efficiency and minimize the human-related risk of management

3.6.1.2. Out of Scope

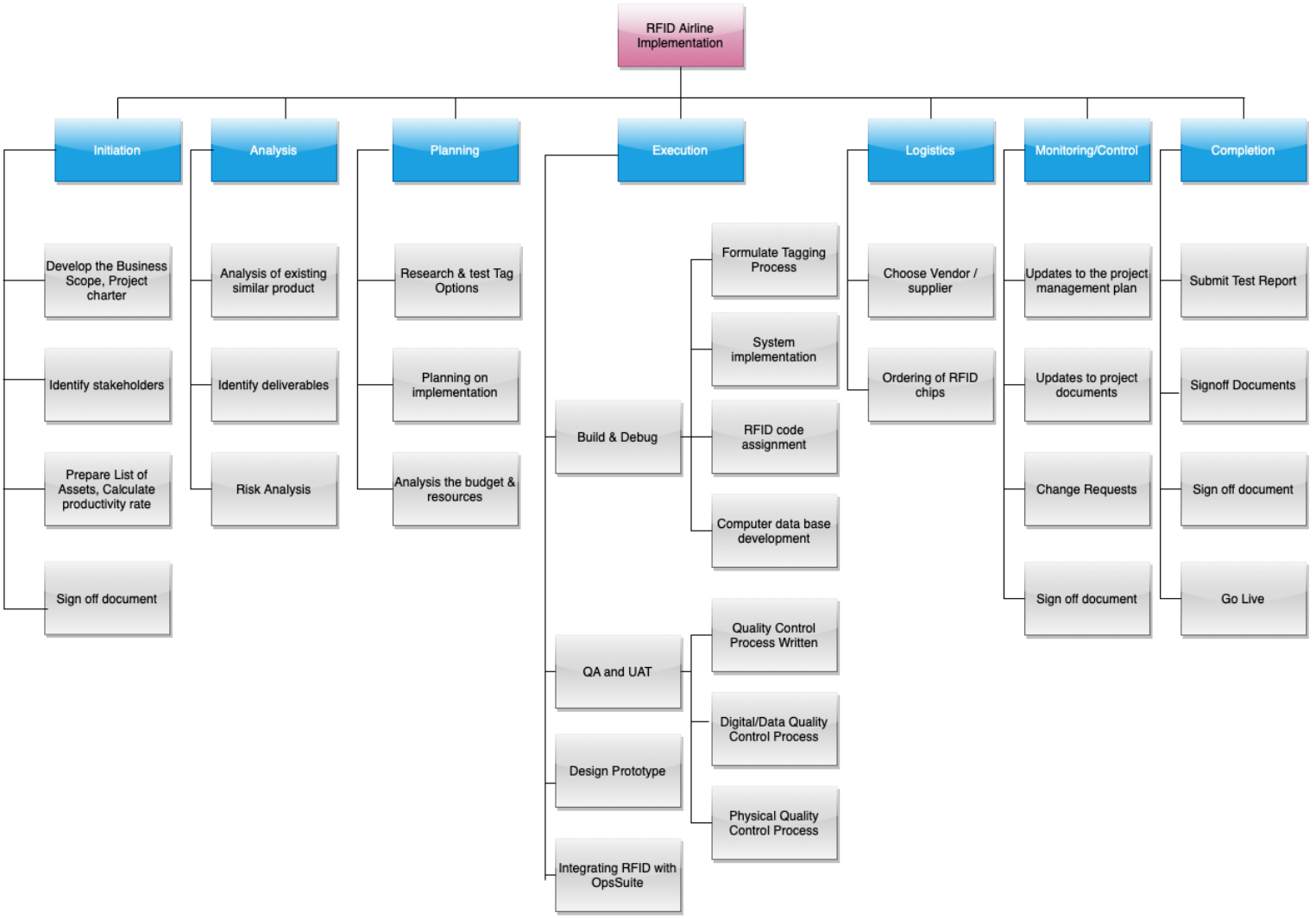
- Inclusive to international flights
- Automation process through RFID technology requires a new working methods and performance measurement for the supply chain

3.6.2. STRATEGY MATRIX

Define complete strategic matrix for your project using strategic matrix table – Identify 4 strategies for the organization

Project Objectives	**Strategies**			
	Cost – Working Capital Reduction	Product and Service Quality	Deploy new technology	Focus on Customer satisfaction
Achieve systematic Luggage handling and tracking	Yes	Yes	Yes	Yes
Increase in the number of app users	Yes	Yes	No	Yes
Revenue & Profit Increase	Yes	No	Yes	No
Improve Customer convenience	Yes	Yes	No	Yes
Provide live tracking of the luggage	No	Yes	Yes	Yes

3.6.3. WORK BREADOWN STRUCTURE



3.7. Resource and Cost Estimate

Using the following format define your resource and cost estimates

3.7.1. COST

	Cost Description	Schedule (Month)	Amount	Note
RFID equipment	RFID Tag Printers	February	92,304,824	Hardware
	RFID Readers / Antennas & Installation	February	58,050,000	Hardware & Software
Project Management	Project Management	January	23,170,000	
IT - Track & Trace Application Integration	Project Development	February	11,300,000	User Requirements Architecture & coding Integration Test & Validation Change Management
	IT department	January	78,050,000	Includes all the Employee cost
	Interfaces, servers, licenses	February	7,530,000	Indirect cost & other expenses
Total			270,404,824	

3.7.2. RESOURCE

Resource Type	Resource Needed Month/Year	Total FTE	Note
Business Architects	January & February	1.5	1 FTE and other for 50%
Database Admin	January & February	2	2 FTE
Project Manager	January to March	1	1 FTE
Systems Architect	January & February	2.5	1 FTE and 2 for 65%
Test Engineer	February	1	1 FTE
Vendor Manager	February	1	1 FTE

IT Department	January & February	7.5	6 FTE and 2 for 55%
Process Management group	January & February	3.5	3 FTE and 1 for 45%
Enterprise Architect	February	1	1 FTE
Legal Department	February & March	3.5	2 FTE and 2 for 35%
Human Resources (HR) Department	January to March	2.5	2 FTE and 1 for 25%

3.8. Roles & Responsibility Matrix

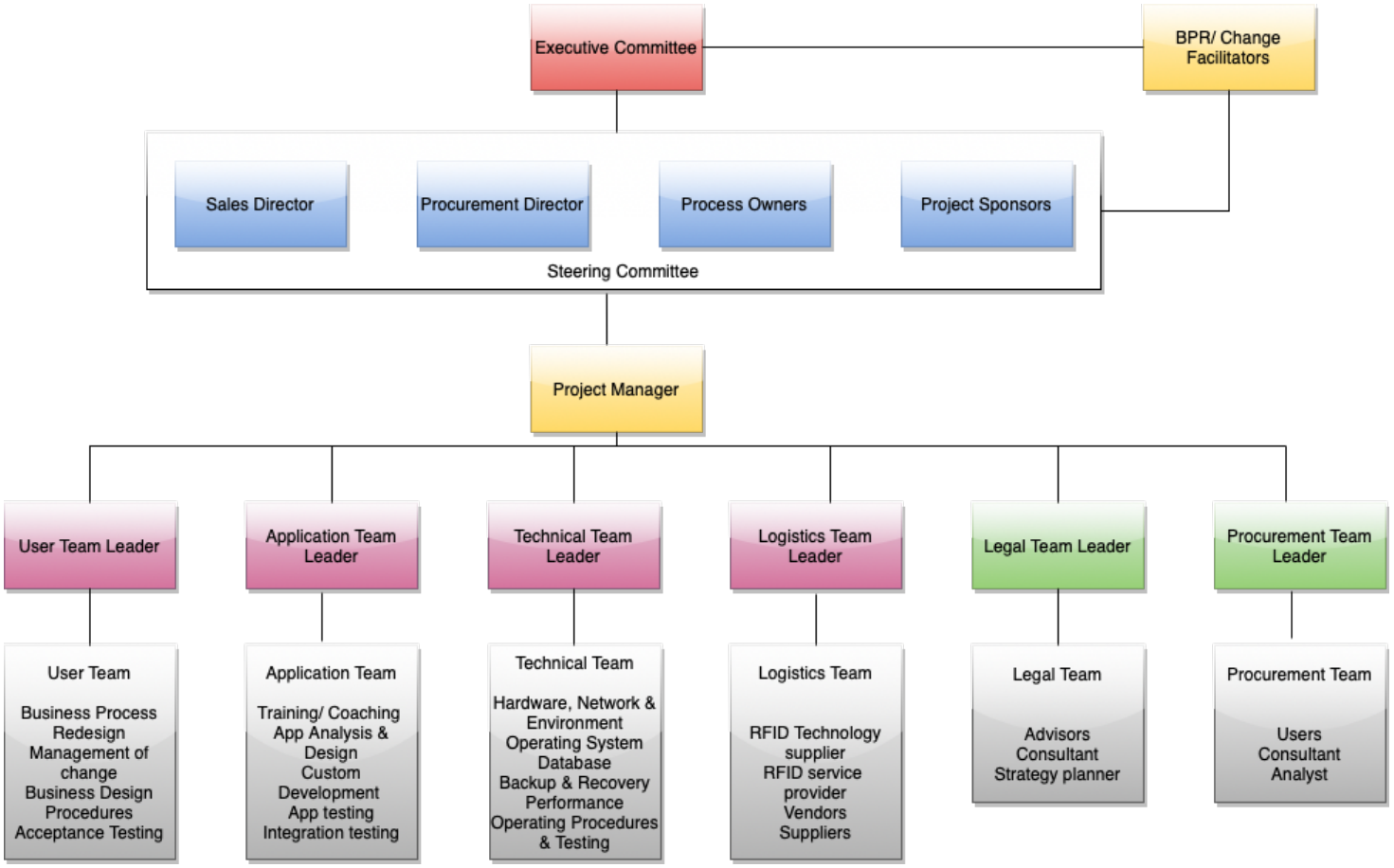
Define roles and responsibilities using RACI model for all participating resources

Phase	Task	Steering	Enterprise Architect	Management	Project Manager	Business Analyst	Technology Manager	Quality Assurance
Initiation	Business Case	I	A,C	C	R,A	C		
	Project Charter	I	C	I	R,A	C		
Planning	Project Plan	I	I	C	R,A	C		
	Project Budget	R,A	C	I	I,C	C		
	Project Schedule	I	I	I	R,A	C	C	C
	Initiation signoff	R,A	C	I	I,C	I,C	I,C	I
Functional	Procurement	I		I	I,C		R,A	
	Build Deliverables	I,C	I,C	I	I,C		R,A	
	Functional Design	I	I,C	I	A		R,A	
Control/ Monitoring	Create Test				A	C	C	R
	Perform Change Management	C	C	C	R		A	I
Closing	Create Project Closure Report	I	I	I	R,A	I	I	I

R	Responsible
A	Accountable
C	Consult
I	Inform

3.9. Project Structure

Define your project structure considering information provided in the project mandate



3.10. Resource requirement Matrix

Define resource requirement matrix per work pages using the format that was provided to you in the class and for your group assignment

Work page	Project Manager	Business Analyst	System Architect	Front end Dev	Back end Dev	Test Engineer	Enterprise Architect	UI/UX	Vendor Manager
Initiation	X	X					X		
Requirement research & defining scope	X	X					X		
Planning	X	X	X				X		
Design			X	X	X			X	
Build				X	X				
Testing						X			
Logistics									X
Monitoring & Control	X		X				X		
Completion	X								
Total number of resources	1	2	3	4	4	4	1	1	1
Daily Rate(per hour)	$45	$65	$50	$55	$55	$45	$70	$70	$40
Efforts in Days	70	53	55	30	30	25	32	27	23
Total Cost	38,800	30,020	26,750	26,789	26,789	23,456	29,743	28,976	22,210

3.11. Project Schedule

Using the following format to define complete project schedule using PMI (initiation, Planning, Execution, Monitoring and Control and Closure.) Start date 1/1/2021. Make your project schedule as realistic as possible please. Identify all the dependencies, using task ID.

Task ID	PMI	Tasks/Milestone	Subtask	Start	End	Dependency
1	Initiation	Initiation	Develop the Business Scope, Project charter	1/1/2021	1/5/2021	
2			Identify stakeholders	1/5/2021	1/5/2021	
3		Prepare List of Assets	Calculate Productivity Rates	1/6/2021	1/6/2021	
4		Sign off document		1/6/2021	1/7/2021	
5	Planning	Research & test Tag Options		1/7/2021	1/15/2021	Scope, goal and assets
6		Planning on implementation		1/15/2021	1/18/2021	
7		Analysis the budget & resources		1/19/2021	1/22/2021	
8	Execution	Build & Debug	Formulate Tagging Process	1/23/2021	1/30/2021	Designing of prototype depends on build & debug
9		Design Prototype		2/01/2021	2/7/2021	
10		QA and UAT	Quality Control Process Written	2/8/2021	2/12/2021	
11			Digital/Data Quality Control Process	2/13/2021	2/16/2021	
12			Physical Quality Control Process	2/16/2021	2/18/2021	
13		Integrating RFID with OpsSuite		2/20/2021	2/22/2021	
14	Monitoring	Updates to the project management plan		2/23/2021	2/24/2021	Any changes raised during QA & UAT

15		Updates to project documents		2/24/2021	2/25/2021	
16	Control	Change Requests	CAPA and defect repairs	2/23/2021	2/28/2021	Any defects raised during QA & UAT
17		Signoff Documents		2/28/2021	3/1/2021	
18	Closure	Submit Test Report		3/1/2021	3/2/2021	
19		Signoff Documents		3/3/2021	3/3/2021	
20		Go Live		3/5/2021	3/6/2021	

The release notes, user guide, survey and closing document will depend on the closure of the project