UNIVERSITY OF JEDDAH
COLLEGE OF COMPUTER SCIENCE & ENGINEERING
DEPARTMENT OF INFORMATION

Software Project Management

TALABAH SYSTEM

Group Members: Jana Shalabi, Mann Alsalamah, Shahad Abubakr
Instructors: Wed Abuznada, Rasha Alamari

TABLE OF CONTENTS

1 Business Case Analysis

1.1 Introduction

In today's fast-paced world, the management of attendance systems for students and employees poses a significant challenge for institutions and organizations alike. Traditional methods of attendance tracking, such as manual sign-in sheets or swipe cards, are not only cumbersome but also prone to inaccuracies and fraud. In light of these challenges, there arises a pressing need for an efficient, reliable, and secure system that can streamline the attendance tracking process while ensuring the integrity of data.

1.2 Background

RFID technology offers a solution for the challenges in attendance tracking faced by institutions and organizations. With its ability to wirelessly identify and track tags attached to individuals, RFID streamlines the process while ensuring accuracy. Integrating RFID into attendance systems eliminates manual methods, reducing errors and manipulation risks. Additionally, RFID enables the storage and management of personal information, enhancing data security and accessibility. The proposed system aims to revolutionize attendance tracking by leveraging RFID technology for seamless automation and personalized data management.

1.3 Business Objective

The primary objective is to develop an RFID-based smart attendance system with integrated personal information management. This system aims to streamline attendance tracking, enhance accuracy, and ensure data integrity. By providing administrators with user-friendly interfaces, the system improves administrative efficiency. Personalized interaction is facilitated through tailored communication based on individual data. Ultimately, the business aims to promote cost efficiency, compliance, and stakeholder satisfaction.

1.4 Situational Analysis

The proposed RFID-based attendance system presents an opportunity to streamline attendance tracking processes for both educational institutions and workplaces. Technologically, RFID offers advantages in accuracy and efficiency, though integration with existing infrastructure and potential technical limitations require careful consideration. Regulatory compliance regarding data privacy and security is paramount, necessitating adherence to relevant laws such as GDPR and HIPAA. A SWOT analysis reveals strengths in automation and accuracy, countered by weaknesses such as initial costs and potential resistance to change. Operational challenges may arise during integration, requiring thorough training and support measures. Financially, the system entails initial investments in hardware and software, balanced against potential ROI through improved attendance management. Risks include technical failures and data breaches, mitigated by proactive risk management strategies. Engaging stakeholders throughout the process is essential for addressing concerns and ensuring successful implementation.

1.5 Competitive Market Research

1. Competitor Analysis: Identify existing RFID-based attendance systems and personal information management solutions in the market targeting educational institutions, schools, universities, and organizations.
2. Feature Comparison: Compare the features and capabilities offered by competitors, such as attendance tracking accuracy, real-time data collection, personal information storage, data security measures, integration with existing systems, user interface design, and reporting capabilities.
3. Pricing Evaluation: Analyze the pricing structures of competitor solutions, including initial setup costs, hardware and software licensing fees, subscription models, maintenance and support charges, and any additional costs associated with customization or upgrades.
4. Customer Feedback: Gather insights from customer reviews, testimonials, and feedback on competitor products and services to understand their strengths, weaknesses, user experience, and overall satisfaction levels.
5. Market Share and Positioning: Assess the market share and positioning of key competitors in the RFID-based attendance and personal information management market. Determine their market presence, brand reputation, customer base, and competitive advantages relative to the proposed system.
6. Regulatory Compliance: Investigate competitor compliance with relevant data protection regulations, privacy laws, and industry standards governing the handling of personal information in educational and organizational settings. Evaluate how competitors address data security and privacy concerns to ensure regulatory compliance.

1.6 Competitive Advantage of Niche Product and Positioning

Positioned as a comprehensive solution, our RFID-based attendance system offers unparalleled efficiency and accuracy by eliminating manual processes, ensuring real-time tracking, and enhancing security through RFID technology. With its centralized database of personal information, including attendance records, it simplifies data management while providing customizable features and seamless integration options. User-friendly interfaces and scalable architecture underscore its adaptability and future-readiness, making it not just a tool for attendance tracking but a holistic solution for institutions seeking to optimize operations and enhance security measures.

1.7 Preliminary Project Requirements

The preliminary requirements for the RFID-based attendance and personal information management system include the integration of RFID technology for student and employee identification, automatic attendance tracking, secure storage of personal information, user authentication for administrators, intuitive user interfaces for both administrators and end-users, comprehensive reporting and analytics functionalities, seamless integration with existing systems, scalability and flexibility to accommodate growth and feature enhancements, reliable operation with minimal downtime, compliance with data privacy regulations, thorough testing and quality assurance measures, and comprehensive documentation and training resources for users.

1.8 Budget Estimate & Financial Analysis

The estimated budget for the Talabah system project amounts to approximately $33,904, covering development, hardware, software, testing, deployment, and miscellaneous expenses. Financial analysis suggests potential revenue of $70,000 annually (subjected to increase based on the subscription) through a subscription-based model, with a break-even point expected within 1 year based on constant revenue. Sensitivity analysis is crucial to assess the impact of market variables on financial outcomes, while risk assessment highlights potential regulatory fines and security breaches as key concerns. Mitigation strategies are essential to address these risks and ensure the project's long-term financial sustainability. While this simplified analysis provides a foundation for decision-making, further detailed examination is necessary for precise financial projections and risk management.

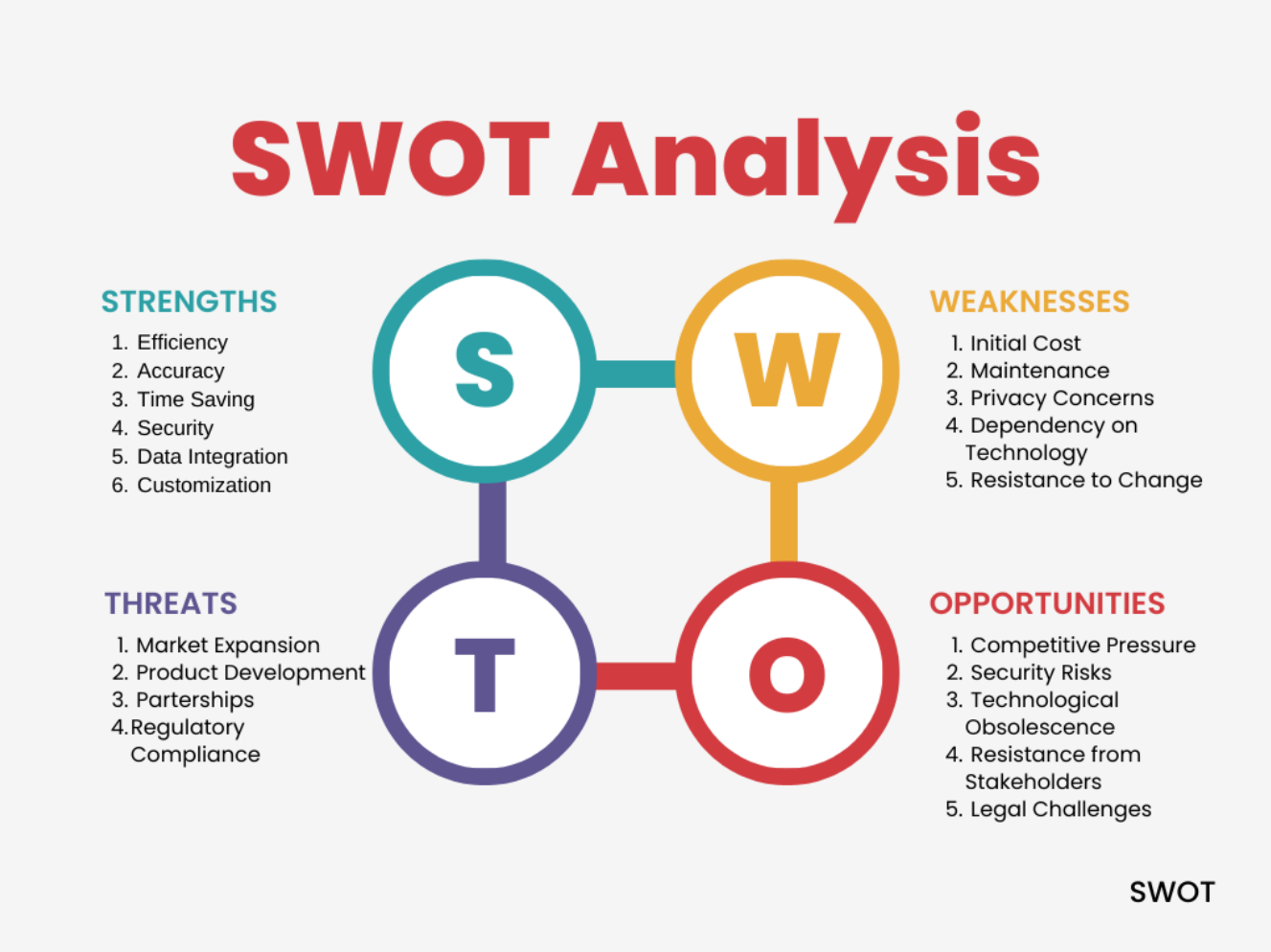
1.9 Schedule Estimate

The sponsor's preferred completion date for the RFID-based attendance and personal information system project is set at 10 months, allowing for comprehensive development, testing, and deployment phases. This timeline provides flexibility for unforeseen challenges and ensures a robust solution. Additionally, the assumption of a minimum 5-year useful life for the system underscores the commitment to long-term effectiveness and sustainability.

1.10 Quality & Risks Analysis

In our project scenario, the implementation of an RFID-based attendance system poses both quality and risk considerations. The quality aspect involves ensuring the system's reliability, accuracy, and user-friendliness to effectively track attendance and manage personal information of students and employees. Additionally, quality assurance measures should focus on data security and privacy protection to prevent unauthorized access or breaches. On the other hand, the project entails various risks, including potential privacy violations, data security breaches, regulatory non-compliance, and user resistance to adopting new technology. Technical challenges such as system integration issues and scalability concerns may also arise. Mitigation strategies should include conducting thorough risk assessments, implementing robust security protocols, ensuring compliance with data protection regulations, and providing comprehensive user training and support. Additionally, clear communication about the benefits of the system and transparency regarding its operation and safeguards are essential to garner user trust and acceptance. A well-defined business case should be developed to justify the investment in the project and ensure alignment with organizational objectives, emphasizing the potential benefits in terms of improved attendance tracking efficiency, data accuracy, and administrative convenience.

2 SWOT Analysis Diagram



3 NPV Analysis

To calculate the NPV, financial analysis is performed and based on the assumptions for the costs, the project would be completed in the first year, using 10% as a discount factor. The costs for the project initially are $33,904 (at 0 Year) with no subsequent annual costs for the next 3 years as the cost is the investment for the whole project. Applying discount factors, the total costs discounted to $50,856. The benefits starting from the second year are $70,000, $100,000 and $150,000. Adjusting for the discount factors, the discounted benefits would be $338,800. The NPV analysis along with ROI is given below in the table. Also, the payback period of the project is 1 Year.

Discount rate	10%					
	10%					
			Year			
	0	**1**	**2**	**3**	**Total**	
Costs	$ 33,904					
Discount factor	$ 2	$ 1	$ 1	$ 1		
Discounted costs	**$ 50,856**	**$ -**	**$ -**	**$ -**	**$ 50,856**	
Benefits	$ -	$ 70,000	$ 100,000	$ 150,000		
Discount factor	$ 1	$ 1	$ 1	$ 1		
Discounted benefits	**$ -**	**$ 63,636**	**$ 82,645**	**$ 112,697**	**$ 258,978**	
Discounted benefits - costs	$ (50,856)	$ 63,636	$ 82,645	$ 112,697	**$ 208,122**	← NPV
Cumulative benefits - costs	$ (50,856)	$ 12,780	$ 95,425	$ 208,122		
ROI →	**409%**					
		Payback in Year 2				

4 Software Requirement Specification Document

4.1 Purpose

The purpose of this document is to define the software requirements for the development of an RFID-based attendance system. This system aims to efficiently manage attendance records for both students and employees within an organization.

4.2 Scope

The system will utilize RFID technology to automate the attendance process, eliminating manual entry errors and providing real-time monitoring of attendance data. It will include functionalities for recording attendance, storing personal information of students and employees, and generating reports.

4.3 Definitions, Acronyms, Abbreviations

- RFID: Radio Frequency Identification
- SRS: Software Requirement Specification

4.4 Use Case Descriptions

1. **Record Attendance**
    - Actors: Admin, Teacher
    - Description: Allows an authorized user to record attendance using RFID tags.
    - Preconditions: RFID tags assigned to students/employees, RFID reader operational.
    - Postconditions: Attendance data stored in the system.

2. **Manage Personal Information**
    - Actors: Admin
    - Description: Allows an admin to manage personal information (e.g., name, ID, contact details) of students and employees.
    - Preconditions: Admin logged in, access to personal information module.
    - Postconditions: Personal information updated in the system.
3. **Generate Attendance Report**
    - Actors: Admin
    - Description: Generates attendance reports based on specified criteria (e.g., date range, department).
    - Preconditions: Attendance data available in the system.
    - Postconditions: Attendance report generated and displayed to the admin.

4.5 Functional Requirements

4.5.1 Record Attendance

1. The system shall provide a user interface for authorized users to record attendance.
2. The system shall detect RFID tags within the vicinity of the RFID reader.
3. The system shall match detected RFID tags with corresponding student or employee records.
4. The system shall timestamp and store attendance records in a centralized database.

4.5.2 Manage Personal Information

1. The system shall provide a user interface for authorized users to record attendance.
2. The system shall detect RFID tags within the vicinity of the RFID reader.
3. The system shall match detected RFID tags with corresponding student or employee records.

4.5.3 Generate Attendance Report

1. The system shall provide a report generation module accessible to authorized admins.
2. The system shall allow admins to specify criteria such as date range, department, or individual students/employees for report generation.
3. The system shall generate attendance reports in printable or downloadable formats (e.g., PDF, CSV).

4.6 Non-Functional Requirements

4.6.1 Performance

1. The system shall be capable of processing attendance records for a minimum of 500 users simultaneously.
2. The system response time for recording attendance shall not exceed 3 seconds.

4.6.2 Security

1. The system shall implement role-based access control (RBAC) to restrict access to sensitive functionalities.
2. The system shall encrypt personal information stored in the database to protect confidentiality.

4.6.3 Reliability

1. The system shall maintain an uptime of at least 99.9%.
2. The system shall perform regular backups of attendance data to prevent data loss.

4.6.4 Usability

1. The system shall have an intuitive user interface that requires minimal training for users.
2. The system shall provide clear and informative error messages to assist users in troubleshooting issues.

5 Stakeholder Register and Management Strategy

Done by : Shahad Hussain

Name	Position	Project role	Contact info	Internal/External
Shahad Abubakr	CEO	Sponser	0546454680	Internal
Jana Shalabi	Finance consultant	Financial manager	0560022535	External
Mann alsalamah	RFID Technology Specialist	Team member	0567893348	Internal
Azizah alharthy	Developer	Development Team member	0599999999	Internal
Hanouf alotaibi	IT Administrator	Team member	0500000000	Internal
Fatima Bin mahfouz	School Principal	Advisor	0533333333	Internal

Stakeholder management strategy

Done by: Shahad Hussain

Name	Level of interest	Level of influence	Potential Management Strategies
Shahad Abubakr	**High**	**High**	Shahad is Highly interested and influential; management strategies involve providing regular updates, seeking guidance on key decisions, and ensuring alignment with ..organizational goals
Jana Shalabi	**High**	**Low**	Jana has a High interest but low influence; strategies involve collaborating closely to ensure accurate budgeting and financial planning for the project
Mann alsalamah	**High**	**High**	Both high interest and influence; strategies include leveraging expertise for technical decisions, collaboration for successful implementation, and guidance on best .practices
Azizah alharthy	**High**	**Low**	Azizah shows High interest but low influence; strategies involve providing clear project requirements, offering support for technical challenges, and ensuring timely .deliverables
Hanouf alotaibi	**High**	**Low**	Hanouf has a High interest but low influence; management strategies include engaging in discussions regarding IT infrastructure requirements and .collaboration for effective integration
Fatima Bin mahfouz	**High**	**High**	Fatima is Highly interested and influential; strategies involve aligning project objectives with school policies, seeking input on educational goals, and addressing concerns .within the school community

6 PM Charter

Project Title: Talabah

Project Objective:

The objective of this project is to implement an RFID-based system for tracking attendance and managing personal information of students and employees. The system aims to improve efficiency, accuracy, and security in attendance management, as well as enhance the management of personal information for both students and employees.

Scope:

- Develop and deploy an RFID-based attendance system that integrates with existing infrastructure.
- Implement features for capturing and storing personal information securely.
- Provide user-friendly interfaces for users to access and manage their information.
- Ensure compliance with relevant data protection regulations and standards.
- Conduct training sessions for users on how to use the system effectively.
- Evaluate the system's performance and gather feedback for continuous improvement.

Stakeholders:

- Project Sponsor: [Shahad Abubakr]
- Project Manager: [Jana Shalabi]
- Project Team Members: [Mann Alsalamah, Hanouf Alotaibi, Azizah Alharthi]
- Students
- Employees
- IT Department
- Administrators

Initial Plan:

1. Conduct a thorough analysis of requirements and feasibility assessment.
2. Design the system architecture and develop a detailed project plan.
3. Procure necessary hardware and software components.
4. Develop and test the RFID-based attendance and personal information management software.
5. Install and deploy the system across relevant departments or facilities.
6. Conduct training sessions for users.
7. Monitor system performance and gather feedback for improvements.
8. Implement any necessary updates or enhancements based on feedback.

Success Criteria:

- Successful implementation of the RFID-based system within the agreed timeline and budget.
- High user satisfaction with the system's usability, reliability, and security.
- Improved accuracy and efficiency in attendance tracking and personal information management.
- Compliance with relevant data protection regulations and standards.

7 Kick-Off Meeting Agenda

Date: 13/05/2024

Time: 9:00 PM to 10:00 PM

Location: Virtual Meeting on Google Meet

Meeting Objective:

The objective of this kick-off meeting is to initiate discussions and planning for the development of an RFID-based system aimed at efficiently managing attendance and storing personal information of students and employees.

Agenda:

- Introductions of attendees
- Background of project
- Review of project-related documents (i.e. business case, project charter)
- Discussion of project organizational structure
- Discussion of project scope, time, and cost goals
- List of action items from meeting

Action Item	Assigned To	Due Date
Prepare for a meeting with managers to discuss needs, cost and the risks of the project	Jana Shalabi	05/05/2024
Check weather the project aligns with company's objectives	Shahad Abubakr	15/05/2024
Demonstrate the design algorithms and flowcharts Gives initial plan about the	Mann Alsalamah	16/05/2024
Development processes of the application software	All Members	19/05/2024

Date & Time of Next Meeting: 19/05/2024 - 9:00 PM

8 Scope Statement

PROJECT TITLE : talabah

DATE : 15/5/2024 **PREPARED BY: shahad hussain**

Project justification :

In educational institutions and workplaces, managing attendance records efficiently is crucial for tracking productivity and ensuring compliance. The Attendance Management System aims to streamline the attendance tracking process, providing a convenient and reliable solution for both students and employees. The system will incorporate innovative features to enhance accessibility and usability, ultimately improving overall attendance management efficiency. The project budget is estimated to be $XXX,XXX, with additional operating expenses required for maintenance and updates.

Product Characteristics and Requirements:

A. **Easy Attendance Process:** The system should offer a seamless and user-friendly attendance recording process, utilizing methods such as RFID scanning or for quick and accurate attendance tracking.
B. **Accessibility:** The system must be accessible via mobile devices (iOS and Android), web browsers, and other approved platforms to ensure widespread usability.
C. **Comprehensive Tracking:** Alongside standard attendance recording, the system should have the capability to track attendance history, absences, tardiness, and other relevant data for thorough reporting and analysis.
D. **Emergency Situations:** In cases where individuals are unable to communicate verbally (e.g., medical conditions), alternative methods such as RFID scanning should be available to help.
E. **Integration:** The system should integrate seamlessly with existing institutional management systems, such as student databases or HR systems, to streamline data exchange and eliminate duplication of efforts.

F. **User Feedback:** Provision for user feedback mechanisms should be incorporated to gather insights for system improvement and optimization.

Summary of Project Deliverables

Project management-related deliverables:

Project charter, scope statement, WBS, schedule, cost baseline, status reports, final project presentation, documentation, and training materials.

Product-related deliverables:

Software code, system architecture design, user interface design, hardware setup, integration modules, testing reports, user manuals, and support documentation.

Project Success Criteria:

The project must be completed within a year at cost not exceeding XXX,XXX . The success of the project will be evaluated based on the system's ability to streamline the attendance process, enhance data accuracy, improve user satisfaction, and achieve a positive return on investment within a reasonable timeframe.

9 Work Breakdown Structure (WBS)

1.1 Project Management
    1.1.1 Define Project Scope and Objectives
    1.1.2 Create Project Plan
    1.1.3 Allocate Resources
    1.1.4 Establish Project Timeline
    1.1.5 Prepare Communication Plan
1.2 Requirement Analysis
    1.2.1 Gather Requirements from Stakeholders
    1.2.2 Define System
    1.2.3 Identify Hardware and Software Requirements
    1.2.4 Document System Specifications
1.3 Hardware Procurement
    1.3.1 Research RFID Hardware Options
    1.3.2 Select RFID Readers and Tags
    1.3.3 Procure Necessary Hardware
    1.3.4 Ensure Compatibility with Existing Infrastructure
1.4 Software Development
    1.4.1 Design System
    1.4.2 Develop Database Schema for Storing Personal Information
    1.4.3 Develop RFID Communication
    1.4.4 Implement Attendance Tracking Algorithms
    1.4.5 Develop User Interface for Admins and Users
1.5 Integration
    1.5.1 Integrate RFID Hardware with Software System
    1.5.2 Configure RFID Readers and Tags
    1.5.3 Test Hardware-Software Integration
    1.5.4 Troubleshoot and Resolve Compatibility
1.6 Data Management
    1.6.1 Establish Data Storage Protocols
    1.6.2 Implement Data Encryption and Security Measures
    1.6.3 Ensure Compliance with Data Privacy Regulations
    1.6.4 Backup and Recovery Procedures
1.7 Training and Documentation
    1.7.1 Develop Users Manuals
    1.7.2 Conduct Training Sessions for Admin and Users
    1.7.3 Provide Ongoing Support and Assistance
1.8 Deployment
    1.8.1 Plan Deployment Strategy
    1.8.2 Install Hardware at Designated Locations
    1.8.3 Deploy Software on Relevant System

1.8.4 Conduct Final System

1.8.5 Roll Out System to users

1.9 Maintenance and Support

1.9.1 Establish Maintenance Schedule

1.9.2 Monitor System Performance

1.9.3 Provide Technical Support to Users

1.9.4 Perform Software Updates and Patches

1.10 Evaluation and Improvement

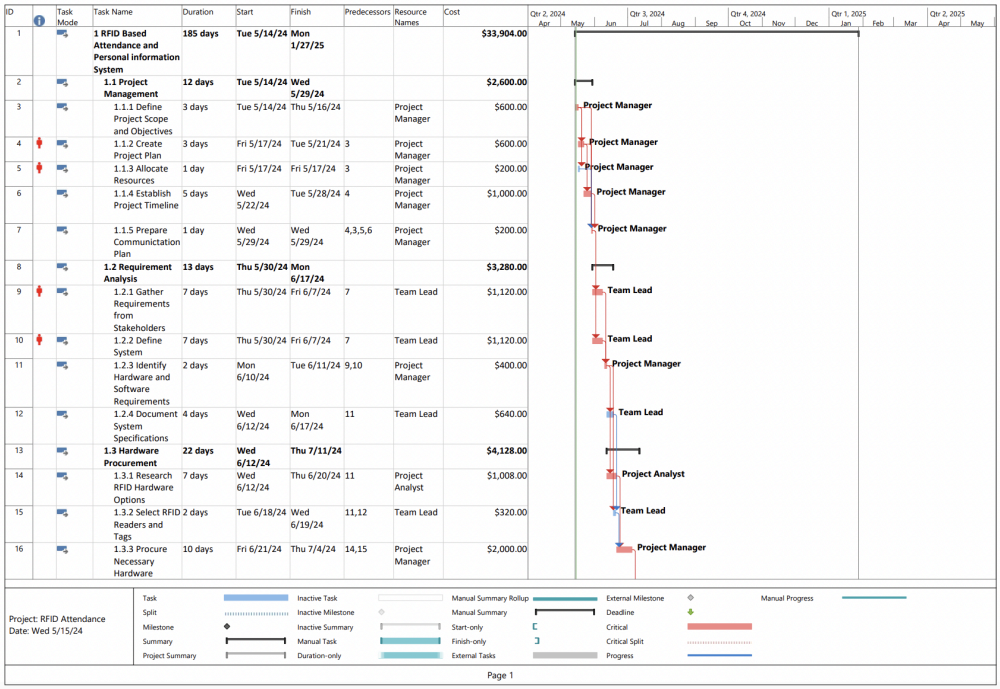
1.10.1 Collect Feedback from Stakeholders

1.10.2 Evaluate System Effectiveness

1.10.3 Identify Improvement Areas

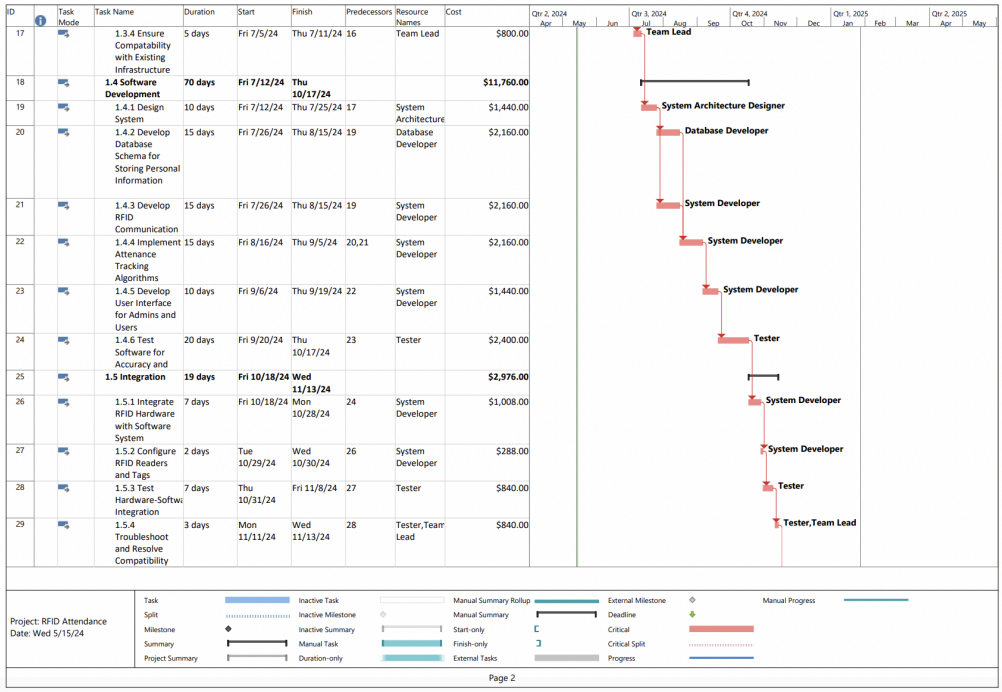
1.10.4 Implement Enhancements

10 Gantt Chart



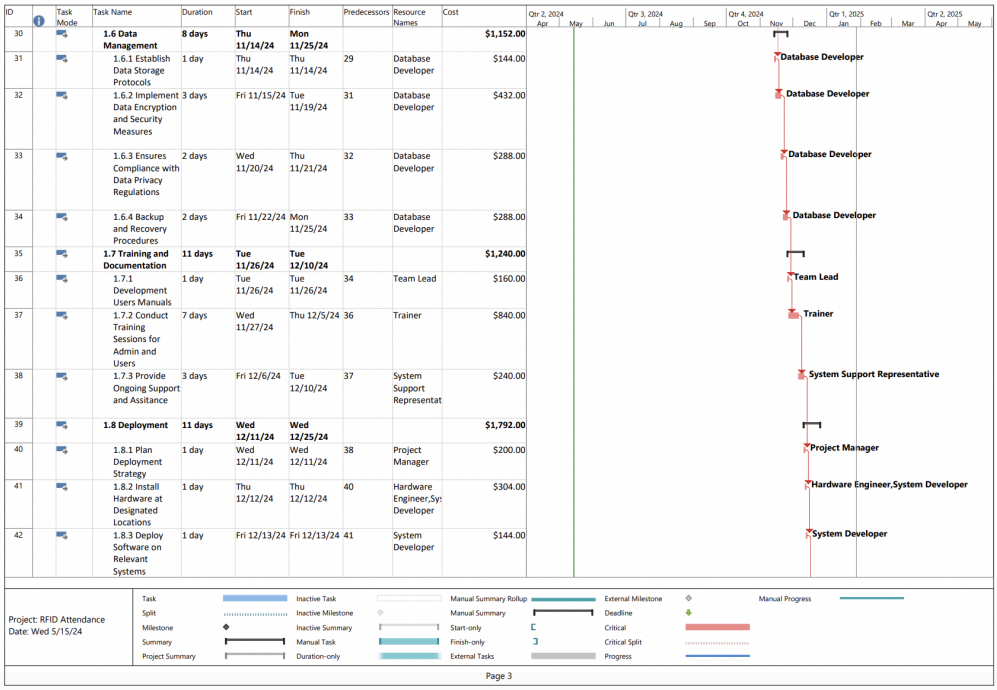
ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names	Cost
1		**1 RFID Based Attendance and Personal information System**	**185 days**	**Tue 5/14/24**	**Mon 1/27/25**			**$33,904.00**
2		**1.1 Project Management**	**12 days**	**Tue 5/14/24**	**Wed 5/29/24**			**$2,600.00**
3		1.1.1 Define Project Scope and Objectives	3 days	Tue 5/14/24	Thu 5/16/24		Project Manager	$600.00
4		1.1.2 Create Project Plan	3 days	Fri 5/17/24	Tue 5/21/24	3	Project Manager	$600.00
5		1.1.3 Allocate Resources	1 day	Fri 5/17/24	Fri 5/17/24	3	Project Manager	$200.00
6		1.1.4 Establish Project Timeline	5 days	Wed 5/22/24	Tue 5/28/24	4	Project Manager	$1,000.00
7		1.1.5 Prepare Communictation Plan	1 day	Wed 5/29/24	Wed 5/29/24	4,3,5,6	Project Manager	$200.00
8		**1.2 Requirement Analysis**	**13 days**	**Thu 5/30/24**	**Mon 6/17/24**			**$3,280.00**
9		1.2.1 Gather Requirements from Stakeholders	7 days	Thu 5/30/24	Fri 6/7/24	7	Team Lead	$1,120.00
10		1.2.2 Define System	7 days	Thu 5/30/24	Fri 6/7/24	7	Team Lead	$1,120.00
11		1.2.3 Identify Hardware and Software Requirements	2 days	Mon 6/10/24	Tue 6/11/24	9,10	Project Manager	$400.00
12		1.2.4 Document System Specifications	4 days	Wed 6/12/24	Mon 6/17/24	11	Team Lead	$640.00
13		**1.3 Hardware Procurement**	**22 days**	**Wed 6/12/24**	**Thu 7/11/24**			**$4,128.00**
14		1.3.1 Research RFID Hardware Options	7 days	Wed 6/12/24	Thu 6/20/24	11	Project Analyst	$1,008.00
15		1.3.2 Select RFID Readers and Tags	2 days	Tue 6/18/24	Wed 6/19/24	11,12	Team Lead	$320.00
16		1.3.3 Procure Necessary Hardware	10 days	Fri 6/21/24	Thu 7/4/24	14,15	Project Manager	$2,000.00

Page 1



ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names	Cost
17		1.3.4 Ensure Compatability with Existing Infrastructure	5 days	Fri 7/5/24	Thu 7/11/24	16	Team Lead	$800.00
18		**1.4 Software Development**	**70 days**	**Fri 7/12/24**	**Thu 10/17/24**			**$11,760.00**
19		1.4.1 Design System	10 days	Fri 7/12/24	Thu 7/25/24	17	System Architecture	$1,440.00
20		1.4.2 Develop Database Schema for Storing Personal Information	15 days	Fri 7/26/24	Thu 8/15/24	19	Database Developer	$2,160.00
21		1.4.3 Develop RFID Communication	15 days	Fri 7/26/24	Thu 8/15/24	19	System Developer	$2,160.00
22		1.4.4 Implement Attenance Tracking Algorithms	15 days	Fri 8/16/24	Thu 9/5/24	20,21	System Developer	$2,160.00
23		1.4.5 Develop User Interface for Admins and Users	10 days	Fri 9/6/24	Thu 9/19/24	22	System Developer	$1,440.00
24		1.4.6 Test Software for Accuracy and	20 days	Fri 9/20/24	Thu 10/17/24	23	Tester	$2,400.00
25		**1.5 Integration**	**19 days**	**Fri 10/18/24**	**Wed 11/13/24**			**$2,976.00**
26		1.5.1 Integrate RFID Hardware with Software System	7 days	Fri 10/18/24	Mon 10/28/24	24	System Developer	$1,008.00
27		1.5.2 Configure RFID Readers and Tags	2 days	Tue 10/29/24	Wed 10/30/24	26	System Developer	$288.00
28		1.5.3 Test Hardware-Softwa Integration	7 days	Thu 10/31/24	Fri 11/8/24	27	Tester	$840.00
29		1.5.4 Troubleshoot and Resolve Compatibility	3 days	Mon 11/11/24	Wed 11/13/24	28	Tester,Tearr Lead	$840.00

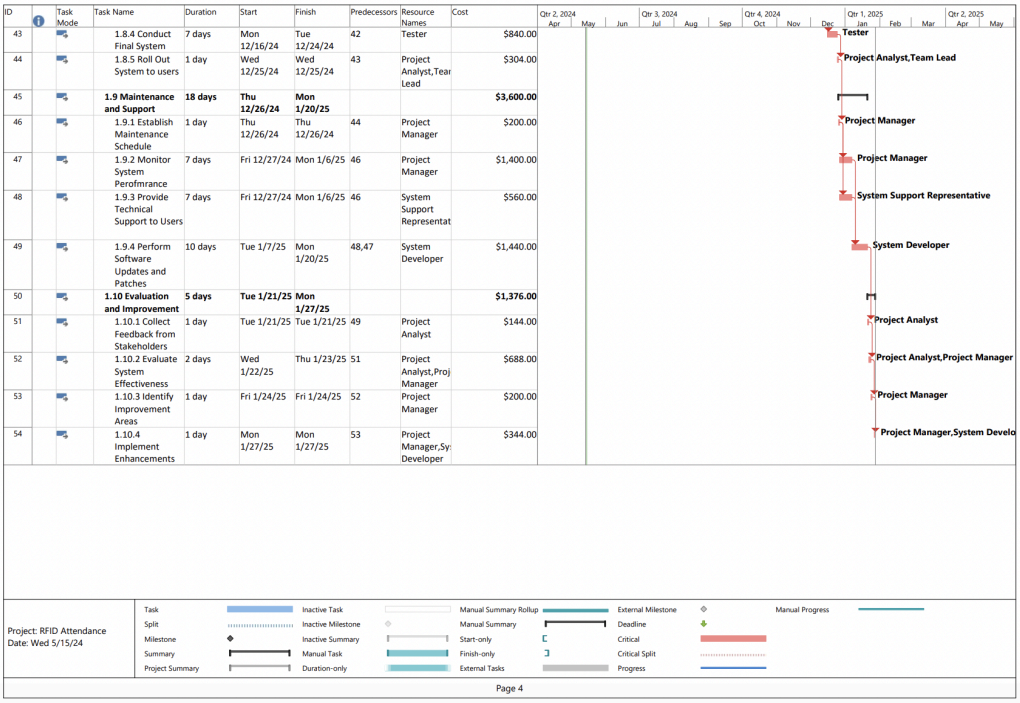
Page 2



ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names	Cost
30		**1.6 Data Management**	**8 days**	**Thu 11/14/24**	**Mon 11/25/24**			**$1,152.00**
31		1.6.1 Establish Data Storage Protocols	1 day	Thu 11/14/24	Thu 11/14/24	29	Database Developer	$144.00
32		1.6.2 Implement Data Encryption and Security Measures	3 days	Fri 11/15/24	Tue 11/19/24	31	Database Developer	$432.00
33		1.6.3 Ensures Compliance with Data Privacy Regulations	2 days	Wed 11/20/24	Thu 11/21/24	32	Database Developer	$288.00
34		1.6.4 Backup and Recovery Procedures	2 days	Fri 11/22/24	Mon 11/25/24	33	Database Developer	$288.00
35		**1.7 Training and Documentation**	**11 days**	**Tue 11/26/24**	**Tue 12/10/24**			**$1,240.00**
36		1.7.1 Development Users Manuals	1 day	Tue 11/26/24	Tue 11/26/24	34	Team Lead	$160.00
37		1.7.2 Conduct Training Sessions for Admin and Users	7 days	Wed 11/27/24	Thu 12/5/24	36	Trainer	$840.00
38		1.7.3 Provide Ongoing Support and Assitance	3 days	Fri 12/6/24	Tue 12/10/24	37	System Support Representat	$240.00
39		**1.8 Deployment**	**11 days**	**Wed 12/11/24**	**Wed 12/25/24**			**$1,792.00**
40		1.8.1 Plan Deployment Strategy	1 day	Wed 12/11/24	Wed 12/11/24	38	Project Manager	$200.00
41		1.8.2 Install Hardware at Designated Locations	1 day	Thu 12/12/24	Thu 12/12/24	40	Hardware Engineer,Sy Developer	$304.00
42		1.8.3 Deploy Software on Relevant Systems	1 day	Fri 12/13/24	Fri 12/13/24	41	System Developer	$144.00

Project: RFID Attendance
Date: Wed 5/15/24

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress



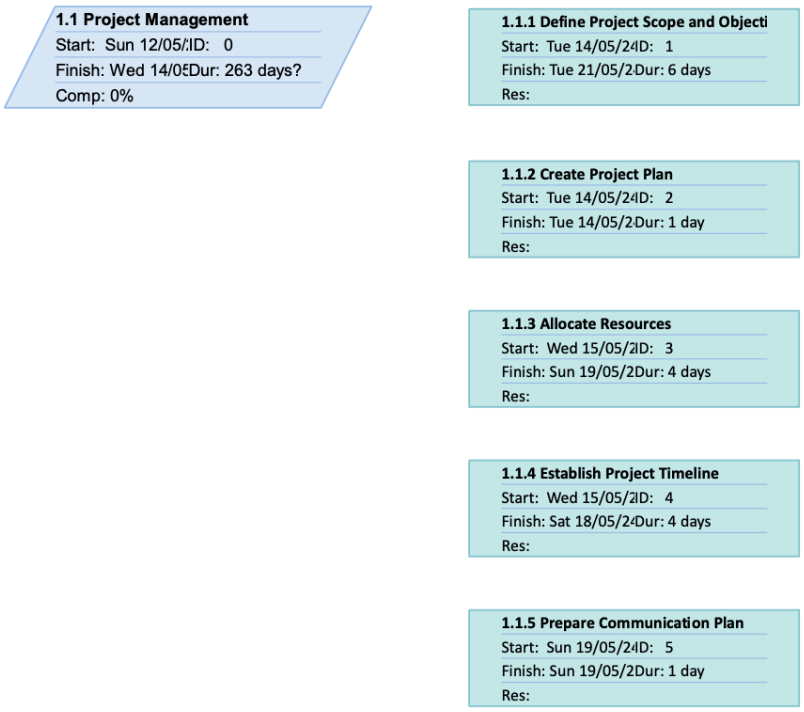
ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names	Cost
43		1.8.4 Conduct Final System	7 days	Mon 12/16/24	Tue 12/24/24	42	Tester	$840.00
44		1.8.5 Roll Out System to users	1 day	Wed 12/25/24	Wed 12/25/24	43	Project Analyst,Tear Lead	$304.00
45		**1.9 Maintenance and Support**	**18 days**	**Thu 12/26/24**	**Mon 1/20/25**			**$3,600.00**
46		1.9.1 Establish Maintenance Schedule	1 day	Thu 12/26/24	Thu 12/26/24	44	Project Manager	$200.00
47		1.9.2 Monitor System Perofmrance	7 days	Fri 12/27/24	Mon 1/6/25	46	Project Manager	$1,400.00
48		1.9.3 Provide Technical Support to Users	7 days	Fri 12/27/24	Mon 1/6/25	46	System Support Representat	$560.00
49		1.9.4 Perform Software Updates and Patches	10 days	Tue 1/7/25	Mon 1/20/25	48,47	System Developer	$1,440.00
50		**1.10 Evaluation and Improvement**	**5 days**	**Tue 1/21/25**	**Mon 1/27/25**			**$1,376.00**
51		1.10.1 Collect Feedback from Stakeholders	1 day	Tue 1/21/25	Tue 1/21/25	49	Project Analyst	$144.00
52		1.10.2 Evaluate System Effectiveness	2 days	Wed 1/22/25	Thu 1/23/25	51	Project Analyst,Proj Manager	$688.00
53		1.10.3 Identify Improvement Areas	1 day	Fri 1/24/25	Fri 1/24/25	52	Project Manager	$200.00
54		1.10.4 Implement Enhancements	1 day	Mon 1/27/25	Mon 1/27/25	53	Project Manager,Sy Developer	$344.00

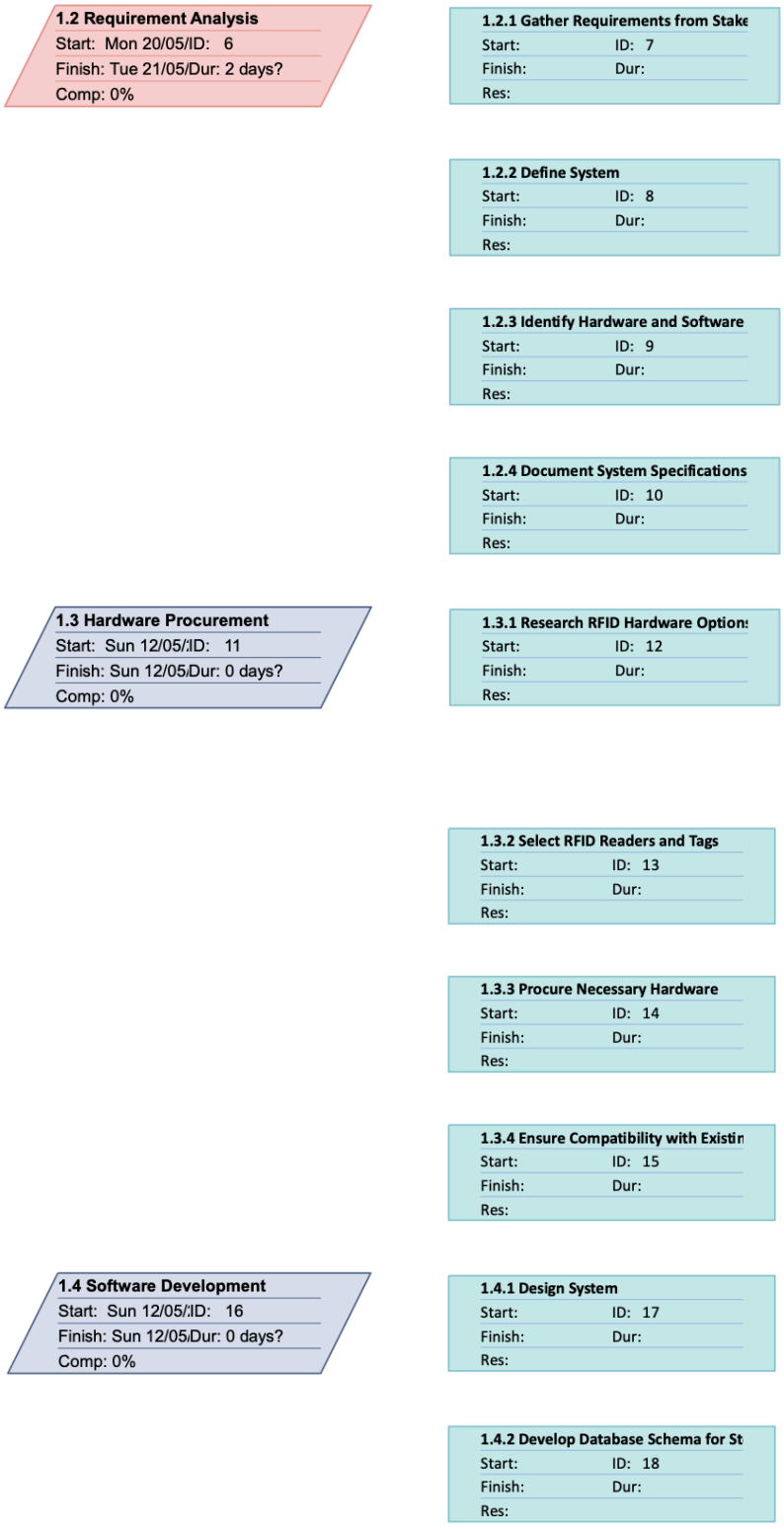
Project: RFID Attendance
Date: Wed 5/15/24

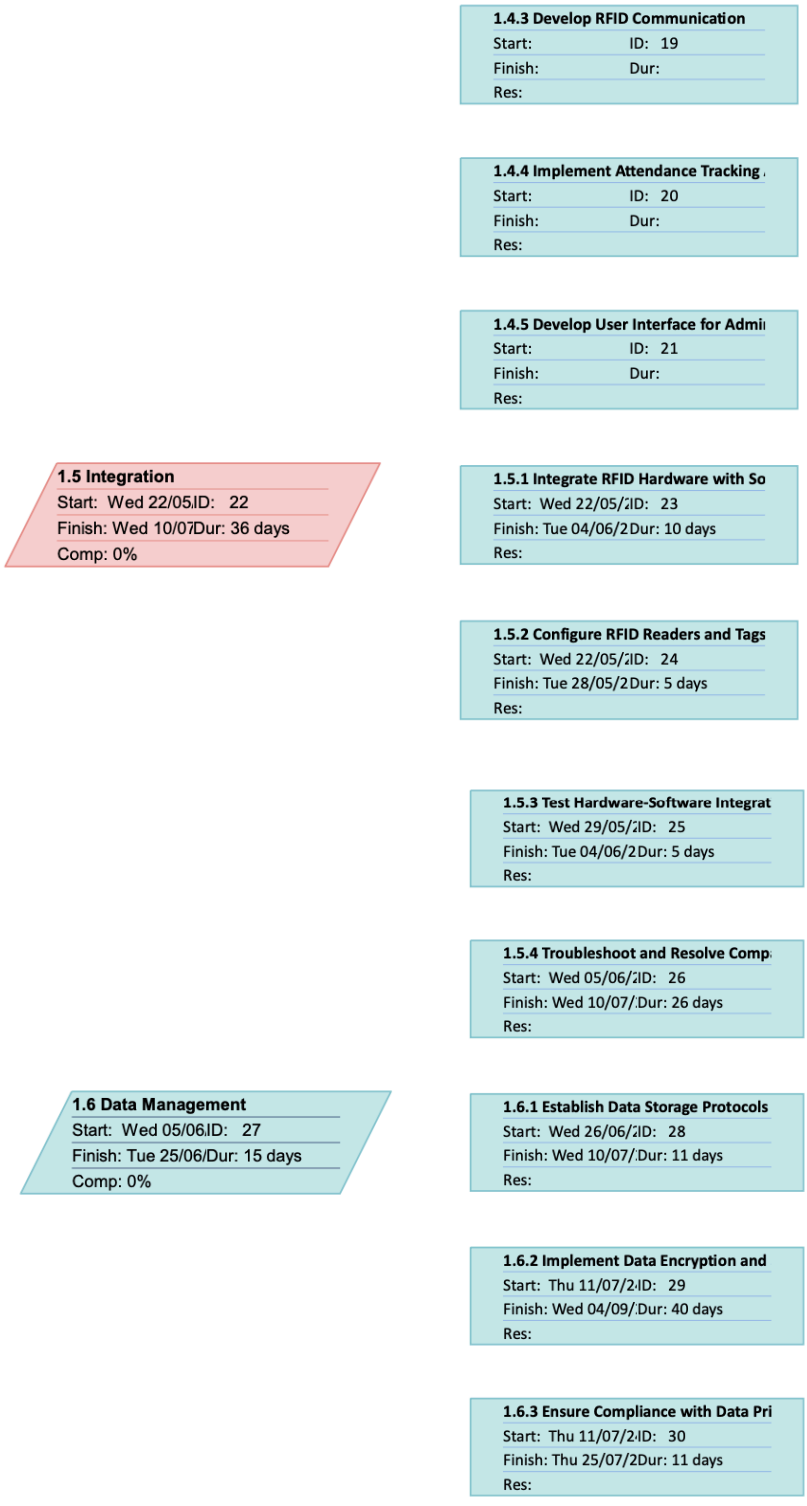
Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

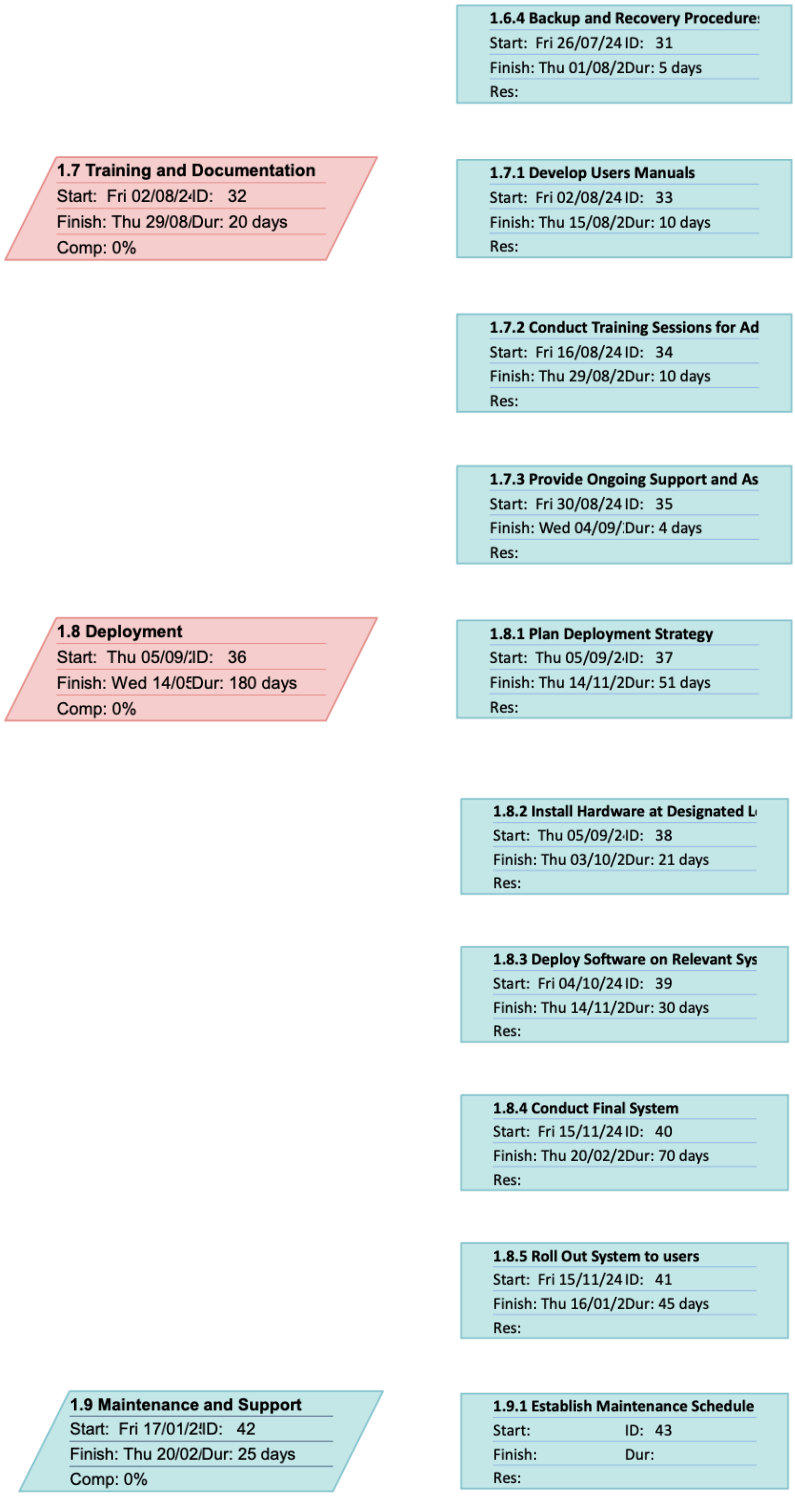
11 Network Diagram

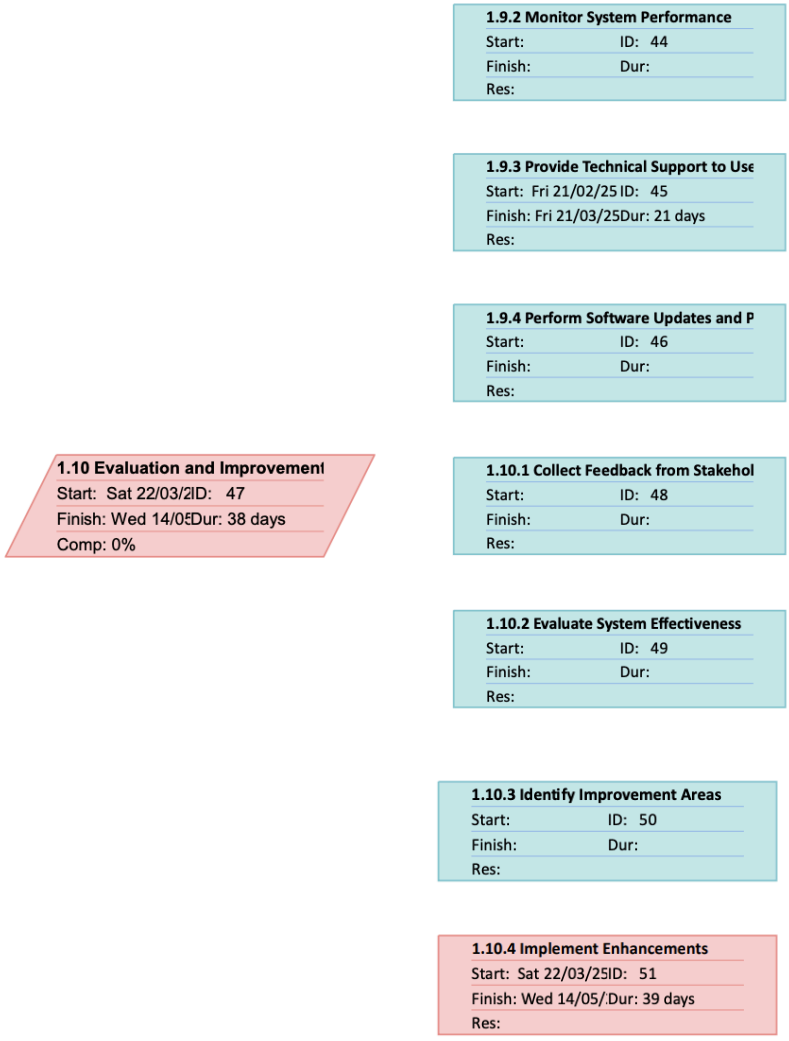
Below is the network diagram given, in the network-diagram critical path is highlighted as red.




1.2 Requirement Analysis
Start: Mon 20/05/ID: 6
Finish: Tue 21/05/Dur: 2 days?
Comp: 0%
1.2.1 Gather Requirements from Stake
Start: ID: 7
Finish: Dur:
Res:
1.2.2 Define System
Start: ID: 8
Finish: Dur:
Res:
1.2.3 Identify Hardware and Software
Start: ID: 9
Finish: Dur:
Res:
1.2.4 Document System Specifications
Start: ID: 10
Finish: Dur:
Res:
1.3 Hardware Procurement
Start: Sun 12/05/ID: 11
Finish: Sun 12/05/Dur: 0 days?
Comp: 0%
1.3.1 Research RFID Hardware Option
Start: ID: 12
Finish: Dur:
Res:
1.3.2 Select RFID Readers and Tags
Start: ID: 13
Finish: Dur:
Res:
1.3.3 Procure Necessary Hardware
Start: ID: 14
Finish: Dur:
Res:
1.3.4 Ensure Compatibility with Existin
Start: ID: 15
Finish: Dur:
Res:
1.4 Software Development
Start: Sun 12/05/ID: 16
Finish: Sun 12/05/Dur: 0 days?
Comp: 0%
1.4.1 Design System
Start: ID: 17
Finish: Dur:
Res:
1.4.2 Develop Database Schema for St
Start: ID: 18
Finish: Dur:
Res:


1.4.3 Develop RFID Communication
Start: ID: 19
Finish: Dur:
Res:
1.4.4 Implement Attendance Tracking
Start: ID: 20
Finish: Dur:
Res:
1.4.5 Develop User Interface for Admi
Start: ID: 21
Finish: Dur:
Res:
1.5 Integration
Start: Wed 22/05/ ID: 22
Finish: Wed 10/07 Dur: 36 days
Comp: 0%
1.5.1 Integrate RFID Hardware with So
Start: Wed 22/05/2 ID: 23
Finish: Tue 04/06/2 Dur: 10 days
Res:
1.5.2 Configure RFID Readers and Tags
Start: Wed 22/05/2 ID: 24
Finish: Tue 28/05/2 Dur: 5 days
Res:
1.5.3 Test Hardware-Software Integrat
Start: Wed 29/05/2 ID: 25
Finish: Tue 04/06/2 Dur: 5 days
Res:
1.5.4 Troubleshoot and Resolve Comp
Start: Wed 05/06/2 ID: 26
Finish: Wed 10/07/ Dur: 26 days
Res:
1.6 Data Management
Start: Wed 05/06/ ID: 27
Finish: Tue 25/06/ Dur: 15 days
Comp: 0%
1.6.1 Establish Data Storage Protocols
Start: Wed 26/06/2 ID: 28
Finish: Wed 10/07/ Dur: 11 days
Res:
1.6.2 Implement Data Encryption and
Start: Thu 11/07/2 ID: 29
Finish: Wed 04/09/ Dur: 40 days
Res:
1.6.3 Ensure Compliance with Data Pri
Start: Thu 11/07/2 ID: 30
Finish: Thu 25/07/2 Dur: 11 days
Res:


1.6.4 Backup and Recovery Procedure
Start: Fri 26/07/24 ID: 31
Finish: Thu 01/08/2 Dur: 5 days
Res:
1.7 Training and Documentation
Start: Fri 02/08/2 ID: 32
Finish: Thu 29/08/ Dur: 20 days
Comp: 0%
1.7.1 Develop Users Manuals
Start: Fri 02/08/24 ID: 33
Finish: Thu 15/08/2 Dur: 10 days
Res:
1.7.2 Conduct Training Sessions for Ad
Start: Fri 16/08/24 ID: 34
Finish: Thu 29/08/2 Dur: 10 days
Res:
1.7.3 Provide Ongoing Support and As
Start: Fri 30/08/24 ID: 35
Finish: Wed 04/09/ Dur: 4 days
Res:
1.8 Deployment
Start: Thu 05/09/2 ID: 36
Finish: Wed 14/05 Dur: 180 days
Comp: 0%
1.8.1 Plan Deployment Strategy
Start: Thu 05/09/2 ID: 37
Finish: Thu 14/11/2 Dur: 51 days
Res:
1.8.2 Install Hardware at Designated L
Start: Thu 05/09/2 ID: 38
Finish: Thu 03/10/2 Dur: 21 days
Res:
1.8.3 Deploy Software on Relevant Sys
Start: Fri 04/10/24 ID: 39
Finish: Thu 14/11/2 Dur: 30 days
Res:
1.8.4 Conduct Final System
Start: Fri 15/11/24 ID: 40
Finish: Thu 20/02/2 Dur: 70 days
Res:
1.8.5 Roll Out System to users
Start: Fri 15/11/24 ID: 41
Finish: Thu 16/01/2 Dur: 45 days
Res:
1.9 Maintenance and Support
Start: Fri 17/01/2 ID: 42
Finish: Thu 20/02/ Dur: 25 days
Comp: 0%
1.9.1 Establish Maintenance Schedule
Start: ID: 43
Finish: Dur:
Res:


1.9.2 Monitor System Performance
Start:
ID: 44
Finish:
Dur:
Res:
1.9.3 Provide Technical Support to Use
Start: Fri 21/02/25
ID: 45
Finish: Fri 21/03/25
Dur: 21 days
Res:
1.9.4 Perform Software Updates and P
Start:
ID: 46
Finish:
Dur:
Res:
1.10 Evaluation and Improvement
Start: Sat 22/03/2
ID: 47
Finish: Wed 14/05
Dur: 38 days
Comp: 0%
1.10.1 Collect Feedback from Stakehol
Start:
ID: 48
Finish:
Dur:
Res:
1.10.2 Evaluate System Effectiveness
Start:
ID: 49
Finish:
Dur:
Res:
1.10.3 Identify Improvement Areas
Start:
ID: 50
Finish:
Dur:
Res:
1.10.4 Implement Enhancements
Start: Sat 22/03/25
ID: 51
Finish: Wed 14/05/
Dur: 39 days
Res:

12 Activity-Cost-Estimates-Template

Activity-cost estimates include the process to estimate the financial resources estimation to complete project tasks. This estimation considered several components of costs such as services, equipment and materials or labors as well as contingency reserves for risks and threats. Methods used to generate such estimates can include parametric estimates, bottom-up, analogous estimating often supported by the software of project management. Accurate activity costs estimates are considered crucial for the planning of budget, financial management and ensure feasibility of the project, allowing stakeholders to effectively assign resources and make informed decisions to keep project track in terms of costs. Below are the cost estimates that are based on parametric estimates technique in which cost is estimated based on the historical project of the same nature.

TALABAH SYSTEM Project Cost Estimate					
	Date:	May 20, 2024			
	# Units/Hrs.	Cost/Unit/Hr.	Subtotals	WBS Level 1 Totals	% of Total
WBS Items					
1. Project Management				**$7,200**	**21%**
1.1 Project manager	100	$30	$3,000		
1.2 Project team members	150	$20	$3,000		
Contractors (10% of software development and testing)			$1,200		
2. Hardware				**$4,600**	**14%**
2.1 Handheld devices	1	$600	$600		
2.2 Servers	1	$4,000	$4,000		
3. Software				**$10,200**	**30%**
3.1 Licensed software	1	$200	$200		
3.2 Software development*			$10,000		
4. Testing (10% of total hardware and software costs)			$2,000	**$2,000**	**6%**
5. Training and Support				**$4,253**	**13%**
5.1 Trainee cost	7	$500	$4,133		
5.2 Travel cost	0	$0	**$0**		
5.3 Project team members	6	$20	$120		
6. Reserves (20% of total estimate)			$5,651	**$5,651**	**17%**
Total project cost estimate				**$33,904**	

13 Tasks Schedule

- **Business Case Analysis** = All members
- **SWOT** = Jana Shalabi
- **NPV** = Mann Alsalamah
- **SRS Document** = Jana Shalabi
- **Stakeholder Register & Management Strategy** = Shahad Abubakr
- **PM Charter** = Mann Alsalamah
- **Kick-Off Meeting** = Jana Shalabi
- **Scope Statement** = Shahad Abubakr
- **WBS** = Mann Alsalamah
- **Gantt Chart** = Mann Alsalamah
- **Network Diagram** = Shahad Abubakr
- **Activity Cost Estimates Template** = Shahad Abubakr
- **Comprehensive Report** = Jana Shalabi