



RECREATION AND WELLNESS INTRANET MANAGE YOUR HEALTH INC.

A Report submitted as a part of
the Assignment for the subject CSIT883

System Analysis and Project Management

from

UNIVERSITY OF WOLLONGONG

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RECREATION AND WELLNESS INTRANET
MANAGE YOUR HEALTH INC.

System Analysis and Project Management

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ABSTRACT

A comprehensive workplace health program is crucial for fostering a positive corporate culture and maintaining a productive workforce. These programs encourage employees to manage their health proactively, which reduces absenteeism and minimizes health-related costs, ultimately boosting job satisfaction and productivity. By prioritizing wellness, organizations create a supportive environment that values the physical and mental well-being of their employees, leading to long-term benefits for both individuals and the business.

Manage Your Health Inc. (MYH), recognizing the importance of workplace health programs, has proposed developing a project that integrates a suite of health and wellness modules into its organizational framework. This initiative aims to cultivate a culture of wellness, enhance employee health, and reduce insurance costs, with projected net savings of \$2,400,000 over the next four years.

This report offers a comprehensive overview of the system specifications and details the methodologies followed to implement the project successfully. It covers key components such as system analysis, resource allocation, stakeholder engagement, risk assessment, and UML modeling. Together, these elements create a cohesive roadmap that ensures the project's effectiveness in achieving the company's health management goals.

MEMBER CONTRIBUTION

Table 1: Contribution Table

Name	Student Number	Contribution
Karan Goel	7836685	contributed
Banin Sensha Shrestha	8447196	contributed
Kushal Rimal	8735876	contributed
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Part 1

Project Integration Management

Our first step in ensuring the successful delivery of this project to MYH is to gain a comprehensive understanding of their primary goals and objectives. This part provides an overview of the main objectives, initial proposals, and business case studies that have been developed in consultation with the MYH.

1.1 Case Study

Manage Your Health, Inc. (MYH) is a global healthcare provider ranked among the Fortune 500. With over 25,000 employees worldwide, including 20,000 full-time and 5,000 part-time workers, MYH is committed to cutting internal costs, enhancing cross-selling of products, and leveraging new web technologies to foster collaboration among employees, customers, and suppliers, thereby enhancing the delivery of healthcare products and services.

MYH has identified three potential projects in line with their strategic objectives:

- 1. Health Coverage Costs Business Model:** This project involves developing a secure application to model and analyze healthcare expenses. It requires an initial investment of \$100,000 and is projected to save \$20 annually for each

full-time employee.

2. Web-Enhanced Communications System: The goal of this project is to implement a web-based system that streamlines the development and delivery of products. With a development cost of \$3 million, the system is expected to save \$2 million annually, notwithstanding ongoing maintenance costs.

3. Recreation and Wellness Intranet Project: This initiative aims to launch an intranet application to enhance employee health and wellness, potentially reducing healthcare premiums and saving \$30 per employee each year through better health outcomes.

MYH requests a preliminary analysis to determine which project best meets their strategic goals and asks for a detailed business plan for the chosen proposal.

1.2 Project Analysis

In response to the request from MYH, we initiated a preliminary analysis of the proposed projects.

1.2.1 Objectives Analysis

The analysis began with an understanding of the strategic goals of MYH. These objectives were elucidated through comprehensive discussions with MYH's visionary leaders. The key strategic goals derived from these discussions are summarized in Table 1.1.

Goal	Description
Reduce-Cost	Aim to decrease internal costs to enhance efficiency and boost profitability.
Business-Growth	Increase market penetration and revenue through enhanced cross-selling opportunities.
Develop	Improve collaboration among employees, customers, and suppliers with new web-based technologies, thereby optimizing the development and delivery of healthcare products and services.

Table 1.1: Strategic Goals of Manage Your Health, Inc.

This structured approach allows us to align each project proposal with MYH's strategic objectives, facilitating an informed decision-making process for developing the subsequent business plan.

1.2.2 Proposal Analysis

Once the objectives were established, our team conducted a comprehensive analysis of each proposal to ensure they aligned with MYH's goals. We focused on several key metrics, assigning different weights to each criterion based on its importance:

- Tie to business strategy - 10%
- Upfront cost - 25%
- Potential net savings - 25%
- Realistic technology - 15%
- In-house expertise - 10%
- Potential resistance - 15%

The findings of our analysis are summarized in Table 1.2, providing a clear comparison of how each proposal measures up against the set criteria.

Table 1.2: Comparison of Project Criteria and Their Impact

Criteria	Weight	Health age Costs Business Model	Cover- age Busi- ness Model	Web-Enhanced Communica- tions System	Recreation and Wellness In- tranet Project
Tie-to business strategy	10%	Reduce-Cost (1/3)		Business-Growth, Develop (2/3)	Reduce-Cost (1/3)
Upfront cost	25%	\$100,000		\$3,000,000	\$200,000
Potential net sav- ings	25%	\$1,600,000		\$6,000,000	\$2,400,000
Realistic technol- ogy	15%	Data Analysts needed to analyze the premiums of current and past employees linked to 10 different insurance compa- nies.		The project is highly achievable with modern tech- nology, as we all have experience with similar sys- tems.	The project is highly achievable with modern tech- nology, as we all have experience with similar sys- tems.
In-house expertise	10%	Organization might need to hire more ex- perienced Data Analysts, even though we have expert developers to implement the application to analyze the data.		New components to be implemented and new services to be provided, such as delivery services, customer support, and suppliers manage- ment, necessitate hiring quite a few staff.	Project is easy to implement with proper guidance from a Team Lead.
Potential resistance	15%	Project might not face much resis- tance since the application is rel- atively easy to build.		Project might not face much resis- tance since the ap- plication is rela- tively easy to build.	Senior employ- ees might resist involvement in recreational pro- grams due to greater responsi- bilities like family care. Other em- ployees might also show disinterest.

1.2.3 Weighted Model

To further analyze our findings, we quantified the results from Table 1.2 to create a weighted model, as shown in Table 1.3.

Criteria	Weight	Health Coverage Costs Business Model	Web-Enhanced Communications System	Recreation and Wellness Intranet Project
Tie to business strategy	10%	50	70	60
Upfront cost	25%	70	35	85
Potential net savings	25%	70	30	90
Realistic technology	15%	60	85	75
In-house expertise	10%	55	40	80
Potential resistance	15%	80	85	60
Total	100%	66.5	52.75	78

Table 1.3: Comparison of Project Criteria and Their Impact (Weighted Model)

The chart depicted in Figure 1.1 provides a visual representation of the evaluation model. From this chart, we can see that **Project 3: Recreation and Wellness Intranet Project** is the most preferred, followed by **Project 1: Health Coverage Costs Business Model**. This visual aids in understanding the relative preferences based on the weighted scoring of each project.

1.2.4 Financial Analysis

To enhance our project selection process, we conducted a financial analysis to ensure that the chosen projects provide maximum benefit to MYH. Our team evaluated the

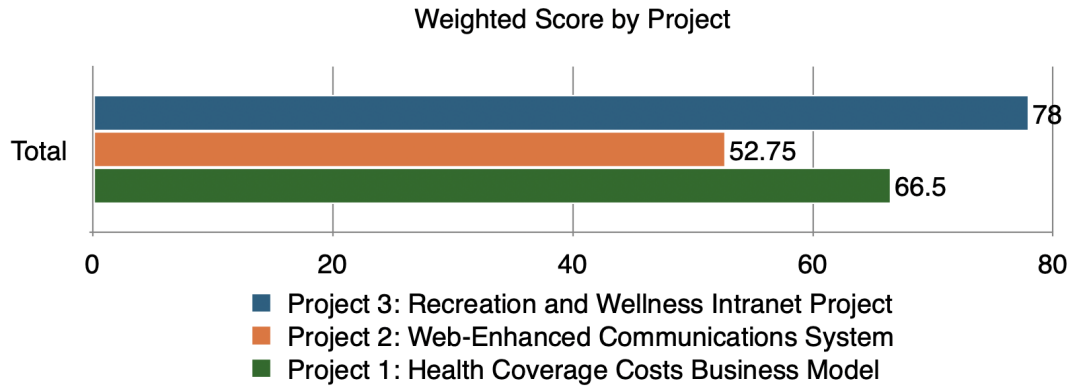


Figure 1.1: Weighted Score Model

Net Present Value (NPV) and Return on Investment (ROI) for each project to verify alignment with financial objectives and to ensure optimal returns. The detailed metrics and results of this analysis are summarized in the subsequent sections, providing a clear basis for our project recommendations.

Net Present Value (NPV)

Net Present Value (NPV) is a financial metric used to evaluate the profitability of an investment or project. It represents the difference between the present value of cash inflows and the present value of cash outflows over the investment's lifetime. NPV is calculated using the formula:

$$\text{NPV} = \sum_{t=0}^n \frac{C_t}{(1+r)^t}$$

where:

- C_t represents the cash flow at time t ,
- r is the discount rate,
- t is the time period (usually in years),

- n is the total number of periods.

This formula discounts each of the cash flows back to their present value and then sums them up. A positive NPV indicates that the projected earnings exceed the anticipated costs, thus making it a potentially profitable investment.

Return on Investment (ROI)

Return on Investment (ROI) is a financial metric used to measure the efficiency of an investment or to compare the efficiencies of several different investments. ROI measures the amount of return on an investment relative to the investment's cost, calculated as:

$$\text{ROI} = \left(\frac{\text{Total Benefits} - \text{Total Costs}}{\text{Total Costs}} \right) \times 100\%$$

where:

- Total Benefits represents the total cash inflows from the investment,
- Total Costs represents the total cash outflows for the investment.

ROI is expressed as a percentage; a higher ROI means the investment gains compare favorably to its cost. It is used to evaluate the efficiency of an investment or compare the efficiencies of several different investments.

Financial Analysis of Projects

The NPV and ROI calculations for the projects are detailed and summarized in Table 1.4. This table provides insights into the financial viability and potential profitability of each project, aiding in the decision-making process.

Table 1.4: Financial Analysis for Three Projects

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Total
Project 1: Health Coverage Costs Business Model						
Benefits	\$0	\$400,000	\$400,000	\$400,000	\$400,000	\$1,600,000
Cost	\$100,000	\$0	\$0	\$0	\$0	\$100,000
Cashflow	-\$100,000	\$400,000	\$400,000	\$400,000	\$400,000	\$1,500,000
NPV(D=8%)						\$1,134,121.05
ROI						1500%
Project 2: Web-Enhanced Communications System						
Benefits	\$0	\$2,000,000	\$2,000,000	\$2,000,000	\$0	\$6,000,000
Cost	\$3,000,000	\$600,000	\$600,000	\$600,000	\$600,000	\$5,400,000
Cashflow	-\$3,000,000	\$1,400,000	\$1,400,000	\$1,400,000	-\$600,000	\$600,000
NPV(D=8%)						\$154,553.58
ROI						11%
Project 3: Recreation and Wellness Intranet Project						
Benefits	\$0	\$600,000	\$600,000	\$600,000	\$600,000	\$2,400,000
Cost	\$200,000	\$0	\$0	\$0	\$0	\$200,000
Cashflow	-\$200,000	\$600,000	\$600,000	\$600,000	\$600,000	\$2,200,000
NPV(D=8%)						\$1,654,885.28
ROI						1100%

1.2.5 Project Selection

After a thorough analysis of each project, considering both financial metrics (Section 1.2.4) and qualitative criteria (Section 1.2.3) we made a final decision on project selection for MYH.

- **Project 1: Health Coverage Costs Business Model**

- **NPV:** \$1,134,121.05
- **ROI:** 1500%
- **Decision:** Project 1 is appealing for selection due to its high ROI and substantial positive NPV, indicating significant profitability and efficient capital utilization but requires careful consideration of the additional staffing

needs and its modest strategic tie.

- **Project 2: Web-Enhanced Communications System**

- **NPV:** \$154,553.58

- **ROI:** 11%

- **Decision:** Not recommended for immediate selection due to its lower ROI and marginal NPV, suggesting limited profitability and efficiency.

- **Project 3: Recreation and Wellness Intranet Project**

- **NPV:** \$1,654,885.28

- **ROI:** 1100%

- **Decision:** Project 3 offers a very high ROI and the highest NPV among the evaluated projects, ensuring excellent profitability and effective capital use. It presents a balanced option with moderate costs, significant expertise availability, and high feasibility with current technology, though it might face resistance impacting its implementation.

Based on the comprehensive analysis of financial metrics along with the qualitative assessments, **Project 3: Recreation and Wellness Intranet Project** stands out as the optimal choice. This project not only demonstrates substantial financial returns but also aligns with technological feasibility and existing in-house expertise. Although there may be some resistance from senior employees, its moderate initial investment and significant long-term benefits warrant its selection. The project's strategic alignment with enhancing employee engagement and wellness further supports its potential for positive organizational impact.

1.3 Business Case

This section presents the business case for **Project 3: Recreation and Wellness Intranet Project**, proposed by Manage Your Health Inc. (MYH).

1.3.1 Problem Statement

As a leading global healthcare services provider, MYH faces significant challenges related to employee health management. Recent assessments show that company's healthcare premiums are substantially higher than the industry average, primarily due to preventable health issues among employees.

1.3.2 Business Objectives

MYH introduces the Recreation and Wellness Intranet Project, which will cost about \$200,000 and take six months to complete. Its objectives are as follows:

1. Reduce healthcare costs by improving employee health.
2. Enhance employee productivity and morale through structured wellness programs.
3. Offer a tailored intranet solution to promote health management.

1.3.3 Critical Assumptions and Constraints

The application is designed to offer substantial value by tackling the critical issues of rising healthcare costs and deteriorating employee health within MYH's workforce. The success of the Recreation and Wellness Intranet Project hinges on active employee participation, which is expected to lead to significant behavioral changes towards better health. This project is bound by a fixed budget of \$200,000 and a strict timeline

of six months for completion. Furthermore, it requires that the IT and development team's technical capabilities are sufficient to meet the project demands. The successful implementation of this project also relies on overcoming potential resistance to change among employees and ensuring seamless integration with existing systems. Additionally, the project must navigate legal and regulatory constraints that could impact its scope and execution.

1.3.4 Analysis of Options and Recommendation

- **Option 1: Do Nothing**

- **Pros:** Minimal disruption and costs in the short term.
- **Cons:** Missed opportunity to address rising healthcare costs and worsening employee health. Absence of a proactive approach to well-being.

- **Option 2: Purchase an Existing Application**

- **Pros:** Quicker implementation time with potential access to tested features.
- **Cons:** Initial costs for licensing, possible misalignment with specific needs, and restricted customization options.

- **Option 3: Design and Implement the Application**

- **Pros:** Fully customizable to meet MYH's unique requirements and objectives, providing complete control over features, functionality, and user experience.
- **Cons:** Requires a longer development timeline and substantial initial investment.

Recommendation:

After thorough discussions with management, *Option 3: Design and Implement the Application* emerges as the preferred choice. Despite the initial investment, the benefits of a tailored solution that aligns with MYH's strategic goals and seamlessly integrates with existing systems far outweigh the disadvantages. This proactive strategy will enable MYH to effectively address healthcare costs and employee health issues, ultimately leading to significant long-term benefits for the organization.

1.3.5 Preliminary Project Requirements

- Develop a user-friendly intranet application featuring program registration, participation tracking, and incentive management.
- Offer a range of recreational programs (e.g., soccer, softball, jogging) and health-management classes (e.g., weight management, stress reduction) accessible within the application.
- Ensure robust data security and privacy compliance to protect sensitive information.

1.3.6 Estimated Budget and Financial Evaluation

Budget for the Project: \$200,000.

Estimated Savings: Over four years, projected savings amount to at least \$30 per full-time employee per year.

1.3.7 Schedule Estimate

The project is expected to be completed within six months, adhering to the set timeline and project milestones.

1.3.8 Potential Risks

1. **Low employee engagement:** There is a risk that employees might not participate actively, leading to minimal health improvements.
2. **Technical challenges:** Delays or problems could arise in application development, potentially impacting the project timeline.
3. **Ineffective incentives:** The incentives offered may not be sufficiently motivating for employees, affecting participation rates.

1.3.9 Exhibits

1. **Calculation of Potential Savings:** Illustrates the financial benefits with potential savings of \$30 per employee per year over four years, highlighting the project's economic advantage.
2. **Return on Investment (ROI):** Post-project completion, ROI will be calculated, comparing the actual savings against the investment, to measure financial success.

The results are summarized in Table 1.4, which presents a detailed financial analysis of the project.

1.3.10 Summary

Table 1.5: Business case for Recreation and Wellness Intranet Project

Section	Details
Project Overview	<ul style="list-style-type: none">• Project Manager: Tony Prince• Client: Manage Your Health Inc.• Duration: 6 months• Budget: \$200,000
Executive Summary	Aims to improve employee health and reduce healthcare costs by engaging employees in wellness and recreational programs, targeting savings of at least \$30 per employee per year.
Mission Statement	To empower and engage employees in enhancing their health and well-being through accessible digital wellness solutions.
Objectives	<ol style="list-style-type: none">1. Reduce healthcare costs by improving employee health.2. Enhance employee productivity and morale through structured wellness programs.3. Offer a tailored intranet solution to promote health management.

Table 1.5 – Continued from previous page

Section	Details
Project Phases	Initiation, Planning, Execution, Monitoring and Control, Closure, and Post-Project Evaluation. Each phase includes specific tasks and resource allocations.
Financial Appraisal	Project targets net savings of \$30 per employee per year, with a total budget of \$200,000. (NPV: \$1,654,885.28, ROI: 1100%)
Market Assessment	Targets 20,000 full-time employees.
Marketing Strategy	Uses the intranet portal, email campaigns, company meetings, and social media to promote the wellness application.
Conclusion	The Recreation and Wellness Intranet Project is designed to directly address these challenges by introducing a comprehensive digital platform aimed at enhancing the health and wellness of our workforce. By investing in this project, we anticipate not only a reduction in health-related costs but also improvements in employee productivity, engagement, and overall morale.

Part 2

Project Scope Management

Need to be added

2.1 Section1

Need to be added

2.2 Section2

Need to be added

Part 3

Project Schedule Management

Need to be added

3.1 Section1

Need to be added

3.2 Section2

Need to be added

Part 4

Project Quality Management

Need to be added

4.1 Section1

Need to be added

4.2 Section2

Need to be added

Part 5

Project Resource Management

Need to be added

5.1 Section1

Need to be added

5.2 Section2

Need to be added

Part 6

Project Risk Management

Need to be added

6.1 Section1

Need to be added

6.2 Section2

Need to be added

Part 7

Project Stakeholder Management

Need to be added

7.1 Section1

Need to be added

7.2 Section2

Need to be added

Part 8

Project Closing and Lessons-Learned

Need to be added

8.1 Section1

Need to be added

8.2 Section2

Need to be added

Part 9

UML Diagrams

Need to be added yet

9.1 Domain Class Diagram

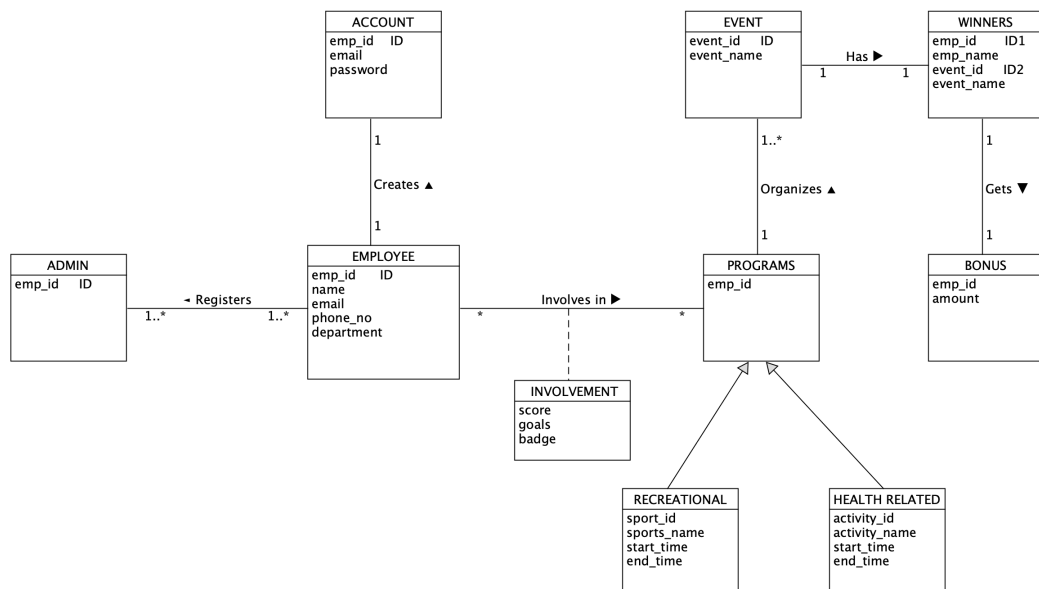


Figure 9.1: Domain Class Diagram

9.2 Use Case Diagram

Table 9.1: The Registration Subsystem Use Cases

RWIP Registration Subsystem	
Use Cases	Users/Actors
Create Account	Employee
Verify Account	Employee
Login to Account	Employee

Table 9.2: The Program Subsystem Use Cases

RWIP Program Subsystem	
Use Cases	Users/Actors
Login	Employee
Select Programs	Employee
Book/Enroll Programs	Employee
Participate in Programs	Employee
Update badges and rewards	Employee

9.3 Fully Developed Use Case Description

9.4 Sequence Diagram

9.5 Activity Diagram

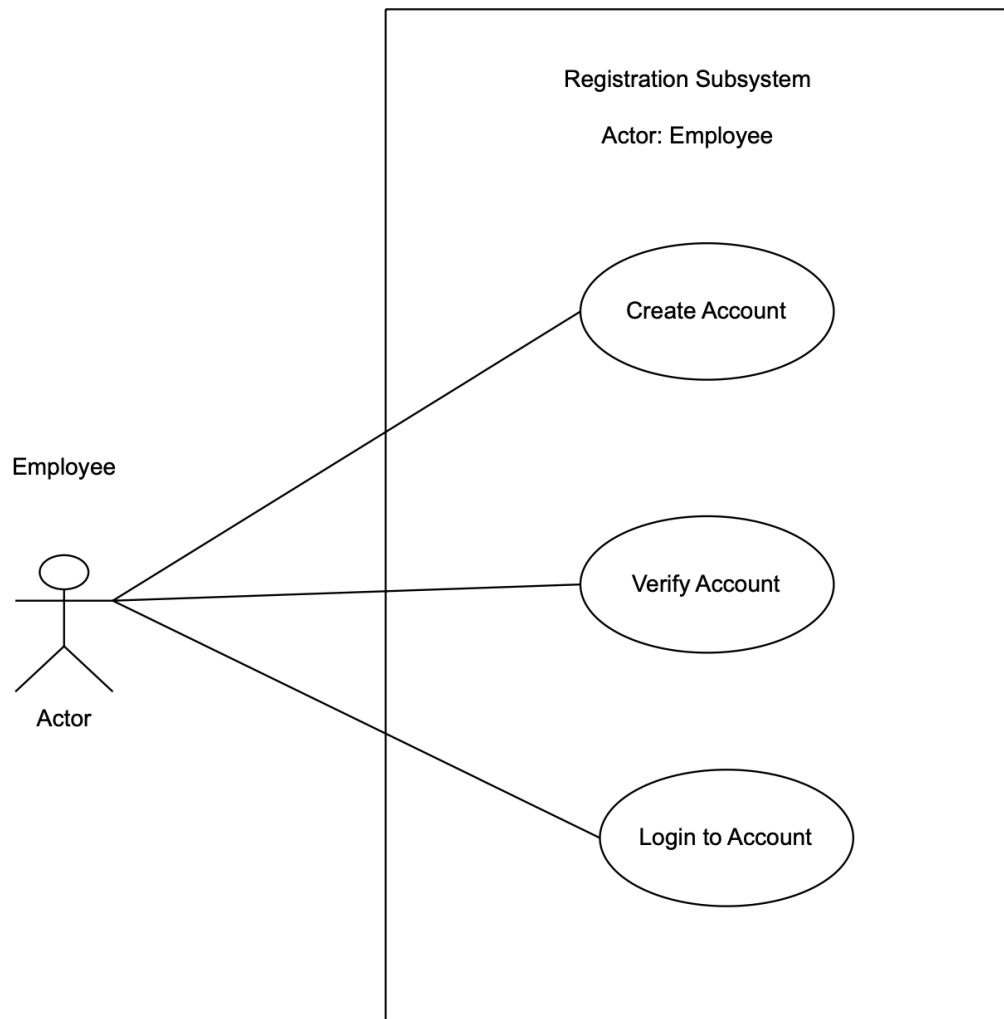


Figure 9.2: Use case diagram for Registration subsystem

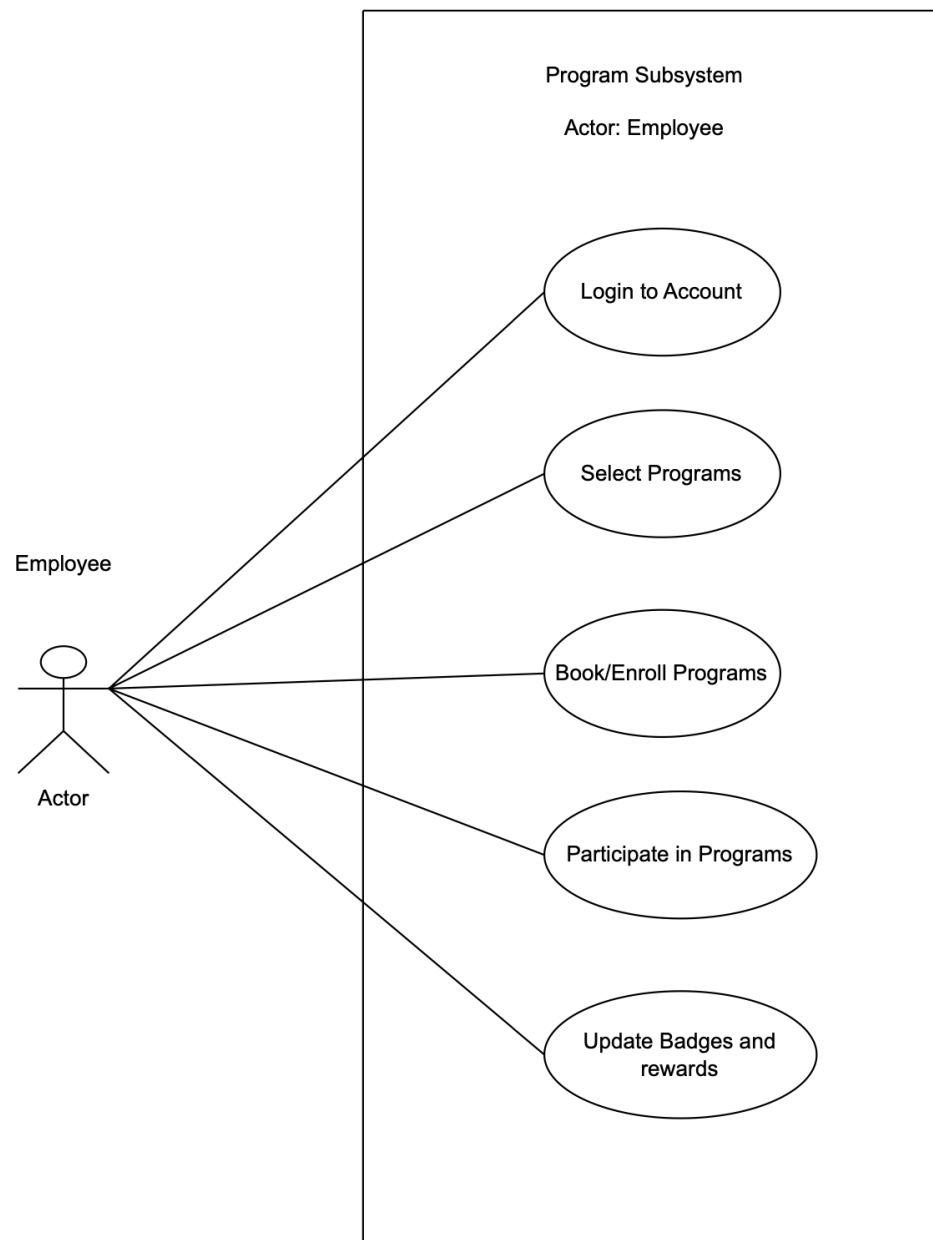


Figure 9.3: Use case diagram for Program subsystem

Table 9.3: The Event Subsystem Use Cases

RWIP Event Subsystem	
Use Cases	Users/Actors
Organise Events	HR/Admin
Notify Events	HR/Admin, Employee
Design Banner	HR/Admin
Participate in Events	Employee
Declare winners	HR/Admin, Employee

Table 9.4: The Payroll Subsystem Use Cases

RWIP Payroll Subsystem	
Use Cases	Users/Actors
Get the list of winners in different Programs	Payroll Officer, Employee
Provide bonuses	Payroll Officer, Employee
Update Payroll	Payroll Officer

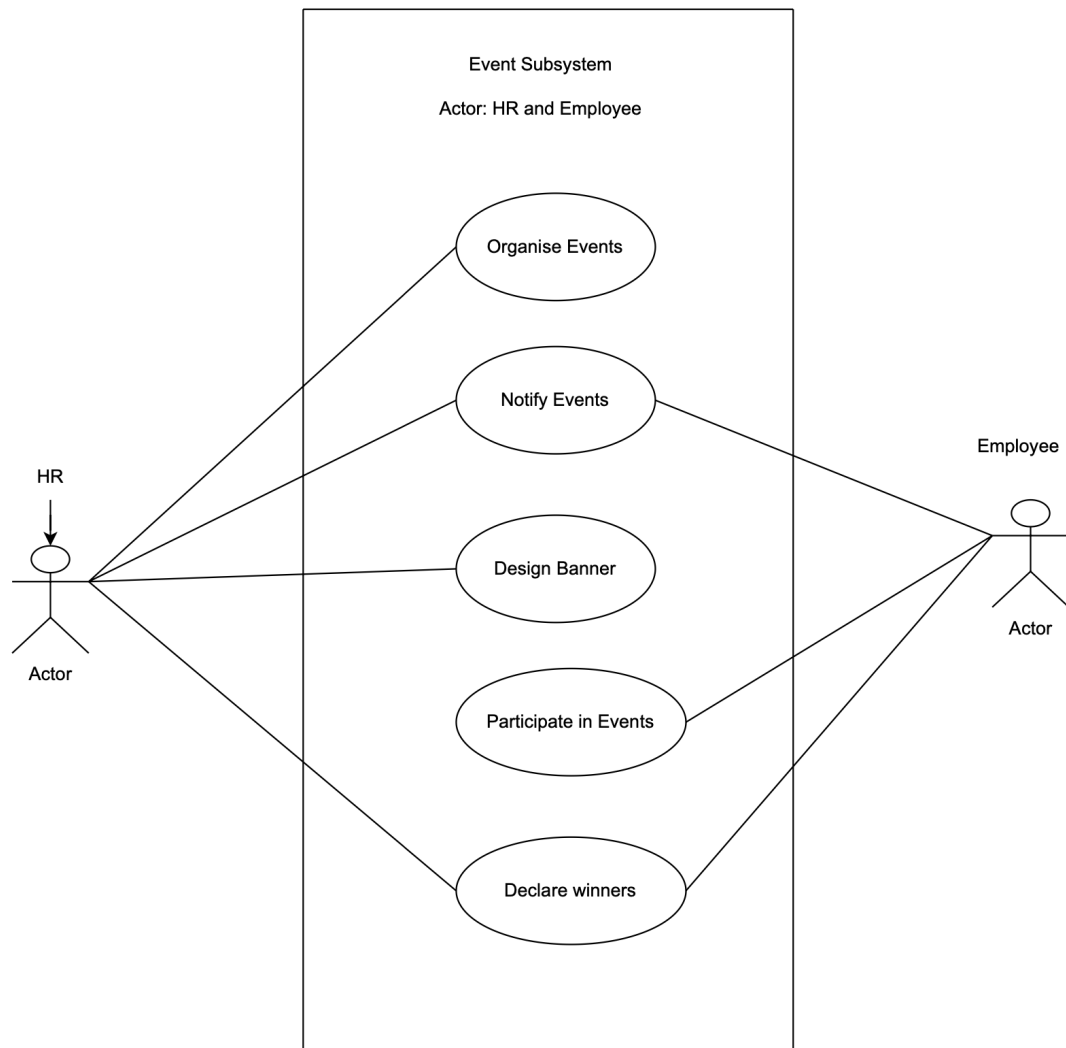


Figure 9.4: Use case diagram for Event subsystem

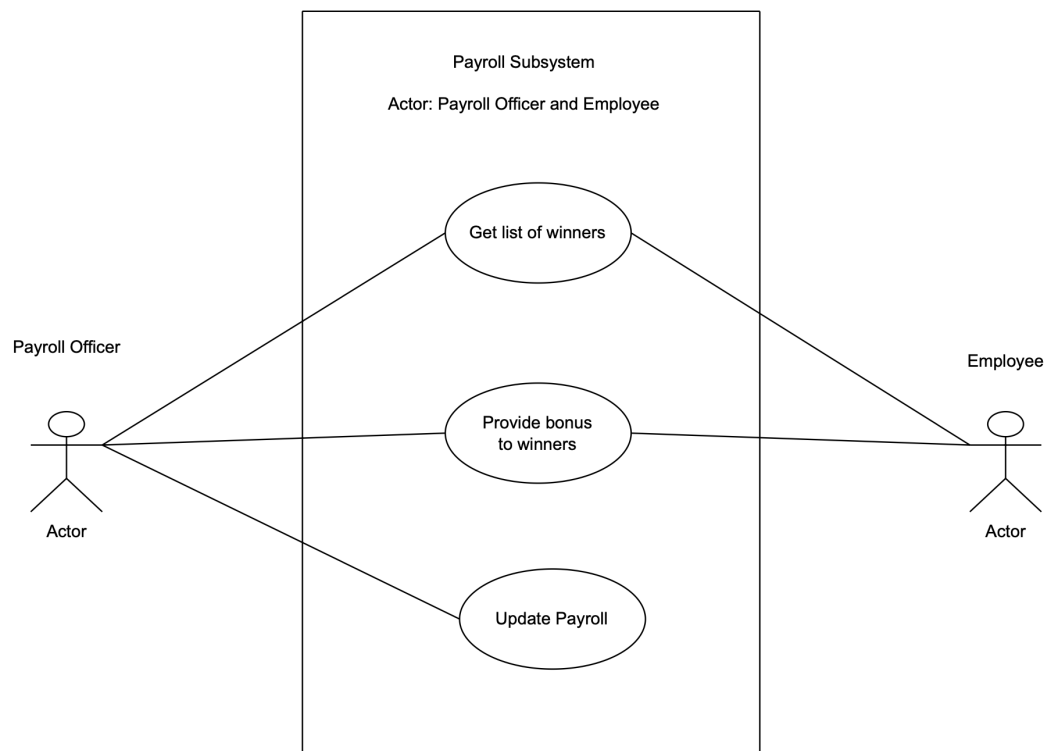


Figure 9.5: Use case diagram for Payroll subsystem

Table 9.5: The Analysis Subsystem Use Cases

RWIP Analysis Subsystem	
Use Cases	Users/Actors
Register as Admin	Analyst
Login as Admin	Analyst
Fetch Data	Analyst
Analyze Data	Analyst
Generate Report	Analyst, Developers
Make Decisions	Analyst



Figure 9.6: Use case diagram for Analysis subsystem

Table 9.6: Register/Create Account

Use case name:	Create employee a
Scenario:	Create online employe
Triggering event:	Employee wants to join the recreation
Brief description:	Employee signs up or creates new account by providing their emplo
Actors:	Employees
Related use cases:	Admin can create account on 1
Stakeholders:	Admin, HR
Pre-conditions:	Registration subsystem mu
Post-conditions:	Employee account must be c
Exception conditions:	Employee might not have email id

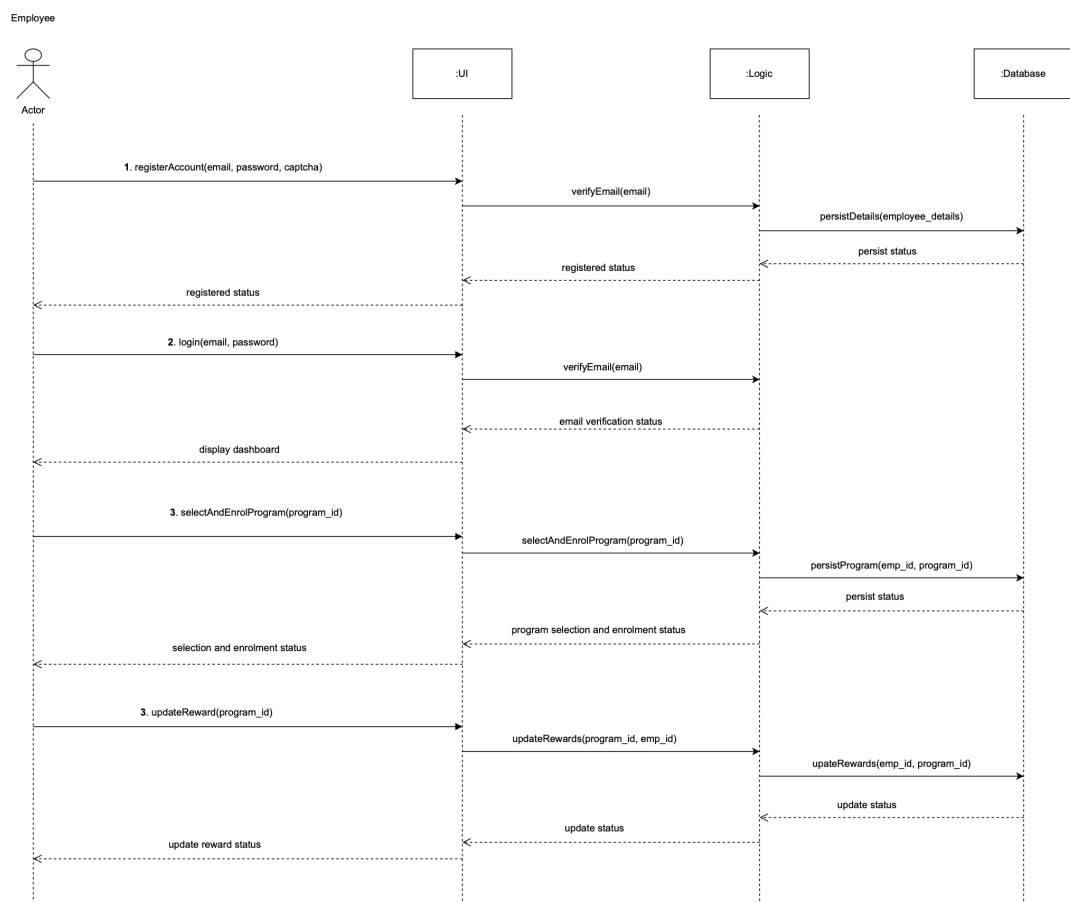


Figure 9.7: Activity Diagram of all the subsystem

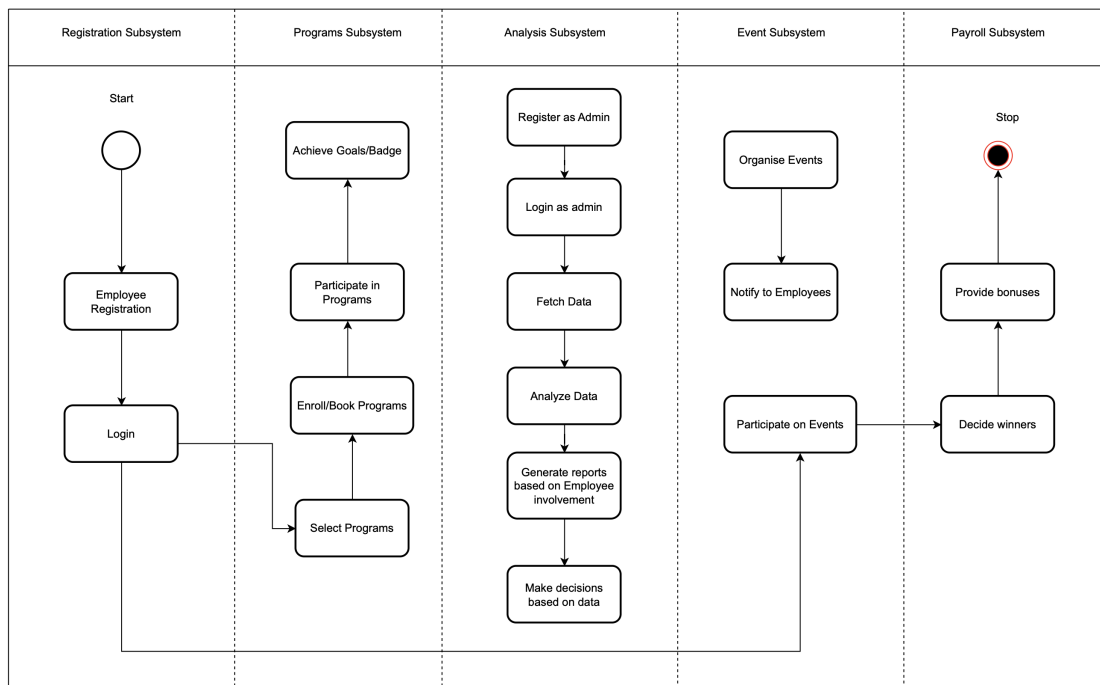


Figure 9.8: Activity Diagram of all the subsystem

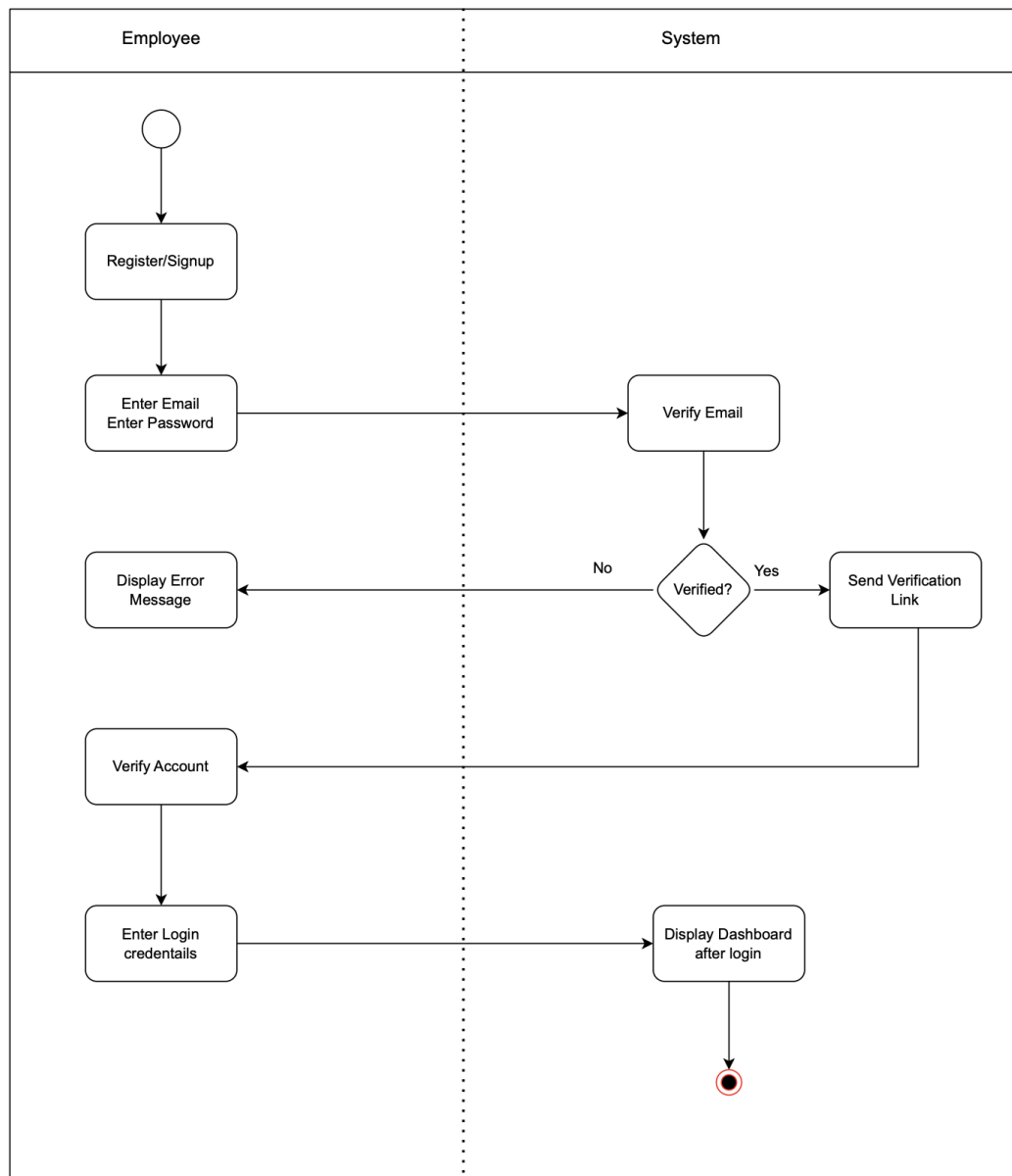


Figure 9.9: Activity Diagram of Create Account use case