

**Software Project Management Plan (SPMP)**

The document in this file is an annotated outline for specifying Software Project Management Plan, adapted from the IEEE Standard for Software Project Management Plans (Std 1058-1998) and from other online resources.

Tailor this to your needs, removing explanatory comments as you go along. Where you decide to omit a section, you might keep the header, but insert a comment saying why you omit the data.

# Project Plan for Track Me: Track Management System

**Team 3:** “With Baraka” Team

**Version:** 1.3

**Date:** 10-05-2022

# Document History and Distribution

## Revision History

Revision #	Revision Date	Description of Change	Author
1.0.1	2/22/2022	Adding organizational structure.	Ridha
1.0.2	2/22/2022	Fixed Cover page, added the Reference.	Mohammed
1.0.3	2/22/2022	Written the Project goals.	Faisal
1.0.4	2/22/2022	Added the Included part.	Adi
1.0.5	2/22/2022	Illustrated and written the Organizational structure and table.	Ridha
1.0.6	2/22/2022	Written the Overview section.	Jaffar
1.0.7	2/23/2022	Added the Excluded part.	Zeyad
1.1	2/23/2022	Phase 1 final document	Jaffar
1.2	4/11/2022	Phase 2 final document	Jaffar
1.3	5/10/2022	Phase 3 final document	Jaffar

## Contents

<b>1. Overview .....</b>	<b>5</b>
<b>2. Goals and Scope.....</b>	<b>5</b>
<b>2.1 Project Goals .....</b>	<b>5</b>
<b>2.2 Project Scope.....</b>	<b>5</b>
2.2.1 Included .....	5
2.2.2 Excluded .....	5
<b>2.3 References .....</b>	<b>5</b>
<b>3. Project Organization.....</b>	<b>6</b>
<b>3.1 Project Organizational Structure .....</b>	<b>6</b>
3.1.1 Project Team .....	6
<b>4. Schedule and Budget.....</b>	<b>7</b>
<b>4.1 Schedule and Milestones .....</b>	<b>7</b>
<b>4.2 Cost and Budget .....</b>	<b>7</b>
4.2.1 Cost estimation .....	7
4.2.2 Budget .....	8
<b>5. Management Plans.....</b>	<b>9</b>
<b>5.1 Integration Management.....</b>	<b>9</b>
5.1.1 Configuration Management Plan .....	9
5.1.2 Change management plan .....	9
5.1.3 Delivery Plan.....	10
<b>5.2 Scope Management Plan .....</b>	<b>10</b>
<b>5.3 Procurement Management Plan .....</b>	<b>11</b>
<b>5.4 Schedule Management Plan .....</b>	<b>11</b>
<b>5.5 Cost Management Plan .....</b>	<b>12</b>
<b>5.6 Quality Management Plan.....</b>	<b>12</b>
<b>5.7 Resource Management Plan .....</b>	<b>13</b>
<b>5.8 Communication Management Plan.....</b>	<b>14</b>
<b>5.9 Risk Management.....</b>	<b>14</b>
5.9.1 Risk Register .....	15
<b>5.10 Stakeholders Management Plan.....</b>	<b>16</b>
<b>6. Development Process .....</b>	<b>17</b>
<b>7. Abbreviations and Definitions .....</b>	<b>17</b>

## **1. Overview**

Managing many different tasks in a project can be very hard when there are many tasks with different progress, workflow, subtasks, and with many members working simultaneously, especially when the management are understaffed or are working in offline conditions while some of the members are online. So, this system will be the solution to this problem.

it will be made to suit the needs of our customers, which are the project managers, project members, and management staff.

The customers will receive the system in 3 platforms, a mobile app, a web interface with a server a windows client with offline database, and finally, all of them are connected to the main online database.

## **2. Goals and Scope**

### ***2.1 Project Goals***

Enhance overall experience for software project or everyday tasks workflow by building a cross-platform (Windows, Web, Mobile) system capable of issue tracking, progress reporting, and task routing. In addition to improving individuals collaborate and share knowledge for the accomplishments through central database and sync-able offline database for windows platform.

### ***2.2 Project Scope***

#### **2.2.1 Included**

- Database management system license for 3 years.
- Source code of the front end of the website (HTML & CSS only).
- Maintenance for windows clients for 1 year.
- Maintenance for mobile users for 1 year.
- Maintenance for web users for 1 year.
- Hosting (Only the servers for website).
- Manuals for all platforms.
- 10 hours training for 65 employees.
- Integration with Microsoft Project (From MS: Project, To MS: Project).

#### **2.2.2 Excluded**

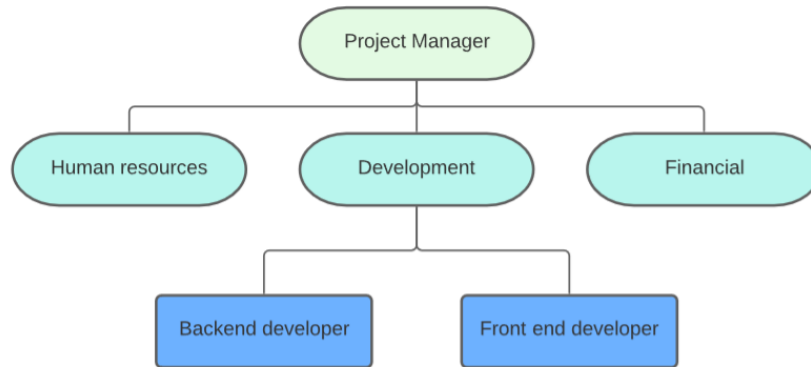
- Hosting for DBMS (Servers not software).
- Domain name is not provided.
- Source code of the backend.
- Mac OS version of the software is not provided (The web version is the alternative).

### ***2.3 References***

<Doc 1.> Project Guidelines, 2021-2022, Information and Computer Science Department.

### 3. Project Organization

#### 3.1 Project Organizational Structure

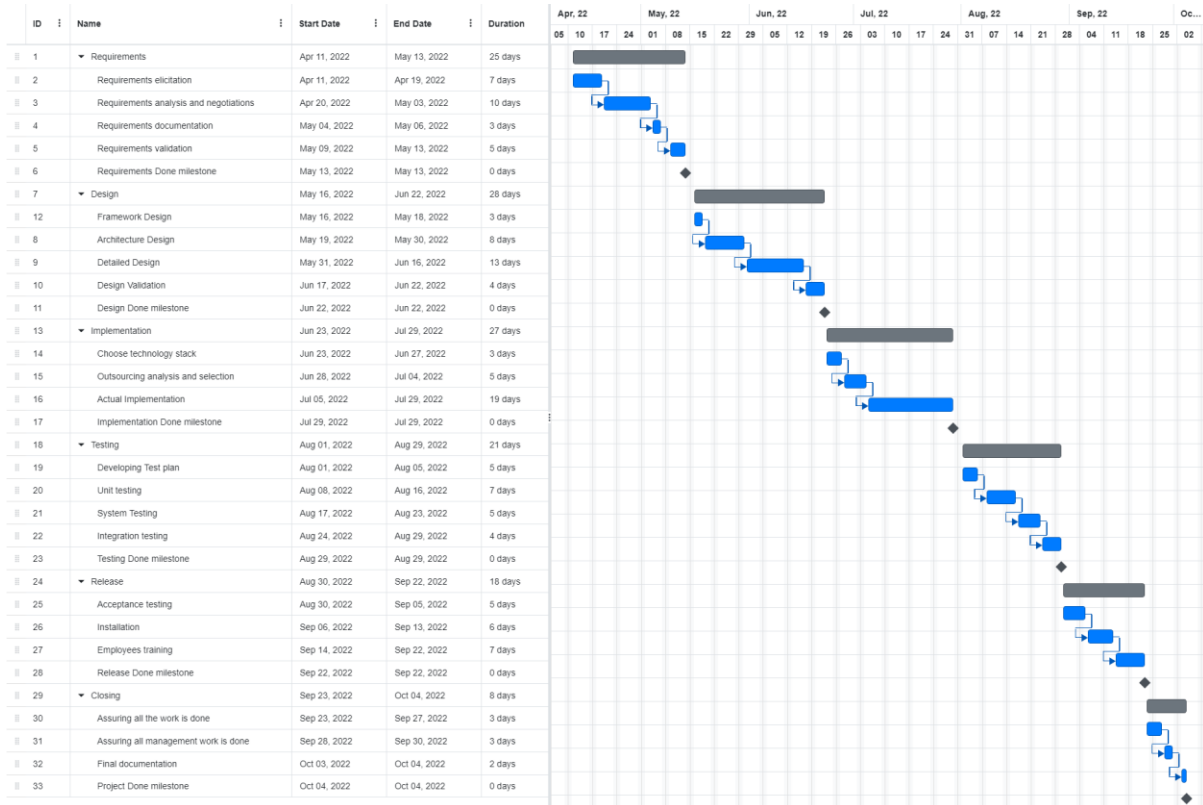


##### 3.1.1 Project Team

Team member	Role	Involvement duration (# of months)	Comment
MOHAMMED SHAH	Project Manager	6	
ADI SENDI	Human resources	4	Excused 1 week for covid 19
JAFFAR ALROMAIH	Financial	5	
RIDHA ALMASHARI	Development manager	4	Stop working for 2 months due to external reasons
ZEYAD ALHARBI	Backend developer	5	
FAISAL ALALOOLA	Front end developer	6	

## 4. Schedule and Budget

### 4.1 Schedule and Milestones



### 4.2 Cost and Budget

#### 4.2.1 Cost estimation

Project Activities	Time (in days)	Cost per day	subtotal	Item total cost
<b>Requirements</b>	25			55300
Requirements election	7	1000	7000	-
Requirements analysis and negotiations	10	3560	35600	-
Requirements documentation	3	1400	4200	-
Requirements validation	5	1700	8500	-
Requirements Done milestone	0	-	-	-
<b>Design</b>	28			296335
Framework design	3	6745	20235	-
Architecture design	8	9550	76400	-
Detailed design	13	14500	188500	-
Design Validation	4	2800	11200	-
Design Done milestone	0	-	-	-
<b>Implementation</b>	27			393675
Choose technology stack	3	6500	19500	-
Outsourcing analysis and selection	5	4725	23625	-
Actual implementation	19	18450	350550	-
Implementation Done milestone	0	-	-	-
<b>Testing</b>	21			100575
Developing test plan	5	3125	15625	-
Unit testing	7	4650	32550	-
System testing	5	6300	31500	-
Integration testing	4	5225	20900	-
Testing Done milestone	0	-	-	-
<b>Release</b>	18			45975
Acceptance testing	5	2600	13000	-
Installation	6	1850	11100	-
Employees training	7	3125	21875	-

Release Done milestone	0	-	-	-
<b>Closing</b>	8			15530
Assuring all the work is done	3	2150	6450	-
Assuring all management work is done	3	1960	5880	-
Final documentation	2	1600	3200	-
Project Done milestone	0	-	-	-
<b>Services</b>				
5 years hosting (Only the servers for website)				20125
Maintenance for windows clients for 1 year				10500
Maintenance for mobile users for 1 year				10500
Maintenance for web users for 1 year				10500
<b>Cumulative</b>	127	-	-	959015

## 4.2.2 Budget

Project Activities	Budget for Period in kUS\$					
	Months					
	1	2	3	4	5	6
<b>Requirements</b>	-	-	-	-	-	-
Requirements election	7000	-	-	-	-	-
Requirements analysis and negotiations	35600	-	-	-	-	-
Requirements documentation	4200	-	-	-	-	-
Requirements validation	3400	5100	-	-	-	-
Requirements Done milestone	-	0	-	-	-	-
<b>Design</b>	-	-	-	-	-	-
Framework design	-	20235	-	-	-	-
Architecture design	-	76400	-	-	-	-
Detailed design	-	101500	87000	-	-	-
Design Validation	-	-	11200	-	-	-
Design Done milestone	-	-	0	-	-	-
<b>Implementation</b>	-	-	-	-	-	-
Choose technology stack	-	-	19500	-	-	-
Outsourcing analysis and selection	-	-	23625	-	-	-
Actual implementation	-	-	110700	239850	-	-
Implementation Done milestone	-	-	-	0	-	-
<b>Testing</b>	-	-	-	-	-	-
Developing test plan	-	-	-	15625	-	-
Unit testing	-	-	-	4650	27900	-
System testing	-	-	-	-	31500	-
Integration testing	-	-	-	-	20900	-
Testing Done milestone	-	-	-	-	0	-
<b>Release</b>	-	-	-	-	-	-
Acceptance testing	-	-	-	-	13000	-
Installation	-	-	-	-	5550	5550
Employees training	-	-	-	-	-	21875
Release Done milestone	-	-	-	-	-	0
<b>Closing</b>	-	-	-	-	-	-



Project Activities	Budget for Period in kUS\$					
	Months					
	1	2	3	4	5	6
Assuring all the work is done	-	-	-	-	-	6450
Assuring all management work is done	-	-	-	-	-	5880
Final documentation	-	-	-	-	-	3200
Project Done milestone	-	-	-	-	-	0
Services						
5 years hosting (Only the servers for website)						20125
Maintenance for windows clients for 1 year						10500
Maintenance for mobile users for 1 year						10500
Maintenance for web users for 1 year						10500
Total	50200	203235	252025	260125	98850	94580
<b>Total cumulated</b>	<b>959015</b>					

## 5. Management Plans

### 5.1 Integration Management

#### 5.1.1 Configuration Management Plan

The Policy that we will follow is the 48-hour rule as it is a fast past process that goes well with a frequent change project. The policy is designed in a manner as task leaders on a significant IT project meet and agree on change within their competence and authority, therefore the individual greatest impacted by the new has 48 hours to request approval from senior management. With all confirmation processes going through CFEngine Configuration tool

Team city setup tool will be utilized in this process seeing as it's a free source software that provides us with all of the benefits we require to finish the process without spending any additional funds. Also, Microsoft Team and WhatsApp will be used in the communication and exchange of information between the team

#### 5.1.2 Change management plan

The project will confirm a multi-layer CCB. The lower layer will be for technical changes. Team member has authority to submit a request to the development manager (*Mr. RIDHA ALMESHARI*). the development manager will review the request and see If it is required or not, will it impact the other project areas (like impacting on costumer) or not , if it is required and not impacting other project areas, then he will submit the request in higher Control Change Board (CCB) as low/no cost technical impact, then the project manager(*Mr. MOHAMMED SHAH*) will decide to approve it or not within 48-hours without meeting, if no response receive then development manager can approve it.

If the change will impact customer features or has a high cost or a change request has written from the customer, then area manager/customer will submit the request on the higher layer CCB, the project manager will meet the other areas managers (Human resources, development, financial), sponsor (*Dr. Mohammed Alshayeb*) and stakeholders to decide whether agree the change or not, if yes document of changes will be written by the area manager of that change request and the project manager will approve it and then share with other impacting areas managers.

### 5.1.3 Delivery Plan

#	Deliverable	Planned Date
D1	Software Requirements Document (SRS)	May 13, 2022
D2	Software Design Document (SDD)	Jun 22, 2022
D3	Software Test Plan and their Reports	Aug 29, 2022
D4	Final Version of the system	Sep 22, 2022
D5	Project Closing Document	Oct 04, 2022

## 5.2 Scope Management Plan

### 5.2.4 Scope Definition

The scope statement will include the features of the services, what is excluded, and the result of the project. In addition to project restrictions, boundaries, and requirements that is needed before establishing deliverables and accepting them. Moreover, the details of Work Break Down (WBS) are mentioned in “schedule and milestone” in this document and completing all WBS will result in completing the project.

### 5.2.5 Scope Change Process

Any stakeholder of this project can create “change request”. Then all “change requests” are analysed and reviewed by project manager and the Change Control Board (CCB). Then the CCB will generate impact analysis report for that “change request” and deliver it to the project sponsor for approval. If the “change request” is approved by him, then the project manager will deliver a notice to everyone that the “change request” will affect. Lastly, the project manager will update the documents to reflect the “change request”.

### 5.2.6 Authority and Responsibility

The following table will show (as a summary) the authority and responsibility of sponsor, project manager, and project team members.

Role	Authority and Responsibility
<b>Project Sponsor:</b> Dr. Mohammed Alshayeb	<ul style="list-style-type: none"><li>• Approve Scope Management Plan and provider of high-level Scope definition.</li><li>• Responsible for overall decision-making for Scope Management activities.</li><li>• Responsible for approving major change requests to the Scope.</li></ul>
<b>Project Manager:</b> Mohammed Shah	<ul style="list-style-type: none"><li>• Supervise the development of Scope Management Plan and Scope Change Management process.</li><li>• Approve minor scope change requests. (Any major ones will be approved by the sponsor).</li><li>• Document Scope changes.</li></ul>
<b>Project Team Members</b>	<ul style="list-style-type: none"><li>• Participate and help in developing project scope statement.</li><li>• Responsible for submitting scope change requests and reviewing them when approved or assigned.</li><li>• Provide in-time feedbacks when needed.</li><li>• Help in reviewing any team-level scope change.</li></ul>

### 5.3 Procurement Management Plan

The team shall perform a make-or-buy analysis of the segment in question. Upon deciding to procure the segment the team shall collect proposals from different companies and present them to the project manager. All outsourced projects must be “Fixed Price”. The project manager shall then select a proposal and delegate a team member to meet with the company on a weekly basis. The team member shall ensure that the project follows the company standards and inform the project manager of any problems. Contracts must be reviewed by the project manager before they can be closed.

### 5.4 Schedule Management Plan

#### 5.4.1 schedule Tools

The project schedule shall be developed using a work breakdown structure. Where each task will contain the details of the work package, the tasks depending on its completion, and time estimates for each task. A critical path analysis shall then be performed to estimate slack for each task. The estimated timeframe of each deliverable shall then be presented to the project sponsor and followed upon approval. Continuous analysis of the project schedule shall be made and it shall be updated if needed.

#### 5.4.2 schedule development roles and responsibilities

Role	Responsibility
Project sponsor	Approve/decline project schedule
Project Manager	Develop Schedule Ensure schedule is followed Present schedule to sponsor Task assignment
Team Members	Task definition Task time and resource estimates Schedule validation

### 5.5 Cost Management Plan

**5.5.1 responsibility for managing costs:** the project manager (*Mr. Mohammed Shah*) will be responsible for managing the costs

**5.5.2 authority of approving budget changes:** the project manager (*Mr. Mohammed Shah*) with the project sponsor (*Dr. Mohammed Alshayeb*).

**5.5.3 cost performance measures:** the project will be depending on the earned value management (EVM) method to measure and monitor the cost performance

### 5.6 Quality Management Plan

#### Quality roles and responsibilities

Name	Role	Responsibilities
<b>RIDHA ALMESHARI</b>	Development team manager	Quality assurance
<b>ZEYAD ALHARBI</b>	Development team member	Quality monitoring and control

#### Quality assurance

- The Kanban board will be used (IT members can submit) to ensure that the project can meet the specified quality standards (documented by quality assurance manager) and it will be reviewed by quality assurance manager and quality control manager. The default decision is that the work will complete normally (standard is accepted) unless quality assurance manager send an email for meeting.

- Every deliverable will be benchmarking to test and compare the quality and asking users for feedback

## Quality monitoring and control

- IT team members can submit a cause-and-effect diagram to quality control manager
- quality monitoring control manager is responsible to provide a Pareto chart every week showing the number of complaints for every type of problems to quality assurance manager and project manager
- quality control manager will analysis the statics about quality and then decide with quality assurance manager when should be meet with IT team members and project manager to discuss the quality improvements and document what lessons learned from quality audit

### 5.7 Resource Management Plan

In our project, we will need 6 staff members:

- 1- Project Manager, to manage and plan the overall project.
- 2- Financial Manager, to make financial decisions and help with the requirement management.
- 3- Human Resources Manager, to manage the resources and optimize the given tasks to be suitable for each resource.
- 4- Development manager, to manage the implementation and overall development of the project.
- 5- Backend developer, to implement and design the backend of the project and make sure that it is conforming to the requirements.
- 6- Frontend developer, to implement and design the front end of the project and help in the phases after the implementation.

Name	Job	From	To	Duration
<b>MOHAMMED SHAH</b>	Project manager	04/11/2022	10/04/2022	5 months 24 days (6 months)
<b>ADI SENDI</b>	Human Resources Manager	04/11/2022 05/12/2022	05/05/2022 08/29/2022	4 months 12 days (4 months) *1
<b>JAFFAR ALROMAIH</b>	Financial Manager	05/04/2022	10/04/2022	5 months 1 day (5 months)
<b>REDA ALMASHARI</b>	Development manager	05/16/2022	09/22/2022	4 months 7 days (4 months) *2
<b>ZEYAD ALHARBI</b>	Backend developer	04/11/2022	09/22/2022	5 months 12 days (5 months)
<b>FAISAL ALALOOLA</b>	Frontend developer	04/11/2022	10/04/2022	5 months 24 days (6 months)

\*1 the Human resources manager was excused for 1 week due to covid-19 \*

\*2 The development manager was supposed to work for 5 months and 24 days, but for external reasons he stopped working for 1 month 17 days (around 2 months) \*

(The dates between parenthesis are approximation)

## 5.8 Communication Management Plan

The communication management plan will consist of two categories, internal & external communication. The internal communication will be between team members, project manager, & project sponsors. In the other hand, the external communication will be between our company & KFUPM. This table is going to illustrate the type of communication & the methods/ tools that can be used. Also, the table will show participants, frequency, & the communication purpose

Type of communication	Method/tool	participants	frequency	Purpose of the communication
<b>Internal communication</b>				
<b>Progress report</b>	Email	Project Manager/ Team members	weekly	Show all the updates of the project during the week
<b>Stand-up Meetings</b>	In office	Project Manager/ Team members	daily	Each team member shows his accomplishments since the last stand-up meeting & his tasks for the day
<b>messaging</b>	Discord/WhatsApp/ Microsoft teams	Team members	daily	If any one of the members needs to have quick chat in certain task/issue
<b>Final report</b>	Email	Project Manager/ Team members	When finishing the project	Concisely summarize the outcome of the project. Documenting Project successes, lessons learned, & performance
<b>Final meeting</b>	In office	Project Manager/ Team members	When finishing the project	Sharing experience. Discussing the lessons learned, both in terms of what to continue & what to improve
<b>External communication</b>				
<b>Client meeting</b>	In office	Project Manager/Client	monthly	Talking about the project progress & and how the project can be improved & discuss any issues if exists
<b>Project report</b>	Email	Project Manager/Client	monthly	For keeping the client updated with the progress of the project

## 5.9 Risk Management

Risks will be identified and registered and published to every team member so they have access to it. The risk plan will be constructed such that we have a mitigating measure so the risk won't take place or reduce its impact in advance. In addition to contingent actions to reduce the impact of occurred risks. Moreover, we will use time buffers and 15% contingency reserve so the chances of running out of time or cost overruns will be at minimum.

### 5.9.1 Risk Register

ID	Risk description	Probability	Impact	Owner	Root cause	Mitigating action	Contingent action
1	Consult or Contact delay	Medium	High	Project Manger	contractor inexperience d/ delays in reviewing design document/ shortage in resources	Include late penalty in contract/ Communicate schedule early/ Check with supplier regularly	Escalate to project sponsor and contract manger/ Implement late clauses
2	Over estimating schedule	Medium	High	Project Manger	Failure to manage time and resource	Following the schedule and regularly checking milestone	Agile process / Escalate to project sponsor and project board/ Raise a change request for schedule pull down contingency
3	Overrun Budget	High	High	Project Manager	Overestimating Project Budget Or scope	Plan against it/ Keep to project scope/	Allocate reserve/ Raise a change request for budget
4	Server Failure	Low	High	Maintenance team	Device failure/ High traffic on server	Regular server maintenance/ Make sure you have enough server for high activity period	Send technician to fix the server/ Make wait queue
5	Team members misunderstand and requirements	Medium	High	All Team Members	Did not write the requirements in a document clearly	Provide a template for requirements	Ask the team member to reread the requirements document
6	Low team works between member	Low	High	Human Resource Department	Low trust between members	practice team works building exercises	Accept it
7	Lack of development tools	Low	High	Development Team	Software tools are required	Using open-source tools	Outsourcing

8	Scope Creep	Medium	High	Project Manger	Scope or Requirement management does not occur/ No clear requirement or overall expectation	Document the project scope in a project imitation/ Keep to original plan/ Discard any unnecessary changes	Communicate with stake holder for clear requirement/ Setup change control process/ Identify scope creep
9	Changing management overload	Low	Low	Update control board	Accepting many changes	Consider each change request carefully	Accept it
10	Employee leave	Low	Medium	Human Recourse Department	Salaries / Workload/ Overtime/	Salary increases/ Improving the Working Environment	Offering opportunities

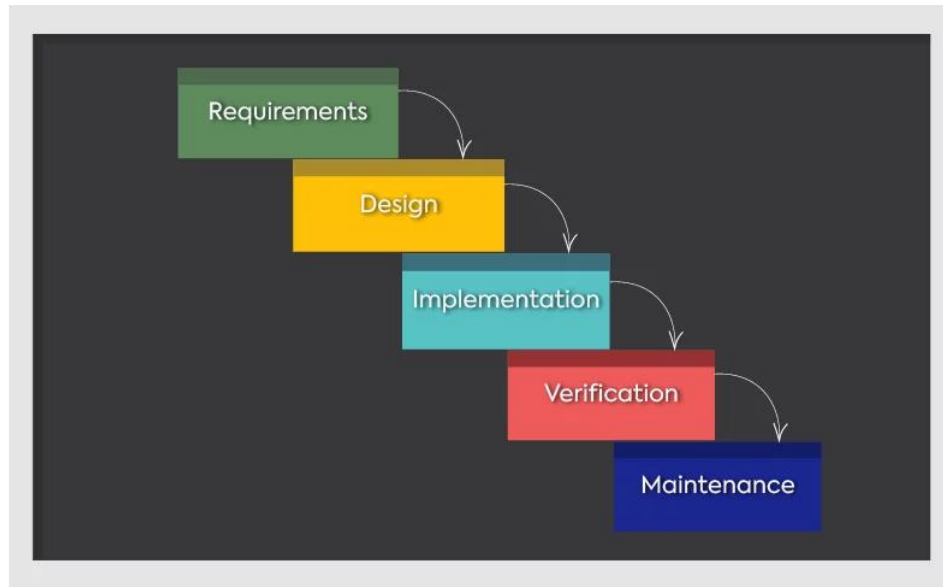
### ***5.10 Stakeholders Management Plan***

Name	Internal/External	Role	Power	Interest
MOHAMMED ALSHAYEB	External	Sponsor	high	high
MOHAMMED SHAH	internal	Project Manager	high	high
ADI SENDI	internal	Human resources	low	medium
JAFFAR ALROMAIH	internal	Financial	low	high
RIDHA ALMASHARI	internal	Development manager	medium	high
ZEYAD ALHARBI	internal	Backend developer	low	high
FAISAL ALALOOLA	internal	Front end developer	low	high

Only the project manager is permitted to contact the sponsor. All meetings amongst stakeholders shall be summarized and documented for future reference. All communication amongst stakeholders shall be on MS teams and WhatsApp. Weekly updates shall be provided to the project sponsor. Any urgent updates shall be communicated by phone.



## 6. Development Process



The development process we will follow in this project is **Waterfall Model**. The process has 5 steps that are followed, and we can't move to next step unless we finish current step and what is before it. After each step, we will have a document that we can give to the customer. The rational for choosing this model are:

- The process is straightforward, each step is separated and no overlapping steps.
- The team that will work on this project is experienced in developing using waterfall.
- The requirements for the Task management system are clear and our company has previous experience in developing such systems.

## 7. Abbreviations and Definitions

CCB	Change Control Board
CM	Configuration Management
SDD	Software design document.
SRS	Software Requirements Specifications.
WBS	Work Break Down Structure.