Project Plan
for
Compete

Team 5

Version 2.0

13/10/2020

Document History and Distribution

1. Revision History

Revision #	Revision Date	Description of Change	Author
1.0	09/13/2020	Initial Document	Omar Pervez Khan
2.0	11/24/2020	Added management plans and budget estimates	Omar Pervez Khan

Contents

1. Overview

In 2019, the gaming industry was worth $148.8B. This is expected to increase to $160B by the end of 2020. Upon further inspection, the global gaming market is projecting a 12% CAGR (Compound Annual Growth Rate) between 2020 – 2025. Developing an application for a steadily growing market will prove to be beneficial. This project is for developing “compete”, a mobile application for the gaming community.

Compete, will be available on both Android & IOS. The app is centered around the gaming community. The main objective is to provide a unique platform where gamers can expand their communities, organize tournaments, and share content with each other. Thus, creating a hub for the gaming community to come back to whenever they think of anything associated with gaming.

2. Goals and Scope

2.1 Project Goals

The goal of this project is to build and successfully deploy a one-stop collaborative mobile-based application for the gaming community within a span of 12 months and provide users the ability to manage communities, tournaments, user and team profiles, leaderboards and share media content with each other. The platform shall adhere to the regulations of each respective mobile platform.

2.2 Project Scope

2.2.1 Included

The application will contain different types of accounts, regular users and administrators. It will provide users with the ability to create, manage, join, and search for tournaments as well as communities. Users will also be able to share multimedia content, manage their profiles and view leaderboards for different tournaments. Administrator accounts will be included to manage the entire system.

2.2.2 Excluded

The platform will not include:

- Games to be played but only functionalities such as the creation of tournaments and communities related to these games are included
- Compatibility with Harmony OS
- Compatibility with Windows Phone OS
- Recording of tournaments to be saved

2.3 Assumptions

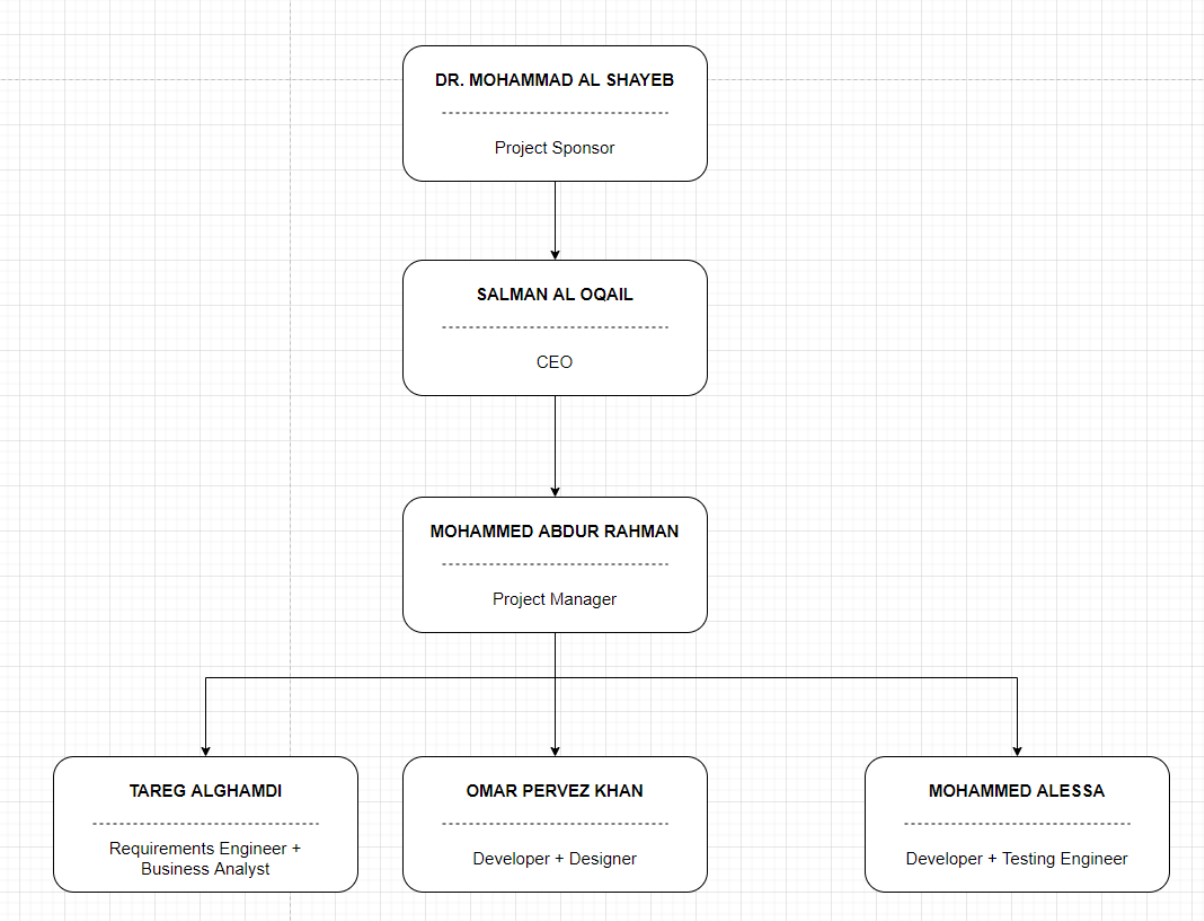
- Multiple programs will have access to the application to allow content sharing.
- Funding for licenses will be provided by the respective departments as per requirement.
- Project stakeholders and team members will always be available for meetings.
- Estimated expenditure throughout the project will remain the same as what was initially projected.

2.4 References

Title	Report Number	Date	Publishing Organization
Software Project Management Plan Outline	Std 1058-1998	31st August, 1998	Institute of Electrical and Electronics Engineers (IEEE)
Final Compete Schedule (.mpp)	~	24th November, 2020	Compete

3. Project Organization

3.1 Project Organizational Structure



3.1.1 Project Team

Team member	Role	Involvement duration	Comment
Dr. Alshayeb	Project Sponsor	12 months	
Mohammed Alessa	Developer + Tester	12 months	

Salman Aloqail	CEO	12 months	
Mohammed Abdur Rahman	Project Manager	12 months	
Omar Pervez Khan	Developer + Designer	12 months	
Tareg Alghamdi	Requirements Engineer + Business Analyst	12 months	

4. Schedule and Budget

4.1 Schedule and Milestones

The detailed schedule with their sequencing was done using Microsoft project which provides the following items:

- Work Breakdown Structure
- Work Packages
- WBS dependencies
- Milestones

The link to the Microsoft project file containing the items mentioned above has been referenced in the References section (2.4).

4.2 Cost and Budget

4.2.1 Cost Estimation

We have used two different approaches to cost estimation:

1. Bottom-up estimate
2. Analogous estimate

Bottom-Up Estimate			
Work Package	**Duration (Some days overlap)**	**Cost (SAR)**	**Cost rate per day (SAR)**
1 – Concept development	66	167,857.21	
Draft idea	10	35,714.3	3,571.43
Draft concept	10	35,714.3	3,571.43
Draft features	10	35,714.3	3,571.43
Must-haves	3	10,714.29	3,571.43
Nice to haves	2	7,142.86	3,571.43
Define main issue to solve	3	10,714.29	3,571.43
Draft Minimum Viable Product (MVP)	4	10,714.29	3,571.43
Draft core functions	4	10,714.29	3,571.43
Define vision	2	3,571.43	3,571.43
Define programming language	1	3,571.43	3,571.43
Define platforms	1	3,571.43	3,571.43
2 – Research	32	130,664	
Alternative or competitors	8	40,000	5,000
Draft differentiation factors	8	24,000	3,000
Draft success factors	8	26,664	3,333
Draft possible cost of Compete	4	20,000	5,000
Define budget for Compete	4	20,000	5,000
3 – Users	8	16,000	
Draft type of users	8	8,000	1,000
Target group	8	8,000	1,000
4 – Prototyping and Design	49	115,590.4	
Create a mockup	12	61,952.4	5,162.7
Create Login/Signup	4	4,400	1100
Create User profile UI/UX	4	4,800	1200
Create my teams Management	5	6,500	1300
Create Upcoming tournaments	5	6,695	1339
Create Manage tournament group UI/UX	3	3,897	1299
Create Tournament	2	2,474	1237
Create manager a gaming community UI/UX	5	7,375	1475
Create Content Sharing UI/UX	4	8,200	2050
Create Administrator	3	5,697	1899
Fix UI/UX issues	2	8,000	4,000
5 – Promoting	5	30,000	

Build landing page	3	15,000	5,000
Test landing page	1	5,000	5,000
Launch landing page	1	10,000	10,000
6 – Development	135	307,500	
6.1 - Front-end development	75	150,000	2,000
Layout	15	30,000	2,000
Navigation	15	30,000	2,000
Graphics	30	60,000	2,000
Animations	15	30,000	2,000
6.2 - Back-end development	63	157,500	2,500
Development	20	50,000	2,500
Database	10	25,000	2,500
Storage	10	25,000	2,500
Test MVP	8	20,000	2,500
Testing and debugging	8	20,000	2,500
Refinement	7	17,500	2,500
7 - Launch application	6	33,000	
Register application on mobile store	1	5,000	5,000
Get approval for application	3	3,000	1,000
Launch application on mobile store	1	10,000	10,000
Market application	1	15,000	15,000
8 – Project Evolution	4	44,200	
Survey your users	1	200	200
Analyze app analytics and gather data	1	1,000	1,000
Get feedback from users	1	1,000	1,000
Fix possible issues	3	42,000	14,000
Total		844,812	

Analogous Estimate					
Project name	**Project Expected Duration (months)**	**Project Actual Duration (months)**	**Number of Resources**	**Estimated Cost (SAR)**	**Actual cost (SAR)**
Connectify	12	13	7	734, 000	822,999
Language Central	14	11	10	750,000	850,000
Alpha	10	12	10	900,000	1,100,000
Compete	12	-	5	794,667	

4.2.2 Budget

Category	Budget for Period in k SAR (*1000)												
	1	2	3	4	5	6	7	8	9	10	11	12	Total
Human resources	30	30	30	30	30	30	30	30	30	30	30	30	360
Purchases	50				30				20				100
Tools	35						10						45
Travel costs	6											6	12
Training	13.75	13.75	13.75	13.75									55
Promoting										15	15	15	45
Maintenance											22.5	22.5	45
Employee Insurance	50												50
Office Rent	5	5	5	5	5	5	5	5	5	5	5	5	60

food	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	18
Contingency Reserves	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	30
Management Reserves												4.16	4.16
Total	193.75	52.75	52.75	52.75	69	39	49	39	59	54	76.5	86.66	824.16
Total cumulated	193.75	246.5	299.25	352	421	460	509	548	607	661	737.5	824.16	

5. Management Plans

5.1 Integration Management

5.1.1 Configuration Management Plan

Configuration management functions will be supported by the following tools:

- **Git**: Version Control System
- **GitHub**: Hosting Online Repositories for Source Code Management
- **Datadog**: Log Collection & Management Tool

Git

Git will be used to track any changes made to the configuration items. Branches will be used to work on new builds and releases to ensure isolation of any volatile changes made.

GitHub

The repository for the product will be hosted on GitHub so that the team can effectively utilize Git and plan releases.

Datadog

Specifically, for use in the Test User Acceptance phase under the Release Management process, Datadog will be used to aggregate and log any unexpected issues that arise during the testing phases. This will help the development team identify pain points and rectify them immediately.

Method of Configuration Identification

Configuration identification will be performed in three stages, as follows:

1. Items to be placed under configuration control will be identified
2. Unique identifiers will be assigned that specify the configuration item and its version

3. Configuration items will be placed into their respective sections of the configuration control plan once assigned an identifier

Method of Configuration Control

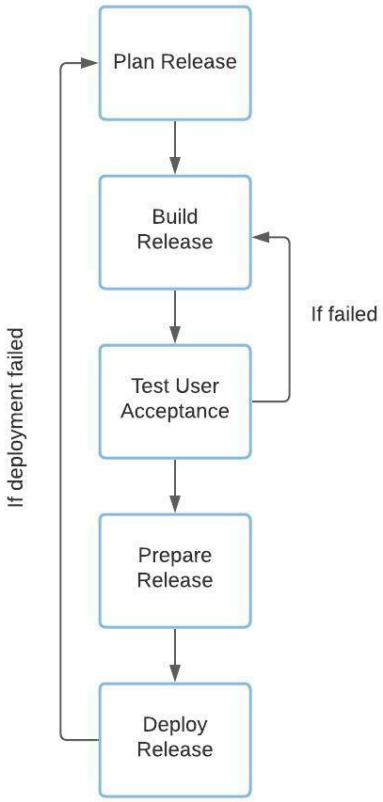
Configuration control will consist of the following:

- Change Requests
  Changes to any configuration item will be requested through the Git Version Control System.
- Change Evaluation
  The impact of the change to the configuration item will be evaluated based on its perceived risk vs. benefit with respect to the budget, schedule, and other configuration items.
- Change Approval/Rejection
  Permission to change the item will be granted based on the evaluation of the change to the configuration item in the Change Evaluation. This permission will be granted by the Change Control Board (CCB) committee.

Release Management Process

The release management process will be used for the deployment of software products and documentation. The process is divided into 5 different phases:

1. Plan Release
2. Build Release
3. Test User Acceptance
4. Prepare Release
5. Deploy Release



Plan Release
During this phase, the entire plan of the release is created. This plan explains how the release is staged and includes requirements, timelines, and delivery dates.

Build Release
Once the release has been planned, the development and design of the product based on the requirements specified is conducted in this phase. For each build, a new branch in the git repository is created.

Test User Acceptance
In this phase, the current build will be deployed to a testing environment for user acceptance to identify any bugs or issues that may arise in a real-world environment. The build will be tested by giving a beta version to several of your employees. Any unexpected behavior will be logged through Datadog.
As issues are identified, the build is sent back for development in the Build Release phase. Once the issues are fixed, the build is once again deployed to test for user acceptance.
The work may flow back and forth from the Build Release phase to the Test User Acceptance phase until the release is approved.

Prepare Release
In this phase, the team will conduct final checks to ensure the current build meets the requirements outline in the release plan. Once the review is completed, all findings are validated and finalized for the release and the build is marked as a minimum viable product.

Deploy Release
In this phase, the product is released into production. Users will be notified of any changes that have been made from the previous releases. The branch containing the build in the git repository is merged into the production branch. The performance of the release is evaluated and discussed. If the deployment was not successful, the process restarts from the first phase where the entire release is planned once again. Issues that arose during the deployment phase are considered.
If there are any minor issues found, they are identified and documented and will be addressed in the next release.

5.1.2 Change Management Plan

The process used to manage changes to the project will be as follows:

A change request must be created and submitted each time the client needs a change that will impact the project schedule. A change request will be sent to the Compete team through Slack. The Compete team will then process the change request, assess the feasibility of the change based on the risk and perceived benefit it accompanies, and the project manager will then approve or deny the change request.

If the change is denied, the team and the project manager will sign the change request indicating the agreement that no change is to be made. If the change is accepted, documents that reference the newly updated requirements will be modified to reflect the changes. The team, project manager and client will sign the change request indicating the agreement to the change.

Once a decision has been made, the change request will be documented in the Changes document entailing the team's decision regarding the request. Any changes or updates regarding the status of a change request will be made in the Changes document.

5.1.3 Delivery Plan

Deliverable #	Deliverable	Planned Date	Receiver
D1	Software Requirements Specification (SRS)	1/1/21	Project Sponsor
D2	High Fidelity Prototype	3/3/21	Project Sponsor
D3	User Interface	6/23/21	Project Manager
D4	Minimum Viable Product	9/21/21	Project Sponsor and Project Manager
D5	Source Code	9/25/21	Project Sponsor
D6	End-User Documentation	9/25/21	Project Sponsor

5.2 Scope Management Plan

All changes and management activities with concern to the scope will be carried out by the Project Manager.

Proposed changes to the scope may be initiated by the Project Manager, Stakeholders, or any team member. Any request for change in project scope will be processed through the project's change management procedure. All scope change requests will be submitted to the Project Manager who will then evaluate the requested change. The change will be analyzed for its impact on project time and project costs, and a risk assessment of the scope change will be conducted.

The approval of the change request will be done by the Change Control Board (CCB) and the Project Sponsor. Once a change request has been approved, the Project Manager will update all effected project documents and relay the changes made to the scope to all stakeholders. The change will also be documented in the Change document. If the change request is declined, it is added to the Change document with the reasoning of its declination and the Project Manager will relay the decision made to all the stakeholders.

After being provided with feedback from the Project Manager, the Project Sponsor will be responsible for the acceptance of the final project deliverables and the project scope.

5.3 Procurement Management Plan

We have five major steps for a procurement process, which are:

1. **Specification**: In this step, the purchasing department will be allowed to communicate with the project manager to develop and approve a list of procurement items necessary for project implementation. The department will specify the approved items to external vendors.

2. **Selection**: In this step of the project procurement process we will require the department to find potential suppliers which can procure the necessary items, according to the specifications. For this purpose, the department needs to set vendor selection criteria, which may include such measures as Delivery, Service Quality, Cost, and Past Performance.

3. **Contracting**: In this step the department will communicate with the suppliers to discuss delivery dates and payment conditions to ensure “on-time” delivery of the ordered items within the stated project budget.

4. **Control**: Through arranging regular meetings with the vendors, tracking delivery progress, reviewing the ordered items against the approved product specifications, and making necessary changes to the procurement contract, the department will control the process and ensure successful accomplishment.

5. **Measurement**: The final step of our procurement management process is using a system of performance indicators and measures for assessing the effectiveness and success of the entire process. The project manager will set up such a system and the purchasing department will use it in measuring the process. Special meetings and workshops will be conducted to view KPIs, intermediate results of staged delivery, adherence to product specifications, communications with suppliers, and the like. In case any deviations or gaps are revealed, the department will notify the project manager and make necessary changes to the procurement plan.

5.4 Schedule Management Plan

The project schedule will provide a roadmap for the team by providing all the required activities that will collectively achieve project goals and objectives.
A detailed approach and methodology for proper schedule management and the roles and responsibilities of all the parties involved is provided in the two sections below.

Approach and Methodology

Defining tasks

Prior to the initiation of the project, the project manager will conduct a meeting with the assigned team to discuss the project deliverables. The team will follow an

analogous approach to create a WBS, and the tasks will be ordered according to their priority at each level. Furthermore, milestones will be clearly defined to help the project manager and the stakeholders view the progress at the topmost level.

Assigning tasks
After creating the WBS, the team, with the assistance of the project manager, will assign work packages to resources. Each work package will be designated based on the technical knowledge, the experience, the communication skills, and the level of interest of the resource.

Estimating Task Duration
To accurately estimate each task duration, expert judgement, data analysis, and PERT analysis will be used. The project manager will consider the resource's estimation as well. The units of estimation will be in terms of days for work packages and weeks for higher level deliverables.

The formula for the PERT analysis is given below:

$$Estimate = \frac{Optimistic + (4 * Most\ Likely) + Pessimistic}{6}$$

Sequencing Activities
Critical Path Method (CPM) along with Precedence Diagraming method (PDM) will be used to sequence all the tasks. This will determine the earliest time for Compete's completion.

Developing Gantt chart
After defining the activities with their estimated time duration and sequencing them, a Gantt Chart will be produced which will contain the full schedule of the project with their start and finish date, and the assigned resources for each work package.

Controlling Schedule
The change control Board will handle all the changes that may occur during the project timeline.

Scheduling Tools
Microsoft Project is the main project management tool that will be used to create the Gantt chart and the Work Breakdown Structure.

Roles & Responsibilities

Name	Role	Responsibility
Mohammed Al Shayeb	Project Sponsor	• Reviews & Approves schedule baseline and progress reports.
Salman Al Oqail	Program Manager	• Provides status reports to the project sponsor.

Mohammed Abdur Rahman	Project Manager	• Leads the team in developing the schedule management plan and the project schedule. • Provides status reports to the program manager.
Omar Pervez Khan	Business Analyst + Requirements Engineer	• Assists the project manager in creating the schedule management plan. • Assists in developing activity duration estimates. • Makes schedule change and risk recommendations to the project manager.
Tareg AlGhamdi	Developer + Designer	• Assists in estimating schedule activities. • Provides progress reports during the project (to the project manager) • Notifies possible scheduling risks and issues during the project.
Mohammed Al Essa	Developer + Testing Engineer	• Assists in estimating schedule activities. • Provides progress reports during the project (to the project manager) • Notifies possible scheduling risks and issues during the project.

5.5 Cost Management Plan

Cost management is typically the project manager's responsibility. Cost management involves not only managing the budget, but also planning, and preparing for potential risks. Risks can set projects back and sometimes even require unexpected expenses.

Cost Estimation

The cost estimation will be done by using the Bottom-up estimate approach where the cost performance is measured by dividing the work-to-work packages, then summing all the packages to get the total cost. Furthermore, to eliminate bias towards underestimation, the project manager will consult other project managers of ongoing projects within the company that are similar to the project. All parties involved in the project will attend all meetings and work together to produce the cost baseline. To help with better estimation, we will use the earned value management of previous projects and learn from their cost performance metrics.

Controlling Cost

To monitor and control the cost, we will use the cost management plan, conduct meetings, and use quality control (i.e. control charts, histograms, and cause and effect diagrams) methods. Monthly cost performance reports will be provided to the stakeholders and the project manager. If the cost baseline must be revised, both the project manager and Change Control Board (CCB) can approve budget changes.