Project Plan

Client: Bangladesh Army

Project Name: Weapon Zeroing System and Warriors' Range Efficiency Analysis for Bangladesh Army

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Chapter 1

Introduction

1.1 Document Purpose

A project plan is a formal document designed to guide the control and execution of a project. A project plan is the key to a successful project and is the most important document that needs to be created when starting any business project. The purpose of the Project Plan is to gather all information necessary to control the project. Project team members use it to understand what they need to do, when they need to do it, and what other activities they are dependent upon.

1.2 Associated Documents

Apart from project planning documents, Software Requirements Specification(SRS), Project proposal, Project Paper, Project Scheduling and Project Budget Analysis papers etc. are prepared and attached with along with the Project Plan.

1.3 Project Plan Maintenance

Project Plan defines the complete structure of the project. Planning for the project might change on basis of requirements of the clients. Besides, certain situation while developing the project might enhance the developers with permission from client to change the project plan. However, any changes in the project plan is brought and properly documented on consent of both client and project director.

Chapter 2

Project Scope

2.1 Objectives

1. Making an effective zeroing tool to improve the accuracy of the firer thereby development of consistent shot firer will be ensured.
2. To allow the sub unit commanders a scope of monitoring the results, and thereby the supervisors will be able to provide necessary correction for specific firers.
3. Making a database for firers to allow tracking of methodological development of firing standards thus individual interest and responsibilities will be improved.
4. Minimizing the system loss by implementing application based target checking method which will incorporate AI for precision, and thereby human fatigue will be reduced, error detection, and MPI calculation will be automatic.

2.2 Success Criteria

1. The first step of success depends on the successful image processing system. This system is going to identify the bullet impact on the target paper.
2. The after the bullet impact detection the system must be able to make a correct calculation and provide the zeroing tool the correct horizontal and vertical deviation. The other error analysis also has to be correct.
3. The zeroing tool should be able to shift the front sight tip as per the calculation to ensure a successful zeroing.
4. At the end, the UI of the system has to be easy for the firers and the sub unit commanders to use the system.

Chapter 3

Deliverable

3.1 To Client

Client of the project is Bangladesh Army.It is required to find out objects that should be delivered to the client and list them and make documentation.Firstly the developer team needs to collect information from the client to make prototype and deliver them for feedback.Then, temporary executable project is created for test analysis. In this the developers need to list which weapons are suitable for the project, minimum and maximum shooting distance, mechanical part that are required for procurement etc. Finally the client is given an estimation time about project delivery date.

3.2 From Client

To make project properly suitable for client, the developing team needs feedback from the client side.For their better understanding, documentation is essential. Documentation can contain nontechnical terms or technical terms with explanation. Documentation should be delivered frequently to the client for review. Test analysis need to be based on real time activities. After using the updated project and data can be collected from client and find out output accuracy. User can recommended certain changes. Also the developer team need to give them support for further change in system.

Chapter 4

Project Approach

Agile methodology has been adopted to carry out the proposed system from the beginning to end. As the proposed system is divided into different functionality, it needs to check the result after the completion of each functionality. Each step as illustrated in Figure 4.1 has a significant impact on the next step of the system. Agile software development is an approach to software development under which requirements and solutions evolve through the collaborative effort of self-organizing and cross-functional teams and their customer(s)/end user(s). It advocates adaptive planning, evolutionary development, early delivery, and continual improvement, it also encourages rapid and flexible response to change. Following agile methodology can result the maximum efficiency of the software development.

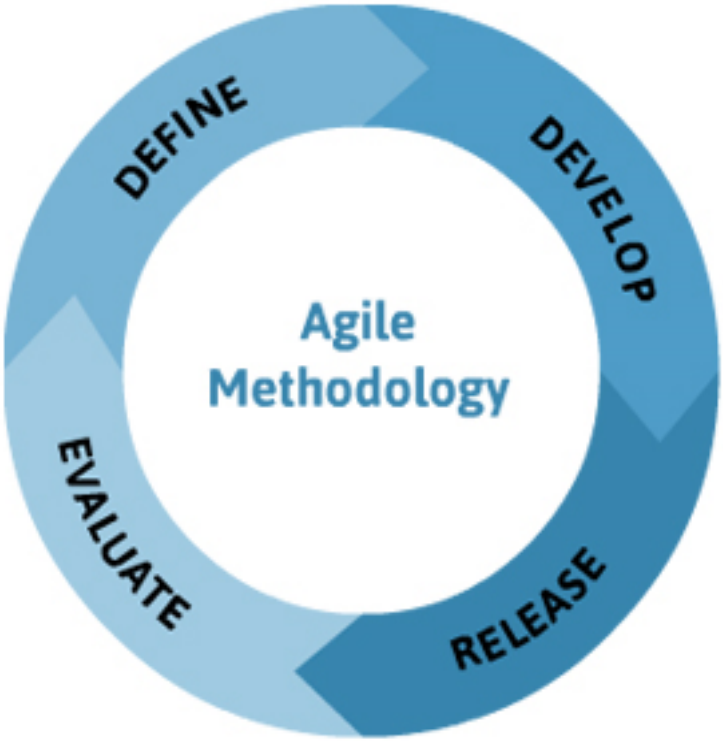

Figure 4.1: Agile Methodology

4.1 Project Team Organization

We have divided our project in three main parts and distributed the task among six group members as follows:

task Distribution in Project	
Task	Assigned Group Members
Design and Interfacing of hardware	1. Maj. Abu Sajjad Nowab 2. Maj. Reazul Bhuiya
Image Processing and Algorithm development	1. Maj. Shamim Rahman 2. Akash Poddar
Web and Mobile application development	1. Shahriar Kabir Tarafder 2. Shahriar Iqbal
Documentation (project proposal, SRS, project plan, project scheduling, estimation of cost etc.)	1. Maj. Abu Sajjad Nowab 2. Maj. Reazul Bhuiya 3. Maj. Shamim Rahman 4. Akash Poddar 5. Shahriar Kabir Tarafder 6. Shahriar Iqbal

Besides, a Project Director is continuously monitoring the overall progress.

Chapter 5

Work Plan

5.1 Work Breakdown Structure

The project work plan is attached to this paper as appendix.

5.2 Resources

The resource distribution of the project is shown in the attached gantt chart. Besides, documentations (project proposal, SRS, project plan, project scheduling, estimation of cost etc.) are attached with the project plan.

Chapter 6

Milestones

The milestones of the project are shown in table 6.1.

Project Milestone		
Milestone number	Title	Forecast Date
1	Completion of Idea Selection	18-2-19
2	Analysis Completion	27-2-19
3	Design Completion	21-3-19
4	Web and Android App Completion	21-8-19
5	Training Materials Completion	22-9-19
6	Documentation Completion	29-9-19
7	Deployment Completion	16-10-19
8	Project Completion	24-10-19

Table 6.1: Milestone Table

Chapter 7

Risks, Constraints, Assumptions

This section will discuss initial Risks, Constraints and few Assumptions that were identified during initial project planning. Assessment attempts to identify, characterize, prioritize and document a mitigation approach relative to those risks which were identified prior to the start and during the project time-line. The Risk Assessment will be continuously monitored and updated throughout the life of the project, with further assessments which the Project Manager is allowed to amend.
A constraint in project management are the restriction that limits project's desired outcome. Project constraint is one of the important factors that influences the project. It is a determinant factor to decide whether to continue the project or not. Basing on cumulative study, few constraints are identified for future references and address those once needed.
To mitigate gaps within the risks and constraints and to allow the project move forward, few assumptions are made for supporting the decision of the stakeholders.

7.1 Risks

The risks of the project are discussed in Risk table.

7.2 Constraints

7.2.1 Project Constraints

The following represent known project constraints:

1. Project funding sources are limited, with no contingency.
2. Due to the nature of administrative permission, resource (weapon) availability is inconsistent.
3. Use of a specific kind of target paper helps in identifying the bullet impression.

7.2.2 Critical Project Barriers

Unlike risks, critical project barriers are insurmountable issues that can be destructive to a project's initiative. In this project, the following are possible critical barriers:

1. Removal of project funding

Risk of Project					
Risk Id.	Risk Description	Mitigation Plan	Contingency Plan	Impact	Likelihood of occurrence
1	Project Size				
i	Person Hours	Assigned Project Manager, engaged consultant, comprehensive project management approach and communications plan	Reduce working hour by increasing project time length	Morale will remain low and will affect the production rate	Certainly
ii	Estimated Project Schedule	Created comprehensive project timeline with frequent baseline reviews	Increase in unforeseen time.	Impair the Chronnoogy of development	Certainty
2	Project Definition				
i	Users Limited Knowledge Level	Assigned Project Manager(s) to assess global implications	Knowledgeable of user area only		Likely
ii	Project Scope Creep	Scope initially defined in project plan, reviewed to prevent undetected scope creep	Scope generally defined, subject to revision	Broader scope may miss	Unlikely
iii	Project Deliverables unclear	Included in project plan, subject to amendment	Redefine the deliverables	Delay in implementation	Unlikely
iv	Unrealistic Project Deliverables	Included in project plan, subject to amendment	Estimated, not clearly defined	Untimely milestone achievement, overall outcome unspecific to the requirement	Somewhat likely
v	Cost Estimates Unrealistic	Included in project plan, subject to amendment as new details regarding project scope are revealed	Thoroughly predicted by industry experts using proven practices with a percentage margin of error	Likely imposed delays	Unlikely
vi	Timeline Estimates Unrealistic	Timeline reviewed monthly by three groups (Project Manager and Steering Committee) to prevent undetected timeline departures	Timeline assumes no derailment		Somewhat likely
vii	Number of Team Members Unknowledgeable in regards to the topic	Project Manager and consultant to identify knowledge gaps and provide training, as necessary	Team well versed in business operations impacted by technology	Practical outcome will actually lack project outcome	Unlikely

Risk of Project					
Risk Id.	Risk Description	Mitigation Plan	Contingency Plan	Impact	Likelihood of occurrence
3	Project Leadership				
i	Unit Commanders limited understanding and less interested to implement	Frequently seek feedback to ensure continued support	Increase leaning on the topic and highlight benefits to make them more enthusiastic	Proper guideline and milestone achievements will be missing	Unlikely
4	Project Staffing				
i	Project Team Availability	Continuous review of project momentum by all levels. Consultant to identify any impacts caused by unavailability. If necessary, increase commitment by participants to full time status	Reduced work plan	Other tasking will be delayed	Somewhat likely
ii	Project Team's Shared Work Experience creates poor working relationship	Comprehensive Communications Plan	Increase simultaneous group work time	Poor outcome and untrusted relationship	Somewhat likely
iii	Weak User Participation on Project Team	User Group Participants coordinated by full time employee	Increase group work by providing incentives	Outcome will be poor	Unlikely
4	Project Management				
i	Quality Management Procedures unclear	Revise the plan	Well-defined and accepted	Unrealistic UI	Unlikely
5	Software/Apps				
i	Team's Lack of Knowledge of Package	Comprehensive vendor evaluation and selection process incorporated into Project Plan will assist the team in better understanding the package offering(s)	Arrange training for Conceptual understanding	Unlinked Integration	Somewhat likely
ii	Team's Involvement in Package Selection Impacts Success of Implementation	Comprehensive vendor evaluation and selection process incorporated into Project Plan	Redundant responsibilities with correct selection of packages	Improper result	Unlikely

2. Unavailability of resources (Weapon)
3. Natural disasters or acts of war

Should any of these events occur, the Project Plan would become invalid.

7.3 Assumptions

The following assumptions were made in preparing the Project Plan:

1. Bangladesh Army is willing to change range analysis system to advance the utility of the firer according to the new technology.
2. Management will ensure that project team members are available as needed to complete project tasks and objectives.
3. Failure to identify changes to draft deliverables within the time specified in the project time-line will result in project delays.
4. Project team members will adhere to the Communications Plan.
5. All project participants will abide by the guidelines identified within this plan.

The Project Plan may change as new information and issues are revealed.

Chapter 8

Financial Plan

A Financial Plan identifies the Project Finance (i.e. money) needed to meet specific objectives. The Financial Plan defines all of the various types of expenses that a project will incur (labor, equipment, materials and administration costs) along with an estimation of the value of each expense. A proposed financial plan for the project is tabulated here.

Financial Plan of Project	
Item	Estimated Cost
Zeroing Tool	4000.00 BDT
Gear Motor	1000.00 BDT
Motor Driver	400.00 BDT
Arduino Mega	750.00 BDT
Linear Actuator	3500.00 BDT
High volt Power Source	500.00 BDT
Prototype Metal Body Structure	4000.00 BDT
Other hardware tools	3000.00 BDT
Transportation Purpose	2000.00 BDT
Typing, Drafting, Binding and Paper etc.	1500.00 BDT
Total Amount	20650.00 BDT

Appendices

1. Base project file.