

Project Plan

Client: Blind Individuals of Bangladesh

Project Name: Bangla Book Reader for the Blind

Version: Project Plan, Draft V0.1, Final V1.0

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1 Introduction

1.1 Document Purpose

This document is a project plan which describes the overall approach and process taken to manage and execute this project. It gives a concise and clear summary about the key elements of the project such as the objectives, resources, deliverables, work distribution and structure of this project etc. It contains all information about the project that may be of interest for members, stakeholders and others related to this project.

1.2 Associated Documents

Contents of the project team organization, work plan and milestones are from Gantt charts and reports generated by Microsoft Project and are attached with this document.

2 Project Scope

This section specifies the objectives, scopes and success criteria of this project.

2.1 Objectives

1. To build a device that can read Bangla text out loud using Optical Character Recognition with minimal errors.
2. To build a good text to speech API for understandable speech from Bangla printed books/documents.
3. Build a portable device that can be carried around for use.
4. To build an android application for remote use so that user doesn't have to own a computer to use it.
5. For users to be able to adjust speed, volume etc. and therefore to make the application as user friendly as possible.

2.2 Success Criteria

1. Since the device is for the use of blind people, app interface must be as user friendly as possible. For their ease of use the UI should be kept as simple and easy to use as possible.

2. Devices similar to ours have been made outside of Bangladesh before and come with hefty prices not affordable by the masses. So, this device requires to be cost effective and affordable.
3. The purpose of this device is to read out loud Bangla text and requires high image to text accuracy.
4. The text to speech API should be in Bangla and needs to be understandable and clear.

3 Deliverables

3.1 To client

For this project Bangladeshi individuals with blindness or low vision are the clients. The deliverables to clients are initially the detailed characteristics and features of the device to be developed after interviewing them and learning their requirements. After the proposal is evaluated and approved software designing, dataset creation, testing of OCR and debugging is done by the team. After that hardware implementation and integration of all parts is done. This prototype then is tested by developers and then given to the clients for test use. After further evaluation, client is informed about the delivery date.

3.2 From client

Initially clients are interviewed and asked thoroughly about their requirements and expectations. Team lists this requirement, considers other factors and comes up with final requirements. Throughout development client should be involved and their feedback should be taken to always be clear about the requirements. After prototype is handed for user testing, there feedback should be taken to evaluate of the project is a success of not.

4 Project Approach

This project follows a combination of the Waterfall model which is a plan-driven approach and the agile method. In the plan driven approach all the activities are planned in advance and are evaluated according to the deadline. Whereas, in the agile method activities are broken into smaller tasks, plans are made incrementally and updated regularly to suit client requirements. Agile method ensures rapid and constant delivery of different version as development progresses. For this project all activities had been scheduled and planned in advance. Tentative deadlines were made. But as development progressed activities and tasks were changed according to customer feedback and continuous updates were made as followed by the agile process. Deadlines also have been delayed due to unavoidable circumstances such as the pandemic.

4.1 Project Team Organization

As Generated from the Gantt chart our project was divided and distributed in the following manner:

Task Name	Group Member
Software Design	1. Shariar Riday 2. Shahir Abdullah 3. Zubair Hasan 4. Nazifa Hamid 5. Takik Hasan
Algorithm Study, Model Training and Debugging	1. Shariar Riday 2. Takik Hasan 3. Zubair Hasan
Dataset Creation	1. Nazifa Hamid 2. Zubair Hasan
Android App Development	1. Shahir Abdullah 2. Zubair Hasan 3. Shariar Riday
Integration	1. Shahir Abdullah 2. Shariar Riday 3. Zubair Hasan
Documentation	1. Shahir Abdullah 2. Nazifa Hamid 3. Zubair Hasan 4. Shariar Riday 5. Takik Hasan

5 Work Plan

This section contains the work plan of this project and its resources mapped from the structure and sub-structure of the work plan.

5.1 Work Breakdown Structure

The groups and subgroups of work breakdown is shown in the Gantt chart attached to this document.

5.2 Resources

The Gantt chart showing resource distribution and status is attached with this document.

6 Milestones

Following are the milestones of this project from the milestone report generated by MS project.

Milestone Number	Title	Forecast date
1	Project Approval Completion	Mon 9/3/20
2	Software Design Completion	Mon 9/12/20
3	Program Coding and Model Training Completion	Wed 4/3/20
4	Testing Completion	Mon 27/4/20
5	Documentation Completion	Thurs 1/14/21
6	Deployment Completion	Mon 1/11/21
7	Project Completion	Thurs 1/21/21

7 Risks, Constraints, Assumptions

In this section the risks, constraints and assumptions of this project is discussed.

7.1 Risks

Risk Id	Risk Description	Mitigation Plan	Contingency Plan	Impact	Likelihood of occurrence
1	Project Organization	Roles and responsibilities, Management and co-ordination.	Better management and reinforcement of responsibilities.	Project will be all over the place and not efficient.	High
2	Project Governance	Project Status Review, Continual Improvement, Resource Utilization etc.	Good co-ordination by project manager and close observation to progress.	Slow progress and little improvement.	Medium

3	Failure of Change Management	Change impact Analysis, Requirement prioritization, scheduling change	Always taking feedback from client and following agile method.	Might result in loss of resources such as time and money.	High
4	Failure of Resource Management	Planned use of resources, Evenly Distributed work	Keeping track of each people and non-people resources.	Loss of resources	Low
5	Unclear Objectives	Structured Documentation	Starting with setting clear objectives.	Performance affected and low competency.	Low
6	Unclear Requirements list	Interview with client, Constant communication, clear Documentation.	Keeping communication with users regularly.	Failed project	Medium
7	Unrealistic timeline and budget	Use of good software to develop schedule, financial plan, Timeline and schedule review.	Schedules and costs should regularly be measured against estimated.	Delay in completion	Medium
8	Insufficient/In appropriate staff	Addition of required staff, training and learning period.	Identifying what skills need to be acquired by which team member and allowing them to learn.	Delay in completion, unsuccessful completion of project.	Low
9	Lack of Leadership	Selecting good leader/manager. Leadership training.	Evaluating the team members and selecting better leader.	Poor performance, lack of clear goals.	Low

10	Lack of interest from Blind users	Asking for regular feedback throughout developing, making device cost effective.	Providing users training on how to use, reducing cost.	Unsuccessful project.	Low
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7.2 Constraints

Following are constraints of this project:

1. There is no offline mode. This device requires constant internet connection for image to text conversion.
2. The text detection model requires very high accuracy otherwise gives bad performance.
3. The UI of the app has been made as simple as possible. Despite that, more features could be added.

7.3 Assumptions

1. End users will be available to test during the time of testing
2. Project costs will stay the same as initially budgeted costs
3. The project scope will not change
4. Project will follow both Waterfall model approach and agile method approach.

8 Financial Plan

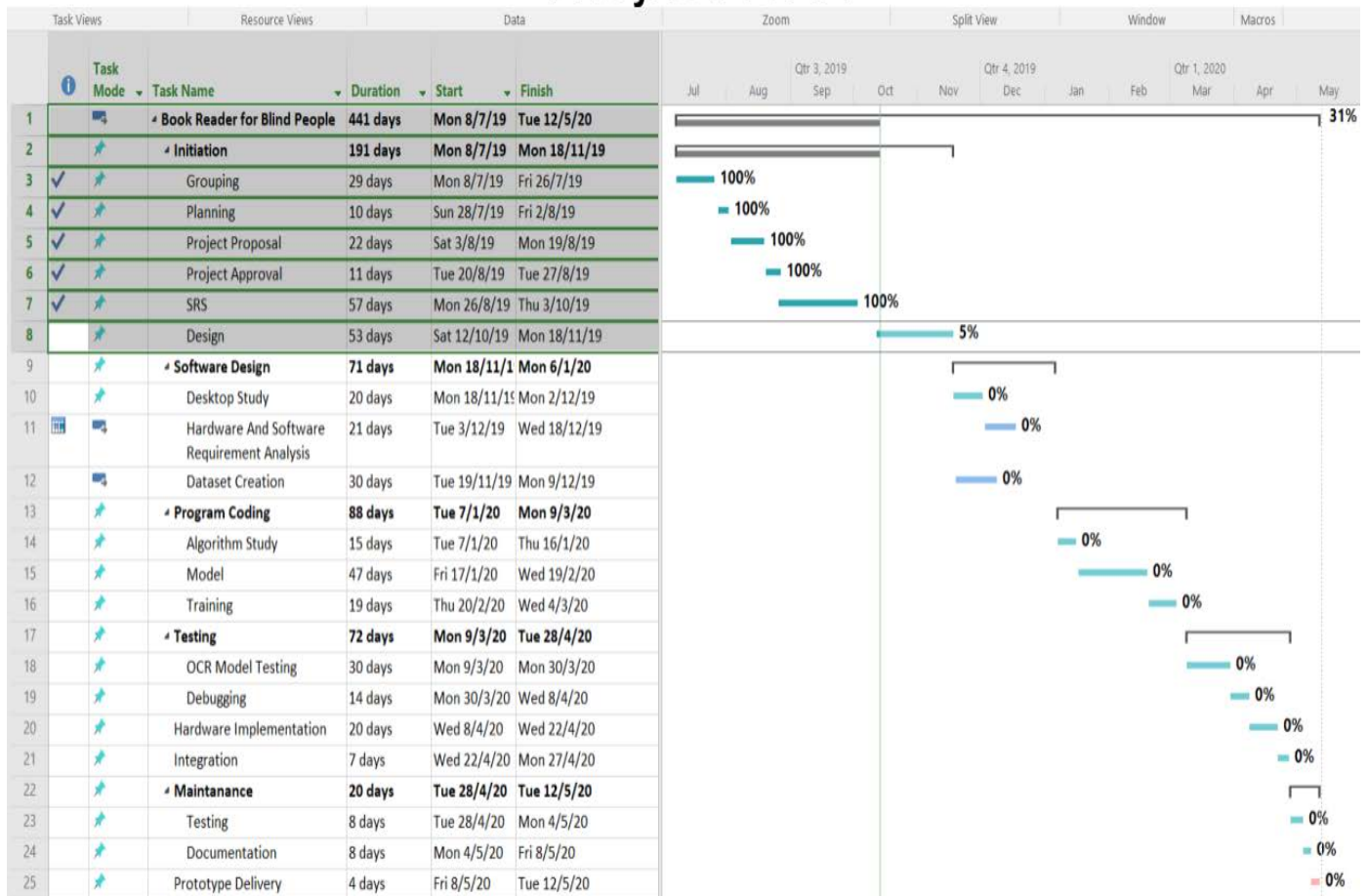
Financial plan involves the detailed account of direct, indirect, tangible and intangible costs. All costs are estimated in terms of money and finally a total expense report is generated. Following is the financial plan for this project.

Item no.	Item	Cost
1	Arduino Uno	420
2	Bluetooth Module (HC-05)	$50 \times 2 = 100$
3	Potentiometer	$50 \times 4 = 200$ tk
4	Buttons	$400 + 100 \times 2 + 100 = 700$ tk
5	Book Stand (Wood, Alloy Bar, Mobile Holder)	$85 \times 2 = 170$ tk
6	Cost of Carpenter	1000
7	Breadboard	10 tk
8	Capacitor	20 tk
9	Resistor	296 tk
10	Wires	100 tk
11	Circuit Board Design	200-300 tk
Total		3316 tk

Appendices

Appendix A - Work Plan

PROJECT PLAN

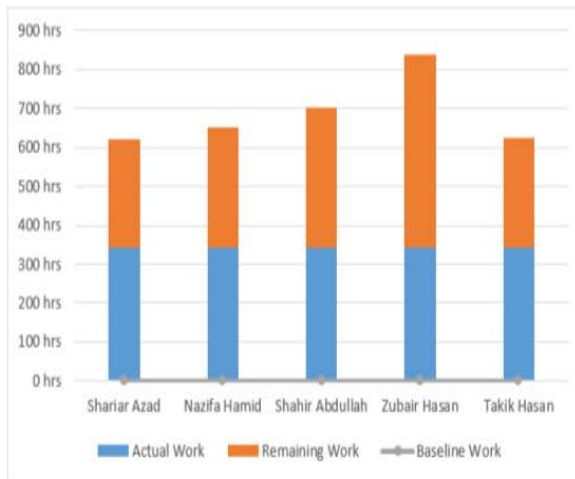


Appendix B – Resource sheet

RESOURCE OVERVIEW

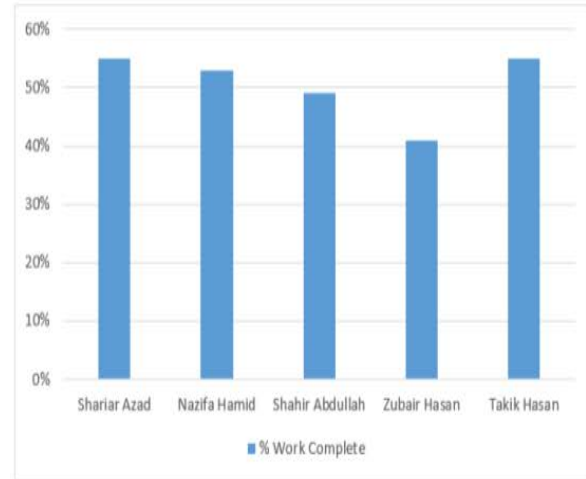
RESOURCE STATS

Work status for all work resources.



WORK STATUS

% work done by all the work resources.



RESOURCE STATUS

Remain work for all work resources.

Name	Start	Finish	Remaining Work
Shariar Azad	Mon 8/7/19	Tue 12/5/20	276 hrs
Nazifa Hamid	Mon 8/7/19	Tue 12/5/20	308 hrs
Shahir Abdullah	Mon 8/7/19	Tue 12/5/20	360 hrs
Zubair Hasan	Mon 8/7/19	Tue 12/5/20	496 hrs
Takik Hasan	Mon 8/7/19	Tue 12/5/20	280 hrs