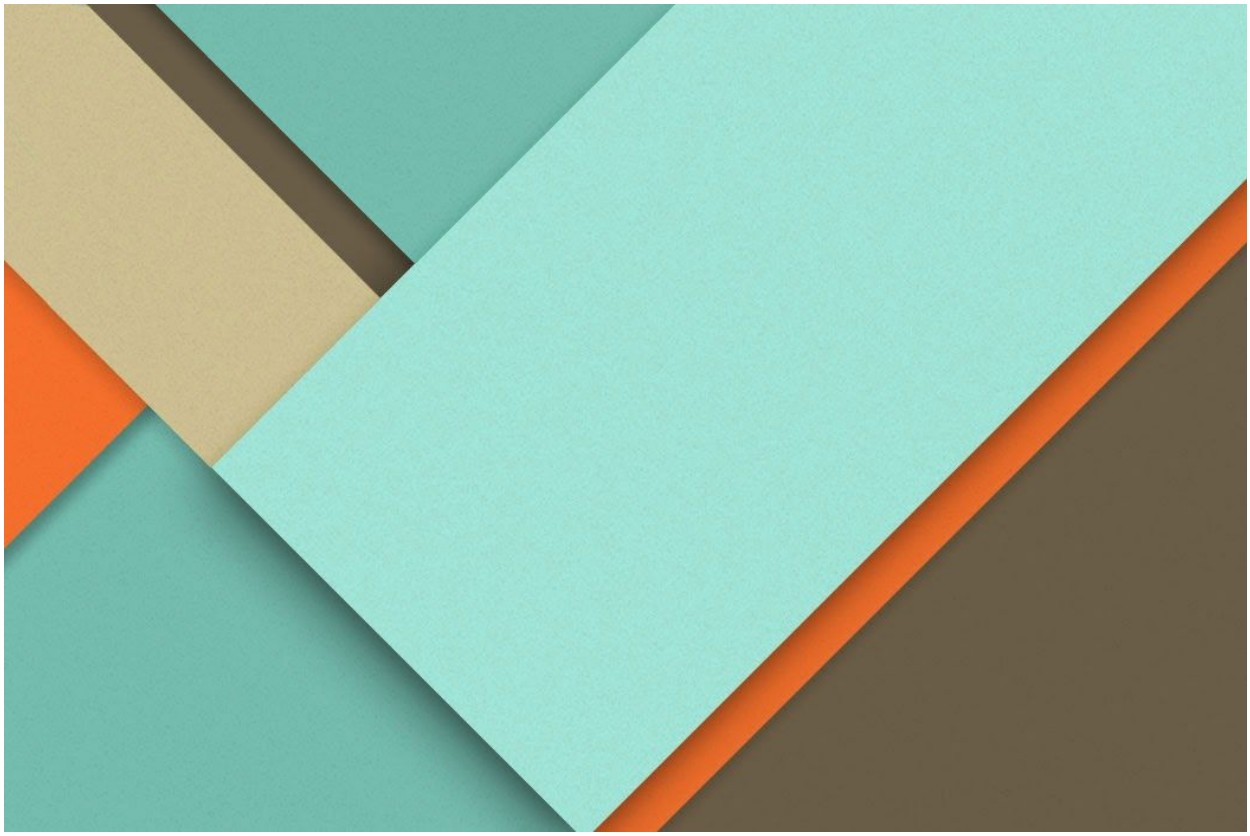


Project Planning Report

18.10.2020

McDefect Solutions -

Chinmay Naik | Chinmay VG | Tezan Sahu | Suchit Sharma | Ayush Pandey

203190016 | 193109018 | 170100035 | 170040041 | 193300007

IIT Bombay

Overview

After finalizing the problem definition and technology landscape assessment, the work was divided and distributed along with feasible deadlines ensuring smooth work-flow with discussions, preventing confusion regarding responsibilities, and monitoring the success of project tasks.

Project Task Breakdown

The breakdown should be MECE (mutually exclusive and cumulatively exhaustive) for a proper understanding of the tasks and their relation with each other. It is important to know what other tasks are prerequisites for each task. Additionally, a timeline and set of responsibilities will be prepared according to it.

The project was divided into 4 phases -

I. Definition, Planning, and Project Research
   A. Background Research + Problem Definition
   B. Technology Landscape Assessment
   C. GANTT + RASIC Charts
   D. Business Model Canvas
   E. Model and Architecture finalization
   F. UML diagram

II. Model and Pipeline Development
   A. OpenCV pipeline for object detection & feeding into the model
   B. Model Training for Demo
   C. Backend to host model & expose it as an API

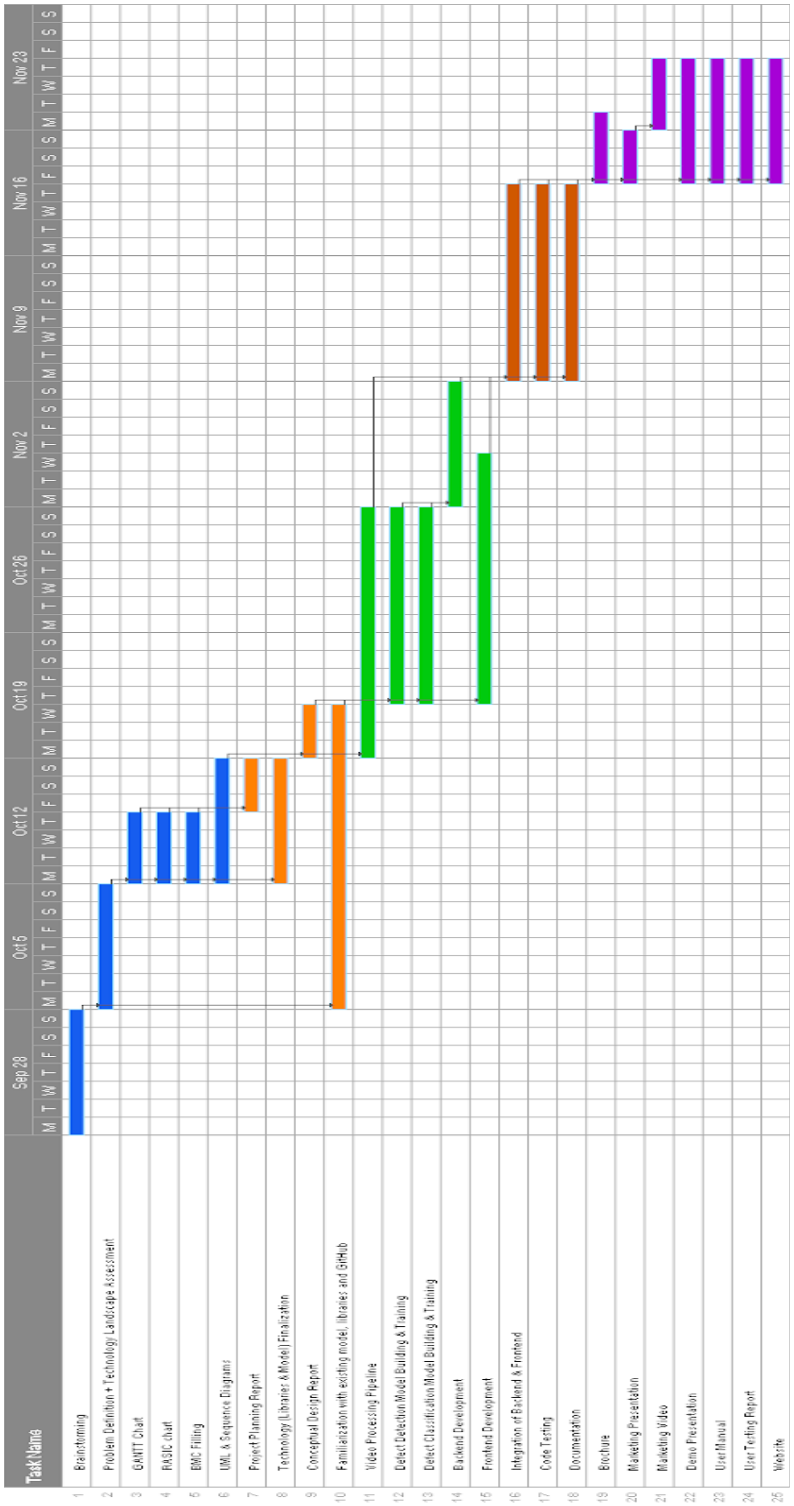
III. Interface Designing and Code Testing
   A. User Interface Design -
      1. To upload image for results
      2. Realtime video stream
   B. Code Testing
   C. Documentation

IV. Marketing Products
   A. Brochure and User Manual
   B. Marketing Presentation and Video
   C. Demonstration Presentation

Kindly refer to the table for the breakdown-

TASK CODE	TASK	TASK PREREQUISITES	Est. TIME
1A	Brain Storming for ideas	-	1 week
1B	Problem definition + Technology Landscape assessment	1A	1 week
1C	GANTT Chart	1B	4 days
1D	RASIC Chart	1B	4 days
1E	Business Model Canvas	1B	4 days
1F	UML and Sequence diagrams	1B	1 week
2A	Project Planning Report	1C, 1D, 1E	3 days
2B	Libraries and Model Finalization	1B	1 week
2C	Conceptual Design Report	1F	3 days
2D	Familiarization with Existing Models	1A	2 weeks
3A	OpenCV Pipeline	1F	2 weeks
3B	Model Training - 1	2C, 2D	1 week
3C	Model Training - 2	2C, 2D	1 week
3D	Backend & API development	3B, 3C	1 week
4A	Frontend design development	2C	2 weeks
4B	Backend & Frontend integration	3A, 3D, 4A	3 days
4C	Code Testing	3A, 3D, 4A	1 week
4D	Documentation	3A, 3D, 4A	1 week
5A	Brochure + User Manual	4B	1 week
5B	Marketing Presentation + Video	4B	4 days
5C	Demonstration Presentation	4D	1 week
5D	Unit Testing Report	4C	1 week

Project Timeline (GANTT Chart)



Roles and Responsibilities (RASIC Chart)

Responsibilities for different tasks were assigned to team members based on their interests and strong areas, which is represented in the form of the RASIC chart below.

RASIC Chart

RASIC Chart						
Project Phase	Tasks	Tezan Sahu	Suchit Sharma	Chinmay VG	Chinmay Naik	Ayush Pandey
Phase - 1	Brainstorming for ideas	R	R	R	R	R
	Problem definition + Tech. landscape assesment	R	R	R	R	R
	GANTT Chart	I	I	R	I	I
	RASIC Chart	I	I	I	R	I
	BMC Filling	I	R	I	I	I
	UML & Sequence Diagrams	R	I	I	I	I
Phase - 2	Project planning report	I	R	R	I	I
	Languages/libraries/models Finalization	R	I	I	I	I
	Conceptual design report	S	I	I	R	I
	Familiarization with existing model, libraries and GitHub	R	R	R	R	R
Phase- 3	OpenCV pipeline for video acquisition	R	I	S	R	I
	Model training for Dataset-1 (Casting: defect detection)	R	I	R	I	I
	Model training for Dataset-2 (Casting: defect classification)	R	R	I	I	I
	Backend and API development	R	I	I	I	I
Phase - 4	Frontend interface (design + development)	R	I	I	I	I
	Backend + Frontend Integration	R	I	I	I	I
	Code testing (Models + backend + frontend)	R	R	R	R	R
	Documentation (Models + backend + frontend)	I	I	R	R	I
Phase - 5	Brochure	S	R	I	I	I
	Marketing presentation	S	R	I	I	I
	Website	R	I	I	I	I
	Marketing video	S	R	I	R	I
	Demo presentation	R	R	R	R	R
	User Manual	S	I	R	R	I
	Unit testing report	S	I	R	I	I

Project Monitoring

I. Real-time Team Performance Monitoring

From GANTT and RASIC, we can monitor whether the performance is moving in line with the assigned time. It will help us identify the task/team member which needs more focus and make changes accordingly.

II. Regular Status and Progress Reports

Biweekly meets will ensure regular updating of tasks completed by team members and different reports submitted will ensure the quality and details of the work done by each member for different tasks.

III. Recommendations and Suggestions

After completion of different tasks, providing recommendations and suggestions is important for getting better results. It will also be ensured that recommendations are implemented up to the best level.