Task Management and Scheduling Software

Review 3

Version: 1.1

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I. Acknowledgement

We would like to express our special thanks to our teacher Dr. Swathi JN ma'am who gave us the golden opportunity to do this wonderful project "Task management and Scheduling" , which also helped us in doing a lot of Research and learning many new things. We are also really thankful to our parents for their valuable support during the course of our project. We have learnt a lot through the course of this project and will take these learnings to develop our product into a Full-Fledged Industry Level Product.

II. Executive Summary

Sub stage	Text
Overview and project aim	This project involved the design and construction of a website "Task management and scheduling". This website helps to manage and schedule

	tasks within a project in a timely manner.
Outline of Process and Planning stage	Initially, individual components of the website were designed separately. Team members brainstormed and integrated ideas for components. Sketches were created and discussions were held regarding the proposed function of the components and the overall website.
Outline of initial design stage and prototype testing	Following development of these designs, some components were constructed and tested both individually and in combination with other components. Early prototypes include the proper scheduling of each component.
Outline of evolution of the website and modifications	After testing of prototypes, the website was modified to improve efficiency and overall functionality. Some components were added to the website, such as ‘History’ and ‘Repository’ of the previously completed projects.
Outline of construction and testing of final website (including issues and changes) Statements about final state of website	In construction of the final website, some changes were made to improve reliability and effectiveness. History module was added in order to keep track of all the

	previously completed projects. Similarly, more efficient graphs were implemented to show progress of the project more effectively.
Summary of results	The average operating time in testing of the final website was 6 minutes and 30 seconds. Tests conducted on the final website also yielded consistent results in terms of functionality.The time taken for navigation and other module functions was pretty efficient.
Outline of predicted competition result	As such, the performance of the website during formal assessment is expected to be successful, and of a similar time, providing no issues in functioning or unknown alterations occur prior to the conclusion of the website.

III. Table of Contents

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Table of Definitions, Acronyms and Abbreviations
Table of References

VI. Abbreviations

HTML- HyperText Markup Language
CSS - Cascading Style Sheets
MDB - Material Design Bootstrap

VII. Symbols and Notations

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VIII. Introduction

A. Objective

The Main Objective of our Task Management and Scheduling Software is to forge an integrated task and schedule management system for Product Development Teams where all of the required needs and information,like Tasks, Schedule, Milestones and Progress of a Project are met through easy-to-use and intuitive data aggregation, where requests are automatically scaled and fulfilled according to the number of teams and users, and their project related details are easily generated and archived. We also look to have real time access where updating to any part of the database, should mean the required change should happen in the other parts of the database.

B. Motivation

The Motivation for the Task Management and Scheduling Software is that we want to ensure a computerized product development management system that replaces the current project management systems used to monitor the data of projects, and ensures that the management task is eased and its performance, security, efficiency and effectiveness is also catered to. We are looking to create and design a system that has appropriate methodology, strategy, easy-to-understand and easy-to-use, thus giving the people in charge of managing and working on projects an opportunity to look at better results and reduce unnecessary overhead costs.

C. Background

Our Task Management and Scheduling Software was ideated from the thought that there is no thorough task management and scheduling software that captures the real essence of the necessary features for a team to work effortlessly on a project via collaboration and cohesiveness, thus we have kept our product simple and suffice as it concentrates on the essential features like Tasks, Schedule, Milestones, Progress, Project History etc..and many task management and scheduling softwares do not have proper systems to cater to the vast magnitudes of requirements of projects, and rely on ineffictive management of critical data.

IX. Project Description and Goals

A task management and scheduling software is one of the most quintessential features of any Software Development Team. Any Software Product developed is always the result of a thorough and detailed development process, that involves various criteria right from Project Planning to Budgeting to Risk Analysis. There is a need for a portal that provides a few of the essential features of a Project Management System, while keeping it informative and ensuring user-friendliness at the same time. Through Our Project, we would like to develop a Product that models a task management and scheduling software which includes features like Management and Scheduling of tasks from a Project Managers Perspective. In Addition to Scheduling, we will also be developing a feature to visualize the progress of user's tasks. The Product will be modelled around the Agile Mode of Project Management and its features. It is a web-based portal or application that can be used by software companies, project coordinators and project guides.

X. Technical Specification

A. Software Requirements

1.Express Server

2.Node.Js Database

3.HTML

4.CSS

5.JavaScript

6.React.Js

7.Sass

8. MDB

B. Hardware Requirements

1. 1GB RAM
2. 1.6Ghz CPU,32bit
3. 1GB disk space

Github Link : https://github.com/deepcr7/SWE-Project---Task-Management-and-Scheduling-Software---TaskX

XI. Design Approach and Details

A. Design Approach/Materials and Methods

We have our requirements(task management, scheduling , budgeting, visualization of progress) . Our Initial commitments are fixed, as there is no scope for further addition of requirements, the waterfall model is best suited. For our project, this model seems simple and easy to understand and use. The rigidity of the model ensures that we complete our requirements. Each phase has specific deliverables and a review process.

There is a good flow between Communication-Planning-Modelling-Construction-Deployment. We will not have to face significant re-work as the requirements are clearly defined from the beginning. This Model also offers us

Detailed Documentation, which will help us to get better clarity into the project and also help future reference.

In our project, each subsystem does not require direct communication with other subsystems to perform its respective function and can work efficiently by directly accessing the database for required details.For example, creation of milestones doesn’t require direct communication with task subsystem as all the required details of task are available in the shared database.

Since there are multiple events related to projects, tasks , milestones, scheduling, etc that come through to the system, the Interrupt Driven Model is most suitable.The Independent allocation of every event by the interrupt vector, by passing it to the necessary handler and thereafter processing to change the system , makes this model more suitable.

B. Codes and Standards

- The user should be able to have a secure method of authentication, this is provided via encryption algorithms like SHA-256.
- The user's data is protected at all times and the project's data can only be accessed by its members.
- The response time of the website page should be less than 350ms.
- As a number of tasks are scheduled during the project, the tasks and milestones should be categorized based on their current status of completion.

- The Schedule should be auto generated from the Tasks and Milestones Data of that project.

- The progress of the project as a whole should be displayed through graphs in addition to individual completion status of each task and milestone.

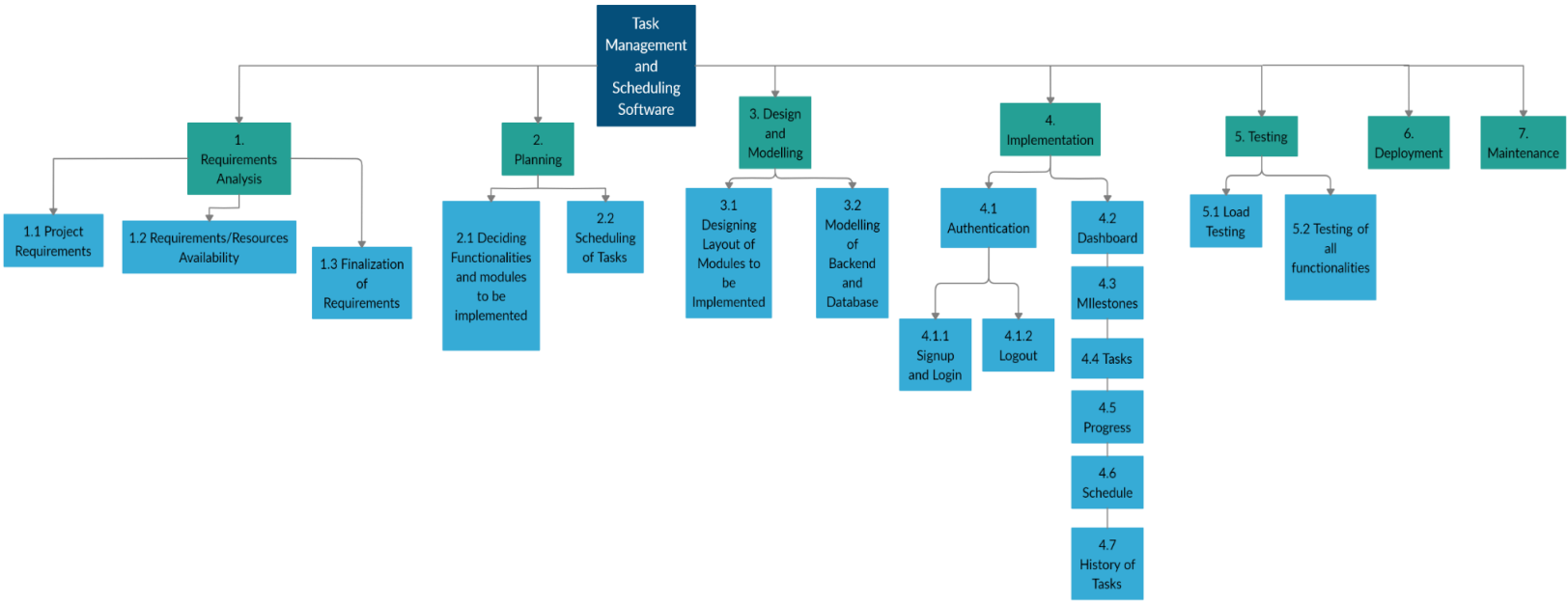
C. Constraints, Alternatives and Tradeoffs

The website prepares a schedule for the project assigning certain duration and team members to each task. We can check the progress of the project we are dealing with and also keep track of all the projects completed previously.But it is outside the scope of this task management system to facilitate users with other features like risk management,cost and effort estimation, resource management and also other functionalities of requirement management and designing tools.

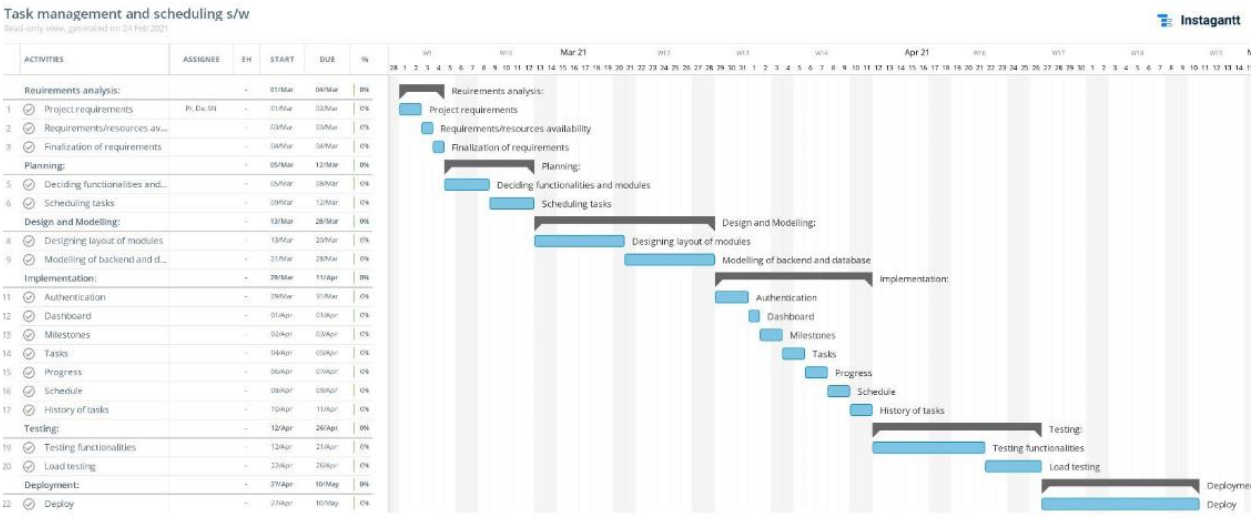
The features offered in this website can be alternatively achieved through a combination of different task management and scheduling softwares or a single project management software. The website compromised in other project management features discussed above to function more efficiently in the aspects of task management, scheduling and progress generation.

XII. Schedule, Tasks and Milestones

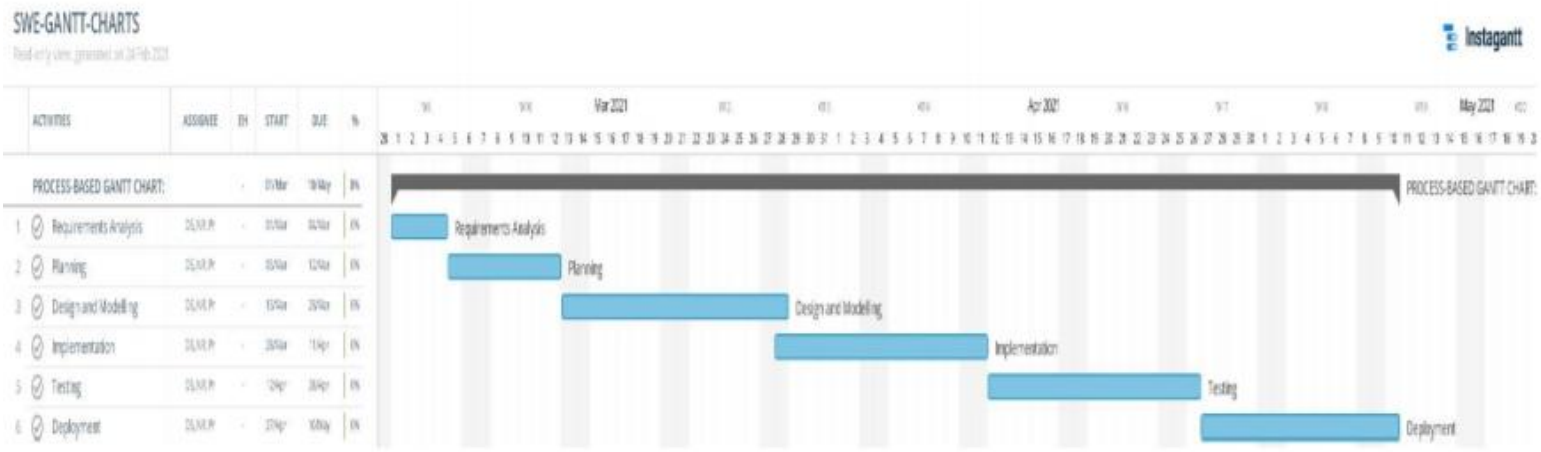
A. Work Breakdown Structure



B. Product Based Gantt Chart



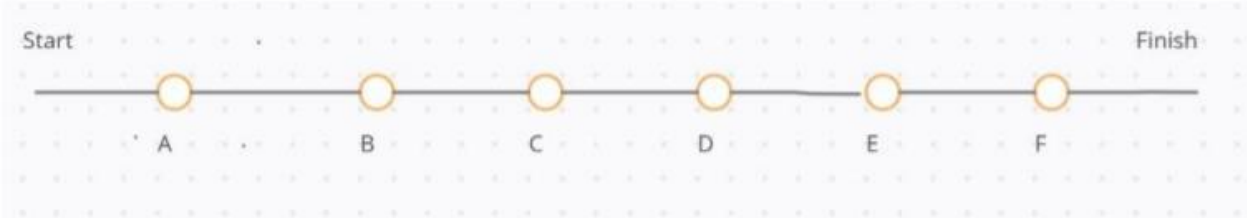
C. Process Based Gantt Chart

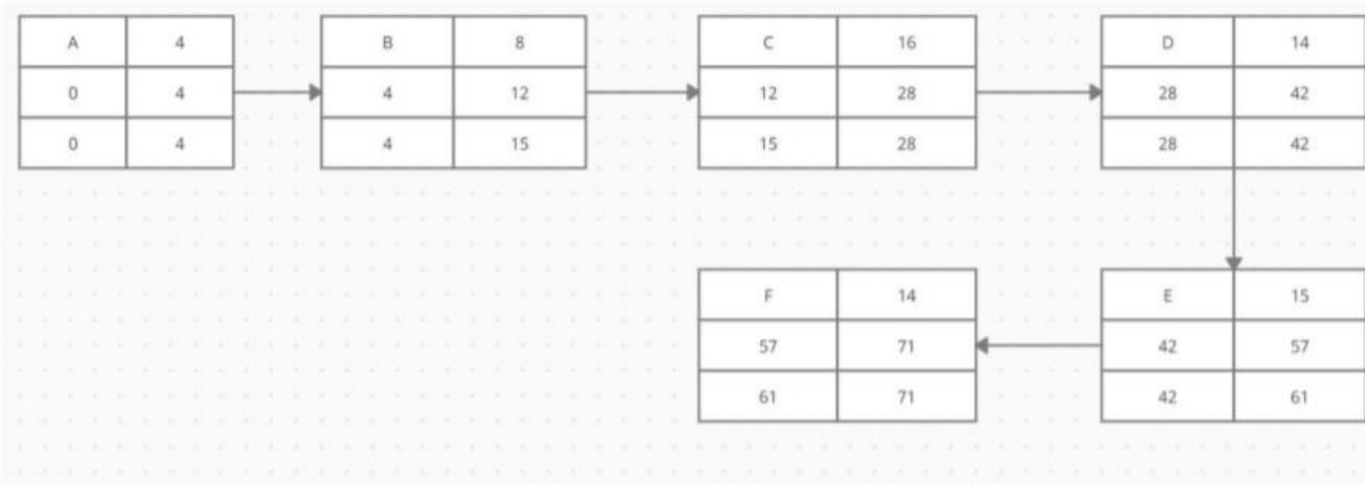


D. Activity Network

Activity Network

Tasks	Label	Predecessor	Duration	Staff Required
Requirement Analysis	A	-	4 Days	3
Planning	B	A	8 Days	3
Design and Modelling	C	A,B	16 Days	3
Implementation	D	A,C	14 Days	3
Testing	E	A,D	15 Days	3
Deployment	F	D,E	14 Days	3





E. Timeline Chart

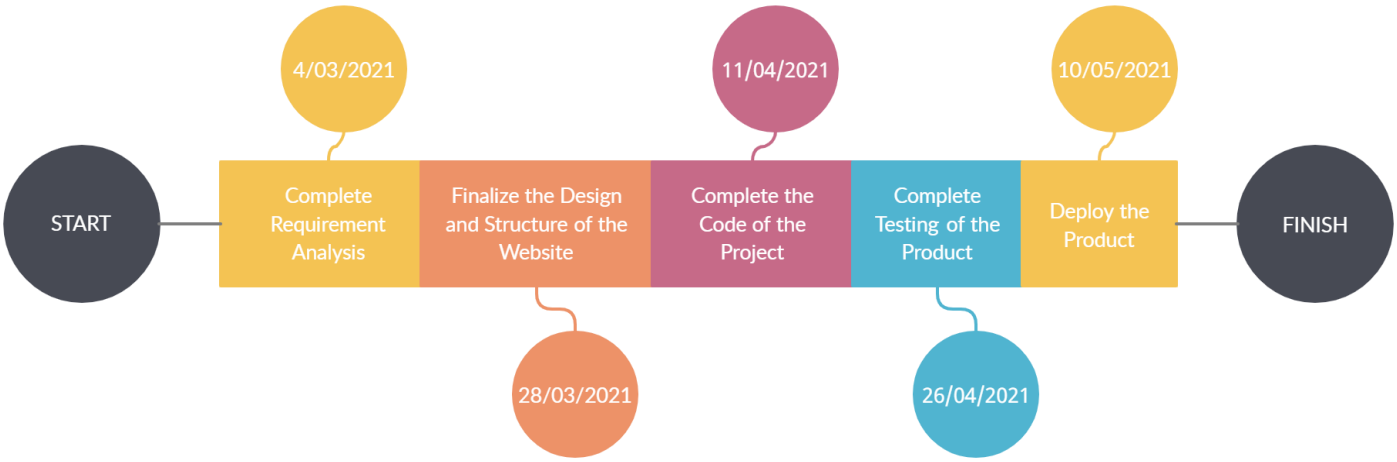
Milestones:

- Complete Requirement Analysis – 4 th March 2021
- Finalize the Design and Structure of the Website – 28th March 2021
- Complete the Code of the Project – 11th April 2021
- Complete the Testing of the Product – 26th April 2021
- Deploy the Product – 10th May 2021

Deliverables:

- Complete Documentation of the Project
- Authenticated Website
- Task Management Tool
- Progress Visualization Tool

• Task Scheduler



XIII. Project Demonstration

Video Link: https://www.youtube.com/watch?v=qBmMLfo55RM

XIV. Cost Analysis/Result and Discussion(as applicable)

For our Task Management and Scheduling Software, majority of the cost comes in setting up a platform that allows for maximum users, so preferably the majority of the cost is related to providing a Cloud Platform for a better server to ease connectivity between multiple projects and users. Other Sources of Costs will include business development in the form of social media reach, advertising, partnership with companies, etc