

EXPERIMENT 6

Workbreakdown structure and scheduling using Gantt chart

Ferry Ticketing System

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TE COMPS B - Batch B/B2

AIM

To make a WBS and Gantt Chart for the problem statement selected.

PROBLEM STATEMENT:

In the ferry ticketing system's class diagram, the central classes include **FerrySystem**, representing the overarching system with attributes like systemID and operators[]; **FerryOperator**, encapsulating operators' information and associating with routes[] and classes[]; **FerryRoute**, embodying details of ferry routes such as origin, destination, and schedule, connected to a specific ferry operator and a corresponding class; **FerryClass**, defining different classes with seat types and prices; **FerryTicket**, capturing ticket details like passenger information, route, class, seat number, and payment information; and **Passenger**, storing passenger information. Additionally, the **Payment** class manages payment-related attributes like paymentID, amount, and method. Relationships are established between these classes, enabling the representation of a cohesive ferry ticketing system. For instance, a passenger can search for available routes, select a route and class, and make a reservation, while the system handles payment processing and reservation cancellations with appropriate refund

mechanisms. This design ensures a comprehensive and adaptable framework for ferry ticket reservations across various operators and routes.

THEORY

Work Breakdown Structure:

Work breakdown structure (WBS) in project management is a method for completing a complex, multi-step project. It's a way to divide and conquer large projects to get things done faster and more efficiently. The goal of a WBS is to make a large project more manageable. Breaking it down into smaller chunks means work can be done simultaneously by different team members, leading to better team productivity and easier project management.

The Project Management Institute (PMI) defines WBS as "a deliverable-oriented hierarchical decomposition of the work to be executed by the project team to accomplish the project objectives and create the required deliverables." Each WBS level represents a new and increasingly detailed definition of work needed to complete the project. PMI's definition adds that a WBS structure must be constructed in a way that each new level in the hierarchy includes all the work needed to complete its parent task. This means that every parent task element must have more than one child task within it to consider the parent task element complete.

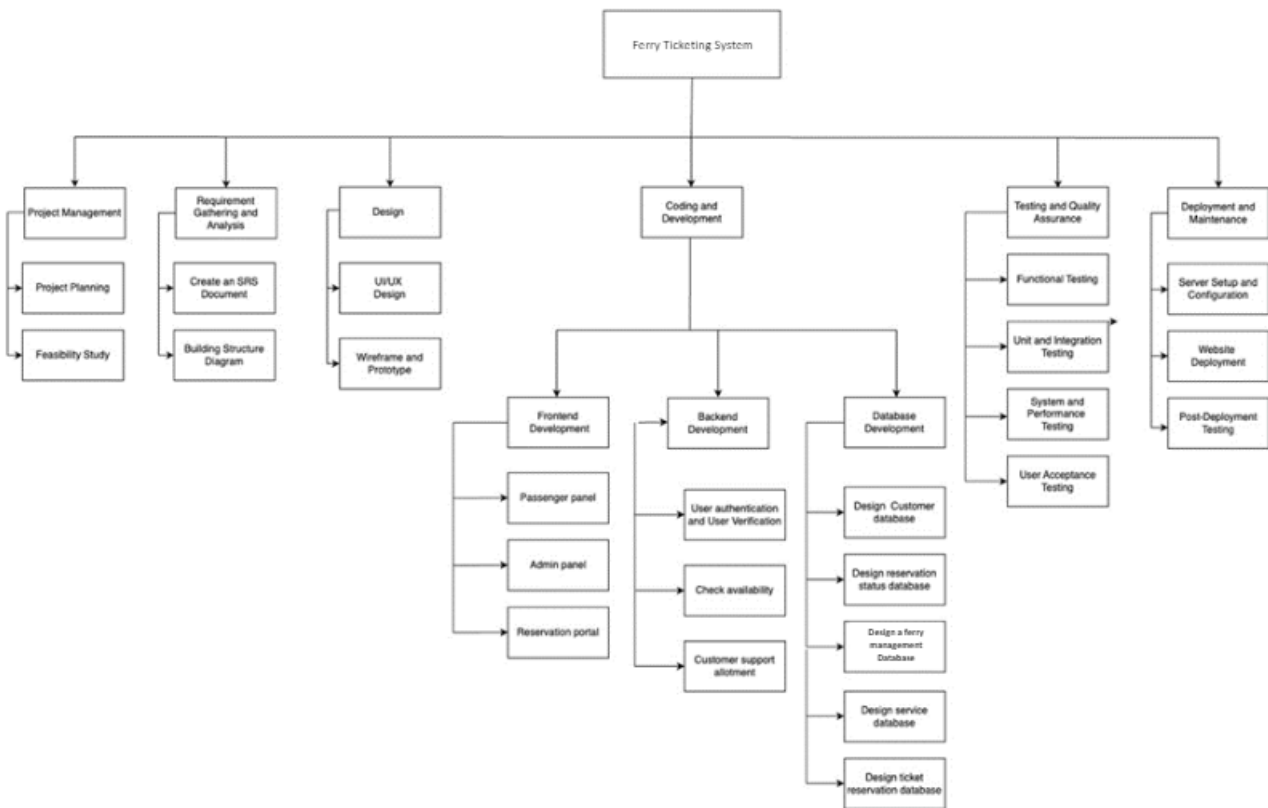
Gantt Chart:

A Gantt chart, commonly used in project management, is one of the most popular and useful ways of showing activities (tasks or events) displayed against time. On the left of the chart is a list of the activities and along the top is a suitable time scale. Each activity is represented by a bar; the position and length of the bar reflect the start date, duration, and end date of the activity. This allows you to see at a glance:

1. What the various activities are
2. When each activity begins and ends
3. How long each activity is scheduled to last

IMPLEMENTATION

Work Breakdown Structure:

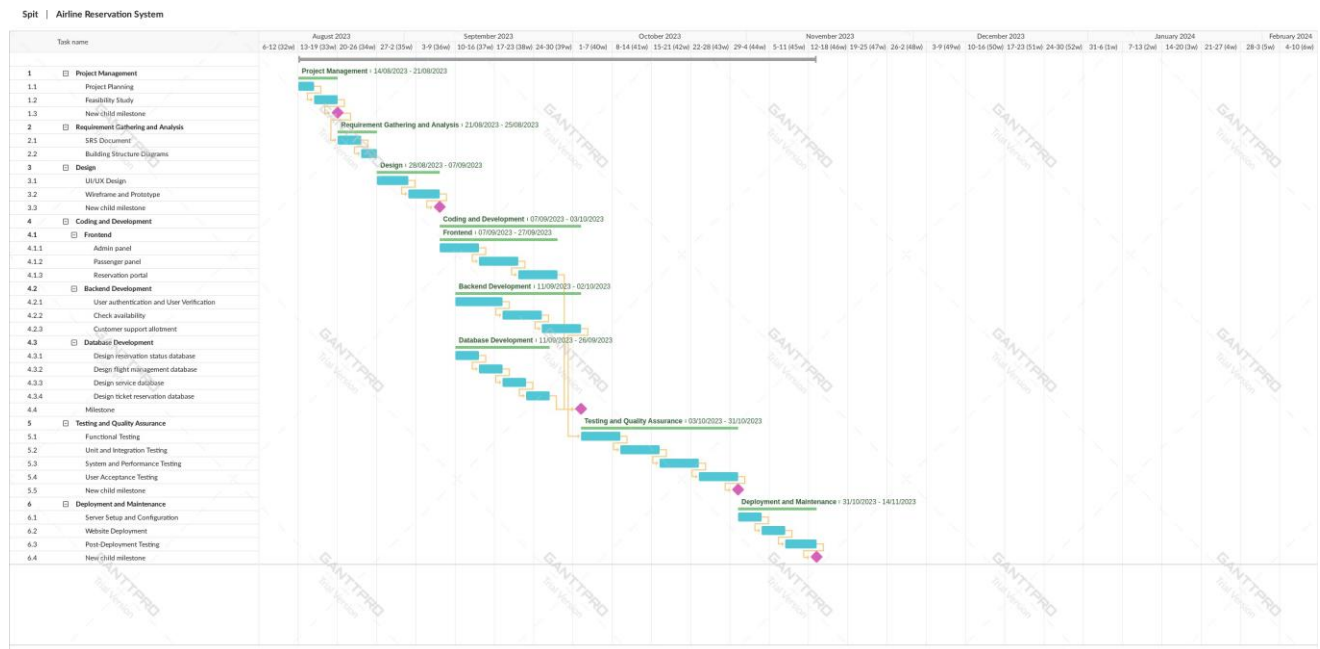


Gantt Chart:

WBS Number	Task name / Title	Planned start date	Planned end date	Duration (hours)	Predecessors
1	Project Management	14/08/23	21/08/23	40	
1.1	Project Planning	14/08/23	15/08/23	16	
1.2	Feasibility Study	16/08/23	18/08/23	24	1.1
1.3	Milestone	21/08/23	21/08/23	0	1.2
2	Requirement Gathering and Analysis	21/08/23	25/08/23	40	
2.1	SRS Document	21/08/23	23/08/23	24	1.3
2.2	Building Structure Diagrams	24/08/23	25/08/23	16	2.1
3	Design	28/08/23	07/09/23	64	

3.1	UI/UX Design	28/08/23	31/08/23	32	
3.2	Wireframe and Prototype	01/09/23	06/09/23	32	3.1
3.3	Milestone	07/09/23	07/09/23	0	3.2
4	Coding and Development	07/09/23	03/10/23	144	
4.1	Frontend Development	07/09/23	27/09/23	120	
4.1.1	Admin panel	07/09/23	13/09/23	40	
4.1.2	Passenger panel	14/09/23	20/09/23	40	4.1.1
4.1.3	Reservation portal	21/09/23	27/09/23	40	4.1.2
4.2	Backend Development	11/09/23	02/10/23	128	
	User authentication and User				
4.2.1	Verification	11/09/23	18/09/23	48	
4.2.2	Check availability	19/09/23	25/09/23	40	4.2.1
4.2.3	Customer support allotment	26/09/23	02/10/23	40	4.2.2
4.3	Database Development	11/09/23	26/09/23	96	
	Design reservation status				
4.3.1	database	11/09/23	13/09/23	24	
	Design ferry management				
4.3.2	database	14/09/23	18/09/23	24	4.3.1
4.3.3	Design service database	19/09/23	21/09/23	24	4.3.2
	Design ticket reservation				
4.3.4	database	22/09/23	26/09/23	24	4.3.3
					4.3.4, 4.2.3,
4.4	Milestone	03/10/23	03/10/23	0	4.1.3
5	Testing and Quality Assurance	03/10/23	31/10/23	160	
5.1	Functional Testing	03/10/23	09/10/23	40	4.4
5.2	Unit and Integration Testing	10/10/23	16/10/23	40	5.1
5.3	System and Performance Testing	17/10/23	23/10/23	40	5.2

5.4	User Acceptance Testing	24/10/23	30/10/23	40	5.3
5.5	New child milestone	31/10/23	31/10/23	0	5.4
6	Deployment and Maintenance	31/10/23	14/11/23	80	
6.1	Server Setup and Configuration	31/10/23	02/11/23	24	
6.2	Website Deployment	03/11/23	07/11/23	24	6.1
6.3	Post-Deployment Testing	08/11/23	13/11/23	32	6.2
6.4	Milestone	14/11/23	14/11/23	0	6.3



CONCLUSION

In our project timeline, we've planned for a streamlined and efficient development process. Starting on August 14, 2023, we aim to complete the project by November 14, 2023. We've allocated specific tasks and hours for each phase, considering weekends, to ensure continuous progress. By running certain phases in parallel, we aim to maximize efficiency and minimize downtime. This approach will help us deliver the project on time, ensuring thorough testing and quality assurance before deployment. We'll maintain a consistent 8-hour workday to meet our project goals and provide high-quality results to our clients.