

Assignment #6 – Milestones, Timeline, and Effort Matrix

Milestones List

Phase 1: Initial Research and Planning

1. Decision on LLM Models, Databases, and Frameworks (Week 6 - Week 8)
 - *Explanation:* Evaluate and select the optimal Large Language Models (LLMs), databases, and development frameworks for the project. Conduct proof of concept tests to validate choices.
 - *Assigned to:* All team members
2. Development of Proof of Concepts (Week 8 - Week 10)
 - *Explanation:* Create prototypes to test the integration of chosen technologies, ensuring they meet project requirements.
 - *Assigned to:* All team members

Phase 2: Backend and AI Agent Development

3. Data Pipeline Development (Week 11 - Week 13)
 - *Explanation:* Develop a data pipeline to integrate project/task data from project management boards into the AI agent system.
 - *Assigned to:* Arya Narke
4. Machine Learning Model Implementation (Week 11 - Week 15)
 - *Explanation:* Implement machine learning models for predictive task analysis and forecasting delays.
 - *Assigned to:* Jalin Solankee and Arya Narke

Phase 3: Chatbot and Frontend Development

5. Chatbot Interface Design and Development (Week 16 - Week 19)
 - *Explanation:* Design and develop the chatbot interface for natural language interaction with users.
 - *Assigned to:* Daksh Prajapati
6. OpenAI API Integration (Week 16 - Week 19)
 - *Explanation:* Integrate the OpenAI API to enable GPT-based responses in the chatbot.
 - *Assigned to:* Daksh Prajapati and Jalin Solankee

Phase 4: System Integration and Testing

7. System Integration (Week 20 - Week 22)

- *Explanation:* Integrate the frontend, backend, AI models, and chatbot into a cohesive system.
- *Assigned to:* All team members

8. Testing and Optimization (Week 23 - Week 25)

- *Explanation:* Test the system extensively, optimize performance, and refine features based on feedback.
- *Assigned to:* All team members

Phase 5: Deployment and Documentation

9. Final Deployment (Week 26)

- *Explanation:* Deploy the fully tested application for end-users.
- *Assigned to:* All team members

10. Documentation Completion (Ongoing throughout the project)

- *Explanation:* Document all aspects of the project, including API integrations, AI developments, and user manuals.
- *Assigned to:* Jalin Solankee

Table 1. Timeline:

Task ID	Task Description	Assigned To	Start Week	End Week	Milestone
Phase 1: Initial Research and Planning					
1	Decision on LLM Models, Databases, and Frameworks	All Team Members	Week 6	Week 8	Decision on Technologies
2	Development of Proof of Concepts	All Team Members	Week 8	Week 10	Proof of Concepts Completed
3	Research Data Preprocessing Techniques for Project Data	Varad Parte	Week 6	Week 8	
4	Investigate Optimal ML Models for Predictive Analysis	Jalin Solankee	Week 6	Week 8	
5	Design Chatbot Interface	Daksh Prajapati	Week 6	Week 8	
Phase 2: Backend and AI Agent Development					

Task ID	Task Description	Assigned To	Start Week	End Week	Milestone
6	Develop Data Pipeline for Project Management Boards	Daksh Prajapati	Week 11	Week 13	Data Pipeline Developed
7	Implement ML Model for Task Prioritization	Arya Narke	Week 11	Week 15	ML Model Implemented
8	Test Task Allocation Module	Varad Parte	Week 11	Week 15	Task Allocation Module Tested
9	Specify Data Preprocessing Techniques for Predictive Analysis	Jalin Solankee	Week 11	Week 13	
Phase 3: Chatbot and Frontend Development					
10	Develop OpenAI-Based Response Generation Module	Daksh Prajapati	Week 16	Week 19	Chatbot Module Developed
11	Design Task Allocation Algorithm	Varad Parte	Week 16	Week 19	Task Allocation Algorithm Designed
12	Develop Query Parsing Mechanisms	Jalin Solankee	Week 16	Week 19	Query Parsing Developed
13	Document Integration Process of Chatbot Interface	Daksh Prajapati	Week 19	Week 20	
Phase 4: System Integration and Testing					
14	Validate Trained AI Model with Sample Data	Arya Narke	Week 20	Week 22	AI Model Validated
15	Test System's Ability for Real-Time Updates and Risk Identification	All Team Members	Week 20	Week 22	System Testing Completed
16	Refine Chatbot Interface Based on Feedback	Daksh Prajapati	Week 23	Week 24	Chatbot Refined
17	Implement Context-Matching Logic for Complex Queries	Jalin Solankee	Week 23	Week 24	Context-Matching Implemented
Phase 5: Deployment and Documentation					

Task ID	Task Description	Assigned To	Start Week	End Week	Milestone
18	Test Skill-Based Task Allocation Feature	Arya Narke	Week 24	Week 25	Task Allocation Feature Tested
19	Validate System's Accuracy in Predicting Outcomes	Varad Parte	Week 24	Week 25	Predictive Accuracy Validated
20	Design User Interface for Task Prioritization and Progress Tracking	Daksh Prajapati	Week 24	Week 25	User Interface Designed
21	Document All API Integrations and Developments	Jalin Solankee	Week 20	Week 26	Documentation Completed
22	Final Deployment	All Team Members	Week 26	Week 26	Final Deployment Completed

Table 2. Effort Matrix:

Task Description	Arya Narke	Varad Parte	Daksh Prajapati	Jalin Solankee	Primary Responsibility
Decision on LLM Models, Databases, and Frameworks	25%	25%	25%	25%	All Team Members
Development of Proof of Concepts	25%	25%	25%	25%	All Team Members
Research Data Preprocessing Techniques for Project Data	10%	70%	10%	10%	Varad Parte
Investigate Optimal ML Models for Predictive Analysis	10%	10%	10%	70%	Jalin Solankee
Design Chatbot Interface	10%	10%	70%	10%	Daksh Prajapati
Develop Data Pipeline for Project Management Boards	80%	10%	5%	5%	Arya Narke

Task Description	Arya Narke	Varad Parte	Daksh Prajapati	Jalin Solankee	Primary Responsibility
Implement ML Model for Task Prioritization	70%	10%	10%	10%	Arya Narke
Test Task Allocation Module	10%	70%	10%	10%	Varad Parte
Specify Data Preprocessing Techniques for Predictive Analysis	10%	10%	10%	70%	Jalin Solankee
Develop OpenAI-Based Response Generation Module	10%	10%	70%	10%	Daksh Prajapati
Design Task Allocation Algorithm	10%	70%	10%	10%	Varad Parte
Develop Query Parsing Mechanisms	10%	10%	10%	70%	Jalin Solankee
Document Integration Process of Chatbot Interface	10%	10%	70%	10%	Daksh Prajapati
Validate Trained AI Model with Sample Data	70%	10%	10%	10%	Arya Narke
Test System's Ability for Real-Time Updates and Risk Identification	25%	25%	25%	25%	All Team Members
Refine Chatbot Interface Based on Feedback	10%	10%	70%	10%	Daksh Prajapati
Implement Context-Matching Logic for Complex Queries	10%	10%	10%	70%	Jalin Solankee
Test Skill-Based Task Allocation Feature	70%	10%	10%	10%	Arya Narke
Validate System's Accuracy in Predicting Outcomes	10%	70%	10%	10%	Varad Parte
Design User Interface for Task Prioritization and Progress Tracking	10%	10%	70%	10%	Daksh Prajapati
Document All API Integrations and Developments	10%	10%	10%	70%	Jalin Solankee

Task Description	Arya Narke	Varad Parte	Daksh Prajapati	Jalin Solankee	Primary Responsibility
Final Deployment	25%	25%	25%	25%	All Team Members