Llama Lingo - Project Plan and RMMM

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Project Scope

Context and Users

What is Llama Lingo?

- Llama Lingo is a pedagogical web application tool designed to benefit anyone interested in a particular topic using information from AI applications like ChatGPT and Llama 2.
    - It's end users (students, employees, hobbyists, and general users) can ask questions about a topic, and the application will provide answers based on its stored analyzed data.

Overall main users: Administrators (full access) & End Users

Major Input & Outputs

Inputs

- Administrators can log in and access their administration panel, where they can perform CRUD operations on administrator information, as well as manage data in the application's storage account and parsed object dataset.
- They can also make changes to branding and customization.
- End users can input inquiries related to the specific topic of the application into the prompt.

Outputs

- The software project involves a user-friendly website application that provides interfaces for both administrators and end users.
- Administrators have access to an admin panel with menu options
- End users can receive answers to their inquiries.

Processing Functionality

- The entire software project will be accessible via a web application.
- Administrative information and data related to the application's specific topic will be stored in a Microsoft Azure Cloud database storage account.
- This stored information will be used to enable administrators to perform CRUD (Create, Read, Update, Delete) operations and provide valuable information to end users for learning purposes

Major Software Functions

- As expressed by client
  - All CRUD operations (Create, Read, Update, and Delete)
    - Administrator login information
    - Administration Branding (customization of the program)
    - Analyzed data collected from the domain expert (ChatGPT/Llama 2)
    - Parsed Object Dataset
  - Function(s) to allow a user to input their inquiry and receive their analyzed response/answer

Performance/Behavior Issues

- System must consider customer independence, privacy, and accessibility.
- All users must be able to easily navigate the system with no assistance
- No errors should be made within the encryption process of private administrator information.

Management and Technical Constraints

- Administrator information needs to be protected
- Time & team size, the client has many ideas for the project's overall functionality, however with only 7-8 months, it is only realistic that not every proposed function will be able to be constructed.

Cost Estimates

Historical Data Used

Software Developer	Annual Salary	Monthly Pay	Weekly Pay	Hourly Wage
Top Earners	$124,000	$10,333	$2,384	$60
75th Percentile	$100,000	$8,333	$1,923	$48
Average	$86,523	$7,210	$1,663	$42
25th Percentile	$68,000	$5,666	$1,307	$33

Projects	Total Lines of Code
Server with SignalR and Blazor	9,114
Blazor Authentication Server	2,368
Noun.razor (C# CRUD Program)	950
Verb.razor (C# CRUD Program)	950
.NET 7 Minimal API	236
Server with SignalR	180
Total	**13,798**

Project Cost

- Basic COCOMO:
  Effort = 38 person-months
- Cost = $273,980
- Duration = 10 months

LOC Approach:

- Effort = 28.7 person-months
- Cost (C) = $206,970
- Duration = 7 months

Reconciled Estimates

We reconciled the estimation by taking the average of the results from the two estimation techniques:

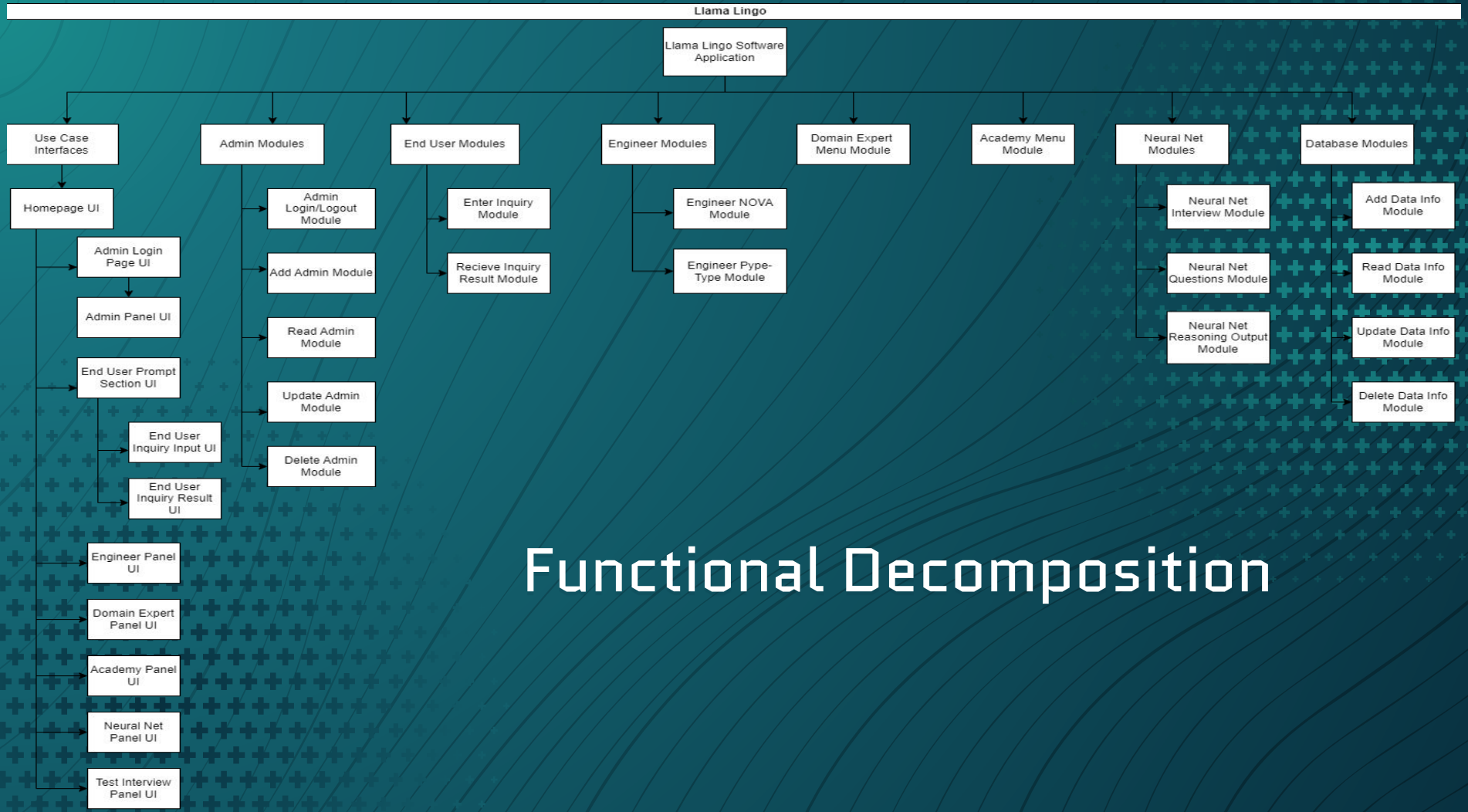
- Average Effort = 33.35 person-months
- Average Cost = $240,475
- Average Duration = 8.5 months

Project Schedule

Task Set

Our project can be broken down into into four phases:

- Project Initiation
- System Design
- Implementation
- Testing and Validation
- Deployment



Functional Decomposition

Project Management Details

Project Model: Agile approach, spend time learning about the integration of our significant technologies through practice problems given by our client

Roles:

- Client
- Project Manager
- Developers
- Testers

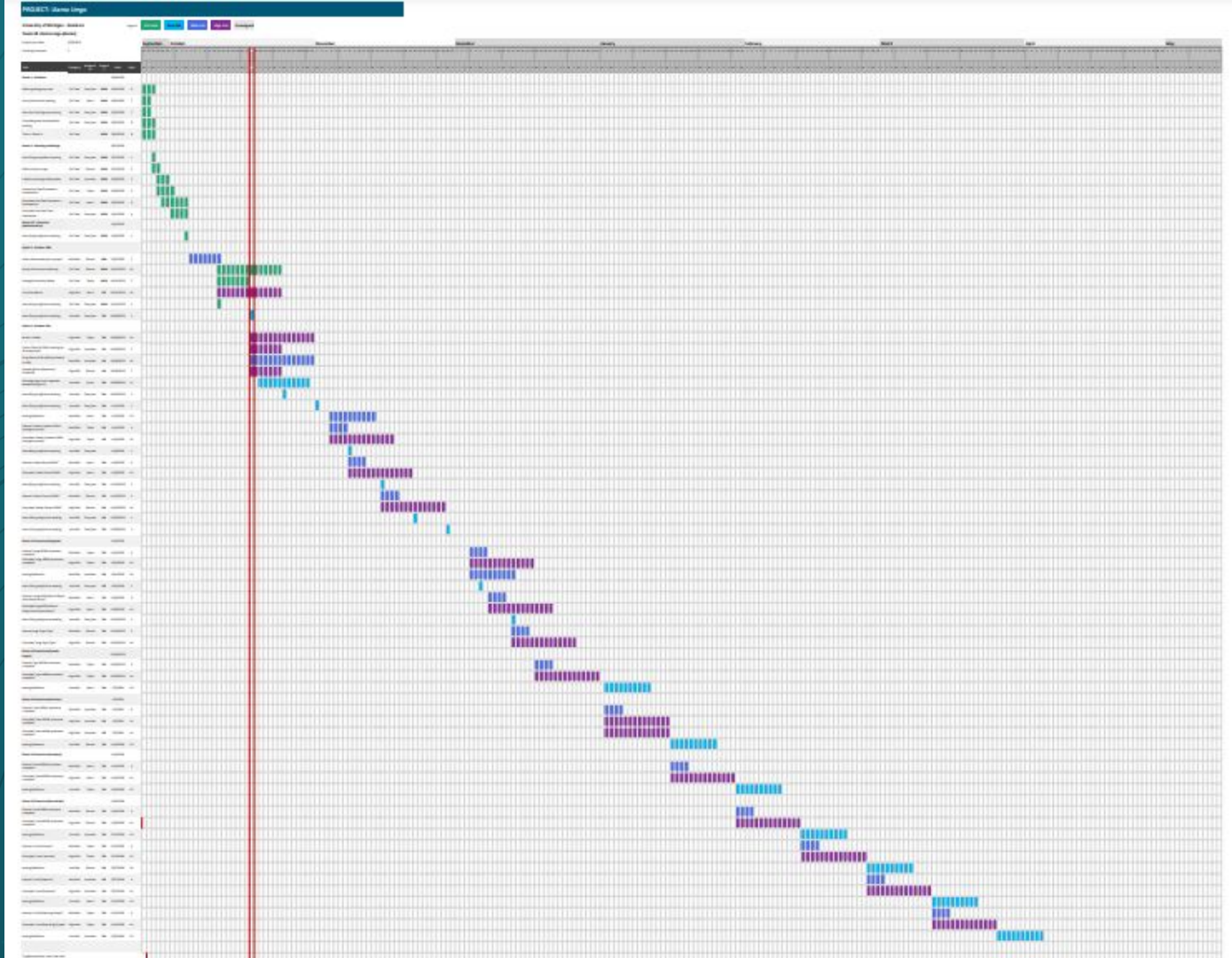
Communication:

- Weekly Team & Client Scrum Meetings
- Asynchronous Programming
- Digital communication - Discord primarily

Progress Reporting Mechanisms:

- Project Status Report (Check-In Documents)
- Team Evaluation Reports
- Risk Management Report (RMMM plan)
- Gantt Chart & Product Backlog
- Client/Group Meetings Document
  - Keeps track of what is discussed during weekly meetings

Gantt chart



Project Risks

Risk Table

Risk Name	Probability	Impact	RM3 pointer
Ill-defined Project	High	High	1
Unexpectedly behaving LLM	Medium	High	2
Malfunctioning database [their side]	Low	High	3
Malfunctioning database [our side]	Medium	Medium	4
Insecurity	High	Medium	5
Failure to meet deadlines	High	High	6
Unsuitable UI/UX	Medium	Low	7
Unsuitable data graphing system	Medium	Low	8
Malfunctioning control flow	Medium	Medium	9
Codebase not scaling up	Medium	High	10

Change Management & Version Control

- **Version Control** will be done through GitHub. Branches will be utilized to have a test, production, and backup of software.
  - Versions will be numbered incrementally in accordance to:

    ItemName . MajorRelease . MinorRelease . BugFix

- **Change Management** will be done through an informal change request process where the project manager and the client will together evaluate the submission, its changes, **viability**, and **potential impacts**.

Quality Assurance!

- **Quality Planning:** The Llama Lingo team will conduct regular meetings with the client for quality standards, boundaries, and guidelines for the delivered project.
- **Quality Audits:** Regular audits will be conducted by the project manager and client to verify established quality standards.
- **Testing and Validation:** Thorough testing will be used to identify and rectify quality defects.
- **Process Improvement:** The Llama Lingo team will continuously analyze and improve our software to ensure that the quality delivered is of the highest possible.

Risk Management, Monitoring, & Mitigation: Scope

- **Identify** potential risks that may affect the project's goals, timeline, and viability.
  - Assess the impact and likelihood of identified risks.
- **Develop strategies** for risk mitigation, alternative and contingency planning, and issue response.
- **Continuously** identify, monitor, review, and communicate risks throughout development.

Risk Management

Risk Management Team

Project Manager	Risk Analyst	Team Members
(Taylor) : The Project Manager holds primary responsibility for the overall risk management activities explained above.	(Jay) : The designated specialist who will provide insights on risk assessment, impact analysis, and alternative and contingency planning.	(Everyone): Team members are responsible for identifying and reporting risks specific to their respective areas of work.

Stakeholder Responsibilities

Client:
The project client will be kept informed about significant risks and their potential impact on project objectives.

External Parties: When necessary, external parties may be engaged to provide specialized evaluations and suggestions of strategies.

Communication and Reporting

- **Risk Status Meetings:** The project team will have asynchronous meetings to discuss risk status, evaluation, mitigation, and response effectiveness.
- **Risk Register:** A registration document will be created to record, track, and update risks throughout the project.
- **Risk Reports:** Periodic risk report form will be created to automatically deposit risks into the risk register. The report form will be distributed to the client, developers, and testers.

Thanks!

Any questions?

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