TITLE OF YOUR SYSTEM

Category

Laboratory Activity 2

A Laboratory Activity Prepared

for **CS 322: Software Engineering**

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1. SYSTEM OVERVIEW

1.1. System Name and Purpose

CramQuest is a study gamification platform that incorporates RPG (Role-Playing Game) features into studying. The platform assists users in enhancing their studying habits through the completion of quests, fighting against enemies (which represent subject challenges), and gathering items during topic reviews. This interactive and engaging approach enhances retention and boosts learning effectiveness.

1.2. Target Users

- **Students** who need an engaging way to review and retain information.
- **Educators** looking for innovative study tools to motivate learners.
- **Self-learners** who want a structured and interactive learning experience.

1.3. Key Features

I. User Management

- **User Authentication** – Secure login and registration.
- **Player Profiles** – Users have RPG-like attributes such as level, experience points, and items.

II. Learning and Study Session

- **Subjects & Content** – Users study through notes, flashcards, and quests.
- **Sessions** – Track study duration and progress.
- **Goal Selection** – Users set a goal from quests before starting a session.

III. Gamification Elements

- **Quests** – Challenges that guide learning objectives.
- **Enemies** – Study-based obstacles that appear during sessions.
- **Items & Rewards** – Players earn rewards that boost their study progress.

IV. Progress Tracking

- **Leveling System** – Users gain experience and level up as they study.

- **Trackable Content** – Difficulty-based study progress tracking.

1.4. Relevance to Sustainable Development Goal

CramQuest promotes **SDG 4: Quality Education** through the embedding of a study habit tracker along with gamified learning. Using quests, battles, and reward systems, motivation, retention, and discipline are heightened, with education becoming engaging and accessible. The study habit tracker assists learners in tracking their progress, developing consistency, and adopting effective study routines, driving lifelong learning as well as equality of opportunity for all.

2. UML DIAGRAMS

Provide the UML Diagram necessary in describing your system design. Label the figures properly. It must be placed above the image and follows this structure:

Figure Number

Figure Name

Ensure that your figures are of high quality, clear, and readable. You may use this diagramming and flowcharting tool.

2.1. Class Diagram

2.2. Sequence Diagram

2.3. Other Diagrams (if applicable)

Activity Diagrams or Use Case Diagrams if they add clarity.

3. CODE IMPLEMENTATION SUMMARY

3.1. Programming Language and Frameworks Used

3.2. Key Components

Provide an overview of the major classes or modules.

3.3. UML Translation to Code

Show how the UML elements were implemented in code.

4. CHALLENGES AND SOLUTIONS

Discuss problems encountered during the development, and how the team resolved them.

- Identify key challenges like issues in design, coding, debugging, collaboration, etc.
- Explain how your problems were addressed.
- What did the team learn from these challenges?

5. REFERENCES

To maintain academic integrity and proper crediting of sources, the APA 7th Edition format must be followed.

6. ACKNOWLEDGMENT