

Software Engineering – Project Description

Group A

Group members:

Cesar Fernando Gamba Tiusaba

Abhishek Dilip Patil

Ritik Nilesh Maldikar



Source: IA Image generated using [Image Creator \(microsoft.com\)](https://imagecreator.microsoft.com/)

Introduction

The software will be a quiz test/game that will help students to learn new concepts and cementing knowledge, this software will contribute to the SDG with a improving and supporting a quality education objective, in resume is targeted just as an educational software, the name of the software will be EduTrivium.

Description of the program

EduTrivium is a software engineering project aimed at enhancing students learning experiences through gamified quizzes, the game works as follows.

The core functionality of EduTrivium revolves around generating quizzes based on predefined curriculum standards. These quizzes are populated with questions sourced from a database, which can be tailored to match the difficulty level and learning objectives.

Key features to be included:

1. Question Database: Comprehensive repository of questions categorized by subject and difficulty level, ensuring diverse and challenging quizzes.
2. Incorporate multiple difficulty levels to enhance the challenge.
3. The program will be capable of selecting questions dynamically as per difficulty tier.
4. Implement assistance features like '50/50' and 'eliminate one answer'.
5. Determine the number of lives available to the player during a game-play.
6. Present solutions and a scorecard for each session, enabling review of results.
7. Allow players to retry incorrectly answered questions for improved learning.

Target audience:

The main aim is to target the evolving needs of educational institutions, but its capability resonates with various industries and organizations. For the scope of this task, we can stick to educational institutions applications.

1. Educational Institutions:
Educators and students will collaborate seamlessly with engaging quizzes and assignments according to the curriculum's pulse.
2. Industries and Offices:
The HR departments can empower the employees with personalized skill development and training.
3. Survey Organizations:
The public opinion and awareness can be gauged with the help of the software on global and local challenges.
4. Career Advice Organizations:
The software can be used for assessing the clients for better alignment with their talents and aspirations.

Customization options:

As the software is adaptable to diverse sectors, tailored configurations can be made to meet specific needs. These features can be implemented above the key features.

1. The question format can be flexible from traditional Multiple-Choice Questions (MCQ) to requesting one-word responses or binary True/False questions among others.
2. The granularity of difficulty levels can be adjusted to as many tiers as per the administrator's input.
3. The software's database can be used for comprehension, visualization and strategic planning apart from mere storage.
4. Empower users to contribute new questions to expand the database.
5. Implement individualized databases for each user, including a ranking system, saving results and feedback, displaying statistical analysis to track progress and performance.

Alignment of the project with the SDG

By itself the project is just an educational software so it falls in the category of 4. quality education and also 9. industry innovation and infrastructure.



Source: [THE 17 GOALS | Sustainable Development \(un.org\)](https://un.org/sustainabledevelopment/the-17-goals)

Development tools to be use

Language

- Java (JDK 21)

Systems for version control

- Git lab
- Git Hub (Optional)

Build tools.

- Gradle

IDE

- Intelli J

Conclusions

EduTrivium is a game changing educational software that will revolutionize learning experience for not only students but also for co-operate experts. This software brings wide range of features including personalized database, multiple life's, assistance features, etc. Also, it contributes to the Global goals for sustainable development in the sector of quality education and industrial innovation. Our goals is to engage and inspire a growing community of users, and provide them with quality education in a fun enjoyable way.