Final Year Project

Defense Proposal

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Abstract

Oasis Learning, an educational platform harnessing the power of artificial intelligence, endeavors to deliver bespoke, captivating, and interactive learning experiences tailored to individuals of all ages. The crux of this application lies in its noble objective: aiding users in their quest for knowledge and growth. By enabling users to choose an image, explore a myriad of captivating subjects, and have these topics elucidated in their preferred language, Oasis Learning ensures inclusively and accessibility for all. In essence, Oasis Learning emerges as a beacon of promise, poised to revolutionize the very essence of educational paradigms, propelling users towards boundless learning potential.

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1. Vision Document

1.1.Introduction

Oasis Learning is an exceptional educational platform that leverages the power of artificial intelligence to provide personalized, engaging, and interactive learning experience for users of all ages. With the ability to choose image, explore diverse topics, and receive explanations in preferred languages, Oasis Learning ensures a tailored and inclusive educational journey. It caters to the need of the user, make it accessible to a wide range of individuals. By revolutionizing the way user acquires knowledge, Oasis Learning emerges as a promising force in the realm of education. Through its innovative approach, this platforms has a potential to transform the landscape of learning, empowering users to unlock their full learning potential.

1.1.1. Problem Statement:

The existing education system often falls short in accommodating the diverse needs of all users. Some individuals encounter difficulties in grasping concepts within the confines of a traditional classroom, while others face the unfortunate reality of limited access to quality education. Recognizing these inherent challenges, Oasis Learning endeavors to bridge the gaps by offering a personalized and interactive learning experience that remains accessible to all users. By tailoring the educational journey to individual preferences and providing an inclusive platform, Oasis Learning strives to mitigate the disparities and empower learners from all walks of life.

1.1.2. Objectives

- Provide personalized learning experience for all users.
- Making learning fun and engaging.
- Make learning accessible to all users, including those with disorders.
- Improve student learning outcomes.

1.2.Motivation

The driving force behind Oasis Learning is rooted in the vision of crafting a truly student-centered learning platform. We firmly believe in the uniqueness of each learner

and acknowledge that individuals acquire knowledge in distinct ways. Embracing this philosophy, we aspire to revolutionize the educational landscape by offering a personalized and interactive experience through Oasis Learning. By placing the user at the heart of our design, we aim to create an environment that caters to diverse learning styles, fostering an optimal and enriching educational journey for all. With Oasis Learning, we endeavor to empower users to unlock their full potential through an experience that is truly tailored to their individual needs.

1.3.Overview

Oasis Learning, a web-based platform, offers a seamless educational experience accessible from any internet-connected device. The platform comprises two primary sections: the image selection section and the topic search section. These sections form the foundation of Oasis Learning, enabling users to embark on a personalized and engaging educational journey. Whether it's choosing an image that resonates with their identity or exploring an extensive range of topics, users can navigate through these sections effortlessly, immersing themselves in a world of knowledge and growth. With Oasis Learning, education becomes readily accessible, fostering a dynamic and enriching learning environment for all.

1.4.Functionality

This system would be a web application that will be accessible to all the users.

The project would’ve the following features:

1.4.1. Sign Up & Sign In

User can create an account and after signing up can sing in to their account.

1.4.2. Image selection

Users can select an image that they can identify with. This helps to make the learning experience more engaging and relatable.

1.4.3. Topic search

Users can search for topics of interest. This allows them to learn about topics that are relevant to them.

1.4.4. Language Selection

Users can select the language in which the avatar will explain the topic. This makes the learning experience more accessible to users who are learning English as a second language.

1.4.5. Accent Selection

To cater to the diverse user base, Oasis Learning allows users to choose their preferred accent for the avatar's explanations. This customization option to the learning materials.

1.4.6. Interactive learning

Oasis Learning uses a variety of multimedia resources, including videos, and animations to make learning fun and engaging.

1.4.7. Personalized learning

Oasis Learning uses artificial intelligence to track student progress and interests, and to recommend topics and content that are tailored to each student’s individual needs.

1.4.8. Accessibility

Oasis Learning is designed to be accessible to all users, including those with disorders.

1.4.9. Contact Us

Users can reach out to us for any queries related to education or the website. Oasis Learning will have a dedicated contact us feature where users can submit his questions or concerns. Once he submits his query, our team will promptly address it and provide him with the necessary assistance. We value users feedback and strive to ensure a seamless experience for all of them.

1.4.10. Recommend Related Topics

Oasis Learning incorporates a recommendation system that suggests related topics based on the user's interests. This feature enhances the learning experience by providing users with additional relevant content to explore.

2. Tools and Technologies

2.1. Python

Python is a versatile and readable programming language known for its simplicity. It is widely used in web development, data analysis, machine learning, and automation. Python's clean syntax, extensive libraries, and large community support make it popular among developers for building efficient and scalable applications.

2.2. PyTorch

PyTorch, a state-of-the-art open-source machine learning library, stands as a powerful tool for developers and researchers alike. With its dynamic computational graph capabilities and efficient performance, PyTorch enables seamless creation and training of neural networks. This versatile framework fosters rapid innovation in the field of artificial intelligence, empowering individuals to explore and push the boundaries of machine learning applications.

2.3. Django

Django is a powerful Python web framework for building database-driven web applications. It promotes code reusability, enforces best practices, and emphasizes security. With its extensive ecosystem and seamless integration with other Python libraries, Django enables developers to create robust and scalable web applications efficiently.

2.4. SQLite

SQLite is a lightweight and self-contained relational database management system known for its simplicity and efficiency. It operates on a single file, supports standard SQL, and is suitable for local storage in applications like mobile apps and desktop applications. With its small footprint and ACID compliance, SQLite is a popular choice for developers seeking a compact and easy-to-use database solution.

2.5. VSCode

Visual Studio Code (VS Code) is a lightweight and customizable source code editor with a user-friendly interface. It offers powerful features, extensive extension support, and cross-platform compatibility. With its focus on productivity and versatility, VS Code is a popular choice for developers across different programming languages and platforms.

2.6. GitHub

GitHub is a web-based platform that offers version control and collaboration features for software development. It supports Git and facilitates code management, collaborative workflows, and community engagement. With its robust features and integrations, GitHub is a popular choice for developers and teams to effectively manage and collaborate on their projects.

3. Required hardware and Software resources

3.1. Hardware

Following development PC is required to develop this project

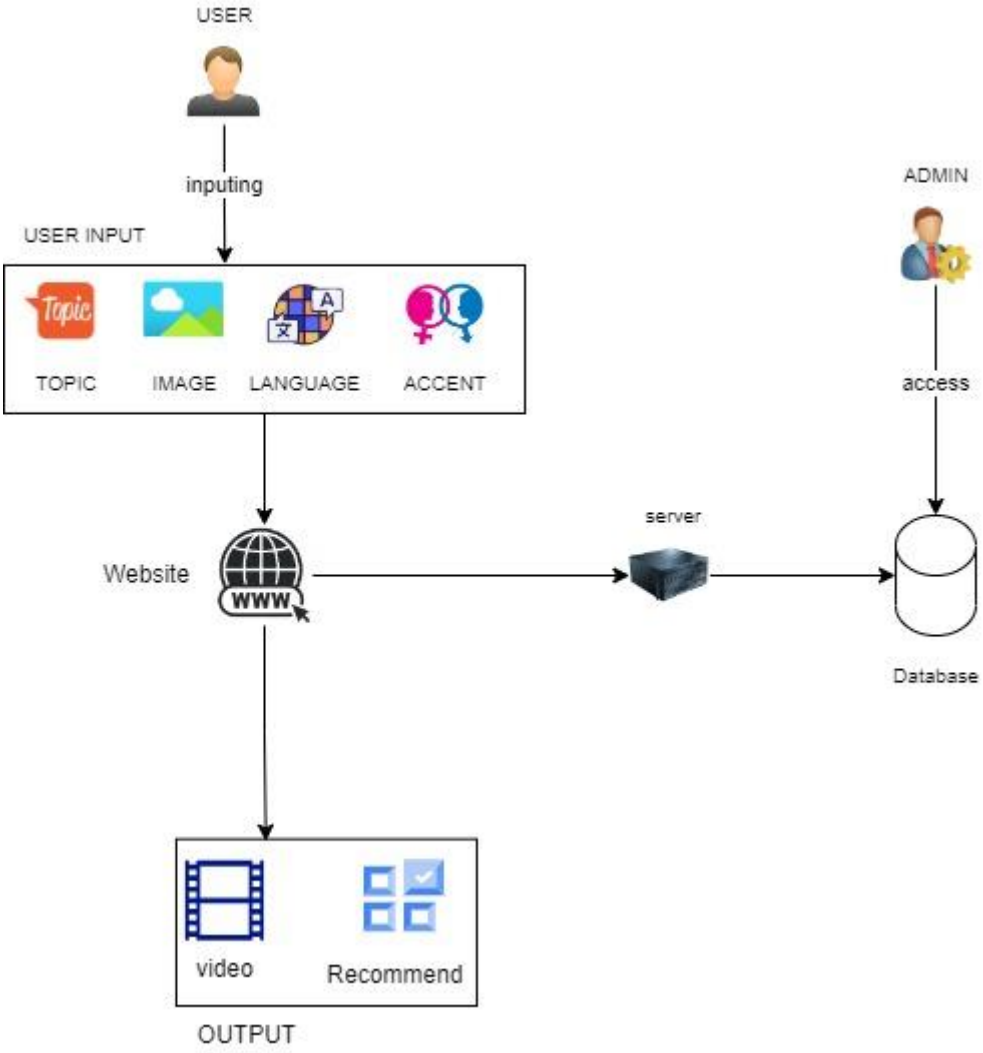
Hardware	Specifications
Development PC	Microsoft Windows 7/8/10 (32-bit or 64-bit) 8 GB RAM recommended. 4 GB Recommended (500 MB for IDE) 1280 x 800 minimum screen resolution.

3.2. Software

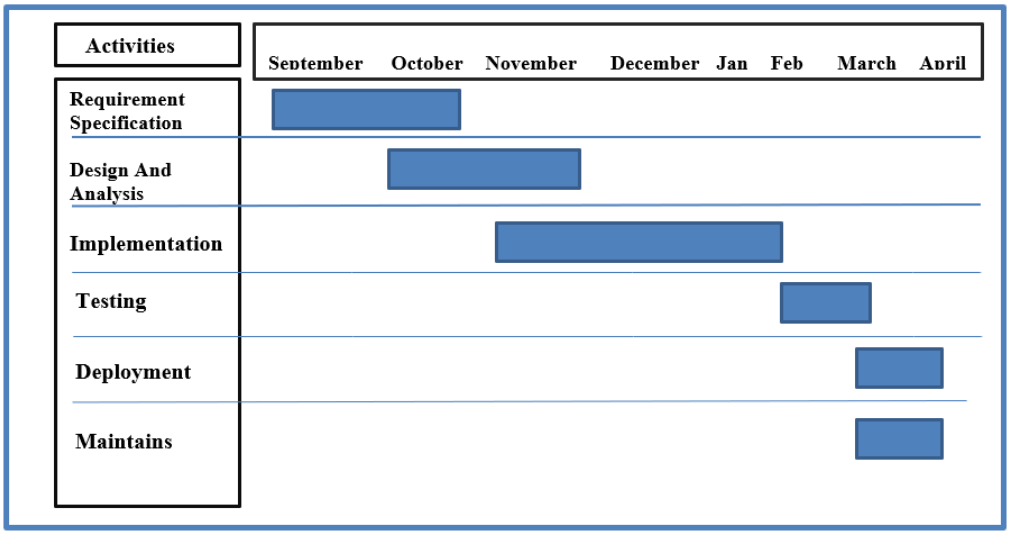
Following software's are required for the development of this project

Software	Purpose
VSCode	Default IDE
GitHub	Version Control

4. High Level Diagram



5. Timeline



6. References

- Mid-Journey
- Dublr FYP (GIKI Institute Students)
- Lucid.ai (If Robots could Dream)