Cloud Based E-Learning Platform with Machine Learning

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Abstract - **Cloud computing is the latest and rapidly growing technology that has brought new changes and opportunities in the field of education and IT industries. Consequently, e learning emphasizes more on technology to transform and provide training and education to learners. E-learning system using cloud computing platform introduces efficient and effective learning mechanism. In this paper, we briefly discuss the effectiveness of cloud-based e-learning along with its issues, challenges, and benefits. The analysis suggests that the cloud computing platform for e-learning is quite feasible and effective that brings greater clarity landscape anent to cloud computing assistances. With the increasing popularity of cloud-based services, there is a need for an e-learning platform that can take advantage of the cloud to provide more scalable and reliable service. This paper presents a cloud-based e-learning platform that uses machine learning to provide a more personalized learning experience. The platform uses a cloud based architecture to provide scalable and reliable service. It also uses machine learning to provide a more personalized learning experience. The platform has been designed to be easy to use and to provide a high-quality learning experience.**

Keywords: Cloud Computing, Machine Learning, Deep Learning.

1. Introduction

Cloud-based e-learning platforms offer many advantages over traditional learning platforms, including the ability to scale quickly and easily, the flexibility to customize the learning environment to the needs of each individual learner, and the ability to connect learners with experts from around the world. Machine learning can further enhance the effectiveness of cloud-based e-learning platforms by personalizing the learning experience for each individual learner and providing real-time feedback and recommendations. Cloud-based learning is online learning that takes place in the cloud – a virtual space that is not tied to any one computer. There are various cloud-based learning management systems available, and they bring with them a whole host of benefits for the classroom at all educational levels. Enhance the quality of learning and teaching. Meet the learning style or needs of students. Improve the efficiency and effectiveness. Improve user-accessibility and time flexibility to engage learners in the learning process.

2. Problem Statement

With the increasing popularity of cloud-based learning platforms, many educational institutions are looking to develop their own versions of these platforms to increase student interaction and engagement. Machine learning can be used to develop these platforms by providing recommendations on what content to include based on student interactions and preferences. Additionally, machine learning can be used to monitor student progress and identify areas where they may need assistance.

3. Proposed System

With the increasing popularity of cloud-based learning platforms many educational institutions are looking to develop their own versions of these platforms to increase student interaction and engagement Machine learning can be used to develop these platforms by providing recommendations on what content to include based on student preferences. Additionally machine learning can be interactions and Used to monitor student progress and identify areas where they may need assistance.
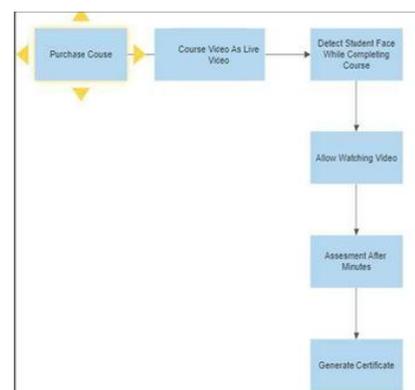
System Architecture

4. Working of System

First user Register/Login and Create profile.

Then Choose course and enroll course and do payment. User/Learner start watching videos, our system shows videos as a live video.

While watching videos system detects student face and observes the motion.

If face is not detected system automatically pause the video. After some topic covered it gives assignments to user/learner.

Then generate the certificate.

5. System Design

The design of the system is a combination of a layered architecture and client-server architecture. The user interacts primarily with the GUI that is built upon the machine learning we use for the development for our system. When they attempt to make requests to edit their settings directly, they will be making a call as an application to the underlying OS, which will change the system accordingly. The system itself communicates with remote clients via the Internet. When receiving information for interface modules, the system acts as a client to the web services. In interacting with other smart devices, the system will act as a server for information. Figure 3 highlights an example of a layered architecture.

Whether you love it or hate it, but the idea of Artificial Intelligence is everywhere, and research shows people want more development in this sector. The recent work which is done by using micro controllers can be advanced into AI. With the new and recent trending technology of machine learning and AI we can achieve great things. The future enchantments are limitless.

5. Technical Requirements

Minimum Hardware Requirements

1) System Camera
2) Processor: Intel i3 4th gen
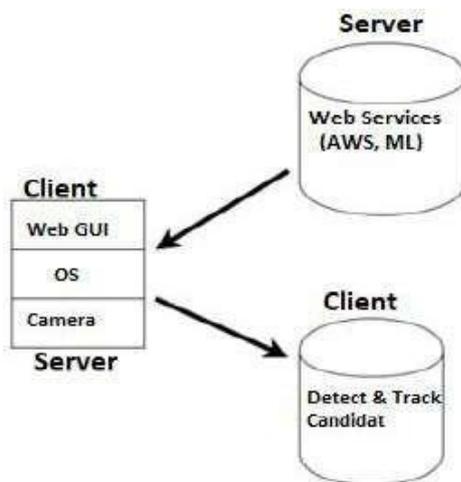3) RAM: 4GB DDR3
4) Monitor
5) Storage: 10GB HDD/SSD

Software Requirements

1) Python IDE
2) Chrome browser
3) Vs code

Programming Languages

1) Front End: HTML, CSS, JavaScript
2) Backend: Django, Python
3) Database: AWS, MySQL

6. Conclusion

AI is a broad exertion to execute inventive e-learning systems. This study offers different surveys utilizing the e-Learning system remembered for the development exercises. E-learning faces various challenges, for instance, how to acquaint substance and how to alter the e-learning experience. We additionally talked about a portion of the assignments actualized by AI and information examination in web-based figuring out how to comprehend the development of effective and fruitful web-based learning model plans with the target of improving the learning nature of understudies and offers answers for the issues identified with e-learning customization. The literature survey report is introduced in Table 3 shows that Bayesian method had been received from mid-2000 to present date infers it as a best forecast strategy for e-learning framework boundaries. Furthermore, the approach called Decision Treee sounds better with instinctive dynamic and began to rise up out of mid-2010 to present date. The effect of Big data requires the need of grouping system to order the huge datasets and foresee the exact e-learning boundaries which was referenced in the report Table 3 with the course of events of rise of the strategy as 2007-2017.

7. Future Scope

There is a lot of scope for improvement in the field of cloud-based e- learning platforms with machine learning. Some of the areas where improvement is needed are: 1. User interface: The user interface of most cloud-based e-learning platforms are not very user-friendly. This makes it difficult for users to find the content they are looking for. 2. Search functionality: The search functionality of most cloud- based e-

learning platforms are not very effective. This makes it difficult for users to find the content they are looking for.

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