**SIT 305 – Task 3.1C**

**Application of machine learning in a Quiz App**

The field of machine learning has become very advanced in today’s technology, thanks to new and continuous innovations in technology. It has numerous applications like image recognition, translation, text generation, content creation and many more. It is used in various Android applications for a variety of purposes. One of its examples is in Quiz Android applications. We know that nowadays, quiz apps have become popular tools for learning, entertainment, and knowledge assessment. However, the static nature of traditional quiz apps limits their effectiveness in providing personalized learning experiences and adapting to user preferences. Machine learning (ML) techniques offer promising solutions to address these limitations by enabling dynamic adaptation, personalized recommendations, and intelligent feedback mechanisms.

Several studies have investigated the integration of ML into educational technology and mobile applications. These studies provide valuable insights into the potential benefits of ML in educational applications, including quiz Android apps. It has been identified that machine learning can be utilized to generate a unique and relevant set of questions for a specific training topic, according to Wallace [1]. AI has made the learning process easy for young children. It has also reduced the work of the teachers to quite a great extent. Using machine learning, customized quizzes can be created on various subjects by the teachers, as stated by Bresser [2]. This allows students to learn at their own pace and track their progress. Teachers can use quiz generators in classrooms to test the students’ knowledge and enhance their learning. Not only in schools, these can be also used by big companies for carrying out team-building activities. Additionally, AI-generated quizzes are also available online for entertainment purposes according to a user’s certain hobbies and interests. According to Mustafa [3], the task of creating assessments is a very laborious one as it consumes a lot of time, energy, and effort. Keeping aside the time, companies often must hire freelancers to get the job done. The solution to both problems is offered by machine learning, which does not require any sort of human intervention or assistance, according to some experts. AI-powered quiz generators Natural Language Processing to generate assessments. It is not limited to only MCQs but also worksheets, or exam papers – from any kind of document or text.

Generating assessments using AI involves various steps. First, summarization of the required document is done using trained machine learning models. Then keywords are extracted from both the summarized and original text. Next, the required question is generated using the summary as a context and the keyword as an answer. Finally, the process of generating wrong and correct choices is carried out using AI. It has been proved that this method has reduced the organizational cost and workload to a great extent.

It is true that AI and machine learning has largely reduced the workload as it uses advanced algorithms to generate questions and answers. But it should be kept in mind that the AI-generated content cannot be always precise because AI is currently in a developing stage. Therefore, it is necessary to verify the questions and answers properly before using them in professional workplace settings.

**References:**

[1] D. Wallace, “10 Immediate Uses for AI in Learning and Development”, in Generate quiz questions at varying levels of difficulty, 2023.

[2] J. Bresser, “Leveraging AI for Fun and Engagement Innovative Uses of Quiz Generators”, in Enhancing Learning and Education.

[3] H. Mustafa, “Designing a Quiz Generator Solution Using Artificial Intelligence”, in Problem Statement, Our Solution, Summarization, Keyword Extraction & Question Generation, 2022