

Software as Service AI Platform for Collaborative Content Generation

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Abstract—This paper assesses the different collaborative content generation tools most importantly AI course generation this process involves the creation of courses based on student input, and understanding student learning styles. It also gives customized course materials which increase student engagement. The generated courses are also arranged in a logical manner, which can easily fit the user's needs. Additionally, the generator also provides options to customize course structure which will benefit the learning process. This AI generative system also generates customized images of the users' choices with customized dimensions as it also deals with AI-generated Text for the input prompts. It is faster as the content is provided within a fraction of the time as also AI generates the content that is of the user's specific needs, and which is more relevant. AI generative tools have become increasingly important as they also troubleshoot workflows for specific results and also, and they are powerful as they efficiently generate personalized content.

Index Terms—Generative AI, Software as A Service, Chat GPT, Automatic Course Generation.

I. INTRODUCTION

The AI generators are great tools for all the users as they include customization most importantly the course generator using prompts is a tool to quickly create courses for the specific needs of learners. With the course generation users can customize a variety of topics also can add additional content for accuracy. It offers a wide range of courses with activities allowing users to meet the student's needs and also can be used as a starting point. It also breaks the course into individual lessons and makes it easy for the user to learn through it. all users must do is provide the prompts for the desired courses. This AI generators include the image generation. By using an image generator, it helps to save the time of the user as it quickly creates and images.

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II. LITERARY SURVEY

This paper focuses on the Generative Pre-trained Transformers (GPT) technology, particularly GPT-2 and GPT-3, which represent a significant innovation Systems (LMS) and Content Management Systems (CMS). These raises collectively contribute to the evolving landscape of online education.[7]

in natural language processing. Developed by OpenAI, these models are good at generating coherent and contextually related text. ChatGPT, a notable application, uses this technology as a sophisticated chatbot capable of engaging in humanlike conversations. In academia and libraries, ChatGPT shows promise in improving search, reference services, metadata generation, and content creation. However, its implementation raises ethical concerns, such as privacy and bias, requiring careful handling of sensitive data and bias mitigation strategies. An engaging prospect is the use of ChatGPT for scholarly paper writing, but ensuring content quality and academic integrity is a challenge. GPT-based tools like ChatGPT offer transformative potential but require ongoing research and ethical considerations for responsible deployment.[1]

In this paper factors that, AI has gathered wide attention due to its ability to interpret data and adapt to achieve specific goals (Kaplan and Haenlein, 2019).[2]

This paper focuses on the rise of online education in China has knocked the development of Automatic Course Generation Systems (ACGS). ACGS empowers teachers to create and update web-based courses according to their instructional plans, considering educational scenarios. These systems are scalable and user-friendly, catering to large numbers of online students. They offer version control, monitoring, analytics, and collaborative features. While ACGS holds great promise, challenges in content quality control and adaptability persist. Research focuses on intellectual integration, user training, and support. ACGS has the potential to revolutionize online education by accommodating growing student populations and enhancing the teaching experience. Future research aims to address ongoing challenges and further improve ACGS capabilities.[3]

The paper focuses on the AI role in recent years. AI has played a progressively prominent role in education, with tools like ChatGPT helping both teachers and students. This paper explores the use of AI-generated exercises for programming courses in higher education, using ChatGPT to create and enhance them. The study produced 12 exercise sheets, which were evaluated positively by students. However, minor manual adjustments were often required for exercise quality, with the time-saving benefits of ChatGPT.[4]

In this paper, the Authors have focused on Generalized Methods for Automatic Question Generation in Educational Domains in their recent survey. They noted that the task of generating questions is much more difficult than simply extracting questions from a given text. The authors noted that it is important to consider different types of text formats that could present different levels of challenge in generating Content generation has 5 services where user have to prompt their needs to get the desired output.

questions. Furthermore, most traditional AQG systems have focused on a single language, such as English or Chinese, and methods for multilingual AQG are still under exploration. The survey by Huy A. Nguyen, Shravya Bhat, Steven Moore, Norman Bier, and John Stamper has provided a comprehensive understanding of the Generalized Methods for Automatic Question Generation in Educational Domains.[5]

This paper presents an AI-based approach for automatic learning content generation and learning pathways augmentation. The authors propose a content generation framework that can be used to generate learning content from existing text sources. This framework uses graph-based algorithms to identify potential learning pathways and then uses machine learning for additional sources. The authors provide an overview of the current state of the art and future directions for AI-based content generation and learning pathway augmentation. Finally, they discuss the potential

applications of their proposed approaches in various learning contexts.[6]

In this paper, Small Open and Private Online Courses (SOOC and SPOC) have garnered significant attention in the area of higher education. Researchers have explored the potential of blended learning, examined various distance education educational approaches, and pursued to integration of online education models effectively. Technology plays a crucial role in assembling educational resources, with a focus on open educational resource models and social network integration. User and content management within online courses are typically improved through Learning Management.

III. PROPOSED SYSTEM

A. System Architecture

After analyzing the requirements of clients and referring various generative AI dashboards to offer optimal user experience along with proper security measures and precise outputs Micro-services Architecture is selected. It is also a preferred approach for the team to develop, debug, and deploy services independently.

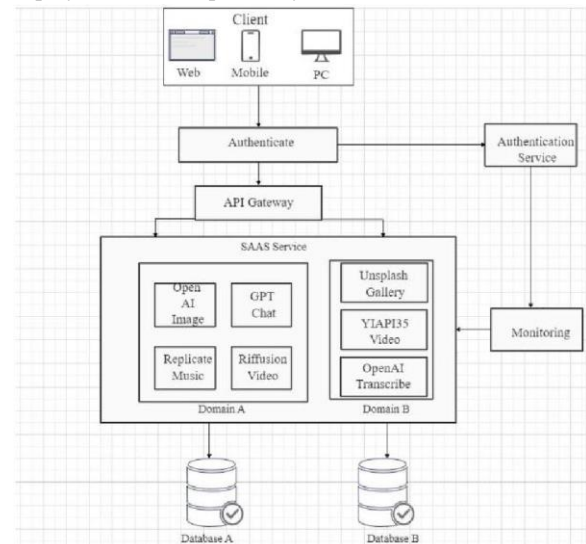


Figure 1: System Architecture

Architecture starts with a landing page where the user decides which service to go forward with. Then user has to go through authentication services where the user's existence will be cross-checked from the database, and only then the user can access the dashboard where the user has options to choose between domains Content generation, or Course generation.

1. The first service is conversation which is text generation backed by ChatGPT,
2. Music generation uses replicate API,
3. Image generation with open AI API,
4. Video generation uses refusion API,
5. Code generation with GPT

3.5. Domain B Course generation uses Unsplash API for course gallery, GPT3.5 API for lecture videos and transcribing, quizzes are backed by open AI API. Correspondingly all these API usage counts is constantly monitored and if the user exceeds the set allowed limit count, then they are asked to upgrade.

IV. CONCLUSION

The project specifies the value of the SAAS platform in collaboration content generation. By focusing on user needs, security, scalability, and customization, we will create a tool that empowers individuals to create content more effectively.

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