

Laugh Out Loud: Developing a Joke Android App using OpenAI GPT-2

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ABSTRACT

Android devices have become ubiquitous today and have revolutionized the way we interact with technology. With a large and growing user base, the demand for Android applications has never been higher. As a result, there has been a significant increase in the number of developers creating apps for the Android platform. In this project, we are aiming to leverage the capabilities of the Android platform to develop a daily joke application using OpenGPT API. The app offers users the ability to request a new joke from one of five categories (at least): animals, jobs, kids, cars, and others. The app will utilize the OpenGPT API to generate at least 100 jokes for each category, which will be then displayed to the user within the Android Studio interface or a physical Android Mobile device. Further a group of individuals will be evaluating the jokes and rank them from 1 to 5, with 5 being a very good joke and 1 being not a good joke. The findings will show that OpenGPT is proficient at generating jokes in the certain category but has some room for improvement in the other categories. This project highlights the potential of combining Android Studio and OpenGPT API for developing humor-based applications.

1 INTRODUCTION

Humor is an important aspect of human communication that can build social bonds, reduce stress, and entertain[1]. With the advancement of mobile applications and machine learning technologies such as natural language processing (NLP), it has become possible to develop more sophisticated humor-based apps that can generate creative and contextually appropriate content in response to user input. The OpenAI GPT-2 API is one such model that has shown potential in generating high-quality and engaging responses[3]. However, using GPT-2 API for joke generation comes with challenges such as fine-tuning the model for the specific application, the need for large datasets, and potential biases in the generated content.

Despite the challenges, using machine learning-based approaches to generate humor content offers numerous benefits such as adaptability to user preferences, generating content on demand, and personalized user experiences. With the increasing demand for novel and engaging mobile apps, the development of a humor-based app that leverages machine learning technologies presents new opportunities for social interaction, entertainment, and creativity. Our project aims to create a joke Android app that

integrates machine learning with humor to deliver a unique and engaging user experience that enhances social interaction while providing humor-based entertainment. This project has the potential to contribute to the growing field of computational humor and provide a new form of mobile-based entertainment for users.

2 LITERATURE REVIEW

Humor has always been a vital aspect of human life, but its importance has grown even more pronounced in the aftermath of the COVID-19 pandemic. By providing a mental escape, fostering community and connection, and promoting physical and emotional health, humor has become an essential tool for navigating the challenges of the modern world. Humor has been found to have various benefits, such as improving mood, strengthening relationships, enhancing creativity, reducing stress, and promoting resilience. In the context of joke apps, humor is a key driver of user engagement and retention.

2.1 OVERVIEW OF HUMOR-BASED ANDROID APPS

Humor-based Android apps have become increasingly popular in recent years. These apps are designed to provide entertainment to users with jokes, funny images, and humorous videos. One of the main types of humor-based Android apps is the joke app, which provides users with a wide range of jokes and puns to share with their friends and family. Other humor-based apps include funny image and video apps, which provide users with a variety of humorous pictures and videos to enjoy and share. These apps have become very popular among users of all ages, as they provide a quick and easy way to add humor and laughter to their daily lives[3].

While humor-based Android apps have become very popular, developing such apps can be a challenge. One of the main challenges is developing content that is truly funny and engaging for users. This requires a deep understanding of the type of humor that will appeal to the app's target audience, as well as the ability to create content that is both creative and humorous. In addition, app developers must consider factors such as user engagement, user retention, and monetization strategies to ensure the long-term success of their apps. However, with the help of advanced AI models such as OpenAI's GPT-2, developers can now create

humor-based Android apps that are more engaging and entertaining than ever before.

2.2 PREVIOUS JOKE GENERATION MODELS

In the early days of joke generation in mobile applications, developers primarily relied on rule-based systems and Markov chains to generate jokes. Rule-based systems are software programs that generate output based on a set of predefined rules, while Markov chains are mathematical models that use probability theory to generate output based on a given input. While these systems could generate jokes, the quality and novelty of the output were often limited, as the algorithms were not able to generate truly creative or unexpected jokes.

Another approach used in joke generation was the use of pre-written jokes or scripts, which were often manually curated and added to the app. While this approach allowed for higher quality and more engaging content, it was time-consuming and limited the app's ability to generate new and original content on a regular basis.

With the development of advanced machine learning algorithms such as OpenAI's GPT-2, developers now have access to more powerful tools for joke generation in mobile applications. These algorithms can generate more creative and engaging content that is tailored to the app's target audience, making them a valuable tool for developers looking to create high-quality humor-based Android apps.

2.3 OpenAI GPT-2 API

The OpenAI GPT-2 API is a machine learning platform that has revolutionized the field of natural language processing (NLP) and artificial intelligence (AI). It is one of the most advanced language models available, capable of generating highly sophisticated and contextually relevant language. Developed by OpenAI, a research laboratory dedicated to advancing AI in a safe and beneficial manner, the GPT-2 API is widely used by developers, researchers, and businesses to build innovative AI applications[4]. In this paper, we focus on the use of the OpenAI GPT-2 API for developing a humor-based Android application that generates jokes. We explore the advantages of using GPT-2 for generating humorous content and discuss how it compares to older models used in joke generation, such as rule-based systems and Markov chains. We also discuss the challenges and limitations of using GPT-2 in joke generation, and how these can be addressed to build a high-quality, engaging humor-based Android app.

2.4 USE OF OpenAI GPT-2 API IN ANDROID APPS

The OpenAI GPT-2 API has been used in a variety of AI-based Android apps, ranging from language translation to chatbots and text summarization. Its advanced natural language processing capabilities have made it an ideal tool for developing humor-based Android apps that generate jokes. Using the GPT-2 API, developers can train their models on large datasets of text to generate highly contextual and relevant jokes that can keep users engaged and entertained. Additionally, the API's flexibility allows developers to

fine-tune their models for specific use cases, ensuring that the generated jokes match the intended tone and style of the app. The use of GPT-2 in Android apps has shown great potential for improving the quality and interactivity of the user experience, and it is expected to become an increasingly popular tool in the development of AI-based Android apps in the coming years[5].

2.5 CHALLENGES OF GPT-2 FOR JOKE GENERATION

While the OpenAI GPT-2 API offers many advantages for joke generation in Android apps, there are also some challenges that developers need to be aware of. One of the primary challenges is the size of the model, which can be quite large and require significant computational resources to train and run. This can be a limiting factor for developers who have limited computing power or limited access to cloud-based resources. Additionally, the accuracy and quality of the generated jokes can vary based on the quality and quantity of the training data used, as well as the specific parameters and settings of the GPT-2 model. Finally, as with any machine learning model, the GPT-2 API may generate inappropriate or offensive content, which can be a concern for developers who want to ensure that their apps are appropriate for all users. Addressing these challenges requires careful attention to the training data, model settings, and content filtering mechanisms, as well as ongoing monitoring and refinement of the model over time[4].

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