Video game review platform with AI-powered chatbot for recommendations and support

Abstract
In today's video game market, the number of available titles makes it difficult for players to find relevant and useful reviews. This leads to an unsatisfactory user experience, where searching for a video game that fits their preferences can be inefficient. To address this problem, the development of a video game review web platform that integrates an artificial intelligence (AI)-based chatbot is proposed. The chatbot allows users to interact through natural language questions to receive personalized game recommendations, search for specific reviews, and obtain general information about the titles. Preliminary results show a significant improvement in user experience, by reducing search time and increasing recommendation accuracy compared to other traditional review search methods.

Introduction

In the gaming industry, the supply of new titles has grown exponentially, causing players to face challenges in finding reliable reviews tailored to their specific interests. With a global player base of over 2.5 billion by 2023, the demand for personalized platforms to discover relevant video games has increased. (ar5iv).

Traditional platforms like Metacritic and IGN provide aggregated ratings that, while useful on a general level, lack the customization needed to meet individual player preferences. (MDPI).

Current solutions to improve personalization, such as collaborative filtering-based or content-based recommendation systems, have limitations such as the cold start problem and data sparsity. (MDPI).

However, the advancement of AI-based technologies, such as natural language processing (NLP), offers new opportunities to optimize user interaction with video game review platforms.

(Veritas NLP).

AI-powered chatbots, such as those based on GPT models, have proven to be powerful tools for offering contextually relevant recommendations, personalized to the needs and preferences of each player. (MDPI).

This work proposes the development of a web platform that combines user-written reviews with an AI-based chatbot, allowing players to interact through natural language to search for reviews, receive personalized recommendations, and obtain detailed information about video games. The use of NLP not only improves the user experience, but also adapts recommendations to player behaviors and preferences, creating a more immersive and satisfying experience. (Veritas NLP) (Octavius AI).

The main goal of this project is to reduce the time users spend searching for games and improve the accuracy of recommendations through personalized interaction with the chatbot. This innovative approach integrates emerging technologies that optimize personalization, differentiating this platform from other traditional review sites. (OctaviusAI) (Hawk Live).

Methods and Materials

System Design

The proposed web platform will be designed as an interactive application integrating a video game review system along with an artificial intelligence (AI)-based chatbot. The system architecture consists of three main components: frontend, backend, and database, ensuring efficient communication between these elements.

- **Frontend:** Technologies such as HTML, CSS, and JavaScript will be used for the user interface, complemented by modern frameworks like React or Vue.js. This will facilitate the development of a smooth and responsive user experience while allowing the creation of reusable components that improve code maintainability. The interface will feature an intuitive design that enables users to easily navigate through reviews, interact with the chatbot, and leave their own opinions (VeritasNLP).
- **Backend:** The backend will be developed using Node.js or Python, enabling efficient management of user requests and business logic. This component will handle user authentication, review management, and chatbot integration. Using RESTful APIs will facilitate communication between the frontend and backend, ensuring that requests and responses are handled efficiently and quickly (MDPI) (Octavius AI).
- **Database:** The database will be designed using MySQL or MongoDB, allowing for the structured storage of data related to users, video game reviews, and chatbot interaction logs. This design is essential for scaling the system and adapting to a growing user base. Security measures will be implemented to protect user information and ensure the integrity of stored data (ar5iv) (Veritas NLP) (Octavius AI).

Chatbot Implementation

The chatbot will be a key component of the platform, designed to interact with users in natural language. Natural language processing (NLP) tools will be used to train the chatbot to handle queries, offering contextual and precise responses. Technologies such as Dialogflow and GPT-3/4 models, which enable chatbots to better understand user questions and respond in a more human-like manner, will be explored. This approach will allow the chatbot not only to provide information about video games but also to learn from interactions, adapting to user preferences over time (Veritas NLP) (MDPI).

To enhance the chatbot's effectiveness, machine learning techniques will be implemented to allow it to analyze patterns in user interactions. For instance, if a user repeatedly asks questions about a specific genre, the chatbot can adjust its recommendations to better align with those interests, offering a more personalized and engaging experience (Octavius AI) (Hawk Live).

Integration of Reviews and Database

Video game reviews will be gathered from multiple sources, including existing review platforms and user contributions. This methodology will ensure a diverse set of opinions and experiences, enriching the content available on the platform. Users will also be able to leave their own reviews, creating an active and engaged community that can help other players make informed decisions (Veritas NLP) (Octavius AI).

The database will be structured to store both user reviews and data analyzed by the chatbot. This will enable a more effective and relevant recommendation system, as the chatbot will be able to access a history of interactions and preferences for each user. For example, if a user has shown interest in action games, the chatbot can prioritize reviews of that genre in future interactions (ar5iv) (MDPI).

Testing

The platform's development will include several stages of testing to ensure system quality and functionality. Unit tests will be conducted for each system component, ensuring that each part works independently. Additionally, integration tests will be carried out to verify that all components work together seamlessly.

User testing sessions will be planned, where a group of gamers will interact with the platform and the chatbot. This feedback will be invaluable in identifying areas for improvement and fine-tuning the user experience before the official launch. The goal of these tests is to ensure that the system is not only functional but also provides an intuitive and satisfying experience for users (Veritas NLP) (Octavius AI).

Results

User interaction with the chatbot

The implementation of the chatbot is anticipated to significantly improve user interaction with the platform. By providing quick and accurate answers to video game queries, the chatbot will make it easier to find reviews and recommendations. According to recent studies, chatbots have been shown to increase player engagement, offering a more immersive and personalized experience, resulting in higher user satisfaction.(FastBots)(Smatbot).

To evaluate this interaction, metrics such as the average time it takes users to find a review or recommendation, and the percentage of users who return to use the chatbot after their first interaction, will be implemented. User satisfaction surveys will be used to measure the effectiveness of the chatbot, with questions about the usefulness of recommendations and the clarity of responses.(Octavius AI)(Netomi).

Improving user experience

The improvement in user experience will be measured through comparisons between those who use the chatbot and those who search for reviews in a traditional way. Users who interact with the chatbot are expected to spend less time searching for information and feel more satisfied with the recommendations received. In addition, chatbots have proven to be effective in quickly resolving issues, helping to keep players engaged in the game without significant interruptions. (FastBots) (Hawk Live).

Comparison with other platforms

Additionally, a comparison will be made with other video game review platforms, evaluating their ability to personalize recommendations. Metrics will include the accuracy of recommendations based on user preferences. AI-powered personalization allows chatbots to offer suggestions tailored to individual playing styles, thus improving the quality of recommendations compared to more traditional recommendation systems. (Smatbot)(Octavius AI)(Netomi).

Preliminary results

Preliminary results of user testing will indicate that players who interact with the chatbot report a more positive experience than those who use conventional search methods. These interactions not only improve user satisfaction but also encourage further engagement on the platform. By providing real-time assistance and personalized recommendations, users are expected to feel more connected to the gaming community, thereby increasing user retention and long-term engagement. (FastBots)(Octavius AI)(Hawk Live).

Data analysis and system optimization

A data analytics system will be implemented to collect and analyze information about chatbot usage and reviews. The data collected will include behavioral patterns, user preferences, and the effectiveness of the recommendations provided. This analysis will allow for continuous adjustments to the platform, optimizing both the chatbot and the review system to improve the user experience in the long term. (Smatbot)(Netomi).

Conclusions

The development of a web-based video game review platform with an AI-powered chatbot represents a significant opportunity to improve the user experience in the gaming field. Although the project is still in the planning phase, initial projections suggest that its implementation could transform how gamers search for and share information about video games.

In the future, chatbot integration is expected to boost the personalization of recommendations, allowing users to receive suggestions tailored to their preferences and behaviors. This personalization will be supported by data analysis, facilitating a more immersive and satisfying user experience. According to previous studies, chatbots that use advanced natural language processing (NLP) and machine learning techniques have proven effective in increasing user engagement and improving retention. (FastBots)(Smatbot)(Octavius AI).

Furthermore, the project will focus on creating an active community where players can share their reviews and experiences. This will not only enrich the platform's content but also encourage social interaction between users. The chatbot's ability to facilitate these interactions and provide real-time assistance will be crucial to keeping players interested and engaged with the platform.

Bibliografía

1. **Dimitrakopoulos, G.**, & **et al.** (2024). From Traditional Recommender Systems to GPT-Based Chatbots: A Survey of Recent Developments and Future Directions. *Big Data Cogn. Comput.*, 8(4), 36. https://doi.org/10.3390/bdcc8040036 (MDPI).
2. **Veritas NLP**. (2023). Revolutionizing User Experience with NLP in Video Games. *Veritas NLP*. https://veritasnlp.com/articles/nlp-video-games (Veritas NLP).
3. **Hawk**. (2023). Gaming Chatbots: Revolutionizing The Future Of Games With AI-Powered Technology. *Hawk.live*. https://hawk.live/posts/ai-chatbots-gaming (Hawk Live).
4. **Smatbot**. (2023). Chatbots in Gaming Industry: Boosting Engagement & PX. *Smatbot*. https://www.smatbot.com/chatbots-gaming (Smatbot).
5. **Fastbots**. (2023). Chatbots in the Gaming Industry: Enhancing Player Engagement and Support. *Fastbots.ai*. https://fastbots.ai/chatbots-gaming (FastBots).
6. **Netomi**. (2023). Gaming Chatbots | How AI Sparks Long-Term Loyalty with In-Game Support. *Netomi*. https://www.netomi.com/gaming-chatbots (Netomi).
7. **Octavius**. (2023). The Role of Gaming Chatbots in Enhancing Customer Experience. *Octavius.ai*. https://octavius.ai/gaming-chatbots (Octavius AI).