

AUTOMATED DESIGN AND IMPLEMENTATION OF ONLINE QUESTION AND ANSWER COMMUNITY

The primary objective of this research is to develop an online question and answer community platform and investigate the ramifications of integrating automated data processing systems on daily life.

INTRODUCTION

The main users of this platform are young people interested in specific fields. Users can ask questions or answer others' questions on the platform and engage in discussions with other users about their areas of interest. The system incorporates a comprehensive content recommendation and management mechanism, as well as social elements.

I. AIM AND OBJECTIVES

This research aims to provide a platform for users with similar interests to communicate and discuss issues. In the platform, each question is categorized and then recommended to other users interested in the field. Users can like, collect, express their opinions in the comment area, and communicate with other users as friends.

II. IMPLEMENTATION

In the implementation of this project, the focus is on user behavior analysis.

$$CTR = \frac{\text{Number of Clicks}}{\text{Number of Impressions}} \times 100\% \quad (1)$$

$$\text{Average Time on Page} = \frac{\text{Total Time Spent}}{\text{Number of Visits}} \quad (2)$$

Calculate the click-through rate (CTR) of recommended content using formula (1), calculate the average time users stay on a specific page using formula (2). At the same time, the system tags the content, analyzes user behavior based on this data, establishes a user interest model, and recommends content containing tags that the user may be interested in to the user's homepage.

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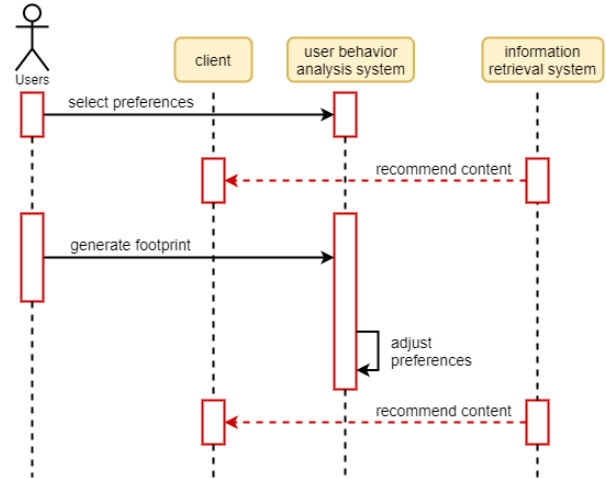


Рис. 1 – Sequence diagram for recommendation mechanism

During the user's interaction with the system, the system continuously collects user data, analyzes user behavior, and adjusts the user interest model accordingly.

During the implementation process, special attention must be paid to information security issues, such as preventing the leakage of user information and avoiding SQL injection attacks, among others.

The system is developed primarily in Java and utilizes Access for database management. HTML and CSS are used to build user interfaces. Eclipse serves as the development environment. The operating system supported includes Windows 10 or Windows 11. The system requires a minimum of 4GB of RAM and at least 80GB of hard drive capacity to ensure the storage of all files and achieve precise project management.

III. CONCLUSION

With the rapid development of science and technology, people's demands for spiritual fulfillment have increased, rendering conventional search engines inadequate to meet their needs. Hence, this platform prioritizes the interaction and exploration of issues, it has the potential to attract a large number of users.