

Chatbot-Enabled Banking System Automating Customer Service and Transactions

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ABSTRACT

Using Python programming and the SQLite database, this banking system application aims to give users a seamless and secure banking experience. This application has an additional feature of an AI voice chatbot in addition to the standard banking features like account creation, deposit and withdrawal of funds, and viewing transaction history. The proposed system aims to offer bank customers a simple and effective way to handle transactions, manage their accounts, and request assistance using natural language voice commands. The chatbot will be integrated with the bank's database, providing users with accurate and up-to-date information about their accounts and transactions.

Real-time fraud detection capabilities are also provided by this banking system application. The system can identify and stop fraudulent transactions as they happen using machine learning algorithms, assisting in preventing customers from suffering financial loss as a result of fraudulent activities. Users will be able to request transaction histories, inquire about

account balances, and get help with routine banking tasks like fund transfers and bill payments from the chatbot. Users will experience the chatbot's conversational interface in a more engaging and personalized way, enabling them to communicate with the bank in a way that feels more intuitive and natural. The overall goal of this project is to create a complete bank system management solution with an additional AI voice chatbot feature. The suggested system will give customers a quick and easy way to manage their accounts, complete transactions, and get support. It will also give the bank a strong tool for customer engagement and retention.

Keywords : Bank System Application, AI voice Chatbot, Account Operations and Customer Engagement, Natural Language Voice commands, Transaction details, Secure.

I. INTRODUCTION

The banking industry is constantly evolving, and it is essential to have an efficient and reliable system that can adapt to these changes. Our bank system management project aims to do just that, by leveraging the power of Python, and Tkinter to create a robust and user-friendly system.

Python is a powerful programming language that is widely used in the development of banking software. It offers a vast library of modules that can be used to develop complex banking systems. Additionally, Python is easy to learn and has a large community of developers, making it an ideal choice for our project.

Our system will also feature a voice chatbot, which is an additional feature that will enhance the customer experience. The chatbot will use natural language processing to understand customer queries and provide relevant responses. This feature will make it easier for customers to interact with the system and get the information they need quickly.

In conclusion, our bank system management project with Python, SQLite, Tkinter, and a voice chatbot is a powerful solution that meets the needs of modern banking. It is easy to use, secure, and scalable, making it an excellent choice for banking institutions of all sizes. With this project, we aim to set a new standard for banking software and provide customers with a seamless and efficient banking experience.

II. EXISTING SYSTEM

The bank management system involves various processes to facilitate the smooth functioning of the bank and provide excellent customer service.

- **Open Account** : This process involves collecting customer information,

verifying their identity and eligibility to open an account, and creating a record in the bank's system. Depending on the type of account, the customer may need to provide additional documentation or meet specific requirements.

- **Deposits** : Once a customer has an account, they can make deposits into their account. The bank's system records the deposit amount, date, and any relevant information about the transaction.
- **Withdrawals** : The bank's system records the withdrawal amount, date, and any relevant information about the transaction.
- **Check Balance** : Customers can check their account balance using various channels, such as online banking, ATM, or by contacting customer service.
- **Transaction History** : Customers can view their transaction history, which includes all their deposits, withdrawals, and other account activity. The bank's system provides the customer with a detailed list of all their transactions, date, amount, and other information.
- **Closed Accounts** : Customers may close their account for various reasons, such as moving to another bank or not needing the account anymore. The bank's system records the closure of the account and any remaining balance that needs to be transferred to the customer.

This system plays a critical role in ensuring efficient and accurate processing of transactions and maintaining excellent customer service.

III. PROPOSED SYSTEM

In this advanced method, The AI voice chatbot feature can provide customers with an easy and efficient way to access information and perform transactions.

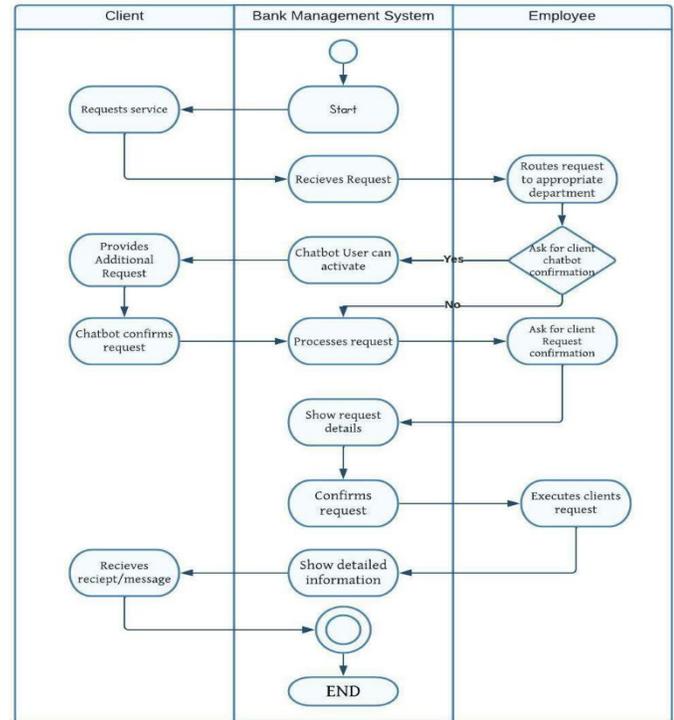
AI voice chatbot can be especially useful for providing customers services in multiple languages, By using language detection algorithms, the chatbot can identify the language that the customer is speaking and then respond in that language. This can help to reduce language barriers and improve the customer experience.

AI voice chatbot can be used to provide customer service by answering frequently asked questions, providing account information, and helping customers with basic banking tasks such as transferring funds, paying bills, and checking balances.

An AI voice chatbot can be used to detect and prevent fraud by analyzing customer behavior and transactions. The chatbot can alert customers and bank employees of suspicious activity, and provide guidance on how to protect their accounts.

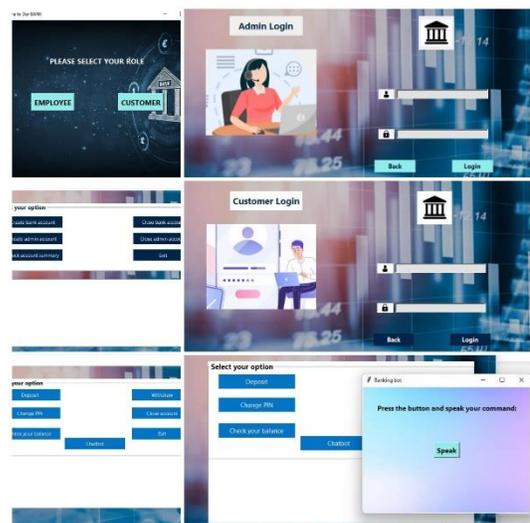
Overall, this can help to reduce the workload for human customer service agents and provide faster and more efficient service to customers.

IV. ACTIVITY FLOW DIAGRAM

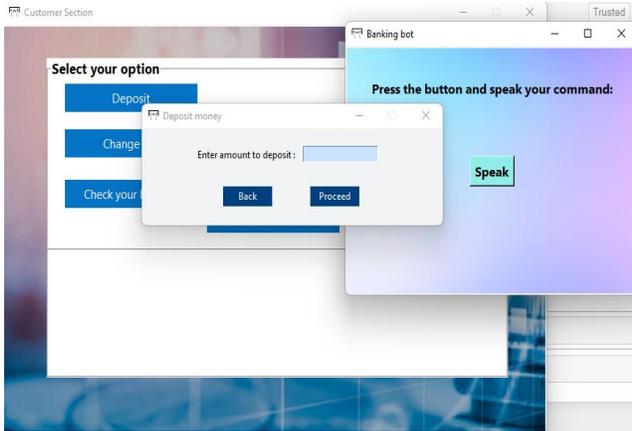


V. RESULTS

The final output of our project is displayed below each image appears when you click on the option in the previous image



Output after speaking the command



The chatbot gives voice output and directly opens the page through your voice command.

VI. CONCLUSION

In conclusion, the proposed system has the potential to streamline banking processes and enhance the user experience by providing an intuitive and conversational interface. The integration of an AI chatbot that can understand natural language commands and provide accurate and up-to-date information makes the system more user-friendly and accessible. The real-time fraud detection capability is also a critical feature that can help protect customers' financial interests.

VII. FURTHER ENHANCEMENT

To further enhance the system, some suggestions include:

- **Automated check deposit:** One potential enhancement for this project is to incorporate an automated check deposit system. Through this customers can directly scan and get amount without going to bank.
- **Integration with mobile applications:** Customers can access the banking system from their smartphones, making

it more convenient for them to manage their accounts and complete transactions on the go.

- **Integration with biometric authentication:** The system can incorporate biometric authentication technology such as fingerprint or facial recognition to enhance security and prevent unauthorized access to customer accounts.
- **Natural Language Processing (NLP):** The system can incorporate NLP to improve the accuracy of the chatbot's responses and enable customers to interact with the chatbot using natural language.
- **Personalization:** The system can incorporate personalized recommendations for customers based on their transaction history and preferences, providing a more tailored banking experience.

VIII. REFERENCES

- [1] Article: Online banking, Website: https://en.wikipedia.org/wiki/Online_banking
- [2] Online Bank Account Management System Website: <http://www.slideshare.net>
- [3] Amir Shevat, Creating Conversational Experiences “Designing Bot” May 2017
- [4] B Setiaji, Chat bot using knowledge in database “Human to Machine” Mar 2016