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Banking Bot

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Abstract— **Banking bot is an artificial intelligent development for banking operations, which can understand people queries and responds accordingly. The main aim of this project is to develop a banking bot using artificial intelligent algorithms which should be able to analyze and understand user's queries and react accordingly. For any banking related queries we have to go to the bank or call to customer care. It takes lot of time and effort and bank people are also very busy to attend our queries. On the other hand we don't get complete information from the customer care executives. It will be more suitable if we can directly post our queries online or chat with the bank people and get the response within less time. To overcome this problem we proposed banking bot where people can directly chat with a bot and they can integrate all of their bank accounts into same bot account and access them easily. In this Banking bot, we have included the four basic bank operations namely adding and viewing the beneficiary, fund transfer, viewing the balance and mini statement. In addition, users can post any query regarding the banking operations**.

Index Terms— **Bank transactions, directly post queries, Bot transactions. Integrate bank accounts, Easier approach**

I. INTRODUCTION

Banking has become the part and parcel of everyone's life. Almost everyone uses the banking sector to perform their tasks. Most of the tasks are been carried out manually. Now the use of mobile and internet banking facility has reached greater heights. Chat bots is becoming trending today. They are computer programs that interact with users using natural languages.

In this project we are trying to perform few of the basic banking operations via chat bots. Now bots in banking sectors are only used to give guidelines but in this bot, we perform banking operations for a list of few banks.

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II. OBJECTIVE OF THE PROJECT

The objective of this project is to contribute to the solution of the problem of direct communication between applicants and the university. The main objectives of the project are as follows:

A .Database

To develop a database were all the relevant information about questions, answers, keywords, logs and feedback will be stored.

B. Algorithm

To develop a keyword matching algorithm and a string distance comparison algorithm and combine them in order to retrieve the best possible answer.

C. Interface:

To develop a web interface which aims to give the ability to potential students and their families to submit questions in a chat bot and get convincing replies.

In this our banking bot, our main objectives are as Follows:

- To ensure easier banking process.
- To minimize the time consumption.
- To has 24*7 accesses to the bank.
- Has eliminated most of the flaws in the existing chat bot applications.

III. SIGNIFICANCE

- It is important to provide accurate banking transactions.
- Helps to integrate bank accounts from different banks.
- Easy and Interactive transaction.

IV. FUNCTIONAL REQUIREMENTS

A. Chatting

a. The system should allow users to chat.

b. The system shall inform the user if an answer is not available.

c. The system shall inform the user about spelling mistakes.

B. Searching

a. The system should allow users to search for information about bank details and clear all the bank related queries.

b. The system should allow users to search for information about beneficiary, fund transfer, mini statement and balance.

c. The system should allow users to search for information about IFSC code list.

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C. Logs

a. The system should maintain a log of the current question and answer if the user is not satisfied.

D. Feedback

a. The user should be able to leave feedback, which is comprised of a text message and a rating.

E. Administrative system

a. Information management: The administrator should be able to add, update and delete bank accounts.

b. Log management: The administrator should be able to view and delete logs.

c. Feedback management: The administrator should be able to view and delete feedbacks.

V. SOFTWARE SPECIFICATION

A. FRONT END AND BACK END

The front end is designed using Recast.Ai framework which includes a collaborative platform for bot creating, hosting and deploying. Recast.Ai is the collaborative end to end bot platform made by developers for the developers. Here all the bot tools are integrated and it allows automatic detection of entities. It uses NLP, Machine Learning. API Connectivity is been done using PHP.

B. PHP

PHP is a server scripting language, and a powerful tool for making dynamic and interactive Web pages.PHP is a widely-used, free, and efficient alternative to competitors such as Microsoft's ASP.PHP is an acronym for Hypertext Preprocessor.PHP is a widely-used, open source scripting language.PHP scripts are executed on the server.

C. MACHINE LEARNING

Machine learning is a core sub-area of artificial intelligence; it enables computers to get into a mode of self-learning without being explicitly programmed. When exposed to new data, these computer programs are enabled to learn, grow, change, and develop by themselves.

D. NLP

Natural-language processing (NLP) is an area of computer science and artificial intelligence concerned with the interactions between computers and human (natural) languages, in particular how to program computers to fruitfully process large amounts of natural language data.

E. MY SQL

MySQL is an open-source relational database management system (RDBMS).The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements. MySQL was owned and sponsored by a single for-profit firm, the Swedish company MySQL AB, now owned by Oracle Corporation For proprietary use, several paid editions are available, and offer additional functionality.

MySQL is a central component of the LAMP open-source web application software stack (and other "AMP" stacks). LAMP is an acronym for "Linux, Apache, MySQL, Perl/PHP/Python". Applications that use the MySQL database include: TYPO3, MODx, Joomla, WordPress, Simple Machines Forum, phpBB, MyBB, and Drupal.

F. JSON

JSON, or JavaScript Object Notation, is a minimal, readable format for structuring data. It is used primarily to transmit data between a server and web application, as an alternative to XML. The two primary parts that make up JSON are keys and values. Together they make a key/value pair.

VI. PROPOSED SYSTEM

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The proposed system is Banking bot is an artificial intelligent develop for banking operations, who understand people queries and responds accordingly. The main aim of this project is to develop a banking bot using artificial intelligent algorithms which should be able to analyze and understand user's queries and react accordingly.

For any banking related queries we have to go to the bank or call to customer care. It takes lot of time and effort and bank people are also very busy to attend our queries. On the other hand we don't get complete information from the customer care executives. It will be more suitable if we can directly post our queries online or chat with the bank people and get the response with no time. To overcome this problem we proposed banking bot where people can directly chat with the bot.

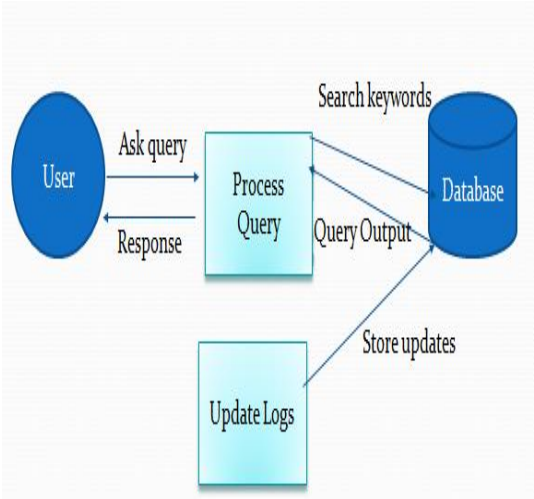

Fig 1: **Block diagram**

The design module split is:

Module 1: Adding beneficiary

- Adding beneficiaries for a user
- Link with fund transfer mechanism

Module 2: Fund transfer

- Initiate fund transfer

- Fund transfer to beneficiary with different modes

Module 3: Balance Enquiry

- Authentication
- Display the current balance

Module 4: Mini statement

- Display the mini statement
- Track the recent transactions and display them.

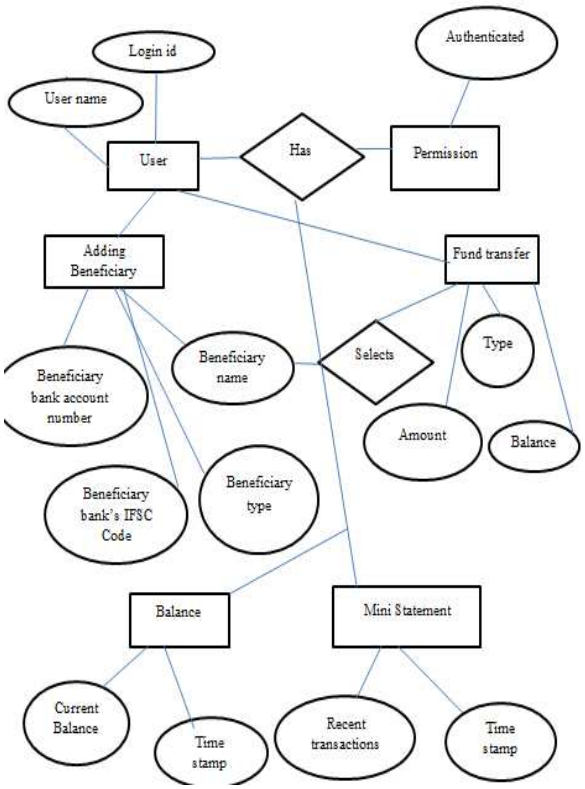

Fig 2: **Entity-Relationship diagram**

VII. SYSTEM TESTING

Software testing is an investigation conducted to provide stakeholders with information about the quality of the software product or service under test. Software testing can also provide an objective, independent view of the software to allow the business to appreciate and understand the risks of software implementation. Test techniques include the process of executing a program or application with the intent of finding software bugs and verifying that the software product is fit for use.

Software testing involves the execution of a software component or system component to evaluate one or more properties of interest. In general, these properties indicate the extent to which the component or system under test.

A. INTEGRATION TESTING

Integration testing (sometimes called integration and testing, abbreviated I&T) is the phase in software testing in which individual software modules are combined and tested as a group. It occurs after unit testing and before validation testing. Integration testing takes as its input modules that have been unit tested, groups them in larger aggregates, applies tests defined in an integration test plan to those aggregates, and delivers as its output the integrated system ready for system testing.

B. COMPATIBILITY TESTING

Compatibility testing is a non-functional testing conducted on the application to evaluate the application's compatibility within different environments.

It can be of two types - forward compatibility testing and backward compatibility testing.

Operating system Compatibility Testing - Linux , Windows

Database Compatibility Testing - Oracle SQL Server

Browser Compatibility Testing - IE , Chrome, Firefox

VIII. SCREEN SHOTS

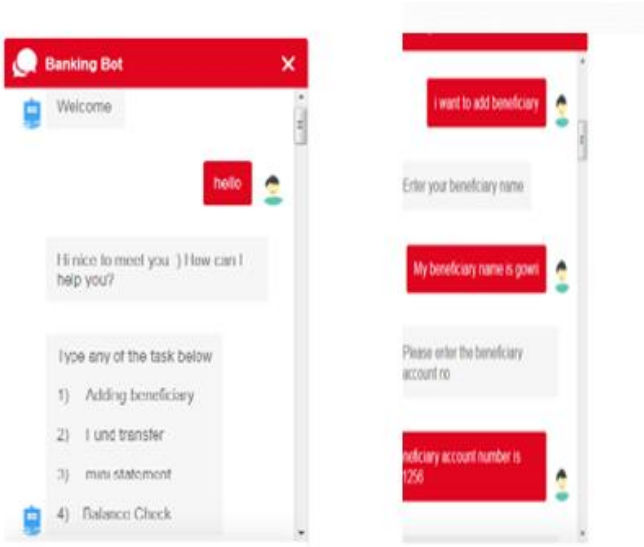

Fig 3: **Adding a beneficiary**

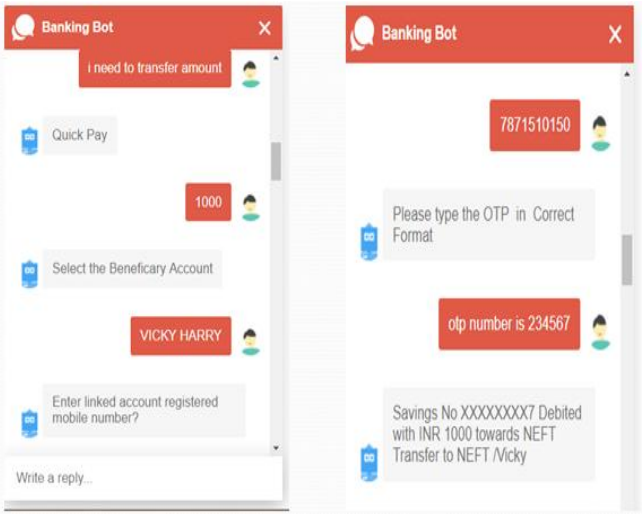

Fig 4: **Fund Transfer**

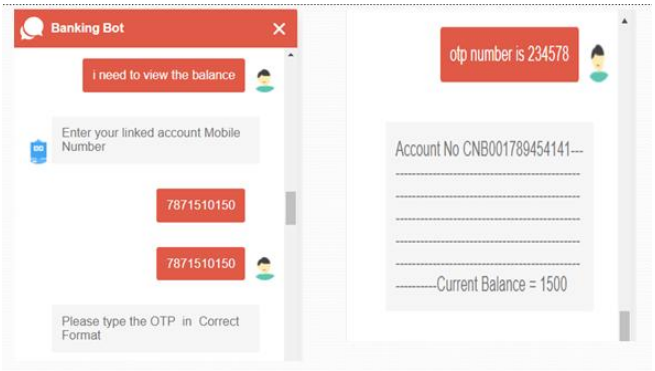

Fig 5: **Balance check**

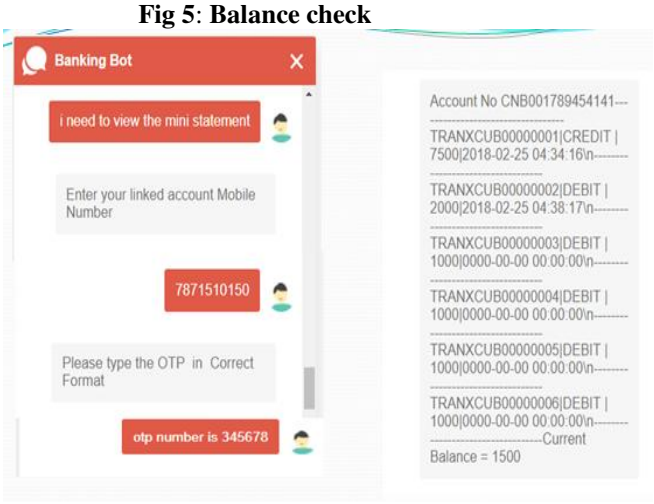

Fig 6: **Mini statement**

IX. CONCLUSION

Thus this project banking bot will be more efficient while it is been put into practice and it helps the customers to easily perform the user's action of performing various banking tasks. It allows the user having various bank accounts to integrate into a single interface and he/she can add their account details into this bot account and easily perform their banking operations within seconds. The user will definitely have accounts in various banks. It will be tedious for the user to login to the various internet banking site every time so this bot will be handy at this situation and it is interactive too. If we consider the bot's safety, it is been secured through the one time password. So user will have no issues in using this bot.

This banking bot will be really helpful when it is been integrated with the payment gateway. Still no such development like this is not been implemented in real time environment.

When this is been implemented in the real time the customers will be able to access all the banking information from a single integrated site that can be any like social media or web application.

Since the information has the OTP generation, the application will be a protected one and this can be safely integrated in the real time basis.

OTP is been send thrice to the user if in case the user types the wrong one he/she will be prompted with resend option such that OTP can be sent again.

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