

# **MEGABOT**

**A Project Report**

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*in partial fulfillment for the award of the degree*

*of*

**BACHELOR OF TECHNOLOGY**

**IN**

**COMPUTER SCIENCE AND ENGINEERING**

**At**



**JANUARY 2024**

**PRESIDENCY UNIVERSITY**  
**AND**  
**SCHOOL OF COMPUTER SCIENCE ENGINEERING**

**CERTIFICATE**

This is to certify that the Project report “MEGABOT” being submitted by “RUCHITHA.M, TEJOMAI CHITTEPU, SHAIK AYESHA AFRIN, S APURVA” bearing roll numbers “20201CSE0109, 20201CSE0130, 20201CSE0084, 20201CSE0165” in partial fulfillment of requirement for the award of degree of Bachelor of Technology in Computer Science and Engineering is a bonafide work carried out under my supervision.

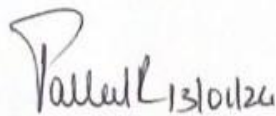


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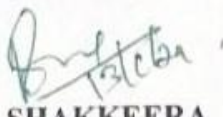


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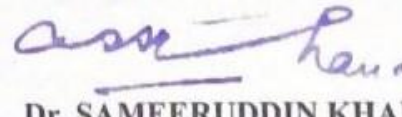


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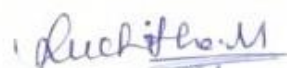
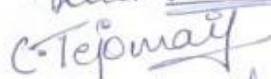
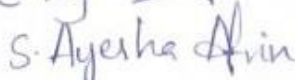
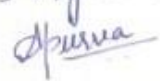
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**DECLARATION**

We hereby declare that the work, which is being presented in the project report entitled **MEGABOT** in partial fulfilment for the award of Degree of **Bachelor of Technology** in **COMPUTER SCIENCE AND ENGINEERING**, is a record of our own investigations carried under the guidance of **Mr. JERRIN JOE FRANCIS**, Assistant Professor, School of Computer Science<sup>AND</sup> Engineering, Presidency University, Bengaluru.

We have not submitted the matter presented in this report anywhere for the award of any other Degree.

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## **ABSTRACT**

In an era of digital transformation, access to government-sponsored financial schemes is vital for individuals and businesses. The development of "MegaBot," an interactive chatbot, addresses this need by consolidating information on all government-sponsored loans and insurance schemes into a single accessible platform. MegaBot serves as a user-friendly virtual assistant, designed to facilitate easy access to valuable information sourced from various governmental and financial authorities such as "NABARD" ("National Bank for Agriculture and Rural Development") and "RBI" ("Reserve Bank of India"), among others. This innovative chatbot employs natural language processing and advanced search capabilities to enable users to quickly find relevant details on loans, insurance plans, eligibility criteria, application procedures, and other critical information. By providing a comprehensive, up-to-date resource, MegaBot empowers citizens, entrepreneurs, and organizations to make informed decisions and leverage the available financial support from government initiatives. With its convenience and accessibility, MegaBot represents a significant step towards promoting financial inclusion and strengthening the bridge between government schemes and the people they serve.

## **ACKNOWLEDGEMENT**

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We thank our family and friends for the strong support and inspiration they have provided us in bringing out this project.

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## CHAPTER – 1

### INTRODUCTION

#### **1.1 Motivation:**

The motivation behind the development of MegaBot is to bridge the information gap and promote financial inclusion in an increasingly digital world. In this era of digital transformation, access to government-sponsored financial schemes is crucial for individuals and businesses. MegaBot aims to simplify this access by consolidating information from various governmental and financial authorities, making it easy for users to find details on loans and insurance schemes. By providing a user-friendly virtual assistant with advanced search capabilities, MegaBot empowers people to make informed decisions and leverage government support, thereby strengthening the link between government schemes and the citizens they serve.

#### **1.2 Problem Statement:**

Accessing comprehensive information about government-sponsored loans and insurance schemes is currently fragmented and challenging. Citizens, businesses, and organizations often struggle to navigate various sources, leading to inefficiencies and missed opportunities. There is a pressing need for a centralized solution that simplifies the search and retrieval of such information, ensuring that individuals and entities can make well-informed decisions about government financial support. This problem statement underscores the urgency of developing an integrated chatbot, like MegaBot, to bridge the information gap and enhance accessibility to essential financial resources in e-governance.

#### **1.3 Project objective:**

Main goal of this project is creating an interactive chatbot, "MegaBot," that serves as a centralized information hub for government-sponsored loans and insurance schemes. It aims to provide easy access to comprehensive and up-to-date details from diverse sources like NABARD and RBI. By doing so, the project seeks to empower individuals and businesses with the knowledge needed to make informed decisions and leverage government financial support effectively, ultimately promoting financial inclusion and efficiency in accessing these critical resources.

### **1.4 Scope:**

The chatbot project is to centralize and streamline information on government-sponsored loans and insurance schemes from diverse sources such as NABARD and RBI. It aims to enhance accessibility and user-friendliness, allowing citizens and businesses to easily access essential details. The chatbot leverages natural language processing and advanced search features to create a comprehensive, up-to-date resource, promoting financial inclusion and informed decision-making in the realm of government financial initiatives.

### **1.5 Overview**

In today's rapidly evolving landscape of digital transformation, access to government-sponsored financial schemes has become increasingly vital for individuals and businesses alike. These financial initiatives are pivotal in fostering economic growth, aiding in disaster recovery, supporting agriculture and rural development, and promoting entrepreneurship. However, navigating the complex maze of these schemes, understanding their intricacies, and staying informed about the latest updates can be a formidable challenge for many. In response to this critical need, the innovative "MegaBot" chatbot emerges as a powerful solution. MegaBot serves as a cutting-edge, interactive chatbot designed to consolidate and streamline information on all government-sponsored loans and insurance schemes. It brings together data from various authoritative sources, like “the National Bank for Agriculture and Rural Development (NABARD)” and the “Reserve Bank of India (RBI)”, providing users with a centralized, user-friendly platform to access a wealth of information. MegaBot harnesses the power of natural language processing and advanced search capabilities, making it a user-friendly virtual assistant that empowers individuals, entrepreneurs, and organizations to effortlessly find relevant information on loans, insurance plans, eligibility criteria, application procedures, and more. It offers a comprehensive, up-to-date resource that not only simplifies the process of accessing information but also aids in making well-informed decisions.

By bridging the gap between government schemes and the people they are intended to serve, MegaBot represents a significant stride towards financial inclusion, efficiency, and empowerment. It paves the way for a future where all can access and leverage the financial support offered by government initiatives, ensuring that no one is left behind in this era of

digital transformation. In essence, MegaBot is the gateway to a world of financial opportunity and prosperity.

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Chatbots have become an important part of our daily digital lives, are becoming widespread in messaging, and are used as digital assistants in the technological environment. Customer service leaders have moved from initial chatbot testing to the mainstream.

## CHAPTER – 2 LITERATURE SURVEY

### **[1] The Integration and Deployment of AI Chatbots in Public Institutions: Insights from State Governments in the United States**

This research paper investigates the integration and application of AI chatbots within governmental entities in the United States. The study finds that the adoption of chatbots is influenced by a number of factors, including the perceived relative advantage of chatbots, the ease of use of chatbots, and the leadership and innovative culture of the organization. The study also finds that the implementation of chatbots is influenced by a number of factors, including establishing and sustaining knowledge bases, technological expertise and system stability, allocation of human and financial resources, inter-agency collaboration and communication, adherence to confidentiality and safety regulations, and meeting citizens' expectations.

#### **Advantages**

- Increased accessibility
  - Reduced costs
  - Improved customer service
  - Increased transparency
- #### **Disadvantages**
- Lack of human touch
  - Limited capabilities
  - Bias

### **[2] Consumer Response to the Implementation of AI Chatbots in the General Insurance Sector in Singapore**

The research paper shows how consumers respond to the implementation of artificial intelligence chatbots in the distribution of general insurance in Singapore. It examines consumer reactions to the use of AI chatbots in the distribution of general insurance in Singapore. The study finds that consumers are generally positive about the use but they also have some concerns.

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#### **Advantages**

- Increased convenience
- Personalization • Efficiency

### **Disadvantages**

- Lack of human touch
- Unable to answer complex queries
- Biased towards users

Overall, the study finds that AI chatbots have the capacity to transform the manner in which that general insurance is distributed in Singapore. However, it is important to be aware of the potential drawbacks of chatbots as mentioned above **[3] Krushi chatbot for farmers**

The research paper "Krushi: A Conversational Agent for Indian Farmers" describes the development and evaluation of a chatbot named Krushi, which is designed to help Indian farmers access agricultural information and advice. Krushi is trained on a large corpus of farmer call center logs and is capable of addressing a diverse array of inquiries, encompassing topics such as agronomy, pathogen and insect control, price trends and public authority programs.

### **Advantages**

- Krushi is available 24/7 and can be accessed from anywhere with an internet connection.
- Krushi can provide information and advice on a wide range of agricultural topics.
- Krushi is available in multiple Indian languages.
- Krushi is easy to use and does not require any specialized knowledge.

### **Disadvantages**

- Krushi may not be able to answer all questions accurately, especially those that are complex or open-ended.
- Krushi may not be able to provide personalized advice to farmers, as it does not have access to information about their specific farms.

#### **[4]FANCY (Financial Technology): Chatbot-Based Digital Financial Literacy Innovation As A Disability-Friendly Education Effort**

The paper summarizes the advancement and assessment of a chatbot named FANCY, which is designed to help people with disabilities learn about financial literacy in a way that is accessible and engaging. FANCY is powered by artificial intelligence and is able to communicate with users in a natural language way.

The paper presents the results of a user study conducted with 20 people with disabilities. The study found that FANCY was effective in improving the financial literacy knowledge of the participants. The participants also reported that FANCY was easy to use and enjoyable to interact with.

##### **Advantages**

- It is accessible to people with disabilities, as it can be used with a variety of input devices, including screen readers and voice recognition software.
- It is engaging and interactive, which makes it more likely that users will stick with the lessons and learn the material.
- It is affordable and scalable, which means that it can be used to reach a large number of people with disabilities.

##### **Disadvantages**

- It is still under development, and it may not be able to answer all questions accurately.
- It may not be suitable for all people with disabilities, depending on the severity of their disability.
- It requires an internet connection to use.

#### **[5]Chatbots for E-Government: Opportunities and Challenges**

Chatbots are computer programs that can simulate conversations with humans. They are increasingly being applied in diverse contexts, inclusive of e-government. Chatbots for egovernment can provide citizens with 24/7 access to government services, simplify the process of applying for government services and tracking their status, and provide citizens with personalized information and support.

##### **Advantages**

- **Convenience:** Chatbots are available 24/7, so citizens can access information about government services and apply for those services at any time.
- **Accessibility:** Chatbots can be accessed from anywhere with an internet connection, making them accessible to citizens in rural areas and to people with disabilities.

- **Efficiency:** Chatbots can automate many of the tasks that are currently handled by human staff, which can improve the efficiency of e-government services.
- **Accuracy:** Chatbots can provide citizens with accurate and reliable information about government services, as they can be programmed to access and process information from government databases.

### **Disadvantages**

**Complexity:** Chatbots can be complex to develop and maintain, and they may not be able to answer all of a citizen's questions.

**Security and privacy:** Chatbots need to be designed to protect the security and privacy of citizens' personal data.

**Accessibility:** Chatbots may not be accessible to all citizens, such as those who have limited access to the internet or who are not familiar with using technology.

**Public trust:** Some citizens may be hesitant to use chatbots for e-government services, due to concerns about accuracy, reliability, and security.

### **[6] A Chatbot providing details on loan schemes**

It is an engaging bot designed to assist users in addressing queries about government-backed loans and programs. Operating as an Artificial Intelligence bot, it retrieves information from multiple public authorities.

### **Advantages**

- **Convenience:** LOAN PAL is a chatbot that is available 24/7, so users can access information about government loans at any time.
- **Accuracy:** LOAN PAL pulls information from various government sources, so users can be confident that the information they receive is accurate.
- **Ease of use:** LOAN PAL is easy to use, even for people who are not familiar with computers.
- **Comprehensive information:** LOAN PAL can provide users with comprehensive information about government loans, including eligibility criteria, interest rates, repayment periods, and required documents.

### **Disadvantages**

- **Internet access required:** LOAN PAL requires an internet connection to use.
- **Language barrier:** LOAN PAL is currently only available in English.

- **Limited knowledge:** LOAN PAL is still under development, so it may not be able to answer all questions about government

### **[7] Exploring the impact of quality, trust, and enablement on contentment and utility of chatbots in public sectors**

Chatbots are increasingly being adopted by governments to provide citizens with information and services. However, little is known about the factors that influence citizen satisfaction with and the utility of chatbots in the digitization of the public sector. This study investigates the role, information quality, system quality, service quality, trust, and perceived empowerment in explaining citizen satisfaction with and use of chatbots in e-government. The study uses data from a survey of citizens in the United States. The findings highlight that the quality of information, system, and service all positively influence on citizen contentment with chatbots.

#### **Advantages:**

- The study presents a novel application of chatbots in the domain of digital government source.
- The research findings demonstrate that chatbots can be an effective way to access and explore open government data.
- The study's findings have important implications for the improvement of digital public sector service portals.

#### **Disadvantages:**

- This study only evaluates the chatbot in a laboratory setting.
- The study does not compare the chatbot to other methods of accessing open government data.
- The study's findings may not be generalizable to other open government data portals.

### **[8] Chatbots for E-Government: A Review of the Literature and Research Agenda**

Chatbots are increasingly being adopted by governments to provide citizens with information and services. This paper reviews the research literature on chatbots for e-government and identifies a number of pros and cons of using chatbots in this context.

#### **Advantages:**

- **Increased accessibility:** Chatbots can be accessed 24/7, which can be particularly beneficial for citizens who live in remote areas or who have limited access to traditional government services.



- **Improved efficiency:** Chatbots can handle a large number of inquiries simultaneously, which can free up government employees to handle more complex tasks.
- **Personalized service:** Chatbots can be personalized to provide citizens with information and services that are tailored to their specific needs.
- **Cost savings:** Chatbots can be more cost-effective than traditional methods of providing government services, such as call centers or in-person appointments.

### **Disadvantages:**

- **Limited scope:** Chatbots are often limited to providing information and services that can be easily automated. Complex inquiries may still need to be handled by human government employees.
- **Accuracy and reliability:** Chatbots may not always provide accurate or reliable information. This can be particularly problematic for citizens who are seeking information about important matters, such as taxes or benefits.
- **Privacy concerns:** Chatbots collect and store a large amount of data about citizens. This data could be misused if it is not protected by strong security measures.
- **Lack of trust:** Some citizens may be hesitant to use chatbots because they do not trust the technology. This can limit the potential benefits of chatbots for e-government.

## **[9] The impact of AI-powered chatbots and their implementation on user reliability and the sharing of information in digital loan applications**

### **Advantages:**

- It is a timely and relevant topic. Chatbots are becoming increasingly popular in the online loan application process, and it is important to understand how users trust and information sharing are affected by chatbot design.
- The study is well-designed and conducted. The authors used a randomized online experiment with 160 participants to test the effects of two chatbot design features (conversational interaction and anthropomorphism) on user trust and information sharing.
- The findings are significant and have practical implications. The authors found that both conversational interaction and anthropomorphism increased user reliability in chatbot and the agent. Additionally, reliability in the interaction design significantly impacted the willingness to disclose information. These findings suggest that chatbot

designers should focus on creating chatbots that are conversational, anthropomorphic, and trustworthy.

### **Disadvantages:**

Chatbots may not be able to understand or respond to all user queries accurately. This could lead to frustration and distrust on the part of the user.

- It might not offer an equivalent degree of personalized service as a human representative. This could be especially important for borrowers with complex financial needs or who are new to the loan application process.
- This could be especially important for customers with complex financial needs or who are new to the financial industry.
- Chatbots may be used to commit fraud or scams. For example, a chatbot could be used to impersonate a financial advisor or customer service representative in order to gain access to a customer's account information or financial assets.
- Chatbots may be used to collect sensitive personal information from borrowers. This raises concerns about data privacy and security.

### **[10]AI-based Chatbot Service for Financial Industry**

The paper provides a comprehensive overview of AI-based chatbots and their potential applications in the financial industry. The paper identifies a number of benefits of using chatbots in the financial industry, The paper discusses the challenges associated with the implementation of chatbots in the financial industry, such as ensuring data security and privacy and developing chatbots that can understand and respond to complex financial queries

### **Advantages**

Chatbots are capable of delivering customer service and support around the clock. This is especially beneficial for customers who have questions or problems outside of normal business hours.

- They can help financial institutions to cut the cost by task automation that are currently performed by human employees. For example, chatbots can help to answer customer questions, generate leads, and pre-qualify borrowers.

- Increased efficiency: Chatbots can help financial institutions to increase the efficiency of their operations. For example, chatbots can help to reduce the time it takes to process loan applications and provide customer support.
- Enhanced security: Chatbots can be used to implement enhanced security measures, such as two-factor authentication and fraud detection.

### **Disadvantages**

- Chatbots may not be able to understand or respond to all customer inquiries accurately. This could lead to frustration and distrust on the part of the customer.

## **CHAPTER – 3**

## RESEARCH GAPS OF EXISTING METHODS

For accessing information on government-sponsored loans and insurance schemes is fragmented and often challenging to navigate. Citizens and businesses must consult multiple sources, making it time-consuming and confusing. This lack of a centralized platform hinders the efficient dissemination of critical details and may discourage potential beneficiaries from utilizing these valuable resources.

### 3.1 Research Gaps

1. **Information Overload:** The fragmentation leads to information overload, overwhelming users with a plethora of sources, making it difficult to find pertinent details.
2. **Time-Consuming:** Users must invest significant time in searching multiple platforms, causing delays in accessing vital information.
3. **Confusion:** Navigating various sources can be confusing, potentially leading to misinterpretation of eligibility criteria and application procedures.
4. **Missed Opportunities:** The lack of a centralized platform may result in users missing out on government-sponsored financial benefits they are entitled to.
5. **Inefficiency:** The absence of an integrated system decreases the efficiency of disseminating crucial information, hindering the government's efforts to promote these programs.

## CHAPTER – 4 PROPOSED METHODOLOGY

The proposed is an integrated platform designed to streamline access to various governmentsponsored financial programs. It employs a chatbot interface that aggregates data from authoritative sources like NABARD and RBI, offering comprehensive information on loans and insurance schemes. Through natural language processing, users can easily access, compare, and apply for relevant programs, promoting financial inclusivity and informed decision-making Advantages:

- 1 Centralized Access: The platform consolidates data, offering a one-stop destination for users to access diverse government-sponsored financial programs.
- 2 Time Efficiency: Users save time by avoiding the need to search multiple sources, ensuring swift access to essential information.
- 3 Clarity: The chatbot interface simplifies complex data, making it easier for users to understand eligibility, procedures, and benefits.
- 4 Enhanced Participation: Centralized information encourages more citizens and businesses to engage with government financial initiatives, promoting inclusivity.
- 5 Informed Decision-Making: Users can easily compare options and make informed choices, optimizing their use of government-sponsored loans and insurance schemes.

### 4.1 Advantages of the Proposed System

- 1 **Centralized Access:** The platform consolidates data, offering a one-stop destination for users to access diverse government-sponsored financial programs.
- 2 **Time Efficiency:** Users save time by avoiding the need to search multiple sources, ensuring swift access to essential information.
- 3 **Clarity:** The chatbot interface simplifies complex data, making it easier for users to understand eligibility, procedures, and benefits.
- 4 **Enhanced Participation:** Centralized information encourages more citizens and businesses to engage with government financial initiatives, promoting inclusivity.
- 5 **Informed Decision-Making:** Users can easily compare options and make informed choices, optimizing their use of government-sponsored loans and insurance schemes.

**Modules:**

- 1 Interactive chatbot:** The MegaBot will assist users to get information on central government loan schemes. It provides relevant information such as eligibility criteria, application deadline, documents required, etc based on the user's request in less time.
- 2 Registration and login page:** The webpage along with the chatbot consists of a sign-in and sign-up page to authorize and authenticate the user. The chatbot saves the information of the user with every sign-in.
- 3 Accessibility for color-blind people:** The webpage is specially built for colorblind people to make it more inclusive. Special colors are used in "colorblind mode" to make the webpage more accessible.
- 4 Suggestions:** Based on the user data entered during registration, the user will receive personalized loan suggestions on the webpage.

**REQUIREMENT ANALYSIS**

1. Hardware Components    2.

Software Components

**Hardware Components**

<b>Processor</b>	<b>- I7/Intel Processor</b>
Hard Disk	- 160GB
Key Board	- Standard Windows Keyboard
Mouse	- Two or Three Button Mouse
Monitor	- SVGA
RAM	- 8GB

**Software Requirements:**

Operating System	: Windows 11
Server-side Script	: HTML, CSS & JS
Programming Language	: Python
Libraries	: Django, Pandas, Numpy,
IDE/Workbench	: PyCharm, Visual Studio Code
Technology	: Python 3.6+

**Database**

In the realm of computing, a database refers to a systematically organized assembly of electronically stored data that can be retrieved and managed. Smaller databases find residence in file systems, whereas more extensive databases find hosting on computer clusters or cloud storage platforms. The architecture of databases encompasses both formal methodologies and pragmatic considerations, including aspects such as data modeling, efficient data representation and storage, query languages, security and privacy measures for sensitive data, and challenges related to distributed computing, such as facilitating concurrent access and ensuring fault tolerance..

## **XAMPP SERVER**

### **1. Introduction to XAMPP Server:**

XAMPP is a web server package that is both free and open-source, designed to be crossplatform that bundles popular programming languages and their interpreters into a single, easy-to-install package.

### **2. Key Features of XAMPP Server:**

**All-in-one Solution:** XAMPP combines Apache web server, MariaDB (relational database management system), PHP scripting language, Perl scripting language, and other modules like phpMyAdmin, Apache Tomcat, and FileZilla into a single, easy-to-install package. This makes it ideal for web developers and web designers to develop and test their projects locally without needing to set up individual components.

**Cross-platform Compatibility:** XAMPP runs on Windows, macOS, Linux, and other It is compatible with various OS, ensuring accessibility to a broad spectrum of users.. This flexibility allows developers to work on their projects regardless of their chosen platform.

**Ease of Use:** XAMPP is known for its simple and intuitive user interface. It installs quickly with a single executable file and comes with a control panel that allows you to start, stop, and manage all services with a few clicks. This makes it ideal for beginners and anyone who wants to avoid complex server configuration.

**Pre-configured Modules:** XAMPP comes pre-configured with commonly used modules like phpMyAdmin for managing databases, Apache Tomcat for Java web applications, and FileZilla for FTP file transfer. This saves developers time and effort by eliminating the need to manually install and configure these modules.

**Flexibility and Scalability:** While primarily used for local development, XAMPP can also be used for small-scale production websites. Additionally, you can add other modules and extensions to extend XAMPP's functionality to meet your specific needs.

### **3. Use Cases of XAMPP Server:**

It is an Apache distribution that includes MariaDB, PHP, and Perl. It's a popular choice for web development because it's easy to install and use, and it provides all the tools you need to develop and test web applications.

**Here are some of the most common use cases for XAMPP:**

- 1. Web development:** XAMPP is a great way to get started with web development. It provides a local development environment where you can test your code without having to deploy it to a live server. This can be helpful for beginners who are just learning the ropes, as well as for experienced developers who want to test new features or bug fixes.
- 2. Content management systems (CMS):** Many popular CMSs, such as WordPress and Drupal, can be installed and run on XAMPP. This makes it a great choice for anyone who wants to create a website without having to write all of the code from scratch.
- 3. E-commerce:** XAMPP can also be used to develop and test e-commerce applications. This can be helpful for businesses that want to sell products online without having to invest in a lot of expensive hardware and software.
- 4. Education:** XAMPP is a popular tool for teaching web development. It's easy to set up and use, and it provides a safe and controlled environment for students to experiment with code.
- 5. Prototyping:** XAMPP can be used to quickly create prototypes of web applications. This can be helpful for businesses that want to get feedback on their ideas before they invest in developing a full-fledged product.
- 6. Local testing:** XAMPP can be used to test web applications before they are deployed to a live server. This can help to catch bugs and prevent problems from occurring on the live site.
- 7. Offline development:** XAMPP can be used to develop web applications offline. This can be helpful for developers who don't have a reliable internet connection or who want to work on their projects without distractions.
- 8. Learning PHP:** XAMPP is a great way to learn PHP, which is a popular programming language used for web development. XAMPP comes pre-installed with PHP, so you can start writing PHP code right away.



**9. Learning MySQL:** XAMPP also comes with MariaDB, which is a popular RDBMS. This makes this a great way to learn MySQL, which is another essential skill for web developers.

**10. Testing APIs:** XAMPP can be used to test web APIs. This can be helpful for developers who want to make sure that their APIs are working correctly before they are used by other applications.

#### **4. Community and Support:**

XAMPP Server benefits from a large and active community of developers, database administrators, and enthusiasts. Microsoft provides comprehensive documentation, online forums, and official support channels for XAMPP Server, ensuring users have access to resources and assistance when needed.

#### **WORKING :**

- SQL Server operates on a client-server model, where the server component manages databases and responds to client requests.
- Clients establish connections to the SQL Server using protocols like Transmission control protocol/Internet Protocol or other pipelines
- This server authenticates clients using Authentication options include either Windows Authentication or SQL Server Authentication.
- SQL Server supports multiple databases, each containing tables, views, stored procedures, and other database objects.
- The server processes SQL queries, parsing, optimizing, and executing them to retrieve, modify, or manipulate data, and returns the results to the client.

#### **VISUAL STUDIO:**

Visual Studio, crafted by Microsoft, stands as an integrated development environment (IDE) that furnishes an extensive array of tools and features for software development. This environment provides a sophisticated and user-friendly platform for constructing diverse applications, spanning desktop applications, web applications, mobile apps, cloud-based solutions, and beyond.

Supporting various programming languages like C#, Visual Basic, C++, F#, Python, JavaScript, and TypeScript, Visual Studio ensures a unified interface for developers. It equips them with a comprehensive suite of robust tools for proficiently writing, debugging, testing, and deploying their code

#### **Noteworthy Characteristics of Visual Studio Code:**

- **Code Editor:** Within Visual Studio, you'll find a powerful code editor encompassing features such as syntax highlighting, code completion (IntelliSense), code refactoring, and customizable keyboard shortcuts. This enhances productivity, enabling developers to compose clean and error-free code.
- **De-bugging and Diagnostics:** VS Code involves a powerful de-bugging toolset which allows programmers to navigate code, establish breakpoints, examine variables, and scrutinize runtime behavior. This aids in detecting and resolving bugs and issues throughout the development process.
- **Integrated Testing Tools:** Visual Studio provides built-in support for various testing frameworks and tools, enabling developers to write and execute unit tests, perform automated UI testing, and conduct performance profiling to optimize application performance.
- **Project and Solution Management:** VS code gives a flexible system for managing projects and solutions. Programmers can develop and manage multiple projects within a solution, organize files and dependencies, and control project settings and configurations.
- **Extensibility and Marketplace:** VS code enables extensibility through a broad spectrum of extensions & add-ons. Developers can enhance the IDE with additional tools, frameworks, and language support by accessing the Visual Studio Marketplace, which hosts a vast collection of community-created extensions.
- **Cloud and Web Development:** Visual Studio includes tools for developing cloudnative applications using Azure services, as well as web development tools for building modern web applications, including support for frameworks like ASP.NET and Node.js.
- **Collaboration and Team Development:** Visual Studio facilitates collaborative development by providing features such as Live Share, enabling real-time code sharing and collaboration among team members. It also integrates with project management tools like Azure DevOps for streamlined team coordination.

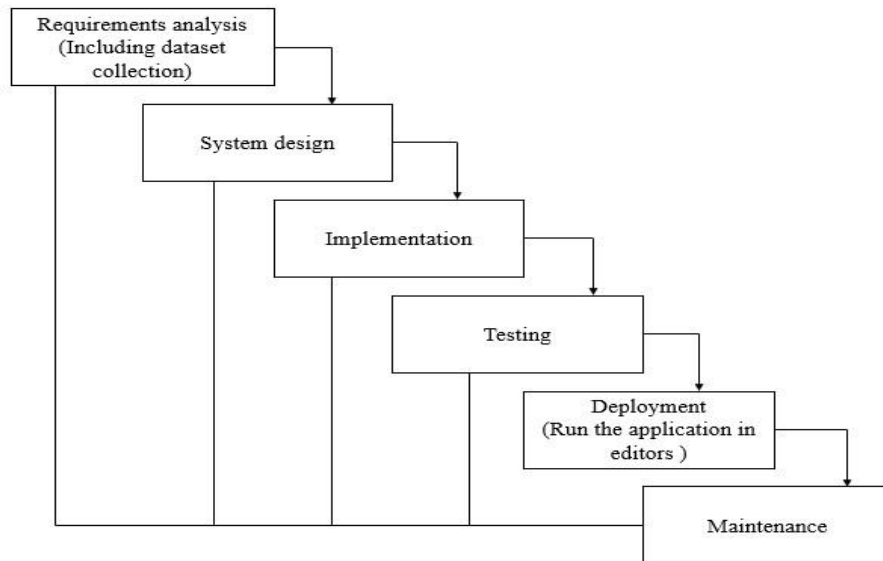
Visual Studio is widely used by developers worldwide due to its comprehensive set of features, flexibility, and extensive ecosystem. It caters to the needs of individual developers, small teams, and large enterprise-scale projects, makes it a great choice in software development across several platforms and factories.

## **SOFTWARE DEVELOPMENT LIFE CYCLE – SDLC:**

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For our project, we employ the waterfall model as our software development cycle due to its sequential approach during implementation.

- **Gathering and Analyzing Requirements:** In this phase, we capture all conceivable system requirements for development, documenting them in a requirement specification document
- **System Design:** During this phase, the specifications gathered in the first phase are examined, leading to the creation of the system design. This design assists in defining hardware and system requirements, establishing the overall system architecture.
- **Implementation:** Drawing from the system design, the system is initially constructed in small units, known as programs, which are then integrated in the subsequent phase. Each unit undergoes development and testing for its functionality, a process referred to as Unit Testing.
- **Integration and Testing:** Following the development of units in the implementation phase, they are integrated into a system after each unit undergoes testing. Subsequent to integration, the entire system undergoes testing to identify any faults or failures.
- **Deployment of System:** After completing functional and non-functional testing, the product is deployed in the customer environment or released into the market.
- **Maintenance:** Issues that arise in the client environment prompt the release of patches for resolution. Additionally, improved versions of the product are released for enhancement. Maintenance is undertaken to implement these changes in the customer environment.



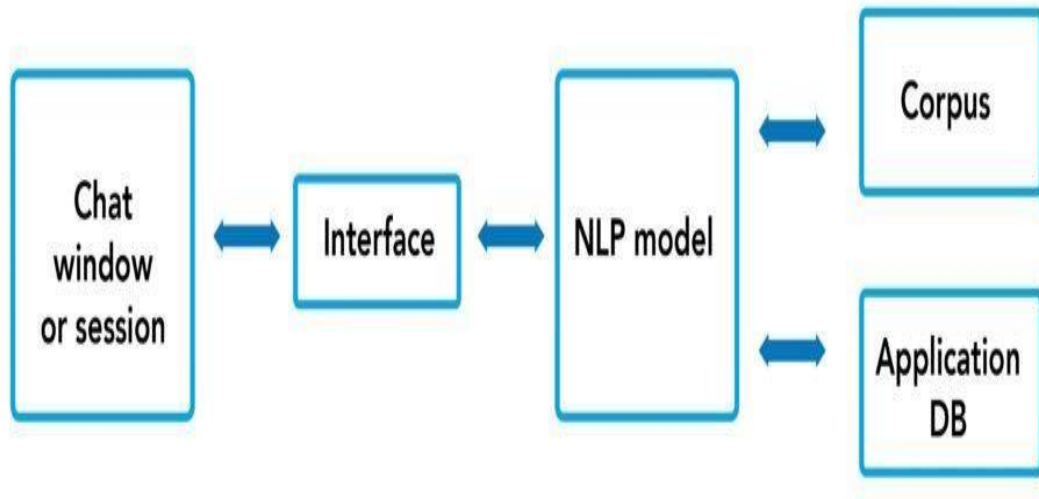
## 5.1 WATERFALL MODEL

## CHAPTER 5 OBJECTIVES

- The primary objective of this project is to create an interactive chatbot, "MegaBot," that serves as a centralized information hub for government-sponsored loans and insurance schemes.
- It aims to provide easy access to comprehensive and up-to-date details from diverse sources like NABARD and RBI.
- By doing so, the project seeks to empower individuals and businesses with the knowledge needed to make informed decisions and leverage government financial support effectively, ultimately promoting financial inclusion and efficiency in accessing these critical resources.
- It improves customer satisfaction by providing quick and efficient responses assisting with customer inquiries. They also aid users in reformulating their queries to find any information they need more easily.
- It provides customers with information about all types of loans and insurance policies, as well as the benefits of each in one place. This can help customers to make informed decisions about all their financial needs and assist them with the same.

## CHAPTER – 6 SYSTEM DESIGN AND IMPLEMENTATION

### ARCHITECTURE:



**6.1 Architecture diagram**

- The chat window or session is where the user interacts with the chatbot. The user types or speaks their query, and the chatbot responds.
- The NLP model powers the chatbot's responses. It takes the user's input, analyzes it, and then generates a response.
- The application is the software that runs the chatbot system. It includes the chat window, the NLP model, and other components, such as a database of knowledge.
- The database stores the knowledge that the chatbot uses to answer questions. This could include facts, rules, and procedures

### UML DIAGRAMS

UML, which stands for Unified Modeling Language, is a standardized modeling language widely used in the realm of object-oriented software engineering. The Object Management Group manages and created this industry-standard modeling language.

The objective is for UML to serve as a universal language for crafting models of objectoriented computer software. Currently, UML consists of two primary components: a Metamodel and a

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notation. There is potential for some method or process to be incorporated into or associated with UML in the future

### **Goals of UML:**

1. Clear Communication: Provide a readily accessible and expressive visual language to create and share understandable models.
2. Adaptable Framework: Offer mechanisms to expand and customize core concepts for specific needs.
3. Language Neutrality: Function independently of any specific programming language or development process.
4. Rigorous Foundation: Establish a clear and formal structure for comprehending the modeling language.
5. Tool Ecosystem Growth: Stimulate the creation and improvement of tools supporting object-oriented development.
6. Advanced Design: Enable the visualization and implementation of complex concepts like collaborations, frameworks, patterns, and components.
7. Best Practices Integration: Incorporate established industry practices for effective software development.

### **USE CASE DIAGRAM:**

A use case diagram paints a clear picture of what a system does. It uses two things: actors (like users, devices, or external systems) and use cases (tasks those actors can perform). These use cases, like stepping stones, show how actors achieve their goals within the system. Plus, arrows between use cases reveal important connections, highlighting which tasks rely on others to be completed. Breakdown of the components and their interactions:

#### **Actors:**

**User:** This could be anyone who wants to access the website depending on the specific system.

**System:Take Data:** This represents the process of acquiring data, which could be medical records, sensor readings, or survey responses.



**Preprocessing:** The data is prepared for analysis by cleaning, formatting, and handling missing values.

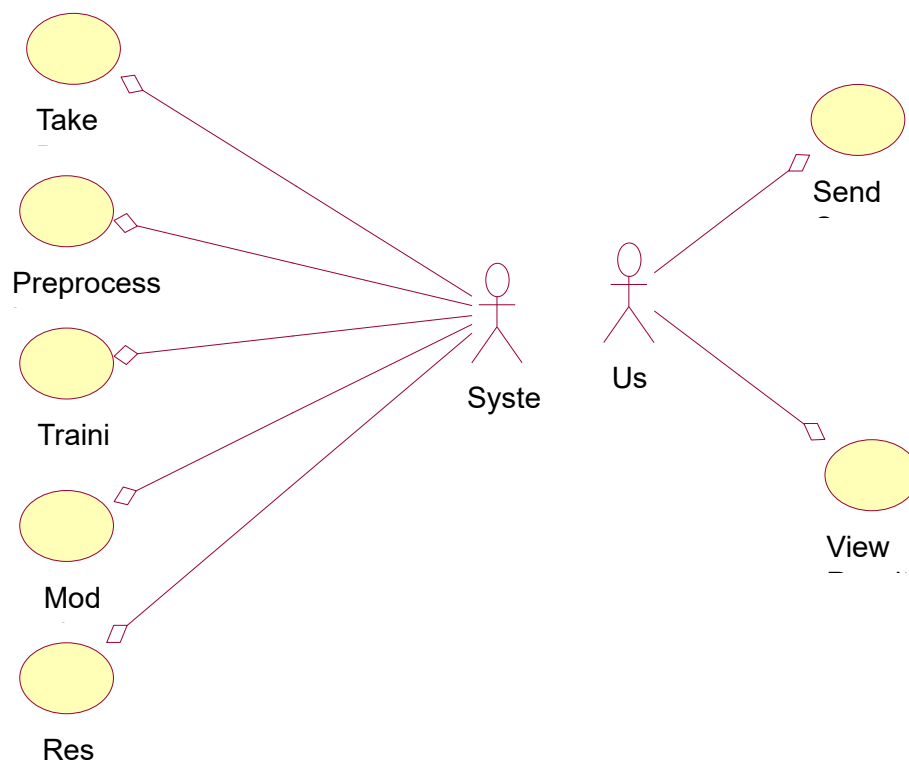
**Training:** The processed data is used to train an NLP model. This diagram doesn't specify the type of model, but it could be for classification, regression, or clustering tasks.

**Model:** This represents the trained model, which can now be used for making predictions or inferences.

**Send Query:** The user submits a query or request to the system.

**View Result:** The system returns the results of the query, which could be predictions, diagnoses, or insights derived from the trained model.

**Relationships:** The user interacts with the system by taking data, sending queries, and viewing results. The system takes data, preprocesses it, trains a model, and uses the model to generate responses to queries.



**Figure 6.2 Use Case Diagram**

**CLASS DIAGRAM:**

UML is a class diagram that delineates a system's structure. It illustrates the system's classes, their attributes, operations, and the relationships among these classes, elucidating the distribution of information within each class.

**User:** A person or entity interacting with the system.

**System:** The main component responsible for data processing and providing results.

**Use Cases:**

**Send Query():** The user initiates a request for information or action.

**View Result():** The user receives and examines the outcome of the query.

**Take Data():** The system acquires data from an external source or user input.

**Preprocessing():** The system prepares the data for further analysis, likely involving cleaning, formatting, and handling missing values.

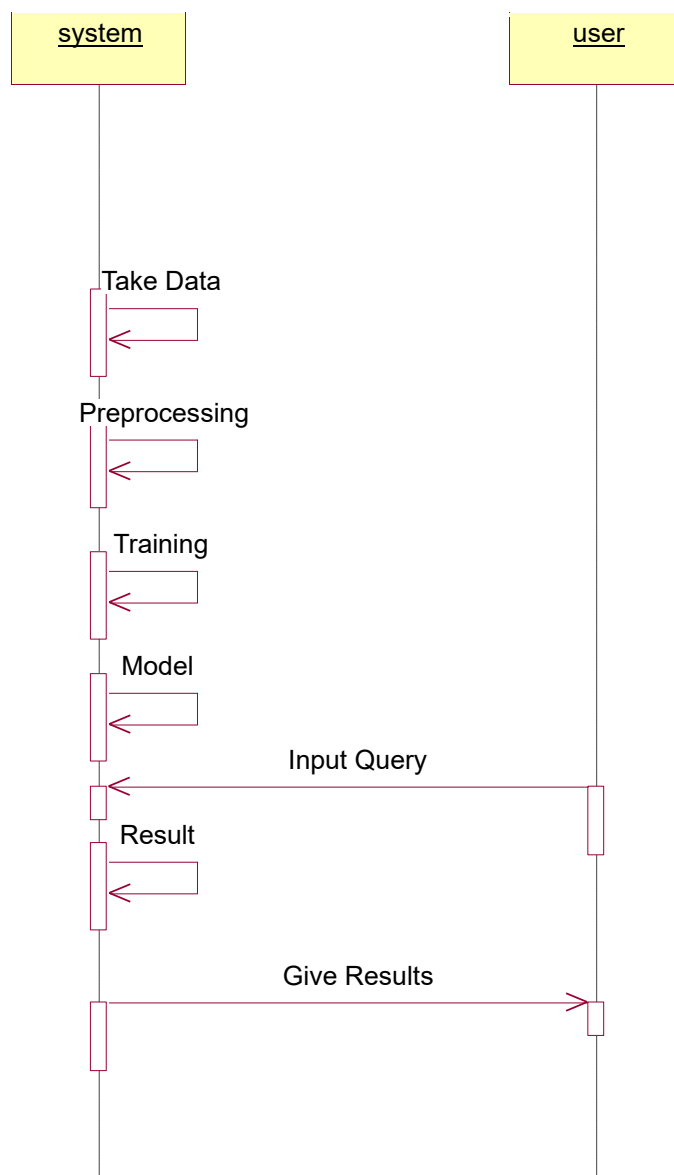
**Training():** The system uses the preprocessed data to create or refine a ML model.

**Model():** The trained model capable of making predictions or inferences.

**Result():** The output generated by the model in response to a query.



**Figure 6.3 Class Diagram**

**SEQUENCE DIAGRAM:****Figure 6.4 Sequence Diagram**

The diagram outlines a sequential flow of actions, starting with data acquisition and ending with result presentation. The steps are :

**Take Data:** The system initiates the process by acquiring data from an external source or user input.

**Preprocessing:** The system prepares the data for analysis by cleaning, formatting, and handling any inconsistencies or missing values.

**Training:** The preprocessed data is used to train a machine learning model, allowing it to learn patterns and make predictions.

**Model:** The trained model is now ready for use.

**Input Query:** The user submits a query or request to the system.

**Result:** The system utilizes the trained model to generate a response or prediction based on the user's query.

**Give Results:** The system presents the resulting insights or predictions to the user

### COLLABORATION DIAGRAM:

Collaboration diagrams visualize how objects work together to achieve a task. They're like a conversation map, showing who talks to whom and in what order.

1. System is fed with data which is pre-processed to remove all the inaccuracies.
2. The model is trained with the pre-processed data.
3. Now the model is ready for the user.
4. User sends a request to the bot.
5. The bot reads the input query and answers it accordingly.

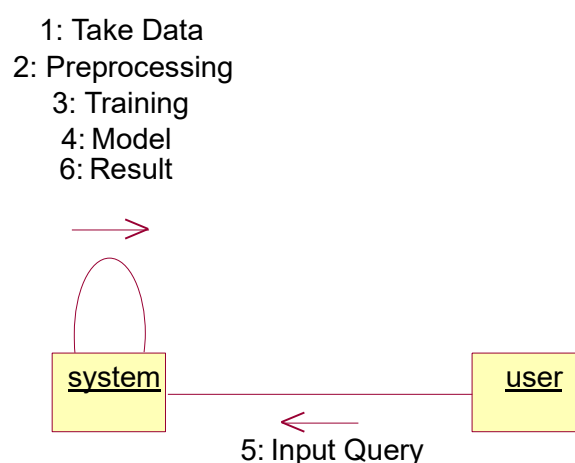


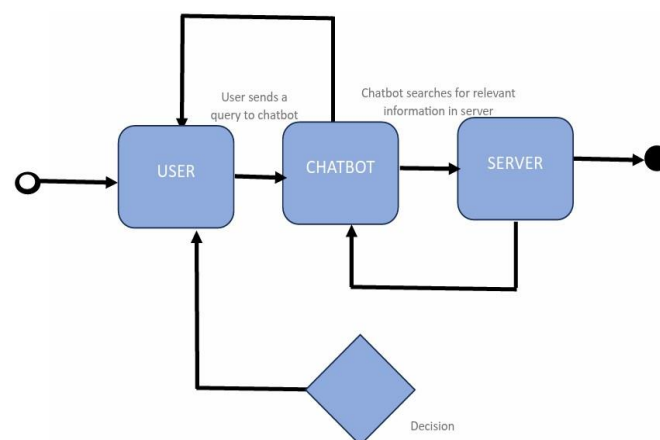
Figure 6.5 Collaboration Diagram

### ACTIVITY DIAGRAM:

Activity diagrams serve as visual depictions of stepwise workflows, portraying activities and actions while accommodating features like choice, iteration, and concurrency.

### .Activities

- **User:** sending a message, clicking a button, making a selection.
- **Chatbot:** receiving a message, analyzing the input, searching for information from the server, generating a response and sending a response to user.
- **Decision box:** The diamond in the diagram represents decision points where the chatbot needs to make a choice based on the user's input or the data it has access to.



**Figure 6.6 Activity Diagram**

### ER DIAGRAM:

ER model outlines the structure of a database through the utilization of a diagram. It serves as a design or blueprint for a database that can subsequently be implemented.

The primary elements of the E-R model include the entity set and relationship set.

### Entities:

**User:** Represents individuals who interact with the system.

**Resource:** Represents any kind of resource available in the system, such as data sources, compute resources, or tools.

**Connection:** Represents the relationship between a user and a resource, indicating that the user has access to or is using the resource.

**Tag:** Represents a keyword or descriptor associated with a resource, used for classification and searching.

### Relationships:

**Has Access;** A relationship of many-to-many nature exists between users and resources, signifying that a user can possess access to numerous resources, and concurrently, a resource can be accessed by multiple users.

**Has Tag:** A many-to-many relationship between resources and tags, where a resource can have multiple tags and a tag can be associated with multiple resources.

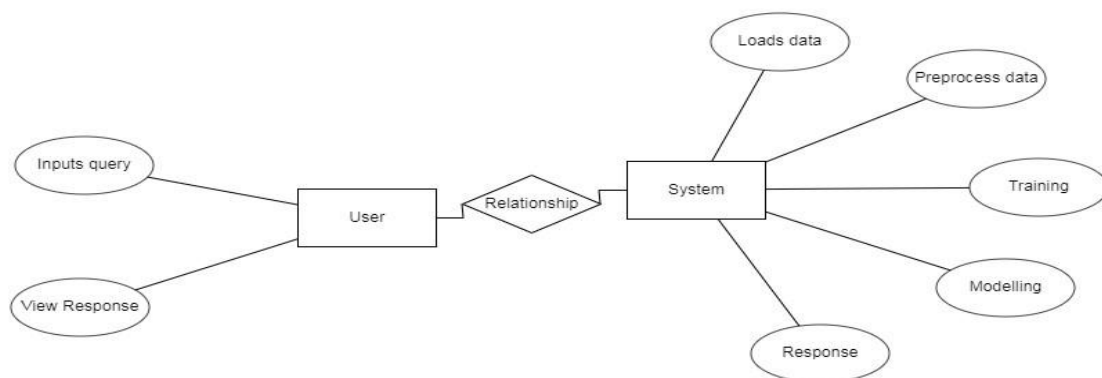
### Attributes:

**Users:** May have attributes like user ID, name, email, and access level.

**Resources:** May have attributes like resource ID, name, type, description, and location.

**Connections:** May have attributes like connection ID, start time, end time, and permissions.

**Tags:** May have attributes like tag name, description, and category.



**Figure 6.7 ER Diagram**

### DFD DIAGRAM:

DFD is a conventional method for illustrating information flows within a system. A wellorganized and lucid DFD can visually represent a substantial portion of the system requirements.

**External Entities:**

**Environment:** The physical surroundings where the robot interacts with the computer.

**Data Stores:**

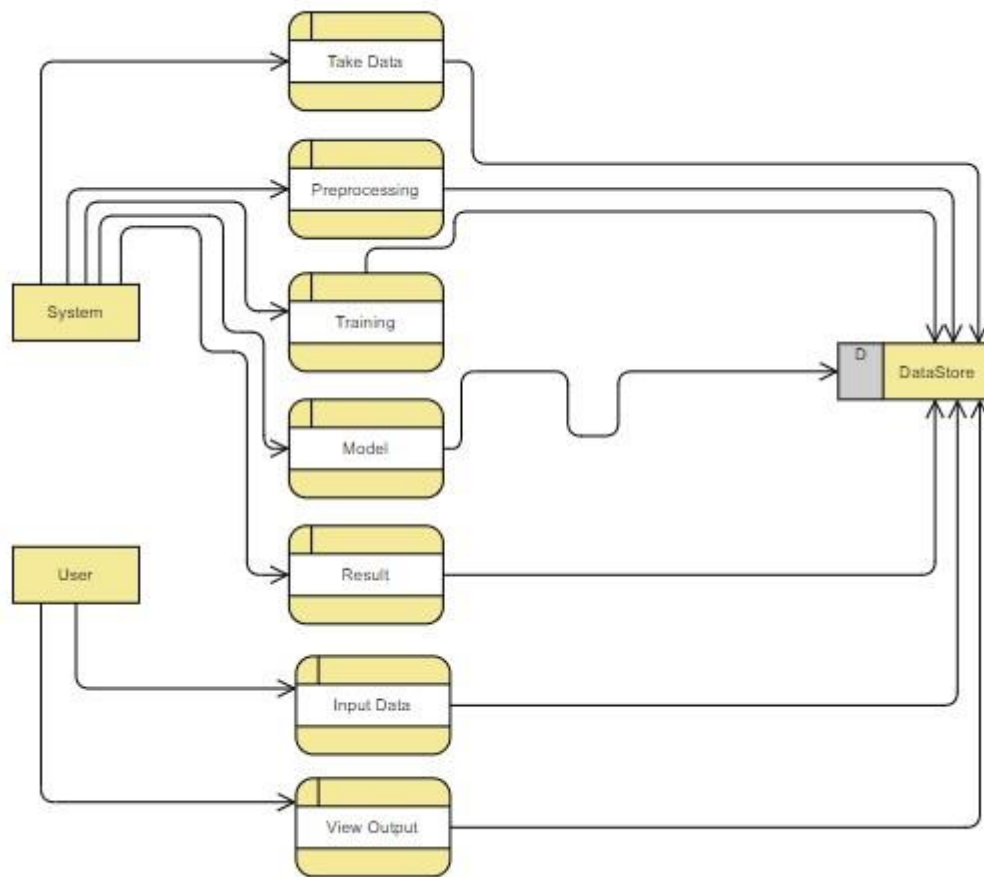
**Training Data:** Stores the data used to train the machine learning model.

**Chatbot State:** Stores information about the robot's current internal state, such as its sensor readings and past actions.

**Processes:**

1. **Data Acquisition:** This process involves collecting data from various sources, likely including the trainer's input, sensor readings from the robot, and screen capture data from the computer and gathers data from various sources and feeds it into the Preprocessing and Training processes.
2. **Preprocessing:** The collected data is cleaned, formatted, and organized for further analysis and uses the data to update the NLP model.
3. **Training:** The preprocessed database is used to train a NLP model, that could be a reinforcement learning model or another type suitable for learning motor skills and computer interaction.
4. **Action Selection:** Based on the current state of the environment and the robot's internal state, the trained model determines the next action for the robot to take and uses the current state information to select the next action for the chatbot.
5. **Execution:** The robot executes the chosen action, manipulating its physical body and interacting with the computer. It sends commands to the robot's actuators and sensors to perform the chosen action
6. **Evaluation:** The trainer and the system itself evaluate the robot's performance based on its actions and the achieved outcome. It analyzes the chatbot's performance and

feeds the results back into the Data Acquisition and Training processes for continuous improvement.

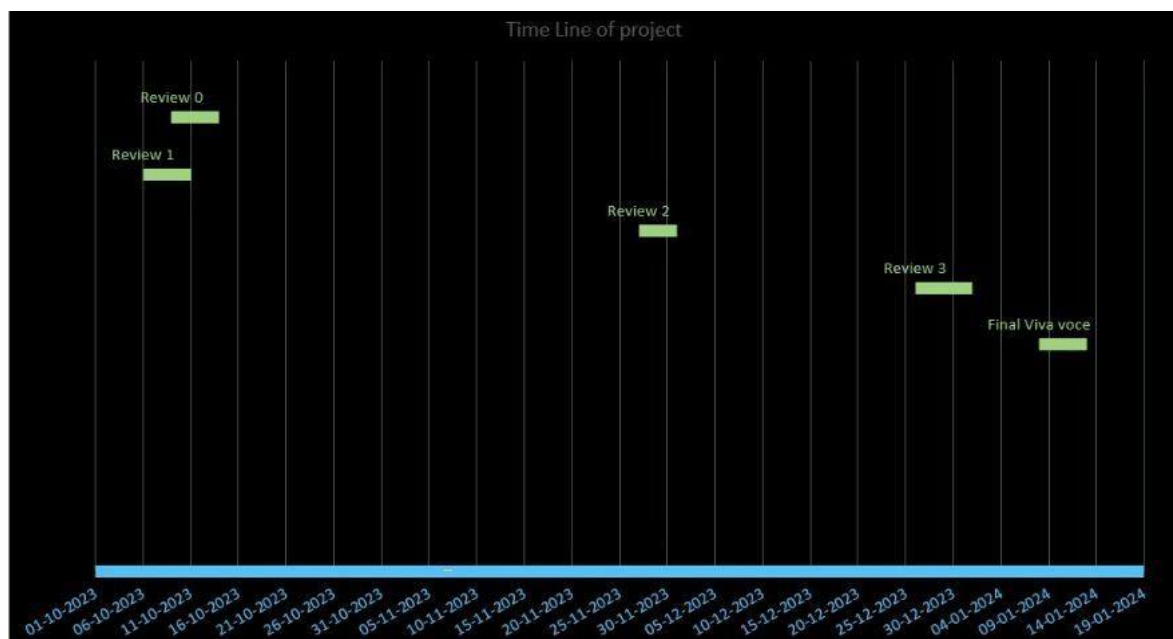


**Figure 6.8 DFD Diagram**



## CHAPTER-7

### TIMELINE FOR EXECUTION OF PROJECT



**Review 0 :** conducted on 12 Oct 2023. Discussed about project title and the scope of project.

**Review 1:** conducted on 24 Nov 2023. Presented about methodologies to be used in project, objectives, proposed method and literature reviews conducted.

**Review 2:** conducted on 11 Dec 2023. Presented 50% execution of the project and 50% final report. Discussed about the major modules as well as the salient features of the project. **Review**

**3:** conducted on 27 dec 2023. 100% execution of the project and final report submission.

**Final Viva Voce:** conducted on 11 Jan 2024. Presented 100% execution of the project and final presentation. Full explanation of code.

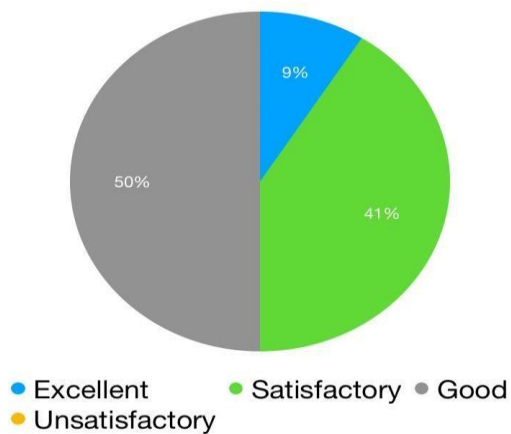
## **CHAPTER-8 OUTCOMES**

- The chatbot can guide users through the loan application process, answer FAQs, and provide personalized suggestions, simplifying the experience and reducing confusion.
- Streamlined navigation and personalized assistance can encourage more individuals to explore and apply for loans, potentially boosting economic activity.
- Automated chatbot responses can alleviate pressure on human support staff, allowing them to focus on complex inquiries and individual cases.
- Chatbot interactions can generate valuable data on user needs, preferences, and pain points, enabling the government to fine-tune loan programs and improve public service delivery.
- The colorblind toggle button caters to visually impaired users, promoting inclusivity and equal access to loan information and services.
- The platform can offer clear and easily accessible information about loan terms, eligibility criteria, and interest rates, promoting transparency and building trust with citizens.

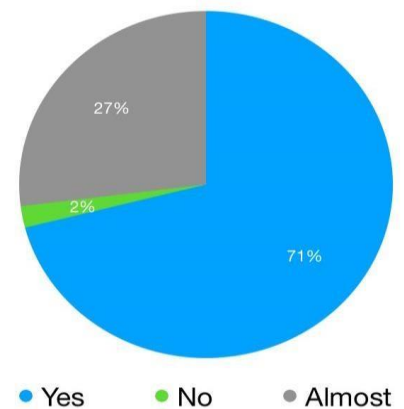
## CHAPTER-9 RESULTS AND DISCUSSIONS

Feedback was collected from 10 users. The results are:

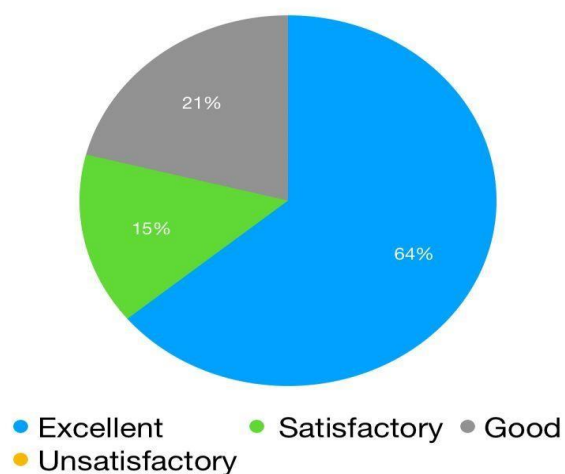
1. Rate the capabilities of MegaBot  
(10 answers)



2. Did MegaBot satisfy all its capabilities? (10 answers)



3. Ease of use (10 answers)



## **TESTING METHODOLOGIES USED ACCEPTANCE**

### **TESTING:**

User Acceptance Testing constitutes a crucial stage in any project, demanding substantial involvement from end users. Additionally, it verifies that the system aligns with the functional requirements.

**Test Results:** All the mentioned test cases passed without any issues. No defects.

Sl No	Test Scenario	Test Steps	Prerequisites	Test Data	Expected result	Actual result	Test status
1	To validate a successful registration using user data	<ul style="list-style-type: none"> <li>• Users navigate to the signup page</li> <li>• Input valid user data</li> <li>• Click the signup button</li> </ul>	User data	Username Password Repeat password Email	Upon the submission of user data, it should be stored in the database without any issues.	As Expected.	Pass

2	To validate a successful login using user data	Navigate to the Login Page: Users go to the login page. Provide Valid Credentials: Enter the correct username and password. Initiate Login:	Username, password	Username, password	Upon the submission of user data, successful authentication should take place	As Expected.	Pass
		Click on the login button.					
3	To check colorblind accessibility	User needs to click on the “color blind mode” button	none	Toggle the button	The background color must change to a more color blind friendly color(gold)	As expected	Pass
4	To check the working of chatbot:						
4.1	To check start conversation with the user	User needs to greet the chatbot	Greet words	Greet words like Hey, Hi, Hello etc	The chatbot must greet the user back	As expected	Pass

4.2	To end conversation with the user	User needs to end conversation	Key words that end conversation	Words like Bye, Good Bye, Later, Go away etc	The chatbot must end the conversation	As expected	Pass
4.3	To check if the chatbot gives relevant data	User needs to ask questions based on central govt loan schemes to the chatbot	Loan schemes	Question on loan schemes	The chatbot must answer to the user's query accurately	As expected	Pass

**Table 8.1 ACCEPTANCE TESTING**

### Discussions:

After the survey the participants did not find any problem with getting information from the chatbot. The information got from the integrated website rather helped the participants than the traditional use of multiple webpages to get information on loan schemes. Despite the chatbot's limited intelligence, evaluators found it necessary to adapt their language to align with the capabilities of the chatbot. Even though the chatbot and the webpage did a good job at providing information few participants preferred data from the official government website.

**Limitations:** The webpage might not contain one hundred percent accurate information and there might be few discrepancies in the chatbot's answers. The webpage's colorblind mode helps people who are color blind to green but is not much helpful to people who are blind to other colors.



## **CHAPTER-10 CONCLUSION**

MegaBot emerges as a pivotal solution in the digital age, fostering financial inclusion and enhancing accessibility to government-sponsored financial schemes. By amalgamating information from diverse sources into a user-friendly virtual assistant, MegaBot empowers individuals, businesses, and organizations to navigate the complex landscape of loans and insurance offerings seamlessly. Its advanced natural language processing and search capabilities provide a swift and efficient means to access vital details, thereby facilitating informed decision-making. This innovative chatbot acts as a bridge, connecting government initiatives with the people they aim to serve. Ultimately, MegaBot stands as a beacon of progress in the era of digital transformation, promoting financial inclusion and making government schemes more approachable and beneficial for a broader spectrum of citizens and entrepreneurs.

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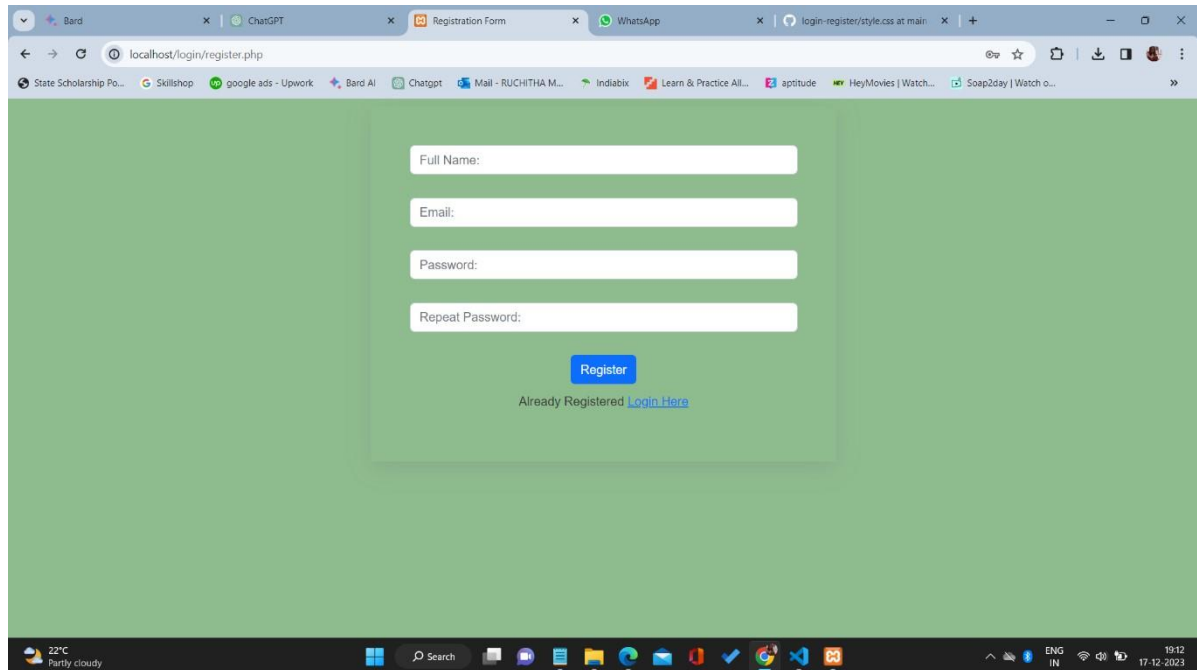
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# APPENDIX

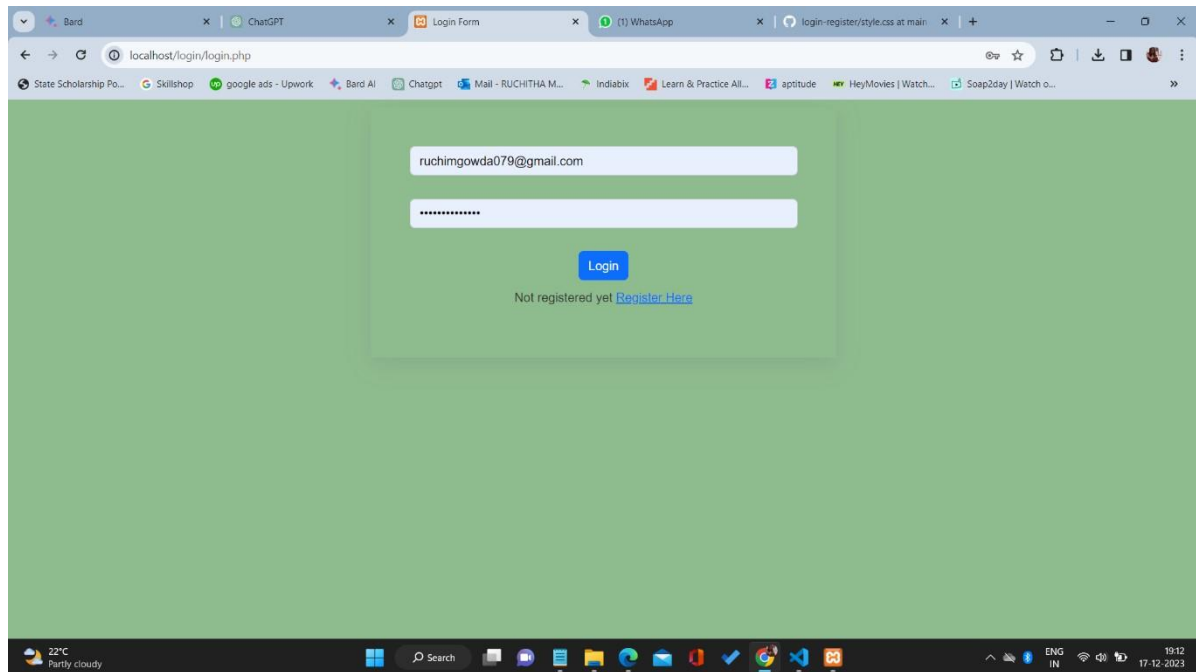
## APPENDIX-A

### SCREENSHOTS



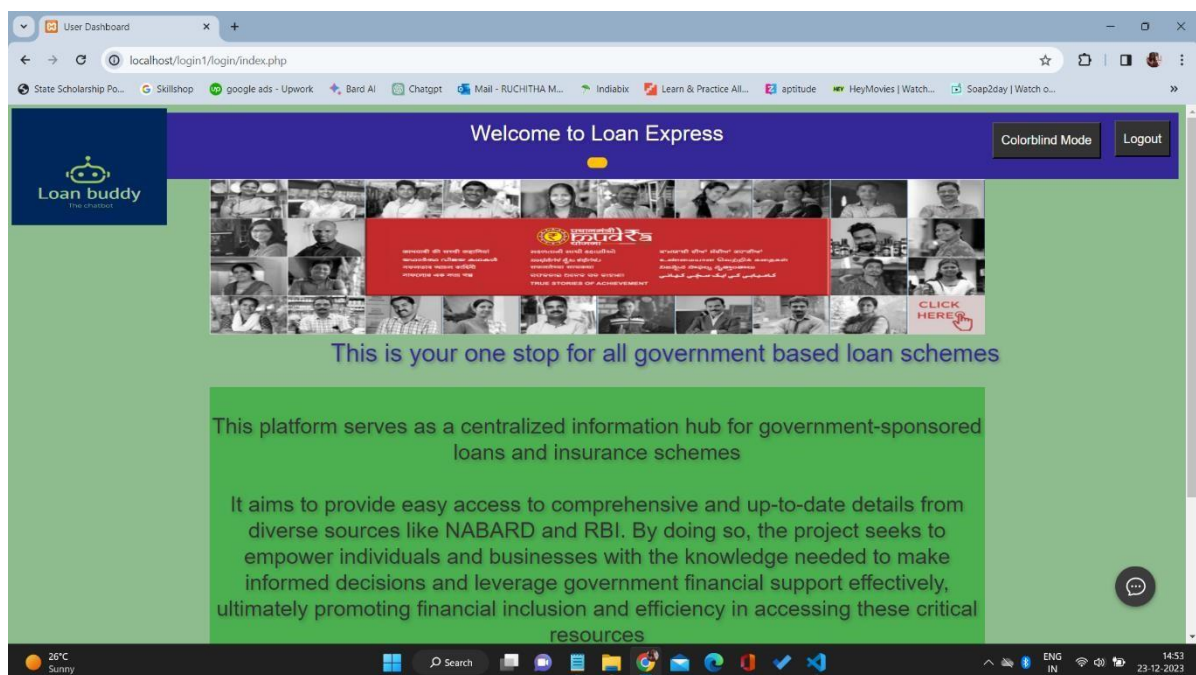
**Fig A Registration Page**

After entering all the details in the registration form an account will be created for the user. If the user already has an account they can directly go to the login page.



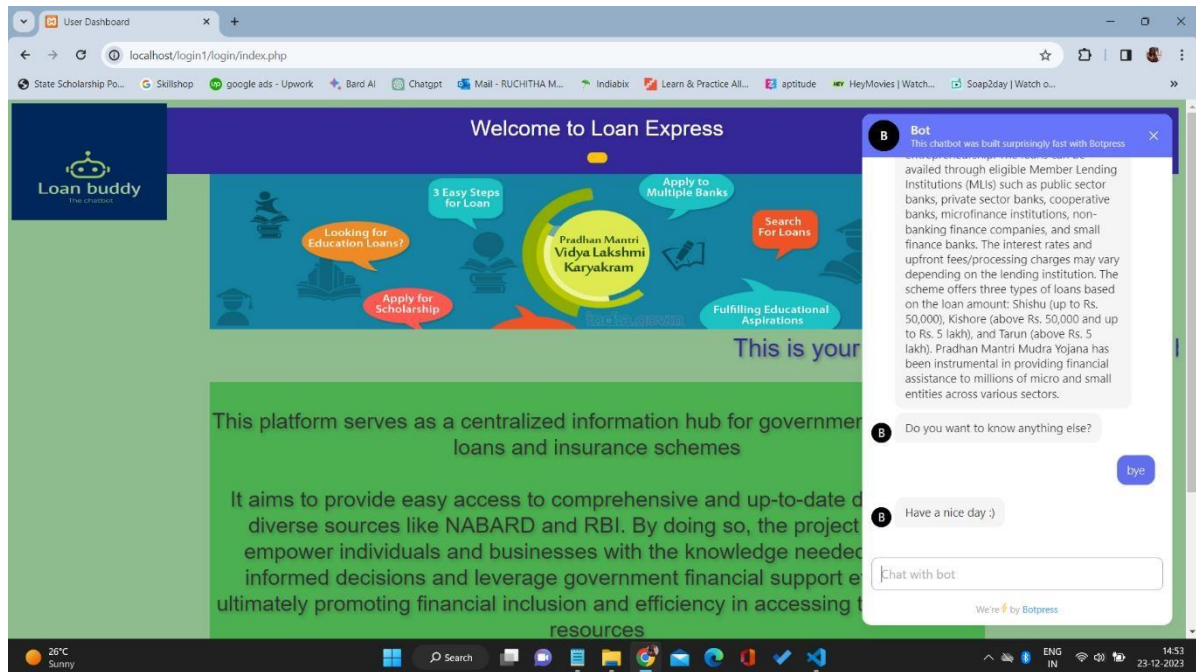
**Fig B Login Page**

After entering the correct email address and password the user can log into web page to access the chatbot.



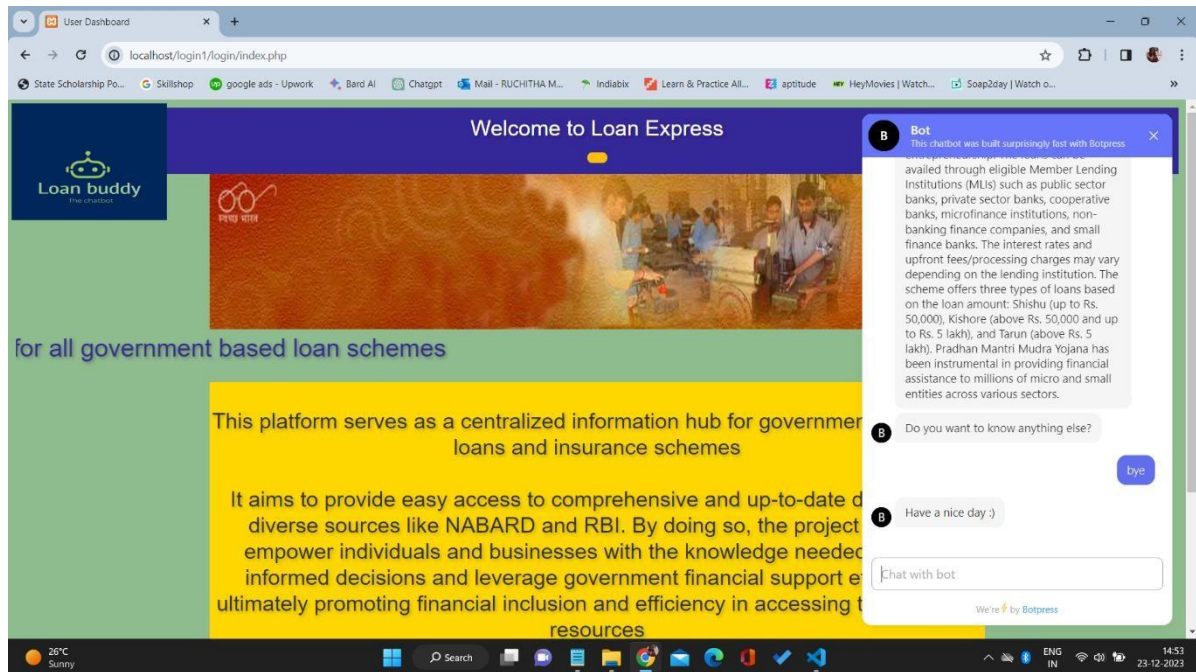
**Fig C Home page**

After successfully logging in it will direct to the home page where it will show suggestions to the user.



**Fig D ChatBot**

The webpage is built for the colorblind people to make it more inclusive and special colors are used in the "colorblind mode" to make the webpage more accesable.



**Fig E Color blind Accessibility**

Chatbots provide 24/7 availability, handle routine inquiries, personalize interactions, and resolve issues quickly, leading to increased customer satisfaction and loyalty.

## APPENDIX B

### PSUEDOCODE

```
Login.php <?php
session_start(); if
(isset($_SESSION["user"])) {
header("Location: index.php");
}
?>

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Login Form</title>
    <link
                                                rel="stylesheet"
        href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/css/bootstrap.min.css"
        integrity="sha384-
        Zenh87qX5JnK2Jl0vWa8Ck2rdkQ2Bzep5IDxbcnCeuOxjzrPF/et3URy9Bv1WTRi"
        crossorigin="anonymous">
    <link rel="stylesheet" href="styles.css">
</head>
<body>
    <div class="container">
        <?php    if
(isset($_POST["login"])) {        $email
= $_POST["email"];        $password =
$_POST["password"];
require_once "database.php";
        $sql = "SELECT * FROM users WHERE email = '$email'";
        $result = mysqli_query($conn, $sql);
        $user = mysqli_fetch_array($result, MYSQLI_ASSOC);
if ($user) {            if (password_verify($password,
$user["password"])) {                session_start();
```

```
        $_SESSION["user"] = "yes";
header("Location: index.php");          die();
    }else{
        echo "<div class='alert alert-danger'>Password does not match</div>";
    }
    }else{          echo "<div class='alert alert-danger'>Email does not
match</div>";
    }
}
?>
<form action="login.php" method="post">
    <div class="form-group">
        <input type="email" placeholder="Enter Email:" name="email" class="formcontrol">
    </div>
    <div class="form-group">
        <input type="password"      placeholder="Enter Password:"      name="password"
        class="form-control">
    </div>
    <div class="form-btn">
        <input type="submit" value="Login" name="login" class="btn btn-primary">
    </div>
</form>
<div><p>Not registered yet <a href="register.php">Register Here</a></p></div>
</div>
</body>
</html>
```

```
Index.php <?php
session_start(); if
(!isset($_SESSION["user"])) {
header("Location: login.php");
}
```



```
?>
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <link rel="stylesheet"
    href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/css/bootstrap.min.css"
    integrity="sha384-
    Zenh87qX5JnK2Jl0vWa8Ck2rdkQ2Bzep5IDxbcnCeuOxjzrPF/et3URy9Bv1WTRi"
    crossorigin="anonymous">
  <link rel="stylesheet" href="styles.css">
  <style>
    .marquee-container {
width: 100%;      overflow:
hidden;          white-space:
nowrap;
    }

    .marquee {
      display: inline-block;
      animation: marquee 15s linear infinite;      font-size: 2em;
color: #342798;      text-shadow: 2px 2px 4px rgba(0, 0, 0, 0.3); /* Add a
subtle text shadow */    }

    @keyframes marquee {
      0% {      transform:
translateX(100%);
    }

      100% {      transform:
translateX(-100%);
```

```

    }
}    h3
{
    text-shadow: 2px 2px 4px rgba(0, 0, 0, 0.2);
} body {    font-family: 'Open Sans',
sans-serif;
}

</style>
<title>User Dashboard</title>
</head>
<body>

<header>
<nav>

<h3> Welcome to Loan Express</h3>
<button id="colorblind-toggle">Colorblind Mode</button>
<a            href="logout.php"            class="btn            btn-warning"><button
            id="logout">Logout</button></a>
</nav>
</header>
<main>
<div class="slider-container" >
    <div                                class="slide"
        onclick="redirectToWebsite('https://www.vidyalakshmi.co.in/Students/')">
        
    </div>
    <div                                class="slide"
        onclick="redirectToWebsite('https://www.education.gov.in/scholarships-
        educationloan-4')">

</div>

```

```
<div class="marquee-container">
  <div class="marquee">
    CLICK ON THE ABOVE BANNER TO AVAIL YOUR LOAN TODAY!!
  </div>
</div>
<div class="box">
<section id="home">
  <h3><br>This platform serves as a centralized information hub for government-sponsored
loans and insurance schemes<br><br>
</section>
<section id="contact-us">
  <h2>Contact Us</h2>
  <h3>If you have any questions, feel free to contact us:</h3>
  <h3>
    <address>
      Email: <a href="mailto:info@loanexpress.com">info@loanexpress.com</a><br>
      Phone: +91 83100527898
    </address></h3>
  </section>

<footer>
  <p>&copy; 2023 Loan Express. All rights reserved.</p>
</footer>
</div>
</main>
<script src="script.js"></script>
<script src="script1.js"></script>
<script src="https://cdn.botpress.cloud/webchat/v1/inject.js"></script>
<script src="https://mediafiles.botpress.cloud/7665d68d-a20e-4808-9b31-
dd6b2fa287c8/webchat/config.js" defer></script>
</body>
</html>
```

```
Logout.php <?php
session_start();
session_destroy();
header("Location: login.php");
?>
```

```
Register.php <?php
session_start();
if (isset($_SESSION["user"])) {
header("Location: index.php");
}
?>
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Registration Form</title>
    <link      rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/css/bootstrap.min.css"
integrity="sha384-
    Zenh87qX5JnK2Jl0vWa8Ck2rdkQ2Bzep5IDxbcnCeuOxjzrPF/et3URy9Bv1WTRi"
    crossorigin="anonymous">
    <link rel="stylesheet" href="styles.css">
</head>
<body>
    <div class="container">

    }
    ?>
    <form action="register.php" method="post">
```

```
<div class="form-group">
    <input type="text" class="form-control" name="fullname" placeholder="Full
Name:">
</div>

<div class="form-group">
    <input type="email" class="form-control" name="email" placeholder="Email:">
</div>

<div class="form-group">
    <input type="password" class="form-control" name="password"
placeholder="Password:">
</div>

<div class="form-group">
    <input type="password" class="form-control" name="repeat_password"
placeholder="Repeat Password:">
</div>

<div class="form-btn">
    <input type="submit" class="btn btn-primary" value="Register" name="submit">
</div>
</form>
<div>
<div><p>Already Registered <a href="login.php">Login Here</a></p></div>
</div>
</div>

</body>
</html>
```

Database.php

```
<?php
```

```
$hostName = "localhost";
```

```
$dbUser = "root";
```

```
$dbPassword = "";  
$dbName = "login";  
$conn = mysqli_connect($hostName, $dbUser, $dbPassword, $dbName);  
if (!$conn) { die("Something went wrong;");  
}
```

?>

Script.js

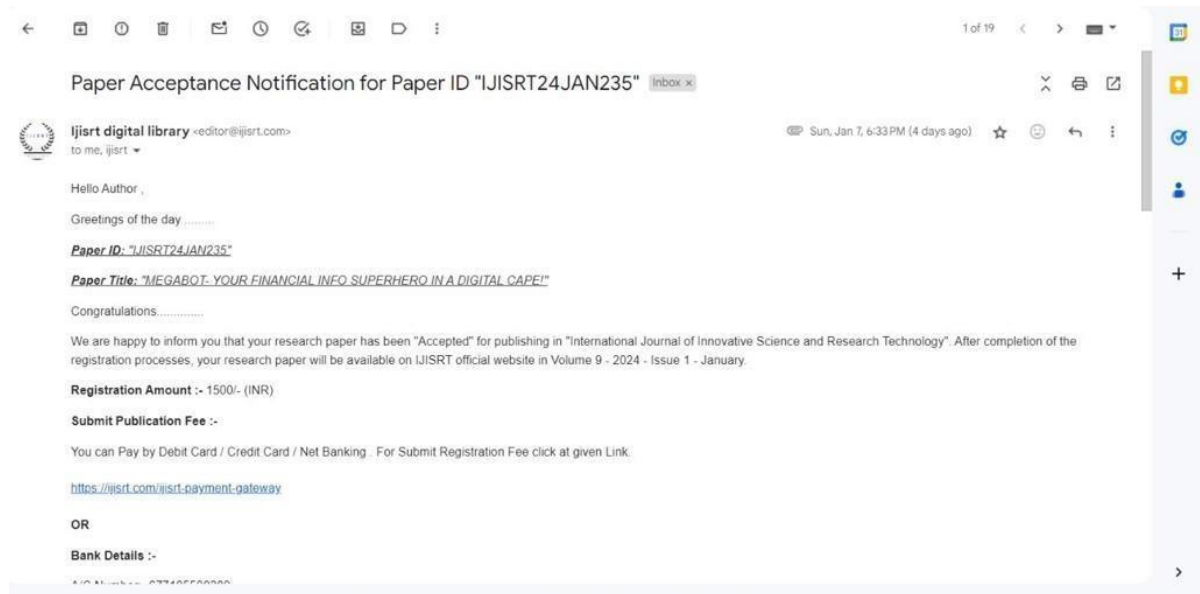
```
document.addEventListener('DOMContentLoaded', function() { const  
colorblindToggle = document.getElementById('colorblind-toggle'); const  
elementsToToggle = document.querySelectorAll('.color-change');
```

```
    colorblindToggle.addEventListener('click', function() {  
document.body.classList.toggle('colorblind');  
    });  
});
```

## **APPENDIX-C**

### **ENCLOSURES**

#### **1.Acceptance of Journal Paper Submission.**



## 2.Similarity Index / Plagiarism Check report clearly showing the percentage

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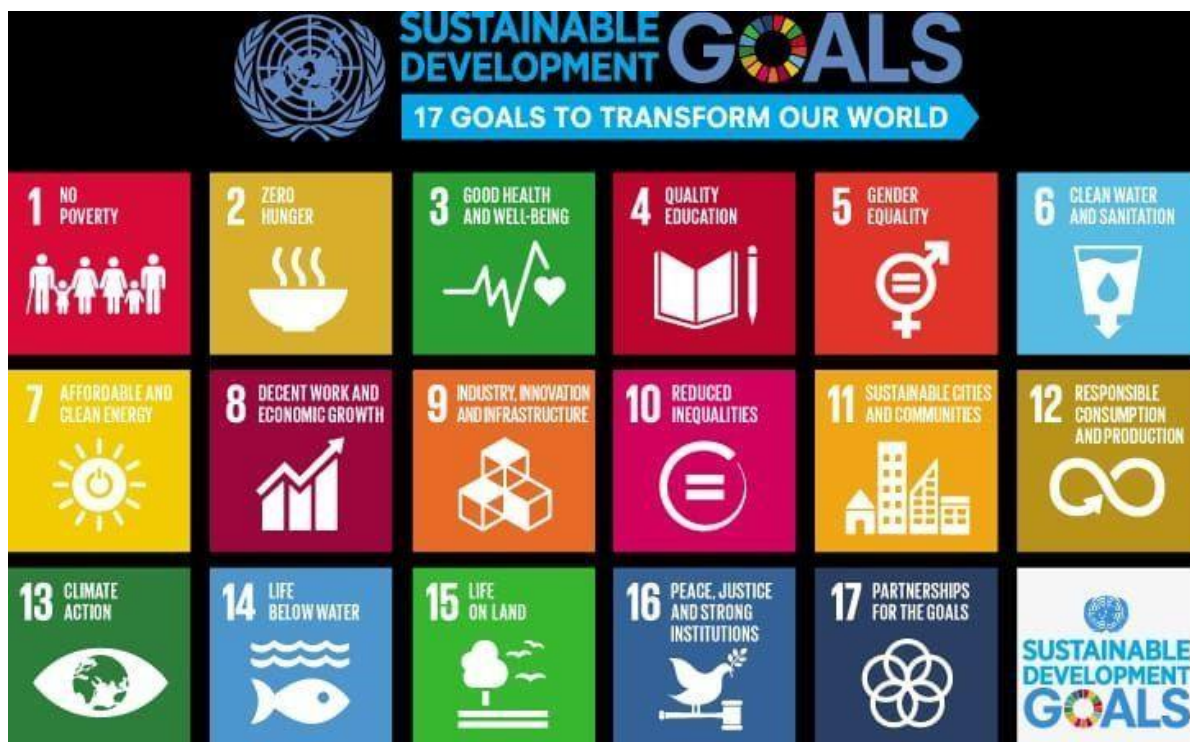
Submitted to Southern University And A &amp; M College

Student Paper

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## SUSTAINABLE DEVELOPMENT GOALS





**This project is mapped to the following Sustainable Development Goals**

**SDG 1:** This project can provide financial education and literacy, helping individuals make informed borrowing decisions and manage their finances effectively. They can also connect users with microfinance and small business loan options, empowering them to create sustainable livelihoods and escape poverty.

**SDG 8:** This project can support job creation by connecting individuals with loan options for starting or expanding businesses. They can also facilitate access to skills training and development programs, helping individuals qualify for better jobs and improve their earning potential.