

Insurance Chatbot using WebApp

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Abstract— Chatbot is built using artificial intelligence that analyses queries and users messages. The Automated Travel Insurance Chatbot is designed to engage customers in a dynamic conversation and help them choose travel insurance plan according to their category and need. All plans offer combined insurance and services which covers accident and all medical expenses, transportation expenses associated with medical evacuation. Depending on the plan selected, other features and options are given. A website is created to access the Chatbot.

Keywords: Chatbot, WebApp

I. INTRODUCTION

Insurance has become part of every civilian. Most of the tasks are been carried out manually. Now the use of mobile and internet has reached greater heights. Chatbots are becoming trending today. They are computer programs that interact with users using natural languages.

In this project, we are trying to perform a few of the basic travel insurance operations, provide the user with complete different UI experiences and chatbots. Now bots in insurance sectors are only used to give guidelines but in this bot, we perform operations like inspirational stories, rating plan discussion and so on.

A. Problem Definition

- Travel Insurance ChatBot is simply a chatbot that responds to user queries.
- UI plays a major role in this Project. The flexible UI makes the web app easily interact with the Client.
- AI-powered chatbot used for enquiring and helps people to sort out a clear idea about travel Insurance and company plans.
- Clearly defined the types of Travel Insurance Plans and how come the people get used to it to reach their dream destination.

B. 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 Insurance company. The main objectives of the project are as follows:

- Algorithm: AI-powered chatbot uses the reinforcement Algorithm. To develop a keyword matching algorithm and a string distance comparison algorithm and combine them in order to retrieve the best possible answer.
- Interface: To develop a web interface that aims to give the ability to potential clients and naive users to submit questions in a chatbot and get convincing replies. In this our Insurance chatbot, our main objectives are as follows.
- To minimize the time consumption.
- To has 24*7 access to the Insurance Agency.
- Has eliminated most of the flaws in the existing chatbot applications.

C. Significance of the Project

- It is important to provide an accurate reply to queries.
- Helps clients with enriching customer experience.
- Easy and Interactive objectives.

II. LITERATURE REVIEW

The purpose of a chatbot system is to simulate a human conversation. The chatbot architecture integrates a language model and computational algorithm to emulate information chat communication between a human user and a computer using natural language c

In E-commerce, the chatbot helps in information retrieval tasks, such as searching and browsing, as menu-based navigation poses difficulties in locating the appropriate information. The dialogue system provides additional information on products and simplifies the decision-making process to find a product that satisfies the customer's requirements. A chatbot is Entertainment Markets, in which, we can imagine that chatbots can act as a talking book for children and provide foreign language instruction or can be a tutor in the Intelligent Tutoring System.

One such study used an ALICE system to help Chinese university students practice their conversational English skills. The study was qualitative in nature and used pre-existing conversational English skills. The study focused more on user attitudes rather than on chatterbot efficiency. It was discovered that 62% of users chatted for 10 lines or less and that 8.5% of the time ALICE bot has no specific pattern to match the given input and had to rely on root-level generic responses. In all of these conversational entities, one thing is common; and that is, they are having the difficulty of maintaining dialogue for a sustainable period of time.

Therefore, techniques of knowledge acquisition were rightly used in their system AZ-ALICE chatbot that is an extension in ALICE chatterbot and tested their system. From this study, we have learned about the functionalities of a chatbot.

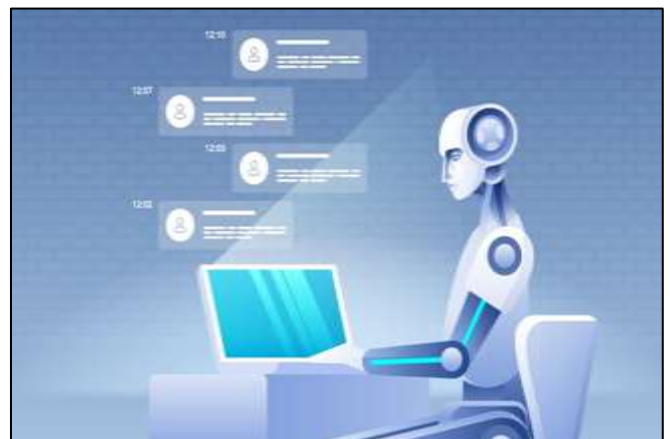


Fig. 1: Artificial Intelligence in Chatbot
IRJET sample template format, Define abbreviations and acronyms the first time they are used in

the text, even after they have been defined in the abstract. Abbreviations such as IEEE, SI, MKS, CGS, sc, dc, and rms do not have to be defined. Do not use abbreviations in the title or heads unless they are unavoidable.

III. SYSTEM ANALYSIS

Another tutoring study focused on using ALICE as a course enhancement tools with Social and Political Theory knowledge. Chatterbot development is reasonably well studied ever since the Turing Imitation Game (TIG) was first proposed. Eliza was the first famous chatbot and ALICE was another milestone. The Loebner Prize and The Chatter Challenge are both annual competitions that have their roots in TIG. This focus is on; however, whether with the text exchange alone, we can replicate human "behavior". This the study found that most subjects used the system as a search engine rather than as a conversation partner.

Dialog systems can adequately carry out the conversations with the user and can log the conversations which can be a good source for knowledge acquisition for the domain-specific topics.

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A. Travel Insurance Chat-Bot

A insurance bot project is built using artificial algorithms that analyses user's queries and understand the user's message. The system is designed for insurance agencies to use where users can ask any insurance related questions like policy etc. This application is developed for android/ios/web devices. The system recognizes the user's query and understands what he wants to convey and simultaneously answers them appropriately. The questions asked by the users can be in any format. There is no specific format for users to ask questions. The system realizes users requirements and provides suitable answers to the user. It also uses a graphical representation of a person speaking while giving answers as a real person would do. The unanswered queries are sent to admin.

IV. PROPOSED SYSTEM

The proposed system is Insurance bot is an client- admin model developed for travel insurance operations, who understand people queries and responds accordingly.

The main aim of this project is to develop a insurance bot using structured algorithms which should be able to analyse and understand user's queries and react accordingly.

For any travel insurance related queries we have to go to the insurance agency or call customer care. It takes a lot of time

and effort and insurance 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 agency people and get the response with no time. To overcome the problem we have proposed an insurance chatbot where people can directly chat with a bot.

V. FEASIBILITY STUDY

An analysis and evaluation of a proposed project to determine if it is technically feasible, is feasible within the estimated cost, and will be profitable. Feasibility studies are almost always conducted where large sums are at stake. A feasibility study aims to objectively and rationally uncover the strengths and weaknesses of an existing insurance agency applications and threats present in the environment, the resources required to carry through, and ultimately the prospects for success in the insurance Chatbot.

A. Tests of Feasibility

Feasibility study is conducted once the problem is clearly understood. Feasibility study is necessary to determine that the proposed system in insurance bot is feasible by considering the technical, operational, and economical factors. By having a detailed feasibility study the management in the will have a clear-cut view of the proposed system of the insurance bot. Feasibility study encompasses the following things:

- Technical Feasibility
- Economical Feasibility
- Operational feasibility

1) Technical Feasibility

A large part of determining resources has to do with assessing technical feasibility. It considers the technical requirements of the proposed project of banking bot. The technical requirements are then compared to the technical capability of the banking system. The systems project is considered technically feasible if the internal technical capability is sufficient to support the banking system's requirements. The analyst must find out whether current technical resources can be upgraded or added to in a manner that fulfils the request under consideration.

The essential questions that help in testing the operational feasibility of a system include the following:

- Is the project feasible within the limits of current technology?
- Does technology exist at all?
- Is it available within given resource constraints?
- Is it a practical proposition?
- Manpower- programmers, testers & debuggers
- Software and hardware
- Are the current technical resources sufficient for the new system?
- Can they be upgraded to provide the level of technology necessary for the new system?

2) Operational Feasibility

Operational feasibility is dependent on human resources available for the project and involves projecting whether the system will be used if it is developed and implemented.

Operational feasibility is a measure of how well a proposed system in insurance bot solves the problems, and takes advantage of the opportunities identified during scope definition and how it satisfies the requirements identified in the requirements analysis phase of insurance bot development.

- The essential questions that help in testing the operational feasibility of a system include the following:
- Does current mode of operation provide adequate throughput and response time?
- Does current mode provide end users and managers with timely, pertinent, accurate and useful formatted information?
- Does current mode of operation provide cost- effective information services to the business?
- Could there be a reduction in cost and or an increase in benefits?

3) Economical Feasibility

Economic analysis could also be referred to as cost/benefit analysis. It is the most frequently used method for evaluating the effectiveness of a new system of the banking bot. In economic analysis the procedure is to determine the benefits and savings that are expected from a candidate system and compare them with costs.

If benefits outweigh costs, then the decision is made to design and implement the banking bot. An entrepreneur must accurately weigh the cost versus benefits before taking an action.

Possible questions raised in economic analysis are:

- Is the system cost effective?
- Do benefits outweigh costs and system study?

VI. FUNCTIONAL REQUIREMENTS

A. Chatting

- The system should allow users to chat.
- The system shall inform the user if an answer is not available.
- The system shall inform the user about spelling mistakes.
- The system shall inform the user about the validity of the sentence.

B. Searching

- The system should allow users to search for information about their login details and clear all the bank related queries and send queries to user contact number.
- The system should allow users to search for information about beneficiary, insurance policies, mini statement and balance.
- The system should allow users to search for information about the login.

C. Logs

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

D. Feedback

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

E. Administrative System

- Information management: The administrator should be able to add, update and delete user accounts.
- Log management: The administrator should be able to view and delete logs.
- Feedback management: The administrator should be able to view and delete feedback.

VII. NON-FUNCTIONAL REQUIREMENTS

A. User Interface

- The system shall maintain an easy to use interface across all functionality and for all users
- The client's user interface should be compatible with all commonly used browsers, such as Internet explorer, Firefox, Google chrome and Safari.

B. Scalability

- The system shall be able to scale based on the number of users accounts using the system.

C. Security

- The administrative system should be protected from unauthorized access.
- The database should be protected from attacks and unauthorized access.
- The interface should be protected from attacks.
- All passwords should be stored as a secure hash of the administrator password.

D. Third party interactions

- The system should be able to interact with the Google spelling server, which handles the spelling.
- The system should be able to interact with the Google search server, which is used for the customized search on the admissions website.

E. Portability

- The system should run on a variety of operating systems that support the Java language.
- The system should run on a variety of hardware.

F. Maintainability

- The system should be easy to maintain.
- There should be a clear separation between the interface and the business logic code.
- There should be a clear separation between the data access objects that map the database and the business logic code.

G. Exception Handling

- Exceptions should be reported effectively to the user if they occur.

H. Ethics

- The system shall not store or process any information about its users.

VIII. HARDWARE REQUIREMENTS

Processor	:	Dual core processor
RAM	:	2 GB
Hard Disk	:	250 GB
Monitor	:	16'' Color Monitor
Keyboard	:	Standard 110 keys Pointing
Device	:	Mouse
Smart Phone	:	Any type

IX. SOFTWARE REQUIREMENTS

Programming Language	:	PHP
Operating System:		Windows/Ubuntu/ Linux/Mac
Front End	:	Html
Back End	:	SQL lite
Web Browser	:	Mozilla Firefox, Google Chrome

A. Software Description

A software requirements specification (SRS) is a description of a software system to be developed. It lays out functional and non-functional requirements, and may include a set of use cases that describe user interactions that the software must provide. Software requirements specification establishes the basis for an agreement between users and chat bot on what the software product is to do as well as what it is not expected to do. Software requirements specification permits a rigorous assessment of requirements before design can begin and reduces later redesign. It should also provide a realistic basis for estimating product costs, risks, and schedules.

X. FRONT END

The front end is designed using framework which includes a collaborative platform for bot creating, hosting and deploying. It 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 Machine Learning. API Connectivity is been done using PHP.

A. 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

1) Features

- Simple: It is very simple and easy to use, compare to other scripting language it is very simple and easy, this is widely used all over the world.
- Interpreted: It is an interpreted language, i.e. there is no need for compilation.
- Faster: It is faster than other scripting language e.g. asp and jsp.
- Open Source: Open source means you no need to pay for use php, you can free download and use.
- Platform Independent: PHP code will be run on every platform, Linux, Unix, Mac OS X, Windows.
- Case Sensitive: PHP is case sensitive scripting language at time of variable declaration. In PHP, all keywords

(e.g. if, else, while, echo, etc.), classes, functions, and user-defined functions are NOT case-sensitive.

2) Advantages

- PHP (Hypertext Pre-Processor) is a server-side web programming language that is widely used for web development.
- However, here are many languages which are used for web development or web programming. But among all of them PHP is the most popular web scripting language. So, let us find out why PHP is widely used for web development...
- PHP language has its roots in C and C+
- +. PHP syntax is most similar to C and C++ language syntax. So, programmers find it easy to learn and manipulate.
- MySQL is used with PHP as back-end tool. MySQL is the popular online database and can be interfaced very well with PHP. Therefore, PHP and MySQL are excellent choice for webmasters looking to automate their web sites.
- PHP can run on both UNIX and Windows servers.
- PHP also has powerful output buffering that further increases over the output flow. PHP internally rearranges the buffer so that headers come before contents.
- PHP is dynamic. PHP works in combination of HTML to display dynamic elements on the page. PHP only parses code within its delimiters, such as. Anything outside its delimiters is sent directly to the output and not parsed by PHP.
- PHP can be used with a large number of relational database management systems, runs on all of the most popular web servers and is available for many different operating systems.
- PHP5 a fully object oriented language and its platform independence and speed on Linux server helps to build large and complex web applications.
- So, in general PHP is cheap, secure, fast and reliable for developing web applications.

B. 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.

1) Advantages

- No training.
- Relives burden of learning syntax.

XI. BACK END

The back end is designed using MySQL, whose primary function is to store data securely and retrieve it later, as requested by other software applications.

A. MySQL

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.

1) Features of MySQL

- A broad subset of ANSI SQL 99, as well as extensions.
- Cross-platform support.
- Stored procedures, using a procedural language that closely adheres to SQL/PSM.
- Triggers.
- Cursors.
- Updatable views.
- Online DDL when using the InnoDB Storage Engine.
- Information schema.

2) Advantages of MySQL

- Data Security
- On-Demand Scalability
- High Performance
- Round-the-Clock Uptime
- Comprehensive Transactional Support
- Complete Workflow Control
- Reduced Total Cost of Ownership
- The Flexibility of Open Source

B. 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.

- Key: A key is always a string enclosed in quotation marks.
- Value: A value can be a string, number, boolean expression, array, or object.
- Key/Value Pair: A key value pair follows a specific syntax, with the key followed by a colon followed by the value. Key/value pairs are comma separated.

XII. PROJECT DESCRIPTION

Chat bot automates are used in most of the MNC. Few of the operations such as adding new query, suggesting the package, provide the customers reviews and other process can be performed using this bot. This bot is been deployed using user needs and it is used to integrate few of the details.

A. Overview of the Project

The travel insurance chat bot provides a complete set of methods in order to perform the conversation. All users of the chat bot need the same functionality to complete their varied tasks.

The travel insurance chat bot allows you to:

- Ask query
- Select insurance packages
- Display the previous customer review

All the conversations are secured with help of database.

All the new query can be monitored by bot admin Bot analytics can be performed in order to improve efficiency.

B. Module Description

1) Login page

Website login-webpage interfaces, financial websites, and many other sites require a username and password in order to access account information

2) Chabot

A catboat is a computer program that simulates human conversation through voice commands or text chats or both. Chabot, short for chatterbot, is an Artificial Intelligence (AI) feature that can be embedded and used through any major messaging applications and insurance company

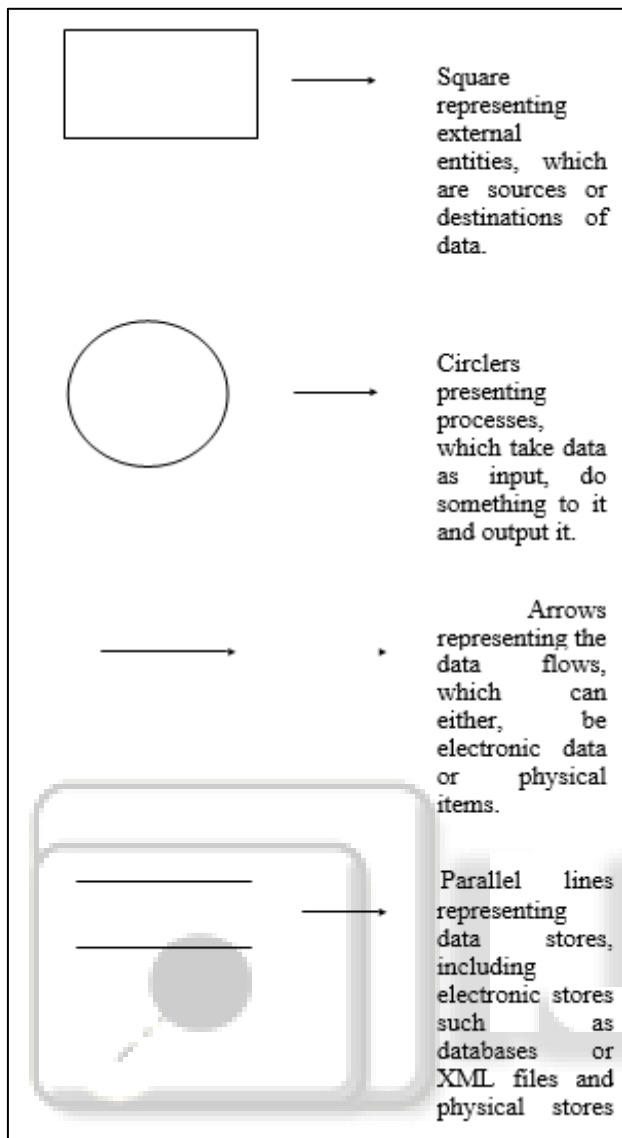
3) php

PHP is a recursive acronym for "PHP: Hypertext Preprocessor". PHP is a server side scripting language that is embedded in HTML. It is used to manage dynamic content, databases, session tracking, even build entire e-commerce sites.

C. Data Flow Diagram

Data flow diagram is used to describe how the information is processed and stored and identifies how the information flows through the processes. Data flow diagram illustrates how the data is processed by a system in terms of inputs and outputs. The data flow diagram also depicts the flow of the process and it has various levels. The initial level is context level which describes the entire system functionality and the next level describes each and every sub module in the main system as a separate process or describes all the process involved in the system separately.

Data flow diagram are made up of number of symbols,



1) DFD Level 0:

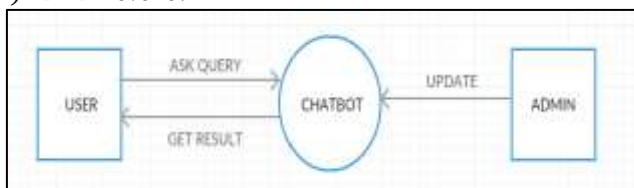


Fig.6.1 DFD Level 0

2) DFD Level 1:

In the DFD level 1, all the user login are done by using the user login db, the user give the user name and password as input ,the input will check with the user db and the it record the details and allow the user to login into the webpage

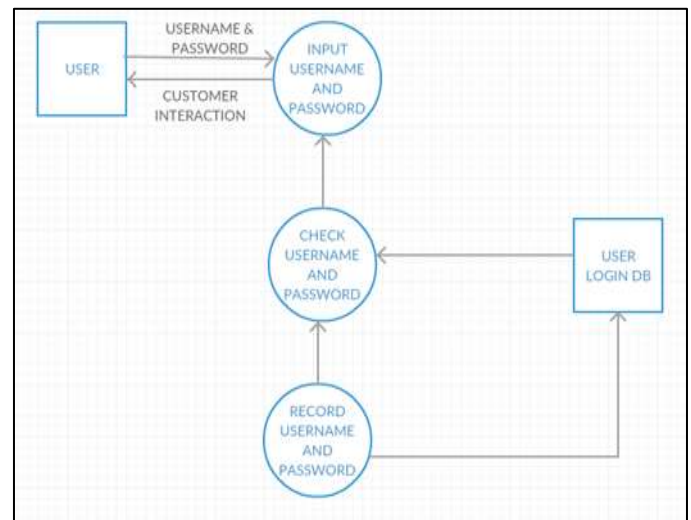
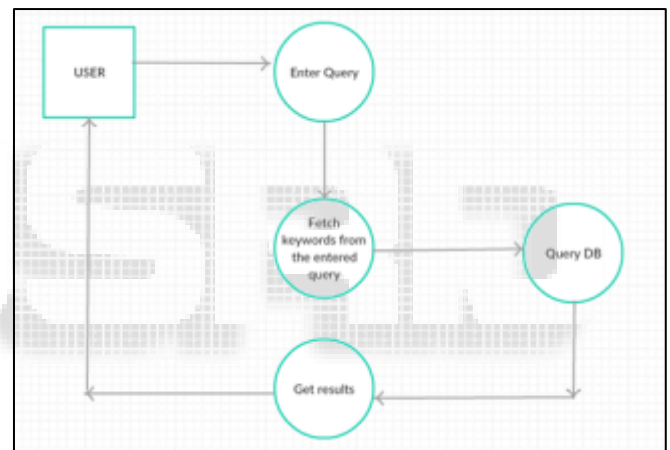


Fig. 6.2: DFD Level 1

3) DFD level 2

The user type the query in the chatbot and then the chatbot will fetch the keyword from the entered query and the chatbot will search the result for the query in the query db and show the result to the user



D. ER Diagram

An entity-relationship model (ER model) describes inter-related things of interest in a specific domain of knowledge. An ER model is composed of entity types (which classify the things of interest) and specifies relationships that can exist between instances of those entity types. In software engineering an ER model is commonly formed to represent things that a business needs to remember in order to perform business processes. Consequently, the ER model becomes an abstract data model that defines a data or information structure that can be implemented in a database, typically a relational database.

Entity-relationship modeling was developed for database design by Peter Chen and published in a 1976 paper. Some ER modelers show super and subtype entities connected by generalization-specialization relationships, and an ER model can be used also in the specification of domain-specific ontology.

1) Chatbot

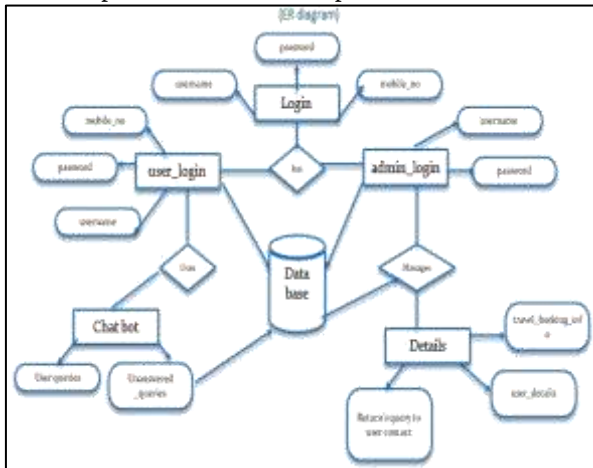
In our project we used the chatbot to answer the query which is asked by the user related to travel insurance. we use the separate login page for user and admin

All the information's are stored in the database. the chatbot will answer the user query and store the unanswered query in the db

In login page we collect the basic details such as mobile number, username, password in admin page we collect the username and password

The ER Diagram for all the process flow is been given as follows.

The Diagram is been given for all the processes such as the process flow is been specified.



E. Database Design

Database design is the process of producing a detailed data model of database. This data model contains all the needed logical and physical design choices and physical storage parameters needed to generate a design in a data definition language, which can then be used to create a database. A fully attributed data model contains detailed attributes for each entity.

The term database design can be used to describe many different parts of the design of an overall database system. Principally, and most correctly, it can be thought of as the logical design of the base data structures used to store the data. In the relational model these are the tables and views. In an object database the entities and relationships map directly to object classes and named relationships. However, the term database design could also be used to apply to the overall process of designing, not just the base data structures, but also the forms and queries used as part of the overall database application within the database management system (DBMS).

S.NO	FIELD NAME	DATATYPE
1	user name	Varchar
2	Use mobile number	Long int
3	password	Varchar

Table 6.6.1: User Login Detail

S.NO	FIELD NAME	DATATYPE
1	Admin name	varchar
2	password	Varchar

Table 6.6.5: Admin Login Details

S.NO	FIELD NAME	FIELD TYPE
1	User's name	Varchar
2	Mobile number	Double
3	password	Varchar

Table 6.6.6: User's Details

F. Input Design

The input design is the link between the information system and the user. It comprises the developing specification and procedures for data preparation and those steps are necessary to put transaction data in to a usable form for processing can be achieved by inspecting the computer to read data from a written or printed document or it can occur by having people keying the data directly into the system. The design of input focuses on controlling the amount of input required, controlling the errors, avoiding delay, avoiding extra steps and keeping the process simple. The input is designed in such a way so that it provides security and ease of use with retaining the privacy. Input Design considered the following things:

- What data should be given as input?
- How the data should be arranged or coded?
- The dialog to guide the operating personnel in providing input.
- Methods for preparing input validations and steps to follow when error occur.

Input Design is the process of converting a user-oriented description of the input into a computer-based system. This design is important to avoid errors in the data input process and show the correct direction to the management for getting correct information from the computerized system.

It is achieved by creating user-friendly screens for the data entry to handle large volume of data. The goal of designing input is to make data entry easier and to be free from errors. The data entry screen is designed in such a way that all the data manipulates can be performed. It also provides record viewing facilities.

When the data is entered it will check for its validity. Data can be entered with the help of screens. Appropriate messages are provided as when needed so that the user will not be in maize of instant. Thus the objective of input design is to create an input layout that is easy to follow.

G. Output Design

A quality output is one, which meets the requirements of the end user and presents the information clearly. In any system results of processing are communicated to the users and to other system through outputs. In output design it is determined how the information is to be displaced for immediate need and also the hard copy output. It is the most important and direct source information to the user. Efficient and intelligent output design improves the system's relationship to help user decision-making.

XIII. SYSTEM TESTING

System Testing is a level of the software testing where complete and integrated software is tested. The purpose of this test is to evaluate the system's compliance with the specified requirements. By definition of ISTQB system testing is the process of testing an integrated system to verify that it meets specified.

A. Testing Methods

Software Testing Type is a classification of different testing activities into categories, each having, a defined test

objective, test strategy, and test deliverables. The goal of having a testing type is to validate the Application under Test for the defined Test Objective.

For instance, the goal of Accessibility testing is to validate the AUT to be accessible by disabled people. So, if your Software solution must be disabled friendly, you check it against Accessibility Test Cases.

B. Types of Testing

1) Unit Testing

In computer programming, unit testing is a software testing method by which individual units of source code, sets of one or more computer program modules together with associated control data, usage procedures, and operating procedures, are tested to determine whether they are fit for use.

In this chatbot, every units of code is been tested and the correctness of every module is been ensured.

2) 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.

In this bot, the units are been tested as a whole and the testing was successful.

3) Functional Testing

Functional testing is a quality assurance (QA) process and a type of black-box testing that bases its test cases on the specifications of the software component under test. Functions are tested by feeding them input and examining the output, and internal program structure is rarely considered (unlike white-box testing). Functional testing usually describes what the system does. Functional testing does not imply that you are testing a function (method) of your module or class. Functional testing tests a slice of functionality of the whole system.

Functional testing has many types:

- Smoke testing
- Sanity testing
- Regression testing
- Usability testing

4) Stress Testing

Stress testing a Non-Functional testing technique that is performed as part of performance testing. During stress testing, the system is monitored after subjecting the system to overload to ensure that the system can sustain the stress.

Reasons can include:

- to determine breaking points or safe usage limits to confirm mathematical model is accurate
- enough in predicting breaking points or safe usage limits
- to confirm intended specifications are being met
- to determine modes of failure (how exactly a system fails)
- to test stable operation of a part or system outside standard usage

The recovery of the system from such phase (after stress) is very critical as it is highly likely to happen in production environment.

In this chatbot, whole of the modules are been tested and it has the safe usage measures.

5) Acceptance Testing

Acceptance Testing is a level of the software testing where a system is tested for acceptability. The purpose of this test is to evaluate the system's compliance with the business requirements and assess whether it is acceptable for delivery.

Formal testing with respect to user needs, requirements, and business processes conducted to determine whether or not a system satisfies the acceptance criteria and to enable the user, customers or other authorized entity to determine whether or not to accept the system.

In this bot, the customer's acceptance is been monitored and it is been put into usage.

6) White Box Testing

White Box Testing is the testing of a software solution's internal coding and infrastructure. It focuses primarily on strengthening security, the flow of inputs and outputs through the application, and improving design and usability. White box testing is also known as Clear Box testing, Open Box testing, Structural testing, Transparent Box testing, Code-Based testing, and Glass Box are testing. It is one of two parts of the "box testing" approach of software testing. Its counter-part, black box testing, involves testing from an external or end-user type perspective. On the other hand, White box testing is based on the inner workings of an application and revolves around internal testing.

The term "white box" was used because of the see-through box concept. The clear box or white box name symbolizes the ability to see through the software's outer shell (or "box") into its inner workings. Likewise, the "black box" in "black box testing" symbolizes not being able to see the inner workings of the software so that only the end-user experience can be tested.

In this chatbot, all the inner functionality is been tested and it is been correctly implemented.

7) BlackBox Testing

Black box testing is a software testing techniques in which functionality of the software under test (SUT) is tested without looking at the internal code structure, implementation details and knowledge of internal paths of the software. This type of testing is based entirely on the software requirements and specifications.

In this chatbot, the implementation part is been checked for its correctness.

a) Methods of Black Box Testing

There are many types of Black Box Testing but following are the prominent ones -

- Functional testing - This black box testing type is related to functional requirements of a system; it is done by software testers.
- Non-functional testing - This type of black box testing is not related to testing of a specific functionality, but non-functional requirements such as performance, scalability, usability.

- Regression testing - Regression testing is done after code fixes, upgrades or any other system maintenance to check the new code has not affected the existing code.

C. Testing Strategy

Test Strategy is also known as test approach defines how testing would be carried out. Test approach has two techniques:

- Proactive - An approach in which the test design process is initiated as early as possible in order to find and fix the defects before the build is created.
- Reactive - An approach in which the testing is not started until after design and coding are completed.

Test strategy calls for implementing two entirely different methodologies for testing this project. The chatbot includes a fair amount of manual UI-based testing.

In this chatbot, proactive approach is been used for testing. Since proactive approach is efficient it is been used in this bot.

XIV. SYSTEM IMPLEMENTATION

The system is been implemented as follows:

A. Account Creation:

It is handy to create an account in the recast framework in which it prompts for a simple login with the mail id/Mobile Number and the password credentials, on verification of the mail id, it allows the user to create bots on the framework.

B. Bot Creation

To create a bot, click on the plus symbol which is available on the framework screen. Click on the new bot text that navigates to the form that prompts for the bot name, description of the bot, nature of visibility whether it can be public or private, default bot conversations such as small talk, temperature etc. The things that are needed can be selected by the user and finally bot is created.

C. Creating Bot Intents

The first step is to create the bot intents. Generally intent is that our main intention to chat with the bot. There are 32 default intents in this framework and the intents can be created if needed and the keywords must be made to map in the same so that if the intent is made to be matched in the user's query, then the corresponding action can be made to perform.

D. Building the Bot

The bot is then made to build either by creating new skills or by selecting any of the existing skill sets available. Bot building forms the main task in creating the bot which allows creating triggers, setting the corresponding requirements and performs necessary actions. This is main motive in performing the building task.

1) Creating Triggers

Trigger creation forms the main part in which the intents that are created or forked can be invoked in this tab. The triggers can be made to perform the actions such as creating the corresponding action when the intent is present or not present or missing. The default will be present and this can

be altered based on the condition required. The actions will be triggered only based on this condition.

2) Requirements

The requirements tab allows the user to perform the relevant tasks that are been pertained based on the condition given on the trigger tab. Generally, the requirements are been specified in special cases if not required then it can be omitted.

3) Actions

The actions are been generally performed with the creation of entities. The entities are the data bucket that is used to store the values. The entities are been used to map the keywords with the intent and it is been made to give the response for the user's queries. In this actions tab, the way by which the bot responds to the query will be given. It can be added with text, buttons, images, animated GIFs, quick replies, cards, links and fallbacks.

All these contribute to the bot training.

E. Bot Connecting

Bot connecting allows the developer to connect the bot with any of the social channels such as messenger, kik, web chat etc. We have implemented this bot with the messenger. The steps followed are as below:

- Go to the bot connector tab
- Select the ways of deploying the bot
- In which select the web chat
- Create my channel tab and create the web channel
- Open the ngrok tool and copy url of ngrok in the bot

F. Bot Hosting

The bot is been hosted with ngrok which is the public URL in order to connect the bot with API that results in displaying the request and response slug. This is done using request token. The bot is been connected with the slug and with the API for the accurate response.

G. Bot Analytics

Bot analytics is made just to analyze the performance of the bot and it will have all the logs of user's queries and it also count the number of occurrence of the intent and whether the transaction is successful or not. If the user's intent is not found, then it displays the default value as the no reply.

XV. CONCLUSION & FUTURE ENHANCEMENTS

A. Conclusion

A lack of trust isn't the only reason why insurance companies have a hard time selling their products. A lack of knowledge about insurance and its benefits is also at play. Millennials in particular have been found to buy insurance less often than their predecessors, and that's mostly because they don't know enough about it. Online chatbots have the potential to change this scenario. Thus this project travel insurance chat 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 tasks. The user can chat with out chat bot regarding travel insurance .we use the php framework for our project and mysql database for our travel insurance chatbot. the chat So user will have no issues in using this bot.

B. Future Enhancement

This project is focused on bot that easily interact with the user. The future enhancements can be done by using the voice recognition mechanism and the bot can be deployed in various social channels and it can be made to implement in different languages.

