

# Chat Robot for Medical Applications

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## Abstract:

The Medical bot project is built using artificial algorithms that analyses user's queries and understand user's message. This System is a web application which provides answer to the query of the patients. Patients just have to query through the bot which is used for chatting. Patients can chat using any format there is no specific format the user has to follow. The System uses built in artificial intelligence to answer the query. The answers are appropriate what the user queries. The User can query any Medical related activities through the system. The user does not have to personally go to the Medical for enquiry. The System analyses the question and then answers to the user. The system answers to the query as if it is answered by the person. With the help of artificial intelligence, the system answers the query asked by the patients. The system replies using an effective Graphical user interface which implies that as if a real person is talking to the user. The user just has to register himself to the system and has to login to the system. After login user can access to the various helping pages. Various helping pages has the bot through which the user can chat by asking queries related to Medical activities. The system replies to the user with the help of effective graphical user interface. The user can query about the Medical related activities through online with the help of this web application. The user can query Medical related activities such as date and timing of annual day, sports day, and other cultural activities. This system helps the patients to be updated about the Medical activities.

**Key words:** medical emergency, chat bot, etc.,

## INTRODUCTION

Data mining (the analysis step of the "Knowledge Discovery in Databases" process, or KDD), a field at the intersection of **computer science** and **statistics**, is the process that attempts to discover patterns in large **data sets**. It utilizes methods at the intersection of **artificial intelligence**, **machine learning**, **statistics**, and **database systems** The overall goal of the data mining process is to extract information from a data



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set and transform it into an understandable structure for further use. Aside from the raw analysis step, it involves database and data management aspects, data preprocessing, model and inference considerations, interestingness metrics, **complexity** considerations, post-processing of discovered structures, **visualization**, and **online updating**. Generally, data mining (sometimes called data or knowledge discovery) is the process of analyzing data from different perspectives and summarizing it into useful information - information that can be used to increase revenue, cut costs, or both. Data mining software is one of a number of analytical tools for analyzing data. It allows users to analyze Relationships identified. Technically, data mining is the process of finding correlations or patterns among dozens of fields in large relational databases.

### Data

Data are any facts, numbers, or text that can be processed by a computer. Today, organizations are accumulating vast and growing amounts of data in different formats and different databases. This includes:

- Operational or transactional data such as, sales, cost, inventory, payroll, and accounting
- Nonoperational data, such as industry sales, forecast data, and macro-economic data
- Meta data - data about the data itself, such as logical database design or data dictionary definitions

### Information

The patterns, associations, or relationships among all this data can provide information. For example, analysis of retail point of sale transaction data can yield information on which mobile apps are selling and when.

### Knowledge

Information can be converted into knowledge about historical patterns and future trends. For example, summary information on retail supermarket sales can be analyzed in light of promotional efforts to provide knowledge of consumer buying behavior. Thus, a manufacturer or retailer could determine

Artificial neural networks: Non-linear predictive models that learn through training and resemble biological neural networks in structure

## Domain Introduction

### Characteristics

#### Agility

It is for organizations may be improved, as cloud computing may increase user's flexibility with re-provisioning, adding, or expanding technological infrastructure resources

### Infrastructure as a Service (IaaS)

"Infrastructure as a service" (IaaS) refers to online services that provide high-level APIs used to dereference various low-level details of underlying network infrastructure like physical computing resources, location, data partitioning, scaling, security, backup etc. 3

### Platform as a Service (PaaS)

In the PaaS models, cloud providers deliver a computing platform, typically including operating system, programming-language execution environment, and Database and web server.

The capability provided to the consumer is to deploy onto the cloud infrastructure consumer-created or acquired applications created using programming languages, libraries, services, and tools supported by the provider.

### Software as a Service (SaaS)

The capability provided to the consumer is to use the provider's applications running on a cloud infrastructure. The applications are accessible from various client devices through either a thin client interface, such as a web browser (e.g., web-based email), or a program interface. Chabot's are the new generation computer programs that perform intelligent human conversation. Every Chabot has typically three parts. The first one is typed or spoken input from the user in natural language, second is the typed or spoken output from the Chabot and then the process of passing the input through the program so that an understandable output is produced. This whole process is repeated until the end of the conversations reached. The patients Chabot is a system designed for patients where they can ask

any Medical related questions like best events, contact details, latest trending course, etc. Even if the patients does not frame sentence properly system will understands the query and answer accordingly. The user doesn't need to follow any specific format to ask questions. NLP (Natural Language Processing) concept has been used that is concerned with programming computers so that natural language is processed and used in order to get output to user. The purpose of a chat bot system is to simulate a human conversation; the chat bot architecture integrates a computational algorithm and language model to emulate information chat communication between a human user and a computer using natural language.

### Literature Survey

[1] Adrian Horzyk, Stanis law Magierski, and Grzegorz Miklaszewski "An Intelligent Internet Shop-Assistant Recognizing a Customer Personality for Improving Man-Machine Interactions" in Recent Advances in Intelligent Information Systems. ISBN 978-83-60434-59-8, pages 13–26

Turnover in Internet commerce is growing rapidly. Internet shops are increasingly better in recognizing needs of their customers. The main area of interest is customer preferences, which predictably can be based on purchase history. There is also a second area of the customer's needs, which is not managed so far, and that is a customer personality and needs entailed it. The goal of this paper is to present successful implementation of the recognition of customer personalities, which has an impact on improving human–computer interactions. For that purpose, a sample Internet shop was created with a Chabot playing the role of a shop-assistant that is similar to a real shop-assistant in a traditional shop. The Chabot performs a trade conversation with a customer through an in-built natural language processing unit. In a conversation, it tries to figure out desirable product preferences of customers and it analyzes words, phrases and sentence constructions of customers to automatically indicate their personality in order to correctly react to their predicted personality needs. This paper, based on a recognized personality, describes how the Chabot can adjust its model of actions in the following fields: the display of product presentation and the choice of phrases used in conversations.

Existing System

In our Medical exists only the manual way of asking the queries to the appropriate patients which will be an inconvenient way for patients since they could not clarify their doubts at the time they need. **Retrieval-based models (easier)** use a repository of predefined responses and some kind of heuristic to pick an appropriate response based on the input and context. The heuristic could be as simple as a rule-based expression match, or as complex as an ensemble of Machine Learning classifiers. These systems don't generate any new text, they just pick a response from a fixed set. Retrieval-based methods don't make grammatical mistakes. However, they may be unable to handle unseen cases for which no appropriate predefined response exists. For the same reasons, these models can't refer back to contextual entity information like names mentioned earlier in the conversation.

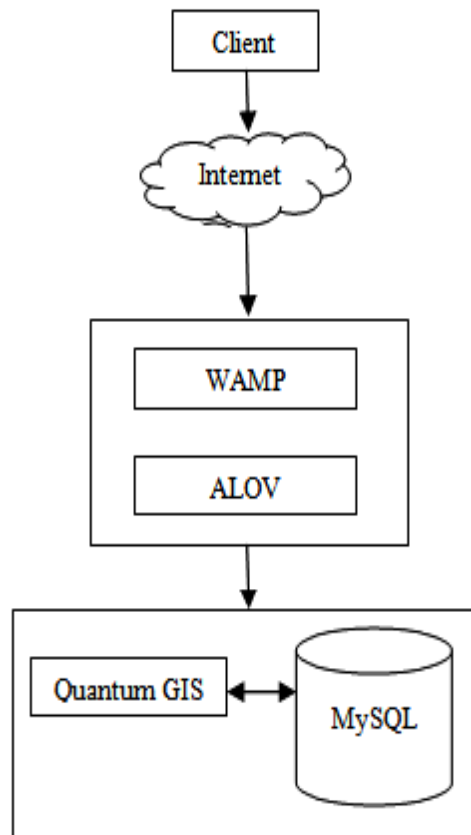
### Proposed System

This Chabot will automate the existing manual responding system thereby making the existing system simpler. This system will be designed in such a way that it will answer the queries based on the training dataset and also learn the new queries and answers to them. **Generative models (harder)** don't rely on pre-defined responses. They generate new responses from scratch. Generative models are typically based on Machine Translation techniques, but instead of identify the synthetic similarity for entered Keyword.

### Advantages

- It provides the results based on the labeled and unlabeled data.
- It reduce the manual work

It take less time complexity



Proposed System Medical Assistant Chat Bot

## SOFTWARE REQUIREMENT SPECIFICATION

### Modules

- Server Interface
- User Interface
- Search Query
- Similarity Prediction
- Optimal Result

## Software Description

### PHP - Overview

PHP is a recursive acronym for "PHP: Hypertext Preprocessor". PHP is a server side e-commerce sites. The PHP Hypertext Preprocessor (PHP) is a programming language that allows web developers to create dynamic content that interacts with databases. PHP is basically used for scripting language that is embedded in HTML. It is used to manage dynamic content, databases, session tracking, even build entire developing web based software applications. This tutorial helps you to build your base with PHP.

### PHP in the Project:

In these Project PHP has play a major role in the Chabot .with the help of PHP the we can get the user input easily and fetch it to the database .The PHP can used to do all backend process towards to produce the Full Webpage of the UI with the help of PHP the user can have some of the data to be restricted and well secured for the personal data about their issues they would like to be private for some of the issues which have to be so shy to share.

### WAMP Server

**WAMP** is an acronym that stands for Windows, Apache, MySQL, and PHP. It's a software stack which means installing WAMP installs Apache, MySQL, and PHP on your operating system (Windows in the case of WAMP). Even though you can install

### MYSQL

MySQL is the most popular Open Source Relational SQL Database Management System. MySQL is one of the best RDBMS being used for developing various web-based software applications. MySQL is developed, marketed and supported by MySQL AB, which is a Swedish company. This tutorial will give you a quick start to MySQL and make you comfortable with MySQL programming. Them separately, they are usually bundled up, and for a good reason too. What's good to know is that WAMP derives from LAMP (the L stands for Linux). The only difference between these two is that WAMP is used for Windows, while LAMP – for Linux based operating systems.

## CONCLUSION

The proposed system would be a stepping stone in having in place an intelligent query handling program. An intelligent question answering system has been developed using the Naïve Bayesian concept. The system is capable of answering the query of the patients in an interactive way using the chat agent that is used. Although there is still scope for improvement, the system. Also because we make use of a filtering process the search space is reduced and so the system becomes more efficient algorithmically.

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