**CHAPTER ONE**

**INTRODUCTION**

**1.1    BACKGROUND OF THE STUDY**

Artificial Intelligence (AI) increasingly integrates our daily lives with the creation and analysis of intelligent software and hardware, called intelligent agents. Intelligent agents can do a variety of tasks ranging from labor work to sophisticated operations. An Online Help Deskis a typical example of an AI system and one of the most elementary and widespread examples of intelligent Human-Computer Interaction (HCI). It is a computer program, which responds like a smart entity when conversed with through text or voice and understands one or more human languages by Natural Language Processing (NLP). In the lexicon, An Online Help Deskis defined as “A computer program designed to simulate conversation with human users, especially over the Internet”. Online Help Desk are also known as smart bots, interactive agents, digital assistants, or artificial conversation entities. Online Help Desk can mimic human conversation and entertain users but they are not built only for this. They are useful in applications such as education, information retrieval, business, and e-commerce. They became so popular because there are many advantages of Online Help Desk for users and developers too. Most implementations are platform-independent and instantly available to users without needed installations.

**1.2    STATEMENT OF PROBLEM**

Artificial intelligence Online Help Desk is a technology that makes interactions between man and machines using natural language possible. From literature, we found out that in general, Online Help Desk are functions like a typical search engine. Although Online Help Desk just produced only one output instead of multiple outputs/results, the basic process flow is the same where each time an input is entered, the new search will be done. Nothing related to previous output.

**1.3 OBJECTIVES OF THE STUDY**

The objective of this Project Advisor Bot for social media Chating are:

1. To analyze users queries and understand users message.
2. To provide an answer to the query of the user very effectively.
3. To save the time of the user since she/he does not have to personally go to the college for inquiry. This system will help the student to be updated about the college activities. The system will reply using an effective GUI which implies that as if a real person is talking to the user.

**1.4 SIGNIFICANCE OF THE STUDY**

This project Design of Online Help Desk will be of great benefit especially during this COVID-19 pandemic that is making it difficult for brands to cater to their customers due to staff shortages resulting from lockdowns and shelter-in-place orders. Even so, businesses are going to need to operate with limited capacity, and this can increase the waiting times for customers.

AI Online Help Desk can help businesses in this trying time. Online Help Desk are designed to handle repetitive queries without the need to pass them on to customer support staff. To businesses, active staff members will be able to use their time and resources to help with more complex customer questions and improve customer experience as much as possible.

**1.5 SCOPE AND LIMITATION OF THE STUDY**

The creation and implementation of Online Help Desk is still a developing area, heavily related to [artificial intelligence](https://en.wikipedia.org/wiki/Artificial_intelligence) and [machine learning](https://en.wikipedia.org/wiki/Machine_learning), so the provided solutions, while possessing obvious advantages, have some important limitations in terms of functionalities and use cases. However, this is changing over time. The most common ones are listed below: As the database, used for output generation, is fixed and limited, Online Help Desk can fail while dealing with an unsaved query. An Online Help Desk efficiency highly depends on language processing and is limited because of irregularities, such as accents and mistakes. Online Help Desk are unable to deal with multiple questions at the same time and so conversation opportunities are limited. Online Help Desk require a large amount of conversational data to train. Online Help Desk have difficulty managing non-linear conversations that must go back and forth on a topic with a user. As it happens usually with technology-led changes in existing services, some consumers, more often than not from the old generation, are uncomfortable with Online Help Desk due to their limited understanding, making it obvious that their requests are being dealt with by machines.

**1.6 DEFINITION OF TERMS**

**COMPUTER**: A computer is an electronic device capable of accepting data, storing the data and processing the data with the aid of stored programs to give out result or information.

**SOFTWARE** – a set of logical related program modules that are given to the computer for the accomplishment of a specific task or asset of task.

**ONLINE HELP DESK:** a computer program designed to simulate conversation with human users, especially over the internet.

**INTERNET:**  is a vast network that connects computers all over the world. Through the Internet, people can share information and communicate from anywhere with an Internet connection.

**WWW:**In simple terms, The World Wide Web is a way of exchanging information between computers on the Internet, tying them together into a vast collection of interactive multimedia resources.

**CHAPTER TWO**

**LITERATURE REVIEW**

**2.0 INTRODUCTION**

An Online Help Desk is a software application used to conduct an on-line chat conversation via text or text-to-speech, in lieu of providing direct contact with a live human agent. An Online Help Desk is a type of software that can automate conversations and interact with people through messaging platforms. Designed to convincingly simulate the way a human would behave as a conversational partner, Online Help Desk systems typically require continuous tuning and testing, and many in production remain unable to adequately converse or pass the industry standard Turing test. The term "ChatterBot" was originally coined by Michael Mauldin (creator of the first Verbot) in 1994 to describe these conversational programs.

One of the first and most famous Online Help Desk was ELIZA developed by Weizenbaum (1966). He published an explanation of ELIZA and explains it as a computer program which enables a natural language conversation between human and computer. ELIZA is programmed to imitate a Rogerian pshychotherapist and works by identifying keywords and then mapping them to an associated rule which transforms the input sentence and then outputs a response, this is called pattern matching. If no keyword was found a content-free remark or an earlier rule transformation is retrieved and printed (Weizenbaum, 1966). Since this was the first program of its kind it made a great impression on specialists from the AI-field but also on non-technical people (Deryugina, 2010). One of the claimed reasons for Eliza’s success was the fact that she was developed to try and replicate the conversation between a therapist and a patient, the success stemming from the fact that the job of the therapist consists mainly of asking questions and listening to the answer. This might be the case, but it only means that it is important to be aware of the limitations of the technology and use it in a way that enhances its capabilities instead.(Weizenbaum, 1966).

**2.1 FEATURES OF CHAT BOT**

**1) Achieving Conversational Maturity with Natural Language Understanding (NLU)**

Previously, Online Help Desk would only be able to respond to your queries based on a set algorithm. Now, however, Online Help Desk have evolved and with NLU capabilities, An Online Help Desk is capable of understanding the very context of a conversation. If available, even in any language.

With NLU, An Online Help Desk becomes capable of identifying the intent of a question that is asked. It can then analyze the question and provide an accurate response. If there’s not a fitting response the Online Help Desk can come up with, it eventually proposes different options to clarify the user intent. As more and more people are actively interacting, we are seeing quite the surge in developing conversational patterns. This is making Online Help Desk achieve conversational maturity, all thanks to Natural Language Understanding.

**2) Online Help Desk Integration with CRM platforms**

As Online Help Desk are becoming more intelligent, they are now also capable of orchestrating workflows. Modern Online Help Desk should have the capability to easily become a part of any CRM. When Online Help Desk will possess the capability of handling real-time customer relationship processes, they will become capable of resolving many complex problems for users in a much easier way. From taking routine backups to password changes, a CRM platform can enhance the workflows effectively.

**3) The Capability to Become Emotionally Intelligent**

An Online Help Deskmust be emotionally intelligent. It has now become an integral part of any AI-powered Online Help Desk of the present era. They should possess the element of studying customer’s personality traits and understanding their tone and sentiment. Based on their emotional levels, An Online Help Deskmust be fully adept at setting the tone while interacting with the customer. In this way, An Online Help Deskwill be equipped with the right way to deliver a highly personalized user experience to customers. One of the best examples which I can quote here is Replika. Although it is not a business providing Online Help Desk applications, it mimics the exact emotions of a human. It’s specifically designed to provide comfort to individuals who are suffering from anxiety and loneliness. By having a chat with the bot, you find that the AI algorithm working at the backend is capable of giving you an emotionally intelligent conversational experience. In situations, where problems are complicated and would require expert intervention, an emotionally intelligent Online Help Desk can notify a human employee and respond to the situation.

**4) An Online Help DeskShould Provide Faster Solutions**

We often wonder why brands are opting for Online Help Desk solutions these days and the answer is simple, to make their and our lives easier and simpler. An Online Help Deskcan easily save time and effort. It can help resolve base level complex issues without customer support’s intervention. Instead of having a customer going through page after page, analyzing data, and finding a solution to a particular problem, An Online Help Deskcan easily help identify the problem. One of the core features of An Online Help Deskshould be to provide efficient solutions to users’ many problems on request.

**5) An Online Help DeskShould Be Free to Explore Solutions**

One significant feature which you should include as a must-have feature in your Online Help Desk is the freedom to explore. If your Online Help Desk can process vast amounts of data to find answers to burdening problems, it can resolve customer problems more effectively. It will hold the capability to gather insights and information from a variety of different sources. By analyzing the existing solutions on the Internet, these bots become capable of answering almost any customer query and resolve their problem in a very effective manner.

**6) Keep a Simple & Easy User-Interface for Online Help Desk**

the Online Help Desk has an easy-to-use interface. Customers might already be annoyed when coming to you for support. .

**2.2 APPLICATIONS OF ONLINE HELP DESK**

**Messaging apps**

Many companies' Online Help Desk run on messaging apps or simply via SMS. They are used for B2C customer service, sales and marketing. In 2016, Facebook Messenger allowed developers to place Online Help Desk on their platform. There were 30,000 bots created for Messenger in the first six months, rising to 100,000 by September 2017. Since September 2017, this has also been as part of a pilot program on WhatsApp. Airlines KLM and Aeroméxico both announced their participation in the testing; both airlines had previously launched customer services on the Facebook Messenger platform. The bots usually appear as one of the user's contacts, but can sometimes act as participants in a group chat. Many banks, insurers, media companies, e-commerce companies, airlines, hotel chains, retailers, health care providers, government entities and restaurant chains have used Online Help Desk to answer simple questions, increase customer engagement, for promotion, and to offer additional ways to order from them.

**As Part of Company Apps and Websites**

Previous generations of Online Help Desk were present on company websites, e.g. Ask Jenn from Alaska Airlines which debuted in 2008 or Expedia's virtual customer service agent which launched in 2011. The newer generation of Online Help Desk includes IBM Watson-powered "Rocky", introduced in February 2017 by the New York City-based e-commerce company Rare Carat to provide information to prospective diamond buyers.

**Customer Service**

Many high-tech banking organizations are looking to integrate automated AI-based solutions such as Online Help Desk into their customer service in order to provide faster and cheaper assistance to their clients who are becoming increasingly comfortable with technology. In particular, Online Help Desk can efficiently conduct a dialogue, usually replacing other communication tools such as email, phone, or SMS. In banking, their major application is related to quick customer service answering common requests, as well as transactional support.

The advantages of using Online Help Desk for customer interactions in banking include cost reduction, financial advice, and 24/7 support.

**Healthcare**

Online Help Desk are also appearing in the healthcare industry. A study suggested that physicians in the United States believed that Online Help Desk would be most beneficial for scheduling doctor appointments, locating health clinics, or providing medication information. Whatsapp has tied up with the World Health Organisation (WHO) to make An Online Help Deskservice that answers users’ questions on Covid-19. The Indian Government recently launched An Online Help Deskcalled MyGov Corona Helpdesk,[51] that works through Whatsapp and helps people access information about the Coronavirus (Covid-19) pandemic.

**Malicious use**

Malicious Online Help Desk are frequently used to fill chat rooms with spam and advertisements, by mimicking human behavior and conversations or to entice people into revealing personal information, such as bank account numbers. They were commonly found on Yahoo! Messenger, Windows Live Messenger, AOL Instant Messenger and other instant messaging protocols. There has also been a published report of An Online Help Deskused in a fake personal ad on a dating service's website. Tay, an AI Online Help Desk that learns from previous interaction, caused major controversy due to it being targeted by internet trolls on Twitter. The bot was exploited, and after 16 hours began to send extremely offensive Tweets to users. This suggests that although the bot learned effectively from experience, adequate protection was not put in place to prevent misuse. If a text-sending algorithm can pass itself off as a human instead of a Online Help Desk, its message would be more credible. Therefore, human-seeming Online Help Desk with well-crafted online identities could start scattering fake news that seems plausible, for instance making false claims during a presidential election. With enough Online Help Desk, it might be even possible to achieve artificial social proof.

**2.3 HOW CHAT BOT LEARN**

Online Help Desk can learn automatically by analyzing past data and making assumptions on what is right. The other way Online Help Desk learn is by having a human editing the system.  In most cases, both are required. Even though An Online Help Deskhas artificial intelligence, a human still needs to audit the responses to make adjustments. This is called “human in the loop.” There have been some epic failures of Online Help Desk that run 100% on artificial intelligence. Many smaller bots only have human in the loop because there is not enough data to answer all of the user’s questions. In these cases, data is collected from the bot system and what is learned is applied to all the bots for general intents and agents. Over time, the bot gets smarter and theoretically there is less maintenance. From a marketing perspective, there are insights to be gained from the bot data, and the data is fed back into the bot as well as shared with product development, marketing and sales teams.

**2.4 ARTIFICIAL INTELLIGENCE**

Artificial Intelligence (AI) is the creation of computer systems that can perform tasks that require human intelligence, such as speech recognition, understanding and translating language, and decision making. AI includes computer science, neuroscience, psychology and linguistics, which are all needed by a machine to duplicate a typical human response. When an AI process can function with contextual responses in a real human conversation that is when it has become successful in simulating human intelligence. The data is collected and clustered into groups. These clusters of data are multidimensional and take significant computer power to analyze. Special software systems with a variety of algorithms are used to evaluate how the data is being correlated. The system is then tested and adjusted accordingly. Artificial intelligence is what makes Online Help Desk different than a simple yes or no logic program. Online Help Desk learn over time what a user is asking in a particular industry and what is the best way to answer that question. This is done by collecting and monitoring the data of all the conversations. The AI system applies what it learns from each conversation. However, there is a caveat. A human has to monitor some of these responses. This is called “Human in the Loop.” In the past, Online Help Desk have been launched on social sites, and unfortunately, they start learning the more negative influences of our society. For example, Microsoft’s Tay.ai was launched on Twitter in 2016, and it became a sexist bigot within 24 hours and was shut down and fixed. The best way to avoid these situations is to respond with polite humor preventing the conversation from spinning out of control. The bottom line is a good Online Help Desk will have ongoing maintenance to review the conversations. This has two benefits. First, it gathers data about what customers want, ask for, are confused about, etc. Second, it detects where the bot is getting stuck in a conversation so it can learn and create new responses.

**2.5 MACHINE LEARNING**

Online Help Desk and other artificial intelligence systems have multiple inputs such as text, button clicks, voice, and vision. Machine learning is when the Online Help Desk analyzes the input data to determine a result. For example, if the system is reading a scanned document with numbers, the number images are clustered by how similar they are. All the 6’s are grouped separately, then all the 3’s are grouped together. This is pretty simple to do. The trick is when a 1 looks like 7 or 4 looks like a 9. By clustering thousands of images, it becomes smarter and the error rate decreases. Machine learning is the process where a computer learns from experience rather than from programming. The machine learns by gathering data and it can find insights from that data without being explicitly programmed. When you see an ad on your Facebook newsfeed or from Google for a product you recently searched, that is a result of machine learning about you and your preferences. There are many inputs of data for the system to draw a conclusion. Computers are really good at this, where it would take a human too long to figure it out.

**2.6 NATURAL LANGUAGE PROCESSING**

Natural language processing (NLP) is teaching a computer to understand language and the intent behind the language. NLP is based on artificial intelligence, computer science, and computer linguistics. NLP is enabled by machine learning where words, phrases, and sentences are analyzed, and the system gives a response based on the analyzed data. An NLP algorithm uses inferences to provide the best answer. The system gives a better answer when it receives more data. One of the biggest challenges with NLP is context – human conversations are contextual and it’s difficult to teach context to a computer. If you use a spelling and grammar app or a language translation app, it is most likely using NLP to correct you.

**CHAPTER THREE**

**SYSTEM ANALYSIS AND DESIGN**

**3.0 INTRODUCTION**

For the purpose of this study it is, paramount to understand the subject matter (research methodology), Osuala (1987), defined research methodology as the overall strategy used by the research in collecting and analyzing data for the purpose of investigation of problems, this section explains the methods, techniques and instruments used in this research it also explains the method to be used in collecting and analyzing data. An Online Help DeskSystem can be achieved by making observations which includes studying the current system carefully for a period of time in order to learn or know about the system.

**3.1 SYSTEM DEVELOPMENT LIFE CYCLE**

The Waterfall Model was the first Process Model to be introduced. It is also referred to as a **linear-sequential life cycle model**. It is very simple to understand and use. In a waterfall model, each phase must be completed before the next phase can begin and there is no overlapping in the phases.

The waterfall Model illustrates the software development process in a linear sequential flow. This means that any phase in the development process begins only if the previous phase is complete. The whole process of software development is divided into separate phases. The outcome of one phase acts as the input for the next phase sequentially.

The Waterfall model was used in the development of the software. It is an example of a plan-driven process—in principle, one must plan and schedule all of the process activities before starting work on them. All the process activities of the software were carefully planned before commencement of the project. The principal stages of the waterfall model directly reflect the fundamental development activities:

**• Requirements analysis and definition:** The Online Help Desk constraints and goals are established by consultation with system users (students in this case). They are then defined in detail and serve as a system specification.

**• System and software design:** The Online Help Desk design process allocates the requirements to either hardware or software systems by establishing an overall system architecture.

**• Implementation and unit testing during this stage:** The Online Help Desk design is implemented and each unit tested before overall testing is done. All takes are duly corrected and improvement made.

**• Integration and system testing:** The individual program units or programs are integrated and tested as a complete system to ensure that the Online Help Desk requirements have been met.

**• Operation and maintenance:** This is the longest life cycle phase. The software is installed and put into practical use. It is regularly maintained by correcting errors which were not discovered in earlier stages of the life cycle, improving the implementation of software units and enhancing its services as new requirements are discovered. Using the waterfall model, the SDLC was split up into a number of independent steps



Fig 3.1: System development life circle

**3.2 RESEARCH METHOD**

The main instrument for this study is the oral interview, observations and the analysis essential measure. However, in some instances, the interview method was used to gather data. The target population of the study was students of The Federal Polytechnic Bauchi. This approach of research is most appropriate to gather accounts of students` experiences on Online Help Desk. The study adopted a case study research design using observation and interview. The interview was face to face and employed open ended questions. The respondents were adequately educated on the purpose of the interview and on issues of confidentiality.

**3.3** **EXISTING SYSTEM**

Emanuela Haller and Traian Rebedea, “Designing a Chat-bot that Simulates an Historical Figure”, IEEE Conference Publications, July 2013. There are many applications that are incorporating a human appearance and intending to simulate human dialog, but in most of the cases the knowledge of the conversational bot is stored in a database created by a human experts. However, very few researches have investigated the idea of creating a chat-bot with an artificial character and personality starting from web pages or plain text about a certain person.

**3.4 PROPOSED SYSTEM**

A Chat bot project is built using artificial algorithms that analyzes user’s queries and understand user’s message. This System is a web application which provides answer to the query of the user. Users just have to query through the bot which is used for chatting. Users 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. If the answer found to invalid, user just need to select the invalid answer button which will notify the admin about the incorrect answer. Admin can view invalid answer through portal via login System allows admin to delete the invalid answer or to add a specific answer of that equivalent question. The User can query any college related activities through the system. The user does not have to personally go to the college for enquiry. The System analyzes 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 users. The system replies using an effective Graphical user interface which implies that as if a real person is talking to the user. The user can query about the college related activities through online with the help of this web application. This system helps the student to be updated about the college activities.

**3.5 SYSTEM DESIGN**

Systems design is the process of defining the architecture, components, modules, interfaces, and data for a system to satisfy specified requirements. Systems design could be seen as the application of systems theory to product development.

* + 1. **SYSTEM ARCHITECTURE**

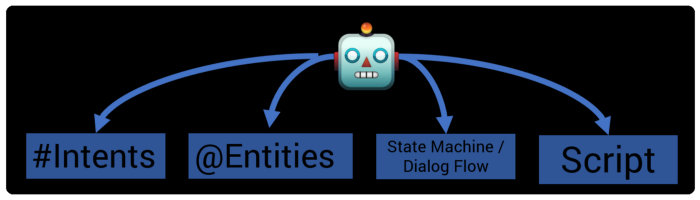


Fig: 3.5.1 Online Help Desk Architecture

**3.5.2 INTENTS**

In most Online Help Desk design endeavors, the process starts with intents. But what are intents? Think of it like this…a large part of this thing we call the human experience is intent discovery. If a clerk or general assistant is behind a desk, and a customer walks up to them…the first action from the assistant is intent discovery. Trying to discover what the intention of the person is entering the store, bank, company etc. Intents can be seen as purposes or goals expressed in a customer’s dialog input. By recognizing the intent expressed in a customer’s input, the assistant can select an applicable next action.

**3.5.3 ENTITIES**

Entities are the information in the user input that is relevant to the user’s intentions. Intents can be seen as verbs (the action a user wants to execute), entities represent nouns (for example; the city, the date, the time, the brand, the product.). Consider this, when the intent is to get a weather forecast, the relevant location and date entities are required before the application can return an accurate forecast. Recognizing entities in the user’s input helps you to craft more useful, targeted responses. For example, You might have a #buy\_something intent. When a user makes a request that triggers the #buy\_something intent, the assistant's response should reflect an understanding of what the something is that the customer wants to buy. You can add a product entity, and then use it to extract information from the user input about the product that the customer is interested in.

**3.5.4 DIALOG FLOW**

The dialog contains the blocks or states a user navigates between. Each dialog is associated with one or more intents and or entities. The intents and entities constitute the condition on which that dialog is accessed. The dialog contains the output to the customer in the form of a dialog, or script…or wording if you like. This is one of the most boring and laborious tasks in creating a Online Help Desk. It can become complex and changes made in one area can inadvertently impact another area. A lack of consistency can also lead to unplanned user experiences. Scaling this environment is tricky especially if you want to scale across a large organisation.

**3.5.5 SCRIPT**

Scripts are the wording, the messages you will be displaying to the user during the course of the conversation to direct the dialog, and also inform the user. The script is often neglected as it is seen as the easy part of the Online Help Desk development process. The underlying reason for this may be that the script is often addressed at the end of the process, and it not being technical in nature, it is seen as menial. The importance of the script should be considered in the light that it informs the user on what the next step is. Or what options are available in that particular point of the conversation, or what the expectations are of the user. A breakdown in the conversation often due to the dialog not being accurate. Multiple dialogs can be sent, combining messages. On inaction from the user, follow-up explanatory messages can be sent.

* 1. **HUMAN LOOP**

“Human in the loop” is a Natural Language Processing Engineer who continually reviews the bot data and adds new intents and agents to the bot. The engineer adjusts the programming with new acronyms and new ways of asking a question. The engineer also detects new customer objections and questions which are vital to selling a product or service.

**CHAPTER FOUR**

**IMPLEMENTATON AND DOCUMENTATION**

**4.1 SYSTEM REQUIREMENT AND INSTALLATION**

This means the facilities that have to be ready for Online Help Desk to function properly. It consists of the full description of the hardware and software that has to be available.

* + 1. **INSTALLATION REQUIREMENT**

This can be divided into two segment, Hardware and Software requirement

1. **Hardware Requirement**

The system is expected to make use of the following hardware requirements

1. Pentium iv 6GHz, 1GBram, 160GB Hard disk drive
2. LCD monitor “45 inches”
3. **Software Requirement**
4. Operating system (windows vista, xp etc), this would serve as a platform on which the new software will run.
5. Web Browser
6. Xammp Server / Internet Service

**4.1.2 SYSTEM INSTALLATION**

Immediately after this Online Help Desk has been designed, the next step is to install or launch it on the system. Since the system is Online Help Desk, the process of installing it’s just having the Online Help Desk set-up in your computer by starting the xammp server, launch your web browser and type in the address to access the Online Help Desk.

**4.2 IMPLEMENTATION**

When preparing system implementation plans, certain things must be considered. For this project, the new system differs a little from that of the existing one because of its nature and simplicity.Implementation of the new system involves:

(2) System testing

(3) System change over

(4) System review and maintenance

**4.2.2 SYSTEM TESTING**

For the implementation of the new system, data must be prepared for live testing. The result from the new system is compared to that of the existing system to check if the expected result was achieved. It is also necessary to formulate the operation of the new system to check the overall time and ability of the users to handle the operation of the new system.

**4.2.3** **SYSTEM CHANGE OVER**

The parallel method is adopted in the changeover process. This method was adopted because it creates an avenue where by the old and new systems are being run concurrently. With this method, the users of the system will gain a practical knowledge of how the new system is being operated. When this is achieved, the old system is discontinued and the new system takes its place. This method also helps to introduce the new system to users having little or no notice of the change over process.

**4.2.4** **SYSTEM REVIEW MAINTENANCE**

The system should be reviewed and maintained periodically in order to deal with unforeseen operational problems that may arise and to make sure that the new system meets its planned objectives or standard.

**4.3 DOCUMENTATION**

Documentation can be defined as a complete description of program source code and could be seen in to different forms, which are internal and external documentation.

Internal documentation can be define as the documentation that is contained in the source code while external documentation is the description of a program source code on material other than the source code. Based on this project, the type of documentation used is the internal documentation in which document relating to the description of the program is enclosing in the source code. The essence of documentation is to allow for expansion in case of future requirement so as to tell other analysis or programmers to modify the program in case the author of the software is not available.

**CHAPTER FIVE**

**SUMMARY, CONCLUSION AND RECOMMENDATIONS**

**5.1 Summary**

The Project Titled Design and implementation of Chat Bot Sysyem for Social media chat an online application or software that can automate conversations and interact with people through messaging platforms. Designed to convincingly simulate the way a human would behave as a conversational partner. From chapter one of this project, it provided us with the introductory phase of the project topic statement of problems, aims of objectives, scope and limitation of the study and justification of the project. And the second chapter of the project discusses the literature view on the Online Help Desk system and chapter three of this project provided us with the step by step procedure followed in other to design the chat bot system. And the implementation method of the system is parallel implementation which was discussed in the chapter four.

The proposed system enable users with little knowledge of computer to make queries and the system provide answer to the query, it makes the process very easy, user friendly and interactive.

**5.2** **Conclusion**

An Online Help Deskis an artificial intelligence (AI) software that can simulate a conversation (or a chat) with a user in natural language through messaging applications, websites, mobile apps or through the telephone.  
An Online Help Deskis often described as one of the most advanced and promising expressions of interaction between humans and machines. However, from a technological point of view, An Online Help Deskonly represents the natural evolution of a Question Answering system leveraging Natural Language Processing (NLP). Formulating responses to questions in natural language is one of the most typical Examples of Natural Language Processing applied in various enterprises’ end-use applications.

**5.3 Recommendations**

On the basis of research finding and conclusion the following recommendations were made to make Online Help Desk much more empathetic. They need the:

* ability to adapt the conversation flow and the responses to sentiments
* ability to explicitly ask at the end of the conversation how the customer feels (explicit measure)
* ability to compare implicit and explicit measures to improve sentiment capture over time

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