A Final Report on First Project

Chatbot Using HTML CSS JS AND DIALOGFLOW

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ABSTRACT

Artificial Intelligence in machines is a very challenging discussion. It involves the creation of machines which can simulate intelligence. This paper discusses some of the current trends and practices in AI and subsequently offers alternative theory for improvement in some of today's prominent and widely accepted postulates. For this, focus on the structuring and functioning of a simple A.I. system - chatbots (or chatter bots) is made. The paper shows how current approach towards A.I. is not adequate and offers a new theory that discusses machine intelligence, throwing light to the future of intelligent system.

Chatbots come in two kinds

• Limited set of rules

• Machine learning

Chatbot that uses limited set of rules

This kind of bots are very limited to set of texts or commands. They have ability to respond only to those texts or commands. If user asks something different or other than the set of texts or commands which are defined to the bot, it would not respond as desired since it does not understand or it has not trained what user asked. These bots are not very smart when compared to other kinds of bots. Machine learning chatbots works using artificial intelligence. User need not to be more specific while talking with a bot because it can understand the natural language, not only commands. This kind of bots get continuously better or smarter as it learns from past conversations it had with people.

Keyword:Artificial intelligence, Machine intelligence, Chatbots, Turing test

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1. INTRODUCTION:

The creation and analysis of intelligent agents (software and machines) is called Artificial Intelligence(AI). It can be implemented in nearly each and every sphere of work. Prominent trends in this field are human brain simulation, natural-language processing and neural networking etc. One of the typical examples of an AI system is a "Chatbot". A chatbot is a computer program which responds like an intelligent entity when conversed with. The conversation may be through text or voice. Any chatbot program understands one or more human languages by Natural Language Processing. Due to this, the system interprets human language input using information fed to it. A chatbot may also perform some productive functions like calculations, setting-up reminders or alarms etc. A popular example of chatbot is the ALICE Bot (Artificial Linguistic Internet Computer Entity), which utilizes AIML pattern matching techniques. "Turing test" is one of the most popular measures of intelligence of such systems. According to it, if a panel of human beings conversing with an unknown entity (via keyboard, for example) believes that that entity is human while the entity is actually a computer, then the computer is said to have passed the Turing test. This test was proposed by British mathematician Alan Turing in his 1950 paper titled "Computing Machinery and Intelligence" published in Mind.

1.1 PROBLEM STATEMENT :

Artificial intelligence chatbot is a technology that makes interactions between man and machines using natural language possible. From literature, we found out that in general, chatbot are functions like a typical search engine. Although chatbot 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. This research is focused on enabling chatbot to become a search engine that can process the next search with the relation to the previous search output. In chatbot context, this functionality will enhance the capability of chat bot's input processing.

The main reasons for using chat bot is active communication methods, flexible and efficient lead generation, extends our brand storytelling, enhance facebook marketing, logical and free to set up.

1.2 OBJECTIVES:

To create an intelligent AIML based chatbot that can allow a human interacting with the bot to have an ongoing, interesting and enriched conversation featuring looked up information from Google.

Main Objectives:

Basic functionality – ability to respond to basic words/phrases

Advanced logic – be able to talk about different topics

Pull data from Google. E.g. What's the weather like, current news events, etc.

The bot should be able to pick topics to talk about rather than waiting on user input.

1.3 SIGNIFICANCE OF STUDY:

Chatbot has been useful in various ways. Development of chatbot has contributed in various fields like business sectors, electronic gadgets like ios. There are many examples of chatbot like Siri and Alexa (most advanced and intelligent known chatbot owned by Apple Inc. and Google). Sarang bot and ELIZA were the previously developed chatbot but they were not upto the expectation of developers. Sarang bot and ELIZA gives the idea to bring about change in the AI fields.

1.4 SCOPE AND LIMITATION:

There are limitations to what has been currently achieved with chat bots. The limitations of data processing and retrieval are hindering chat bots to reach their full potential. It is not that we lack the computational processing power to do so.

The limitations are:

1. Chat bots don't understand human context.

2. They don't do customer retention.

3. They can't make decisions.

4. Exorbitant installation.

5. Chat bots have the same answer for a query.

6. They have zero research skills.

7. Chat bots have no emotions.

2. LITERATURE STUDY / REVIEW:

In the context of modern world, AI Chat bots has been very useful in many ways. Chat bots has been used in Business sector, health sector, education sector and in many sectors. Since AI Chat bot can interpret in human language that made it usefulness in most of the sector. Various research has been taken on AI for the enhancement. Some of them are below:

ELIZA Chat bot, the first Chatbot created by Joseph Wiezenbaum (1964 to 1966). It was created to demonstrate the superficially of communication between humans and machines. ELIZA simulated the conversation by using 'pattern matching' and substitution methodology that gave users an illusion of understanding on the part of programs.

Pros:

- First chatbot to pass turing test.
- Capable of engaging in discourse.
- Quick response to user input.

Cons:

- Could not converse with true understanding.
- Incapable of learning new patterns of speech or new words through interaction alone.
- Edit must be made to ELIZA active script in order to change the manner by which the program operates.

3. METHODOLOGY:

For the project we wanted to have a simplified user centered approach.

3.1 SOFTWARE DEVELOPMENT LIFECYCLE:

This approach deals with the development of software which centers around the idea of iterative development, where requirements and solutions evolve through collaboration between self-organizing cross-functional team. It is adaptive approach that responds to change favourably and allows for direct communication to maintain transparency.

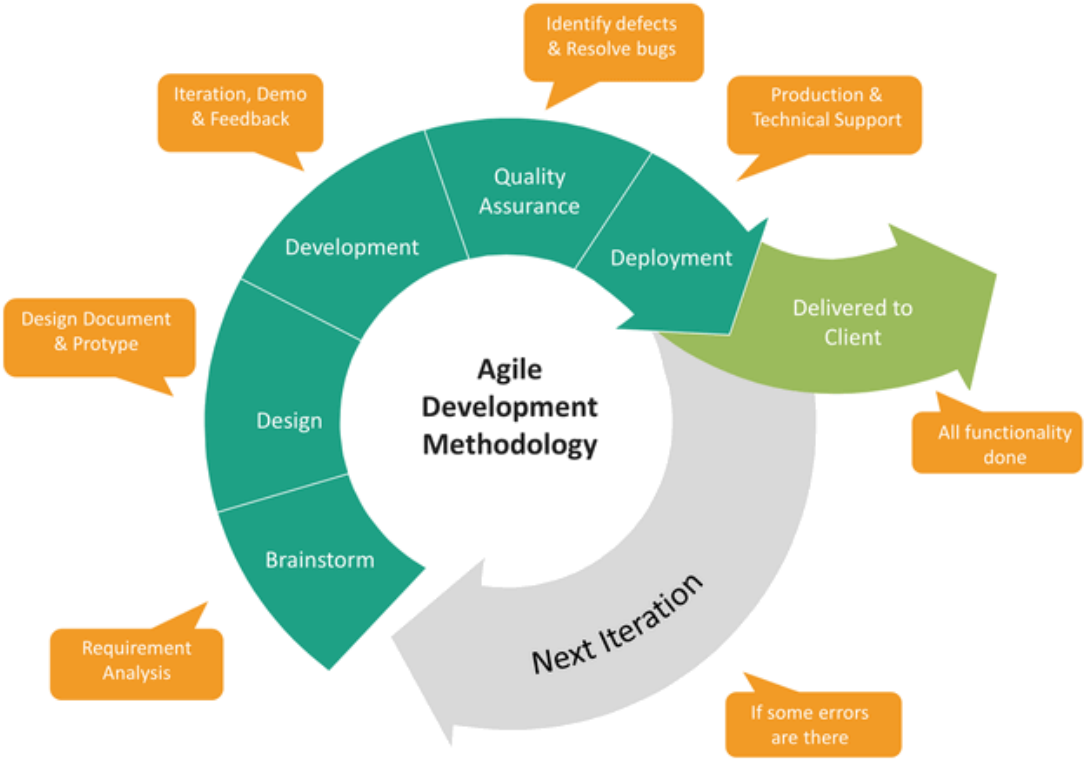

Fig.1: Agile Software Development Approach

3.2 Technical description:

For coding we have used VScode (i.e. Visual Studio code).

VS CODE:

Visual Studio Code is a source-code editor developed by Microsoft for Windows, Linux and maCOS. It includes support for debugging, embedded Git control and GitHub, syntax highlighting, intelligent code completion, snippets, and code refactoring. It is highly customizable, allowing users to change the theme, keyboard shortcuts, preferences, and install extensions that add additional functionality. The source code is free and open source and released under the permissive MIT License. The compiled binaries are freeware and free for private or commercial use.

FRONT-END:

For front-end we have used:

HTML:

Stands for "Hypertext Markup Language" .HTML is the language used to create webpages. "Hypertext" refers to the hyperlinks that an HTML page may contain. "Markup language" refers to the way tags are used to define the page layout and elements within the page.

CSS (CASCADING STYLE SHEET):

It stands for “Cascading Style Sheet”. Cascading style sheets are used to format the layout of Web Pages. They can be used to define text styles, table sizes, and other aspects of Web pages that previously could only be defined in a page's HTML.

CSS helps Web developers create a uniform look across several pages of a Web site. Instead of defining the style of each table and each block of text within a page's HTML, commonly used styles need to be defined only once in a CSS document. Once the style is defined in cascading style sheet, it can be used by any page that references the CSS file.

JAVASCRIPT:

JavaScript is a dynamic computer programming language. It is lightweight and most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages. It is an interpreted programming language with object-oriented capabilities.

Back-end:

For the back end we have used dialogflow.

DIALOGFLOW:

Dialogflow (formerly Api.ai, Speaktoit) is a Google-owned developer of human-computer interaction technologies based on natural language conversations. The company is best known for creating the Assistant(by Speaktoit), a virtual buddy for Android, iOS, and Windows phone Smartphones that performs tasks and answers user's question in a natural language. Speaktoit has also created a natural language processing engine that incorporates conversation context like dialogue history, location and user preferences.

3.3 TIME AND TASK SCHEDULE:

The project time schedule has been designed as per the requirement and specification needed for the development of application and we assume it to be complete in tenure of near about 3months.The time schedule has been divided as per the time needed for each task. Priorities have been given to the system and software requirements and analysis.

Tasks	Estimated Time(Days)
System and Software Requirements & Specification	25
System Analysis	10
System Development	20
Testing and Debugging	5
Evaluation	5

Table 1: Task and time schedule

4. CONCLUSIONS:

From my perspective, chatbots or smart assistants with artificial intelligence are dramatically changing businesses. There is a wide range of chatbot building platforms that are available for various enterprises, such as e-commerce, retail, banking, leisure, travel, healthcare, and so on.

Chatbots can reach out to a large audience on messaging apps and be more effective than humans. They may develop into a capable information-gathering tool in the near future.

5. RECOMMENDATIONS:

Hospital bot transforms the typical call center, front desk experience into a faster and more interactive session. Hospital admission department can launch scheduling assistant bot on the hospital website to book appointment 24/7 with our mobile friendly prebuilt template so that so patients can converse with chatbot at home or on the way to the appointment on their mobile device.

Hospital bot can further be modalized into a speech to text converter. This helps to save the time of the patients, administrators, receptionists as well as the doctors.

Hospital bot not only communicates in the form of text but it can also communicate in the form of speech. That is text to speech converter method can also be implemented.

We can further train the hospital bot to fulfill the medicinal requirements as well for the patients.

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APPENDIX:

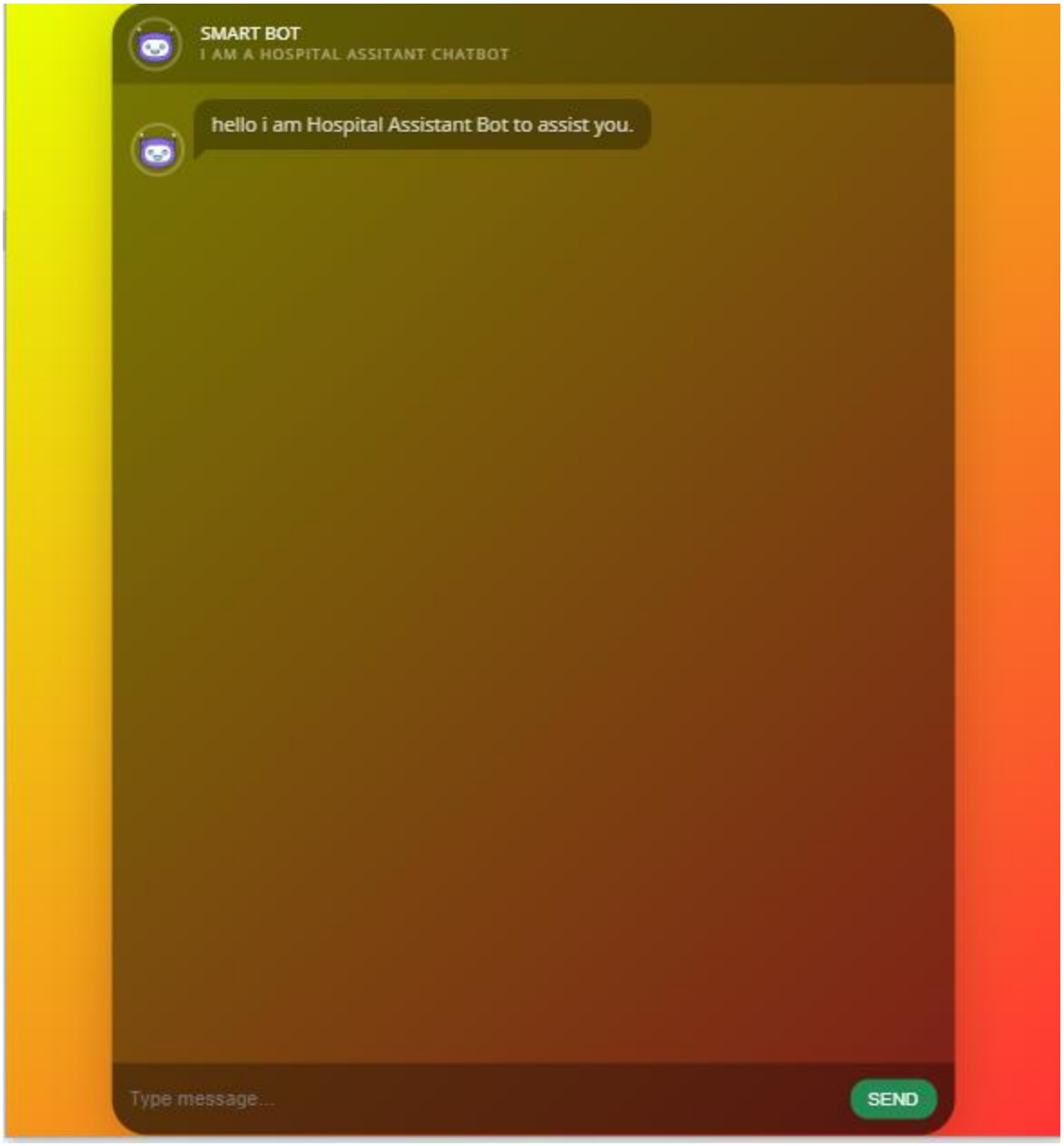

Fig.2 UI design