

Educational - Domain Chatbot System

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ABSTRACT: - ChatBot can be described as software that can chat with people using artificial intelligence. These software are used to perform tasks such as quickly responding to users, informing them, helping to purchase products and providing better service to customers. In this paper, we present the general working principle and the basic concepts of artificial intelligence based chatbots and related concepts as well as their applications in various sectors such as telecommunication, banking, health, customer call centers and e-commerce. Additionally, the results of an example chatbot for donation service developed for telecommunication service provider are presented using the proposed architecture.

Key-Words: - **Utterance:** Anything the user says. For example, if a user types "show me yesterday's financial news", the entire sentence is the utterance.

Intent: An intent is the user's intention. For example, if a user types "show me yesterday's financial news", the user's intent is to retrieve a list of financial headlines. Intents are given a name, often a verb and a noun, such as "showNews".

Entity: An entity modifies an intent. For example, if a user types "show me yesterday's financial news", the entities are "yesterday" and "financial". Entities are given a name, such as "dateTime" and "newsType". Entities are sometimes referred to as slots.

Broadcast: A broadcast is a message sent proactively to users. It is not a response to user

I. INTRODUCTION

J.A.V.I.I.S. is a Chatbot in educational domain. The purpose is focused on the design of the specific architecture and model to manage communication and furnish the right answers to the students. This system detects the questions and answers users using natural language processing techniques. J.A.V.I.I.S. is a chat bot which helps the colleges to have 24*7 automated query resolution. This helps the students to have the right information from the trusted source. This made administration of information easy. Automation has helped IT keep pace with demand. We're now taking the next step—Cognitive Service

input. Also referred to as "subscription messaging", a broadcast is the chatbot equivalent of a push message in a mobile app.

Channel: Channels are the medium for chatbot conversations. Examples of channels include Facebook Messenger, Skype, Slack and SMS. Email and web chat windows are also mediums.

Conversational UI: User interfaces based on human speech, either written or spoken. Conversational UIs don't use buttons, links or other graphical elements. Many chatbots, including Tangowork, mix conversational UI with graphical UI.

Natural Language Processing (NLP): NLP examines an utterance and extracts the intent and entities. NLP software includes Amazon Lex, Facebook's Wit.ai, and Microsoft's LUIS.

Pilot: The stage of development where the chatbot is deployed to a small group of users for testing. Pilots are especially critical for chatbots, because unlike a web application, the range of possible user input is unlimited.

Proof-of-concept (POC): The stage of development where the chatbot functions properly so long as the input is artificially constrained. A POC demonstrates the potential. POCs are especially useful for emerging technologies that are not fully understood by stakeholders, like chatbots.

Response: Anything the bot says in response to user input.

Management—to ensure the quality experience students expect in the digital economy. We're embracing cognitive technologies in a big way. J.A.V.I.I.S. is available 24/7 to help students connect to GW's wireless network, register devices, and get assistance with other requests. Students interact with J.A.V.I.I.S. via text or web browser using everyday natural language.

II. PROBLEM FORMULATION

This chatbot is for students who are eager to get right answers to their questions. Chatbots are fully functioning, semi-autonomous systems that can assist customer service experiences and

response time. If the future demands advanced chatbots that do more than use scripted, single-turn exchanges, then their method of interface will also have to advance. A voice interface can assist users with disabilities or those who are skeptical of technology, but it also requires another layer of NLP development. While voice interface may be optional, chatbots have been in the enterprise long enough for developers and experts to begin identifying what elements of chatbots are mainstay requirements. NLP development, human-like conversational flexibility and 24/7 service are crucial to maintaining chatbots' longevity in enterprise settings. Chatbots are AI devices and, looking ahead, they need to keep up with AI trends, such as automated machine learning, easy system integration and developing intelligence. As people research, they want the information they need as quickly as possible and are increasingly turning to voice search as the technology advances. Email inboxes have become more and more cluttered, so buyers have moved to social media to follow the brands they really care about. Ultimately, they now have the control — the ability to opt out, block, and unfollow any brand that betrays their trust.

III. LITERATURE REVIEW

MARTHA[3] is a chat bot which is created and being used at George Washington University. This chat bot has the functionalities of answering the queries of students but this system do not have any access privileges. Later it was updated and used for teaching and displaying academic results.

Limitations:-

1. Existing Chatbots don't understand human context.
2. If Query is not related to inbuilt query they can't provide related query suggestions.
3. Existing Chatbots are not able to generate graphical reports.

Reference Link –

<https://www.bmc.com/blogs/introducing-martha-leveraging-cognitive-automation-to-create-an-exceptional-student-experience/>

IV. METHODOLOGY

The main aim is to reduce the manual work in generating the reports either student wise or batch wise based on the inbuilt queries which are embedded using Chabot and also to generating the comparative graphical chart reports. Proposed chat bot system will provide additional features like flexibility, and also friendly environment. The flexibility features are used to retrieve the information like related query suggestion, entire information display of a particular candidate and

additional query submission to the admin, computed data display. Friendly environment is provided by an interface that is easy for user to enter the queries in natural language with out any particular format. 24/7 available to help students connect to GW's wireless network, register devices, and get assistance with other requests. The purpose is focused on the design of the specific architecture and model to manage communication and furnish the right answers to the students. We provide a chatbot that can make the communication easy. This helps the students to have the right information from the trusted source. This made administration of information easy. It will not only help the administration but will also help students in communicating effectively. We are always trying our best to improve the environment for students to help them in every way possible and our chatbot does that.

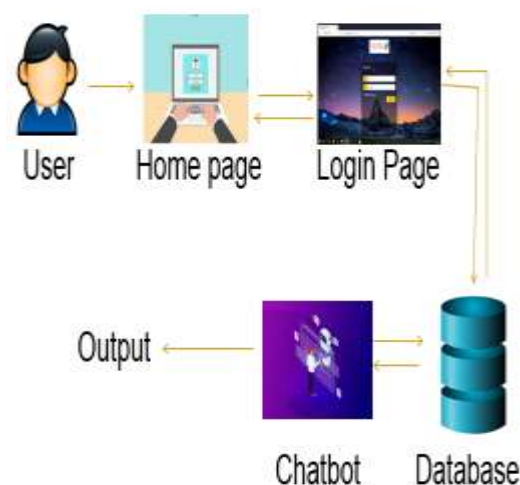


Figure 1: Methodology

V. RESULT DISCUSSIONS

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VI. UPDATES

The updates made in the software are UI Updation – We introduced a theme system to make

the interface more user friendly. It has Violet and Brown Themes. We have made our software more easy, better and efficient and have added creative automation to the interface. J.A.V.I.I.S. OFFICE – We have created a space for students to write the data and save it with any extension (.txt, .xls, .ods, .zip etc). It is open-source and doesn't require license to work on. Its very user-convenient and very easy to learn and work on. You can also upload files into it. Feedback – We have introduced a feedback system to improve our software. Students can give feedback to admins and we can see your views. J.A.V.I.I.S. Website for Students – It has Speech Trainer and Graphs/Charts for students to practice and learn.

VII. CONCLUSION

All this difficulties can be minimised, computation time and effort are reduced by automating the entire process by using student informative Chatbot J.A.V.I.I.S. 24/7 available to help students connect to GW's wireless network, register devices, and get assistance with other requests. The purpose is focused on the design of the specific architecture and model to manage communication and furnish the right answers to the students. We provide a chatbot that can make the communication easy. This helps the students to have the right information from the trusted source. This made administration of information easy. It will not only help the administration but will also help students in communicating effectively. We are always trying our best to improve the environment for students to help them in every way possible and our chatbot does that.

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