AI Based Chat-Bot For College management System

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ABSTRACT

Chat-bots aim to facilitate conversations between humans and machines by embedding knowledge that allows the machine to recognize sentences, making a decision as an answer when asked questions. Chatbots will soon become commonplace in workplaces across many sectors. Chat-bots operate entirely through text-based user interfaces, enabling the user to type commands and receive both text-to-speech and speech response in real-time. Most chat bots are services, remembering previous commands in order to provide personalized responses. Chat-bots technology can now be securely utilized by a wider audience when integrated with popular web services. College inquiry chat-bots will be created using artificial algorithms that analyze user queries. The chat-bot provides an interface for users to communicate with the college in an intuitive way, matching their input sentence for reply. Users are able to ask any question related to college life through this automated service without physically visiting the campus for inquiry. System analyzes questions and then provides answers to users. With Artificial Intelligence, the system provides answers to students' inquiries. The replies come through an effective Graphical User Interface as if a real person were speaking directly to you. Registration to the system and login to it are all that's required of users. Chat-bots consist of core components (MySQL) and an interface which accesses them. Natural language processing technologies are utilized for parsing data. By tokenizing, stemming and filtering the content of a complaint, it can be effectively resolved.

Keywords: NLP (Natural language processing), Sentiment Analysis, Synsets and Word Net

1. INTRODUCTION

A chatbot, which is also called a talkbot, chatterbox, bot, IM bot or artificial conversational entity, is a computer software program that emulates human conversations in a natural manner, using techniques such as Natural Language Processing (NLP), image and video processing, and audio analysis.

For the college management system project, a chatbot will be created using artificial intelligence algorithms to analyze user queries. This will be a web-based application that provides responses to user queries after they select a query category and ask the bot to answer it. The bot uses artificial intelligence to provide appropriate answers to the user, which are generated using artificial intelligence algorithms. Users will no longer need to visit the college in person to make inquiries.

To use the system, users must first register and log in. Once they have logged in, they can access various help pages that allow them to chat by asking questions about college activities. The system will respond to the user through an effective graphical user interface (GUI). The web application will enable users to inquire about college-related activities such as annual day, sports day, intake, and other cultural activities. This feature will help students or users stay informed about college activities.

2. LITERATURE SURVEY

A Question Answering (QA) system is designed to answer natural language queries by providing answers, rather than just providing links to documents. QA systems use linguistic features to select the most appropriate answers. Unlike other information accessing systems, such as Natural Language Dialog Systems (NLDS), QA systems rely on knowledge sources to access information. One approach to implementing a QA system is to use Semantic enhancement and a domain-oriented pattern-matching chat-bot technology. This approach simplifies the chat-bot realization using an ontology to construct answers actively and populate the chat-bot KB with sentences derived from the ontology. Additionally, sentence preprocessing is used to reduce user input to a simpler structure that can be directed to existing chat-bot queries. The aim of this approach is to provide consumers with useful information

regarding products of interest, supporting them in getting exactly what they want. This article discusses thedevelopment of a conversational agent that can simulate the life of a historical figure. The focus is on identifying themost important facts from texts about the historical figure to train the chat-bot to answer questions about their

life experiences. The chat-bot is designed to provide conversation between humans and machines, and is fed with knowledge to enable it to identify sentences and make decisions to answer questions. The chat-bot uses Indonesian conversational patterns and a MySQL database, and requires knowledge representation and implementation of SQL in pattern-matching operations. Data is modeled based on the conversation pattern and is tested using various scenarios, and if input sentences in the database do not match, they are remodeled. The aim is to provide a generic solution to the problem of simulating historical figures for use in middle-school CSCL scenarios.

3. PROPOSED METHODOLOGY

Chat-bots act as a mediator between humans and machines. By feeding the chat-bot with information, the admin enables the machine to understand sentences and respond to queries with its own decision-making process. MySQL facilitates the connection between the chat-bot and the database, and SQL knowledge and representation are necessary for pattern matching. The chat-bot uses a validation algorithm to check the database for answers to user queries. If a query does not match the stored database, the admin is notified to add it. Unlike information accessing systems that only provide links, the chat-bot's aim is to provide exact information related to user queries. This paper presents a simple way of building a chat-bot that can respond to user queries by receiving plain text as "input" and providing appropriate "output" based on the available database. The solution aims to provide accurate information related to specific queries.

4. PROPOPSED SYSTEM

1. Login and Complaints:

The user first signs up or creates an account on the Chat-Bot application. Afterward, the user proceeds to submit complaints or queries related to electronic and home appliances that have been purchased.

2. Chat BOT Responding System:

a. NLP and sentiment analysis of complaint:

Once a user submits a complaint to the system, the complaint's meaning is analyzed using natural language processing (NLP). The analysis involves identifying the sense of the words in the complaint using techniques such as part-of-speech tagging and referencing a word net dictionary. Additionally, the system uses sentiment analysis to detect the level of negation expressed in the complaint. Based on these factors, the complaints are prioritized for resolution.

b. Search the questions to knowledge database:

After detecting the negation level of the complaint, the system identifies the specific issue in the complaint using WorldNet. Different users may describe the same problem in different ways, so it's important to identify the exact technical issue with the product in order to provide an accurate solution. Some users may ask questions more clearly and directly, while others may express their complaints more negatively. Therefore, the system must accurately understand the user's specific problem in order to provide an appropriate solution.

3. Answer the Complaints

The system detects the negation level and exact issue/question of the complaint submitted by the user. If the question is already registered in the database, the system sends the answer to the user. If the question is not in the database, an admin person answers the question, and the question-answer pair is stored in the database. This process allows the system to answer the same questions directly from the database in the future. WorldNet, a lexical and semantic database for the English language, is used to group English words into sets of synonyms and record relations among them.

5. CONCLUSION

We have developed a software tool that enables students to submit their queries to any college management. Once the complaint is registered in the system, it generates automatic tokens and sends them to the customer via email and text message for easy tracking of the complaint. To process the content of the complaint, natural language processing technologies are used for parsing, tokenizing, stemming, and filtering. The algorithm then calculates the strength of the sentence and the intensity of negation, which helps prioritize the complaint for the service provider to address the complaint. As a result, this system will assist many organizations in delivering quality service and improving the students satisfaction also It is going to save their time with minimal human efforts.

6. REFERENCE

[1] https://www.irjet.net/archives/V4/i11/IRJET-V4I11367.pdf

[2] https://nevonprojects.com/college-enquiry-chat-bot/

[3] https://ieeexplore.ieee.org/document/9591757/

[4] Bayu Setiaji, Wahyu Wibowa , Department of Informatics Engineering STMIK AMIKOM Yogyakarta,Yogyakarta, Indonesia, 2166-0670/16 IEEE "Chatbot Using Knowledge in Database-Human- to-Machine Conversation Modeling"

[5] Emanuela Hiller, Traian Rebeda Faculty of Automatic Control and Computers university Politehnaca of Bucharest, 978-1-8695-4980-4/13 © 2013 IEEE. "Designing a Chat-bot that Simulates a Historical Figure"

[6] M Rahman, Abdullah Mamun, Alma Islam, "Programming challenges of Chatbot: Current & Future Prospective", 2017 IEEE 10 Humanitarian Technology Conference 21 – 23 Dec 2017

[7] Wen Hua, Zhongyuan Wang, Haixun Member, Kai Zheng_, Member, IEEE, and Zhou, Senior Member." Understand Short Texts by Harvesting and Analyzing Semantic Knowledge"

[8] Prof. Deshpande Sir, Asst. Prof Padmashree Dr. V. B. Kolte College of Engineering ,Malkapur, India.