AI BOT FOR ACADEMIC SCHEDULES USING RASA

[1]N.Divya Sruthi, [2]R.Deepthi

[1,2]Assistant Professor, [1,2]Department of Computer Science & Engineering, Geethanjali Institute of Science and Technology, Gangavaram, Andhra Pradesh, India

ABSTRACT

Chatbots or virtual assistants are being used by industries all over the world, theycan reduce human intervention and improve efficiency. These days smart-assistants such as Amazon Alexa and Google Assistant help users get quick access to most generic queries within seconds, but when it comes to students and their everyday queries, these assistants fall short in answering the queries they have related to their academic schedules i.e., timetable queries, online classes links, syllabus queries, test dates, etc. The motive behind building this chatbot is to help students get quick and accurate responses to their schedule and syllabus-related queries, this is especially beneficial for students who are taking online classes due to the COVID-19 pandemic and cannot talk to their peers face to face. This chatbot was developed with the Rasa, it is a framework for developing contextual AI assistants and chatbots.

Introduction

Conversational artificial intelligence (AI) refers to technologies, such as chatbots or virtual agents, that users can talk to. They use large volumes of data, machine learning and natural language processing to help imitate human interactions, recognizing speech and text inputs and translating their meanings across various languages. Conversational AI combines natural language processing (NLP) with machinelearning. These NLP processes flow into a constant feedback loop with machine learning processes to continuously improve the AI algorithms.

COMPONENTS OF CONVERSATIONAL AI

Conversational AI has principle components that allow it to process, understand and generate response in a natural way.

Machine Learning: It is a sub-field of artificial intelligence, made up of a set of algorithms, features, and data sets that continuously improve themselves with experience. As the input grows, the AI platform machine gets better at recognizing patterns and uses it to make predictions.

Natural language processing: Natural language processing is the current method of analyzing language with the help of machine learning used in conversational AI. Before machine learning, the evolution of language processing methodologies went from linguistics to computational linguistics to statistical natural language processing. In the future, deep learning will advancethe natural language processing capabilities of conversational AI even further.

NLP consists of four steps: Input generation, input analysis, output generation, andreinforcement learning. Unstructured data transformed into a format that can be read by a computer, which is then analyzed to generate an appropriate response. Underlying ML algorithms improve response quality over time as it learns. These four NLP steps can be broken down further below:

Literature Review

AI Enabled Educational Bot to Improve LearningOutcomes using Bag of Words Algorithm

Sankar S, Adithya Pothan Raj, Ramyaa S

Educational institutes across India have closed due to COVID-19 pandemic which has jeopardized academic schedules. To maintain their academic activities, several Indian educational institutes have shifted to online learning platforms. However, there are still questions about the effectiveness, design, and readiness of e-learning. In light of this fact, E- learning still tends to be controversial. As a result, it is inevitable to design an application with greater usability. In this paper, a novel application tool is developed and the design is proposed to enhance student knowledge and facilitate their study process, so they can study in comfortat home. The proposed system allows students to receive personalized educational assistance and also allows the students to get instant responses to all their questions throughout the day via a voice-enabled chatbot. It facilitates the connection between students and tutors, as well as the awarding of mind coins and badges based on how well they do, motivating them to learn more. Data analytics is incorporated and usability is measured. The result shows that the proposed system has greater usability resulting in a progressive improvement in the student's performance.

Chat Bot for student service based on RASA framework

J Fonseca, F Rodrigues

The availability of face-to-face attendance at the School's Administrative Services for Students is limited to one schedule, which may prevent the timely clarification of students' questions, causing a decrease in their level of satisfaction. To solve this problem, a conversational agent was designed, consisting of a Portuguese language interpretation module using natural language processing and machine learning techniques. To keep the system abstracted from any technical dependency, a web service that manages the agent's knowledge base was developed. In the evaluation of the solution, the performance of several learning models was compared, and the results emphasize the superiority of BERT language model of Google, combined with the DIET classifier, obtaining a F1-Score of 0.965. The system was implemented through a prototype and, for a total of 256 questions, around 70% of correct responses were obtained, with a positive average satisfaction rating of 4.20 on a 0-5 scale.

RASA based Voice Chatbot for College Information

B Roy, S Bhattacharya, M Sultana, A Maiti

An efficient information system is the backbone of all processes that involve a vast network of communication among people. Likewise, a sector as vast as the education system requires a communication system that could deliver helpful information at all levels in no time. The ever-booming education sector involves crores of students from various backgrounds applying for courses yearly in multiple institutions. They must avail themselves of all the information that needs to be informed at every step of the admission process to solve their queries and doubts. An innovative approach proposed to eliminate queries related to the admission process is a Chatbot used for efficient conversation among the students and the administration. We would describe a chatbot as software that involves interaction with a userin natural language through various communication channels. The feedback could involve a variety of generic texts, voice outputs, etc. The chatbot involves a combination of multiple AI forms like machine learning, natural language processing, and semantic understanding. For this, it can use either declarative or predictive chatbots. The defining features of our chatbot involve:- (1) the NLP (natural language processing) facilitates students to communicate in whatever mode they are comfortable with, (2) there is a built-in artificial intelligence for query analysis, and (3) the students could know the details of all the steps involved in the registration process, (4) the GUI interface of the chatbot is efficient enough just as a person in communication, (5) the chatbot will keep the students updated about every information at any time, (6) the chatbot is efficient enough to interpret the query in voice or text messages, and also has a backup system, (7) one can use the chatbot at any version of windows, (6) also, the security settings are updated to avoid any undesirable situation or spams. We believe this chatbot will be revolutionizing software for an efficient communication system and would prove to be a beneficial feature in the education system.

Designing an Interactive Chatbot for Educational Assistance using Rasa Framework

Xenus Gonsalves; Sujata Deshmukh

The AI Chatbots is becoming very popular these days. Many companies and organizations implement chatbots on their server and websites nowadays. These chatbots are very useful in improving their business. Whatever organization the chatbot is a part of, gets better user experience for the customers and the organization itself as well. The customers who initially could get stuck on a query, might have to make enquiries physically or e-mailing. Instead Chatbot can answer their query within seconds. CRCE bot is also like one of these above stated bots. It is a chatbot made for our Institute website. Students, teachers as well as student's parentscan highly benefit from this system. The users can easily navigate through the website usingthe bot with simple queries like the existing system discussed later. Additionally, this bot has thecapability to answer the asked queries too. For example, you can ask 'What was the cut-off for this year for admission in a certain field or department' and the bot will answer you the exact cutoff you asked in a natural language instead of just redirecting us to the cutoffs list

page. This system proves very useful for all the students, teachers and all other people associated with the college.

Bilingual AI-Driven Chatbot for Academic Advising

G Bilquise, S Ibrahim, K Shaalan

Conversational technologies are revolutionizing how organizations communicate with people, thereby raising quick responses and constant availability expectations. Students often have queries about the institutional and academic policies and procedures, academic progression, activities, and more in an academic environment. In reality, the student services team and the academic advisors are overwhelmed with several queries that they cannot provide instant responses to, resulting in dissatisfaction with services. Our study leverages Artificial Intelligence and Natural Language processing technologies to build a bilingual chatbot that interacts with students in the English and Arabic languages. The conversational agent is built in Python and designed for students to support advising-related queries. We use a purpose-built domain-specific corpus consisting of the common questions advisors receive from students and their responses as the chatbots knowledge base. The chatbot engine determines the user intentby processing the input and retrieves the most appropriate response that matches the intent with an accuracy of 80% in English and 75% in Arabic. We also evaluated the chatbot interface by conducting field experiments with students to test the accuracy of the chatbot with real-time input and test the application interface.

Proposal of conversational chatbots for educational remediation in the context of covid-19

Kokou Gaglo, Bessan Melckior Degboe, Ghislain Mervyl Kossingou

This paper presents a conversational chatbots solution allowing, in the context of covid- 19, to support, detect and reduce deficiencies and bring students to self-training in order to develop their skills. The chatbot intervenes during formative evaluations and identifies the student's misunderstandings and directs him/her at the end of the test towards the parts of the course dealing with the concepts that have not been mastered. In the context of covid-19, oneof the barrier gestures being social distancing, face-to-face classes have been suspended. Many higher education institutions that were not prepared for e-learning suddenly switched to online courses in order not to lose the academic year. Students no longer have the follow-up that they had when they were learning face-to-face. The chatbot proposed in this work could help reduce the negative effects of the covid-19 pandemic on the students' level. To allow learners to havea standardized learning environment, we have developed a plugin of the Moodle learningenvironment using the chatbot based on the Natural Language Processing (NLP) of Artificial Intelligence. In this work we show how our conversational chatbot is used for pedagogical remediation by indicating to the learner which chapters of the course to revise according to the gaps highlighted by the chatbot.

ChatterBot – An AI Conversational Entity

Aashi Gupta, Priya Sharma, Kiran Malik

An AI-powered chatbot for the university acts as an aid in university student's lives. Depending upon the situation, the question palette has been divided into three parts, including examination queries, admission queries, and general queries. This humanoid chatbot is a robot- like structure that will enable people to find answers to their queries, thus reducing humanlabor. It will cater to all the queries specific to Indira Gandhi Delhi Technical University for Women. In order to solve this issue, we present in this paper the construction of a chatbot that, utilizing a dataset of frequently asked questions and RASA installed on a Raspberry Pi 4, can quickly and accurately respond to any query. This chatbot has been deployed on a tablet screen, and React has been used for building the web app for a smooth interface between the user and the chatbot.

Rule-based chatbot for student enquiries

J Singh, MH Joesph, KBA Jabbar

Conversational agents, or chatbots, refer to computer programs that conduct conversations and deliver a natural language interface to its users. Due to the significant foothold messaging applications have begun receiving, chatbots have spawned a new revival and gaining vast popularity. The focus of this paper is to present the implementation of a rule- based enquiry chatbot that is designed exclusively toward students of Asia Pacific University (APU). The implemented chatbot known as 'APU Admin Bot' intends to provide students witha quicker solution to resolving their queries instead of heavily depending on the administrative offices. Relying on the rule-based approach of pattern recognition, certain words, phrases and even actions trigger an entire set of responses from the chatbot. Built entirely from the Chatfuel platform and hosted on Facebook Messenger, the implemented chatbot is reliant on a code-less authoring tool and a messaging platform, instead of traditional programming and architectural structures.AI-Based advanced Talk-chatbot for Implementation

NP Krishnam, A Bora, RSVR Swathi

Traditional technologies are transforming how businesses interact with their customers, creating demands for prompt responses & continuous accessibility. Students frequently have questions about college & university policies & procedures, academic process, extracurricular, as well as other aspects of educational career. There is a lack of service satisfaction because the educational advisers as well as the student affairs staff are overloaded with inquiries & unableto respond to them right away. In our work, we develop a multilingual talk bot that converses among learners in both English & Arabic using Artificial Intelligence (AI) & Natural Language Processing (NLP) technologies. The dialog bot was created in Python & is intended for use by students to answer questions about advice. We are utilizing a intent built domain- specific compilation as the knowledge source for the talk bots, which is made up of the typical queries students ask advisers & their answers. By analysing the inputs, the talk bot engine ascertains the client's needs and, with an efficiency of 80.00 % in English and 75.00 % in Arabic, finds the most reasonable answer that meets the intention. We also tested the software solution as well as the talk bot's precision using field tests with pupils to see how well it responded to live input.

EXISTING SYSTEM

In the academic environment, the management and communication of schedule are often characterized as time-consuming process as well as lengthy procedure for both peers as well as students, Leading to inefficiencies, information gaps, and a lack of personalized support. now a days there are many changes occurred in the Education system with help of advanced technological improvements. Everything is happening over the internet without any difficulty. In order to overcome such difficulties many devices or systems were emerged day by day. Some of the existing system.

PROPOSED SYSTEM

Document question answering (QA) is a subfield of natural language processing (NLP) and artificial intelligence (AI) focused on developing systems that can understand and respond to questions based on the content of documents or text passages. The goal is to enable machines to comprehend human language and extract relevant information from large collections of text, such as articles, research papers, or other documents, to provide accurate and contextually appropriate answers to user queries.

ADVANTAGES OF PROPOSED SYSTEM

a. **Efficiency:** QA chatbots provide quick and efficient access to information by automatically retrieving relevant answers from documents or text passages, saving users time compared to manual search or browsing.

b. **24/7 Availability:** QA chatbots are available 24/7, allowing users to inquire about information at any time, even outside regular office hours or during holidays.

c. **Accuracy:** QA chatbots deliver accurate and precise answers to user queries, ensuring that users receive reliable information extracted directly from the source documents without errors or bias.

d. **Comprehensiveness:** QA chatbots can process large volumes of text and extract information from multiple documents simultaneously, offering comprehensive answers that cover various aspects of the query.

e. **Scalability:** QA chatbots can scale to handle a large number of user queries simultaneously, making them suitable for applications with high volumes of information retrieval requests.

SYSTEM STUDY

This study is carried out to check the economic impact that the system will have on the organization. The amount of fund that the company can pour into the research and development of the system is limited. The expenditures must be justified. Thus, the developed system as well within the budget and this was achieved because most of the technologies used are freely available. Only the customized products had to be purchased.

FEASIBLE STUDY

The feasibility of the project is analyzed in this phase and business proposal is put forth with a very general plan for the project and some cost estimates. Preliminary investigation examines project feasibility, the likelihood the system will be useful to the organization. The main objective of the feasibility study is to test the Technical, Operational and Economical feasibility for adding new modules and debugging old running system. During system analysis the feasibility study of the proposed system is to be carried out. This is to ensure that the
proposed system is not a burden to the company. For feasibility analysis, some understanding of the major requirements for the system is essential.

Three key considerations involved in the feasibility analysis are:

- Economic Feasibility
- Technical Feasibility
- Operational Feasibility

The main objective of the study of the prospect is just to verify the technical, social as well as operational achievement to include additional features and to investigate the past working structure. Every device will be back to earth in the event that they are infinite energy and unremitting time. Perspectives exist in the concentration of attainability of some portion of the quick evaluation. During system analysis the feasibility study of the proposed system isto be carried out. This is to ensure that the proposed system is not a burden to the company. For feasibility analysis, some understanding of the major requirements for the system is essential.

ECONOMIC FEASIBILITY

This study is carried out to check the economic impact that the system will have on the organization. A system can be developed technically and that will be used if installed must still be a good investment for the organization. In the economical feasibility, the development costin creating the system is evaluated against the ultimate benefit derived from the new systems. Financial benefits must equal or exceed the costs. The system is economically feasible. It does not require any addition hardware or software. Since the interface for this system is developed using the existing resources and technologies available at NIC, there is nominal expenditureand economical feasibility for certain. The amount of fund that the company can pour into the research and development of the system is limited. The expenditures must be justified. Thus, the developed system as well within the budget and this was achieved because most of the technologies used are freely available. Only the customized products had to be purchased.

TECHNICAL FEASIBILITY

This study is carried out to check the technical feasibility, that is, the technical requirements of the system. Any system developed must not have a high demand on theavailable technical resources. This will lead to high demands on the available technical

resources. The developed system must have a modest requirement, as only minimal or null changes are required for implementing this system.

The technical issue usually raised during the feasibility stage of the investigation includes the following:

Does the necessary technology exist to do what is suggested?

Do the proposed equipment's have the technical capacity to hold the data required to use the new system?

Will the proposed system provide adequate response to inquiries, regardless of the number.

The current system developed is technically feasible. It is a web based user interface for audit workflow at NIC-CSD. Thus it provides an easy access to the users. The database's purpose is to create, establish and maintain a workflow among various entities.

OPERATIONAL FEASIBILITY

The aspect of study is to check the level of acceptance of the system by the user. This includes the process of training the user to use the system efficiently. The user must not feel threatened by the system, instead must accept it as a necessity. The level of acceptance by the users solely depends on the methods that are employed to educate the user about the system and to make him familiar with it.

External CSS involves placing CSS code in a separate file with a ".css" extension and linking itto an HTML document using the element in the section. This method allows developers to maintain all styles for a website in a single external file, which can then be linked to multiple HTML documents. External CSS offers several advantages, including better organization, easier maintenance, and enhanced reusability across different web pages. Additionally, it promotes a clean separation of content and presentation, making it easier to collaborate on projects and apply consistent styles across an entire website. External CSS files can be cached by browsers, resulting in faster loading times for subsequent page visits.

SYSTEM ARCHITECTURE

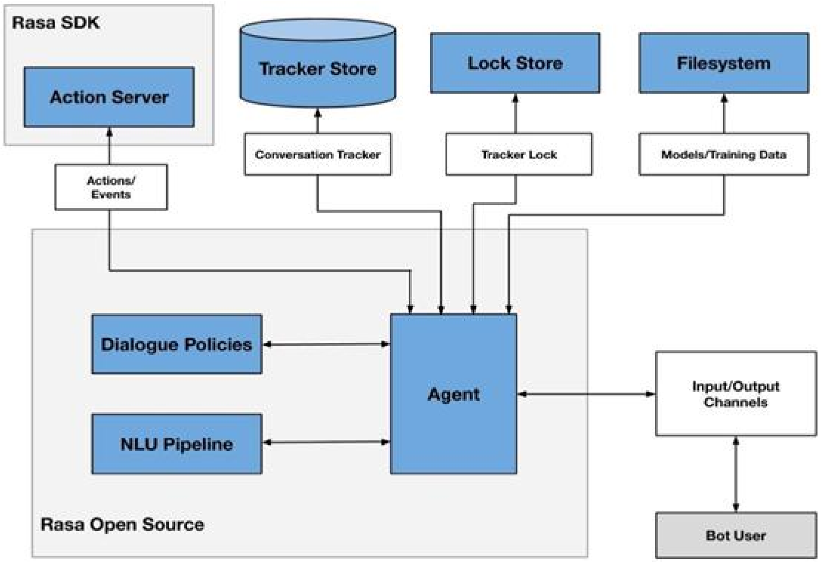


Figure.1. System Architecture

Rasa's system architecture revolves around two main components: the Rasa Core and the Rasa NLU (Natural Language Understanding). Rasa Core handles dialogue management, orchestrating conversations by predicting the next action based on the dialogue history. On the other hand, Rasa NLU processes user messages, extracting intents and entities to understand the user's input. These components interact with each other through defined APIs, enabling developers to create conversational AI applications that can understand user inputs and respond appropriately, forming the backbone of Rasa's chatbot and virtual assistant capabilities.

Rasa’s architecture is designed for building conversational AI applications. Here are the key components:

Natural Language Understanding (NLU):

The NLU component processes user messages, handling intent classification (what the user wants) and entity extraction (relevant details).It translates user input into structured data that the chatbot can understand.

Dialogue Management:

Dialogue management decides the next action based on context It uses dialogue policies to determine how the chatbot should respond. For example, if a user asks about the weather, the system triggers an action to fetch weather information.

Rasa SDK and Custom Connectors:

The Rasa SDK allows developers to define custom actions for the chatbot.

Custom connectors enable communication with external platforms (e.g., web, messaging apps).

Tracker Store:

The tracker store maintains conversation history, storing user messages, chatbot responses, and context. This data is crucial for maintaining context-aware conversations.

Rasa Core:

Rasa Core combines NLU and dialogue management to create an end-to-end conversational flow. It predicts the next action based on the current conversation state and user input.

Action server:

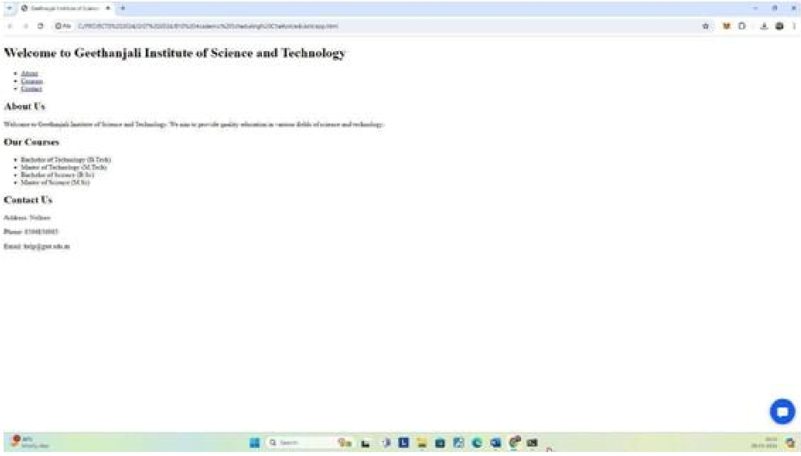
The action server in Rasa executes actions triggered by the dialogue management component, handling tasks such as generating responses, querying databases, and calling APIs.

User Interface:

The user interface in Rasa facilitates user interaction by providing a platform for inputtingmessages and receiving responses from the conversational AI assistant.

1. Input generation: Users provide input through a website or an app; the format of the input can either be voice or text.
2. Input analysis: If the input is text-based, the conversational AI solution app will use natural language understanding (NLU) to decipher the meaning of the input and derive its intention. However, if the input is speech-based, it'll leverage a combination of automatic speech recognition (ASR) and NLU to analyze the data.
3. Dialogue management: During this stage, Natural Language Generation (NLG), a components of nlp.
4. Reinforcement learning: Finally, machine learning algorithms refine responses overtime to ensure accuracy.

RESULTS



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- Master of Technology (M.Tech)
- Bachelor of Science (B.Sc)
- Master of Science (M.Sc)

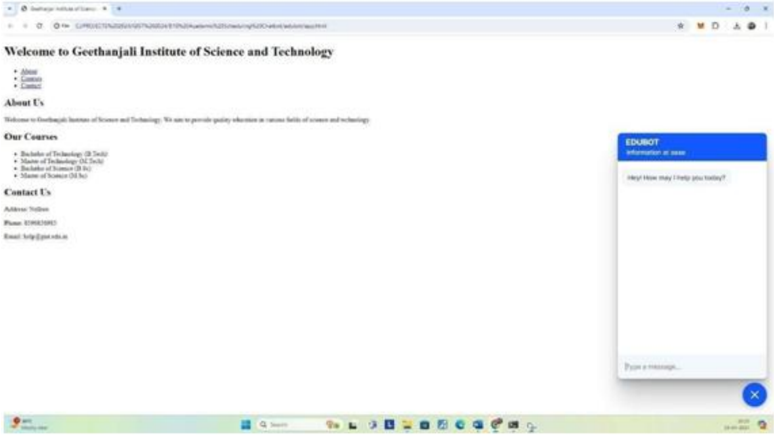
Contact Us

Address: Nellore

Phone: [illegible]

Email: help@gist.edu.in

Figure.2. Edubot 1



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- Master of Science (M.Sc)

Contact Us

Address: Nellore

Phone: [illegible]

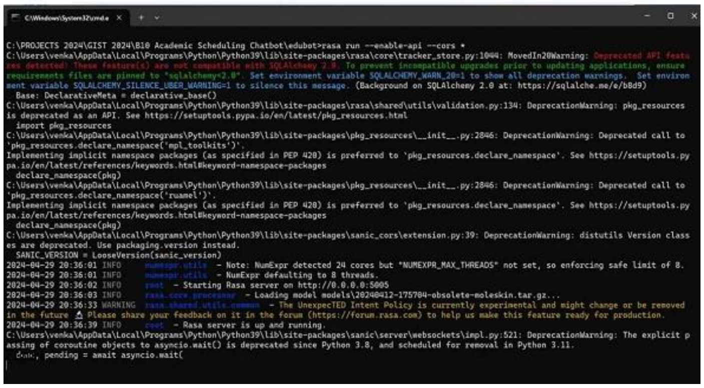
Email: help@gist.edu.in

EDUBOT
Information at ease

Hey! How may I help you today?

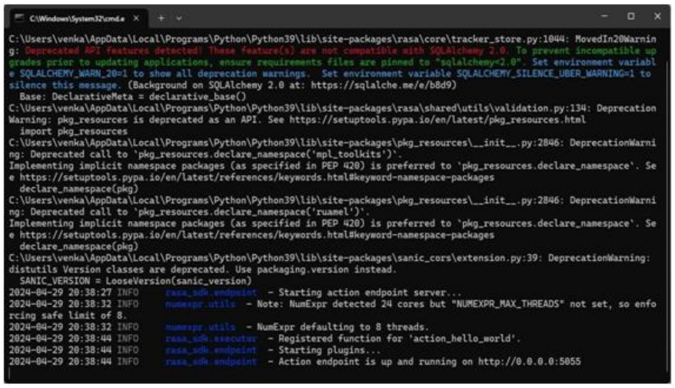
Type a message...

Figure.2. Edubot 2



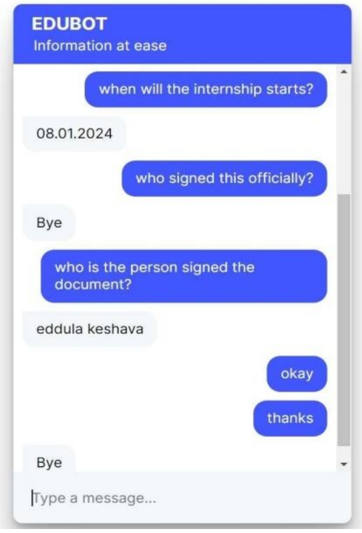
```
C:\PROJECTS 2024\GIST 2024\B10 Academic Scheduling Chatbot\edubot>rasa run --enable-api --cors *
C:\Users\venka\AppData\Local\Programs\Python\Python39\lib\site-packages\rasa\core\tracker_store.py:1044: MovedIn20Warning: Deprecated API featu
res detected! These feature(s) are not compatible with SQLAlchemy 2.0. To prevent incompatible upgrades prior to updating applications, ensure
requirements files are pinned to "sqlalchemy<2.0". Set environment variable SQLALCHEMY_WARN_20=1 to show all deprecation warnings.  Set environ
ment variable SQLALCHEMY_SILENCE_UBER_WARNING=1 to silence this message. (Background on SQLAlchemy 2.0 at: https://sqlalche.me/e/b8d9)
  Base: DeclarativeMeta = declarative_base()
C:\Users\venka\AppData\Local\Programs\Python\Python39\lib\site-packages\rasa\shared\utils\validation.py:134: DeprecationWarning: pkg_resources
is deprecated as an API. See https://setuptools.pypa.io/en/latest/pkg_resources.html
  import pkg_resources
C:\Users\venka\AppData\Local\Programs\Python\Python39\lib\site-packages\pkg_resources\__init__.py:2846: DeprecationWarning: Deprecated call to
'pkg_resources.declare_namespace('mpl_toolkits')'.
Implementing implicit namespace packages (as specified in PEP 420) is preferred to `pkg_resources.declare_namespace`. See https://setuptools.py
pa.io/en/latest/references/keywords.html#keyword-namespace-packages
  declare_namespace(pkg)
C:\Users\venka\AppData\Local\Programs\Python\Python39\lib\site-packages\pkg_resources\__init__.py:2846: DeprecationWarning: Deprecated call to
'pkg_resources.declare_namespace('ruamel')'.
Implementing implicit namespace packages (as specified in PEP 420) is preferred to `pkg_resources.declare_namespace`. See https://setuptools.py
pa.io/en/latest/references/keywords.html#keyword-namespace-packages
  declare_namespace(pkg)
C:\Users\venka\AppData\Local\Programs\Python\Python39\lib\site-packages\sanic_cors\extension.py:39: DeprecationWarning: distutils Version class
es are deprecated. Use packaging.version instead.
  SANIC_VERSION = LooseVersion(sanic_version)
2024-04-29 20:36:01 INFO     numexpr.utils  - Note: NumExpr detected 24 cores but "NUMEXPR_MAX_THREADS" not set, so enforcing safe limit of 8.
2024-04-29 20:36:01 INFO     numexpr.utils  - NumExpr defaulting to 8 threads.
2024-04-29 20:36:02 INFO     root  - Starting Rasa server on http://0.0.0.0:5005
2024-04-29 20:36:03 INFO     rasa.core.processor  - Loading model models\20240412-175704-obsolete-moleskin.tar.gz...
2024-04-29 20:36:33 WARNING  rasa.shared.utils.common  - The UnexpecTED Intent Policy is currently experimental and might change or be removed
in the future ⚠ Please share your feedback on it in the forum (https://forum.rasa.com) to help us make this feature ready for production.
2024-04-29 20:36:39 INFO     root  - Rasa server is up and running.
C:\Users\venka\AppData\Local\Programs\Python\Python39\lib\site-packages\sanic\server\websockets\impl.py:521: DeprecationWarning: The explicit p
assing of coroutine objects to asyncio.wait() is deprecated since Python 3.8, and scheduled for removal in Python 3.11.
  done, pending = await asyncio.wait(
```

Figure.3. command prompt 1



```
C:\Users\venka\AppData\Local\Programs\Python\Python39\lib\site-packages\rasa\core\tracker_store.py:1044: MovedIn20Warnin
g: Deprecated API features detected! These feature(s) are not compatible with SQLAlchemy 2.0. To prevent incompatible up
grades prior to updating applications, ensure requirements files are pinned to "sqlalchemy<2.0". Set environment variabl
e SQLALCHEMY_WARN_20=1 to show all deprecation warnings.  Set environment variable SQLALCHEMY_SILENCE_UBER_WARNING=1 to
silence this message. (Background on SQLAlchemy 2.0 at: https://sqlalche.me/e/b8d9)
  Base: DeclarativeMeta = declarative_base()
C:\Users\venka\AppData\Local\Programs\Python\Python39\lib\site-packages\rasa\shared\utils\validation.py:134: Deprecation
Warning: pkg_resources is deprecated as an API. See https://setuptools.pypa.io/en/latest/pkg_resources.html
  import pkg_resources
C:\Users\venka\AppData\Local\Programs\Python\Python39\lib\site-packages\pkg_resources\__init__.py:2846: DeprecationWarni
ng: Deprecated call to `pkg_resources.declare_namespace('mpl_toolkits')`.
Implementing implicit namespace packages (as specified in PEP 420) is preferred to `pkg_resources.declare_namespace`. Se
e https://setuptools.pypa.io/en/latest/references/keywords.html#keyword-namespace-packages
  declare_namespace(pkg)
C:\Users\venka\AppData\Local\Programs\Python\Python39\lib\site-packages\pkg_resources\__init__.py:2846: DeprecationWarni
ng: Deprecated call to `pkg_resources.declare_namespace('ruamel')`.
Implementing implicit namespace packages (as specified in PEP 420) is preferred to `pkg_resources.declare_namespace`. Se
e https://setuptools.pypa.io/en/latest/references/keywords.html#keyword-namespace-packages
  declare_namespace(pkg)
C:\Users\venka\AppData\Local\Programs\Python\Python39\lib\site-packages\sanic_cors\extension.py:39: DeprecationWarning:
distutils Version classes are deprecated. Use packaging.version instead.
  SANIC_VERSION = LooseVersion(sanic_version)
2024-04-29 20:38:27 INFO     rasa_sdk.endpoint  - Starting action endpoint server...
2024-04-29 20:38:32 INFO     numexpr.utils  - Note: NumExpr detected 24 cores but "NUMEXPR_MAX_THREADS" not set, so enfo
rcing safe limit of 8.
2024-04-29 20:38:32 INFO     numexpr.utils  - NumExpr defaulting to 8 threads.
2024-04-29 20:38:44 INFO     rasa_sdk.executor  - Registered function for 'action_hello_world'.
2024-04-29 20:38:44 INFO     rasa_sdk.endpoint  - Starting plugins...
2024-04-29 20:38:44 INFO     rasa_sdk.endpoint  - Action endpoint is up and running on http://0.0.0.0:5055
```

Figure .4. command prompt 2



EDUBOT
Information at ease

when will the internship starts?

08.01.2024

who signed this officially?

Bye

who is the person signed the document?

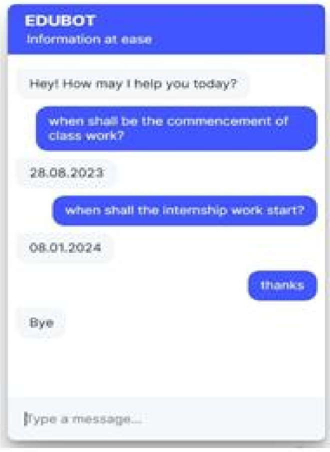
eddula keshava

okay

thanks

Bye

Figure.5. Chat bot 1



EDUBOT
Information at ease

Hey! How may I help you today?

when shall be the commencement of class work?

28.08.2023

when shall the internship work start?

08.01.2024

thanks

Bye

Figure.6. Chat bot 2

CONCLUSION

Here we have successfully created a Chatbot using Rasa. Rasa is an essential tool or Framework to build a Chatbot. The main advantage of Rasa chatbot is basically the easiness and customization of a chatbot without having in depth knowledge in deep neural networks and machine learning. In conclusion, developing an AI chatbot for academic schedule management using Rasa offers numerous benefits for both students and academic institutions. By leveraging natural language understanding, dialogue management, and integration capabilities, such a chatbot can streamline various tasks related to scheduling classes, checking availability, and managing academic commitments. Through effective implementation of modules such as NLU, dialogue management, action execution, knowledge base, integration, and user interface, the chatbot can provide users with a convenient and efficient way to interact with academic schedules. This not only improves user experience but also reduces the administrative burden on academic staff. Overall, an AI chatbot for academic schedule management using Rasa has the potential to enhance productivity, increase accessibility, and foster better communication within academic communities. As technology continues to evolve, such solutions will play an increasingly important role in optimizing academic processes and improving the overall learning experience.

FUTURE ENHANCEMENTS

The chatbot project enhancing an AI bot for academic scheduling using Rasa involves several key improvements. First, it can become smarter by understanding more complex language and context, making conversations with users feel more natural. Customization options would allow users to tailor their schedules, while integration with systems like course platforms would provide direct access to relevant information. Adding support for voice commands or visuals would enhance accessibility for all users. Moreover, by implementing advanced algorithms, the bot could suggest optimized schedules based on factors like class availability and individual preferences. Lastly, incorporating feedback mechanisms would enable continuous improvement, ensuring the bot evolves to better meet user needs over time. Theseenhancements aim to make the bot a more personalized and indispensable tool for students and faculty, simplifying the scheduling process and improving overall efficiency in academic environments.

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