DUX

Experience the Pinnacle of Conversational AI with St. Clair Chatbot

TEAM MEMBERS

GROUP- 1

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PROJECT TYPE

- Implement an AI chatbot on the St. Clair College website to help students quickly find the information they need.

- Launch the chatbot on the website and make it easily accessible to users.

- Monitor and continuously improve the chatbot's performance based on user feedback and data analysis.
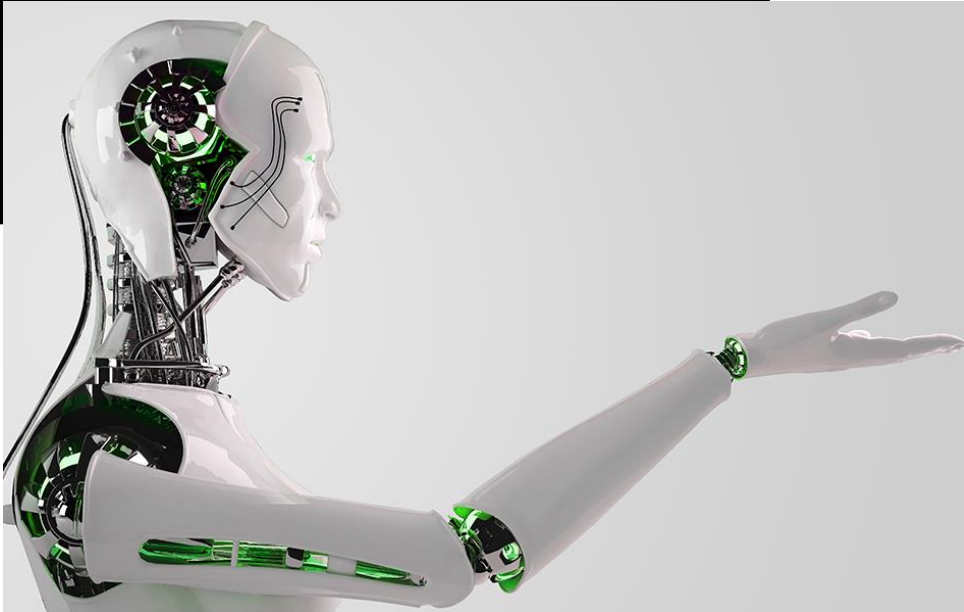
PROBLEM STATEMENT OF THE USECASE

- St. Clair College's website faces high traffic from students looking for information on courses and services.

- The website can be confusing for some students due to the vast amount of information listed.

- Students can sometimes find it difficult to navigate between pages while trying to decide between course options.

- The goal is to improve the user experience on the St. Clair College website.

IMPORTANCE OF AI SOLUTION FOR THE PROBLEM

- Since, this is a generic problem that can be implemented across various platforms/sites, finding a solution to this issue will help.

- Nowadays, many institutions already implemented chatbots on their websites as such, having a chatbot for St, Clair college will provide a much-needed technological boost.

- The objective of the project is to make the website user-friendly and help students find the information they need quickly and easily.

- Conversational AI can automate processes that are presently done by humans, which will save expenses and decrease human error.

- Since, using an AI chatbot can help users easily navigate between various courses and services and choose accordingly.

- To have a one-stop solution for all the information that the college wants to portray can be beneficial for St. Clair college.

IMPORTANCE OF AI SOLUTION FOR THE PROBLEM AT HAND

TASK & EXPECTED SOLUTION

- The project will use Language Studio and Azure platform to create an AI Chatbot named 'Dux' as a guide for students.

- Dux will provide information about various courses and a brief description of what each program offers and a URL to navigate directly to the course content.

- The chatbot will showcase different services provided by the college and offer a 360 Virtual Tour of the college infrastructure.

- The aim is to create a helpful chatbot that makes users feel important and well-informed about the college's offerings.

- The project will enhance the user experience on the St. Clair College website and make it easier for students to find the information they need.

- We planned to use LUIS for our chatbot, however, the deployment process is quite challenging and as such, we couldn't proceed as planned.

- While creating Dux, we faced a major difficulty while feeding data to Dux for training.

- The data was supposed to be in a hierarchical form with question-answer pairs being interlinked.

- As the data on the St. Clair website is quite vast and not properly structured, feeding data to the Knowledge Base in a structured format was challenging.

FAILURES & CHALLENGES

IMPROVEMENTS & LESSONS LEARNT

To solve the problem of creating a hierarchy of information for Dux, pairs were connected through follow-up prompts to create a context tree.

The context tree allows for a systematic splitting of information into smaller branches, making it easier for Dux to understand.

A sample data of courses and services provided by St. Clair College was used to train Dux due to the vast amount of available information.

Official help from the faculty would be beneficial in understanding the flow of information and distinguishing between important and unimportant features to fully overcome the large unstructured data challenge.

- Dux is now able to provide students with various information about St. Clair College and its courses.

- It can provide program descriptions, duration, fee structure, and website links for the program selected by the user.

- It can display a list of student services and their offerings

- It also offers a 360-degree virtual tour of the college.

- Dux is a suitable AI solution for St. Clair College's website and can serve as a perfect guide for students.
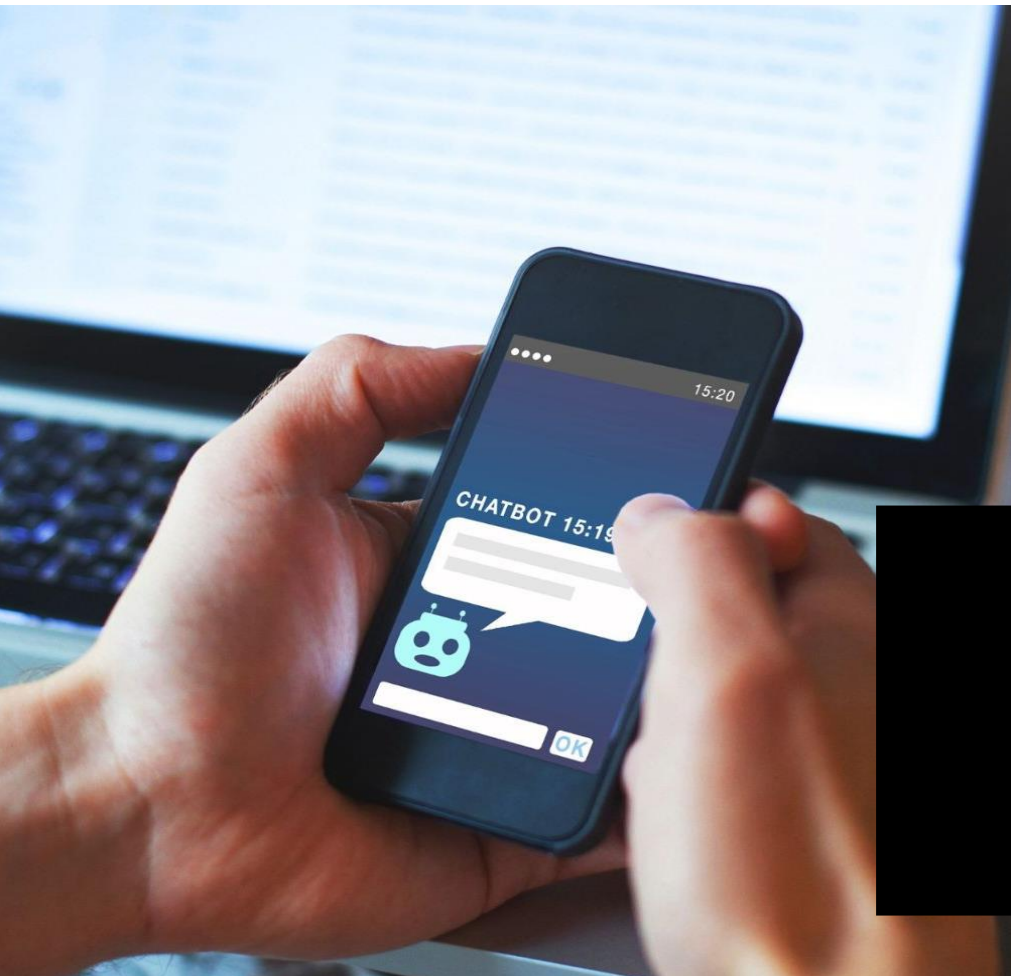
PROJECT OUTCOME-ACHIEVING THE OBJECTIVE

STEP-WISE CREATION OF DUX (AI CHATBOT)

Language Service Resource Group

As part of this project, we have created this resource group to manage all the resources which are created for chatbot creation.

Instance details

- In Azure, an instance refers to a single deployment of a resource, such as a virtual machine, a database, or a web app.

- As part of this project, we have created an instance that will act as an endpoint for our chatbot, allowing for seamless integration and efficient communication.

Language Studio Setup
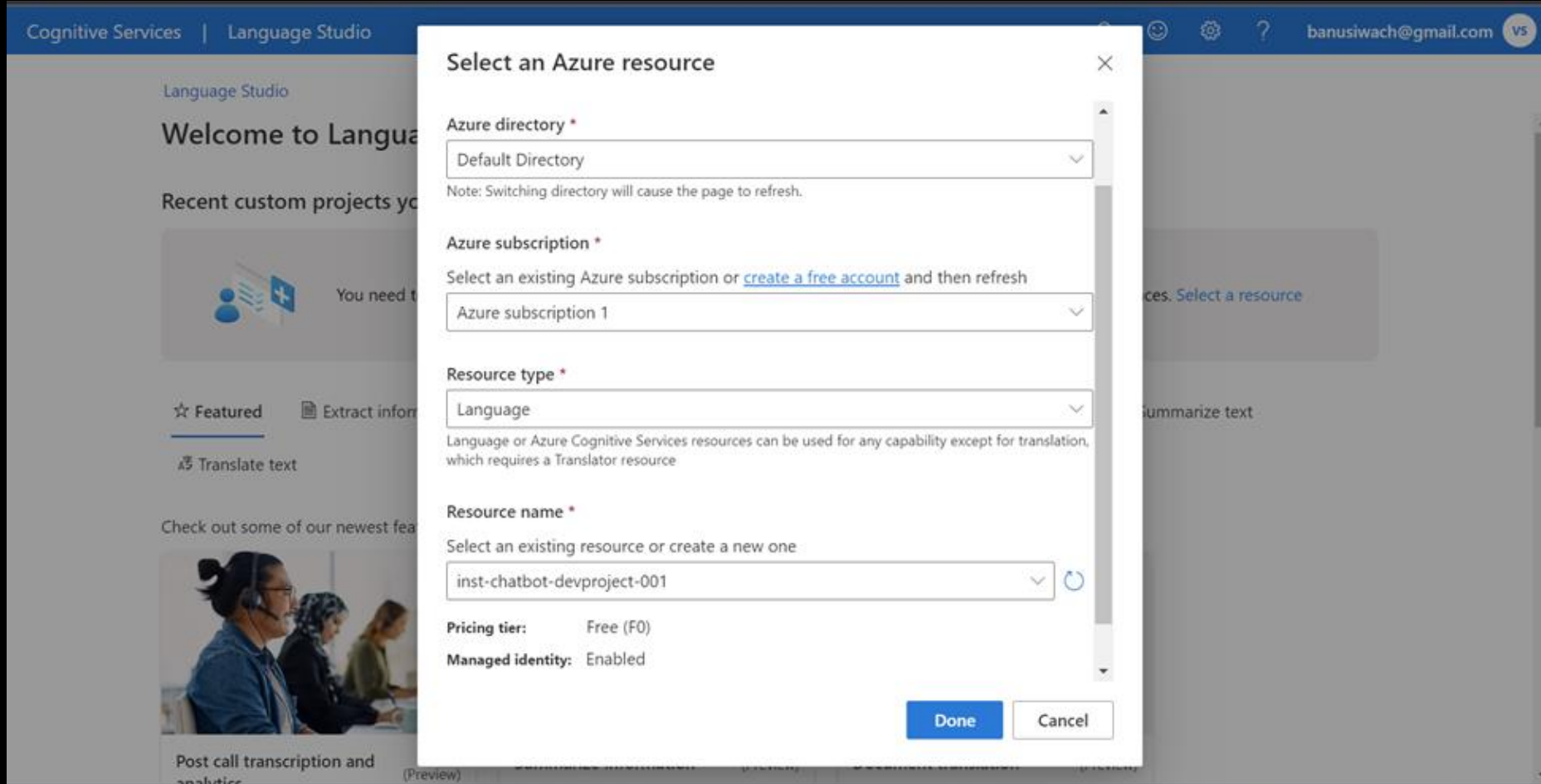
- Language Studio provides you with a customizable interface that allows you to tailor the tools and features to your specific needs and preferences, making it a versatile and flexible platform.
- As part of this project, we have used Custom question answering option under "Understand questions and conversational language" option to design a chat bot.

Project Creation

- When setting up a language-specific development environment, creating a project is the essential first step that sets the foundation for chatbot.

- With a properly set up project and data source, we can build and testing your chatbot, refining its responses and improving its functionality to deliver a seamless user experience.

Knowledge Base
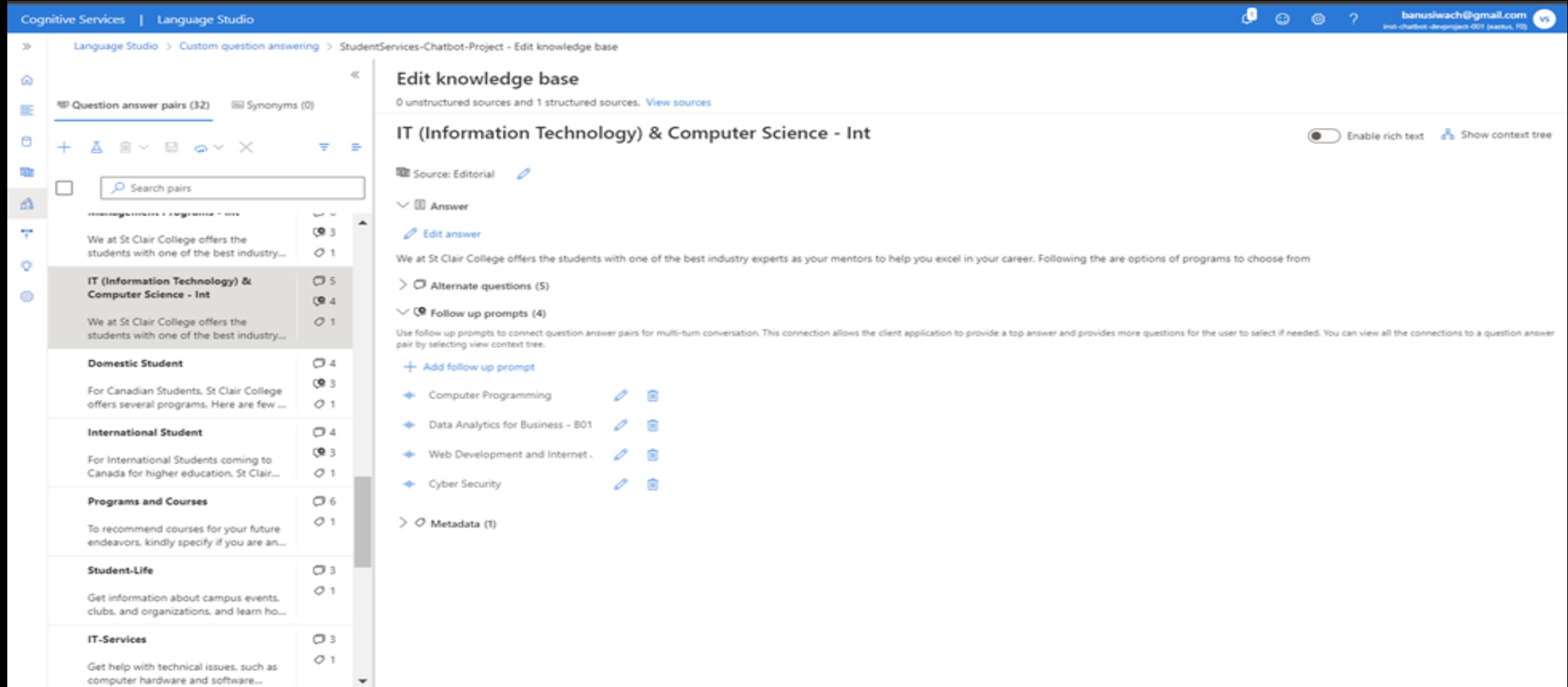
- After creating a project in the language-specific development environment, we can add custom questions and answers to create a knowledge base for our chatbot.

- For this chat bot, we have created the knowledge base in an excel sheet by pulling the information from St Clair College website.

Testing Bot

- The above screenshot shows the testing process after feeding data through the Knowledge Base.
- This process helps to refine the chat's responses and improve the overall user experience.
- Testing the Knowledge Base is a crucial step in building a successful chatbot.

Context Tree

- The above screenshot illustrates the Context Tree generated from the Knowledge Base by adding follow-up prompts to the main header questions.

- The Context Tree displays the connections between question-answer pairs in a hierarchical format, making it easy for developers to identify all the possible answers to a given question.

Deploy Mode

- Once the testing is successful, the Knowledge Base can be deployed.

- By deploying the Knowledge Base, developers can leverage the power of conversational AI to create a chatbot that provides intelligent and efficient communication with users.

Bot
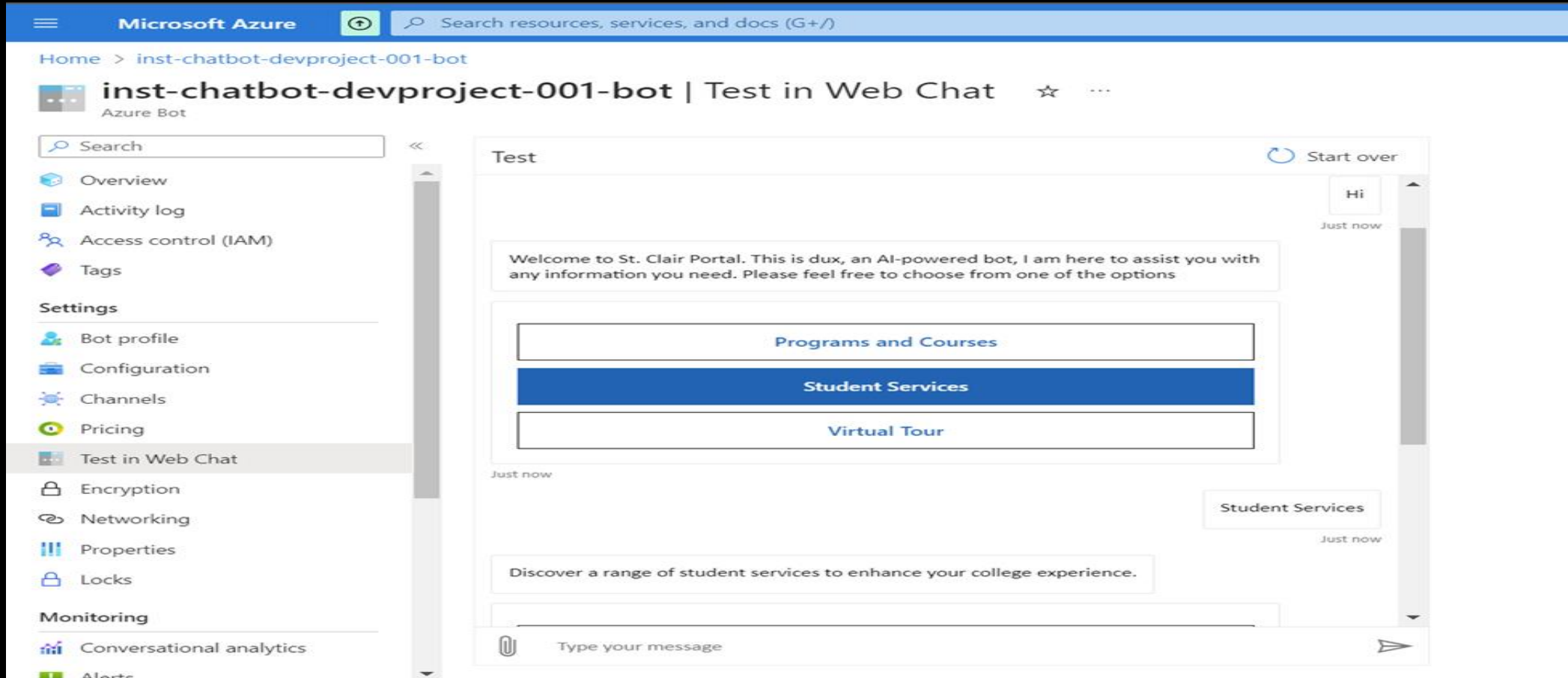
- The above screenshot is an example of a deployed chatbot running in Web Chat mode.

- With its intuitive interface and conversational AI, the chatbot will provide students with instant access to important information and assistance.
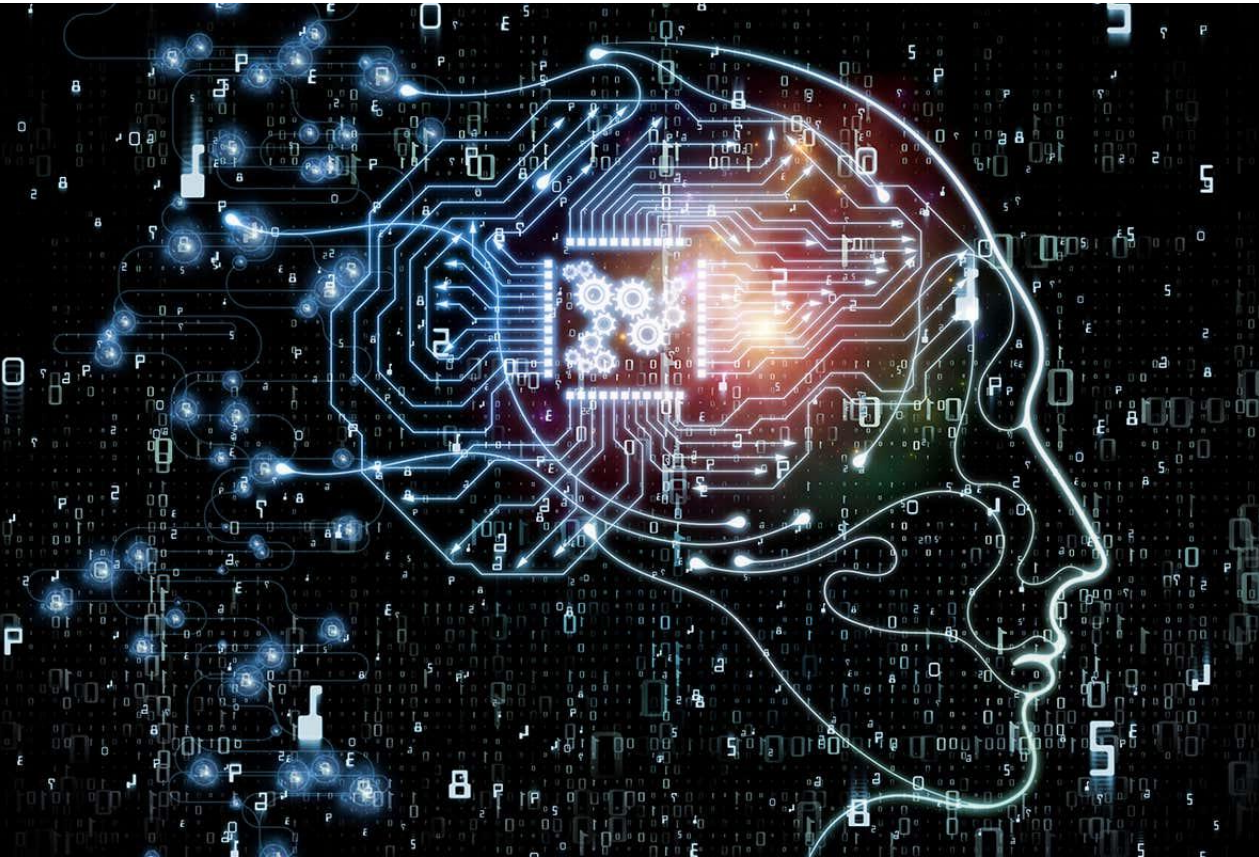
Final Recommendations

Opportunities for Further Improvement

- Dux's knowledge can still be improved with more structured data and training.

- More training can help Dux understand various slangs and abbreviations as St Clair College accepts students from different cultures.

- Other information regarding St. Clair College like intake specifications and other programs offered outside of Full-time program can also be embedded in Dux.

- Dux can be embedded in student's official portal BLACKBOARD to guide current students in their study sessions and subject progress.

- Multilingual features can be added to Dux to make it more accessible for students from various backgrounds and ethnicities.

Final Recommendations & Opportunities for Further Improvement

ETHICAL CONCERNS RELATED TO AI

There are various major ethical concerns related to AI explained below like transparency, bias, accountability, and privacy explained in detail below:
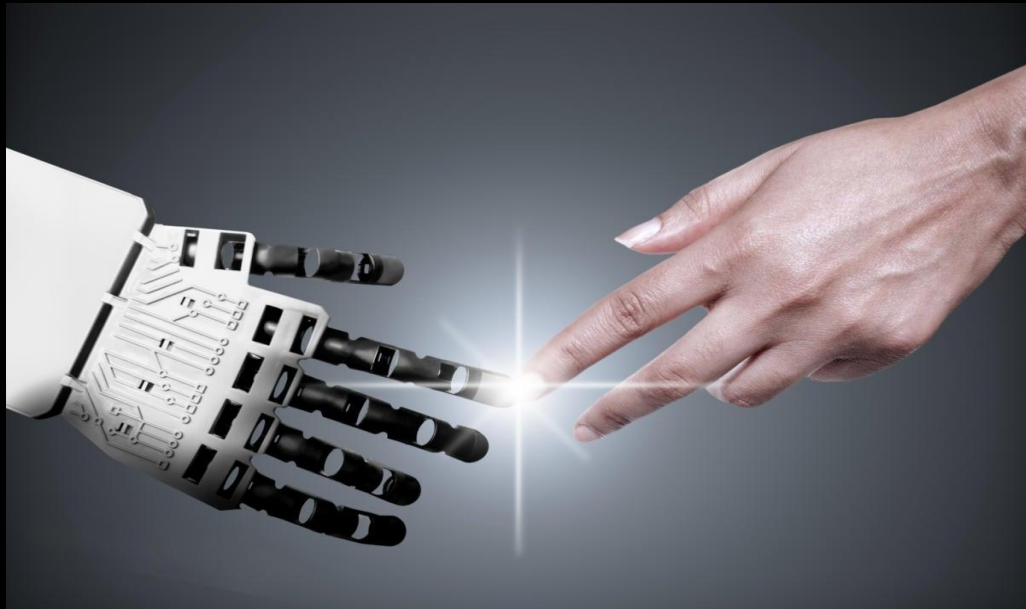
Transparency

- The AI system uses Artificial Neural Network (ANN) which functions like a mysterious black box.

- It becomes difficult or even impossible to fully comprehend the machine's decision-making process.

Biases in AI

- AI cannot always be relied on to be impartial and fair.
- The quality of the dataset used to train the model is the primary cause of the system's biased judgments.

Accountability

- All organizations using AI technology need to establish strict policies to hold each other accountable for any wrongdoings.
- One approach would be to assign separate users the tasks of designing, developing, and deploying AI systems so that each one could be identified and held accountable for their actions.

Privacy & Security

- Data privacy and security play a major ethical issue in AI.
- Examine all potential sources of data carefully, and only utilize those that have explicit, informed user consent.

ETHICAL CONCERNS RELATED TO AI

THANK YOU!