



EduBotX (MBSTE Paper Bot)

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ABSTRACT:

EdutBotX is a comprehensive educational Telegram Bot that caters to a wide range of learning needs. It helps students prepare for exams by giving them quick access to Maharashtra State Board of Technical Education (MSBTE) papers. Furthermore, the bot provides sophisticated functions like text-to-speech and text-to-image conversion, which improve the usability of instructional materials. Additionally, EdutBotX facilitates interactive learning by letting users converse with a variety of AI models. EdutBotX is an invaluable resource for students looking to increase their knowledge and abilities because of its cutting-edge features and intuitive UI.

Keywords:

- MSBTE Paper Provider: Access previous exams and study guides from MSBTE by using the MSBTE Paper Provider.
- Text-to-Image: Generate visual pictures from text inputs.
- Text-to-Speech: Convert written words into spoken ones.
- Chat with AI Models: Have discussions and ask questions of sophisticated AI models.

Introduction:

EdutBotX, a revolutionary Telegram Bot, redefines the limits of learning accessibility and engagement in the rapidly changing field of digital education. EdutBotX is a portal that facilitates the easy access to past papers for students studying for the Maharashtra State Board of Technical Education (MSBTE) examinations. This helps students prepare thoroughly for the exams. Its usefulness, however, goes beyond that of conventional test study aids; it has sophisticated functions like text-to-speech and text-to-image translation. These qualities make instructional content more palatable and interesting by improving accessibility to it and accommodating a variety of learning styles.

Furthermore, EdutBotX distinguishes itself through its interactive capabilities, allowing users to engage in meaningful conversations with various AI models. This interactive component stimulates inquiry and curiosity-driven learning in addition to helping students grasp difficult ideas on a deeper level. The incorporation of AI models into EdutBotX opens up a world of possibilities, allowing users to explore subjects outside the scope of conventional study materials.

In addition to its core functionalities, EdutBotX is designed with a user-centric approach, ensuring a seamless and intuitive user experience. Because of its flexible design and user-friendly interface, it is usable by people with varying technological skills and ages, democratizing access to instructional materials. Additionally, instructors may develop individualized learning experiences that are suited to the requirements of individual students with the help of EdutBotX's scalability and flexibility.

In conclusion, EdutBotX represents a paradigm shift in educational technology, offering a holistic and interactive learning experience. Exam prep tools, cutting-edge features, and interactive AI models all come together in EdutBotX, which has the potential to completely transform education and enable both teachers and students to pursue new avenues in the field of digital learning.

What is EduBotX?

EduBotX is an innovative Telegram Bot with a variety of features that aim to improve the educational experience. Students may prepare for exams by accessing Maharashtra State Board of Technical Education (MSBTE) papers using this platform. Furthermore, EduBotX provides text-to-speech and text-to-image features, enhancing the accessibility and engagement of instructional information. Talking with different AI models is one of its best features, giving consumers a distinctive educational experience. All things considered, EduBotX is an all-inclusive teaching aid that blends practicality, ease of use, and creativity to facilitate learning and information sharing.

What is the use of EduBotX?

EduBotX is a flexible educational tool intended to improve students' learning outcomes. Access to Maharashtra State Board of Technical Education (MSBTE) test papers, which helps students prepare for exams, is one of its primary features. EduBotX also has text-to-speech conversion, which enables users to hear instructional materials. This feature can be very helpful for students who learn best by hearing. Additionally, the bot can convert words to images, which helps users visualize topics more effectively. The capacity of EduBotX to communicate with different AI models is one of its most remarkable characteristics; it gives users the chance to take part in dynamic and interactive learning experiences. In general, EduBotX functions as a thorough learning platform that accommodates a variety of learning requirements and styles with the goal of improving accessibility, effectiveness, and engagement of learning.

Methodology:

1. User Engagement Analysis: To better inform the creation of pertinent and captivating features and content, conduct a survey or user feedback session to learn about the preferences and demands of the target audience.
2. Content Curation: Make sure the MSBTE papers and instructional materials are up to date, in line with the curriculum, and simple to access for the bot.
3. Text-to-Speech and Text-to-picture Conversion Integration: Use libraries or APIs to convert text to speech and picture, making sure they are accurate and dependable.
4. AI Model Integration: Test for smooth user engagement by integrating AI models, such as chatbots and language processing, to improve interactivity and learning experiences.
5. User Interface Design: Make sure your interface is responsive across many devices and is straightforward to use for effortless navigation.
6. Testing and Feedback: For ongoing development, carry out comprehensive testing to find and address issues and collect user input.
7. Deployment and Maintenance: Make sure the bot is accessible when deploying it on Telegram, and make frequent updates to include new features

Functionalities of the project:

Features	EduBotX	Existing product
MSBTE Papers Access	Yes	Limited or No access
Text-to-Speech	Yes	Limited or No access
Text-to-Image	Yes	Limited or No access
AI Model Interaction	Yes	Limited or No access
Content Curation	Curated collection of educational material	Limited or No access
Testing and Feedback	Extensive testing, feedback collection	Limited testing, may lack user feedback mechanism
Deployment and Updates	Regular updates, maintenance	Irregular updates, lack of maintenance

Literature Review

Aspect	Proposed System	Existing Systems
User Engagement	Utilizes user feedback for improvements	Limited user interaction, less feedback-driven
Content Curation	Curated content for relevance.	Generic content, may lack relevance
AI Integration	Various AI models for interactive learning	Minimal or no AI integration
Accessibility	Accessible on Telegram platform	Platform-dependent, limited accessibility
Updates	Regular updates for improved features	Infrequent updates, lack of feature evolution

User Interface	Intuitive design for easy navigation	Basic interface, may lack user-friendly features
Learning Tools	Text-to-speech, text-to-image conversion	Limited or no additional learning tools
Community Support	Integration with AI models for user queries	Lack of community support or interaction features
Adaptability	Able to adapt to user preferences	Limited adaptability, static features

Algorithm:

Step 1: The user uses /start to start the bot.

- The user sends the /start command to the bot to begin communication.

Step 2: The user enters the paper code to search for papers.

In order to look for certain MSBTE papers, the user enters the paper code (such as 22322 or 22321).

- The bot finds and shows the user the pertinent materials.

Step 3: The user requests the conversion of text to speech.

- Text that the user wants to be spoken is entered.

- The bot plays the audio for the user after converting the text to speech using an API.

Step 4: The user requests an image to text conversion.

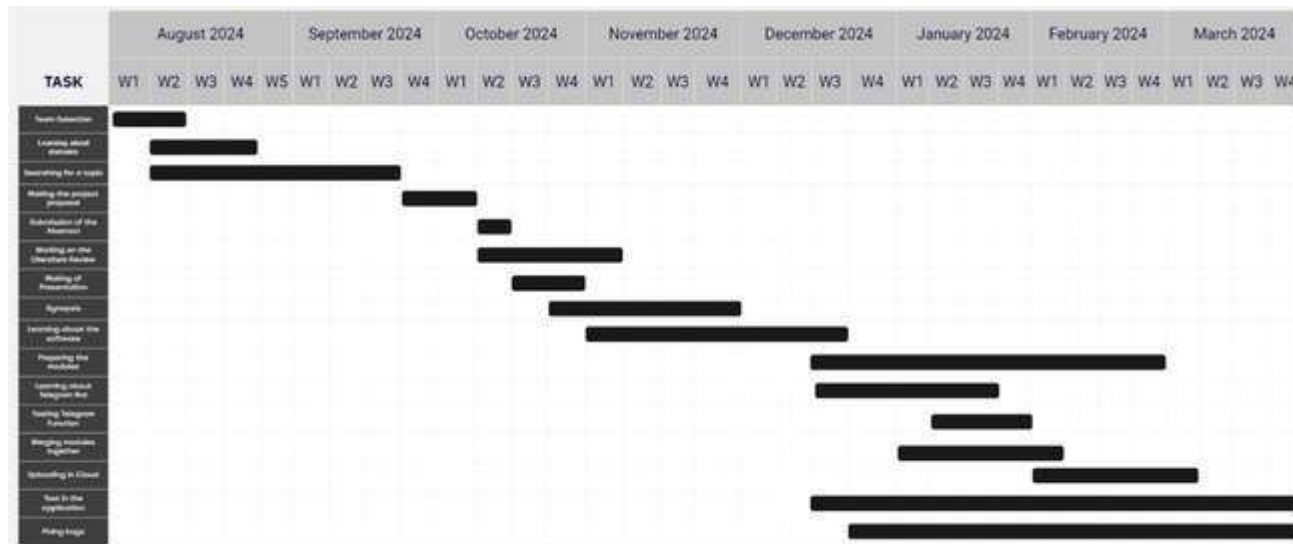
- The user enters words to be converted into a picture.

- The bot presents the picture to the user after converting the text to an image using an API.

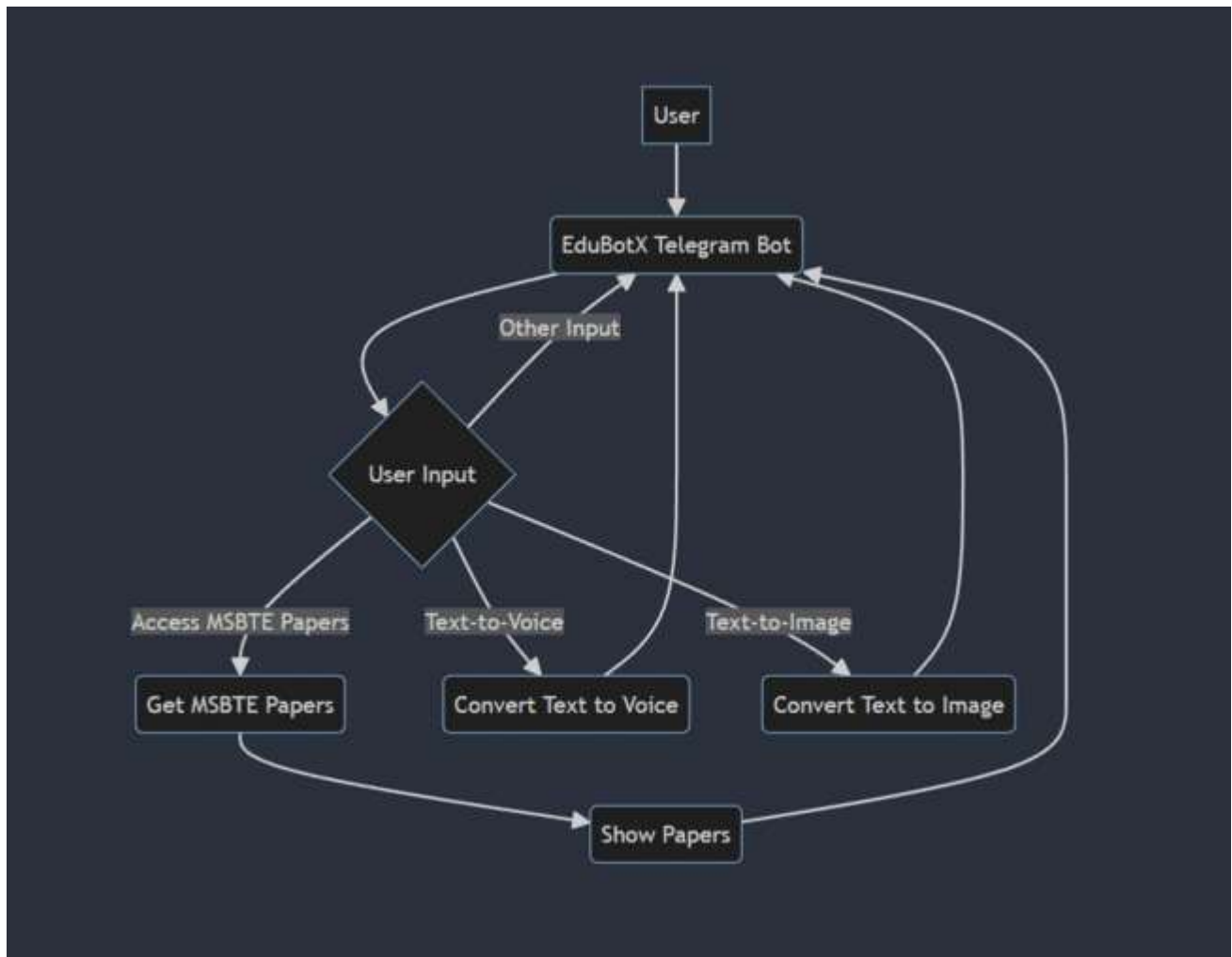
Step 5: User Interaction (Additional stages)

- Specify additional stages that will allow users to engage, including gaining access to AI models or more functionality.

Plan of Work Diagram: -



Flowchart Diagram: -



Pros and Cons:

Pros:

1. Accessibility: Provides easy access to educational resources and tools through Telegram.
2. Interactivity: Offers interactive features such as text-to-speech, text-to-image, and AI model interaction, enhancing the learning experience.
3. Customization: Allows users to customize their learning experience based on their preferences and needs.
4. User Engagement: Facilitates user engagement through feedback collection and personalized interactions.
5. Innovation: Incorporates innovative technologies like AI models to provide a modern and dynamic learning platform.

Cons:

1. Platform Dependency: Relies on the Telegram platform for functionality, which may limit accessibility for users on other platforms.
2. Technical Limitations: May face limitations in processing complex queries or providing advanced features due to technical constraints.
3. User Learning Curve: Users may need time to familiarize themselves with the bot's features and interface.
4. Privacy Concerns: Collecting user data and interactions for feedback and personalization may raise privacy concerns.
5. Maintenance: Requires regular updates and maintenance to ensure functionality and relevance, which can be time-consuming.

Future Scope:

1. Integration with Discord: Extend the bot's functionality to Discord, allowing users to access educational resources and tools through Discord channels.

2. Integration with WhatsApp: Integrate EduBotX with WhatsApp to reach a wider audience and provide educational services through the popular messaging platform.
3. Integration with Other Platforms: Explore integrating EduBotX with other platforms to further expand its reach and accessibility.
4. Adding More Voices: Enhance the text-to-speech feature by adding more voices and accents, providing users with a more diverse range of options.
5. Adding More AI Models: Incorporate additional AI models to enhance the bot's capabilities, such as language translation, image recognition, or natural language understanding.
6. Adding More Features in Dev Tools: Expand the bot's development tools to provide developers with more options and capabilities for creating educational content and interactions.

Technology Used:

Software Requirement -

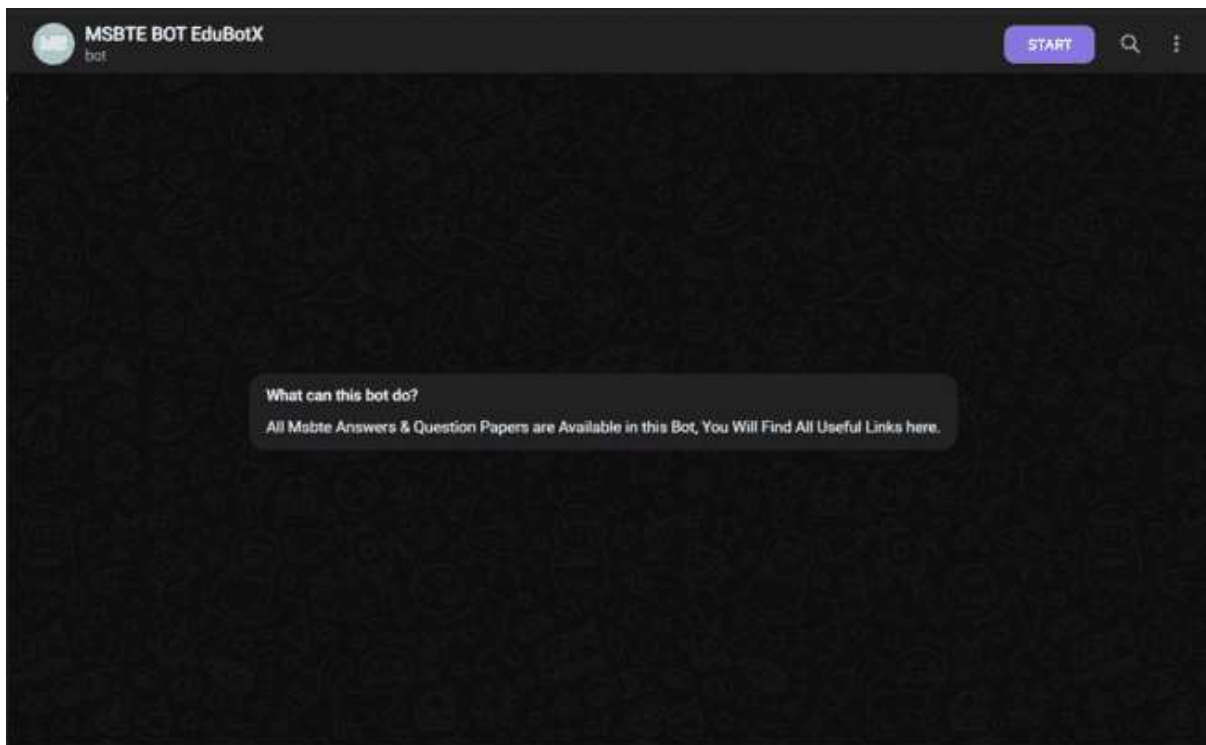
- Python, SQL, Telegram API, Oracle Cloud.

Results:

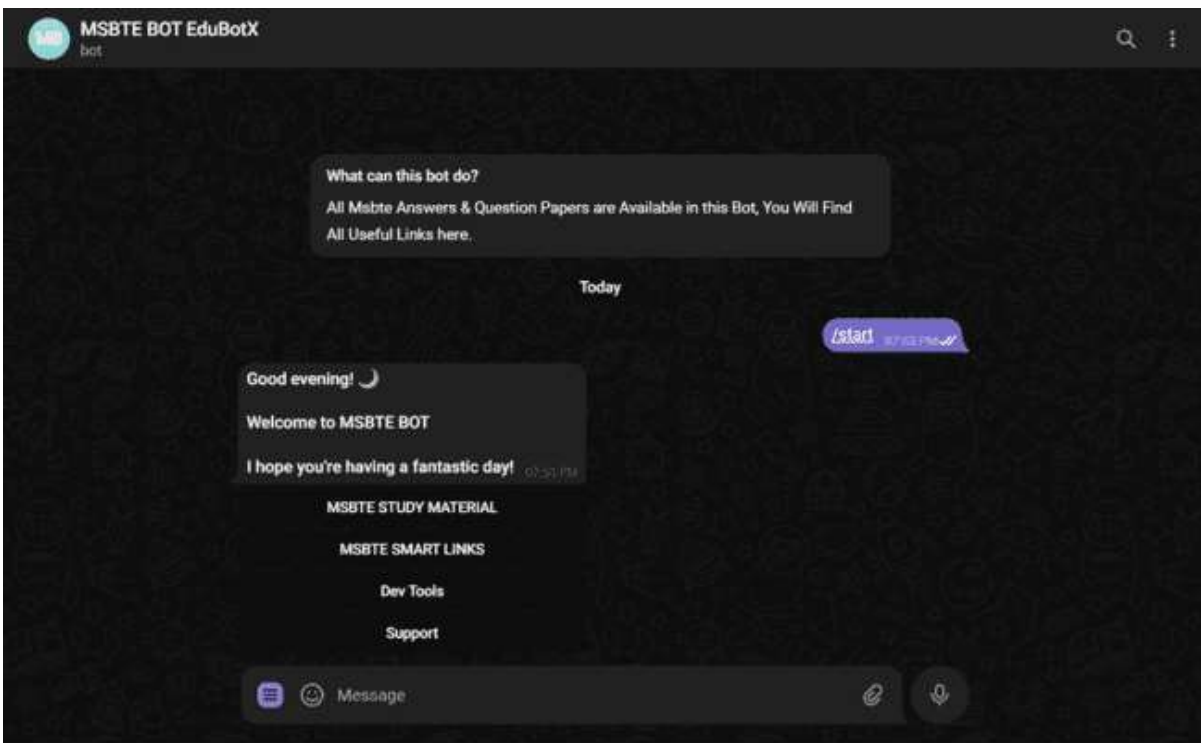
EduBotX has yielded promising results in enhancing the accessibility and engagement of educational resources. The bot has greatly increased user accessibility to educational resources by offering text-to-speech, text-to-image conversion, interactive AI model engagement, and quick access to MSBTE papers. Additionally, EduBotX has revolutionized the educational process by providing a dynamic and captivating platform that lets users tailor their learning to suit their requirements and tastes. Increased user participation and engagement have also been facilitated by the interactive elements of the bot, such as feedback gathering and tailored conversations. In the future, EduBotX has a lot of exciting possibilities for growth and development. Some of these opportunities include integrating it with other platforms like Discord and WhatsApp and adding new voices, AI models, and features that might improve its influence on educational accessibility.

Screenshots:

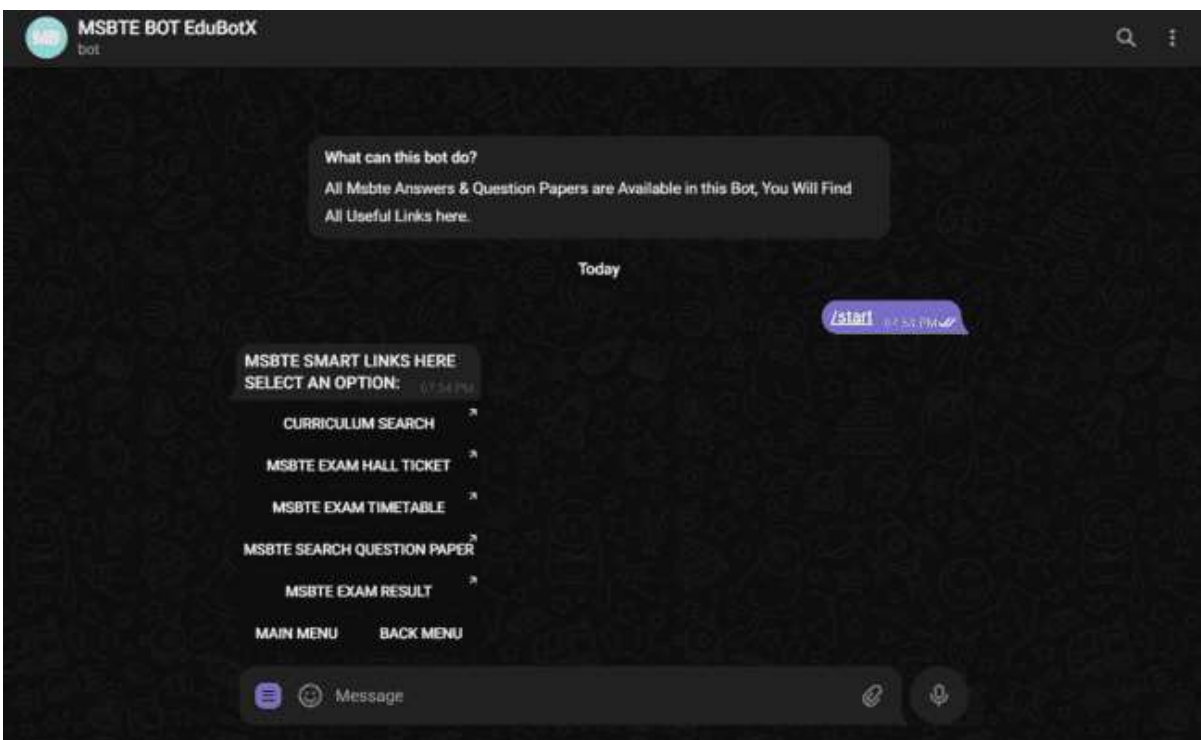
1. Telegram Bot



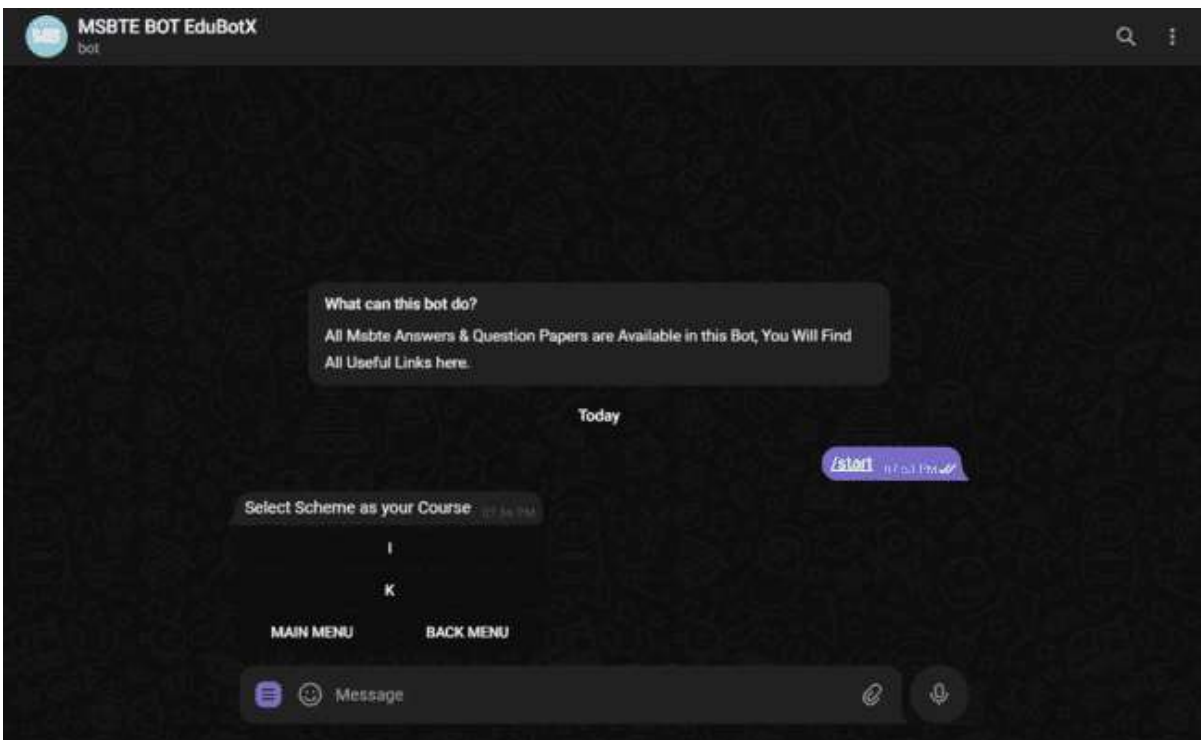
2. Start the Bot



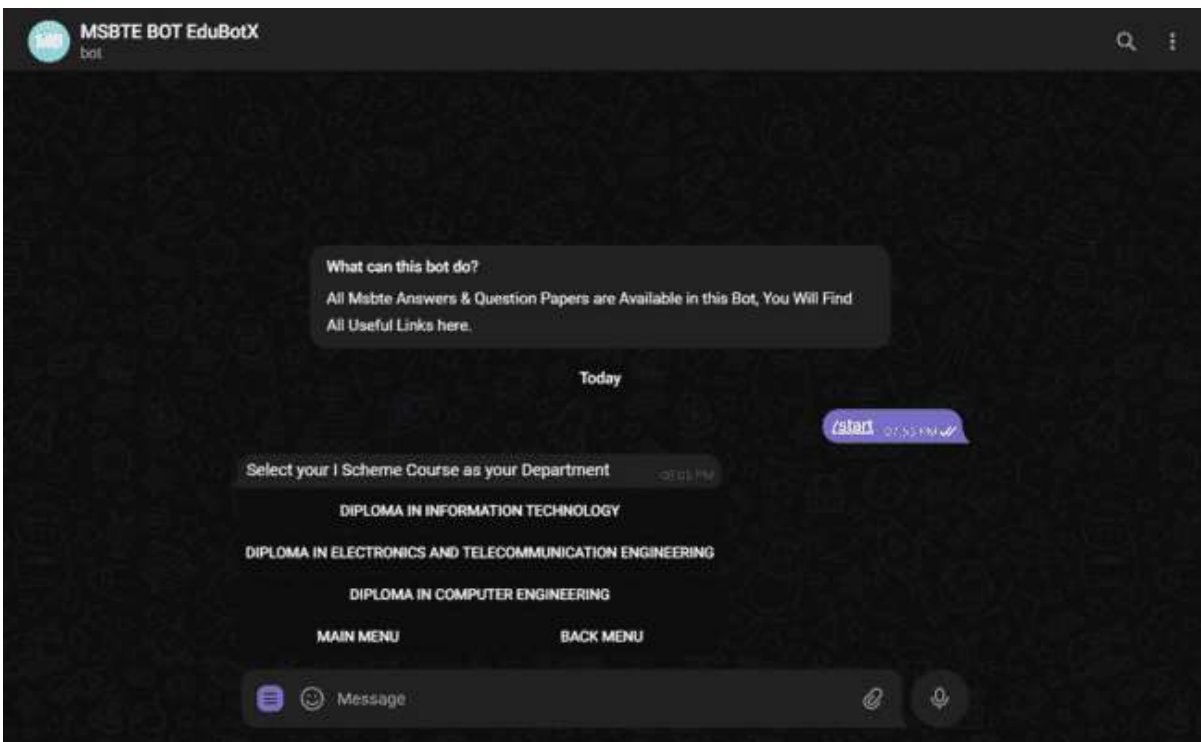
3. MSBTE Smart Links



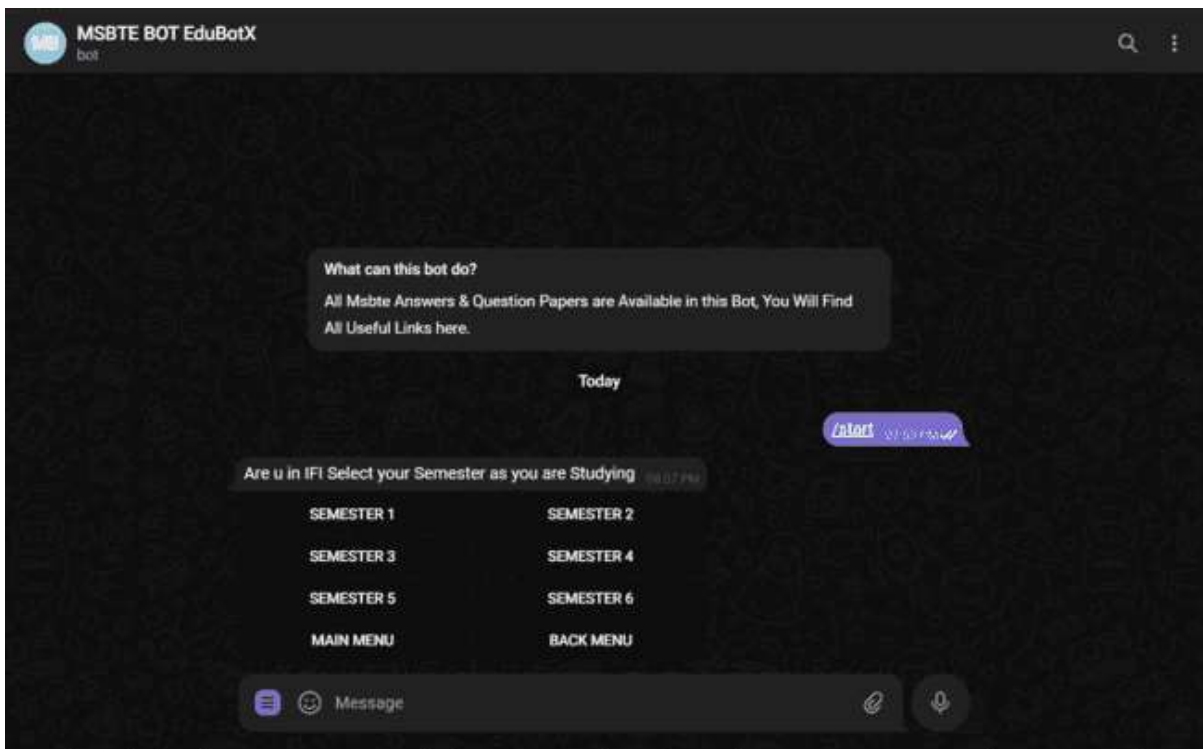
4. Select Your Scheme



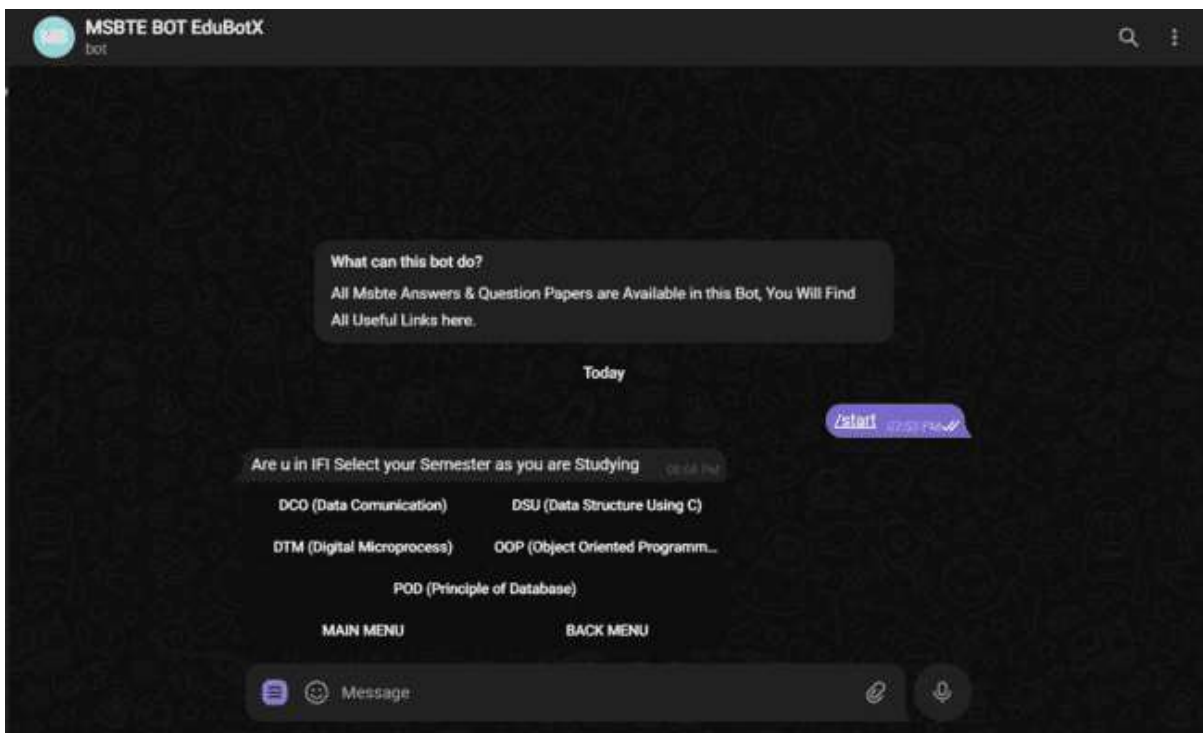
5. Select Your Department (I selected Information Technology)



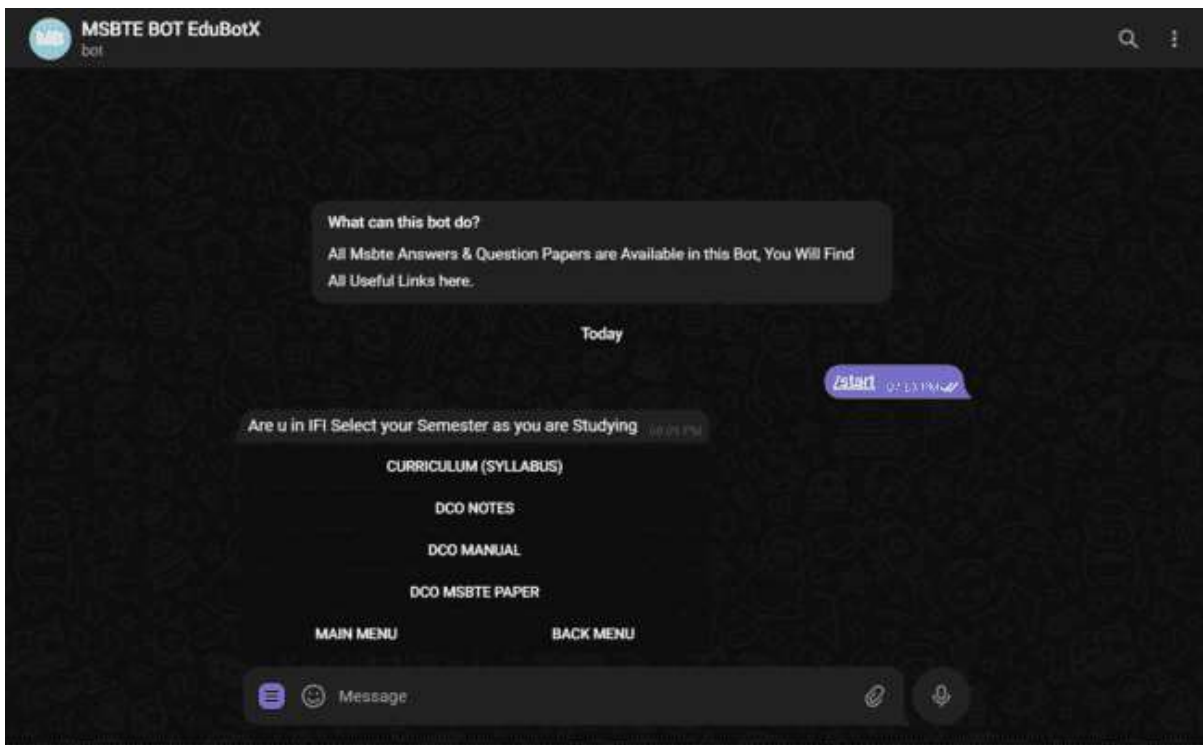
6. Select Your Semester (I selected Semester 3)



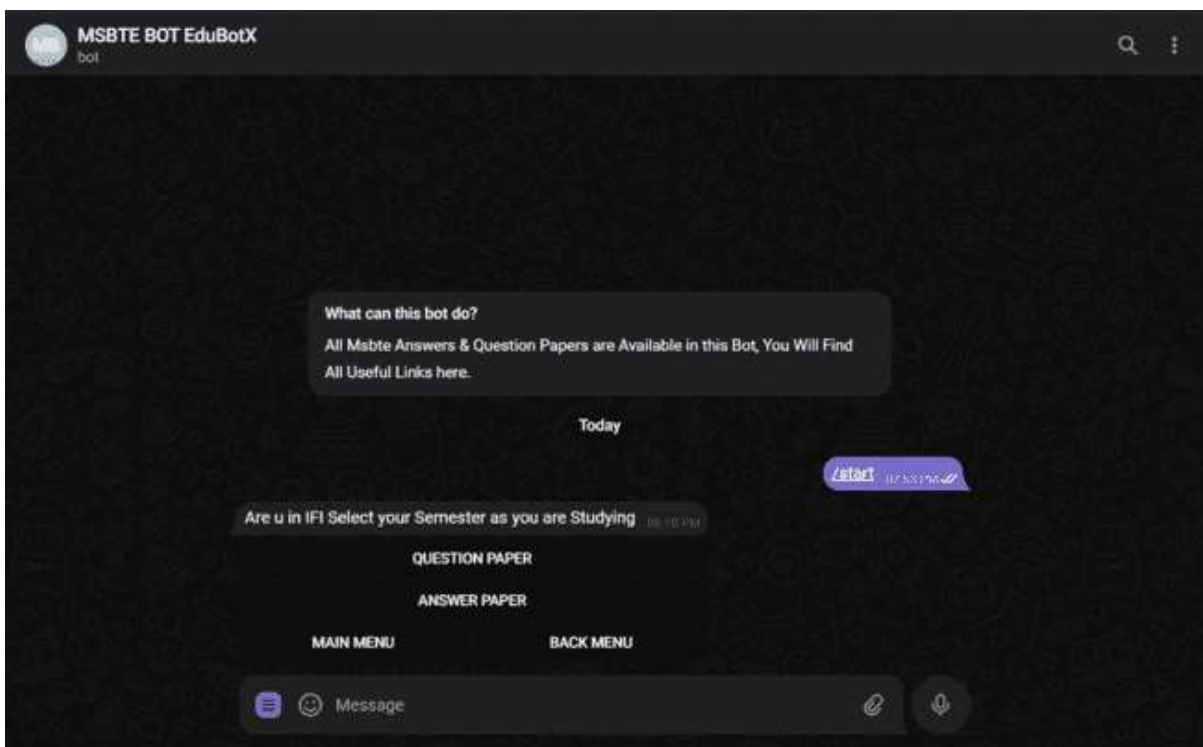
7. Select Your Subject (I selected DCO)



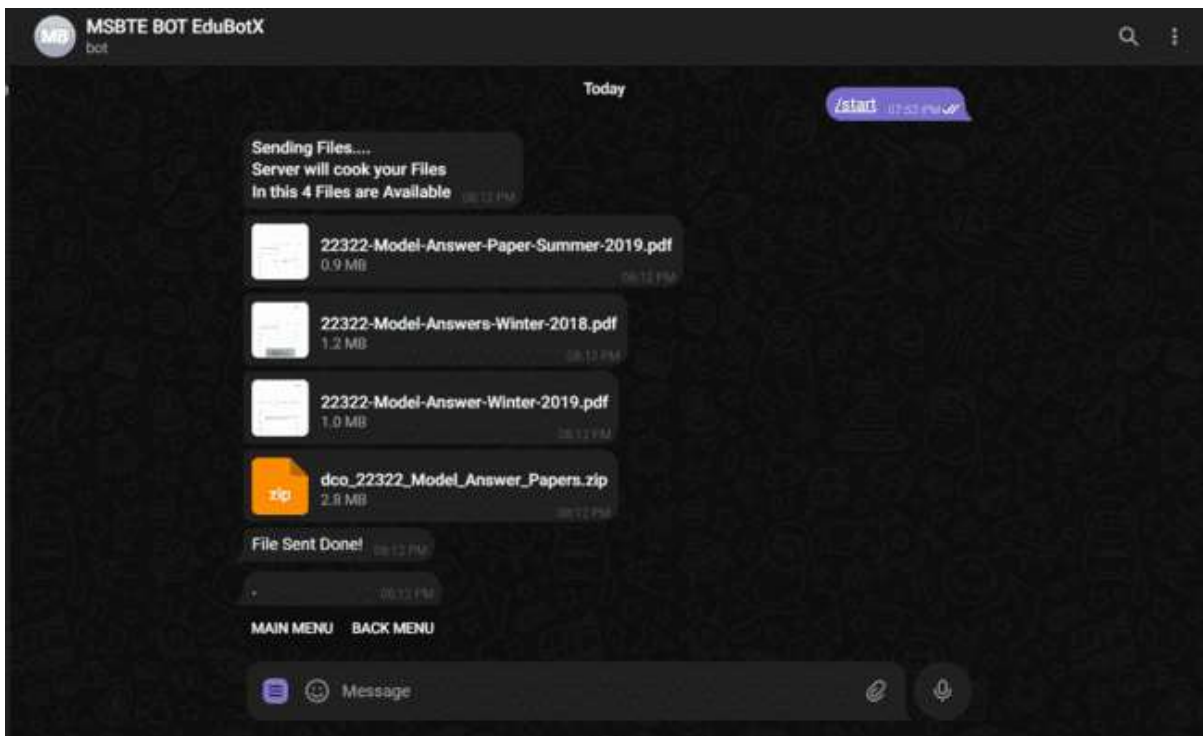
8. Select Study Material (I selected DCO MSBTE PAPER)



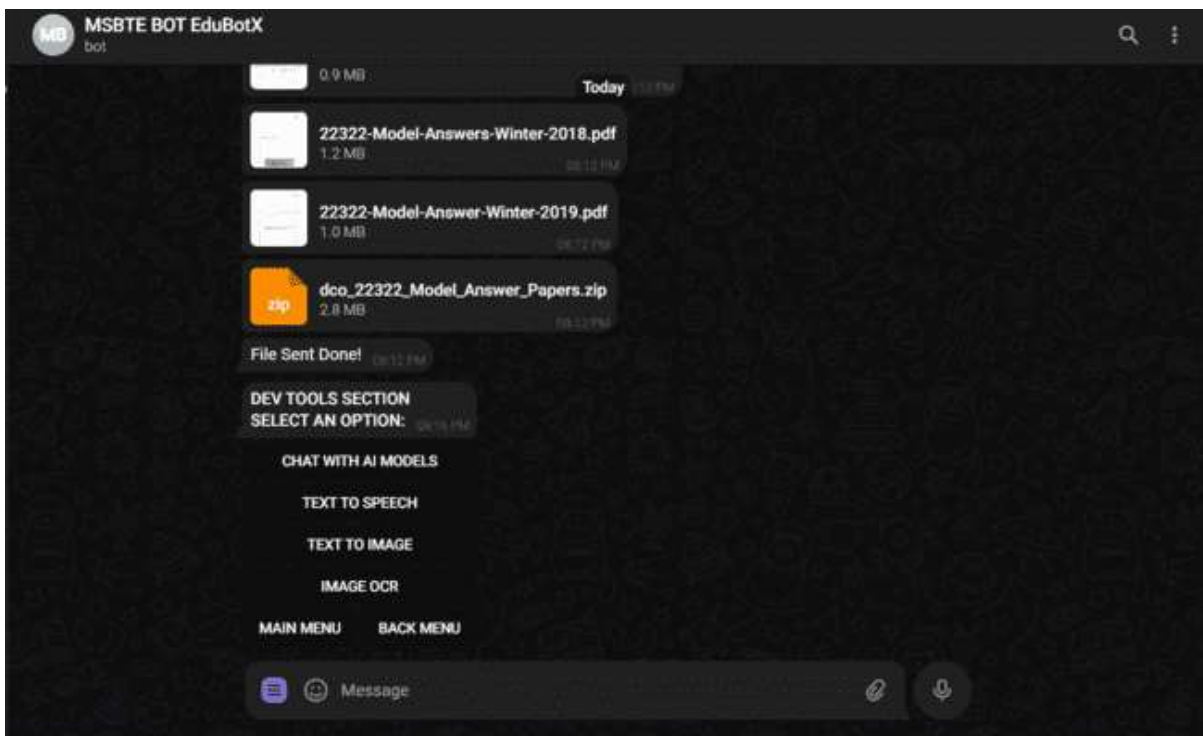
9. Select PAPER (I selected ANSWER PAPER)



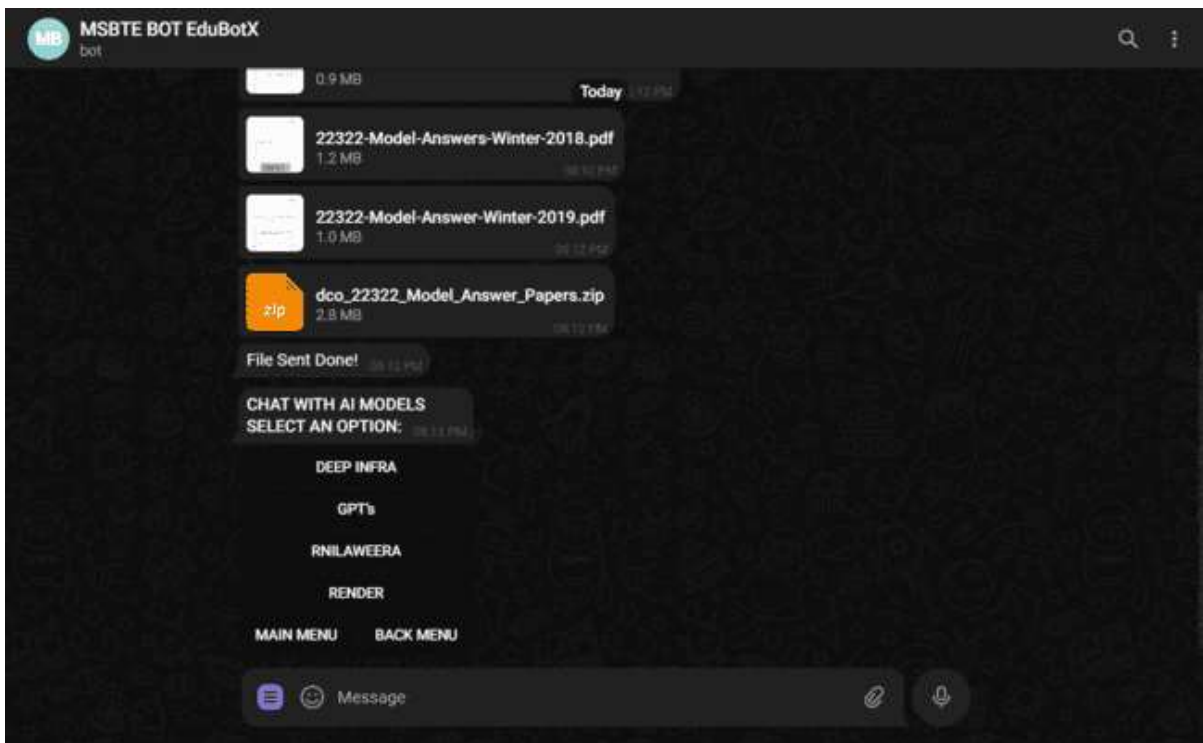
10 Your Answer Paper is Ready



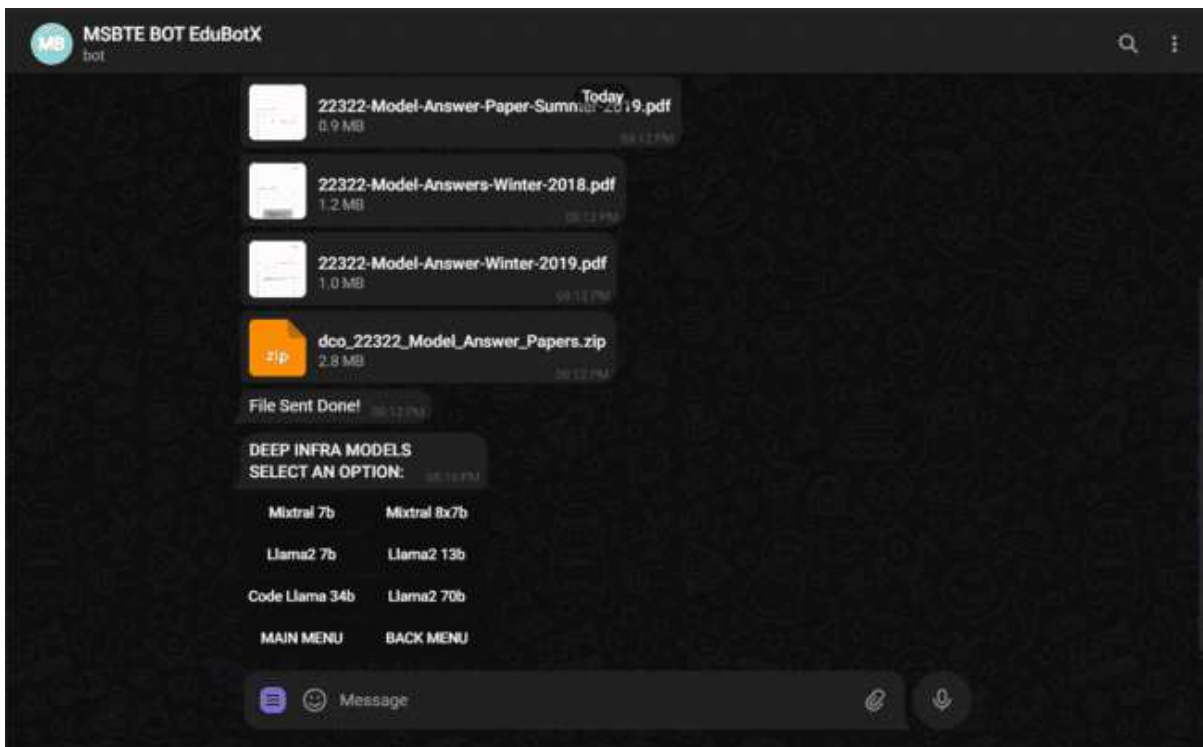
11 Select Dev Tools (I selected CHAT WITH AI MODELS)



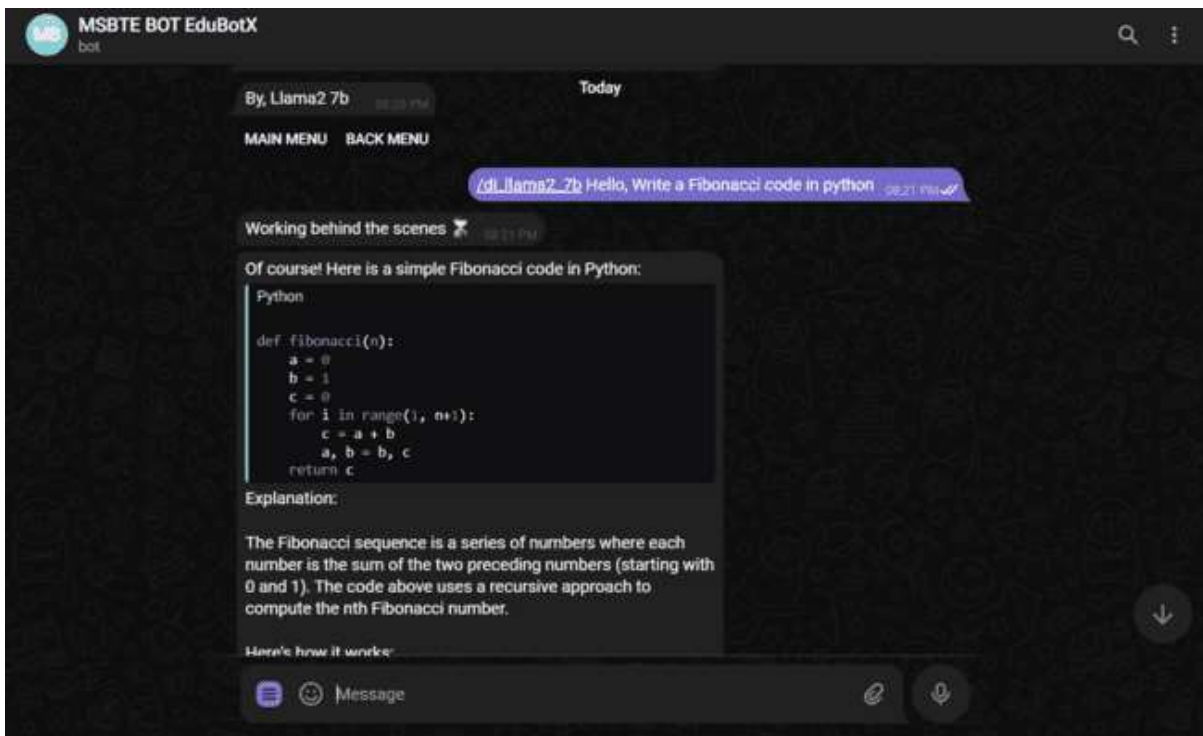
12 Select Providers (I selected DEEP INFRA)



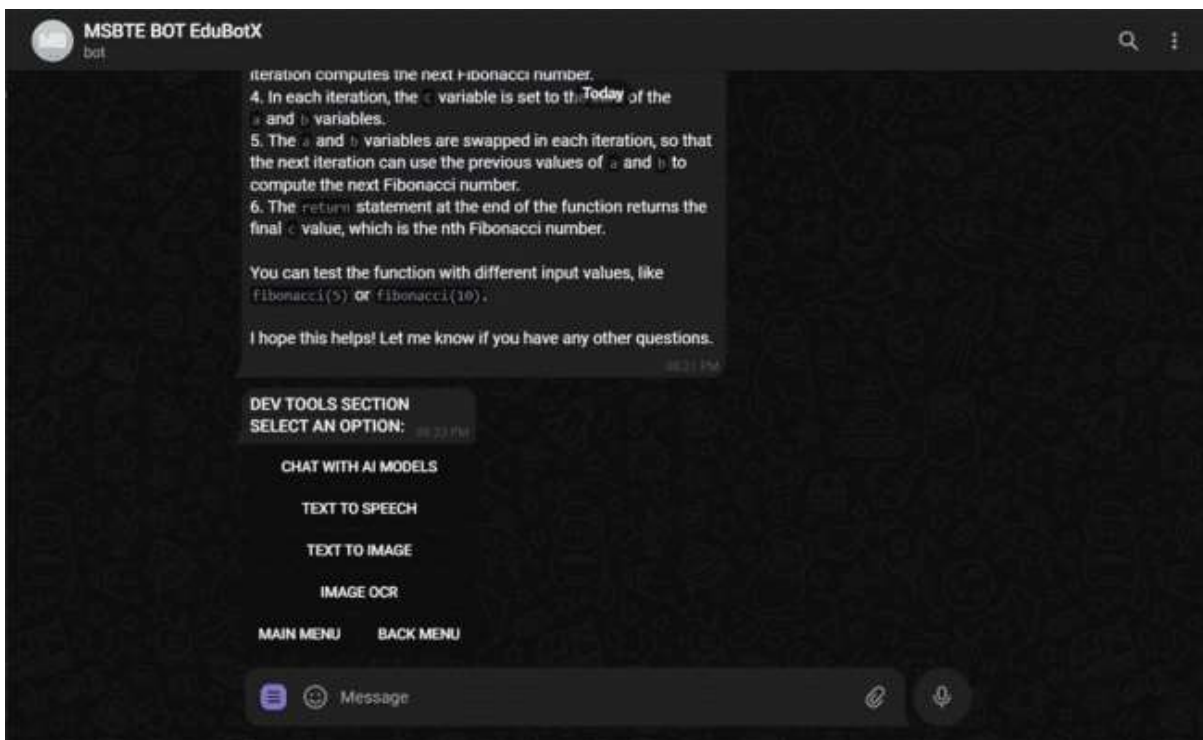
13 Select AI Model (I select Llama2 7b)



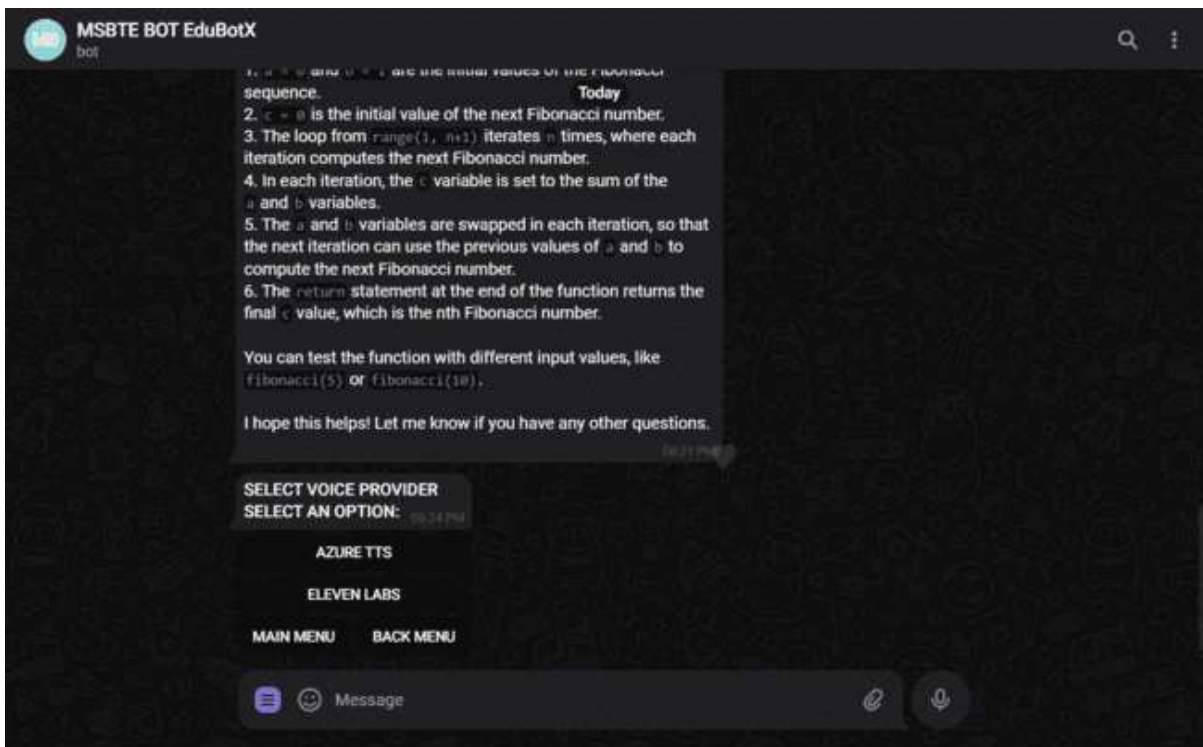
14 Output of Llama2 7b Model



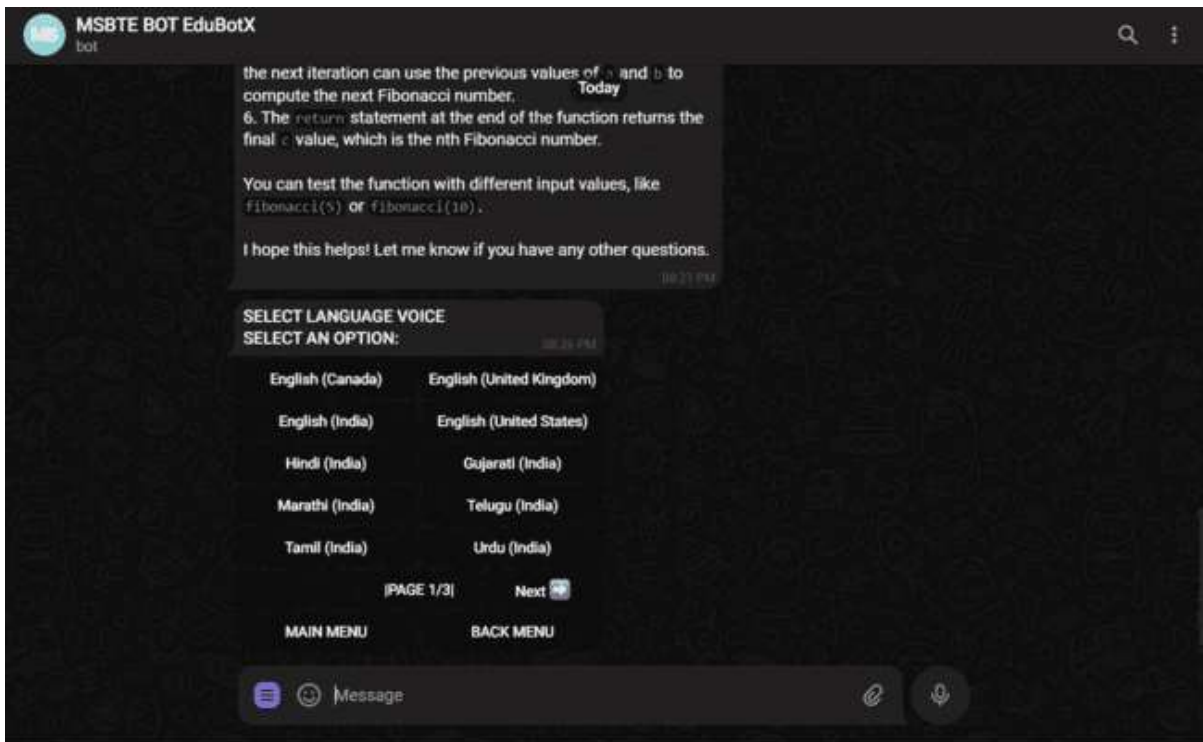
15 Select Text to Speech



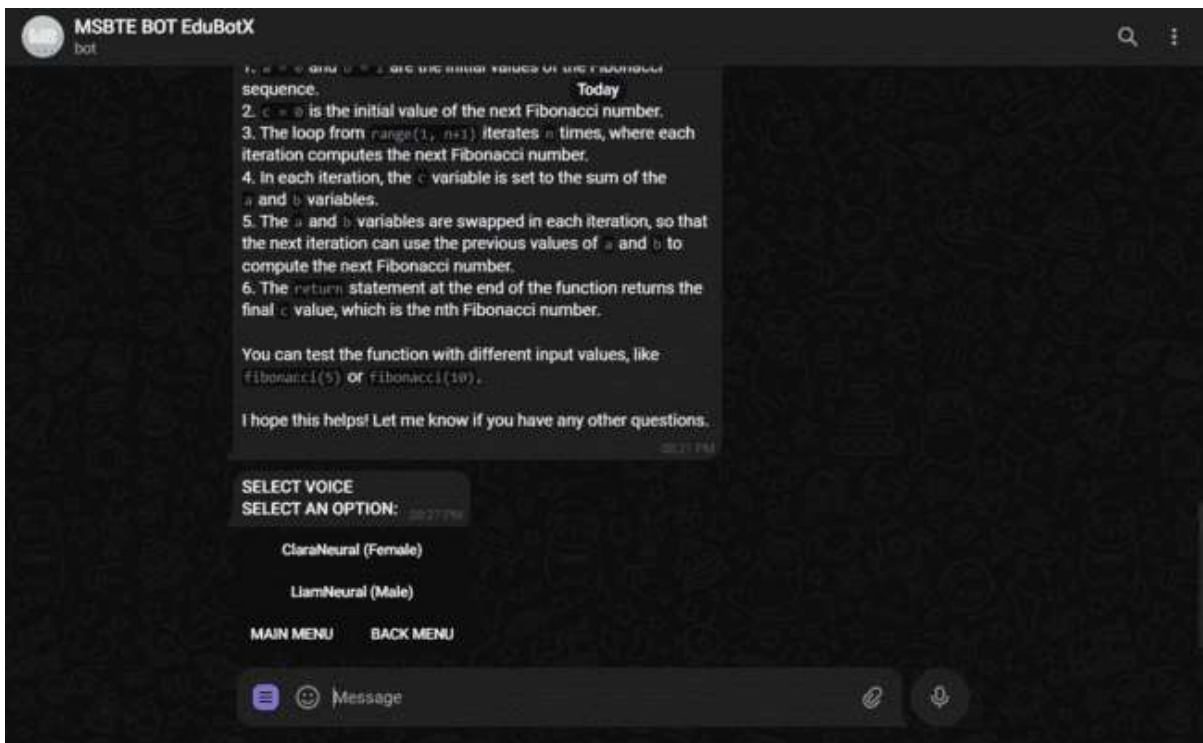
16 Select Text to Speech Provider (I select AZURE TTS)



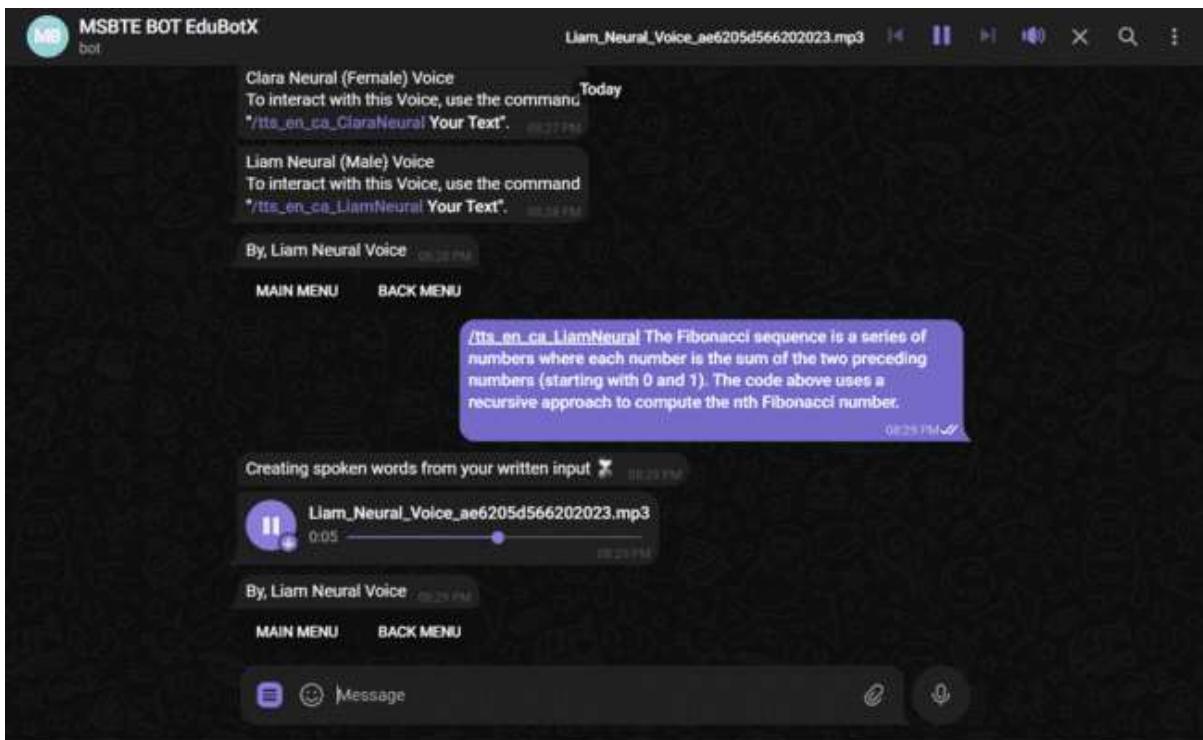
17 Select Language Voice (I select English Canada)



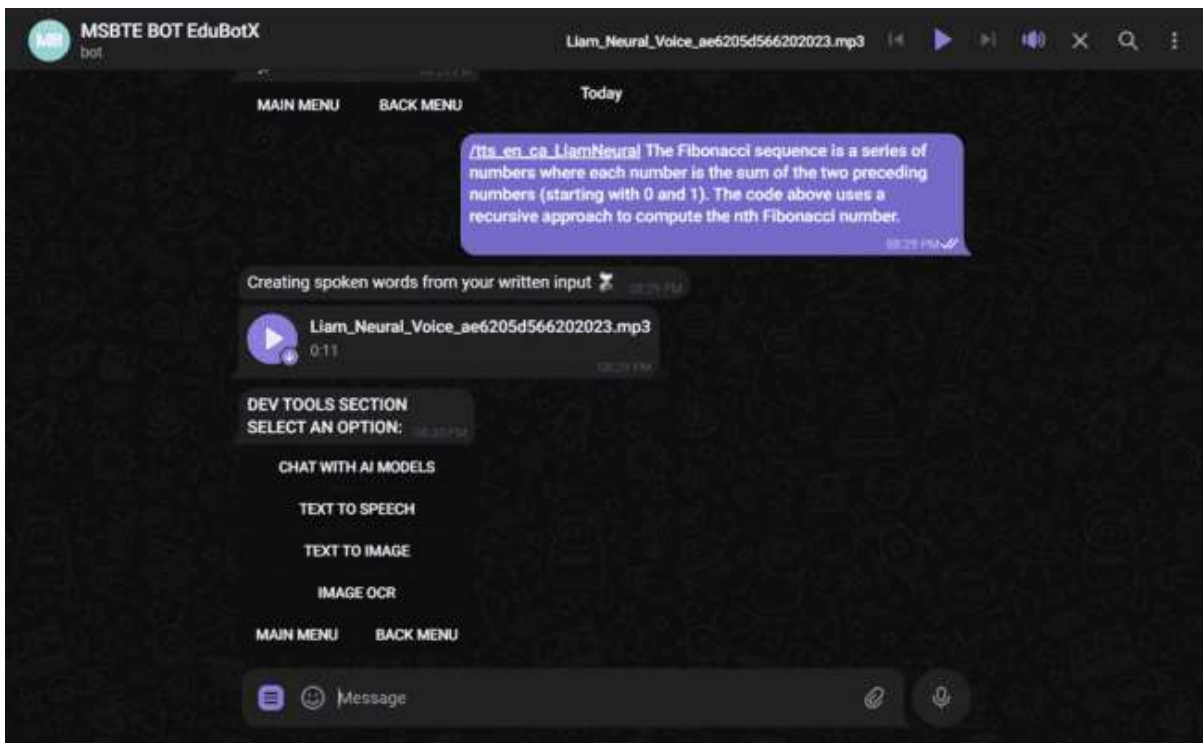
18 Select Language Voice (I select English Canada)



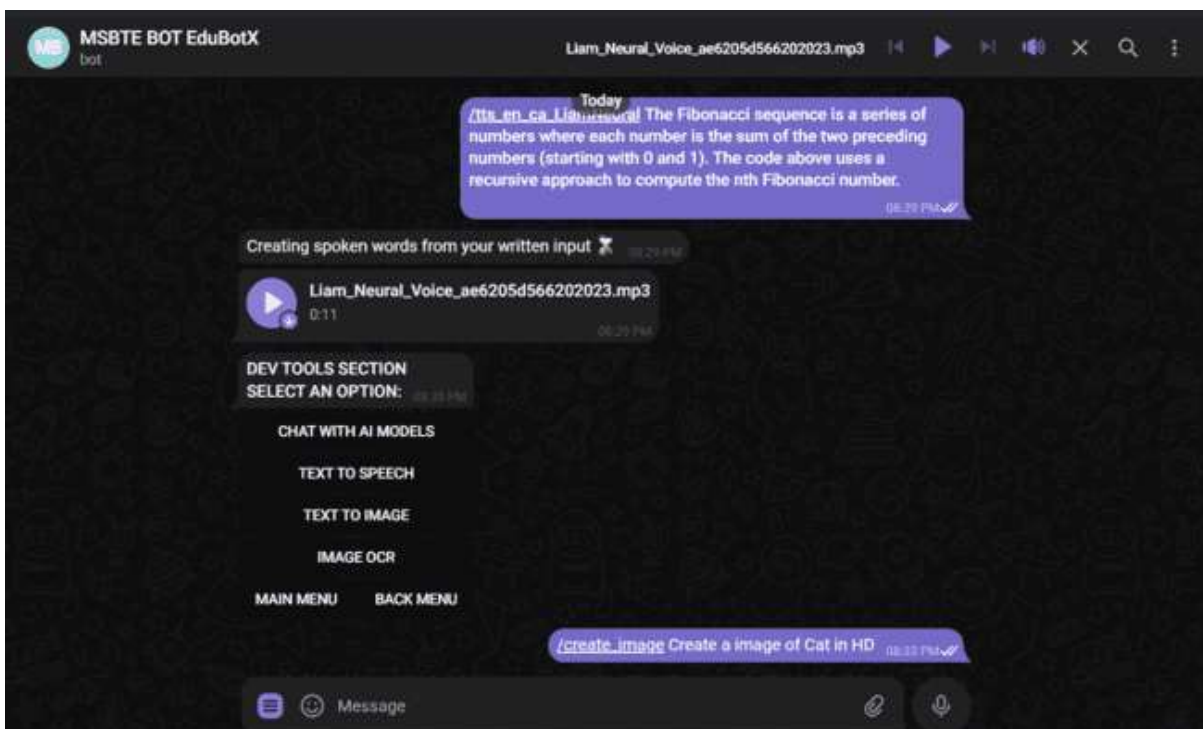
19 Your Voice Output is Ready to use.



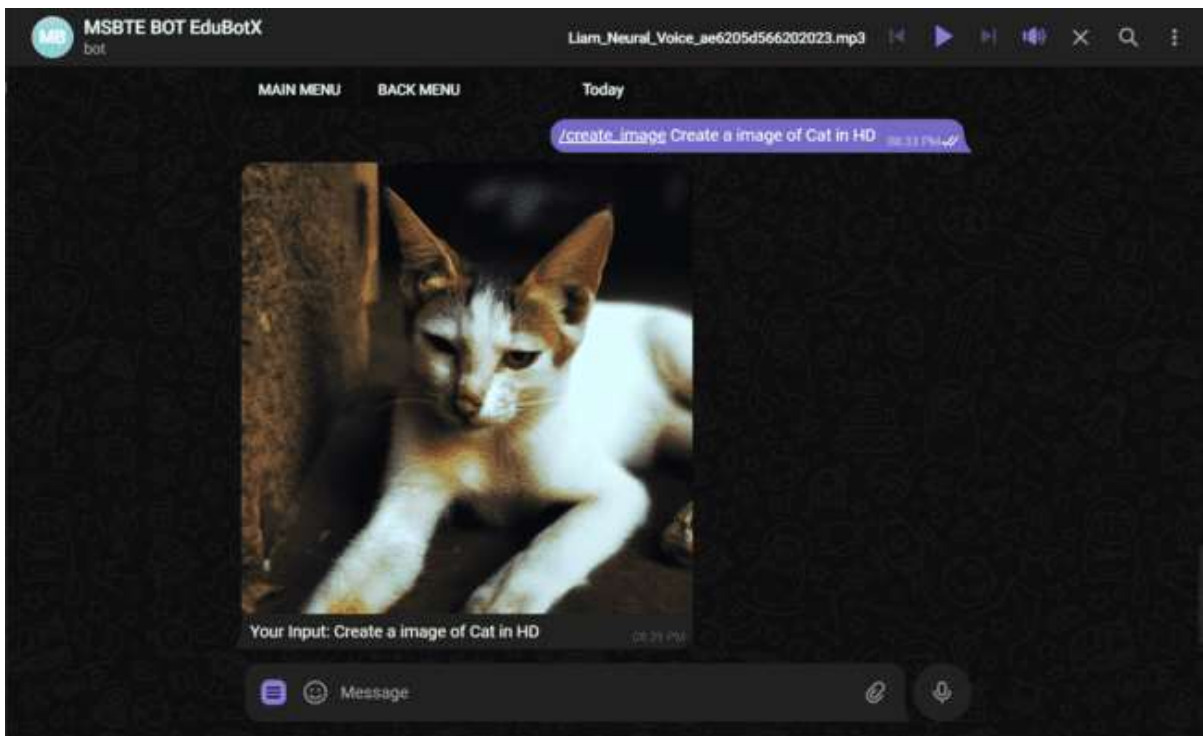
20 Select Text to image.



21 Enter Command /create_image “Your Text.”



22 Your Text to Image Output.



Conclusion:

In conclusion, EduBotX represents a significant step forward in enhancing the accessibility and engagement of educational resources. Its innovative features, including access to MSBTE papers, text-to-speech and text-to-image conversion, and interactive AI model interaction, have transformed the learning experience for users. By providing a platform that allows for personalization and customization based on user preferences, EduBotX has succeeded in making learning more dynamic and engaging. Additionally, the bot's focus on user engagement through features like feedback collection has helped create a more interactive and user-centric educational environment. As EduBotX continues to evolve and expand its capabilities, it holds great promise for further revolutionizing the educational landscape and making learning more accessible and enjoyable for all.

References:

List all the material used from various sources for making this project proposal.

Research Papers:

- <https://docs.pyrogram.org/intro/quickstart>
- <https://pypi.org/project/Pyrogram/0.6.3/>
- <https://github.com/pyrogram/pyrogram>
- <https://pypi.org/project/aihttp/>
- <https://github.com/python-telegram-bot/python-telegram-bot>
- <https://pypi.org/project/python-telegram-bot/2.4/>
- <https://readthedocs.org/projects/python-telegram-bot/>
- <https://docs.aiogram.dev/en/latest/>
- <https://github.com/aiogram/aiogram>
- <https://docs.aiogram.dev/en/v2.25.1/>