

Artificial Intelligence Programming

Final Project: Summative

Chatbot for Social Cause

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Introduction:

In today's rapidly moving world of Artificial Intelligence (AI), chatbots have become even more important, offering a lot of functionalities and services. From assisting in complex tasks to providing personalized recommendations, chatbots like ChatGPT, Bard, and Jasper Chat have transformed the way we interact with technology. Inspired by the versatility of these AI chatbots, I went on a journey to create a chatbot with the important purpose of addressing the major issue of gender equality. The name of my chatbot is "Gender_Fairness_Bot".

Problem Statement:

Gender bias remains stuck in various corners of society, manifesting in unfair and terrible forms. Whether it's difficulties in employment opportunities, education at school or college, or societal expectations, the impact of gender inequality is profound and is everywhere, this also stops individuals from following their dreams. Recognizing the urgency of this issue, I set out to develop a chatbot with the ability to combat gender biases and foster inclusivity.

Goal/Objective:

The major goal of this project is to design and deploy a chatbot on the Telegram platform, specifically engineered to tackle gender inequality. Through the integration of

Python programming, the chatbot “Gender_Fairness_Bot” is poised to serve as a virtual ally for individuals navigating the complexities of gender bias. By providing accessible resources, guidance, and support, I aimed to empower users to challenge societal norms and pursue their aspirations without constraints imposed by gender stereotypes.

Approach: Top-down:

Taking a top-down approach, I went on a difficult journey of research and exploration. My quest began with a deep dive into the intricacies of Telegram chatbot development, uncovering the technical difficulties and best practices. Simultaneously, I conducted a thorough examination of existing gender equality chatbots, checking their functionalities and user interactions for very valuable insights. Armed with a comprehensive understanding, I proceeded to implement the Python Telegram library, laying the foundation for my chatbot's creation. Leveraging the collaborative capabilities of Google Colab, I very carefully crafted and refined the code, ensuring seamless integration and optimal performance.

Results and Conclusion:

The culmination of hard work, effort, and unwavering commitment, Azmah Theba stands as a testament to the transformative potential of AI in addressing social issues. Through its innovative design and amazing features, the chatbot offers a lot of hope for individuals grappling with gender bias. From providing educational resources and empowering narratives to facilitating community engagement and advocacy, this chatbot catalyzes change in the pursuit of gender equality.

In conclusion, the journey towards gender equality is very complex, requiring concerted efforts from all segments of society. This chatbot represents a pioneering step in leveraging AI technology to effect positive change, transcending boundaries and amplifying voices in the pursuit of a more equitable future. As we continue to refine and expand Azmah Theba's capabilities, let us remain steadfast in our commitment to creating a world where gender equality is not just a simple idea but a tangible reality.

Screenshots:

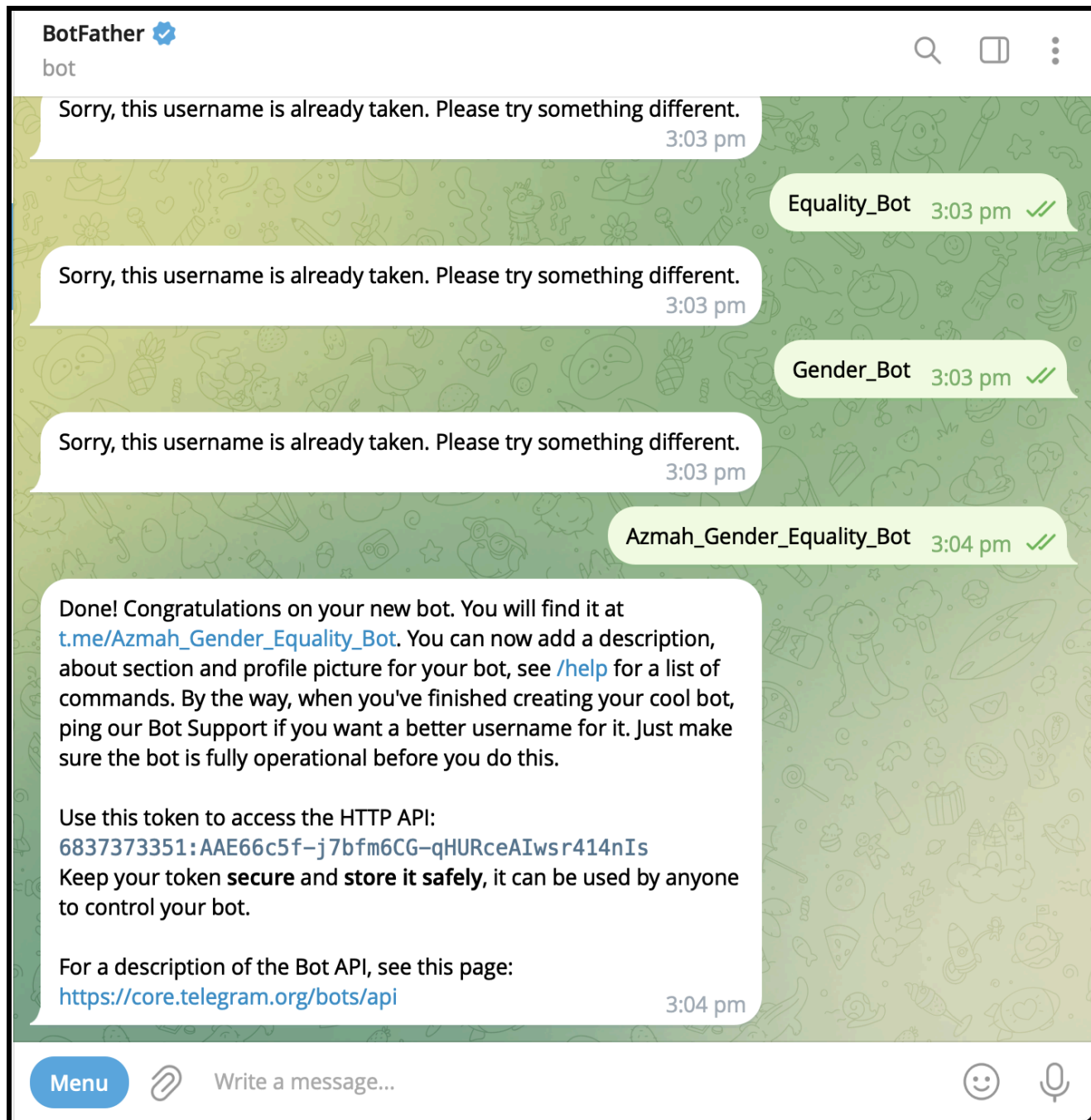


Figure 1.1

In Figure 1.1, we can see that we have created the bot in Telegram with the help of "BotFather" and extracted the API code for our chatbot.

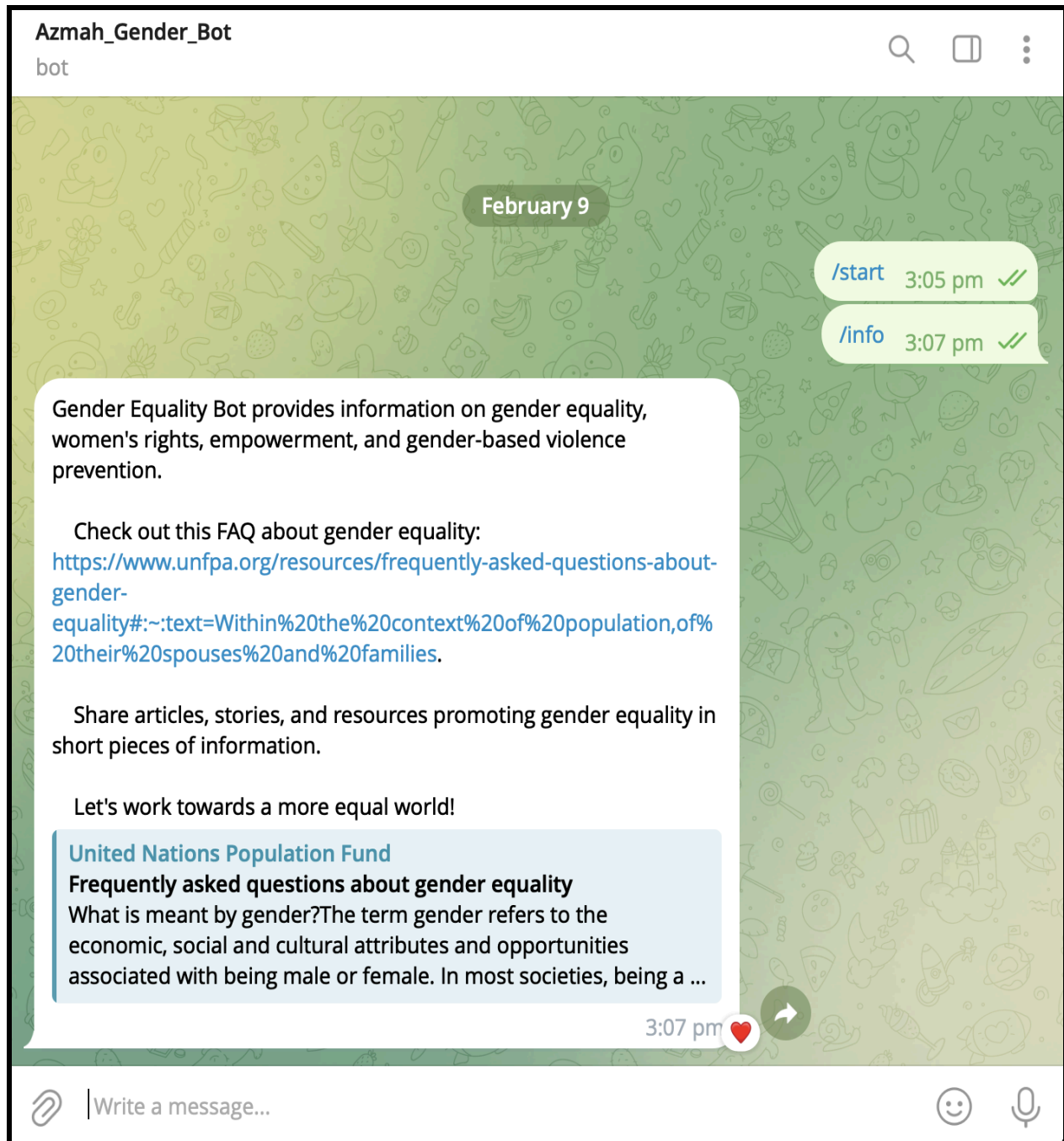


Figure 1.2

In Figure 1.2, we can see that after implementing the code, the chatbot finally works and can be asked questions about gender equality.

```
# this cell should be run only once, to install the telebot library
! pip install pytelegrambotapi

Collecting pytelegrambotapi
  Downloading pyTelegramBotAPI-4.15.4.tar.gz (260 kB)
    260.1/260.1 KB 2.4 MB/s eta 0:00:00
  Preparing metadata (setup.py) ... done
Requirement already satisfied: requests in /usr/local/lib/python3.10/dist-packages (from pytelegrambotapi) (2.31.0)
Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/python3.10/dist-packages (from requests->pytelegrambotapi) (3.3.2)
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.10/dist-packages (from requests->pytelegrambotapi) (3.6)
Requirement already satisfied: urllib3<3,>=1.21.1 in /usr/local/lib/python3.10/dist-packages (from requests->pytelegrambotapi) (2.0.7)
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.10/dist-packages (from requests->pytelegrambotapi) (2024.2.2)
Building wheels for collected packages: pytelegrambotapi
  Building wheel for pytelegrambotapi (setup.py) ... done
  Created wheel for pytelegrambotapi: filename=pyTelegramBotAPI-4.15.4-py3-none-any.whl size=231937 sha256=bf0ecd9aae81f1da8ecaba2c271d2d35fc1f0ee18fe2821643f5999fbfd9d9
  Stored in directory: /root/.cache/pip/wheels/37/50/a0/68519c75209358c42758e5ed2d3c9da9afda4d20a3ac393070
Successfully built pytelegrambotapi
Installing collected packages: pytelegrambotapi
Successfully installed pytelegrambotapi-4.15.4

[2] !pip install python-telegram-bot

Collecting python-telegram-bot
  Downloading python_telegram_bot-20.8-py3-none-any.whl (604 kB)
    604.9/604.9 KB 3.6 MB/s eta 0:00:00
Collecting httpx==0.26.0 (from python-telegram-bot)
  Downloading httpx-0.26.0-py3-none-any.whl (75 kB)
    75.9/75.9 KB 8.3 MB/s eta 0:00:00
Requirement already satisfied: anyio in /usr/local/lib/python3.10/dist-packages (from httpx==0.26.0->python-telegram-bot) (3.7.1)
Requirement already satisfied: certifi in /usr/local/lib/python3.10/dist-packages (from httpx==0.26.0->python-telegram-bot) (2024.2.2)
Collecting httpcore==1.* (from httpx==0.26.0->python-telegram-bot)
  Downloading httpcore-1.0.2-py3-none-any.whl (76 kB)
    76.9/76.9 KB 7.9 MB/s eta 0:00:00
Requirement already satisfied: idna in /usr/local/lib/python3.10/dist-packages (from httpx==0.26.0->python-telegram-bot) (3.6)
Requirement already satisfied: sniffio in /usr/local/lib/python3.10/dist-packages (from httpx==0.26.0->python-telegram-bot) (1.3.0)
Collecting h11<0.15,>=0.13 (from httpcore==1.*->httpx==0.26.0->python-telegram-bot)
  Downloading h11-0.14.0-py3-none-any.whl (58 kB)
    58.3/58.3 KB 6.2 MB/s eta 0:00:00
Requirement already satisfied: exceptiongroup in /usr/local/lib/python3.10/dist-packages (from anyio->httpx==0.26.0->python-telegram-bot) (1.2.0)
Installing collected packages: h11, httpcore, httpx, python-telegram-bot
Successfully installed h11-0.14.0 httpcore-1.0.2 httpx-0.26.0 python-telegram-bot-20.8

[3] !pip install python-telegram-bot==12.8

Collecting python-telegram-bot==12.8
```

Figure 1.3

In Figure 1.3, we can see the code that had been run in Google Collab for better functioning of the code.

References:

Google Colaboratory. (n.d.).

<https://colab.research.google.com/drive/14hBko5taKKVd05r-wObISTRG!9l5MyzY?usp=sharing>

Wong, C. (2023, October 2). Gender inequality in chatbots and how to empower female chatbots. Gender Inequality in Chatbots and How to Empower Female Chatbots.

<https://articles.noodlefactory.ai/gender-inequality-in-chatbots-and-how-to-empower-female-chatbots>

Telegram web. (n.d.). Telegram Web. <https://web.telegram.org/k/>