Progress Report #5	
Course Code: CPE201L	**Program:** Computer Engineering
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1. Objectives

- Fix the main UI lag issues by using a background worker thread, so the app runs smoothly without freezing.
- Grow the chatbot's knowledge base with clear, step-by-step guides for key AIMS portal features.
- Improve the keyword-matching system to avoid confusion between different payment-related topics, making chatbot replies more accurate.
- Make the queueing system simpler by switching from a priority setup to a basic First-In, First-Out (FIFO) model to better show how the data structure works.

2. Discussion

In this progress report, we enhance the AIMSsist chatbot to asynchronous processing algorithm. The old version makes the interface freezes because the main thread handle all the processing. Now, the process runs on a separate background thread, so the interface stays responsive. When you send a message, it's instantly queued and the UI updates immediately. We also made the chatbot much more accurate. It now has detailed, step-by-step guides for student tasks like enrollment and fee payment, making it student-friendly instead of just a question-and-answer bot.

Lastly, we fixed a bug where the chatbot confused "Fee Payment" with "Other Payments" by revising the keywords used that the bot detects on the question.

3. Materials and Equipment

- PyCharm
- Streamlit
- Python
- Github

4. Procedure

1. Simplified the Queue by replacing the PriorityQueueManager with QueueManager focusing on the implementation of FIFO (First In-First Out)
2. Fixing the Application Freezing
3. Added answers for questions such as “How do I enroll?”, “How to pay tuition?”, etc.
4. Improve Bot Accuracy by fixing the conflict on keywords that is asked by user.

5. Output

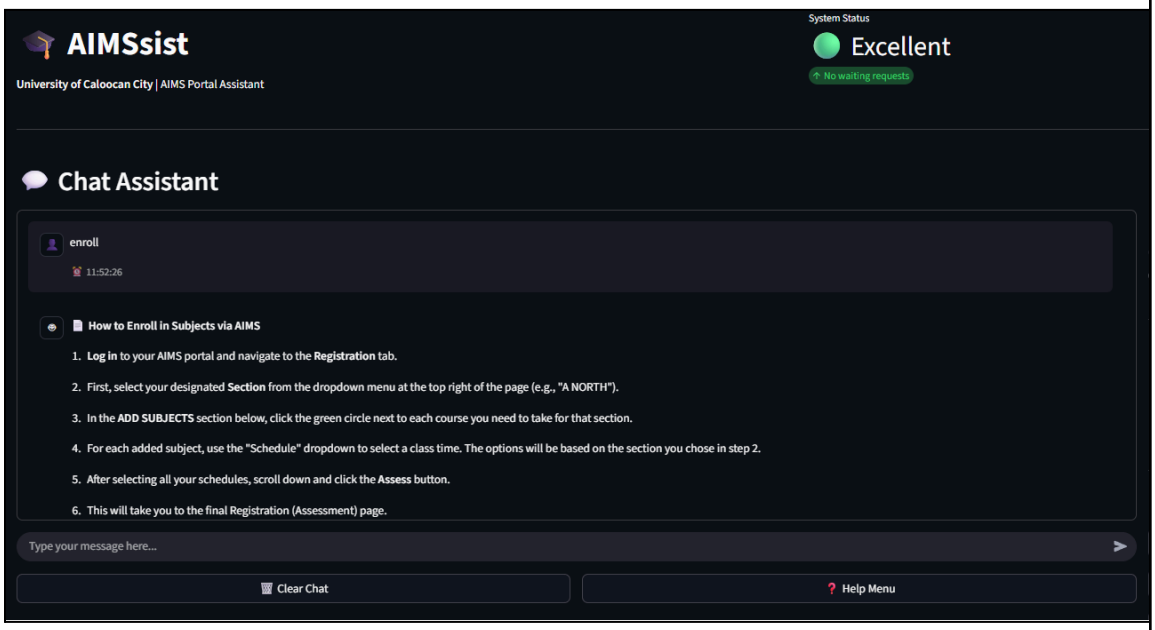

Figure 1. Responsive User Interface

When a user asks a question, the application no longer freezes and that message is instantly added to the queue, and the user can see their position in line.(e.g., “Your request is #3 in the queue”)

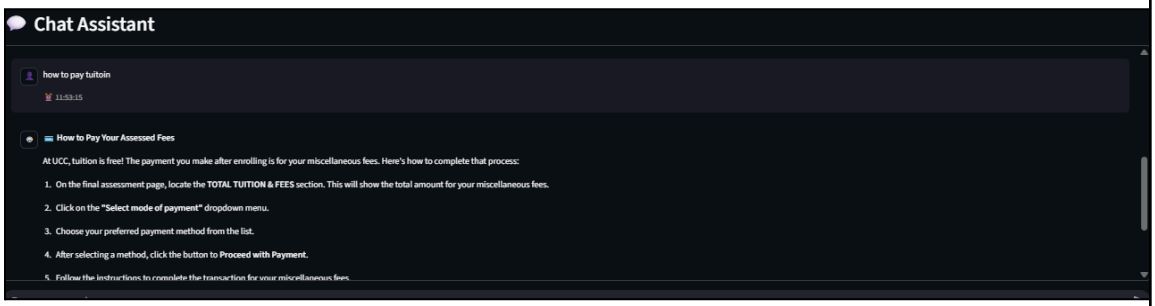

Figure 2. Accurate Detailed Response

The chatbot can now accurately answer multi-step questions such as “How to pay

tuition?” or “How do I enroll?”. It now provides correct, detailed guides that walk the students through the entire process, with specific tips.

6. Conclusion

In conclusion, Our progress report for now is that the AIMSsist chatbot's successful development into a functional and well-designed application. Our team developed a non-blocking asynchronous algorithm that adds a significant amount of exact information to the chatbot's knowledge base, therefore we have achieved all of our goals. Our project now functions as a successful illustration of how to manage tasks effectively in a real-world application by using a multi-user setting using a FIFO queue data structure. This establishes an improvement from the last presentation of our program.