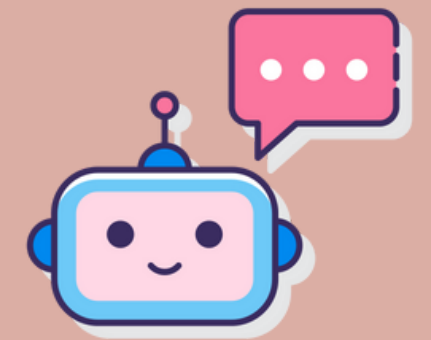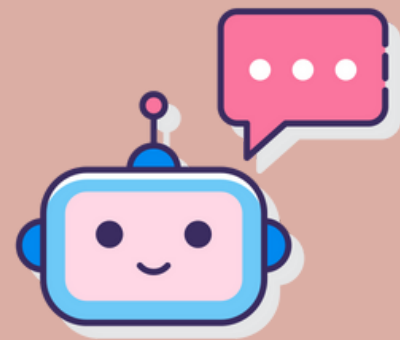# A QUESTION-ANSWERING SYSTEM ABOUT COVID

FIT3161 Computer Science Project

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INTRODUCTION

Project Objectives

- An infectious disease caused by the SARS-CoV-2 virus
- Do not have the appropriate knowledge, acceptance, and perception
- Business objective: provide useful information relating to covid
- Social objective: to improve everyone's knowledge, acceptance, and perception of covid.
- Provide an automatic COVID-19 answering website system and a repository for self browsing

REVIEW OF THE SOFTWARE DEVELOPMENT METHODOLOGY

- Mixed Approach

  - Waterfall Methodology Based Development
      - Stages, Deadlines
  - Agile Approach
      - Quick meetings, Adjust problematic stages
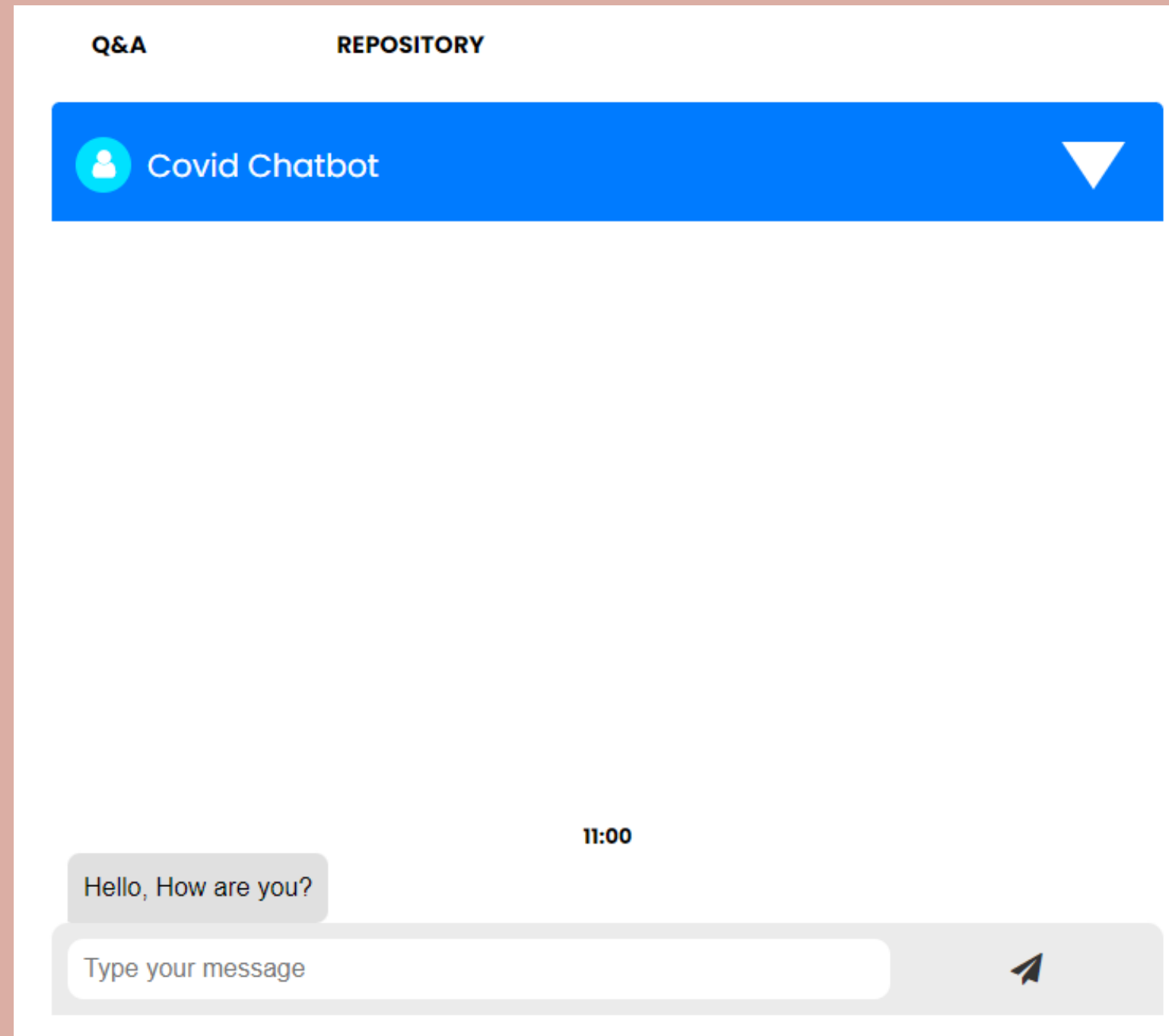
OUR TASKS

1. Pre-process the dataset into Database Management System (DBMS)
2. To connect to the DBMS and extract the nuggets for UI
3. UI Design - incorporate (1) document search/browsing and (2) Q&A sections
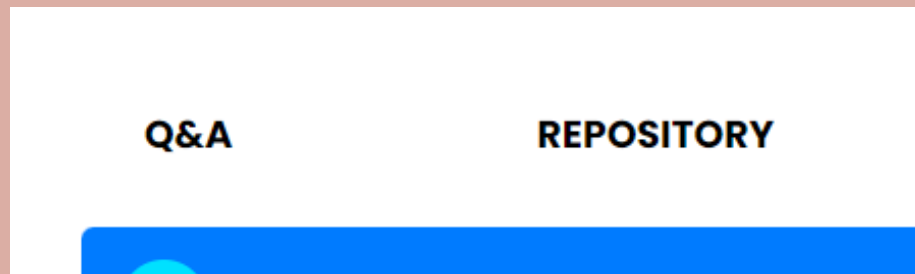4. To find similar questions given freely entered question by the user through the Q&A page

OUR PROGRESS

- Completed the base UI Design - incorporate (1) document search/browsing and (2) Q&A page

- Created a Database server
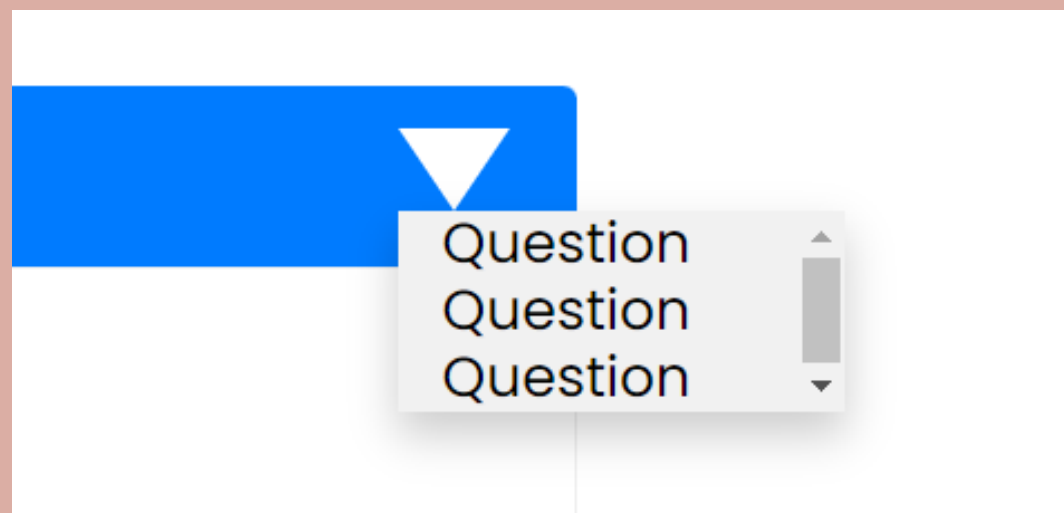
- Inserted collected Datasets into Database
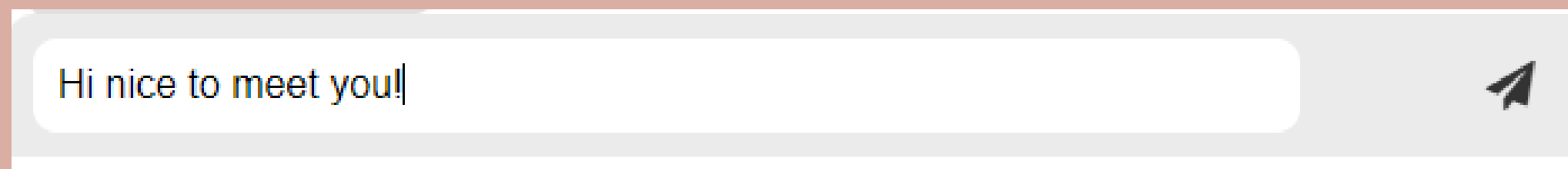
QUESTION & ANSWERING PAGE

Q&A   **REPOSITORY**

👤 Covid Chatbot ▼

11:00

Hello, How are you?

Type your message

FEATURES

- **NAVIGATION BAR**

Question
Question
Question

- **DROP DOWN LIST**

Hi nice to meet you!

- **MESSAGING**

PROBLEMS ENCOUNTERED

1.	Not being able to make the drop-down list prompt the drop-down whenever the user clicks on the triangle button
2.	The navigation bar cannot go between the two pages
3.	Not being able to make the chatbot title align with the chatbot avatar
4.	The send message function could not work as intended

SOLUTIONS?

FRONT-END

Q&A   **REPOSITORY**

Repository

Search.. [🔍]

Hello everyone, How are you?

PROBLEMS ENCOUNTERED

1.	Unable to align with the chatbot's theme and design
2.	Unable to connect to the back-end
3.	Unable to test query

SOLUTIONS?

BACK-END

ISSUES THAT WE ENCOUNTERED

- Failed to setup the database using Microsoft SQL Developer
  - IP address problem & Firewall problem

- Failed to insert rows due to too large datasets size

- Slow Query speed due to US-located SQL server

Failing to set up a proper database server

- Even though there were many databases available, many were limited by the fact that they were more subscription based to get the required storage space.
- Connection problems to the database as no one but the owner could connect.

- Solution
  1. Using Microsoft Azure SQL database
  2. Adding every team members Ip address ranges.

Changing the type software we used.

Too Large Datasets & Slow Query Speed

- Total Number of Documents = 350,000
  - Total Number of Contexts = 400,000
  - **Total Number of Sentences = <u>50,000,000</u> ↑**

- Solution
  1. Inserted only Important Sentences
  2. Pre-processed datasets into CSV file
  3. Used bulk insert Python libraries
  4. Reduced Number of Queries

OUR NEXT STEP

- Create a classification algorithm for User queries

- Insert full data inside the Database

- Making an algorithm that connects the HTML to the database

ISSUES THAT WE ANTICIPATE

- Slow processing speed due to slow SQL query speed
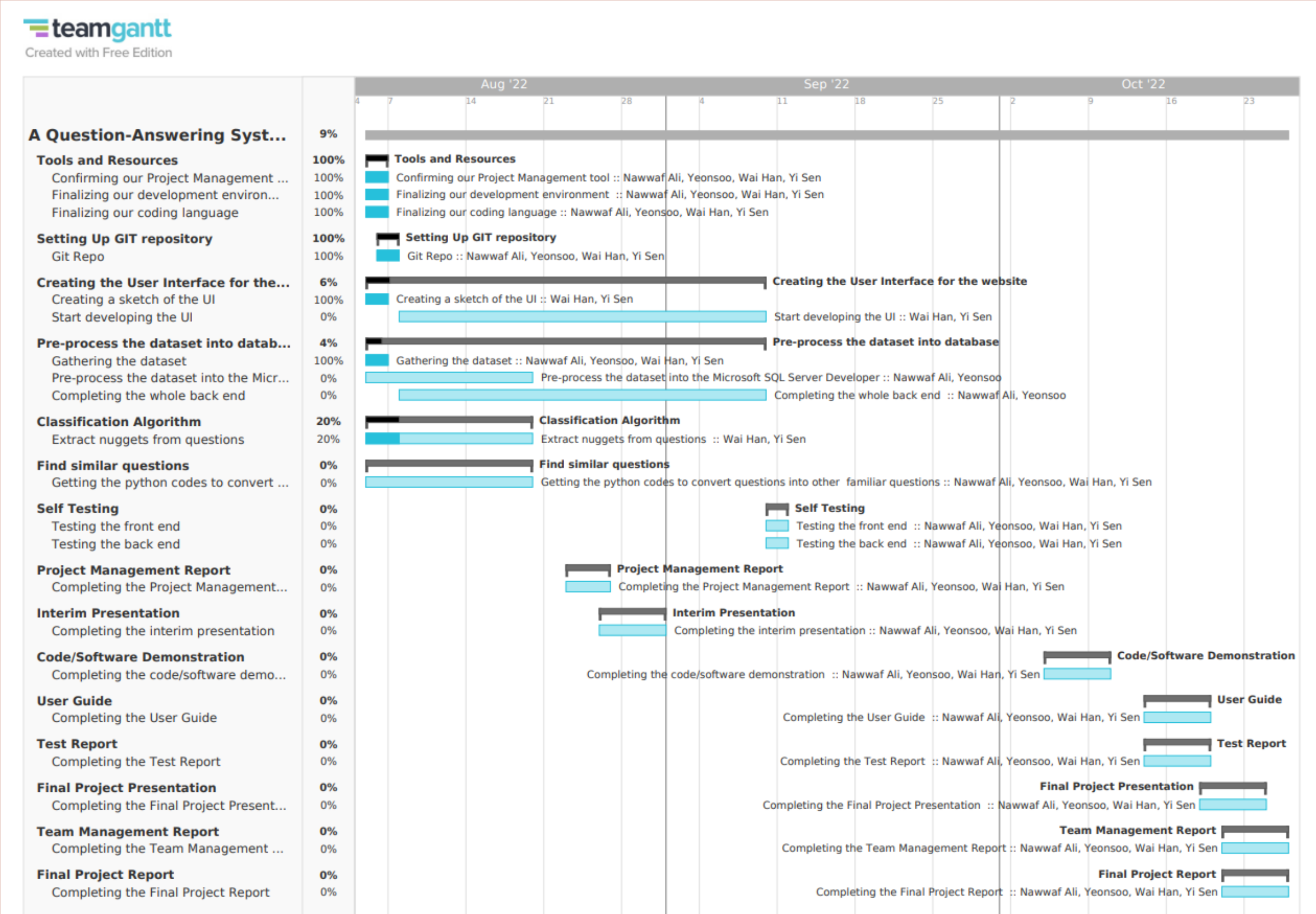
COMMUNICATION

DISCORD

WHATSAPP

SLACK

TASK ALLOCATION

HOW DO WE DEAL WITH ISSUES?

- ALERTING THE TEAM THAT AN ISSUE HAS OCCURED
- ASK THE WHOLE TEAM FOR IDEAS
- COMING UP WITH A CONTINGENCY PLAN
- FOLLOW UP ON THE PROBLEMS
- SEARCH FOR ALTERNATIVE METHODS

THANK YOU