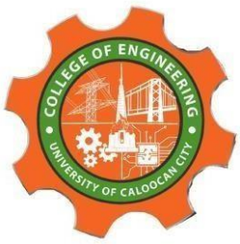
UNIVERSITY OF CALOOCAN CITY
COMPUTER ENGINEERING DEPARTMENT



Data Structure and Algorithm

Laboratory Project

Progress Report 6

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PROGRESS REPORT

As part of our project development, we have explored ways to integrate a user interface (UI) to make our graph implementation more interactive and user-friendly. We used PyCharm as our main development environment, which supports various Python libraries and frameworks suitable for UI development. After researching, we narrowed down our options to two popular frameworks: **Streamlit** and **CustomTkinter**.

Streamlit offers a straightforward and modern approach to building web-based user interfaces quickly, allowing us to create interactive dashboards and visualizations with minimal coding. On the other hand, CustomTkinter provides a way to develop more traditional desktop applications with customizable widgets and controls, which can offer a familiar look and feel for users who prefer native apps.

Currently, we are in the process of evaluating these two frameworks to determine which one better fits our project requirements. Factors such as ease of integration with our existing graph code, responsiveness, user experience, and the ability to visually demonstrate graph traversal algorithms (BFS and DFS) are being considered. Our goal is to implement a UI that allows users to input graph data, trigger traversals, and visually observe the process in an intuitive way.

In summary, we have made significant progress by identifying suitable UI frameworks and are now focusing on selecting and integrating the best option to enhance the functionality and accessibility of our Classroom Booking System which we use the **Streamlit.**

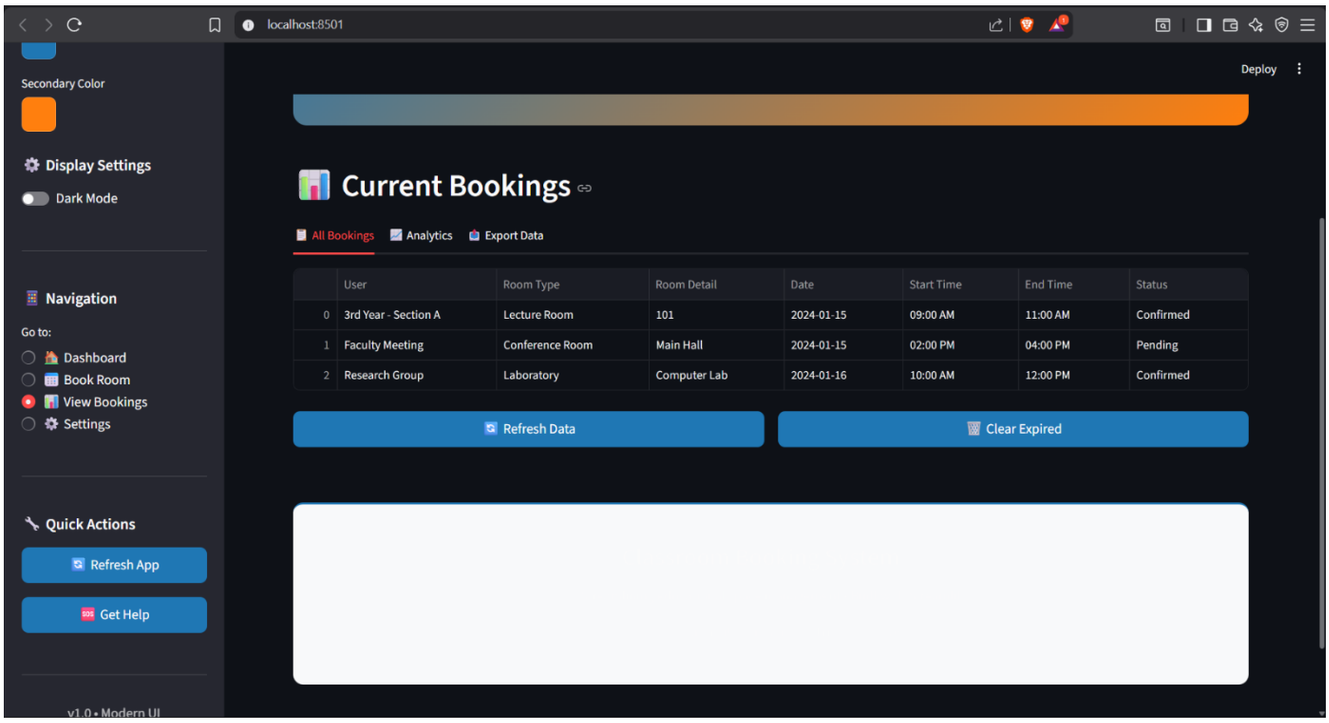
STREAMLIT

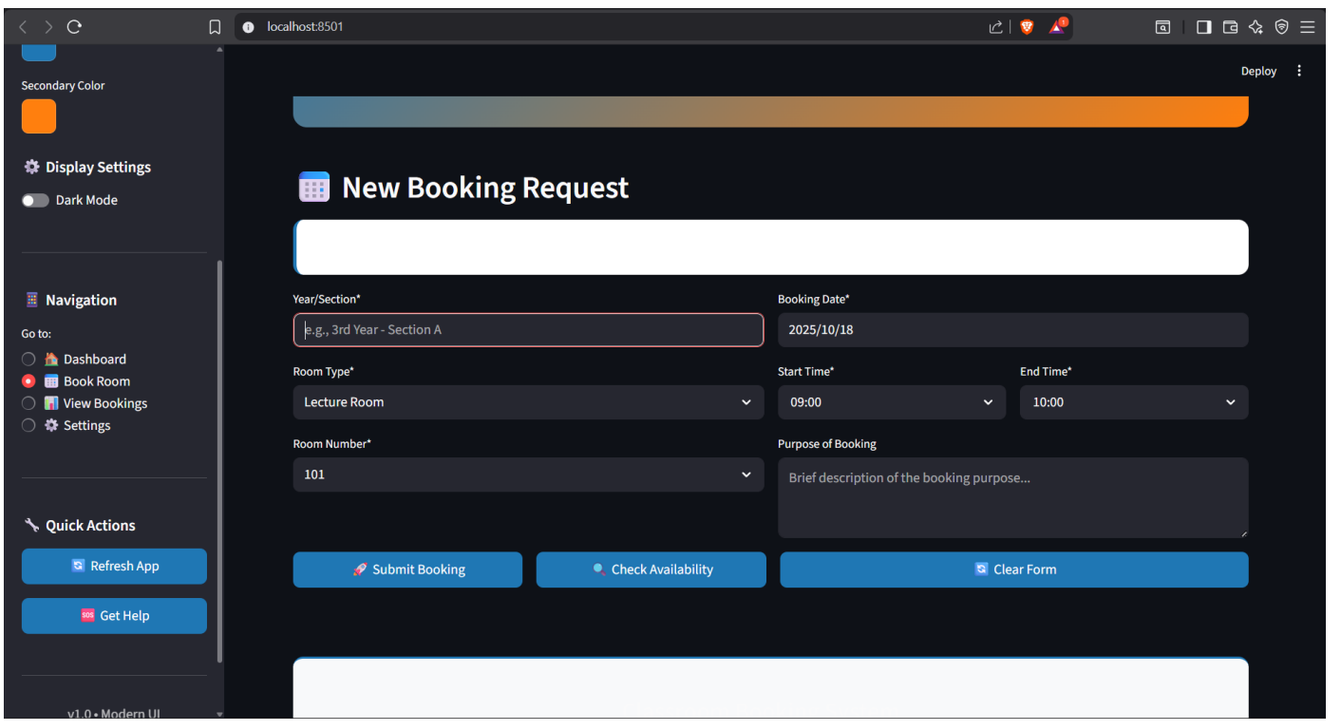
Streamlit is an open-source Python library that makes it easy to create and share custom web apps for machine learning and data science. By using Streamlit you can quickly build and deploy powerful data applications. For more information about the open-source library.

CustomTkinter.

CustomTkinter is a python desktop UI-library based on Tkinter, which provides modern looking and fully customizable widgets. With CustomTkinter you'll get a consistent look across all desktop platforms (Windows, macOS, Linux)

INPUT AND OUTPUT





REFERENCE

[1] Streamlit Inc., “Streamlit: The fastest way to build data apps in Python,” Streamlit, 2024. [Online]. https://docs.snowflake.com/en/developer-guide/streamlit/about-streamlit

[2] CustomTkinter Developers, “CustomTkinter: Modern and customizable Tkinter widgets,” GitHub Repository, 2024. [Online].
https://github.com/TomSchimansky/CustomTkinter

[3] “Introduction to Streamlit for Data Science,” YouTube tutorial by Data School, 2023. [Online].
https://youtu.be/CXdXu7l50Ho?si=CZ_vV3ty8QBOweL7

[4] “Building Desktop Apps with CustomTkinter,” Blog post by Real Python, 2024. [Online]
https://kitemetric.com/blogs/master-customtkinter-build-stunning-python-apps