STUDY TIMETABLE PLANNER

BY

INFORMATION TECHNOLOGY

College of Computer Science and Information Technology

BELLS UNIVERSITY OF TECHNOLOGY-NEW HORIZONS

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React.js & Angular.js

(ICT 235)

Group 2

SUBMITTED TO

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Chapter 1: Introduction

1.1 Purpose and Overview

The **Study Timetable Planner** is a web application designed to help students manage their study schedules effectively. It provides a simple and intuitive interface where users can input their study activities across different times of the day, organized by days of the week. This project aims to enhance time management for students, allowing them to increase productivity and stay on track with their academic goals. The application is fully responsive, ensuring accessibility on a wide range of devices.

1.2 Problem Statement

Time management is a critical aspect of academic success. Many students struggle with balancing their study and personal time, leading to inefficiency, procrastination, and missed deadlines. Traditional methods of planning—such as physical planners or spreadsheets—often lack flexibility and are not easily accessible. This creates a need for a more dynamic, accessible solution to help students stay organized.

1.3 Objectives

- To develop a user-friendly web-based Study Timetable Planner.
- To allow users to input and manage study activities across different times and days of the week.
- To make the application accessible on both desktop and mobile devices, ensuring responsiveness.
- To help students optimize their study routines by providing an easy way to organize and track their tasks.

1.4 Scope of the Study

This project focuses on building a simple web application for students to create and manage their study timetables. The scope is limited to the functionality required to input, update, and view study activities. It does not include advanced features like automatic reminders or notifications.

1.5 Team Members and Roles

- **Team Leader**: **Oluwagbemi Samuel Ayomide (2023/12320)**
  – Responsible for overall project management and coordination.

- **Frontend Developer**: **James Betini Ndueso (2023/12712)**
  – Developed the user interface and ensured responsiveness across devices.

- **Backend Developer**: **James Betini Ndueso (2023/12712)**
  – Handled the logic for storing and updating user data.

- **Quality Assurance**:
  - **Abiola Taiwo Daniel (2023/12669)**
  - **Jackson Uche (2023/13580)**
  - **Tade Daisi – oso (2023/12138)**
  - **Enoch Kehinde (2023/12284)**
  - **Ibanga Mervine (2024/13738)**

  – Tested the application to ensure it functions correctly and meets the project requirements.

1.6 Project Justification

The **Study Timetable Planner** addresses a real need for students who struggle with organizing their study schedules. By providing an easy-to-use digital solution, it offers a more efficient and accessible alternative to traditional paper-based planning. The application allows for flexible and real-time changes, enabling students to stay on top of their academic responsibilities

Chapter 2: Literature Review

2.1 Introduction

Time management is crucial for academic success. Effective time management reduces stress, enhances performance, and supports a balanced lifestyle. Many students struggle with managing their time due to distractions and poor planning.

2.2 Existing Tools

Popular time management tools like Google Calendar, Trello, and Todoist help students organize tasks but are not specifically designed for managing study schedules. While effective, these tools lack study-specific features.

2.3 Study Timetable Planners

Study timetable planners help students organize study sessions based on days and time slots. These planners can be paper-based or digital, but digital solutions are preferred for their flexibility and accessibility.

2.4 Gaps in Existing Solutions

General-purpose tools like calendars and task managers lack the focus needed for students to manage study timetables. Many mobile solutions also fail to be responsive and user-friendly for students.

2.5 The Need for a Custom Study Timetable Planner

A digital, student-focused study timetable planner addresses these gaps by offering tailored scheduling, flexibility, and mobile access, making it easier for students to stay organized.

2.6 Conclusion

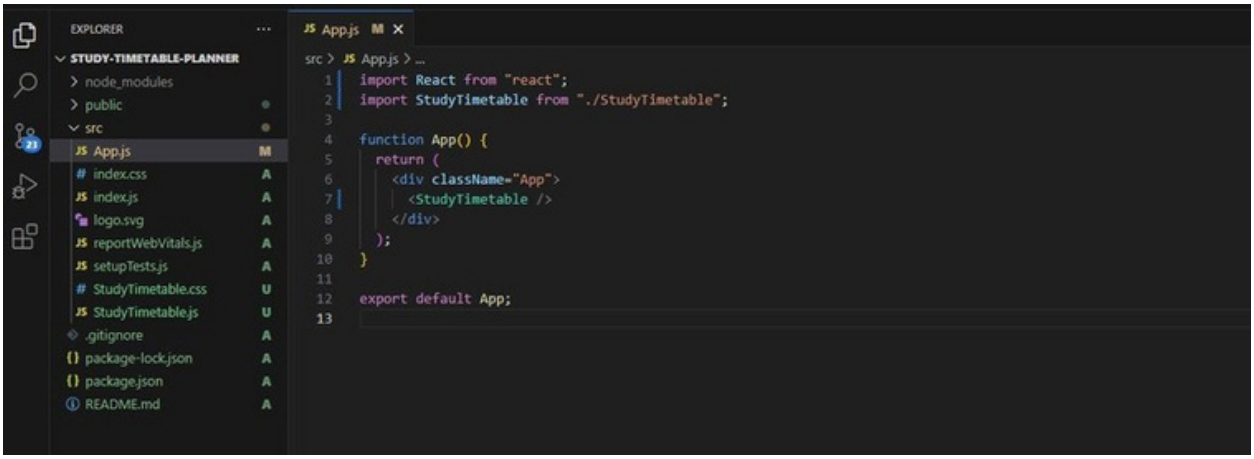
This review emphasizes the need for a specialized study timetable planner to help students organize their study time more effectively, contributing to better academic outcomes.

Chapter 3: Methodology

In this chapter, the methodology employed in the development of the Study Timetable Planner is outlined. The tools, technologies, and steps taken to design and implement the app are explained in detail. This section includes the development process, coding techniques, and design tools used to create a functional and user-friendly application.

Development Environment and Tools Used

1. **Visual Studio Code (VS Code)**
   Visual Studio Code (VS Code) was used as the primary code editor for the development of the Study Timetable Planner. VS Code offered a rich set of features such as syntax highlighting, integrated debugging tools. These tools made the development process smoother, ensuring the code followed best practices and was clean.



Display of visual studio code workspace

2. **Git Bash**
   Git Bash was used for version control and managing the project repository. The following steps outline how the project was set up and managed using Git Bash:

First, navigate to the project directory where the app will be created. Use the “cd” command:
“`cd Documents/Projects`”

This command changes the working directory to the specified path where the project will be located.
Then, create the React app by running:

“npx create-react-app study-timetable-planner"

This creates a new React app named "study-timetable-planner" with all the necessary dependencies and configuration files.
After the app was created, navigate into the project folder:
“cd study-timetable-planner"

Finally, start the development server by running:

“npm start”

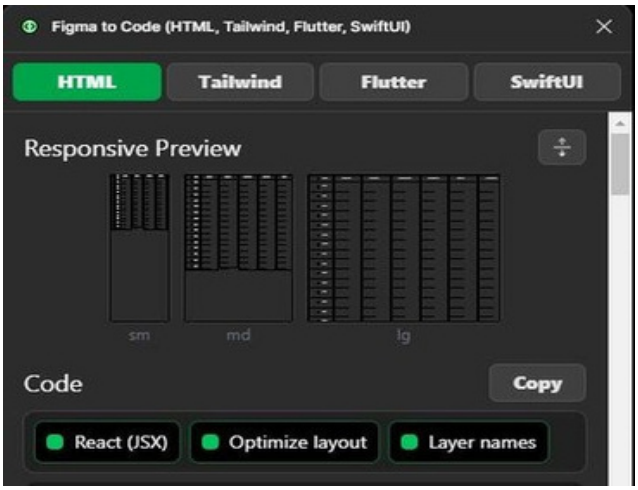
This command launches the app on a local server, and any changes made will automatically reflect in the browser.

Git Bash also allowed for smooth Git operations. After setting up the project, version control commands such as git add, git commit, and git push were used to track progress and push changes to the GitHub repository.

3. **Figma**
   The design for the Study Timetable Planner was created using Figma. Figma’s collaborative design platform allowed the team to create a wireframe that visually

represented the app's user interface. The design focused on creating an intuitive, user-friendly interface where users could easily input their study schedule.

4. **Figma to Code Plugin**
   To convert the Figma design into actual React code, the team used the *"Figma to Code"* plugin. This plugin allowed the design components from Figma to be transformed into React components, which could then be used directly in the app's development in VS Code. This step was crucial in creating the timetable grid and ensuring the layout matched the Figma design.



5. React: Used for building the user interface (UI) due to its flexibility and efficiency in creating dynamic web applications.

6. CSS: Used for styling the application to ensure it is visually appealing and responsive across devices.

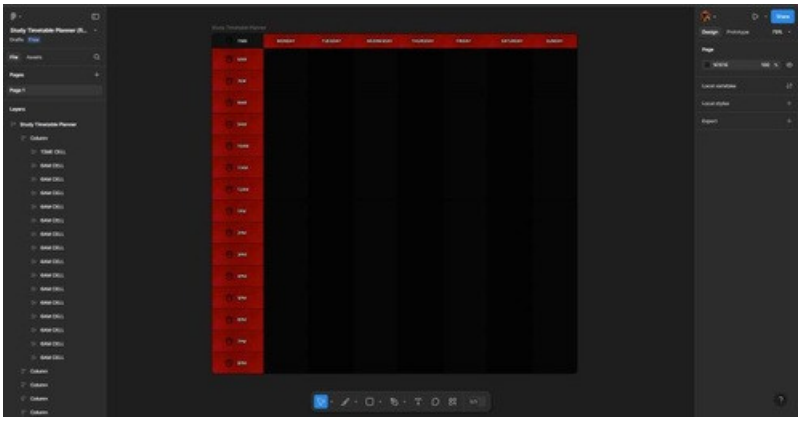
7. JavaScript: Implemented for handling user interactions and data management, particularly for scheduling and updating the timetable.

The plugin generated the necessary HTML and CSS, which was then customized to add dynamic features such as editable input fields for each time slot in the timetable. This allowed for efficient development, minimizing the manual effort needed to recreate the design elements in React.

Design and Development Process

1. Wireframing and UI Design

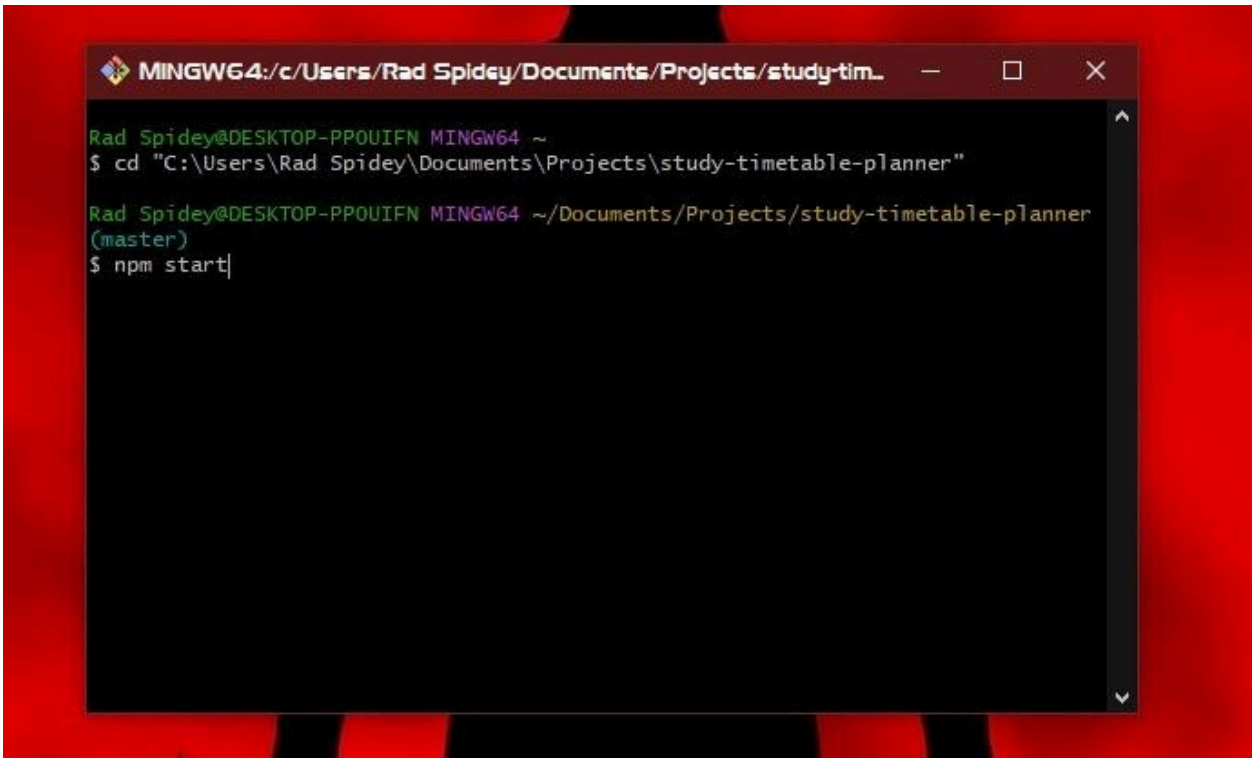
The initial design and layout of the Study Timetable Planner were created in Figma. This wireframe provided a visual reference for the development phase, ensuring that the final application matched the intended user interface which backfired but still had an amazing result below.



initial result of the study timetable planner in figma.

2. Creating the React App and Using Git

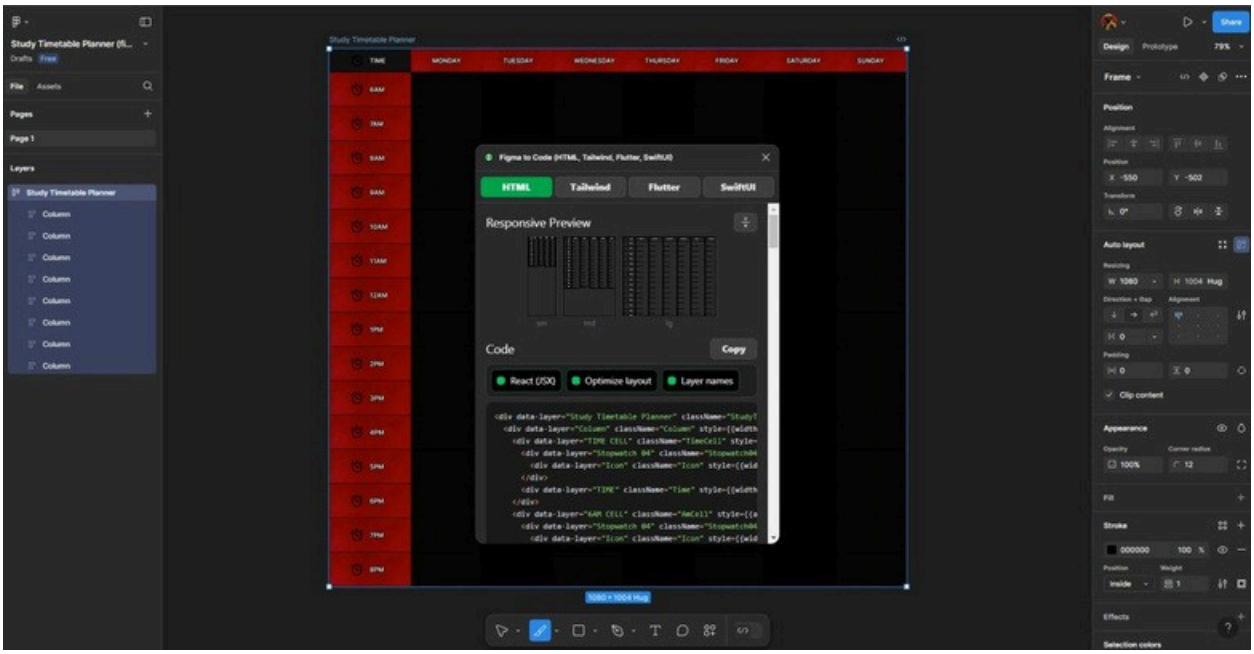
The team used Git Bash to set up the React app with the npx create-react-app command. After the app was created, it was pushed to GitHub for version control. Team members used Git Bash to collaborate on the project, ensuring that their changes were properly versioned and synced.



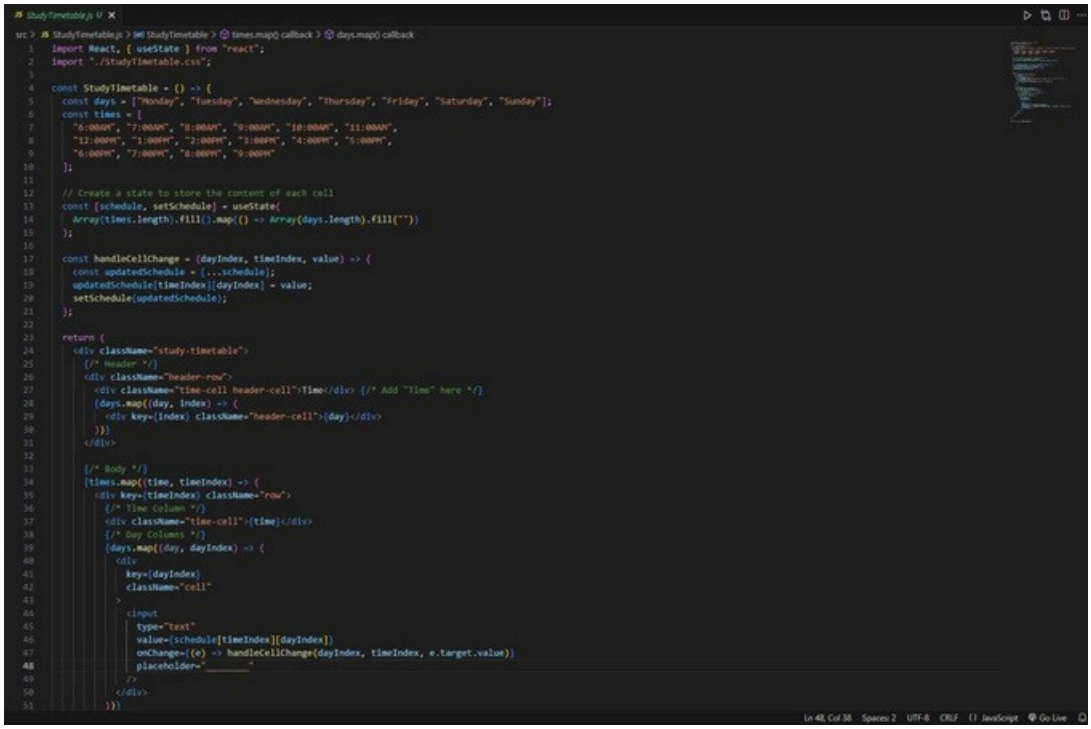
The ”npm start” command used to start up the web application.

3. Converting Design to Code

The *"Figma to Code"* plugin was used to convert the Figma design into React components. This plugin generated the base code for the UI components, which was further customized in VS Code to match the specific functionality of the timetable, such as allowing users to input their activities.

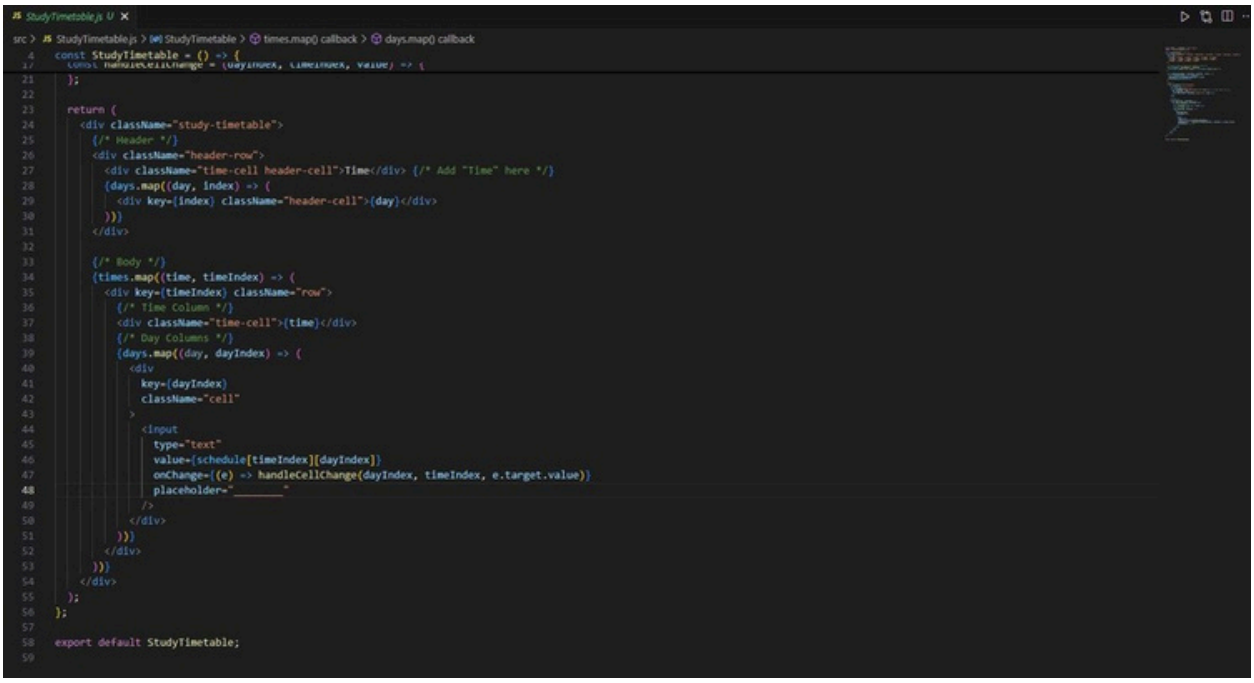


Display of ”figma to code” plugin.



```
import React, { useState } from "react";
import "./StudyTimetable.css";

const StudyTimetable = () => {
  const days = ["Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday", "Sunday"];
  const times = [
    "6:00AM", "7:00AM", "8:00AM", "9:00AM", "10:00AM", "11:00AM",
    "12:00PM", "1:00PM", "2:00PM", "3:00PM", "4:00PM", "5:00PM",
    "6:00PM", "7:00PM", "8:00PM", "9:00PM"
  ];

  // Create a state to store the content of each cell
  const [schedule, setSchedule] = useState(
    Array(times.length).fill().map(() => Array(days.length).fill(""))
  );

  const handleCellChange = (dayIndex, timeIndex, value) => {
    const updatedSchedule = [...schedule];
    updatedSchedule[timeIndex][dayIndex] = value;
    setSchedule(updatedSchedule);
  };

  return (
    <div className="study-timetable">
      {/* Header */}
      <div className="header-row">
        <div className="time-cell header-cell">Time</div> {/* Add "Time" here */}
        {days.map((day, index) => (
          <div key={index} className="header-cell">{day}</div>
        ))}
      </div>

      {/* Body */}
      {times.map((time, timeIndex) => (
        <div key={timeIndex} className="row">
          {/* Time Column */}
          <div className="time-cell">{time}</div>
          {/* Day Columns */}
          {days.map((day, dayIndex) => (
            <div
              key={dayIndex}
              className="cell"
            >
              <input
                type="text"
                value={schedule[timeIndex][dayIndex]}
                onChange={(e) => handleCellChange(dayIndex, timeIndex, e.target.value)}
                placeholder="_____"
              />
            </div>
          ))}
```

Display of the component code (figma to code plugin) to visual studio code I



Display of the component code (figma to code plugin) to visual studio code II

Chapter 4: Results

In this chapter, we will present the results of the Study Timetable Planner, detailing the functionality and visual outcomes of the project. The goal was to create an interactive and user-friendly timetable application where users can input their study schedules.

Features of the Study Timetable Planner

1. User Input Fields

2. The timetable allows users to input their activities for each day and time slot. Each cell of the timetable grid is editable, providing a simple text input field for users to enter their study activities. The inputs are dynamically stored and updated in real-time as the user makes changes.

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
6:00AM							
7:00AM							
8:00AM							
9:00AM							
10:00AM							
11:00AM							
12:00PM							
1:00PM							
2:00PM							
3:00PM							
4:00PM							
5:00PM							
6:00PM							
7:00PM							
8:00PM							
9:00PM							

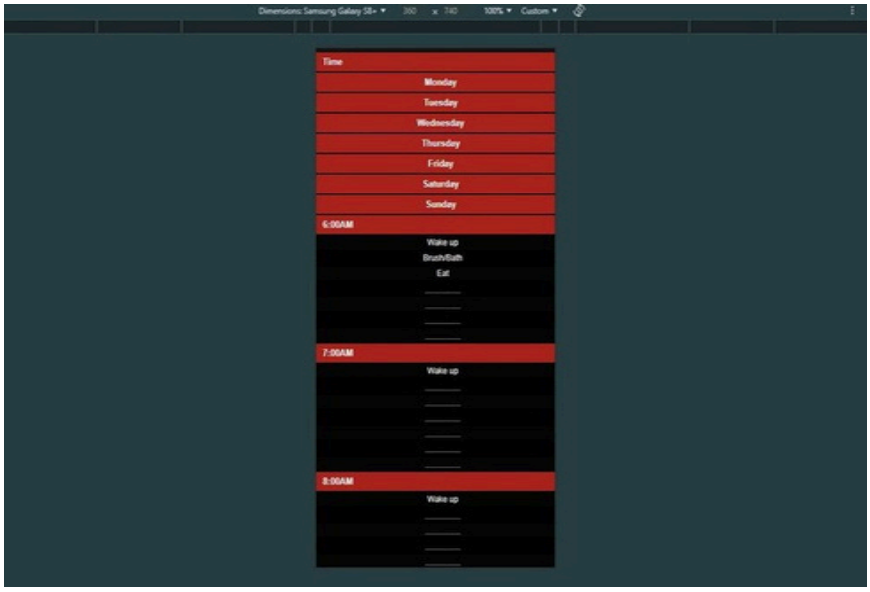
Final Result without the activity notes.

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
6:00AM	Wake up	Wake up	Wake up	Wake up	Wake up	Wake up	Wake up
7:00AM	Brush/Bath/Dress						
8:00AM	Eat						
9:00AM	Mathematics						
10:00AM	Physics						
11:00AM	Chemistry						
12:00PM	Rest/Eat						
1:00PM	Physics II						
2:00PM	Chemistry II						
3:00PM	Rest						
4:00PM	1hr of videogame						
5:00PM	Sleep						
6:00PM	Wake up						
7:00PM	Brush						
8:00PM	Eat						
9:00PM	Sleep						

Final Results with activity notes included.

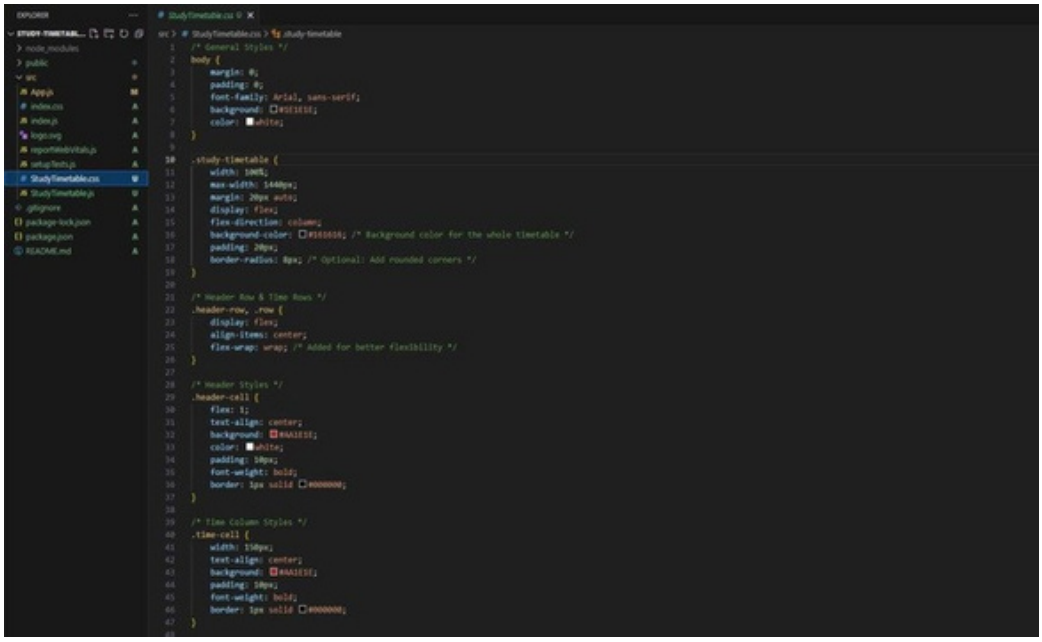
3. Responsive Design

The app is fully responsive, adapting its layout across different screen sizes. the timetable is displayed in a grid format, ensuring easy readability and usability.



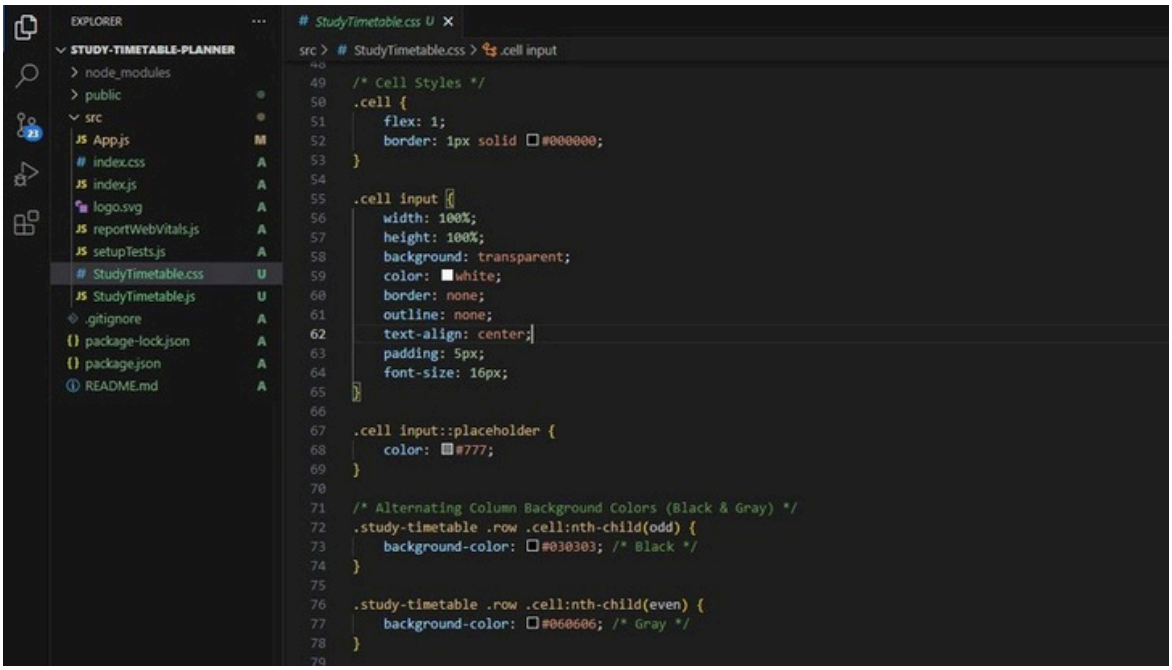
Display of a Samsung S8+ adaptation of the web application.

4. **CSS Design**

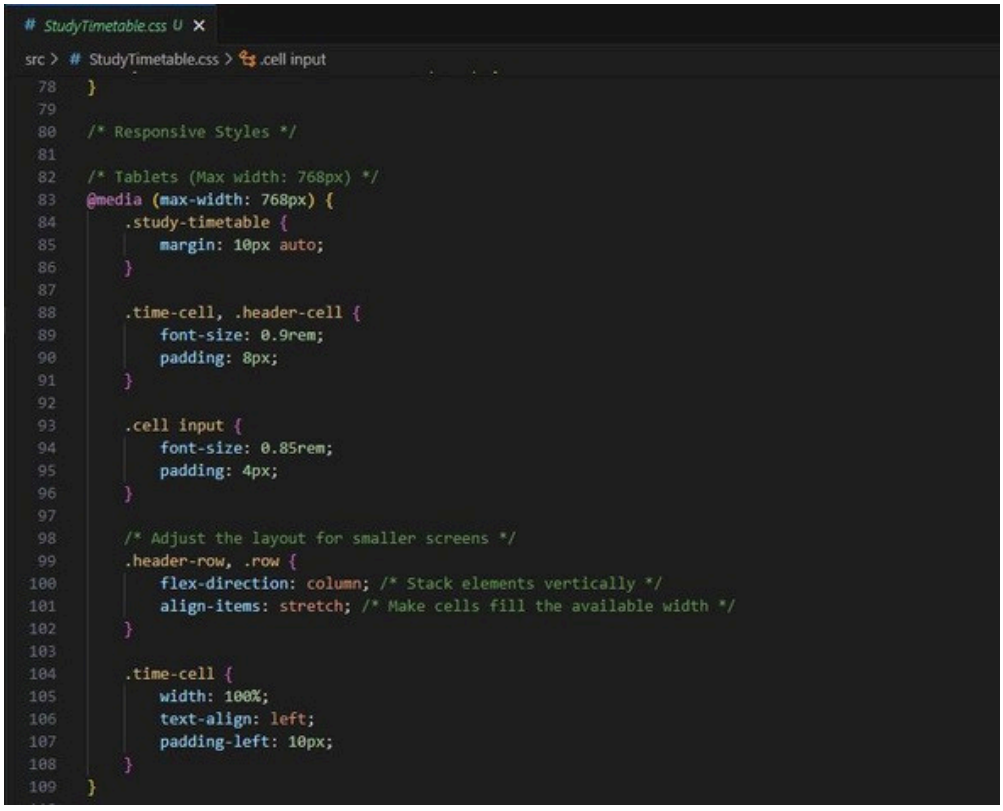


```
/* General Styles */
body {
    margin: 0;
    padding: 0;
    font-family: Arial, sans-serif;
    background: #f5f5f5;
    color: white;
}

.study-timetable {
    width: 100%;
    max-width: 1440px;
    margin: 20px auto;
    display: flex;
    flex-direction: column;
    background-color: #555555; /* Background color for the whole timetable */
    padding: 20px;
    border-radius: 8px; /* Optional: Add rounded corners */
}

/* Header Row & Time Rows */
.header-row, .row {
    display: flex;
    align-items: center;
    flex-wrap: wrap; /* Added for better flexibility */
}

/* Header Styles */
.header-cell {
    flex: 1;
    text-align: center;
    background: #4A4A5E;
    color: white;
    padding: 10px;
    font-weight: bold;
    border: 1px solid #000000;
}

/* Time Column Styles */
.time-cell {
    width: 150px;
    text-align: center;
    background: #4A4A5E;
    padding: 10px;
    font-weight: bold;
    border: 1px solid #000000;
}
```

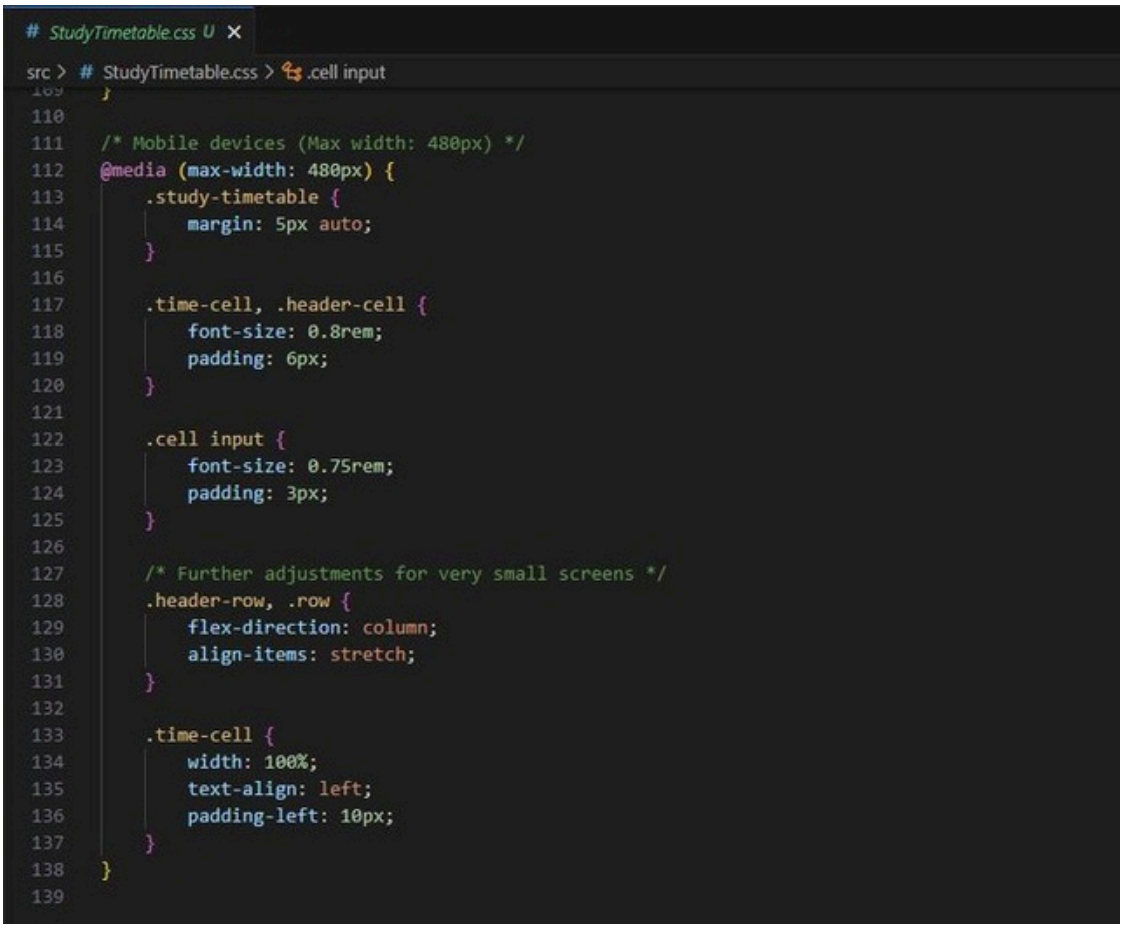
CSS of Study Timetable Planner I



CSS of Study Timetable Planner II



CSS of Study Timetable Planner III



CSS of Study Timetable Planner IV

Chapter 5: Conclusion

In this chapter, we summarize the overall achievements, challenges, and future possibilities for the Study Timetable Planner.

Summary of Achievements

The Study Timetable Planner successfully meets its objective of helping students organize their study schedules. The application is fully functional, allowing users to input, edit, and store their study activities. It provides a user-friendly, interactive interface with a responsive design, making it accessible on a wide range of devices, from desktops to smartphones.

Key features of the app include:

- A dynamic timetable grid for easy scheduling.
- Responsive layout adjustments for different screen sizes.
- Visual improvements, such as alternating column colors for better usability.
- Real-time updates of user inputs, providing a seamless experience.

Challenges Encountered

While developing the Study Timetable Planner, several challenges arose:

- Ensuring the responsiveness of the app across various devices required fine-tuning CSS and layout components.
- Integrating external tools like Figma and using plugins such as "Figma to Code" to speed up the design-to-code process presented its own challenges, especially with translating the design accurately into React.

Despite these challenges, the project was successful, with solutions implemented to enhance user experience and performance.

References

1. *Figma. (n.d.).* Figma design tool. Retrieved from https://www.figma.com
2. *React Documentation. (n.d.).* React.js documentation. Retrieved from https://react.dev/blog/2023/03/16/introducing-react-dev
3. *MDN Web Docs. (n.d.).* Flexbox layout. Retrieved from https://developer.mozilla.org/en-US/docs/Web/CSS/CSS_Flexible_Box_Layout
4. *"Design a Responsive table in figma using auto layout"*, YouTube video uploaded by *"DesignwithArash"*
5. *Gitbash, Retrieved from https://git-scm.com/downloads/win*