PROJECT REPORT

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INTRODUCTION

This report provides an overview of my internship experience in full stack web development. As part of my learning journey, I completed two significant projects: a calculator application named “Calculator by ME” and a personal webpage. These projects allowed me to apply fundamental concepts in front-end and back-end development, gain familiarity with development tools, and improve my programming skills. This document highlights the technical stack used, functionalities of each project, challenges faced, and key takeaways.

Overview of Full Stack Web Development

OVERVIEW

Full stack web development involves working on both front-end and back-end technologies to create a fully functional web application. A full stack developer is proficient in:

- **Front-End Development:** Developing the client-side elements that users interact with, such as interfaces and layouts.
- **Back-End Development:** Managing server-side processes, database interactions, and server logic.
- **Database Management:** Storing, retrieving, and managing data efficiently.
- **Deployment:** Deploying applications on web servers for public access.

During my internship, I worked with tools that cover these areas, including HTML, CSS, JavaScript, Node.js, and databases.

Tools and Technologies Used

Front-End Technologies:

- **HTML** and **CSS:** For webpage structure and styling.
- **JavaScript:** For interactivity and client- side logic.

Back-End Technologies:

- **Node.js:** For server-side programming.
- **Express:** For handling requests and routing.

Database Technologies:

- **MySQL and MongoDB:** For data storage and management.

Version Control and Deployment:

- **Git and GitHub:** For version control.
- **Deployment platforms:** Utilized online platforms to make projects accessible to users.

1. **Project Overview**

This project involved creating a personal webpage that serves as a digital portfolio. The page introduces me, provides a short bio, and includes links to my social media profiles.

2. **Problem Solved**

The personal webpage functions as a digital business card, enabling online networking by making my profile and contact options accessible to peers and potential employers.

3. **Technologies Used**
   - **HTML/CSS:** Structural components and basic inline styling.
   - **Hyperlinks:** Allows navigation to social media profiles.

4. **Key Features**
   - **Bio Section:** Brief introduction and background information about myself.
   - **Social Media Links:** Provides links to social media profiles that open in new tabs, enhancing user navigation.
   - **Centered Layout:** Basic HTML and CSS styling to maintain a neat, centered layout.

5. **Challenges and Solutions**
   - **Challenge:** Creating a professional, engaging design with basic HTML/CSS.
     - **Solution:** Used a simple centered layout with a rounded profile image for a visually appealing design.
   - **Challenge:** Ensuring links open in new tabs for improved navigation.
     - **Solution:** Utilized target="_blank" in anchor tags to avoid redirecting users away from the main page.

6. **Key Learnings**
   - Strengthened skills in HTML and CSS, including handling hyperlinks and designing a straightforward layout.
   - Understood the importance of UI design to create an engaging and accessible user experience.

Project 2: Calculator by ME(Calculator Application)

1. Project Overview

Calculator by ME is a basic calculator web application designed to perform arithmetic operations (addition, subtraction, multiplication, and division). The application is user-friendly and visually minimalistic, allowing for straightforward interaction.

2. Problem Solved

The SimpleCalc application provides an easy way to perform basic calculations within a browser, which can be beneficial in scenarios where users require quick calculations without switching to a separate calculator app.

3. Technologies Used

- **HTML/CSS:** Basic structure and styling.
- **JavaScript:** Handling calculator functionality, including managing input, performing calculations, and error handling.

4. Key Features

- **Interactive Buttons:** Numeric and operation buttons that users can click to create expressions.
- **Real-Time Display:** Shows current input and calculation results immediately.
- **Error Handling:** Displays error messages for invalid calculations, maintaining a seamless user experience.

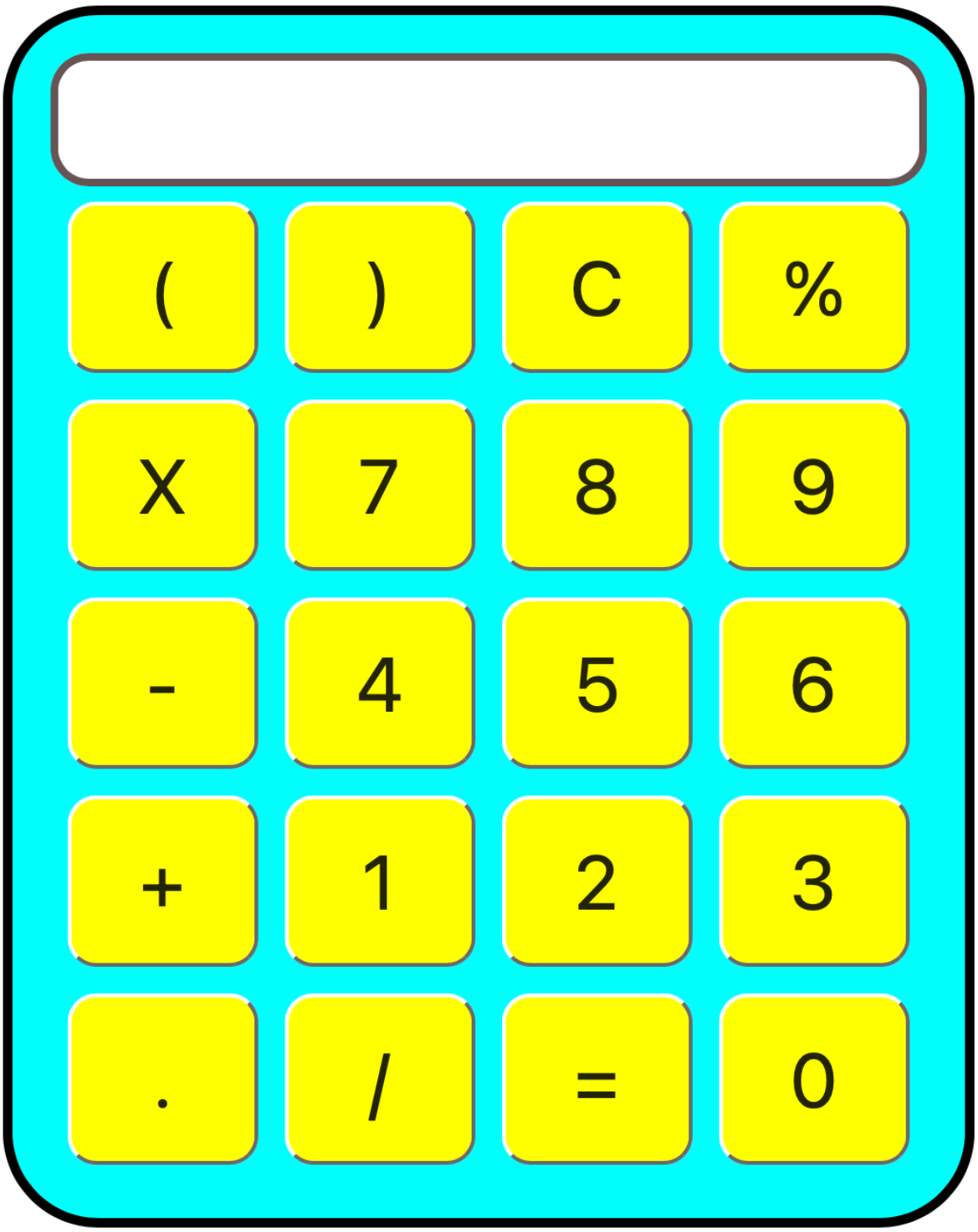
5. Challenges and Solutions

- **Challenge:** Error handling to ensure invalid expressions don't cause the application to crash.
  - **Solution:** Used JavaScript try...catch to handle errors gracefully.
- **Challenge:** Creating a responsive design with minimal use of libraries.
  - **Solution:** Leveraged CSS flexbox to create a flexible, centered layout with CSS hover effects for interactive feedback.

6. Key Learnings

- Enhanced understanding of JavaScript for managing DOM interactions and handling calculations.
- Learned foundational CSS techniques to create a simple but responsive design without additional libraries.

Calculator by Me



THANK YOU!