

Secure Authentication System Development



Department of Data Science

Information Security (CS3002)

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Chapter 1

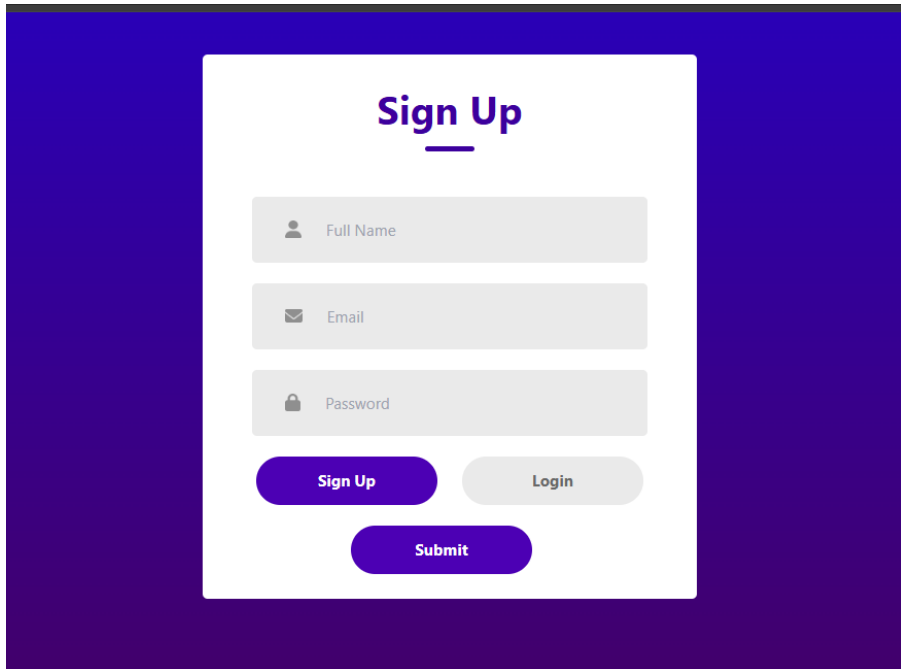
Development Work

This report aims to display and outline the development work done in this iteration of our project. This was the second phase of development in the project, and it was aimed at creating a front end for the Two Factor Authentication (2FA) application. The idea was to create a front end that was both aesthetically pleasing, yet extremely simple and elegant

1.1 Webpage Details

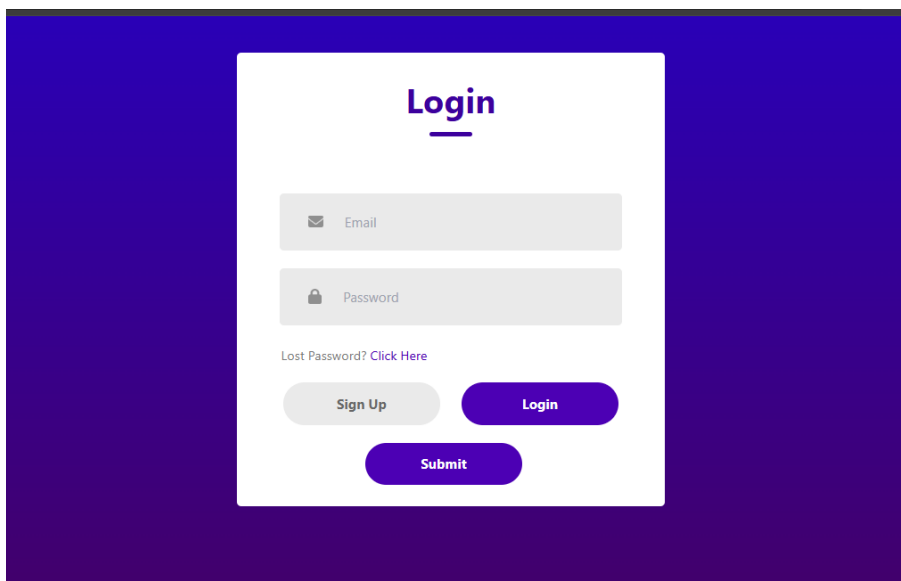
- **Sign-Up Page:**

The sign-up page is the landing page for the application. Users are asked to enter their details such as their name, email and password in order to be verified and allowed to access the site in full. A simple yet sleek form is displayed that is easy to understand for anyone to be able to use at any time with ease. The submission of the sign-up details will re-route the user to the verification page in order to complete registration.

A screenshot of a 'Sign Up' form centered on a dark blue background. The form is white with a purple border. At the top, the text 'Sign Up' is written in a bold, purple font, underlined. Below this, there are three input fields: 'Full Name' with a person icon, 'Email' with an envelope icon, and 'Password' with a lock icon. All icons are small and grey. Below the input fields, there are three buttons: a purple 'Sign Up' button, a light grey 'Login' button, and a purple 'Submit' button.

- **Login Page:**

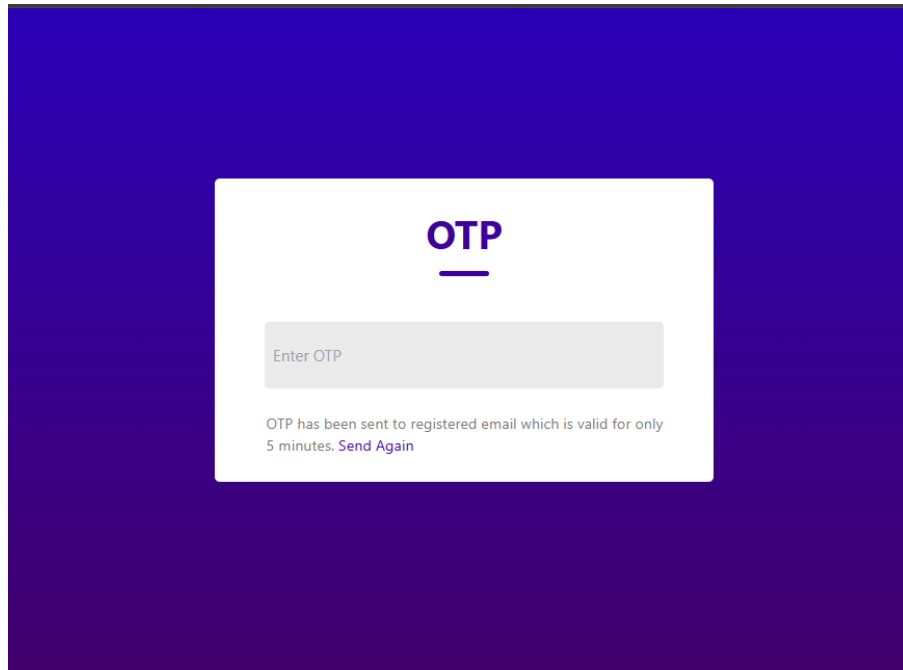
The login page is the alternate option for users who have already signed up and have been verified in the database for access of this application. Another simple form is displayed that asks for email and password as an input, with another button to reset the password if needed. The submission of the login page will redirect users to the authentication page in order to be securely signed into the system for use.

A screenshot of a 'Login' form centered on a dark blue background. The form is white with a purple border. At the top, the text 'Login' is written in a bold, purple font, underlined. Below this, there are two input fields: 'Email' with an envelope icon and 'Password' with a lock icon. Below the input fields, there is a link that says 'Lost Password? Click Here'. At the bottom, there are three buttons: a light grey 'Sign Up' button, a purple 'Login' button, and a purple 'Submit' button.

- **One Time PIN (OTP) Page:**

The final page is the authentication or the OTP page. The purpose of this page is to

provide an easy entry for the generated OTP. A simple text-box is given which asks for the provided OTP and a notice for its timeout and availability for only five minutes. The submission of that OTP will begin its verification process in later iterations



Chapter 2

Iteration Details

After viewing the details of each webpage inside this iteration of development it is important to adjust the scope and see how this iteration will fit into the puzzle of the complete application

2.1 Integration Into Project

The front end is a very important component for our project. It allows us a base to be able to develop and test our back-end thoroughly as well as finalize the aesthetics and views of the finished application. This website will interact directly with the back-end by providing the login details to, get OTP and other responses in order to be displayed and shown to the users. In order to achieve the best and most suitable results, the webpages being functional before the back-end allows for the tinkering of both as necessary in order to assure the best results for users when the application is running

2.2 Tools and Technology

For this iteration of the project, Vite and React were used in order to create a simple and useable application that avoided any problems in both development and user usage. Vite allows a quicker start and easier handling of most things. React is a standard for front-end development and it was a sensible item to use for this iteration of development. The complete website is made to be completely flexible and dynamic, using these powerful tools for development

Chapter 3

Conclusion

The front-end development allows a base for development as well as makes the vision for the website complete, allowing the back-end development a more streamlined approach to fit into the fold. The tools allowed for a swift and easy development process both now and in the upcoming iterations as they are very development friendly.