

Final Project Technical Implementation Plan

Group – React and Respond

Members:

Govind Radhakrishnan Nair 10475825

Leo Jacob 10469600

Riya Kharbanda 10477444

Project Description

Our Project aims to create an e-Learning environment and a platform that offers self-paced learning to our users who can register for courses offered.

This platform serves both learners and creators to leverage its features.

An instructor will be able to create a course containing a mix of theory, videos, links images, etc. The users will be able to track the course enrolled as well as courses authored in our application. A user can enroll in a course or unregister from a course on the go.

Features:

- Sign up and Login feature to provide access to users to enter inside the application.
- Course listing page to display all the courses available.
- Users will have the ability to create courses by providing all the relevant details related to the course like title, description, etc., add the course content, and publish the course which will then be available in the courses section.
- Users can enroll in the courses of their preference and the enrolled courses will be available in the enrolled section. Similarly, if they choose to opt-out of the course, they will have the option to unregister.
- Authored section that shows all the courses the user has authored/ created.
- Course details page to show all the information relating to the course.
- User Profile page displaying all the user-related details and shows the enrolled and authored courses.
- Creator will have the ability to delete the courses that they have created.

Extra Features:

- Sign In using Google Account will be available for the user.
- Reset the password of the signed-up user.

- When creating a course, users can add images, provide hyperlinks, and add text decorations, style, and embedded video links.
- Creator can edit the courses they have created.
- search and filter options to search for the courses using title and category.
- Related Courses section which would display three courses from the same category.

Course technologies:

- **Typescript with React:**

React is a front-end library that is used to build user interfaces and UI components. It will be used to create a single-page application and reusable UI components that will be included on our pages.

We'd be using Typescript for static typing, class-based and object-oriented programming implementation in our application.

- **Firebase:**

Firebase authentication is a framework to build secure authentication systems whilst improving the sign-in experience. We will use Firebase to authenticate users to our application and to allow multi-platform sign-in.

- **React Redux:**

React Redux is the official React binding for Redux. It allows React components to read data from a Redux Store, and dispatch Actions to the Store to update data. Redux helps apps to scale by providing a sensible way to manage the state through a unidirectional data flow model.

Independent technologies:

- **Vite**

create react app is very slow and gives a bad developer experience. Vite written in es build(written on go) would give a better response time(estimated 20x better dev experience.)

- **Tailwind CSS**

Tailwind CSS will be used as the styling library. This works by scanning all the HTML files, JavaScript components, and any other templates for class names, generating the corresponding styles, and then writing them to a static CSS file. It's fast, flexible, and reliable — with zero runtime.

- **React-quill**

Quill is a free, open-source WYSIWYG editor built for the modern web. With its modular architecture and expressive API, it is completely customizable to fit any need.

GitHub repository:

<https://github.com/BlrToNyc-Riya/React-and-Respond>

