

**Karachi Institute of Economics and Technology
College of Computing and Information Sciences
FINAL YEAR PROJECT – 2023
PROPOSAL**

SEMESTER	FALL 2023	YEAR	2023-2024
TITLE OF PROPOSED PROJECT			
CustomUI Pro			
Project Category (choose one)		<input checked="" type="checkbox"/> Product based <input type="checkbox"/> Research-based	
SUPERVISOR INFORMATION (To be filled by the office)			
Supervisor Name:		Organization/ Designation	
Contact No:		email:	
STUDENT(S) INFORMATION			
S#	Student ID	Name	
1	11255	ABDULLAH JAWED	
Contact No:	03401243614	email:	Abdullahjawed900@gmail.com
Expertise	React js , node js , mongo db , React native, ASP. NET		
2	12359	Maham Farooq	
Contact No:	03343124974	email:	Manofarooq475@gmail.com
Expertise	Python, c# , react js , react native, MySQL		
3	12398	Manahil Leghari	
Contact No:	03337451687	email:	Legharimanahil@gmail.com
Expertise	c# , react js , Node js, SQL server, pyhton		
4	10974	Madyha Siddiqui	
Contact No:	03350257659	email:	Madyhasiddiqui12@gmail.com
Expertise	Python, c# , react js , react native, MySQL		
PROJECT AREA/TOOLS			
Tools Required:	React js, Node js , Version Control, JS testing tools		
Area/Specialization:	Front end development, User Interface ,		
SUMMARY OF PROPOSED PROJECT (MAXIMUM 400 WORDS)			

Problem Statement: -

Developers face challenges in creating customized, accessible, and high-performance user interfaces for web applications. This project addresses these issues by developing a React UI library that offers rich customization options, prioritizes accessibility and internationalization, and optimizes performance. The goal is to provide developers with a versatile toolset for building user-friendly and visually appealing web interfaces efficiently.

Project Description:

This project aims to develop a customizable React UI library with a rich feature set, including theming, accessibility, internationalization, and performance optimization. It empowers developers to easily create visually appealing, accessible, and efficient user interfaces for web applications while offering comprehensive documentation and user feedback mechanisms for ongoing improvements.

- **Customizable Components:** Provide a wide range of UI components such as buttons, modals, forms, and more, allowing developers to easily customize their appearance and behavior.
- **Theming System:** Implement a theming system that enables users to select predefined themes or create custom ones, ensuring seamless integration with various project designs.
- **Accessibility Focus:** Prioritize accessibility by ensuring all components are compliant with accessibility standards, support keyboard navigation, and include ARIA attributes for screen readers.
- **Internationalization (i18n):** Support multiple languages and locales, making it effortless for developers to internationalize their applications while maintaining UI consistency.
- **Advanced Customization:** Enable developers to inject custom CSS classes and JavaScript event handlers into components, providing granular control over component styling and functionality.
- **Performance Optimization:** Implement performance enhancements like code splitting and memoization to improve component rendering speed and reduce initial bundle size.
- **Interactive Documentation:** Create comprehensive documentation with interactive examples, tutorials, and guides, facilitating rapid adoption and effective utilization of library components.
- **Testing and Quality Assurance:** Conduct rigorous unit and integration testing to ensure component reliability and compatibility with various React frameworks and browsers.
- **Deployment and Distribution:** Optimize distribution with npm
- **Feedback Mechanism:** Establish channels for gathering user feedback to continually enhance the library based on real-world usage and developer suggestions.
- **Project Presentation and Documentation:** Deliver a well-documented project report and presentation that highlights the library's features, development process, and contributions to the React development community.

PURPOSE: -

The purpose of this project is to streamline web development by creating a versatile React UI library that simplifies UI customization and enhances user interface accessibility, catering to the diverse needs of developers. It aims to provide an efficient solution for building engaging web applications while fostering user feedback and continuous improvement.

SIMILAR APPLICATIONS (SIMILARITY/DISSIMILARITY)

S#	Name of App	Link (URL/Play Store)	Similar Features	New Features
1	Bootstrap	Bootstrap · The most popular HTML, CSS, and JS library in the world. (getbootstrap.com)	Provide a set of tools for creating web interfaces	Theming System
2	Martial UI	Material UI: React components based on Material Design (mui.com)	Provide a set of tools for creating web interfaces	Highly Customizable
3	Chakra UI	Chakra UI - A simple, modular and accessible component library that gives you the building blocks you need to build your React applications. - Chakra UI (chakra-ui.com)	Provide a set of tools for creating web interfaces	Highly Customizable and Theming System

FUNCTIONAL FEATURES (Must be in Bullet Form)

For FYP 1 (At Least 70% of FYP):

1. Develop the foundational structure of the React UI library.
2. Create a set of core customizable components, including buttons, modals, and forms.
3. Implement the theming system and provide predefined themes.
4. Ensure accessibility compliance for core components.
5. Set up an initial version of documentation with essential examples.
6. Conduct unit testing for core components.
7. Begin collecting user feedback from early adopters.

FYP Report at the time of FYP1 declaration (Soft Copy)

- Chapter 1: Introduction
- Chapter 2: Literature Review/Process Review
- Chapter 3: Analysis Diagrams

For FYP 2:

1. Expand the library with additional components like tooltips, accordions, etc.
2. Enhance theming capabilities to allow custom theme creation.
3. Prioritize accessibility by fine-tuning and validating components.
4. Focus on performance optimization with code splitting and memoization.
5. Improve documentation with interactive examples, tutorials, and guides.
6. Conduct integration testing with various React frameworks and browsers.
7. Establish a user feedback mechanism for continuous refinement.
8. Prepare a comprehensive project report and presentation for project submission.

FYP Report at the time of FYP2 declaration (Hard Copy)

- Complete FYP Report
- Panaflex (2x5 ft.)

Additional Features by Jury Members:

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For Proposal Defense Purpose

PROPOSED ADVISORY COMMITTEE		
S#	Faculty Name	Signature
1		
2		
3		
4		

FYP COMMITTEE			
S#	Member(s) Name	Designation	Signature
1	Usman Khan (FYP Head)	Asst. Professor	
2	Dr Salman Ahmed Khan / Dr Noman Islam (Head of the Department)	Professor	
3	Dr. Muhammad Khalid Khan (Associate Dean & Director CoCIS)	Professor	
		Date	00/00/0000