**Terna Engineering College**

**Computer Engineering Department**

Program: Sem VIII

**Course: Human Machine Interaction (HMI)**

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**LAB Manual**

**PART A**

(PART A : TO BE REFFERED BY STUDENTS)

**Experiment No.02**

|  |  |
| --- | --- |
| **A.1** | **Aim:** |
|  | Create Web based Mathematical application for kids of age of 4 to 7 years. |
|  |  |
| **A.2** | **Prerequisite:**   1. Knowledge of User Interface Designing. 2. Knowledge of Human Centered Design. |
|  |  |
| **A.3** | **Outcome:** |
|  | **After successful completion of this experiment students will be able to**   1. Ability to identify user’s characteristics and design user centric interfaces or human centered design. |
|  |  |
| **A.4** | **Theory:** |
|  | * **The world of interface design :**   The journey into the world of interface design and the screen design process must begin with an understanding of the system user, the most important part of any computer system. Understanding people and what they do is a difficult and often undervalued process but very critical because of the gap in knowledge, skills, and attitudes existing between system users and developers that build them.  To create a truly usable system, the designer must always do the following:   * Understand how people interact with computers. * Understand the human characteristics important in design. * Identify the user’s level of knowledge and experience. * Identify the characteristics of the user’s needs, tasks, and jobs. * Identify the user’s psychological characteristics. * Identify the user’s physical characteristics. * Employ recommended methods for gaining understanding of users. |
| **A.5** | **Procedure:**   1. Think of the user as it is the application for kids aging 4-7 years. 2. Their mindset, interest, what they feel interesting for learning, keeping in mind creates an application which will teach them about mathematics i.e.  * Reading numbers * Counting * addition and subtraction  1. **Example:** |

**PART B**

(PART B: TO BE COMPLETED BY STUDENTS)

***(Students must submit the soft copy as per following segments within two hours of the practical. The soft copy must be uploaded on the ERP or emailed to the concerned lab in charge faculties at the end of the practical in case the there is no ERP access available)***

|  |  |
| --- | --- |
| Roll No.: 62 | Name: Atharva Deshmukh |
| Class: BE A | Batch: Computer |
| Date of Experiment: | Date of Submission: |
| Grade: |  |

|  |  |
| --- | --- |
| **B.1** | **Tools used to develop application:** |
|  | **(**Write Name of the tools used to develop application)  Front End - HTML, CSS, Javascript, React JS, JSX  Back End - Firebase, |
| **B.2** | **Choice of User Interface Elements:**  (List of various UI elements used.)  Material-ui, Bootstrap, React-Bootstrap |
| **B.3** | **Sample Source code of application:** |
|  | (Add source code of Home page and source code of 2 to 3 other pages ) |
|  | [**https://github.com/AtharvaDev/quiz-app**](https://github.com/AtharvaDev/quiz-app) **- Full code**  Mainmenu.js  import React, { useContext } from "react";  import { QuizContext } from "../helpers/Contexts";  import "../App.css";  import { makeStyles } from "@material-ui/core/styles";  import Button from "@material-ui/core/Button";  import TextField from "@material-ui/core/TextField";  function MainMenu() {  const { gameState, setGameState, setName, name } = useContext(QuizContext);  return (  <div className="Menu">  <h2 className="Name">Enter your name: </h2>  <TextField  id="outlined-basic"  value={name}  onChange={event => setName(event.target.value)}  label="Name"  variant="outlined"  />  <span></span>  <Button  variant="outlined"  onClick={() => {  setGameState("quiz");  }}  >  Start Quiz  </Button>  </div>  );  }  export default MainMenu; |
| **B.4** | **User Interface Designs:**  **(**Add screen snapshots of developed application.)  [**https://quizapp-by-ad.web.app**](https://quizapp-by-ad.web.app) **- Live Project Link**  **projected hosted on firebase** |
|  |  |
| **B.5** | **Conclusion:**  **(**Write appropriate conclusion based on application designed.) |

**Learned new things while building a quiz bases app**

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