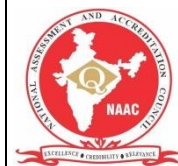# UI&UX LAB Manual - lab

Ui and ux Design (Anna University)

Scan to open on Studocu

UNITED INSTITUTE OF TECHNOLOGY

(Approved by AICTE, Affiliated to Anna University
Accredited by NAAC with A+ Grade and Certified by ISO 9001:2015)
Periyanaickenpalayam, Coimbatore – 641020
www.uit.ac.in

Department of Electronics and Communication Engineering

CCS370 – UI AND UX DESIGN LABORATORY

PRACTICAL RECORD

STUDENT NAME :

REGISTER NO :

SEMESTER :

YEAR :

UNITED INSTITUTE OF TECHNOLOGY

(Approved by AICTE, Affiliated to Anna University
Accredited by NAAC with A+ Grade and Certified by ISO 9001:2015)
Periyanaickenpalayam, Coimbatore – 641020
www.uit.ac.in

BONAFIDE CERTIFICATE

This is Certified that as a bonafide record of work done by …………………………………………………… of III year **B.E. ELECTRONICS AND COMMUNICATION ENGINEERING** in the **CCS370 – UI AND UX DESIGN LABORATORY** conducted in this institution, as prescribed by Anna University, Chennai, for the VI Semester, during the academic year 2023-2024.

Faculty In-charge   **Head of the Department**

University register No:…………………………………………………………...

Submitted for the university examination held on……………………………….

Internal Examiner   **External Examiner**

UNITED INSTITUTE OF TECHNOLOGY
(Approved by AICTE, Affiliated to Anna University
Accredited by NAAC with A+ Grade and Certified by ISO 9001:2015)
Periyanaickenpalayam, Coimbatore – 641020
www.uit.ac.in

COs & POs

PROGRAM OUTCOMES (COs)

At the end of this course, the students will be able to:
PROGRAM EDUCATIONAL OBJECTIVES
- CO1:Program Educational Objectives describe the career and professional accomplishments in five years after the graduation that the program is preparing graduates to achieve.
- CO2: Apply their technical competence in computer science to solve real world problems, with technical and people leadership
- CO3 : Conducting cutting edge research and develop solutions on problem of social relevance.PEO3: Work in a business environment, exhibiting team skills, work ethics, adaptability and life long learning.

PROGRAM OUTCOMES (POs)
Program Outcome describe the knowledge, skills and attitudes the students should acquires at the end of a four years of engineering program.

1. PO-1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. PO-2. Problem analysis: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. PO-3. Design/ development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety.

4. PO-4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5. PO-5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

6. PO-6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

7. PO-7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

8. PO-8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9. PO-9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. PO-10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11. PO-11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. PO-12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological chan

COs Vs POs/ PSOs

COs	POs												PSOs		
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO-1	PSO-2	PSO-3
CO-1	3	1	1	3	1	-	-	-	3	3	2	1	3	3	1
CO-2	2	3	1	3	2	-	-	-	1	2	2	2	1	2	2
CO-3	1	3	3	2	2	-	-	-	2	3	1	2	1	3	3
CO-4	1	2	3	3	1	-	-	-	3	2	1	3	3	3	3
CO-5	1	2	3	2	1	-	-	-	2	1	1	1	3	2	2

CCS370 - UI AND UX DESIGN LABORATORY

SYLLABUS

1. Designing a Responsive layout for an societal application

2. Exploring various UI Interaction Patterns

3. Developing an interface with proper UI Style Guides

4. Developing Wireflow diagram for application using open source software

5. Exploring various open source collaborative interface Platform

6. Hands on Design Thinking Process for a new product

7. Brainstorming feature for proposed product

8. Defining the Look and Feel of the new Project

9. Create a Sample Pattern Library for that product (Mood board, Fonts, Colors based on UI principles)

10. Identify a customer problem to solve

11. Conduct end-to-end user research - User research, creating personas, Ideation process (User stories, Scenarios), Flow diagrams, Flow Mapping

12. Sketch, design with popular tool and build a prototype and perform usability testing and identify improvements.

LIST OF EXPERIMENTS

Sl. No.	Date	Title	Page No.	Marks	Sign
1		Designing a Responsive layout for an societal application			
2		Exploring various UI Interaction Patterns			
3		Developing an interface with proper UI Style Guides			
4		Developing Wireflow diagram for application using open source software			
5		Exploring various open source collaborative interface Platform			
6		Hands on Design Thinking Process for a new product			
7		Brainstorming feature for proposed product			
8		Defining the Look and Feel of the new Project			
9		Create a Sample Pattern Library for that product (Mood board, Fonts, Colors based on UI principles)			
10		Identify a customer problem to solve			
11		Conduct end-to-end user research - User research, creating personas, Ideation process (User stories, Scenarios), Flow diagrams, Flow Mapping			
12		Sketch, design with popular tool and build a prototype and perform usability testing andidentify improvements			

EX. NO: 1	
DATE:	**Designing a Responsive layout for an societal application**

AIM

The aim of designing a responsive layout for a societal application in UI and UX design is to create a user-friendly, visually appealing platform that encourages engagement, inclusivity, and efficient communication, while ensuring accessibility, performance, and security.

PROCEDURE

Step – 1: Define goals and audience.

Step – 2: Research user preferences.

Step – 3: Create wireframes.

Step – 4: Choose design elements.

Step – 5: Apply responsive design principles.

Step – 6: Use a grid system.

Step – 7: Optimize typography and media.

Step – 8: Design intuitive navigation.

Step – 9: Develop using HTML/CSS/JS.

Step – 10: Test on various devices.

Step – 11: Collect user feedback.

Step – 12: Iterate and launch.

Step – 13: Continuously evaluate and update.

PROGRAM

HTML

<!DOCTYPE html>

<html lang="en">

<head>

```html
    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <link rel="stylesheet" href="styles.css">

    <title>Societal App</title>

</head>

<body>

    <header>

        <h1>Welcome to Societal App</h1>

    </header>

    <nav>

        <ul>

            <li><a href="#">Home</a></li>

            <li><a href="#">Posts</a></li>

            <li><a href="#">Profile</a></li>

        </ul>

    </nav>

    <main>

        <section>

            <h2>Latest Posts</h2>

            <article>

                <h3>Post Title 1</h3>

                <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit...</p>

            </article>

            <article>

                <h3>Post Title 2</h3>
```

```html
            <p>Proin eget ante sed ex hendrerit laoreet...</p>

        </article>

      </section>

    </main>

    <footer>

      <p>&copy; 2023 Societal App</p>

    </footer>

    <!-- Optional JavaScript inclusion -->

    <script src="script.js"></script>

</body>

</html>
```

CSS

```css
/* Reset some default browser styles */

body, h1, h2, h3, p, ul, li, a {

    margin: 0;

    padding: 0;

    list-style: none;

    text-decoration: none;

    color: #333;

}

body {

    font-family: Arial, sans-serif;

    background-color: #f0f0f0;

}

header {
```

```css
    background-color: #0078d4;

    color: white;

    text-align: center;

    padding: 20px;

}

nav {

    background-color: #333;

    color: white;

    text-align: center;

    padding: 10px;

}

nav ul {

    display: flex;

    justify-content: center;

}

nav li {

    margin: 0 20px;

}

nav a {

    color: white;

    font-weight: bold;

}

main {

    padding: 20px;

}
```

JAVASCRIPT

```javascript
// Get references to the navigation links

const homeLink = document.querySelector('nav ul li:nth-child(1) a');

const postsLink = document.querySelector('nav ul li:nth-child(2) a');

const profileLink = document.querySelector('nav ul li:nth-child(3) a');


// Get references to the main content area

const mainContent = document.querySelector('main');

// Define content for different "pages"

const homeContent = `

   <h2>Welcome to Societal App</h2>

   <p>This is the home page of our application.</p>

`;

const postsContent = `

   <h2>Latest Posts</h2>

   <article>

     <h3>Post Title 1</h3>

     <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit...</p>

   </article>

   <article>

     <h3>Post Title 2</h3>

     <p>Proin eget ante sed ex hendrerit laoreet...</p>

   </article>

`;

const profileContent = `
```

```
<h2>User Profile</h2>

<p>This is your user profile page.</p>

`;

// Add click event listeners to the navigation links

homeLink.addEventListener('click', () => {

    mainContent.innerHTML = homeContent;

});

postsLink.addEventListener('click', () => {

    mainContent.innerHTML = postsContent;

});

profileLink.addEventListener('click', () => {

    mainContent.innerHTML = profileContent;

});

// Initial content (home page)

mainContent.innerHTML = homeContent;
```
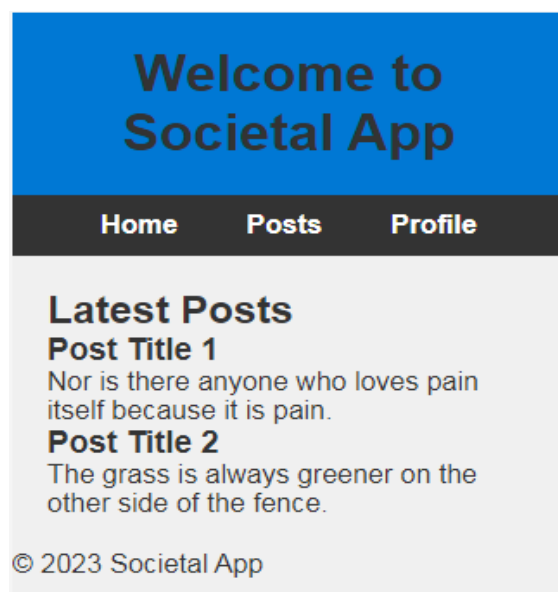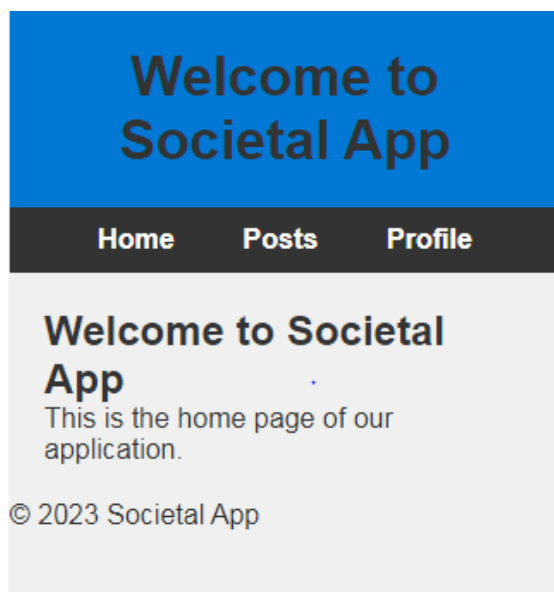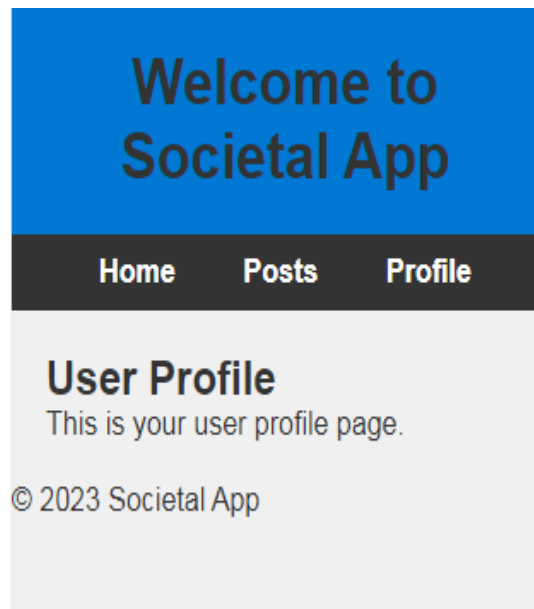
<u>OUTPUT</u>

RESULT

The code creates a basic responsive web page for a societal application with a header, navigation menu, main content area, and footer. Clicking on navigation links changes the content displayed in the main area, simulating page transitions. The page adapts to different screen sizes.

EX. NO: 2	**Exploring various UI Interaction Patterns**
DATE:	

AIM

The aim is to create an engaging and user-friendly interface by understanding and implementing various UI interaction patterns to enhance the user experience.

PROCEDURE

Step – 1: Research & Objectives: Understand users and set clear goals.

Step – 2: Explore Patterns: Research and select suitable UI interaction patterns.

Step – 3: Wireframing & Prototyping: Create wireframes and interactive prototypes.

Step – 4: Design Elements: Define visual elements like colors and typography.

Step – 5: Implementation: Develop using HTML, CSS, JavaScript, or other technologies.

Step – 6: User Testing: Gather user feedback and test the UI interactions.

Step – 7: Iteration: Make improvements based on user feedback for a more engaging user experience.

PROGRAM

HTML

```html
<!DOCTYPE html>

<html lang="en">

<head>

   <meta charset="UTF-8">

   <meta name="viewport" content="width=device-width, initial-scale=1.0">

   <link rel="stylesheet" href="styles.css">

   <title>Toggle Switch Example</title>

</head>

<body>
```

```html
    <label class="switch">

        <input type="checkbox" id="toggleSwitch">

        <span class="slider"></span>

    </label>

    <div id="content" class="off">

        <p>This content changes when the toggle switch is turned on.</p>

    </div>

    <script src="script.js"></script>

</body>

</html>
```

CSS

```css
/* Basic styles for the toggle switch */

.switch {

    position: relative;

    display: inline-block;

    width: 60px;

    height: 34px;

}

.switch input {

    opacity: 0;

    width: 0;

    height: 0;

}

.slider {

    position: absolute;
```

```css
    cursor: pointer;

    top: 0;

    left: 0;

    right: 0;

    bottom: 0;

    background-color: #ccc;

    -webkit-transition: .4s;

    transition: .4s;

}

.slider:before {

    position: absolute;

    content: "";

    height: 26px;

    width: 26px;

    left: 4px;

    bottom: 4px;

    background-color: white;

    -webkit-transition: .4s;

    transition: .4s;

}

input:checked + .slider {

    background-color: #2196F3;

}

input:focus + .slider {

    box-shadow: 0 0 1px #2196F3;
```

```css
}

input:checked + .slider:before {

   transform: translateX(26px);

}

/* Styles for the content area */

.off {

   display: none;

}

.on {

   display: block;

}
```

JAVASCRIPT

```javascript
const toggleSwitch = document.getElementById("toggleSwitch");

const content = document.getElementById("content");


toggleSwitch.addEventListener("change", function() {

   if (toggleSwitch.checked) {

      content.classList.remove("off");

      content.classList.add("on");

   } else {

      content.classList.remove("on");

      content.classList.add("off");

   }

});
```

This content changes when the toggle switch is
turned on.
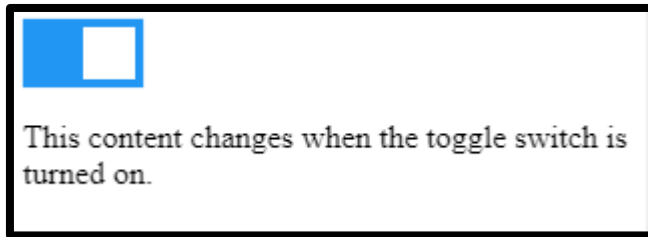
RESULT

The code creates a simple web page with a toggle switch. When the switch is turned on, the
background color of the content area changes, and the content becomes visible. It illustrates the
"Toggle Switch" UI interaction pattern, commonly used for enabling or disabling features.

EX. NO: 3	
DATE:	**Developing an interface with proper UI Style Guides**

AIM

The aim is to create a user interface with a consistent and visually appealing design by following established UI Style Guides. This enhances usability and the overall user experience.

PROCEDURE

Step – 1: Define Goals: Clearly outline project objectives.

Step – 2: Select Style Guide: Choose or create a UI Style Guide.

Step – 3: Understand Guide: Familiarize with its design principles.

Step – 4: User Research: Understand user needs and preferences.

Step – 5: Wireframing & Prototyping: Create visuals based on the guide.

Step – 6: Design Elements: Apply guide's design elements (colors, typography).

Step – 7: UI Components: Use recommended UI components and patterns.

Step – 8: Coding: Write HTML, CSS, and JavaScript following the guide.

Step – 9: User Testing: Test with users for feedback.

Step – 10: Feedback & Iteration: Improve based on feedback.

Step – 11: Documentation: Create a reference document for consistency.

PROGRAM

HTML

```
<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```html
    <link rel="stylesheet" href="styles.css">

    <title>Material Design Example</title>

</head>

<body>

  <header class="md-header">

    <h1 class="md-title">Welcome to Material Design</h1>

  </header>

  <main>

    <div class="md-card">

      <h2 class="md-card-title">Card Title</h2>

      <p class="md-card-content">This is a card with content following Material Design
principles.</p>

    </div>

  </main>

  <footer class="md-footer">

    <p>&copy; 2023 Material Design Example</p>

  </footer>

</body>

</html>
```

CSS

```css
/* Material Design styles */

.md-header {

   background-color: #2196F3;

   color: white;

   text-align: center;
```

```css
      padding: 20px;

}

.md-title {

    font-size: 24px;

}

.md-card {

    background-color: white;

    box-shadow: 0 2px 4px rgba(0, 0, 0, 0.2);

    border-radius: 4px;

    padding: 20px;

    margin: 20px;

}

.md-card-title {

    font-size: 18px;

    margin-bottom: 10px;

}

.md-card-content {

    font-size: 16px;

}

.md-footer {

    background-color: #666;

    color: white;

    text-align: center;

    padding: 10px;

}
```

JAVASCRIPT

```javascript
// Get a reference to the card element

const card = document.querySelector('.md-card');

// Add a click event listener to change the card's background color

card.addEventListener('click', () => {

    // Toggle background color between white and a light Material Design blue

    if (card.style.backgroundColor === 'white' || card.style.backgroundColor === '') {

        card.style.backgroundColor = '#E3F2FD';

    } else {

        card.style.backgroundColor = 'white';

    }

});
```
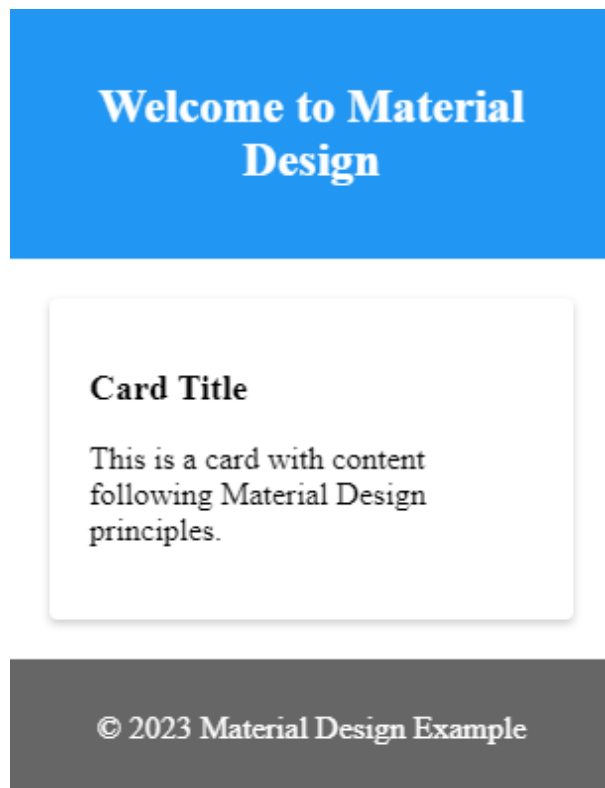
OUTPUT

Welcome to Material Design

Card Title

This is a card with content following Material Design principles.

© 2023 Material Design Example

<u>RESULT</u>

The result is a visually consistent web page following Material Design principles, with a clickable card that provides a simple interactive experience. This output can serve as a foundation for more complex web applications that adhere to Material Design or similar UI Style Guides, delivering a cohesive and user-friendly user interface.

EX. NO: 4	
DATE:	**Developing Wireflow diagram for application using open source software**

AIM

The aim of developing a wireflow diagram for an application using open-source software in UI/UX design is to visually represent the user flow and interface layout, enabling efficient planning, collaboration, and communication among project stakeholders. This process helps ensure a user-centric and well-structured application design while keeping design costs in check.

PROCEDURE

Step – 1: Define project scope and objectives.

Step – 2: Select open-source wireframing software.

Step – 3: Plan the user flow.

Step – 4: Create wireframes using the software.

Step – 5: Add interface elements.

Step – 6: Connect wireframes to show user flow.

Step – 7: Annotate and document the wireflow.

PROGRAM

HTML

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Wireflow Diagram</title>
    <style>
        body {
```

```css
        font-family: Arial, sans-serif;

        margin: 20px;

      }

      h1 {

        text-align: center;

      }

      ul {

        list-style: none;

        padding: 0;

      }

      li {

        margin: 10px 0;

      }

      a {

        text-decoration: none;

        color: #0074D9;

      }

      a:hover {

        text-decoration: underline;

      }

      .page {

        margin: 20px 0;

      }

    </style>

  </head>
```

```html
<body>
  <h1>Wireflow Diagram</h1>
  <ul>
    <li><a href="#page1">Page 1 - Home</a></li>
    <li><a href="#page2">Page 2 - About</a></li>
    <li><a href="#page3">Page 3 - Contact</a></li>
  </ul>
  <div class="page" id="page1">
    <h2>Page 1 - Home</h2>
    <p>This is the Home page wireframe content.</p>
    <a href="#page2">Go to About</a>
  </div>
  <div class="page" id="page2">
    <h2>Page 2 - About</h2>
    <p>This is the About page wireframe content.</p>
    <a href="#page3">Go to Contact</a>
  </div>
  <div class="page" id="page3">
    <h2>Page 3 - Contact</h2>
    <p>This is the Contact page wireframe content.</p>
    <a href="#page1">Go to Home</a>
  </div>
</body>
</html>
```

CSS

```css
/* Reset some default styles */

body, h1, h2, p {

    margin: 0;

    padding: 0;

}

body {

    font-family: Arial, sans-serif;

    margin: 20px;

    background-color: #F2F2F2;

}

h1 {

    text-align: center;

    color: #333;

    margin-top: 20px;

}

ul {

    list-style: none;

    padding: 0;

}

li {

    margin: 10px 0;

}

a {

    text-decoration: none;

    color: #0074D9;
```

```css
    transition: text-decoration 0.2s;

}

a:hover {

    text-decoration: underline;

}

.page {

    background-color: #FFF;

    border: 1px solid #DDD;

    padding: 20px;

    margin: 20px 0;

    box-shadow: 0 2px 4px rgba(0, 0, 0, 0.1);

    border-radius: 5px;

}

.page h2 {

    color: #0074D9;

}

.page p {

    color: #333;

}
```

JAVASCRIPT

```javascript
// JavaScript to highlight the active page link

document.addEventListener("DOMContentLoaded", function () {

    const pageLinks = document.querySelectorAll("ul li a");

    pageLinks.forEach((link) => {

        link.addEventListener("click", (event) => {
```

```
        pageLinks.forEach((l) => l.classList.remove("active"));

        event.target.classList.add("active");

      });

    });

  });
```
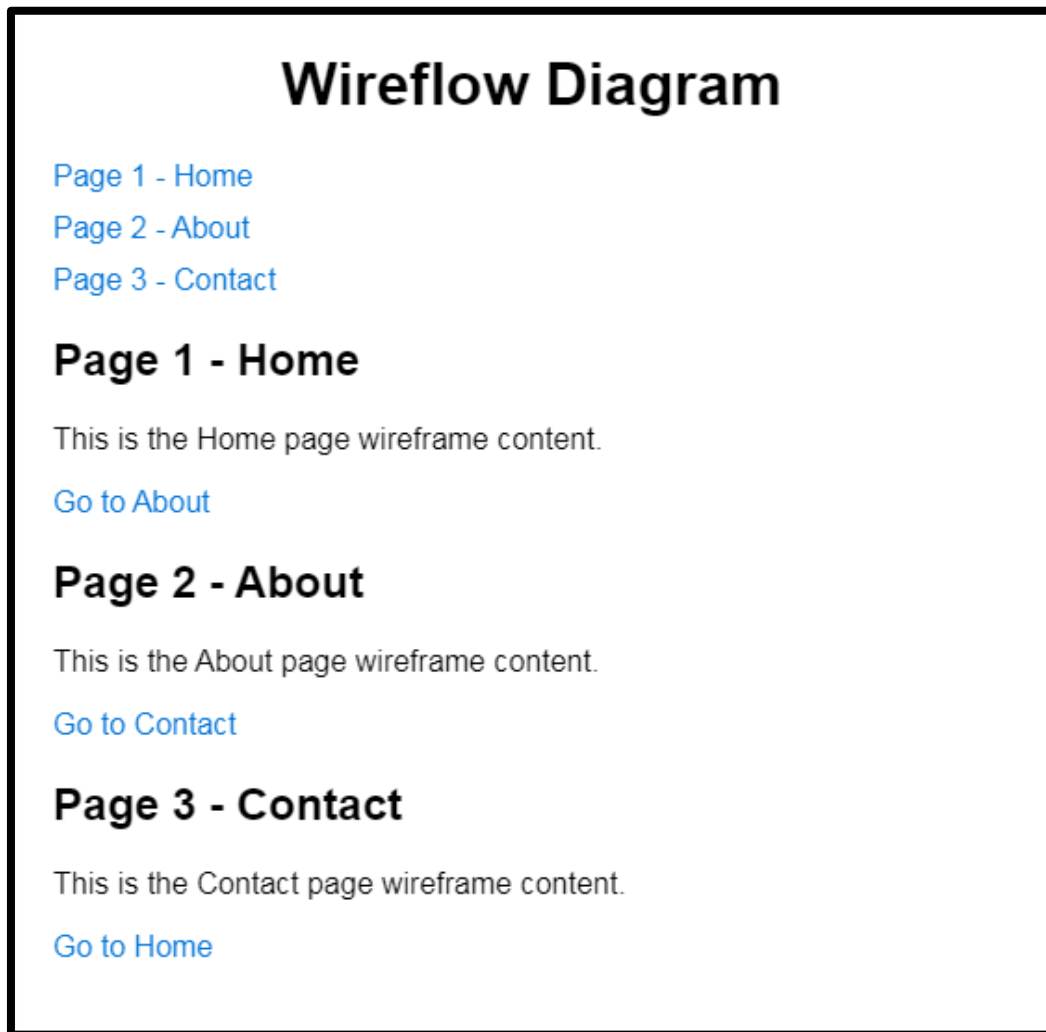
OUTPUT

Wireflow Diagram

Page 1 - Home
Page 2 - About
Page 3 - Contact

Page 1 - Home

This is the Home page wireframe content.

Go to About

Page 2 - About

This is the About page wireframe content.

Go to Contact

Page 3 - Contact

This is the Contact page wireframe content.

Go to Home

RESULT

A web page that displays a basic wireflow diagram with navigation links, wireframe content for different screens or pages, and optional interactivity if JavaScript is included. This wireflow serves as a visual representation of the application's user flow and basic interface design.

EX. NO: 5	**Exploring various open source collaborative interface Platform**
DATE:	

AIM

The aim is to identify and use open-source collaborative interface platforms to enhance teamwork, streamline design processes, and create user-friendly interfaces efficiently.

PROCEDURE

Step – 1: Define project objectives.

Step – 2: Research open-source tools.

Step – 3: Evaluate features.

Step – 4: Select the right platform.

Step – 5: Onboard team members.

Step – 6: Collaborate on design.

Step – 7: Conduct user testing and gather feedback.

PROGRAM

HTML

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Collaborative Design Platform</title>
</head>
<body>
  <h1>Explore Open-Source Collaborative UI/UX Design</h1>
  <!-- Embed Figma project -->
```

```html
    <div class="figma-embed">

        <!-- Replace 'YOUR_FIGMA_URL' with your Figma project URL -->

        <iframe
src="https://www.figma.com/embed?embed_host=share&url=YOUR_FIGMA_URL"
width="800" height="600" allowfullscreen></iframe>

    </div>

</body>

</html>
```

CSS

```css
/* Reset some default styles */

body, h1, iframe {

    margin: 0;

    padding: 0;

}

body {

    font-family: Arial, sans-serif;

    background-color: #f2f2f2;

    margin: 20px;

}

h1 {

    text-align: center;

    padding: 20px;

}

iframe {

    display: block;

    margin: 0 auto;
```

```css
    border: 1px solid #ccc;

    border-radius: 5px;

    box-shadow: 0 2px 4px rgba(0, 0, 0, 0.1);

}
```

JAVASCRIPT

```javascript
// Make the iframe responsive

const iframe = document.querySelector('iframe');

function resizeIframe() {

    iframe.style.height = iframe.contentWindow.document.body.scrollHeight + 'px';

}

iframe.onload = resizeIframe;

window.addEventListener('resize', resizeIframe);
```

OUTPUT

Explore Open-Source Collaborative UI/UX Design

Error: expected the url scheme to be 'https'

<u>RESULT</u>

Exploring public source Figma URLs and design resources allows you to access pre-designed templates, find design inspiration, speed up your own design process, learn from experienced designers, and engage with the design community.

EX. NO: 6	
DATE:	**Hands On Design Thinking Process For A New Product**

AIM

Create a user-friendly task management mobile app.

PROCEDURE

Step - 1: Understand user needs and problems.

Step - 2: Identify the problem and set goals.

Step - 3: Brainstorm solutions and features.

Step - 4: Create low-fidelity wireframes and an interactive prototype.

Step -5: Gather feedback on usability and design.

Step - 6: Write code for the app.

Step - 7: Ensure quality and compatibility.

Step - 8: Release the app to app stores.

Step - 9: Collect user feedback and measure success.

Step - 10: Make improvements based on feedback.

PROGRAM

HTML

```
<!DOCTYPE html>

<html>

<head>

  <title>Task Management App</title>

  <link rel="stylesheet" type="text/css" href="style.css">

</head>

<body>
```

```html
    <header>

        <h1>Task Manager</h1>

    </header>

    <main>

        <div id="task-list">

            <!-- Tasks will be dynamically added here -->

        </div>

        <button id="add-task">Add Task</button>

    </main>

    <script src="app.js"></script>

</body>

</html>
```

CSS

```css
body {

    font-family: Arial, sans-serif;

}

header {

    background-color: #007BFF;

    color: #fff;

    text-align: center;

    padding: 20px;

}

main {

    padding: 20px;

}
```

```css
#task-list {

    margin-top: 20px;

}

#add-task {

    background-color: #007BFF;

    color: #fff;

    border: none;

    padding: 10px 20px;

    cursor: pointer;

}
```

<u>JAVA SCRIPT</u>

```javascript
const taskList = document.getElementById('task-list');

const addTaskButton = document.getElementById('add-task');

addTaskButton.addEventListener('click', function () {

    const taskName = prompt('Enter a task:');

    if (taskName) {

        const taskItem = document.createElement('div');

        taskItem.textContent = taskName;

        taskList.appendChild(taskItem);

    }

});
```

<u>OUTPUT</u>

Task Manager

[Add Task]

<u>RESULT</u>

Thu the code creates a simple task list interface for adding and displaying tasks. It's a basic prototype, not a fully functional app.

EX. NO: 7	
DATE:	**Brainstroming For Proposed Product**

AIM

The aim is to create an intuitive, engaging, and accessible online event management platform that simplifies event organization, enhances the user experience for both event organizers and attendees, and potentially increases revenue for event organizers.

PROCEDURE

Step - 1: User registration and authentication.

Step - 2: Event creation and storage.

Step - 3: Ticketing and registration system.

Step - 4: Event discovery and recommendation.

Step - 5: Detailed event pages.

Step - 6: Feedback collection and ratings.

Step - 7: Event notifications.

Step - 8: Secure payment processing.

Step - 9: Social media integration.

Step - 10: Real-time chat feature.

Step - 11: Analytics and reporting for event organizers**.**

Step - 12: Ensure accessibility and inclusivity.

PROGRAM

HTML

<!DOCTYPE html>

<html>

<head>

   <title>Event Management Platform</title>

```html
    <link rel="stylesheet" type="text/css" href="style.css">

</head>

<body>

  <header>

    <h1>Welcome to the Event Management Platform</h1>

  </header>

  <main>

    <section id="event-list">

      <h2>Upcoming Events</h2>

      <!-- Display a list of upcoming events here -->

      <ul>

        <li>

          <h3>Event 1</h3>

          <p>Date: [Event Date]</p>

          <p>Location: [Event Location]</p>

          <button>Register</button>

        </li>

        <!-- Repeat for other events -->

      </ul>

    </section>

    <section id="registration-form">

      <h2>Event Registration</h2>

      <form>

        <label for="name">Full Name:</label>

        <input type="text" id="name" name="name" required>
```

```html
            <label for="email">Email:</label>

            <input type="email" id="email" name="email" required>

            <label for="event">Select Event:</label>

            <select id="event" name="event" required>

                <option value="event1">Event 1</option>

                <!-- Add options for other events -->

            </select>

            <button type="submit">Register</button>

        </form>

    </section>

  </main>

  <footer>

    <p>&copy; 2023 Event Management Platform</p>

  </footer>

</body>

</html>
```

CSS

```css
/* Reset some default browser styles */

body, h1, h2, p, ul, li, form, button, label, input, select {

    margin: 0;

    padding: 0;

}

body {

    font-family: Arial, sans-serif;

    background-color: #f0f0f0;
```

```css
        margin: 0;

        padding: 0;

    }

    header {

        background-color: #007BFF;

        color: #fff;

        text-align: center;

        padding: 20px;

    }

    main {

        padding: 20px;

    }

    section {

        background-color: #fff;

        padding: 20px;

        margin-bottom: 20px;

        box-shadow: 0 0 5px rgba(0, 0, 0, 0.2);

    }

    h1, h2 {

        color: #007BFF;

    }

    ul {

        list-style: none;

    }

    li {
```

```css
    margin: 10px 0;

}

button {

    background-color: #007BFF;

    color: #fff;

    border: none;

    padding: 10px 20px;

    cursor: pointer;

}

form {

    max-width: 300px;

    margin: 0 auto;

}

label, input, select {

    display: block;

    margin-bottom: 10px;

}

/* Additional styling can be added to customize your design further */
```

JAVASCRIPT

```javascript
// Example front-end JavaScript for event management platform

// Simulated data for events (replace with actual data from the server)

const events = [

    { name: 'Event 1', date: '2023-01-15', location: 'Location A' },

    { name: 'Event 2', date: '2023-02-20', location: 'Location B' },

    // Add more events here
```

```javascript
];
// Function to display events
function displayEvents() {
    const eventList = document.getElementById('event-list');
    events.forEach(event => {
        const eventItem = document.createElement('li');
        eventItem.innerHTML = `
            <h3>${event.name}</h3>
            <p>Date: ${event.date}</p>
            <p>Location: ${event.location}</p>
            <button onclick="registerForEvent('${event.name}')">Register</button>
        `;
        eventList.appendChild(eventItem);
    });
}
// Function to register for an event
function registerForEvent(eventName) {
    // Replace with code to handle event registration
    alert(`Registered for ${eventName}!`);
}
// Load events when the page loads
window.addEventListener('load', displayEvents);
```

Welcome to the Event Management Platform

Upcoming Events

- **Event 1**

  Date: [Event Date]

  Location: [Event Location]

  [Register]

Event Registration

Full Name: [_____]   Email: [_____] Select

Event: [Event 1 ▾] [Register]

© 2023 Event Management Platform

Thus the program to create an intuitive, engaging, and accessible online event management platform that simplifies event organization, enhances the user experience for both event organizers and attendees, and potentially increases revenue for event organizers is successfully executed.

EX. NO: 8	
DATE:	**Defining The Look And Feel Of The New Project**

AIM

The aim for defining the look and feel of a new project in UI and UX design is to create a visually engaging and aesthetically pleasing user interface that enhances user experience, aligns with the project's goals, and resonates with the target audience.

PROCEDURE

Step - 1: Project Analysis: Understand goals and user needs.

Step - 2: User Persona: Create user profiles.

Step - 3: Competitor Analysis: Research competitors.

Step - 4: Wireframing and Mockups: Sketch design concepts.

Step - 5: Color and Typography: Select visuals.

Step - 6: Visual Elements: Decide icons and images.

Step - 7: Interactive Elements: Plan user interactions.

Step - 8: Accessibility: Ensure inclusivity.

Step - 9: User Testing: Collect feedback.

Step - 10: Iteration: Refine design based on feedback.

Step - 11: Style Guide: Document design choices.

Step - 12: Handoff: Share with development team.

PROGRAM

HTML

<!DOCTYPE html>

<html>

<head>

   <title>UI/UX Design Style Guide</title>

```html
    <link rel="stylesheet" type="text/css" href="style.css">
</head>
<body>
    <header>
        <h1>Design Style Guide</h1>
    </header>
    <main>
        <section id="colors">
            <h2>Colors</h2>
            <div class="color-box" id="primary"></div>
            <div class="color-box" id="secondary"></div>
        </section>
        <section id="typography">
            <h2>Typography</h2>
            <p class="font-heading">Heading Font</p>
            <p class="font-body">Body Font</p>
        </section>
    </main>
    <script src="script.js"></script>
</body>
</html>
```

CSS

```css
body {
    font-family: Arial, sans-serif;
}
```

```css
header {

    background-color: #007BFF;

    color: #fff;

    text-align: center;

    padding: 20px;

}

main {

    padding: 20px;

}

h2 {

    color: #007BFF;

}

.color-box {

    width: 100px;

    height: 100px;

    margin: 10px;

    display: inline-block;

}

#primary {

    background-color: #007BFF;

}

#secondary {

    background-color: #FF6C00;

}

.font-heading {
```

```css
    font-family: 'Arial', sans-serif;

    font-weight: bold;

    font-size: 24px;

}

.font-body {

    font-family: 'Arial', sans-serif;

    font-size: 16px;

}
```

<u>JAVASCRIPT</u>

```javascript
// JavaScript for interaction (optional)

// Change the background color of the primary color box on click

document.getElementById("primary").addEventListener("click", function () {

    this.style.backgroundColor = "#FF0000";

});

// Change the background color of the secondary color box on double-click

document.getElementById("secondary").addEventListener("dblclick", function () {

    this.style.backgroundColor = "#00FF00";

});
```

<u>OUTPUT</u>

Design Style Guide

Colors

Typography

Heading Font

Body Font

<u>RESULT</u>

Thus the result is a webpage with a design style guide showing color and typography elements.
JavaScript allows you to interactively change the colors of the color boxes.

EX. NO: 9 DATE:	**Create a Sample Pattern Library for that product (Mood board, Fonts, Colors based on UI principles)**

AIM

The aim of this sample pattern library is to provide a comprehensive and organized resource for UI and UX design, fostering consistency, creativity, and user-centricity throughout the product development process.

PROCEDURE

Step – 1: Initiate the Design Process

Step – 2: Mood Board Creation

Step – 3: Font Selection

Step – 4: Color Palette Definition

Step – 5: UI Principles

Step – 6: Documentation and Collaboration

Step – 7: Iterative Design Process

Step – 8: Implementation in Design Process

Step – 9: Testing and Feedback Loop

Step – 10: Finalization

PROGRAM

HTML

<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1.0">

  <title>Sample Design System</title>

```html
<style>
  body {
    font-family: 'Arial', sans-serif;
    line-height: 1.6;
    margin: 0;
    padding: 0;
  }
  header {
    background-color: #333;
    color: #fff;
    padding: 1rem;
    text-align: center;
  }
  section {
    margin: 2rem;
  }
  h2 {
    color: #333;
  }
  p {
    color: #555;
  }
  .color-swatch {
    width: 50px;
    height: 50px;
```

```html
            margin: 0 10px 10px 0;

            display: inline-block;

            border: 1px solid #ccc;

        }

    </style>

</head>

<body>

    <header>

        <h1>Sample Design System</h1>

    </header>

    <section>

        <h2>Mood Board</h2>

        <p>Collect inspiration from various sources and present it in a visually appealing way.</p>

        <!-- Insert mood board images here -->

    </section>

    <section>

        <h2>Fonts</h2>

        <p>Choose primary and secondary fonts, define sizes and weights, and document in a style
guide.</p>

        <!-- Insert typography style guide here -->

    </section>

    <section>

        <h2>Colors</h2>

        <p>Identify brand colors, establish relationships, and ensure accessibility. Document in a
palette.</p>

        <div class="color-swatch" style="background-color: #3498db;"></div>
```

```html
        <div class="color-swatch" style="background-color: #2ecc71;"></div>

        <div class="color-swatch" style="background-color: #e74c3c;"></div>

        <!-- Add more color swatches -->

    </section>

    <section>

        <h2>UI Principles</h2>

        <p>Identify user needs, prioritize simplicity and consistency. Document key principles.</p>

        <!-- Insert UI principles documentation here -->

    </section>

    <!-- Add more sections for additional components of your design system -->

</body>

</html>
```

<u>CSS</u>

```css
body {

    font-family: 'Arial', sans-serif;

    line-height: 1.6;

    margin: 0;

    padding: 0;

}

header {

    background-color: #333;

    color: #fff;

    padding: 1rem;

    text-align: center;

}
```

```css
section {

  margin: 2rem;

}

h2 {

  color: #333;

}

p {

  color: #555;

}

.color-swatch  {

  width:  50px;

  height: 50px;

  margin: 0 10px 10px 0;

  display: inline-block;

  border: 1px solid #ccc;

}
```

JAVASCRIPT

```html
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1.0">

  <title>Sample Design System</title>

  <style>

    /* Your existing CSS goes here */
```

```html
        </style>

</head>

<body>

    <header>

        <h1>Sample Design System</h1>

    </header>

    <button onclick="toggleSection('moodBoard')">Toggle Mood Board</button>

    <button onclick="toggleSection('fonts')">Toggle Fonts</button>

    <button onclick="toggleSection('colors')">Toggle Colors</button>

    <button onclick="toggleSection('uiPrinciples')">Toggle UI Principles</button>

    <section id="moodBoard">

        <!-- Mood Board content goes here -->

    </section>

    <section id="fonts">

        <!-- Fonts content goes here -->

    </section>

    <section id="colors">

        <!-- Colors content goes here -->

    </section>

    <section id="uiPrinciples">

        <!-- UI Principles content goes here -->

    </section>

    <script>

        function toggleSection(sectionId) {

            var section = document.getElementById(sectionId);
```

```
        section.style.display = (section.style.display === 'none' || section.style.display === '') ?
'block' : 'none';

    }

  </script>

</body>

</html>
```

<u>OUTPUT</u>

Sample Design System

Mood Board

Collect inspiration from various sources and present it in a visually
appealing way.

Fonts

Choose primary and secondary fonts, define sizes and weights,
and document in a style guide.

Colors

Colors

Identify brand colors, establish relationships, and ensure accessibility. Document in a palette.

UI Principles

Identify user needs, prioritize simplicity and consistency. Document key principles.

RESULT

The sample pattern library results in Consistency, Efficiency, User Experience, Collaboration, Brand Identity, Best Practices.

EX. NO: 10	
DATE:	**Identify a customer problem to solve**

AIM

The primary aim is to enhance user engagement and reduce bounce rates on product pages through a comprehensive UI/UX redesign. This involves addressing identified pain points, optimizing performance, and implementing design improvements to create a more compelling and user-friendly experience. The goal is to positively impact user satisfaction, increase conversion rates, and contribute to the overall success of the digital product.

PROCEDURE

Step – 1: User Research

Step – 2: Identify Common Issues

Step – 3: Competitor Analysis

Step – 4: Prioritize Issues

Step – 5: Optimize Page Load Times

Step – 6: Simplify Layout

Step – 7: Enhance Visual Hierarchy

Step – 8: Mobile Responsiveness

Step – 9: A/B Testing

Step – 10: Iterative Improvement

PROGRAM

HTML

<!DOCTYPE html>

<html lang="en">

<head>

   <meta charset="UTF-8">

   <meta name="viewport" content="width=device-width, initial-scale=1.0">

```html
    <link rel="stylesheet" href="styles.css">

    <script defer src="script.js"></script>

    <title>Your Product Page</title>

</head>

<body>

    <header>

        <h1>Product Name</h1>

    </header>

    <main class="product-container">

        <section class="product-details">

            <img data-src="https://picsum.photos/800/600" alt="Product Image">

            <h2>Product Description</h2>

            <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed do eiusmod tempor
incididunt ut labore et dolore magna aliqua.</p>

            <button>Add to Cart</button>

        </section>

        <section class="related-products">

            <h2>Related Products</h2>

            <!-- Add related product links or images here -->

        </section>

    </main>

    <footer>

        <p>&copy; 2023 Your Company Name. All rights reserved.</p>

    </footer>

</body>
```

```
</html>
```

CSS

```css
body {

    font-family: 'Arial', sans-serif;

    line-height: 1.6;

    background-color: #f8f8f8;

    color: #333;

    margin: 0;

}

header, footer {

    background-color: #4CAF50;

    color: #fff;

    text-align: center;

    padding: 1em;

}

.product-container {

    max-width: 800px;

    margin: 0 auto;

    background-color: #fff;

    padding: 1em;

    box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);

}

.product-details img {

    width: 100%;

    height: auto;
```

```css
}

.product-details button {

    background-color: #4CAF50;

    color: #fff;

    padding: 10px;

    border: none;

    cursor: pointer;

}

.product-details button:hover {

    background-color: #45a049;

}

.related-products {

    margin-top: 2em;

}

footer {

    position: fixed;

    bottom: 0;

    width: 100%;

}
```

JAVASCRIPT

```javascript
document.addEventListener("DOMContentLoaded", function() {

    const images = document.querySelectorAll("img[data-src]");

    const lazyLoad = target => {

        const io = new IntersectionObserver((entries, observer) => {

            entries.forEach(entry => {
```

```javascript
        if (entry.isIntersecting) {

          const img = entry.target;

          img.src = img.dataset.src;

          observer.disconnect();

        }

      });

    });

    io.observe(target);

  };

  images.forEach(lazyLoad);

});
```

<u>OUTPUT</u>

Product Description

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

Add to Cart

© 2023 Your Company Name. All rights reserved.

RESULT

The implementation of the redesigned product page with a focus on addressing high bounce rates yields positive outcomes Reduced Bounce Rates, Increased Engagement, Improved Conversion Rates, Positive User Feedback, Enhanced Brand Perception, and Data-Driven Decision-Making.

EX. NO: 11	**Conduct end-to-end user research - User research, creating personas,**
DATE:	**Ideation process (User stories, Scenarios), Flow diagrams, Flow Mapping**

AIM

The aim is to create a seamless and enjoyable user experience by combining user insights, persona-driven design, ideation, and a clear visualization of user flows throughout the design and development process.

PROCEDURE

Step – 1: User Research

Step – 2: Creating Personas

Step – 3: Ideation Process (User Stories, Scenarios)

Step – 4: Flow Diagrams

Step – 5: Flow Mapping

Step – 6: Result

PROGRAM

PYTHON

```
# Import necessary libraries

import pandas as pd

# Step 1: Define Objectives and Develop Research Tools

research_objectives = ["Understand user preferences", "Identify pain points"]

survey_questions = [

    "What features do you find most useful?",

    "What challenges do you face with the current product?",

]

# Step 4: Conduct Research

def conduct_survey(objectives, questions):
```

```python
    print("Conducting survey...")

    survey_responses = {}

    for objective in objectives:

        print(f"\nObjective: {objective}")

        responses = {}

        for question in questions:

            response = input(f"{question} ")

            responses[question] = response

        survey_responses[objective] = responses

    return survey_responses

# Step 5: Analyze Data

def analyze_data(survey_responses):

    print("\nAnalyzing survey data...")

    df = pd.DataFrame(survey_responses)

    print(df)

# Step 6: Create Personas

def create_personas():

    # Implementation of persona creation would depend on data analysis and business rules

    print("Creating personas...")

# Step 3: Ideation Process

def generate_user_stories():

    print("Generating user stories...")

    # Your implementation for generating user stories goes here

# Step 4: Flow Diagrams

def map_high_level_flows():
```

```python
    print("Mapping high-level user flows...")

    # Your implementation for creating flow diagrams goes here

# Step 5: Flow Mapping

def create_detailed_flow_maps():

    print("Creating detailed flow maps...")

    # Your implementation for creating detailed flow maps goes here

# Step 6: Result

def visualize_results():

    print("Visualizing results...")

    # Your implementation for visualizing results goes here

# Main execution

survey_responses = conduct_survey(research_objectives, survey_questions)

analyze_data(survey_responses)

create_personas()

generate_user_stories()

map_high_level_flows()

create_detailed_flow_maps()

visualize_results()
```

OUTPUT

```
Conducting survey...

Objective: Understand user preferences
What features do you find most useful? Easy navigation
What challenges do you face with the current product? Slow loading times

Objective: Identify pain points
What features do you find most useful? Search functionality
What challenges do you face with the current product? Confusing layout

Analyzing survey data...
  Understand user preferences   Identify pain points
0                Easy navigation  Search functionality
1            Slow loading times       Confusing layout

Creating personas...
Generating user stories...
Mapping high-level user flows...
Creating detailed flow maps...
Visualizing results...
```

RESULT

It is a well-informed, user-centered design that aligns with both user expectations and business goals. The end product is more likely to be embraced by users, leading to increased user satisfaction and the potential for business success. The iterative nature of the process also positions the design for continuous improvement based on evolving user needs and market dynamics.

<table>
<tr><td>EX. NO: 12
DATE:</td><td>Sketch, design with popular tool and build a prototype and perform usability testing and identify improvements</td></tr>
</table>

AIM

Create an optimal user experience (UX) by refining and validating design choices through sketching, high-fidelity designs, and prototypes. Conduct usability testing to identify and implement improvements, ensuring stakeholder alignment and preparing for efficient development. Deliver a user-validated design that exceeds user expectations.

PROCEDURE

Step – 1: Sketching

Step – 2: Design with Popular Tools

Step – 3: Build a Prototype

Step – 4: Usability Testing

Step – 5: Identify Improvements

Step – 6: Iterative Design

Step – 7: Stakeholder Alignment

Step – 8: Prepare for Development

Step – 9: Deliver User-Validated Design

PROGRAM

HTML, CSS AND JAVASCRIPT

<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1.0">

  <title>UX Design Process</title>

```
<style>
 body {
   font-family: 'Arial', sans-serif;

   margin: 0;

   padding: 0;

   background-color: #f0f0f0;

   display: flex;

   justify-content: center;

   align-items: center;

   height: 100vh;

 }
#app {

  background-color: #fff;

  border-radius: 8px;

  padding: 20px;

  box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);

  text-align: center;

}
h1 {

  color: #333;

}
button {

  background-color: #3498db;

  color: #fff;

  padding: 10px 20px;
```

```html
      font-size: 16px;

      border: none;

      border-radius: 4px;

      cursor: pointer;

    }

    button:hover {

      background-color: #2980b9;

    }

  </style>

</head>

<body>

  <div id="app">

    <h1>Welcome to Your Product</h1>

    <button onclick="simulateButtonClick()">Click Me</button>

  </div>

  <script>

    function simulateButtonClick() {

      alert('Button Clicked!');

    }

  </script>

</body>

</html>
```
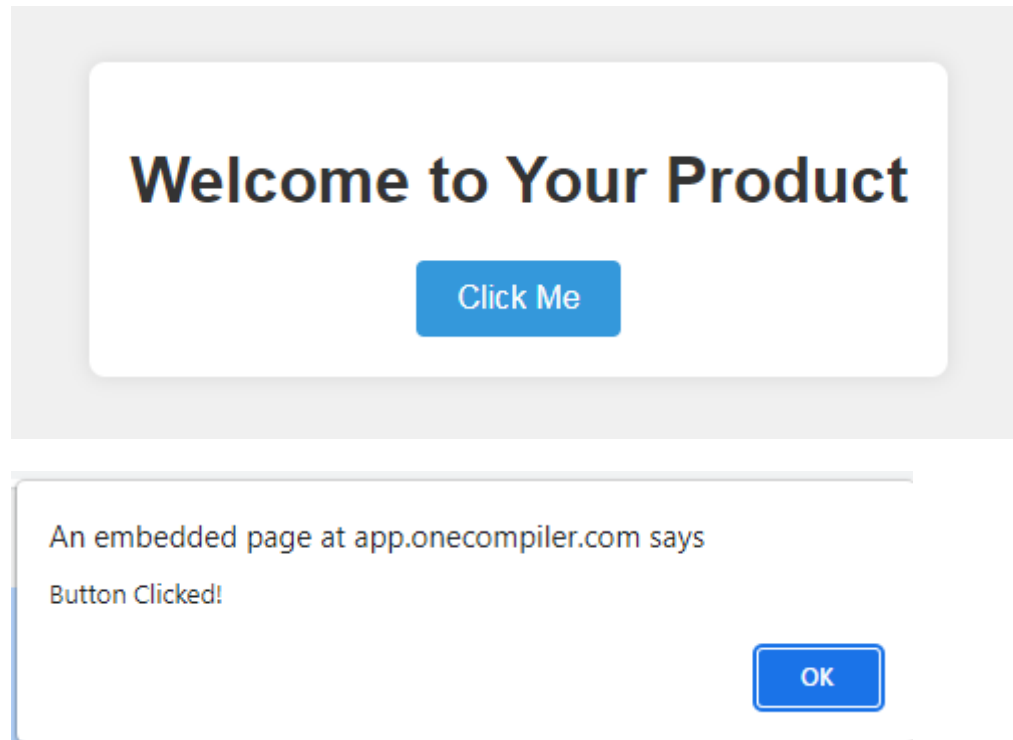
OUTPUT

RESULT

It is a well-informed, refined, and user-validated UI/UX design, poised for successful implementation. The integration of user feedback and iterative design ensures that the final product aligns closely with user needs and expectations, ultimately contributing to a positive user experience and the success of the project.