



BHARATIYA VIDYA BHAVAN'S
SARDAR PATEL INSTITUTE OF TECHNOLOGY
Munshi nagar, Andheri (W) ,Mumbai - 400058
DEPARTMENT OF MASTER OF COMPUTER APPLICATION

CLASS: F.Y. MCA SEM: II

COURSE CODE: MC509 SUBJECT NAME: MOBILE PROGRAMMING LAB

ROLL NO./UCID : 2023510032

BATCH: B

NAME: Durgesh Dilip Mandge

EXPERIMENT NO: 02

EXPERIMENT TITLE: To Create MCA mobile app

Tools Required: Ionic, VSCode

Files which are used for the application (.html, .scss, .ts etc) :

.tsx

.scss

Home.tsx, Home.scss

FacultyDisplay.tsx , FacultyDisplay.scss

GoalsVision.tsx , GoalsVision.scss

UpcomingEvents.tsx , UpcomingEvents.scss

FeedBack.tsx , FeedBack.scss

Code: <>

FacultyDisplay.tsx:

```
import React from 'react';
import { IonContent, IonHeader, IonPage, IonTitle, IonToolbar,
IonList, IonItem, IonLabel, IonAvatar, IonCard, IonCardHeader,
IonCardTitle, IonCardSubtitle, IonCardContent } from '@ionic/react';
import "../style/Faculty.scss";
import Card from '../utilites/Card';
import AccordionWithImage from '../utilites/Accordion';

// Interface to define the shape of faculty member data
export interface FacultyMember {
  id: number;
  name: string;
  position: string;
  department: string;
  imageUrl: string;
  content: string;
  web: string;
}

const FacultyDisplay: React.FC = () => {
  // Sample faculty data
  const faculty: FacultyMember[] = [
    { id: 1, name: 'Kalbande', position: 'Professor', department:
'Computer Science', imageUrl:
'https://cse.spit.ac.in/assets/faculty/dr-dhananjay-kalbande.jpg',
content: "Research work Title : Skin Image Analysis Software to
recognize skin diseases:- A clinical study to recognize skin diseases
at the early stage.Principal Investigator and Guide: Dr.Uday
Khopkar,Professor & Head, Dept.of Dermatology,Seth G.S.Medical College
and KEM Hospital.Co-Investigators : Dr.Dhananjay Kalbande,Dr.Mithali
```

JageResults of the Investigation are approved from Institutional Ethics Committee (IEC Committee) ,Seth G.S.Medical College & KEM Hospital.Status : Completed"

,web:"https://cse.spit.ac.in/#/faculty/dr-dhananjay-kalbande"},
 { id: 4, name: 'Pooja Raundale', position: 'Professor',
department: 'MCA', imageUrl:
'https://mca.spit.ac.in/wp-content/uploads/2022/12/PR-e1670491866552.jpg', content: "Education PH.D. (Comp. Sci. & Tech) SNDT Women's University M.SC. (Computer Sci.)-UDCS North Maharashtra University B.Sc.(Comp Sci) North Maharashtra University" ,
web:"https://mca.spit.ac.in/index.php/pooja-raundale/"},
 { id: 2, name: 'Pallavi Thakur', position: 'Professor',
department: 'MCA', imageUrl:
'https://mca.spit.ac.in/wp-content/uploads/2022/12/PT-150x150.png',
content:"Education M.E. IT B.E. IT Roles and Responsibilities Time Table Co-ordinator SWC Co-ordinator Miniproject Co-ordinator Feedback Co-ordinator",
web:"https://mca.spit.ac.in/index.php/pallavi-thakur/"},
 { id: 3, name: 'Harshil Kanakia', position: 'Assistant Professor',
department: 'MCA', imageUrl:
'https://mca.spit.ac.in/wp-content/uploads/2022/12/HK.png', content:
"Education Executive PG in Data Science (IIIT Bangalore) M. E. Comps (SPIT) B. E. Comps (SPIT)" ,
web:"https://mca.spit.ac.in/index.php/prof-harshil-kanakia/"},
 { id: 3, name: 'Nikhita Mangaonkar', position: 'Assistant Professor', department: 'MCA', imageUrl:
'https://mca.spit.ac.in/wp-content/uploads/2022/12/NM.jpg', content:
"Education M.C.A B.C.A" , web:
"https://mca.spit.ac.in/index.php/nikhita-mangaonkar/"},
 { id: 3, name: 'Aarti Karande', position: 'Professor', department:
'MCA', imageUrl:
'https://mca.spit.ac.in/wp-content/uploads/2022/12/aarti.png',

```

content: "Education Ph.D (Computer engineering from S.P.I.T.)
M.Tech (Computer Engineering from VJTI)      B.E. (Computer Engineering
from SAKEC)", web:"https://mca.spit.ac.in/index.php/aarti-karande/" },
  ];

  return (
    faculty.map(fac=>
      <AccordionWithImage title={fac.name} content={fac.content}
imageSrc={fac.imageUrl} position={fac.position}
department={fac.department} web={fac.web}/>
    )
  );
};

export default FacultyDisplay;

```

Feedback.tsx:

```

import React, { useState } from 'react';
import { IonItem, IonLabel, IonInput, IonTextarea, IonButton,
IonAlert, IonRange } from '@ionic/react';
import '../style/FeedBack.scss'

const FeedbackForm: React.FC = () => {
  const [name, setName] = useState<string>('');
  const [email, setEmail] = useState<string>('');
  const [feedback, setFeedback] = useState<string>('');
  const [suggestion, setSuggestion] = useState<string>('');
  const [rating, setRating] = useState<number>(0);
  const [showAlert, setShowAlert] = useState<boolean>(false);
  const [formValid, setFormValid] = useState<boolean>(false);

```

```
const handleFormSubmit = (e: React.FormEvent<HTMLFormElement>) => {
  e.preventDefault();
  // Basic email format validation
  if (!validateEmail(email)) {
    alert("Please enter a valid email address.");
    return;
  }

  // You can implement your logic to handle the form submission here
  console.log('Name:', name);
  console.log('Email:', email);
  console.log('Feedback:', feedback);
  console.log('Suggestion:', suggestion);
  console.log('Rating:', rating);
  // Reset the form fields after submission
  setName('');
  setEmail('');
  setFeedback('');
  setSuggestion('');
  setRating(0);
  setShowAlert(true);
};

// Function to validate email format
const validateEmail = (email: string): boolean => {
  // Simple regex for email validation
  const regex = /\S+@\S+\.\S+/;
  return regex.test(email);
};

// Function to check if all required fields are filled
const checkFormValidity = () => {
```

```

    return name.trim() !== '' && email.trim() !== '' &&
feedback.trim() !== '';

};

// Function to handle changes in form fields
const handleInputChange = (e: any) => {
    const { name, value } = e.target;
    if (name === 'name') setName(value);
    if (name === 'email') setEmail(value);
    if (name === 'feedback') setFeedback(value);
    if (name === 'suggestion') setSuggestion(value);

    setFormValid(checkFormValidity());
};

// Function to handle rating change
const handleRatingChange = (e: any) => {
    setRating(parseInt(e.target.value, 10));
};

return (
    <div className="feedback-form">
        <form onSubmit={handleFormSubmit}>
            <IonItem>
                <IonLabel position="floating">Name</IonLabel>
                <IonInput
                    type="text"
                    name="name"
                    value={name}
                    onChange={handleInputChange}
                    required
                />
            </IonItem>
        </form>
    </div>
);

```

```
</IonItem>
<IonItem>
  <IonLabel position="floating">Email</IonLabel>
  <IonInput
    type="email"
    name="email"
    value={email}
    onIonChange={handleInputChange}
    required
  />
</IonItem>
<IonItem>
  <IonLabel position="floating">Feedback</IonLabel>
  <IonTextarea
    name="feedback"
    value={feedback}
    onIonChange={handleInputChange}
    required
  />
</IonItem>
<IonItem>
  <IonLabel>Rating: {rating}</IonLabel>
  <IonRange
    min={0}
    max={5}
    step={1}
    snaps={true}
    value={rating}
    onIonChange={handleRatingChange}
  />
</IonItem>
<IonItem>
```

```

      <IonLabel position="floating">Suggestion</IonLabel>
      <IonTextarea
        name="suggestion"
        value={suggestion}
        onIonChange={handleInputChange}
      />
    </IonItem>
    <IonButton type="submit" expand="block"
disabled={!formValid}>Submit Feedback</IonButton>
  </form>
  <IonAlert
    isOpen={showAlert}
    onDidDismiss={() => setShowAlert(false)}
    header={'Feedback Submitted'}
    message={'Thank you for your feedback!'}
    buttons={['OK']}
  />
</div>
);
};

export default FeedbackForm;

```

Goals.tsx

```

import React from 'react';
import '../style/GoalsVision.scss'
import GoalsAccordion from '../utilites/GoalsAccordion';

const GoalsAndVision: React.FC = () => {
  return (
    <div className="goals-vision">

```



```

    <h1 className='centre'>Goals and Vision</h1>
    <GoalsAccordion/>
  </div>
);
};

export default GoalsAndVision;

```

Home.tsx

```

import '../style/Home.scss';
import React from 'react';
import { IonContent, IonFooter, IonHeader, IonTitle, IonToolbar }
from '@ionic/react';
import HorizontallyScrollableComponent from '../utilites/Scroller';

function Home() {
  return (
    <>
      <IonHeader translucent={true}>
        <IonToolbar>
          <IonTitle className='Title'>Sardar Patel Institute of
Technology</IonTitle>
        </IonToolbar>
      </IonHeader>
      <IonContent fullscreen={true} className='centre'>
        <IonHeader collapse="condense">
          <IonToolbar>
            <IonTitle size="large">S.P.I.T.</IonTitle>
          </IonToolbar>
        </IonHeader>

```

```

<div className="ion-padding">

    <h2 className='h2Style'>Learn to excel</h2>
    

    <div className='divStyle'>
        <h2 className='h2Style'>Our College's Vision:</h2>
        <p className='pStyle'>At <strong>S.P.I.T</strong>, our
vision is to foster a dynamic learning environment that empowers
students to become global leaders, critical thinkers, and
compassionate contributors to society.</p>
    </div>

    <HorizontallyScrollableComponent/>

    <h2 className='h2Style'>College Campus</h2>
    
    <h4 className='h2Style'>Main Building</h4>

    {/* ----- Horizontally Scrollabe-----
*/}

```

```

<div className="horizontally-scrollable">
  <div className="scroll-container">
    <div className='inline'>
      
      <h2 className='h2Style'>Class Rooms</h2>
    </div>
    <div className='inline'>
      
      <h2 className='h2Style'>Conference</h2>
    </div>
    <div className='inline'>
      
      <h2 className='h2Style'>Computer Labs</h2>

```

```

        </div>
      </div>
    </div>
  </div>

  { /* ----- End Horizontally
Scrollable----- */}

  </IonContent>
</>
);
}
export default Home;

```

UpcomingEvents.tsx

```

// UpcomingEvents.tsx
import { image } from "ionicons/icons";
import "../style/UpcomingEvent.scss"
import React from 'react';

const UpcomingEvent: React.FC = () => {
  // Dummy data for upcoming events
  const upcomingEvents = [
    { id: 1, title: 'Carnival', date: '2024-02-10', location: 'IIT
Bombay', imgSrc:
'https://firebasestorage.googleapis.com/v0/b/oculus-2023.appspot.com/o
/events%2Fposters%2Fcarnival_Card.png?alt=media&token=49e974db-3303-43
73-b151-196ca6239490',
link:"https://oculus.spit.ac.in/events/carnival" },
    { id: 2, title: 'IPL Auction', date: '2024-02-15', location:
'Bhavan\'s Campus', imgSrc:

```

```

'https://firebasestorage.googleapis.com/v0/b/oculus-2023.appspot.com/o
/events%2Fposters%2FIpl_Card.png?alt=media&token=7d4a2e7d-d829-4c6e-9c
96-64aa07f08d52', link:"https://oculus.spit.ac.in/events/ipl" },
    { id: 3, title: 'Sargam', date: '2024-02-20', location: 'Bhavan\'s
Campus', imgSrc:
'https://firebasestorage.googleapis.com/v0/b/oculus-2023.appspot.com/o
/events%2Fposters%2FOculus_Sargam%20Card.png?alt=media&token=21e571f4-
d7b3-4c4d-bfc1-539eac97ac7c' ,
link:"https://oculus.spit.ac.in/events/sargam"},
  ];

  return (
    <div className="upcoming-events">
      <h2 className="title">Upcoming Events</h2>
      {upcomingEvents.map(event => (
        <div className="event" key={event.id}>
          <div className="event-info">
            <div>
              <a href={event.link} className="linkStyle"
target="_self"><h3 className="event-title">{event.title}</h3></a>
              <p className="event-date">Date: {event.date}</p>
              <p className="event-location">Location:
{event.location}</p>
            </div>
            <img className="event-image" src={event.imgSrc}
alt="event" />
          </div>
        </div>
      ) )}
    </div>
  );
};

```

```
export default UpcomingEvent;
```

Accordion.tsx

```
// AccordionWithImage.tsx
```

```
import React, { useState } from 'react';
import { IonCard, IonCardContent, IonCardHeader, IonCardTitle,
IonContent, IonImg, IonText } from '@ionic/react';
import '../style/Accordion.scss'

interface AccordionProps {
  title: string;
  content: string;
  imageSrc: string;
  position: string;
  department: string;
  web: string;
}

const AccordionWithImage: React.FC<AccordionProps> = ({ title,
content, imageSrc, position, department, web }) => {
  const [isExpanded, setIsExpanded] = useState(false);

  const toggleAccordion = () => {
    setIsExpanded(!isExpanded);
  };

  return (
    <IonCard className={`accordion-card ${isExpanded ? 'expanded' :
    ''}`}>
```

```

<IonCardHeader onClick={toggleAccordion}>
  <div className="accordion-icon">
    <div className="centre">
      <IonCardTitle >{position} {title}</IonCardTitle>
      <p><strong>Position:</strong> {position}</p>
      <p><strong>Department:</strong> {department}</p>
    </div>
    <img className='circular-image' src={imageSrc} />
  </div>
</IonCardHeader>
{isExpanded && (
  <>
    <IonCardContent >
      <div className="content">
        <IonText >{content}</IonText><br />
      </div>
      <div className="centre">
        <a className='aStyle' href={web} target="_self"
rel="noopener noreferrer">Visit Profile</a>
      </div>
    </IonCardContent>
  </>
)}
</IonCard>
);
};

export default AccordionWithImage;

```

Card.tsx:

```

import React from 'react';
import { IonCard, IonCardContent, IonCardHeader, IonCardSubtitle,
IonCardTitle } from '@ionic/react';
import { FacultyMember } from '../components/FacultyDisplay';

function Card(faculty:FacultyMember) {
  return (
    <IonCard>
      <img alt="Silhouette of mountains" src={faculty.imageUrl} />
      <IonCardHeader>
        <IonCardTitle>{faculty.name}</IonCardTitle>
        <IonCardSubtitle>{faculty.position}</IonCardSubtitle>
      </IonCardHeader>

      <IonCardContent>Here's a small text description for the card
content. Nothing more, nothing less.</IonCardContent>
    </IonCard>
  );
}
export default Card;

```

GoalsVision.tsx

```

import React, { useRef } from 'react';
import { IonAccordion, IonAccordionGroup, IonItem, IonLabel } from
 '@ionic/react';
import '../style/GoalsAccordion.scss';

const GoalsAccordion: React.FC = () => {
  const accordionGroup = useRef<null |
HTMLIonAccordionGroupElement>(null);

  const toggleAccordion = () => {

```



```

    if (!accordionGroup.current) {
        return;
    }
    const nativeEl = accordionGroup.current;

    if (nativeEl.value === 'second') {
        nativeEl.value = undefined;
    } else {
        nativeEl.value = 'second';
    }
};

return (
    <>
        <IonAccordionGroup ref={accordionGroup}>
            <IonAccordion value="first" className='padding'>
                <IonItem slot="header" color="light">
                    <IonLabel className='centre1'>Our Goals</IonLabel>
                </IonItem>
                <div className="ion-padding" slot="content">
                    Provide high quality education in engineering and
                    technology promoting the Indian Values and Ethos that will prepare
                    the participants to lead lives of personal integrity and
                    civic responsibility in a global society.
                </div>
            </IonAccordion>
            <IonAccordion value="second" className='padding'>
                <IonItem slot="header" color="light">
                    <IonLabel className='centre1'>Our Vision</IonLabel>
                </IonItem>
                <div className="ion-padding" slot="content">
                    Keeping in view the growing and changing needs of Industry

```

and society, we at S.P.I.T. are committed to creating an environment which will raise the intellectual and moral standards of our students. Our endeavor is to strive for the overall development of students, thereby enabling them to accept challenges.

```
    </div>
  </IonAccordion>
  <IonAccordion value="third" className='padding'>
    <IonItem slot="header" color="light">
      <IonLabel className='centre1'>Inspiration</IonLabel>
    </IonItem>
    <div className="ion-padding" slot="content">
      Every day, we embark on a journey together—one filled with
challenges, triumphs, and endless opportunities. It's a
      journey that requires courage, resilience, and unwavering
determination. But in the face of adversity, we stand tall,
      united by a common purpose: to inspire, to empower, and to
ignite the flame of knowledge within each and every
      individual.
    </div>
  </IonAccordion>
</IonAccordionGroup>
</>
);
}

export default GoalsAccordion;
```

Scroller.tsx

```
import '../style/Scroller.scss'; // Import the SCSS file for styling
import React from 'react';
```

```

const HorizontallyScrollableComponent = () => {
  return (
    <div className="horizontally-scrollable">
      <h2 className='h2Style'>Highlights</h2>
      <div className="scroll-container">
        <div className='inline'>
          
          <h3 className='h2Style centre'>Achievements</h3>
        </div>
        <div className='inline'>
          
          <h3 className='h2Style centre'>Certificates</h3>
        </div>
        <div className='inline'>
          
          <h3 className='h2Style centre'>Competetion</h3>
        </div>
        <div className='inline'>
          
          <h3 className='h2Style centre'>Group Day</h3>
        </div>
        <div className='inline'>
          
    <h3 className='h2Style  centre'>Medals</h3>
  </div>
  <div className='inline'>
    
    <h3 className='h2Style  centre'>Culture Activities</h3>
  </div>
</div>
</div>
);
};

export default HorizontallyScrollableComponent;

```

Screenshot of the app made.

Sardar Patel Institute of Technology

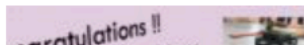
Learn to excel



Our College's Vision:

At **S.P.I.T**, our vision is to foster a dynamic learning environment that empowers students to become global leaders, critical thinkers, and compassionate contributors to society.

Highlights



Home



Faculties



Goals and Vision



Upcoming Events



FeedBack Form

Sardar Patel Institute of Technology



Main Building



Class Rooms



Conference



Home



Faculties



Goals and Vision



Upcoming Events



FeedBack Form

Sardar Patel Institute of Technology

Highlights



Achievements

Certificates

Co

College Campus



Home



Faculties



Goals and Vision



Upcoming Events



FeedBack Form

Faculties

Professor Kalbande

Position: Professor

Department: Computer Science



Professor Pooja Raundale

Position: Professor

Department: MCA



Professor Pallavi Thakur

Position: Professor



Home



Faculties



Goals and Vision



Upcoming Events



FeedBack Form

Faculties

Professor Pallavi Thakur

Position: Professor

Department: MCA



Education M.E. IT B.E. IT Roles and Responsibilities Time Table Co-ordinator
SWC Co-ordinator Miniproject Co-ordinator Feedback Co-ordinator

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Assistant Professor Harshil Kanakia

Position: Assistant Professor

Department: MCA



Home



Faculties



Goals and Vision



Upcoming Events



FeedBack Form

Goals and Vision

Our Goals



Provide high quality education in engineering and technology promoting the Indian Values and Ethos that will prepare the participants to lead lives of personal integrity and civic responsibility in a global society.

Our Vision



Inspiration



Home



Faculties



Goals and Vision



Upcoming Events



FeedBack Form

Upcoming Events

Upcoming Events

Carnival

Date: 2024-02-10

Location: IIT Bombay



IPL Auction

Date: 2024-02-15

Location: Bhavan's Campus



Sargam

Date: 2024-02-20

Location: Bhavan's Campus



Home



Faculties



Goals and Vision



Upcoming Events



FeedBack Form

FeedBack Form

Name

Email

Feedback

Rating: 0

Suggestion

SUBMIT FEEDBACK



Home



Faculties



Goals and Vision



Upcoming Events



FeedBack Form

FeedBack Form

Name

Email

Feedback

Rating: 0

Suggestion

Feedback Submitted

Thank you for your feedback!

OK

SUBMIT FEEDBACK



Home



Faculties



Goals and Vision



Upcoming Events



FeedBack Form

Answers to the questions specified in respective lab on Moodle:

1. How to add webview to tab for viewing any website?

Ionic apps typically use Angular for building components. We can utilize Ionic's `<ion-tabs>` and `<ion-tab>` components along with Angular to achieve this.

Create an Ionic tabs layout using `<ion-tabs>` and `<ion-tab>` components. Inside each `<ion-tab>`, embed an `<ion-content>` component. Within `<ion-content>`, use Angular's **HttpClient** to fetch website content and display it using `<ion-content [innerHTML]="websiteContent"></ion-content>`. Here, `websiteContent` is a variable in your component holding the HTML content of the website.

@include: Used to include a mixin into a selector, applying the styles defined within the mixin. **@extend:** Allows a selector to inherit styles from another selector. It's similar to inheritance in object-oriented programming. **@import:** Imports the content of another stylesheet into the current stylesheet.

2. How to add notification events?

For notifications in Ionic, we can use the **Ionic Native Push Notification plugin**.

- Install the plugin using Ionic CLI: **ionic cordova plugin add @ionic-native/push.**
- Implement the necessary code in the Ionic component to handle push notifications.
- Register the app with a push notification service provider (e.g., Firebase Cloud Messaging).
- Use Ionic Native's Push module to receive and handle push notifications.

3. How to add fab button and give click function to it.

Ionic provides a Floating Action Button (FAB) component (`<ion-fab-button>`) that you can use for this purpose. Here's how: Add an **`<ion-fab-button>`** component to your template HTML. Use Angular's event binding to handle the click event: **`<ion-fab-button (click)="handleClick()">`**. Implement the `handleClick()` function in your component to define the desired functionality.

4. How to add material Design.

Ionic uses its own UI components and styling by default, but you can achieve a Material Design look by customizing the theme or using Ionic's Material Design components. Customize the theme to resemble Material Design using Sass variables. Alternatively, Ionic provides Material Design components like **`<ion-fab-button>`**, **`<ion-tab-bar>`**, etc., that you can use directly.

5. Name the material design component you have used.

Some of the Material Design components provided by Ionic include:

`<ion-fab-button>` (Floating Action Button)

`<ion-tab-bar>` (Tab Bar)

`<ion-tabs>` and `<ion-tab>` (Tabs)