

## LAB SESSION 13

### Splash Screen & Navigation

#### Objective

The objective of this lab session is to familiarize yourself with key concepts in Flutter mobile application development: Splash Screen, Navigator.push, and Navigator.pop. By the end of this lab, you will understand how to implement a splash screen for an initial loading experience and utilize Navigator.push to navigate between screens, along with using Navigator.pop to return to the previous screen.

#### Introduction:

In Flutter applications, a **splash screen** is the initial screen that appears when the app is launched. It serves as an introductory screen that typically displays the app logo, branding, or a loading indicator while the app initializes its resources or performs necessary tasks. The Navigator.push method is used to navigate from one screen to another within the app, pushing a new screen onto the navigation stack. Conversely, Navigator.pop is used to remove the current screen from the stack and return to the previous screen. A screen or activity in flutter is a class which can either be defined in the same file or added in a different dart file.

```
import 'package:flutter/material.dart';
import 'dart:async';
void main() {
  runApp(const MyApp());
}

class MyApp extends StatelessWidget {
  const MyApp({super.key});
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'flutter demo',
      debugShowCheckedModeBanner: false,
      theme: ThemeData(
        primarySwatch: Colors.lightGreen,
      ),
      home: const MyHomePage(),
    );
  }
}

class MyHomePage extends StatefulWidget {
  const MyHomePage({Key? key}):super(key:key);
  @override
  State<MyHomePage> createState() =>
    _MyHomePageState();
}

class _MyHomePageState extends
  State<MyHomePage>
{
  @override
  Widget build(BuildContext context) {
```

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```
    return SplashScreen();
```



```

    }

}

class SplashScreen extends StatefulWidget {
  State<SplashScreen> createState()=>_SplashScreenState();
}

class _SplashScreenState extends State<SplashScreen>{

  void initState()
  {

    Timer(Duration(seconds:5),()

    {

Navigator.pushReplacement(context,MaterialPageRoute(builder: (context)=>LoginPage(),)); }

    );
    super.initState();

  }

Widget build(BuildContext context) {
  return Scaffold(
    body:Container(

      color: Colors.blue,
      child:Center(child:Text('Savyour',style:TextStyle(fontWeight:FontWeight.bold,color:
Colors.white,fontSize: 34))
    )
  )

  );

}

}

class LoginPage extends StatelessWidget
{
  var emailText=TextEditingController();
  var passText=TextEditingController();
  @override
  Widget build(BuildContext context) {

    return Scaffold(

```

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```

    body: Center(

      child: Container(
        // color:Colors.lightBlue,
        width :300,
        child: Column(
          mainAxisAlignment: MainAxisAlignment.center,
          children: [
            TextField(

```

```

controller: emailText,
  keyboardType: TextInputType.phone,
  //enabled: false,
  decoration: InputDecoration(
    focusedBorder: OutlineInputBorder(
      borderRadius: BorderRadius.circular(21),
      borderSide: BorderSide(color: Colors.cyan,width: 3)
    ),
    enabledBorder: OutlineInputBorder(
      borderRadius: BorderRadius.circular(21),
      borderSide: BorderSide(color: Colors.green,width: 3)
    ),
    disabledBorder: OutlineInputBorder(
      borderRadius: BorderRadius.circular(21),
      borderSide: BorderSide(color: Colors.yellow,width: 3)
    ),
    border: OutlineInputBorder(
      borderRadius:
        BorderRadius.circular(21)
    ),
    // suffixText: "user name",
    hintText: 'enter email here...',
    suffixIcon: IconButton(

```



```

      icon:Icon(Icons.mail,color:Colors.blue),
      onPressed: (){

    },

  ),

  // prefixIcon:Icon(Icons.phone,color: Colors.blue),
),),
Container(height:50),
TextField(

```

```

obscureText: true,
obscuringCharacter: '*',
controller: passText,
decoration: InputDecoration(
  hintText: 'enter password here...',
  border: OutlineInputBorder(

```

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```

    borderRadius: BorderRadius.circular(21)
  ),
  suffixIcon: IconButton(
    icon: Icon(Icons.remove_red_eye, color: Colors.blue),
    onPressed: () {

    },

  ),

),
),
Container(height: 50),
ElevatedButton(

  onPressed: () {
    String uEmail = emailText.text.toString();
    String uPass = passText.text.toString();
    print("name: $uEmail password: $uPass");
  }, child: Text('Login'))
],
)))

);

}

}

```

Passing the values from one activity to another requires the updation of class constructor

```

import 'package:flutter/material.dart';
import 'dart:async';
//import IntroPage.dart;

void main() {
  runApp(const MyApp());
}

class MyApp extends StatelessWidget {
  const MyApp({super.key});
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'flutter demo',
      debugShowCheckedModeBanner: false,
      theme: ThemeData(
        //primarySwatch: Colors.lightGreen,
      ),
      home: const MyHomePage(),
    );
  }
}

```

```

class MyHomePage extends StatefulWidget {
  const MyHomePage({ Key?key}):super(key:key);
  @override
  State<MyHomePage> createState() => _MyHomePageState();
}
class _MyHomePageState extends State<MyHomePage>
{
  @override
  Widget build(BuildContext context) {

    return SplashScreen();

  }
}

class SplashScreen extends StatefulWidget {
  State <SplashScreen> createState()=>_SplashScreenState();
}

class _SplashScreenState extends State<SplashScreen>{

void initState()
{

  Timer(Duration(seconds:5),()

  {

Navigator.pushReplacement(context,MaterialPageRoute(builder: (context)=>LoginPage(),)); }

);
  super.initState();

}

Widget
build(BuildContext
context) {
  return Scaffold(
    body:Container(

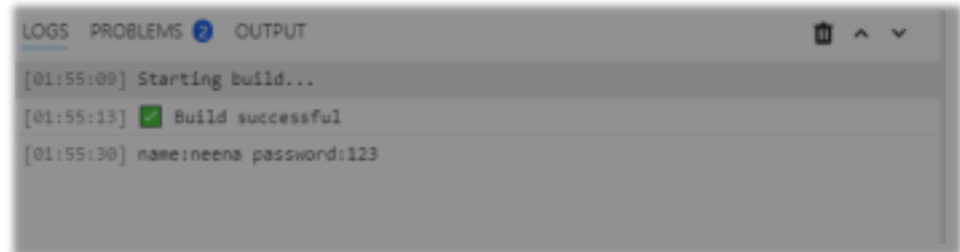
      color: Colors.blue,
      child:Center(child:Text('Sav your',style:TextStyle(fontWeight:FontWeight.bold,color:
Colors.white,fontSize: 34))
    )
  )

);

}

}

```



hello neena

[back](#)

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```
// prefixIcon:Icon(Icons.phone,color: Colors.blue),
),),
Container(height:50),
TextField(
  obscureText: true,
  obscuringCharacter: '*',
  controller: passText,
```

```

        decoration: InputDecoration(
          hintText: 'enter password here...',
          border: OutlineInputBorder(
            borderRadius: BorderRadius.circular(21)
          ),
          suffixIcon: IconButton(
            icon: Icons.remove_red_eye, color: Colors.blue,
            onPressed: () {

            },

          ),

        ),
      ),
    ),
    Container(height: 50),
    ElevatedButton(

      onPressed: () {
        String uEmail = emailText.text.toString();
        String uPass = passText.text.toString();
        print("name: $uEmail password: $uPass");
        Navigator.push(context,
          MaterialPageRoute(builder: (context) => ProfilePage(uEmail),

        )

      );

    }, child: Text('Login'))
  ],
)))
);
}
}

```

```

class ProfilePage extends StatelessWidget
{

```

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```

    var fromhome ;
    ProfilePage(this.fromhome);

```

```

Widget build(BuildContext context) {

  return Scaffold(
    // appBar: AppBar(title: Text('Profile')),
    backgroundColor: Colors.blue,
    body: Center(child: Container(
      height: 200,
      width: 200,

      child: Center(child: Column(

```

```

        children: [
          Center(child:Text("hello $fromhome",style:TextStyle(fontWeight:FontWeight.bold,fontSize: 32,color:
Colors.white))),
          SizedBox(height: 20,),
          ElevatedButton(
            child:Text('back'),
            onPressed: (){
              Navigator.pop(context);
            },
          )
        ],
      ),
    ),
  ),
);
}}

```

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## Exercise

### 1. Basic Splash Screen and Navigation:

Create a Flutter application with a splash screen that transitions to a main screen with navigation to a detail screen.

#### Implement Splash Screen:

Display a splash screen for 3 seconds.

Navigate automatically to the main screen after the splash screen duration.

#### Main Screen (HomeScreen):

Include a button labeled "Go to Detail Screen".

Implement navigation using Navigator.push to navigate to the detail screen (DetailScreen).

#### Detail Screen (DetailScreen):

Display a detailed content view.

Include a button labeled "Go back to Home Screen".

Implement navigation using Navigator.pop to return to the main screen (HomeScreen).

Code

```

//Musadiuqe Hussain SE-21031
//Muhammad Asim SE-21045
import 'package:flutter/material.dart';

void main() {
  runApp(MyApp());
}

class MyApp extends StatelessWidget {

```



```

@override
Widget build(BuildContext context) {
  return MaterialApp(
    debugShowCheckedModeBanner: false,
    title: 'Splash Navigation App',
    theme: ThemeData(
      primarySwatch: Colors.blue,
    ),
    home: SplashScreen(),
  );
}

class SplashScreen extends StatefulWidget {
  @override
  _SplashScreenState createState() => _SplashScreenState();
}

class _SplashScreenState extends State<SplashScreen> {
  @override
  void initState() {
    super.initState();
    Future.delayed(Duration(seconds: 3), () {
      Navigator.pushReplacement(
        context,
        MaterialPageRoute(builder: (context) => HomeScreen()),
      );
    });
  }

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      body: Center(
        child: Text(
          'Splash Screen',
          style: TextStyle(fontSize: 24, fontWeight: FontWeight.bold),
        ),
      ),
    );
  }
}

class HomeScreen extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(

```

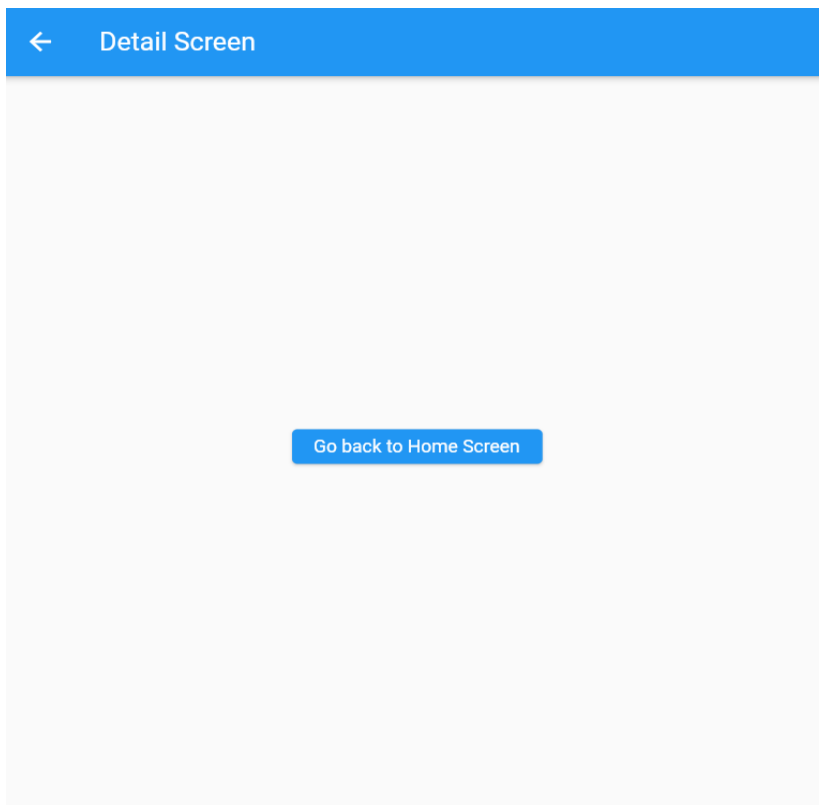
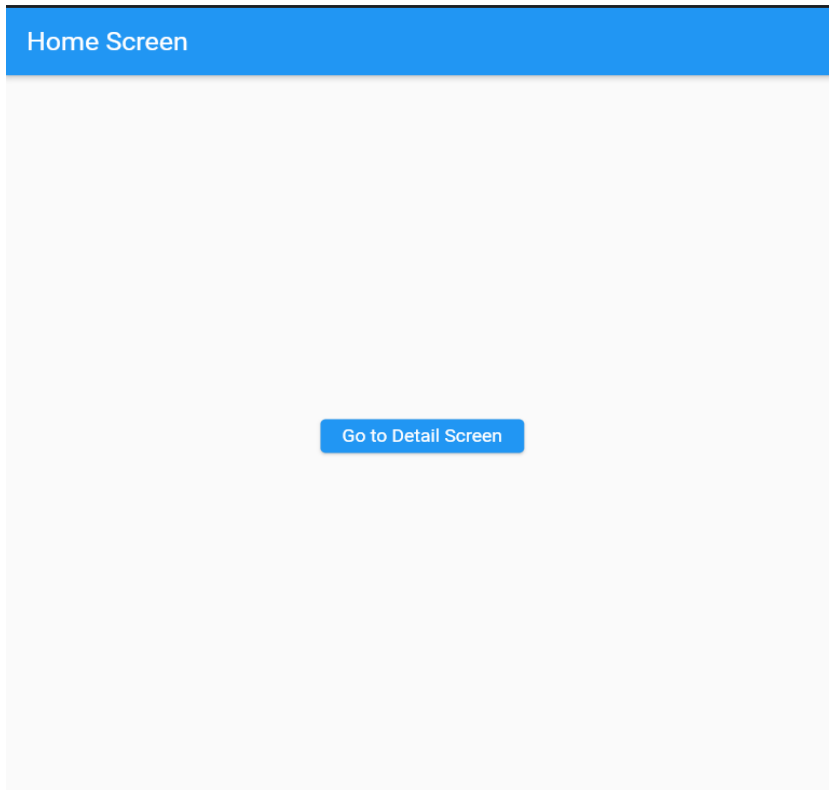
```

        title: Text('Home Screen'),
    ),
    body: Center(
        child: ElevatedButton(
            onPressed: () {
                Navigator.push(
                    context,
                    MaterialPageRoute(builder: (context) => DetailScreen()),
                );
            },
            child: Text('Go to Detail Screen'),
        ),
    ),
);
}

class DetailScreen extends StatelessWidget {
    @override
    Widget build(BuildContext context) {
        return Scaffold(
            appBar: AppBar(
                title: Text('Detail Screen'),
            ),
            body: Center(
                child: ElevatedButton(
                    onPressed: () {
                        Navigator.pop(context);
                    },
                    child: Text('Go back to Home Screen'),
                ),
            ),
        );
    }
}

```

## Output



## 2. Tabbed Navigation with Splash Screen

Implement a Flutter application with a splash screen that leads to a tabbed interface for navigation between different screens.

### Implement Splash Screen:

Display a splash screen with a loading indicator.

Navigate to a tabbed interface (TabbedNavigationScreen) after loading.

### Tabbed Navigation Screen (TabbedNavigationScreen):

Include tabs for different categories (e.g., Home, Profile).

Implement tab navigation using DefaultTabController and TabBarView.

### Tab Screens:

Create separate screens for each tab (e.g., HomeTab, ProfileTab).

Customize content and layout for each tab screen.

Code

```
import 'package:flutter/material.dart';

void main() {
  runApp(MyApp());
}

class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      debugShowCheckedModeBanner: false,
      title: 'Tabbed Navigation App',
      theme: ThemeData(
        primarySwatch: Colors.blue,
      ),
      home: SplashScreen(),
    );
  }
}

class SplashScreen extends StatefulWidget {
  @override
  _SplashScreenState createState() => _SplashScreenState();
}

class _SplashScreenState extends State<SplashScreen> {
  @override
  void initState() {
    super.initState();
    Future.delayed(Duration(seconds: 3), () {
```

```

        Navigator.pushReplacement(
            context,
            MaterialPageRoute(builder: (context) => TabbedNavigationScreen()),
        );
    });
}

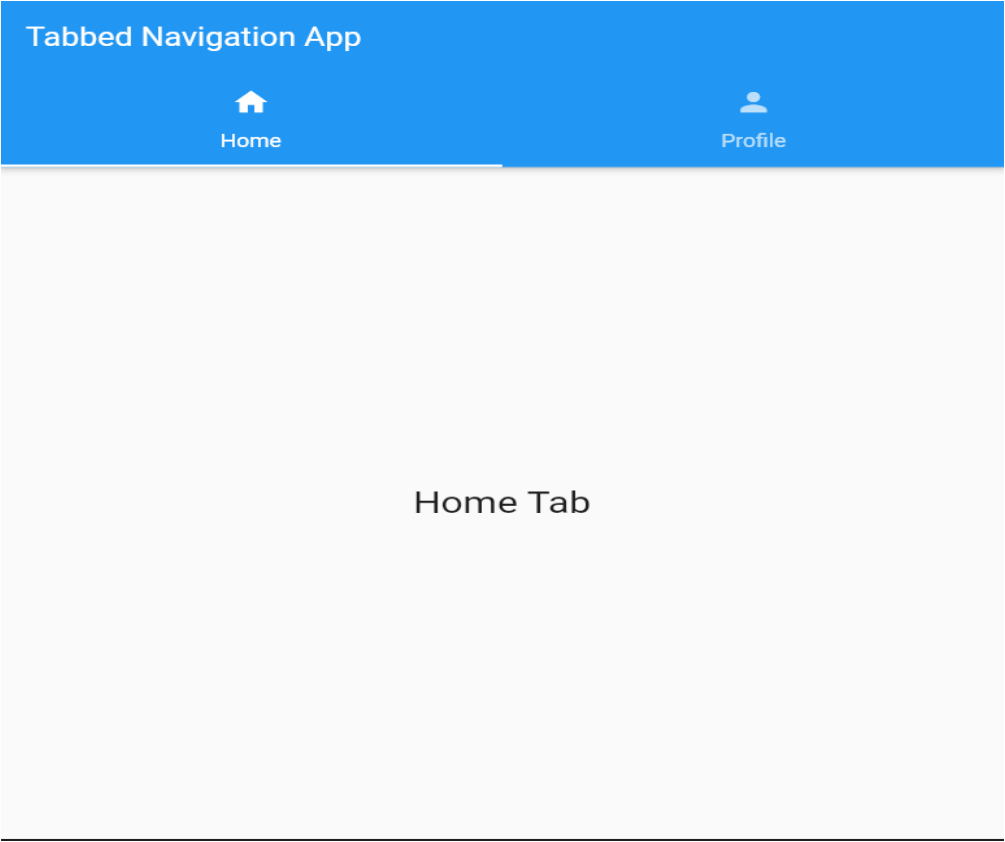
@override
Widget build(BuildContext context) {
    return Scaffold(
        body: Center(
            child: Column(
                mainAxisAlignment: MainAxisAlignment.center,
                children: [
                    CircularProgressIndicator(),
                    SizedBox(height: 20),
                    Text(
                        'Loading...',
                        style: TextStyle(fontSize: 24, fontWeight: FontWeight.bold),
                    ),
                ],
            ),
        ),
    );
}

class TabbedNavigationScreen extends StatelessWidget {
    @override
    Widget build(BuildContext context) {
        return DefaultTabController(
            length: 2, // Number of tabs
            child: Scaffold(
                appBar: AppBar(
                    title: Text('Tabbed Navigation App'),
                    bottom: TabBar(
                        tabs: [
                            Tab(icon: Icon(Icons.home), text: 'Home'),
                            Tab(icon: Icon(Icons.person), text: 'Profile'),
                        ],
                    ),
                ),
                body: TabBarView(
                    children: [
                        HomeTab(),
                        ProfileTab(),
                    ],
                ),
            ),
        );
    }
}

```

```
    ),  
  );  
}  
}  
  
class HomeTab extends StatelessWidget {  
  @override  
  Widget build(BuildContext context) {  
    return Center(  
      child: Text(  
        'Home Tab',  
        style: TextStyle(fontSize: 24),  
      ),  
    );  
  }  
}  
  
class ProfileTab extends StatelessWidget {  
  @override  
  Widget build(BuildContext context) {  
    return Center(  
      child: Text(  
        'Profile Tab',  
        style: TextStyle(fontSize: 24),  
      ),  
    );  
  }  
}
```

Output



## Tabbed Navigation App



Home



Profile

Profile Tab