

Faculty of Technology and Engineering

Chandubhai S. Patel Institute of Technology

Department of Computer Science & Engineering

Date: / /

Laboratory Manual Performa

Academic Year	:	2024-25	Semester	:	5 TH
Course code	:	CSE309	Course name	:	Mobile Application and Development

Practical - 1

Create UI of Signup Screen and Login Screen with Appropriate validation.

- Fields: Name, Email, Mobile, Password and Confirm Password for Signup.
- Email and Password for Login.

Introduction of relevant concepts used:

Flutter is an open-source UI toolkit for building cross-platform apps. Widgets are the basic building blocks of the UI, with stateful widgets maintaining dynamic state and stateless widgets being immutable. Form validation uses Form and TextFormField with custom validators, while navigation between screens is managed by the Navigator class.

main.dart

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

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

```
class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Flutter Auth Screens',
      theme: ThemeData(
        primarySwatch: Colors.blue,
      ),
      home: SignupScreen(),
    );
  }
}
```

Signup_screen.dart

```

import 'package:flutter/material.dart';
import 'package:flutter/services.dart';
import 'login_screen.dart';

class SignupScreen extends StatefulWidget {
  @override
  _SignupScreenState createState() => _SignupScreenState();
}

class _SignupScreenState extends State<SignupScreen> {
  final _formKey = GlobalKey<FormState>();
  final TextEditingController _passwordController = TextEditingController();

  String? _validateName(String? value) {
    if (value == null || value.isEmpty) {
      return 'Please enter your name';
    }
    return null;
  }

  String? _validateEmail(String? value) {
    if (value == null || value.isEmpty) {
      return 'Please enter your email';
    }
    final emailRegex = RegExp(r'^[^\@]+\@[^\@]+\.[^\@]+' );
    if (!emailRegex.hasMatch(value)) {
      return 'Please enter a valid email';
    }
    return null;
  }

  String? _validateMobile(String? value) {
    if (value == null || value.isEmpty) {
      return 'Please enter your mobile number';
    }
    final mobileRegex = RegExp(r'^[0-9]{10}$');
    if (!mobileRegex.hasMatch(value)) {
      return 'Please enter a valid mobile number';
    }
    return null;
  }

  String? _validatePassword(String? value) {
    if (value == null || value.isEmpty) {
      return 'Please enter your password';
    }
    if (value.length < 6) {
      return 'Password must be at least 6 characters long';
    }
    return null;
  }

  String? _validateConfirmPassword(String? value) {

```

```

if (value == null || value.isEmpty) {
  return 'Please confirm your password';
}
if (value != _passwordController.text) {
  return 'Passwords do not match';
}
return null;
}

```

```

void _submitForm() {
  if (_formKey.currentState!.validate()) {
    // Process the signup data
    ScaffoldMessenger.of(context).showSnackBar(SnackBar(content: Text('Processing Data')));
  }
}

```

```

@override
Widget build(BuildContext context) {
  return Scaffold(
    appBar: AppBar(title: Text('Signup')),
    body: Padding(
      padding: const EdgeInsets.all(16.0),
      child: Form(
        key: _formKey,
        child: ListView(
          children: <Widget>[
            TextFormField(
              decoration: InputDecoration(labelText: 'Name'),
              validator: _validateName,
            ),
            TextFormField(
              decoration: InputDecoration(labelText: 'Email'),
              keyboardType: TextInputType.emailAddress,
              validator: _validateEmail,
            ),
            TextFormField(
              decoration: InputDecoration(labelText: 'Mobile'),
              keyboardType: TextInputType.phone,
              inputFormatters: [FilteringTextInputFormatter.digitsOnly],
              validator: _validateMobile,
            ),
            TextFormField(
              decoration: InputDecoration(labelText: 'Password'),
              obscureText: true,
              controller: _passwordController,
              validator: _validatePassword,
            ),
            TextFormField(
              decoration: InputDecoration(labelText: 'Confirm Password'),
              obscureText: true,
              validator: _validateConfirmPassword,
            ),
            SizedBox(height: 20),

```

```

ElevatedButton(
  onPressed: _submitForm,
  child: Text('Signup'),
),
TextButton(
  onPressed: () {
    Navigator.push(
      context,
      MaterialPageRoute(builder: (context) => LoginScreen()),
    );
  },
  child: Text('Already have an account? Login'),
),
],
),
),
),
);
}
}

```

login_screen.dart

```

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

class LoginScreen extends StatefulWidget {
  @override
  _LoginScreenState createState() => _LoginScreenState();
}

class _LoginScreenState extends State<LoginScreen> {
  final _formKey = GlobalKey<FormState>();

  String? _validateEmail(String? value) {
    if (value == null || value.isEmpty) {
      return 'Please enter your email';
    }
    final emailRegex = RegExp(r'^^[^@]+@[^@]+\.[^@]+' );
    if (!emailRegex.hasMatch(value)) {
      return 'Please enter a valid email';
    }
    return null;
  }

  String? _validatePassword(String? value) {
    if (value == null || value.isEmpty) {
      return 'Please enter your password';
    }
    if (value.length < 6) {
      return 'Password must be at least 6 characters long';
    }
    return null;
  }
}

```

```

void _submitForm() {
  if (_formKey.currentState!.validate()) {
    // Process the login data
    ScaffoldMessenger.of(context).showSnackBar(SnackBar(content: Text('Logging In')));
  }
}

@override
Widget build(BuildContext context) {
  return Scaffold(
    appBar: AppBar(title: Text('Login')),
    body: Padding(
      padding: const EdgeInsets.all(16.0),
      child: Form(
        key: _formKey,
        child: ListView(
          children: <Widget>[
            TextFormField(
              decoration: InputDecoration(labelText: 'Email'),
              keyboardType: TextInputType.emailAddress,
              validator: _validateEmail,
            ),
            TextFormField(
              decoration: InputDecoration(labelText: 'Password'),
              obscureText: true,
              validator: _validatePassword,
            ),
            SizedBox(height: 20),
            ElevatedButton(
              onPressed: _submitForm,
              child: Text('Login'),
            ),
            TextButton(
              onPressed: () {
                Navigator.push(
                  context,
                  MaterialPageRoute(builder: (context) => SignupScreen()),
                );
              },
              child: Text('Don\'t have an account? Signup'),
            ),
          ],
        ),
      ),
    ),
  );
}

```

Output (Screenshot)

← Signup

DEBUG

Name

Email

Mobile

Password

Confirm Password

Signup

Already have an account? Login

← Login

DEBUG

Email

Password

Login

Don't have an account? Signup