

MPL EXP 4

Aim: To create an interactive Form using form widget

Theory:

Forms in Flutter allow users to input data and validate it before submission. The Form widget acts as a container for form fields like TextFormField, Checkbox, Dropdown, RadioButton, etc.

Key Components of a Form in Flutter:

1. Form Widget → Acts as a container for form elements.
2. GlobalKey<FormState> → Used to manage form validation and submission.
3. TextFormField → Used to take user input.
4. Validation (validator method) → Ensures correct data entry.
5. Submit Button (onPressed) → Saves the form data when clicked.

Syntax for Creating a Form in Flutter

1. Basic Form Structure

```
Form(
  key: _formKey, // GlobalKey for form validation
  child: Column(
    children: [
      TextFormField(
        decoration: InputDecoration(labelText: 'Enter your name'),
        validator: (value) {
          if (value == null || value.isEmpty) {
            return 'Please enter your name';
          }
          return null;
        },
      ),
      ElevatedButton(
        onPressed: () {
          if (_formKey.currentState!.validate()) {
            print('Form Submitted Successfully');
          }
        },
        child: Text('Submit'),
      ),
    ],
  ),
)
```

2. Full Example: Interactive Form with Multiple Fields

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

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

class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      debugShowCheckedModeBanner: false,
      home: FormScreen(),
    );
  }
}

class FormScreen extends StatefulWidget {
  @override
  _FormScreenState createState() => _FormScreenState();
}

class _FormScreenState extends State<FormScreen> {
  final _formKey = GlobalKey<FormState>();
  final TextEditingController nameController = TextEditingController();
  final TextEditingController emailController = TextEditingController();

  void submitForm() {
    if (_formKey.currentState!.validate()) {
      print('Name: ${nameController.text}');
      print('Email: ${emailController.text}');
    }
  }

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(title: Text('Interactive Form')),
      body: Padding(
        padding: EdgeInsets.all(16.0),
        child: Form(
          key: _formKey,
          child: Column(
            children: [
              TextFormField(

```

```

        controller: nameController,
        decoration: InputDecoration(labelText: 'Name'),
        validator: (value) {
          if (value == null || value.isEmpty) {
            return 'Please enter your name';
          }
          return null;
        },
      ),
      TextFormField(
        controller: emailController,
        decoration: InputDecoration(labelText: 'Email'),
        keyboardType: TextInputType.emailAddress,
        validator: (value) {
          if (value == null || value.isEmpty) {
            return 'Please enter your email';
          } else if (!value.contains('@')) {
            return 'Enter a valid email';
          }
          return null;
        },
      ),
      SizedBox(height: 20),
      ElevatedButton(
        onPressed: submitForm,
        child: Text('Submit'),
      ),
    ],
  ),
),
);
}
}

```

Common Widgets & Properties in Forms

Widget	Description	Important Properties
Form	Container for form elements	key (for validation)
TextFormField	Input field for text entry	controller, keyboardType, validator

TextField	Basic text input without validation	decoration, obscureText (for passwords)
DropDownButton	Dropdown menu for selecting options	items, onChanged, value
CheckBox	Checkbox for selecting options	value, onChanged
Radio	Radio button for selecting one option	value, groupValue, onChanged
Switch	Toggle switch for enabling/disabling options	value, onChanged
ElevatedButton	Button for submitting form	onPressed, child
OutlinedButton	Button with an outline	onPressed, child
IconButton	Button with an icon	icon, onPressed
Padding	Provides space around widgets	padding
SizedBox	Provides spacing between widgets	height, width

Code:

main.dart

```
import 'package:flutter/material.dart';
import 'package:blinkit/screens/signin_screen.dart';
import 'package:blinkit/screens/homepage.dart';
import 'package:blinkit/screens/categories.dart' show CategoriesScreen;
import 'package:blinkit/screens/bakery_biscuits.dart';
```

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

```
class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
```

```

return MaterialApp(
  debugShowCheckedModeBanner: false,
  title: 'Grocery App',
  theme: ThemeData(
    primarySwatch: Colors.green,
  ),
  initialRoute: '/',
  routes: {
    '/': (context) => SignInScreen(),
    '/home': (context) => HomePage(),
    '/categories': (context) => CategoriesScreen(),
    '/bakery_biscuits': (context) => BakeryBiscuitsPage(),
  },
);
}
}

```

signin_screen.dart

```

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

```

```

class SignInScreen extends StatelessWidget {
  const SignInScreen({Key? key}) : super(key: key);

```

```

  @override

```

```

  Widget build(BuildContext context) {

```

```

    return Scaffold(

```

```

      backgroundColor: Colors.white,

```

```

      body: Stack(

```

```

        children: [

```

```

          // 🍷 Background Image at the Top

```

```

          Positioned(

```

```

            top: 0,

```

```

            left: 0,

```

```

            right: 0,

```

```

            child: Container(

```

```

              width: double.infinity,

```

```

              height: MediaQuery.of(context).size.height *

```

```

                0.45, // Takes 45% of screen

```

```

              decoration: BoxDecoration(

```

```

                image: DecorationImage(

```

```

                  image:

```

```

                    AssetImage("https://via.placeholder.com/400x300.png?text=Placeholder+Image"),

```

```

                  fit: BoxFit.fitHeight,

```

```

                ),

```

```

              ),

```

```

            ),

```

```

          ),

```

```

// 📌 Bottom White Login Section
Positioned(
  bottom: 0,
  left: 0,
  right: 0,
  child: Container(
    width: double.infinity,
    height: MediaQuery.of(context).size.height * 0.55,
    decoration: BoxDecoration(
      color: Colors.white,
      borderRadius: BorderRadius.vertical(top: Radius.circular(20)),
    ),
  ),
  child: Column(
    mainAxisAlignment: MainAxisAlignment.min,
    children: [
      // Blinkit Logo
      Image.asset("assets/blinkit_logo.png", height: 50),
      SizedBox(height: 16),

      // Title
      Text(
        "India's last minute app",
        style: GoogleFonts.lato(
          fontSize: 20, fontWeight: FontWeight.bold),
      ),
      SizedBox(height: 8),
      Text(
        "Log in or sign up",
        style: TextStyle(fontSize: 16, color: Colors.grey[600]),
      ),
      SizedBox(height: 20),

      // Mobile Number Input
      TextField(
        keyboardType: TextInputType.phone,
        decoration: InputDecoration(
          prefixText: "+91 ",
          hintText: "Enter mobile number",
          border: OutlineInputBorder(
            borderRadius: BorderRadius.circular(10)),
          filled: true,
          fillColor: Colors.grey[200],
        ),
      ),
      SizedBox(height: 20),

      // Continue Button

```

```

        SizedBox(
          width: double.infinity,
          height: 50,
          child: ElevatedButton(
            onPressed: () {
              // Navigate to Home Screen
              Navigator.pushNamed(context, '/home');
            },
            style: ElevatedButton.styleFrom(
              backgroundColor: Colors.grey[700],
              foregroundColor: Colors.white,
              shape: RoundedRectangleBorder(
                borderRadius: BorderRadius.circular(8)),
            ),
            child: Text("Continue", style: TextStyle(fontSize: 18)),
          ),
        ),

        SizedBox(height: 16),

        // Terms & Conditions
        Text(
          "By continuing, you agree to our Terms of service & Privacy policy",
          textAlign: TextAlign.center,
          style: TextStyle(fontSize: 12, color: Colors.grey[600]),
        ),
      ],
    ),
  ),
],
),
);
}
}

```

otpscreen.dart

```

import 'package:flutter/material.dart';

class OTPScreen extends StatefulWidget {
  @override
  _OTPScreenState createState() => _OTPScreenState();
}

class _OTPScreenState extends State<OTPScreen> {
  final TextEditingController otpController = TextEditingController();

  @override

```

```

Widget build(BuildContext context) {
  return Scaffold(
    backgroundColor: Colors.white,
    body: Padding(
      padding: const EdgeInsets.all(24.0),
      child: Column(
        mainAxisAlignment: MainAxisAlignment.center,
        crossAxisAlignment: CrossAxisAlignment.center,
        children: [
          // Title
          Text(
            "Enter OTP",
            style: TextStyle(fontSize: 22, fontWeight: FontWeight.bold),
          ),
          SizedBox(height: 10),

          // Instructions
          Text(
            "We have sent a 6-digit code to your phone number.",
            textAlign: TextAlign.center,
            style: TextStyle(fontSize: 16, color: Colors.grey[600]),
          ),
          SizedBox(height: 30),

          // OTP Input Field
          TextField(
            controller: otpController,
            keyboardType: TextInputType.number,
            textAlign: TextAlign.center,
            maxLength: 6,
            style: TextStyle(fontSize: 24, letterSpacing: 8),
            decoration: InputDecoration(
              counterText: "",
              hintText: "-----",
              hintStyle: TextStyle(fontSize: 24, letterSpacing: 8),
              border: OutlineInputBorder(
                borderRadius: BorderRadius.circular(12),
              ),
            ),
          ),
          SizedBox(height: 20),

          // Verify Button
          SizedBox(
            width: double.infinity,
            height: 50,
            child: ElevatedButton(
              onPressed: () {

```


