

MPL EXPERIMENT 4

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AIM:- To Create an interactive Form using form widget

1. Introduction

Forms are a crucial component in mobile applications for collecting user input. Flutter provides the Form widget, which helps manage multiple input fields efficiently and allows validation before submission. The Form widget works in combination with TextFormField and a GlobalKey to track the form state, validate inputs, and process the collected data.

2. Form Widget Overview

The Form widget in Flutter acts as a container for form fields and manages their state. It provides built-in validation and submission handling.

❖ Key Components of a Form:

1. Scaffold

- Acts as the **main container** for the screen.
- Provides a structured layout with a **background color** and a dedicated **body section** for arranging widgets.

2. Column

- Used for arranging elements **vertically** (title, input fields, buttons).
- Ensures content is properly **centered** and spaced for better readability.

3. Text

- Displays headings and descriptions like "**Enter OTP**" and "**Enter the code sent to your number**".
- Uses **bold styling** for important text and **lighter colors** for instructions.

4. TextField (OTP Input Fields)

- Allows users to enter the OTP.
- Can be implemented as:
 - **A single input field** for the full OTP.
 - **Multiple input boxes** for individual OTP digits.
- Accepts **numeric input** only and has a **fixed length** of 6 digits.
- Uses a **bordered container** for a clean and structured look.

5. GestureDetector / TextButton (Resend OTP)

- Provides a **clickable text button** for resending OTP.
- Uses a **blue color** to indicate interactivity.
- Can include a **countdown timer** to prevent immediate resends.

6. ElevatedButton (Verify Button)

- Initially **disabled**, gets enabled when the OTP is correctly entered.
- Uses **contrast colors** (e.g., black background, white text) for visibility.
- On press, triggers OTP verification and navigates to the next screen.

7. CircularProgressIndicator (Loading Spinner - Optional)

- Displays a **loading animation** after clicking "Verify."
- Helps users know that the OTP is being processed.

8. SnackBar / AlertDialog (Feedback Messages - Optional)

- Shows a **success message** if the OTP is correct.
- Displays an **error message** if verification fails.
- Uses **different colors** for success (green) and error (red).

9. StatefulWidget

- The SplashScreen is a **stateful widget** because it needs to handle a **time delay** before navigating to the next screen.
- The _SplashScreenState class manages the stat

10. Image.asset()

- Displays an **image logo** from the assets/images/ directory.
- The height is adjusted to **150 pixels** to fit well in the layout.

11. _validatePhoneNumber() (Phone Number Validation)

- A function that **enables/disables** the "Next" button based on whether the user has entered a **10-digit** phone number.
- Uses setState() to update the UI dynamically.

❖ Code:-

Main screen.dart

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

class MainScreen extends StatefulWidget {
  @override
  _MainScreenState createState() => _MainScreenState();
}

class _MainScreenState extends State<MainScreen> {
  TextEditingController _phoneController = TextEditingController();
  bool isEnabled = false;

  void _validatePhoneNumber(String value) {
    setState(() {
      isEnabled = value.length == 10;
    });
  }

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      backgroundColor: Colors.white,
      body: Padding(
        padding: const EdgeInsets.symmetric(horizontal: 20),
        child: Column(
          mainAxisAlignment: MainAxisAlignment.center,
          crossAxisAlignment: CrossAxisAlignment.center,
          children: [
            Image.asset(

```

```
'assets/images/rapido12.jpeg',
height: 150,
),
const SizedBox(height: 20),
const Text(
"What's your number?",  

style: TextStyle(  

fontSize: 16,  

fontWeight: FontWeight.bold,  

),
),
const SizedBox(height: 5),
const Text(
"Enter your phone number to proceed",
style: TextStyle(  

fontSize: 16,  

color: Colors.grey,  

),
),
const SizedBox(height: 20),
Container(  

padding: EdgeInsets.symmetric(horizontal: 12),
decoration: BoxDecoration(  

border: Border.all(color: Colors.grey),
borderRadius: BorderRadius.circular(8),
),
child: Row(  

children: [  

const Text(  

"IN +91",
style: TextStyle(  

fontSize: 16,
```

```
fontWeight: FontWeight.bold,  
),  
(  
const SizedBox(width: 10),  
Expanded(  
child: TextField(  
controller: _phoneController,  
keyboardType: TextInputType.number,  
maxLength: 10,  
onChanged: _validatePhoneNumber,  
decoration: InputDecoration(  
hintText: "0000000000",  
counterText: "",  
border: InputBorder.none,  
),  
(  
),  
),  
],  
(  
),  
),  
const SizedBox(height: 20),  
ElevatedButton(  
onPressed: isButtonEnabled  
? () {  
Navigator.push(  
context,  
MaterialPageRoute(  
builder: (context) => OneLastStepScreen(),  
),  
);  
}  
:  
null,
```

```
        style: ElevatedButton.styleFrom(
            backgroundColor: Colors.black,
            foregroundColor: Colors.white,
            padding: EdgeInsets.symmetric(vertical: 14, horizontal: 120),
            shape: RoundedRectangleBorder(
                borderRadius: BorderRadius.circular(8),
            ),
        ),
        child: Text(
            "Next",
            style: TextStyle(
                fontSize: 16,
                fontWeight: FontWeight.bold,
            ),
        ),
    ],
),
),
),
);
}
}
```

One_last_step_screen.dart

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

class OneLastStepScreen extends StatefulWidget {
    @override
    _OneLastStepScreenState createState() => _OneLastStepScreenState();
}

class _OneLastStepScreenState extends State<OneLastStepScreen> {
    TextEditingController _nameController = TextEditingController();
    TextEditingController _referralController = TextEditingController();
    bool receiveWhatsAppUpdates = false;
```

```
String? selectedGender;

@Override
Widget build(BuildContext context) {
  return Scaffold(
    appBar: AppBar(
      title: Text("Complete Your Profile"),
    ),
    body: Padding(
      padding: const EdgeInsets.all(20.0),
      child: Column(
        crossAxisAlignment: CrossAxisAlignment.start,
        children: [
          Text("Your Name", style: TextStyle(fontSize: 16, fontWeight: FontWeight.bold)),
          SizedBox(height: 5),
          TextField(
            controller: _nameController,
            decoration: InputDecoration(
              hintText: "Enter your name",
              border: OutlineInputBorder(),
              prefixIcon: Icon(Icons.person, color: Colors.blue),
            ),
          ),
          SizedBox(height: 15),
          Text("Gender", style: TextStyle(fontSize: 16, fontWeight: FontWeight.bold)),
          SizedBox(height: 5),
          Row(
            mainAxisAlignment: MainAxisAlignment.spaceBetween,
            children: [
              _genderButton("Male", Icons.male, Colors.blue),
              _genderButton("Female", Icons.female, Colors.pink),
              _genderButton("Other", Icons.transgender, Colors.purple),
            ],
          ),
        ],
      ),
    ),
  );
}

Widget _genderButton(String label, IconData icon, Color color) {
  return Container(
    padding: EdgeInsets.all(10),
    margin: EdgeInsets.all(5),
    decoration: BoxDecoration(
      border: Border.all(color: Colors.grey),
      borderRadius: BorderRadius.circular(10),
    ),
    child: Row(
      mainAxisAlignment: MainAxisAlignment.spaceEvenly,
      children: [
        Text(label),
        Icon(icon, color: color),
      ],
    ),
  );
}
```

```
),  
SizedBox(height: 15),  
Row(  
    children: [  
        Image.asset("assets/images/wahstapp12.png", height: 25),  
        SizedBox(width: 10),  
        Expanded(  
            child: Text(  
                "Receive updates on WhatsApp",  
                style: TextStyle(fontSize: 14),  
            ),  
        ),  
        Switch(  
            value: receiveWhatsAppUpdates,  
            onChanged: (bool value) {  
                setState(() {  
                    receiveWhatsAppUpdates = value;  
                });  
            },  
        ),  
    ],  
),  
SizedBox(height: 15),  
Text("Have a referral code?", style: TextStyle(fontSize: 16, fontWeight:  
FontWeight.bold)),  
SizedBox(height: 5),  
TextField(  
    controller: _referralController,  
    decoration: InputDecoration(  
        hintText: "Enter referral code",  
        border: OutlineInputBorder(),  
    ),
```

```
        ),  
        SizedBox(height: 20),  
        Center(  
            child: ElevatedButton(  
                onPressed: () {  
                    print("Form Submitted: Name - \${_nameController.text}, Gender -  
                    \$selectedGender, WhatsApp Updates - \$receiveWhatsAppUpdates, Referral Code -  
                    \${_referralController.text}");  
                },  
                style: ElevatedButton.styleFrom(  
                    backgroundColor: Colors.black,  
                    foregroundColor: Colors.white,  
                    padding: EdgeInsets.symmetric(vertical: 14, horizontal: 120),  
                    shape: RoundedRectangleBorder(  
                        borderRadius: BorderRadius.circular(8),  
                    ),  
                ),  
                child: Text("Next"),  
            ),  
        ),  
    ],  
),  
);  
};  
}  
  
Widget _genderButton(String gender, IconData icon, Color color) {  
    return GestureDetector(  
        onTap: () {  
            setState(() {  
                selectedGender = gender;  
            });  
        },  
    );  
}
```

```
Widget _genderButton(String gender, IconData icon, Color color) {  
    return GestureDetector(  
        onTap: () {  
            setState(() {  
                selectedGender = gender;  
            });  
        },  
    );  
}
```

```
    },
    child: Container(
      width: 100,
      padding: EdgeInsets.symmetric(vertical: 10),
      decoration: BoxDecoration(
        color: selectedGender == gender ? color.withOpacity(0.2) : Colors.white,
        border: Border.all(color: color),
        borderRadius: BorderRadius.circular(10),
      ),
      child: Column(
        children: [
          Icon(icon, color: color),
          Text(
            gender,
            style: TextStyle(fontWeight: FontWeight.bold, color: color),
          ),
        ],
      ),
    ),
  );
}
```

Splash_screen.dart

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

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) => MainScreen()),
    );
  });
}

@Override
Widget build(BuildContext context) {
  return Scaffold(
    backgroundColor: Colors.white,
    body: Center(
      child: Image.asset(
        'assets/images/rapido12.jpeg',
        height: 150,
      ),
    ),
  );
}
```

❖ OUTPUT



