EXPERIMENT NO: - 04

Name:- Prajyot Shinde   **Class:-** D15A   **Roll:No: -** 55

AIM: - To create an interactive Form using form widget.

Theory: -

A form in Flutter is a structured container that collects user input through various fields like text fields, dropdowns, checkboxes, and buttons. It plays a crucial role in applications that require user data entry, such as login pages, registration forms, and feedback submissions. Flutter provides the Form widget, which works alongside TextFormField and other input elements to manage validation, state handling, and error messages efficiently. By using form validation techniques, developers can ensure data accuracy and enhance user experience.

When you create a form, it is necessary to provide the GlobalKey. This key uniquely identifies the form and allows you to do any validation in the form fields. The form widget uses child widget TextFormField to provide the users to enter the text field. This widget renders a material design text field and also allows us to display validation errors when they occur.

Creation of a Form

➢ While creating a form in Flutter, the **Form widget** is essential as it acts as a container for grouping multiple form fields and managing validation.

➢ A **GlobalKey<FormState>** is required to uniquely identify the form and enable validation or data retrieval from the form fields.

➢ The **TextFormField widget** is used to provide input fields where users can enter data such as names, phone numbers, or email addresses.

➢ To enhance the appearance and usability of input fields, **InputDecoration** is used, allowing customization of labels, icons, borders, and hint text.

➢ Validation plays a crucial role in forms, and the **validator property** within **TextFormField** ensures user input meets specific criteria before submission.

➢ Different types of input require appropriate **keyboard types**, such as TextInputType.number for numeric fields or TextInputType.emailAddress for email fields.

➢ Proper **state management** is needed to store and retrieve user input, ensuring the form data is processed correctly.

➢ A **submit button** is necessary to trigger form validation and submit the collected data for further processing.

Some Properties of Form Widget

- **key:** A GlobalKey that uniquely identifies the Form. You can use this key to interact with the form, such as validating, resetting, or saving its state.

- **child:** The child widget that contains the form fields. Typically, this is a Column, ListView, or another widget that allows you to arrange the form fields vertically.

- **autovalidateMode:** An enum that specifies when the form should automatically validate its fields.

Some Methods of Form Widget

- **validate():** This method is used to trigger the validation of all the form fields within the Form. It returns true if all fields are valid, otherwise false. You can use it to check the overall validity of the form before submitting it.

- **save():** This method is used to save the current values of all form fields. It invokes the onSaved callback for each field. Typically, this method is called after validation succeeds.

- **reset():** Resets the form to its initial state, clearing any user-entered data.

- **currentState:** A getter that returns the current FormState associated with the Form.

Code: -

Login Page

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

class LoginScreen extends StatefulWidget {
  const LoginScreen({super.key});

  @override
  State<LoginScreen> createState() =>
_LoginScreenState();
}

class _LoginScreenState extends State<LoginScreen>
{
  final _formKey = GlobalKey<FormState>();
  final _phoneController =
    TextEditingController(text: '9529567991'); //
Dummy number

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      body: SafeArea(
        child: Padding(
          padding: const EdgeInsets.all(16.0),
          child: Form(
            key: _formKey,
            child: Column(
              crossAxisAlignment:
CrossAxisAlignment.stretch,
              children: [
                const SizedBox(height: 48),
                const Text(
                  'Enter your mobile number',
                  style: TextStyle(
                    fontSize: 24,
                    fontWeight: FontWeight.bold,
                  ),
                ),
                const SizedBox(height: 24),
                TextFormField(
                  controller: _phoneController,
                  keyboardType: TextInputType.phone,
                  decoration: InputDecoration(
                    prefixText: '+91 ',
                    hintText: 'Phone number',
                    border: OutlineInputBorder(
                      borderRadius:
BorderRadius.circular(8),
                    ),
                  ),
                  validator: (value) {
                    if (value == null || value.length != 10) {
                      return 'Please enter a valid phone
number';
                    }
                    return null;
                  },
                ),
                const SizedBox(height: 24),
                ElevatedButton(
                  onPressed: () {
                    if (_formKey.currentState!.validate()) {
                      Navigator.pushReplacementNamed(con
text, '/otp');
```

```
          }
        },
      style: ElevatedButton.styleFrom(
        padding: const
EdgeInsets.symmetric(vertical: 16),
      ),
      child: const Text('Continue'),
    ),
  ],
  ),
  ),
  ),
  );
  }
}
```

Otp verification:

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


class OtpVerificationScreen extends StatefulWidget {
  const OtpVerificationScreen({super.key});


  @override
  State<OtpVerificationScreen> createState() =>
_OtpVerificationScreenState();
}


class _OtpVerificationScreenState extends
State<OtpVerificationScreen> {
  final List<String> _otpValues = List.filled(4, '');
```

```
  void _validateOtp() {
    final otp = _otpValues.join();
    if (otp == "9096") {
      Navigator.pushReplacementNamed(context,
'/home');
    } else {
      ScaffoldMessenger.of(context).showSnackBar(
        const SnackBar(content: Text('Invalid OTP')),
      );
    }
  }


  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        title: const Text('Please login to continue'),
        elevation: 0,
      ),
      body: Padding(
        padding: const EdgeInsets.all(16.0),
        child: Column(
          crossAxisAlignment:
CrossAxisAlignment.stretch,
          children: [
            const SizedBox(height: 48),
            const Text(
              'Enter verification code',
              style: TextStyle(fontSize: 24, fontWeight:
FontWeight.bold),
              textAlign: TextAlign.center,
            ),
```

```dart
        const SizedBox(height: 8),

        const Text(

          'We have sent you a 4 digit OTP on
9529567991',

          textAlign: TextAlign.center,

          style: TextStyle(color: Colors.grey),

        ),

        const SizedBox(height: 24),

        Row(

          mainAxisAlignment:
MainAxisAlignment.spaceEvenly,

          children: List.generate(

            4,

            (index) => SizedBox(

              width: 50,

              child: TextFormField(

                textAlign: TextAlign.center,

                keyboardType: TextInputType.number,

                maxLength: 1,

                style: const TextStyle(fontSize: 24),

                decoration: InputDecoration(

                  counterText: "",

                  border: OutlineInputBorder(

                    borderRadius:
BorderRadius.circular(8),

                  ),

                ),

                onChanged: (value) {

                  if (value.length == 1) {

                    _otpValues[index] = value;

                    if (index < 3)
FocusScope.of(context).nextFocus();

                  } else if (value.isEmpty && index > 0)
{
```

```dart
                    _otpValues[index] = '';

                    FocusScope.of(context).previousFocus
();

                  }

                },

              ),

            ),

          ),

        ),

        const SizedBox(height: 24),

        ElevatedButton(

          onPressed: _validateOtp,

          style: ElevatedButton.styleFrom(

            padding: const
EdgeInsets.symmetric(vertical: 16),

          ),

          child: const Text('Login'),

        ),

      ],

    ),

  ),

);

  }

}
```

Profile:

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


class ProfileScreen extends StatelessWidget {

  const ProfileScreen({super.key});


  @override
```

```dart
Widget build(BuildContext context) {
  return Scaffold(
    appBar: AppBar(
      title: const Text('My Profile'),
    ),
    body: SingleChildScrollView(
      padding: const EdgeInsets.all(16),
      child: Column(
        crossAxisAlignment: CrossAxisAlignment.start,
        children: [
          const CircleAvatar(
            radius: 40,
            child: Icon(Icons.person, size: 40),
          ),
          const SizedBox(height: 16),
          const Text(
            'Personal Information',
            style: TextStyle(
              fontSize: 18,
              fontWeight: FontWeight.bold,
            ),
          ),
          const SizedBox(height: 16),
          TextFormField(
            decoration: const InputDecoration(
              labelText: 'Name',
              border: OutlineInputBorder(),
            ),
          ),
          const SizedBox(height: 16),
          TextFormField(
            decoration: const InputDecoration(
              labelText: 'Email',
              border: OutlineInputBorder(),
            ),
          ),
          const SizedBox(height: 16),
          TextFormField(
            decoration: const InputDecoration(
              labelText: 'Phone',
              border: OutlineInputBorder(),
            ),
          ),
          const SizedBox(height: 24),
          ElevatedButton(
            onPressed: () {},
            style: ElevatedButton.styleFrom(
              minimumSize: const Size.fromHeight(50),
            ),
            child: const Text('Save Changes'),
          ),
          const SizedBox(height: 16),
          TextButton(
            onPressed: () {},
            style: TextButton.styleFrom(
              minimumSize: const Size.fromHeight(50),
              foregroundColor: Colors.red,
            ),
            child: const Text('Logout'),
          ),
        ],
      ),
    ),
  ),
```

```
  );
 }
}
```

OUTPUT:

1:08 ⊙ ▯ • ⊖ Vo)) ⊚ 5G+⁺ ▰ 🔋100%

Urban Company

Welcome Back

Enter your mobile number to continue

+91 9529567991

Continue

1:09 ⊙ ▯ • ⊖ Vo)) ⊚ 5G+⁺ ▰ 🔋100%

← **OTP Verification**

Enter verification code

We have sent you a 6-digit OTP on 9529567991

| 9 | 0 | 9 | 6 | 3 | 7 |

Login

1:26 🕐 📱 • ⊖ Vo₎ LTE ⊚ 5G+⁞ ◢ 🔋100%

Create Your Account

Please provide the following details:

Full Name

Email Address

Address

Sign Up

1:09 🕐 📱 • ⊖ Vo₎ LTE ⊚ 5G+⁞ ◢ 🔋100%

← **My Profile** ⤤

Phone: +919529567991

Full Name
👤 Test @Me

Email
✉ test@gmail.com

Address
From Hell to Heaven
🏠

Save Profile