EXPERIMENT NO: - 04

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<u>AIM: -</u> 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 which works alongside widget, 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.

const SizedBox(height: 48), const Text(Code: -'Enter your mobile number', Login Page style: TextStyle(fontSize: 24, import 'package:flutter/material.dart'; fontWeight: FontWeight.bold,), class LoginScreen extends StatefulWidget {), const LoginScreen({super.key}); const SizedBox(height: 24), TextFormField(@override controller: phoneController, State<LoginScreen> createState() => keyboardType: TextInputType.phone, LoginScreenState(); decoration: InputDecoration(prefixText: '+91', hintText: 'Phone number', class LoginScreenState extends State<LoginScreen> border: OutlineInputBorder(*final* formKey = GlobalKey<FormState>(); borderRadius: BorderRadius.circular(8), *final* phoneController = TextEditingController(text: '9529567991'); //), Dummy number), validator: (value) { @override $if(value == null || value.length != 10) {$ Widget build(BuildContext context) { return 'Please enter a valid phone number'; return Scaffold(body: SafeArea(return null; child: Padding(}, padding: const EdgeInsets.all(16.0),), child: Form(const SizedBox(height: 24), key: formKey, ElevatedButton(child: Column(onPressed: () { crossAxisAlignment: CrossAxisAlignment.stretch, if (formKey.currentState!.validate()) { children: [

```
final List<String> otpValues = List.filled(4, ");
             Navigator.pushReplacementNamed(con
text, '/otp');
                                                               void _validateOtp() {
                                                                final otp = otpValues.join();
           style: ElevatedButton.styleFrom(
                                                                if(otp == "9096") {
            padding: const
                                                                 Navigator.pushReplacementNamed(context,
EdgeInsets.symmetric(vertical: 16),
                                                             '/home');
           ),
                                                                } else {
           child: const Text('Continue'),
                                                                 ScaffoldMessenger.of(context).showSnackBar(
         ),
                                                                  const SnackBar(content: Text('Invalid OTP')),
        1,
                                                                 );
       ),
      ),
    ),
                                                               @override
  );
                                                               Widget build(BuildContext context) {
                                                                return Scaffold(
                                                                 appBar: AppBar(
                                                                  title: const Text('Please login to continue'),
                                                                  elevation: 0,
Otp verification:
                                                                 ),
                                                                 body: Padding(
import 'package:flutter/material.dart';
                                                                  padding: const EdgeInsets.all(16.0),
                                                                  child: Column(
class OtpVerificationScreen extends StatefulWidget {
                                                                    crossAxisAlignment:
 const OtpVerificationScreen({super.key});
                                                              CrossAxisAlignment.stretch,
                                                                    children: [
 @override
                                                                     const SizedBox(height: 48),
 State<OtpVerificationScreen> createState() =>
                                                                     const Text(
OtpVerificationScreenState();
                                                                      'Enter verification code',
}
                                                                      style: TextStyle(fontSize: 24, fontWeight:
                                                             FontWeight.bold),
class OtpVerificationScreenState extends
```

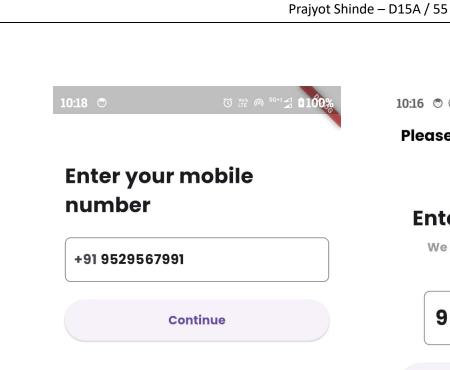
textAlign: TextAlign.center,

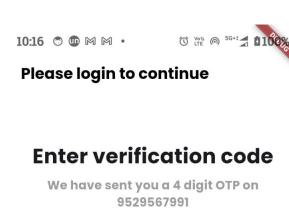
State<OtpVerificationScreen> {

```
} else if (value.isEmpty && index > 0)
       ),
       const SizedBox(height: 8),
                                                                            otpValues[index] = ";
       const Text(
                                                                            FocusScope.of(context).previousFocus
        '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,
                                                                    const SizedBox(height: 24),
        children: List.generate(
                                                                     ElevatedButton(
                                                                      onPressed: validateOtp,
         4,
         (index) => SizedBox(
                                                                      style: ElevatedButton.styleFrom(
           width: 50,
                                                                       padding: const
                                                             EdgeInsets.symmetric(vertical: 16),
           child: TextFormField(
                                                                      ),
            textAlign: TextAlign.center,
                                                                      child: const Text('Login'),
            keyboardType: TextInputType.number,
                                                                    ),
            maxLength: 1,
                                                                   ],
            style: const TextStyle(fontSize: 24),
                                                                  ),
            decoration: InputDecoration(
             counterText: "",
                                                                );
             border: OutlineInputBorder(
              borderRadius:
BorderRadius.circular(8),
             ),
            ),
                                                             Profile:
            onChanged: (value) {
                                                             import 'package:flutter/material.dart';
             if(value.length == 1) {
              otpValues[index] = value;
                                                             class ProfileScreen extends StatelessWidget {
              if(index < 3)
                                                               const ProfileScreen({super.key});
FocusScope.of(context).nextFocus();
```

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

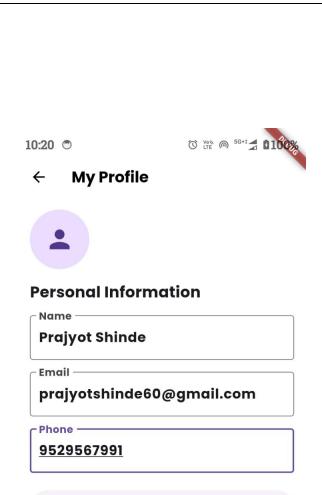
),	
);	
}	
)	
<i>\$</i>	
OUTPUT:	





Login

0



Save Changes

Logout