

PARSHVANATH CHARITABLE TRUST'S

A. P. SHAH INSTITUTE OF TECHNOLOGY

(All Branches NBA Accredited)



Department of Information Technology

Academic Year: 2024-25

Semester: VI

Class / Branch / Div: TE- IT C

Subject: MAD & PWA Lab

Name of Instructor: Prof. Sujata Oak

Name of Student:

Student ID:

Roll No.

Date of Submission:

Experiment No.:4

Aim: To Design an interactive Form using various form widgets.

Theory:

Forms are an integral part of all modern mobile and web applications. It is mainly used to interact with the app as well as gather information from the users. They can perform many tasks, which depend on the nature of your business requirements and logic, such as authentication of the user, adding user, searching, filtering, ordering, booking, etc. A form can contain text fields, buttons, checkboxes, radio buttons, etc.

Creating Form

Flutter provides a **Form widget** to create a form. The form widget acts as a container, which allows us to group and validate the multiple form fields. 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.

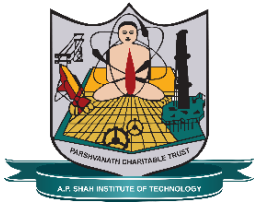
First, create a Flutter project and replace the following code in the main.dart file. In this code snippet, we have created a custom class named **MyCustomForm**. Inside this class, we define a global key as **_formKey**. This key holds a **FormState** and can use to retrieve the form widget. Inside the **build** method of this class, we have added some custom style and use the **TextFormField** widget to provide the form fields such as name, phone number, date of birth, or just a normal field. Inside the **TextFormField**, we have used **InputDecoration** that provides the look and feel of your form properties such as borders, labels, icons, hint, styles, etc. Finally, we have added a **button** to submit the form.

Form validation

Validation is a method, which allows us to correct or confirms a certain standard. It ensures the authentication of the entered data. Validating forms is a common practice in all digital interactions. To validate a form in a flutter, we need to implement mainly three steps.

Step 1: Use the Form widget with a global key.

Step 2: Use TextFormField to give the input field with validator property.



Step 3: Create a button to validate form fields and display validation errors.

Let us understand it with the following example. In the above code, we have to use **validator()** function in the TextFormField to validate the input properties. If the user gives the wrong input, the validator function returns a string that contains an **error message**; otherwise, the validator function return **null**. In the validator function, make sure that the TextFormField is not empty. Otherwise, it returns an error message.

Implementation:

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

void main() => runApp(MyApp());

class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: Scaffold(
        appBar: AppBar(title: Text("Form Example")),
        body: MyForm(),
      ),
    );
  }
}

class MyForm extends StatefulWidget {
  @override
  _MyFormState createState() => _MyFormState();
}

class _MyFormState extends State<MyForm> {
  final _formKey = GlobalKey<FormState>();

  @override
  Widget build(BuildContext context) {
    return Form(
      key: _formKey,
      child: Padding(
        padding: const EdgeInsets.all(16.0),
        child: Column(
          children: [
            TextFormField(
              decoration: InputDecoration(labelText: 'Name'),
              validator: (value) {
                if (value == null || value.isEmpty) {
                  return 'Please enter your name';
                }
              },
            ),
          ],
        ),
      ),
    );
  }
}
```



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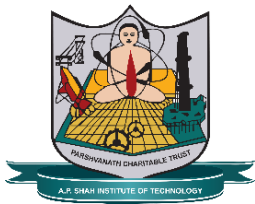
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```
    }  
    return null;  
  },  
,  
TextField(  
  decoration: InputDecoration(labelText: 'Email'),  
  validator: (value) {  
    if (value == null || value.isEmpty) {  
      return 'Please enter your email';  
    }  
    return null;  
  },  
,  
,  
ElevatedButton(  
  onPressed: () {  
    if (_formKey.currentState!.validate()) {  
      ScaffoldMessenger.of(context).showSnackBar(  
        SnackBar(content: Text('Form Submitted')),  
      );  
    }  
  },  
  child: Text('Submit'),  
,  
,  
],  
,  
,  
),  
);  
}  
}
```

OUTPUT:



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localhost:58428

localhost:58428

Form Example

DEBUG

Name
Sujata Oak

Email
saoak@apsit.edu.in

Submit

Form Submitted

Conclusion: In this experiment we have designed an interactive form by using various form widgets.