

## Experiment 4

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Aim: To create an interactive form using the form widget

Theory:

### 1. Form Widget:

- The Form widget is a container used to group multiple form fields together.
- It helps manage the state of the form, including validation, submission, and resetting.
- The Form widget maintains a `FormState` object that holds the current state of the form fields.
- Form widgets facilitate form submission, validation, and error handling.

### 2. FormField Widget:

- A `FormField` widget represents a single form field within a `Form`.
- Flutter provides various subclasses of the `FormField` widget for different types of input fields, such as `TextFormField`, `CheckboxFormField`, `RadioFormField`, `DropdownButtonFormField`, etc.
- Each form field widget encapsulates the logic for validating user input and managing its state.
- Form fields can be customized with properties to specify validation rules, error messages, initial values, input formatting, and more.
- Form fields automatically register themselves with the `Form` widget and handle validation and state management transparently.

### 3. Validation:

- Flutter's form widgets include built-in support for validation to ensure that user input meets specific criteria.
- Form fields can be configured with validation functions or validators to check the correctness of user input.
- Validators can be synchronous or asynchronous functions that return error messages if the input is invalid.
- Flutter provides a `FormFieldState` class associated with each form field, which exposes methods to validate the field's value and retrieve validation errors if any.

### 4. Submission:

- The `Form` widget provides a mechanism to submit the form data once it's been filled out by the user.
- Developers can define an `onSaved` callback for each form field to specify how the field's value should be processed when the form is submitted.

- When the form is submitted, the onSaved callbacks for all form fields are invoked, allowing developers to collect, process, and submit the form data to a backend server or perform other actions.

### **signup\_page.dart**

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

class SignupPage extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      body: SingleChildScrollView( // Wrap with SingleChildScrollView
        child: Container(
          padding: EdgeInsets.symmetric(horizontal: 20.0, vertical:
            100), decoration: BoxDecoration( gradient: LinearGradient(
              begin: Alignment.topLeft,
              end: Alignment.bottomRight,
              colors: [Colors.black12, Colors.white12],
            ),
          ),
        ),
        child: Center(
          child: Column(
            mainAxisAlignment: MainAxisAlignment.center,
            children: [
              Image.asset(
                'assets/pinterest_logo.png', // Replace with your image file path
                width: 150.0, height: 150.0,
              ),
              SizedBox(height: 16.0),
              RichText( text:
                TextSpan( text:
                  'Welcome to ', style:
                    TextStyle( color:
                      Colors.black,
                      fontSize: 30.0,
                      fontWeight: FontWeight.bold,
                    ),
                ),
                children: [
                  TextSpan(
                    text: 'Pinterest',
                    style: TextStyle(
```

[illegible]

```

        TextStyle(color: Colors.black54), filled: true,
        fillColor: Colors.white.withOpacity(0.8),
        border: OutlineInputBorder( borderRadius:
            BorderRadius.circular(12.0), borderSide:
            BorderSide.none,
        ),
    ),
    style: TextStyle(color: Colors.black54),
),
    SizedBox(height: 20.0),
    ElevatedButton(
        onPressed: () {
            // Add your login logic here
        },
        child: Text(
            'Continue', style:
            TextStyle( color:
            Colors.white,
            fontSize: 18,
        ),
    ),
    style: ElevatedButton.styleFrom(
        backgroundColor: Colors.red, padding:
        EdgeInsets.symmetric(horizontal: 80.0), shape:
        RoundedRectangleBorder(
            borderRadius: BorderRadius.circular(20.0),
        ),
    ),
),
    SizedBox(height: 16.0),

    TextButton(
        onPressed: () {
            Navigator.push(
                context,
                MaterialPageRoute(builder: (context) => LoginPage()),
            );
        },
        child: RichText(
            text: TextSpan(
                text: 'Already have an account? ', style:
                TextStyle(color: Colors.black54, fontSize: 16),
                children: <TextSpan>[
                    TextSpan(

```

```

        text: 'Login', style: TextStyle(color: Colors.red,
        fontSize: 16),
      ),
    ],
  ),
),
),
],
),
),
),
),
);
}
}

```

### **login\_page.dart**

```

import 'package:flutter/material.dart';
import
'package:pinterest/main_page.dart';
import './signup_page.dart';

class LoginPage extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      body: SingleChildScrollView( // Wrap with SingleChildScrollView
        child: Container(
          padding: EdgeInsets.symmetric(horizontal: 20.0, vertical:
            150), decoration: BoxDecoration( gradient: LinearGradient(
              begin: Alignment.topLeft, end:
                Alignment.bottomRight, colors:
                  [Colors.black12, Colors.white12],
            ),
          ),
        child: Center(
          child: Column(
            mainAxisAlignment: MainAxisAlignment.center,
            children: [
              Image.asset(

```

```

'assets/pinterest_logo.png', // Replace with your image file path
width: 150.0, height: 150.0,
),
 SizedBox(height: 16.0),
 RichText( text:
   TextSpan(
    text: 'Welcome
to ', style:
    TextStyle(
    color:
    Colors.black,
    fontSize: 30.0,
    fontWeight:
    FontWeight.bo
    ld,
    ),
    children: [
      TextSpan(
        text: 'Pinterest', style: TextStyle( color: Colors.red, //
        Change the color of "Pinterest" to red fontSize: 30.0,
        fontWeight: FontWeight.bold,
        ),
      ),
    ],
  ),
),
 SizedBox(height: 16.0),
 TextField( decoration:
  InputDecoration(
    prefixIcon: Icon(Icons.email, color:
    Colors.black54), hintText: 'Email', hintStyle:
    TextStyle(color: Colors.black54), filled: true,
    fillColor: Colors.white.withOpacity(0.8), border:
    OutlineInputBorder(
      borderRadius: BorderRadius.circular(12.0),
      borderSide: BorderSide.none,
    ),
  ),
  style: TextStyle(color: Colors.black54),
),
 SizedBox(height: 12.0),
 TextField( obscureText: true,
  decoration:
  InputDecoration(

```

```

        prefixIcon: Icon(Icons.lock, color:
Colors.black54), hintText: 'Password', hintStyle:
TextStyle(color: Colors.black54), filled: true,
fillColor: Colors.white.withOpacity(0.8), border:
OutlineInputBorder(
    borderRadius: BorderRadius.circular(12.0),
    borderSide: BorderSide.none,
),
),
style: TextStyle(color: Colors.black54),
),
 SizedBox(height: 20.0),
 ElevatedButton(
    onPressed: () {
        Navigator.push(
            context,
            MaterialPageRoute(builder: (context) => MainPage()),
        );
    },
    child: Text(
        'Continue', style:
        TextStyle( color:
        Colors.white,
        fontSize: 18,
        ),
    ),
    style: ElevatedButton.styleFrom(
        backgroundColor: Colors.red, padding:
        EdgeInsets.symmetric(horizontal: 80.0), shape:
        RoundedRectangleBorder(
            borderRadius: BorderRadius.circular(20.0),
        ),
    ),
),
SizedBox(height: 16.0),

SizedBox(height: 5.0),
TextButton(
    onPressed: () {
        Navigator.push(
            context,
            MaterialPageRoute(builder: (context) => SignupPage()),
        );
    },

```

```

        child: RichText(
          text: TextSpan(
            text: 'Don\'t have an account? ', style:
              TextStyle(color: Colors.black54, fontSize: 16),
            children: <TextSpan>[
              TextSpan( text: 'Sign up', style: TextStyle(color:
                Colors.red, fontSize: 16),
            ),
          ],
        ),
      ),
    ),
  ],
),
);
}
}

```

Code:

```

import
'package:cached_network_image/cached_network_image.dart';
import 'package:faker/faker.dart'; import
'package:flutter/cupertino.dart'; import 'package:flutter/material.dart';
import 'package:font_awesome_flutter/font_awesome_flutter.dart';
import 'package:google_fonts/google_fonts.dart';

```

```

class DetailPage extends StatelessWidget {
  const DetailPage({super.key, required this.imageUrl});
  final String imageUrl;

```

@override

```

Widget build(BuildContext context)
{ return Scaffold( body: Column(
  children: [
    Expanded( child:
      Container(
        decoration: BoxDecoration(
          image: DecorationImage(

```



```
image: CachedNetworkImageProvider(imageUrl),
fit: BoxFit.cover,
),
),
child: SafeArea(
  child: Padding( padding: const
    EdgeInsets.symmetric(horizontal: 18), child: Column(
      mainAxisAlignment: MainAxisAlignment.spaceBetween,
      crossAxisAlignment: CrossAxisAlignment.end,
      children: [
        Row( mainAxisAlignment:
          MainAxisAlignment.spaceBetween, children: [
            InkWell( onTap: () => Navigator.pop(context),
              child: CircleAvatar( backgroundColor:
                Colors.black.withOpacity(0.2), child: const Icon(
                  CupertinoIcons.chevron_back, color:
                    Colors.white, size: 28,
                ),
              ),
            ),
            InkWell(
              onTap: () {
                showModalBottomSheet(
                  context: context,
                  builder: (context) {
                    return SizedBox(
                      height: 330, child:
                        Padding(
                          padding: const EdgeInsets.symmetric(
                            horizontal: 12, vertical: 16),
                          child: Column(
                            crossAxisAlignment:
                              CrossAxisAlignment.start,
                            children: [
                                Row(
                                  crossAxisAlignment:
                                    CrossAxisAlignment.center,
                                  children: [
                                      const Icon(
                                        FontAwesomeIcons.xmark),
                                      const SizedBox(
                                        width: 12,
                                      ),

```

```
Text(
  'Options',
  style: GoogleFonts. notoSans(),
),
],
),
const SizedBox(
  height: 30,
),
Text(
  'Follow
  ${Faker().internet.userName()}', style:
  GoogleFonts. notoSans( fontSize: 18,
  fontWeight: FontWeight.w500,
),
),
const SizedBox(
  height: 15,
),
Text( 'Copy link', style:
  GoogleFonts. notoSans(
  fontSize: 18, fontWeight:
  FontWeight.w500,
),
),
const SizedBox(
  height: 15,
),
Text(
  'Download image', style:
  GoogleFonts. notoSans(
  fontSize: 18, fontWeight:
  FontWeight.w500,
),
),
const SizedBox(
  height: 15,
),
Text( 'Hide Pin', style:
  GoogleFonts. notoSans(
  fontSize: 18, fontWeight:
  FontWeight.w500,
),
),
),
```

```
const SizedBox(
  height: 15,
),
Text( 'Report Pin', style:
  GoogleFonts.notoSans(
    fontSize: 18, fontWeight:
      FontWeight.w500,
  ),
),
Text(
  "This goes against Pinterest's community guidelines",
  style: GoogleFonts.notoSans(
    fontSize: 14,
  ),
),
],
),
),
);
},
shape: RoundedRectangleBorder(
  borderRadius: BorderRadius.circular(20.0),
),
);
},
child: const Icon(
  CupertinoIcons.ellipsis,
  color: Colors.white,
  size: 28,
),
),
],
),
CircleAvatar( backgroundColor:
  Colors.white.withOpacity(0.8), child: const Icon(
    CupertinoIcons.viewfinder, color: Colors.black,
  ),
)
],
),
),
),
),
),
),
```

```

Container( padding: const
  EdgeInsets.only(
    top: 10,
    bottom: 30,
    left: 18,
    right: 18,
  ),
  color: Colors.white, child: Row( mainAxisAlignment:
    MainAxisAlignment.spaceBetween, children: [ const
    Icon(CupertinoIcons.heart_circle_fill),
    Row(
      children: [
        Container( padding: const
          EdgeInsets.symmetric(
            horizontal: 17, vertical: 15),
          decoration: BoxDecoration(
            color: const Color(0xFFFF1F1F),
            borderRadius: BorderRadius.circular(30),
          ),
          child: Text( 'View', style:
            GoogleFonts.notoSans(
              fontWeight: FontWeight.w500,
            ),
          ),
        ),
        const SizedBox(
          width: 6,
        ),
        Container( padding: const
          EdgeInsets.symmetric(
            horizontal: 17, vertical: 15),
          decoration: BoxDecoration(
            color: Theme.of(context).colorScheme.secondary,
            borderRadius: BorderRadius.circular(30),
          ),
          child: Text( 'Save', style:
            GoogleFonts.notoSans(
              fontWeight: FontWeight.w500,
              color: Colors.white,
            ),
          ),
        ),
      ],
    ),
  ),
),

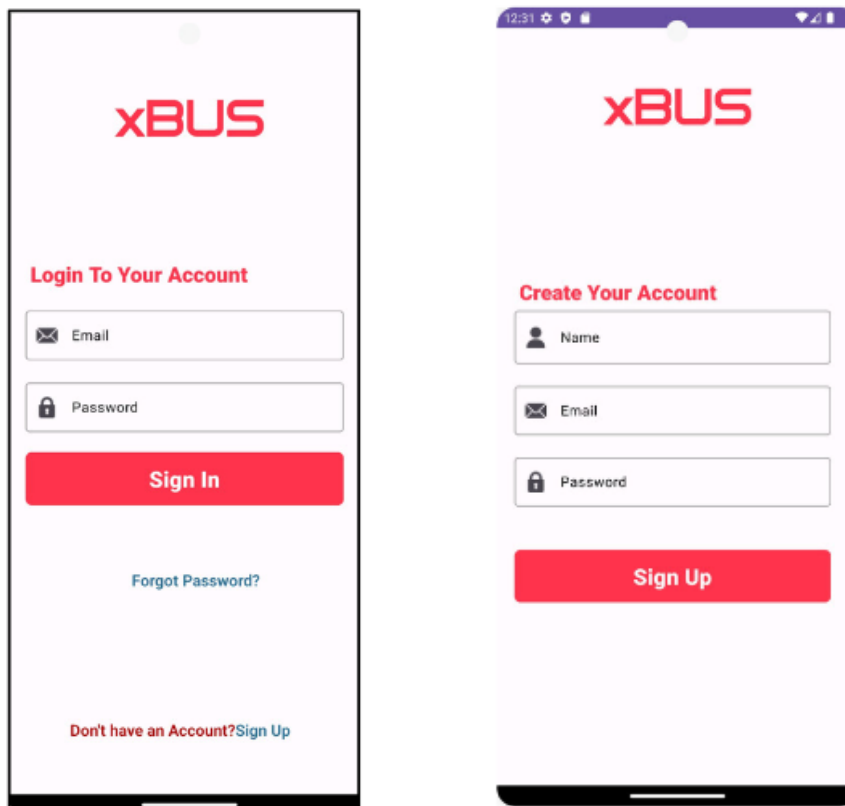
```

```

const Icon(Icons.share),
],
),
),
],
),
);
}
}

```

App UI:



Widgets used: Form Widget, Form Widget Fields

Conclusion: Therefore understood the use of form widget in Flutter. Implemented signup and login page using form widget in my Flutter application.