

MAD & PWA Lab Journal

Experiment No.	04
Experiment Title.	To create an interactive Form using form widget
Roll No.	27
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Class	D15A
Subject	MAD & PWA Lab
Lab Outcome	LO1: Understand cross platform mobile application development using Flutter framework
Grade:	

AIM : To create an interactive Form using form widget.

THEORY:

- MaterialApp: Sets up the basic structure of the app, including theme and home screen.
- StatelessWidget: A widget that doesn't have mutable state, used for the root app (MyApp).
- StatefulWidget: A widget with mutable state, used for the registration form (RegistrationForm).
- GlobalKey<FormState>: A key to identify and validate the form.
- TextEditingController: Manages text input and allows text fields to be modified programmatically.
- FocusNode: Tracks the focus state of text fields for navigating between fields.
- Scaffold: Provides a structure for the visual layout of the app, including app bar, body, and bottom sheets.
- SafeArea: Ensures the UI elements don't overlap with system UI areas like notches or status bars.
- CustomScrollView: Allows custom scrolling behavior for multiple slivers.
- SliverAppBar: A collapsible app bar that responds to scrolling.
- FlexibleSpaceBar: Provides a flexible area in the SliverAppBar that can expand or contract.
- SliverToBoxAdapter: Used to add regular widgets (like padding) in a sliver-based layout.
- TextFormField: A form field that allows the user to input text with validation and custom styling.
- InputDecoration: Customizes the appearance of text fields (e.g., label text, icons, borders).
- TextInputType: Specifies the type of input expected in the text field (e.g., phone number or text).
- ElevatedButton: A Material Design button with elevated appearance, used for submitting the form.
- SnackBar: A temporary message that appears at the bottom of the screen, typically to show feedback to the user.
- GoogleFonts.poppins: Loads and applies the Poppins font style from Google Fonts to the text.

PROGRAM:

Login and Register

```
import 'package:flutter/material.dart';
import 'package:bigbasket_website/home.dart'; //
void main() {
  runApp(const MyApp());
}
```

```
class MyApp extends StatelessWidget {
```

```
const MyApp({super.key});
```

```
@override
```

```
Widget build(BuildContext context) {  
  return MaterialApp(  
    title: 'Login Screen',  
    theme: ThemeData(  
      primarySwatch: Colors.red,  
    ),  
    home: const LoginScreen(),  
  );  
}
```

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

```
@override
```

```
Widget build(BuildContext context) {  
  return Scaffold(  
    body: SingleChildScrollView(  
      child: Column(  
        children: [  
          // Top image section  
          Container(  
            height: 250,  
            decoration: const BoxDecoration(  
              image: DecorationImage(  
                image: NetworkImage(  
                  'assets/loginnn.png'),  
                fit: BoxFit.cover,  
              ),  
            ),  
          child: const Padding(  
            padding: EdgeInsets.all(24.0),  
            child: Align(  
              alignment: Alignment.bottomLeft,  
            ),  
          ),  
          // Login form section  
          Padding(  
            padding: const EdgeInsets.all(24.0),
```

```

child: Column(
  crossAxisAlignment: CrossAxisAlignment.stretch,
  children: [
    const Text(
      'Login',
      style: TextStyle(
        fontSize: 24,
        fontWeight: FontWeight.bold,
      ),
    ),
    const SizedBox(height: 24),
    // Social login buttons
    Row(
      children: [
        Expanded(
          child: ElevatedButton.icon(
            onPressed: () {},
            icon: const Icon(Icons.facebook, color: Colors.white),
            label: const Text('FACEBOOK',
              style: TextStyle(color: Colors.white)),
            style: ElevatedButton.styleFrom(
              backgroundColor: const Color(0xFF3B5998),
              padding: const EdgeInsets.symmetric(vertical: 12),
            ),
          ),
          const SizedBox(width: 16),
          Expanded(
            child: OutlinedButton.icon(
              onPressed: () {},
              icon: const Icon(Icons.g_mobiledata,
                color: Colors.black87),
              label: const Text('GOOGLE',
                style: TextStyle(color: Colors.black87)),
              style: OutlinedButton.styleFrom(
                padding: const EdgeInsets.symmetric(vertical: 12),
              ),
            ),
          ),
        ],
      ),
    const SizedBox(height: 24),
    const Text(
      'or',

```

```

    textAlign: TextAlign.center,
    style: TextStyle(color: Colors.grey),
  ),
  const SizedBox(height: 24),
  // Email field
  TextField(
    decoration: InputDecoration(
      hintText: 'Email',
      border: OutlineInputBorder(
        borderRadius: BorderRadius.circular(4),
      ),
    ),
  ),
  const SizedBox(height: 16),
  // Password field
  TextField(
    obscureText: true,
    decoration: InputDecoration(
      hintText: 'Password',
      border: OutlineInputBorder(
        borderRadius: BorderRadius.circular(4),
      ),
    ),
  ),
  const SizedBox(height: 16),
  // Remember me checkbox
  Row(
    children: [
      Checkbox(
        value: false,
        onChanged: (bool? value) {},
      ),
      const Text('Remember me'),
      const Spacer(),
      TextButton(
        onPressed: () {},
        child: const Text('TERMS & CONDITIONS',
          style: TextStyle(color: Colors.green)),
      ),
    ],
  ),
  const SizedBox(height: 24),
  // Login button
  ElevatedButton(

```

```

        onPressed: () {
          Navigator.pushReplacement(
            context,
            MaterialPageRoute(builder: (context) => const HomePage()), // Navigate to
HomePage
          );
        },
        style: ElevatedButton.styleFrom(
          backgroundColor: Colors.green,
          padding: const EdgeInsets.symmetric(vertical: 16),
        ),
        child: const Text('LOGIN', style: TextStyle(color: Colors.white)),
      ),

      const SizedBox(height: 24),
      // Bottom text
      const Text(
        'New to the platform?',
        textAlign: TextAlign.center,
      ),
      TextButton(
        onPressed: () {
          Navigator.push(
            context,
            MaterialPageRoute(builder: (context) => const RegisterScreen()),
          );
        },
        child: const Text('REGISTER HERE', style: TextStyle(color: Colors.green)),
      ),
    ],
  ),
),
],
),
);
}
}

```

```

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

```

```

  @override

```



```

),
validator: (value) {
  if (value == null || value.isEmpty) {
    return 'Please enter your name';
  }
  return null;
},
),
const SizedBox(height: 15),

// Email Field
TextFormField(
  controller: _emailController,
  keyboardType: TextInputType.emailAddress,
  decoration: const InputDecoration(
    labelText: 'Email',
    border: OutlineInputBorder(),
    prefixIcon: Icon(Icons.email),
  ),
  validator: (value) {
    if (value == null || value.isEmpty) {
      return 'Please enter your email';
    }
    if (!RegExp(r'^^[^@]+@[^@]+\.[^@]+' ).hasMatch(value)) {
      return 'Enter a valid email';
    }
    return null;
  },
),
const SizedBox(height: 15),

// Phone Number Field
TextFormField(
  controller: _phoneController,
  keyboardType: TextInputType.phone,
  decoration: const InputDecoration(
    labelText: 'Phone Number',
    border: OutlineInputBorder(),
    prefixIcon: Icon(Icons.phone),
  ),
  validator: (value) {
    if (value == null || value.isEmpty) {
      return 'Please enter your phone number';
    }
  }
)

```



```

        if (value.length != 10) {
          return 'Phone number must be 10 digits';
        }
        return null;
      },
    ),
    const SizedBox(height: 15),

    // Password Field
    TextFormField(
      controller: _passwordController,
      obscureText: true,
      decoration: const InputDecoration(
        labelText: 'Password',
        border: OutlineInputBorder(),
        prefixIcon: Icon(Icons.lock),
      ),
      validator: (value) {
        if (value == null || value.isEmpty) {
          return 'Please enter a password';
        }
        if (value.length < 6) {
          return 'Password must be at least 6 characters long';
        }
        return null;
      },
    ),
    const SizedBox(height: 15),

    // Address Field
    TextFormField(
      controller: _addressController,
      decoration: const InputDecoration(
        labelText: 'Address',
        border: OutlineInputBorder(),
        prefixIcon: Icon(Icons.location_on),
      ),
      validator: (value) {
        if (value == null || value.isEmpty) {
          return 'Please enter your address';
        }
        return null;
      },
    ),

```

```
const SizedBox(height: 25),

// Register Button
SizedBox(
  width: double.infinity, // Makes the button take the full width of the parent
  child: ElevatedButton(
    onPressed: () {
      if (_formKey.currentState!.validate()) {
        ScaffoldMessenger.of(context).showSnackBar(
          const SnackBar(content: Text('Registration Successful!')),
        );
        Navigator.pop(context);
      }
    },
    style: ElevatedButton.styleFrom(
      backgroundColor: Colors.green,
      padding: const EdgeInsets.symmetric(vertical: 16),
    ),
    child: const Text('REGISTER', style: TextStyle(color: Colors.white)),
  ),
),

const SizedBox(height: 15),
// Already Registered? Login Text
TextButton(
  onPressed: () {
    // Navigate to login screen
    Navigator.pop(context); // Replace with correct navigation if needed
  },
  child: const Text(
    'Already registered? Login',
    style: TextStyle(fontSize: 16, color: Colors.green),
  ),
),
,
```



Login



FACEBOOK



GOOGLE

or

Email

Password

☐

Remember me

[TERMS & CONDITIONS](#)

LOGIN

New to the platform?

[REGISTER HERE](#)



Register

DEBUG

Create Your Account



Full Name



Email



Phone Number



Password



Address

REGISTER

Already registered? [Login](#)

Order Form

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

void main() {
  runApp(const MyApp());
}

class MyApp extends StatelessWidget {
  const MyApp({Key? key}) : super(key: key);

  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      debugShowCheckedModeBanner: false,
      theme: ThemeData(
        textTheme: GoogleFonts.poppinsTextTheme(Theme.of(context).textTheme),
      ),
      home: const RegistrationForm(),
    );
  }
}

class RegistrationForm extends StatefulWidget {
  const RegistrationForm({Key? key}) : super(key: key);

  @override
  _RegistrationFormState createState() => _RegistrationFormState();
}

class _RegistrationFormState extends State<RegistrationForm> {
  final _formKey = GlobalKey<FormState>();
  final _controllers = List.generate(5, (_) => TextEditingController());
  final _focusNodes = List.generate(5, (_) => FocusNode());

  @override
  void dispose() {
    for (var controller in _controllers) {
      controller.dispose();
    }
    for (var node in _focusNodes) {
      node.dispose();
    }
  }
}
```

```
super.dispose();  
}
```

```
@override  
Widget build(BuildContext context) {  
  return Scaffold(  
    body: Container(  
      decoration: const BoxDecoration(  
        gradient: LinearGradient(  
          begin: Alignment.topLeft,  
          end: Alignment.bottomRight,  
          colors: [Color(0xFFE8F5E9), Colors.white],  
        ),  
      ),  
    child: SafeArea(  
      child: CustomScrollView(  
        slivers: [  
          SliverAppBar(  
            floating: true,  
            backgroundColor: Colors.transparent,  
            elevation: 0,  
            flexibleSpace: FlexibleSpaceBar(  
              title: Text(  
                'Order Form',  
                style: GoogleFonts.poppins(  
                  color: Colors.green[800],  
                  fontWeight: FontWeight.w600,  
                ),  
            ),  
          ),  
          SliverToBoxAdapter(  
            child: Padding(  
              padding: const EdgeInsets.all(24.0),  
              child: Form(  
                key: _formKey,  
                child: Column(  
                  crossAxisAlignment: CrossAxisAlignment.start,  
                  children: [  
                    Text(  
                      'Please fill out the form to order',  
                      style: GoogleFonts.poppins(  
                        fontSize: 16,  
                        color: Colors.green[800],  
                      ),  
                    ],  
                  ),  
                ),  
              ),  
            ),  
          ),  
        ],  
      ),  
    ),  
  ),  
);
```

```

        fontWeight: FontWeight.w500,
      ),
    ),
    const SizedBox(height: 24),
    ..._buildFormFields(),
    const SizedBox(height: 32),
    _buildSubmitButton(),
  ],
),
),
),
),
),
],
),
),
),
);
}

```

```

List<Widget> _buildFormFields() {
  final labels = ['First Name', 'Last Name', 'Address', 'Landmark', 'Mobile Number'];
  final icons = [Icons.person, Icons.person, Icons.home, Icons.location_on, Icons.phone];

  return List.generate(
    5,
    (index) => Padding(
      padding: const EdgeInsets.only(bottom: 16),
      child: TextFormField(
        controller: _controllers[index],
        focusNode: _focusNodes[index],
        decoration: _getInputDecoration(labels[index], icons[index]),
        validator: (value) {
          if (value == null || value.isEmpty) {
            return 'Please enter ${labels[index].toLowerCase()}' // Ensures the field is required
          }
          if (index == 4 && value.length != 10) {
            return 'Mobile number must be 10 digits' // Mobile number validation
          }
          return null;
        },
        onFieldSubmitted: (_) {
          if (index < 4) {
            FocusScope.of(context).requestFocus(_focusNodes[index + 1]);
          }
        }
      )
    )
  );
}

```

```

    },
    keyboardType: index == 4 ? TextInputType.phone : TextInputType.text,
  ),
),
);
}

```

```

InputDecoration _getInputDecoration(String label, IconData icon) {
  return InputDecoration(
    labelText: label,
    prefixIcon: Icon(icon, color: Colors.green[800]),
    labelStyle: TextStyle(color: Colors.green[800]),
    enabledBorder: OutlineInputBorder(
      borderRadius: BorderRadius.circular(12),
      borderSide: BorderSide(color: Colors.green[200]!),
    ),
    focusedBorder: OutlineInputBorder(
      borderRadius: BorderRadius.circular(12),
      borderSide: BorderSide(color: Colors.green[800]!, width: 2),
    ),
    errorBorder: OutlineInputBorder(
      borderRadius: BorderRadius.circular(12),
      borderSide: BorderSide(color: Colors.red[400]!),
    ),
    focusedErrorBorder: OutlineInputBorder(
      borderRadius: BorderRadius.circular(12),
      borderSide: BorderSide(color: Colors.red[400]!, width: 2),
    ),
    filled: true,
    fillColor: Colors.white,
  );
}

```

```

Widget _buildSubmitButton() {
  return SizedBox(
    width: double.infinity,
    child: ElevatedButton(
      onPressed: _submitForm,
      style: ElevatedButton.styleFrom(
        backgroundColor: Colors.green[800],
        padding: const EdgeInsets.symmetric(vertical: 16),
        shape: RoundedRectangleBorder(
          borderRadius: BorderRadius.circular(12),
        ),
      ),
    ),
  );
}

```



```
),  
child: Text(  
  'SUBMIT',  
  style: GoogleFonts.poppins(  
    color: Colors.white,  
    fontSize: 18,  
    fontWeight: FontWeight.w600,  
  ),  
,  
,  
,  
);  
}
```

```
void _submitForm() {  
  if (_formKey.currentState!.validate()) {  
    ScaffoldMessenger.of(context).showSnackBar(  
      SnackBar(  
        content: Text(  
          'Order Successful!',  
          style: GoogleFonts.poppins(),  
        ),  
        backgroundColor: Colors.green[800],  
      ),  
    );  
  }  
}  
}
```

Order Form

Please fill out the form to order



First Name



Last Name



Address



Landmark



Mobile Number

SUBMIT

Order Form

Please fill out the form to order

First Name



Rujuta

Please enter first name



Last Name

Please enter last name



Address

Please enter address



Landmark

Please enter landmark



Mobile Number

Please enter mobile number

SUBMIT