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SARDAR PATEL INSTITUTE OF TECHNOLOGY
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Munshi Nagar, Andheri (W), Mumbai – 400 058.
Department of Computer Science and Engineering

Experiment	2
Aim	Create Dynamic Registration form
Objective	To Create Dynamic Registration form using UI components and Scaffold elements.
Name	Iffat Shabbir Patel
UCID	2024510041
Class	FYMCA
Batch	B
Date of Submission	

Technology used	**Flutter**
Task	Create Dynamic Webpage for submitting review for movie app along with giving ratings for the same. The webpage should include, name, surname, date of birth, address, email id, phone number, gender, review and ratings for the movie in terms of stars/smiley etc. include validation. The information should be fetched and displayed on the next page for viewing it. Use snackbar, alert dialog box, try adding fan button (static) etc.

Code with proper label	**main.dart**
	``dart
	import 'package:flutter/material.dart';
	import 'screens/review_from_screen.dart';
	
	void main() {
	  runApp(MovieReviewApp());
	}
	
	class MovieReviewApp extends StatelessWidget {
	  @override
	  Widget build(BuildContext context) {
	    return MaterialApp(
	      title: 'Movie Review App',
	      theme: ThemeData(
	        primarySwatch: Colors.blue,
	      ),
	      home: ReviewFormScreen(),
	    );
	  }
	}
	``
	
	rating_stars.dart
	``dart
	import 'package:flutter/material.dart';
	
	class RatingStars extends StatelessWidget {
	  final double rating;
	  final Function(double) onRatingChanged;
	
	  RatingStars({required this.rating, required this.onRatingChanged});
	
	  final List<String> emojis = ['😡', '😒', '😊', '👌', '❤️'];
	``

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```dart
  @override
  Widget build(BuildContext context) {
   return Column(
     children: [
       Text(
         'Rating: ${emojis[rating.toInt() - 1]}',
         style: TextStyle(fontSize: 24),
       ),
       Slider(
         value: rating,
         min: 1,
         max: 5,
         divisions: 4,
         label: emojis[rating.toInt() - 1],
         onChanged: (value) {
           onRatingChanged(value);
         },
       ),
     ],
   );
  }
}
```

review_from_screen.dart
```dart
import 'package:flutter/material.dart';
import 'review_display_screen.dart';
import 'rating_stars.dart';

class ReviewFormScreen extends StatefulWidget {
  @override
  _ReviewFormScreenState createState() => _ReviewFormScreenState();
}

class _ReviewFormScreenState extends State<ReviewFormScreen> {
  final _formKey = GlobalKey<FormState>();
  final TextEditingController nameController = TextEditingController();
  final TextEditingController surnameController = TextEditingController();
  final TextEditingController dobController = TextEditingController();
  final TextEditingController addressController = TextEditingController();
  final TextEditingController emailController = TextEditingController();
  final TextEditingController phoneController = TextEditingController();
  final TextEditingController reviewController = TextEditingController();
  String gender = '';
  double rating = 3;

  void _submitForm() {
   if (_formKey.currentState!.validate()) {
     ScaffoldMessenger.of(context).showSnackBar(
       SnackBar(content: Text('Review Submitted Successfully!')),
     );
     Navigator.push(
       context,
       MaterialPageRoute(
         builder: (context) => ReviewDisplayScreen(
```

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```
        name: nameController.text,
        surname: surnameController.text,
        dob: dobController.text,
        address: addressController.text,
        email: emailController.text,
        phone: phoneController.text,
        gender: gender,
        review: reviewController.text,
        rating: rating,
      ),
    ),
  );
 }
}

@override
Widget build(BuildContext context) {
 return Scaffold(
   appBar: AppBar(title: Text('Submit Review')),
   body: Padding(
    padding: EdgeInsets.all(16.0),
    child: Form(
     key: _formKey,
     child: SingleChildScrollView(
      child: Column(
       children: [
        TextFormField(
         controller: nameController,
         decoration: InputDecoration(labelText: 'Name'),
         validator: (value) => value!.isEmpty ? 'Enter name' : null,
        ),
        TextFormField(
         controller: surnameController,
         decoration: InputDecoration(labelText: 'Surname'),
         validator: (value) => value!.isEmpty ? 'Enter surname' : null,
        ),
        TextFormField(
         controller: dobController,
         decoration: InputDecoration(labelText: 'Date of Birth'),
         validator: (value) => value!.isEmpty ? 'Enter date of birth' : null,
        ),
        TextFormField(
         controller: addressController,
         decoration: InputDecoration(labelText: 'Address'),
         validator: (value) => value!.isEmpty ? 'Enter address' : null,
        ),
        TextFormField(
         controller: emailController,
         decoration: InputDecoration(labelText: 'Email'),
         validator: (value) => value!.contains('@') ? null : 'Enter a valid email',
        ),
        TextFormField(
         controller: phoneController,
         decoration: InputDecoration(labelText: 'Phone Number'),
         keyboardType: TextInputType.phone,
         validator: (value) => value!.length == 10 ? null : 'Enter a valid phone
```

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```
number',
        ),
        Row(
          children: [
            Text('Gender: '),
            Radio(
              value: 'Male',
              groupValue: gender,
              onChanged: (value) {
                setState(() { gender = value.toString(); });
              },
            ),
            Text('Male'),
            Radio(
              value: 'Female',
              groupValue: gender,
              onChanged: (value) {
                setState(() { gender = value.toString(); });
              },
            ),
            Text('Female'),
          ],
        ),
        TextFormField(
          controller: reviewController,
          decoration: InputDecoration(labelText: 'Review'),
          validator: (value) => value!.isEmpty ? 'Enter review' : null,
        ),
        SizedBox(height: 10),
        RatingStars(
          rating: rating,
          onRatingChanged: (value) {
            setState(() { rating = value; });
          },
        ),
        SizedBox(height: 10),
        ElevatedButton(
          onPressed: _submitForm,
          child: Text('Submit'),
        ),
      ],
    ),
   ),
  ),
 );
 }
}
```

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

class ReviewDisplayScreen extends StatelessWidget {
 final String name;
 final String surname;
```
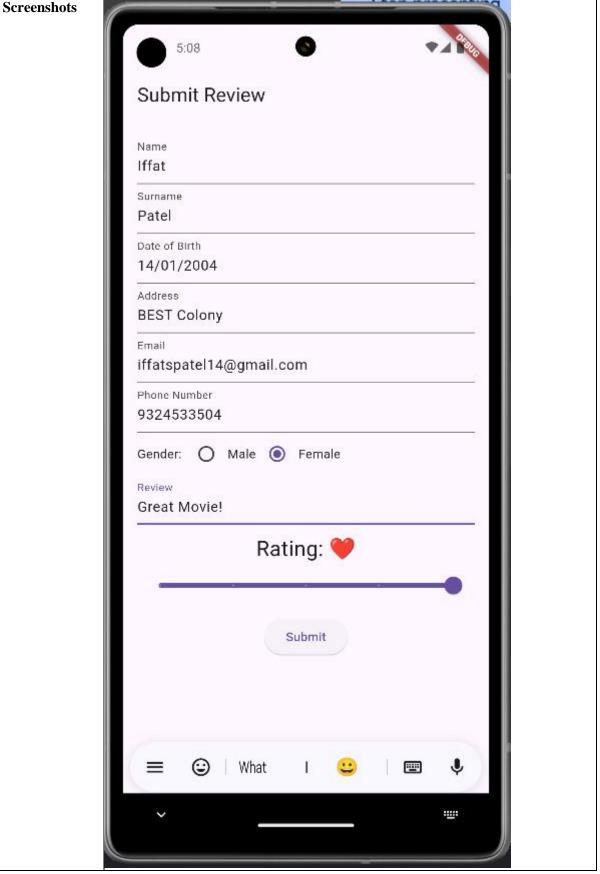
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```dart
  final String dob;
  final String address;
  final String email;
  final String phone;
  final String gender;
  final String review;
  final double rating;

  final List<String> emojis = ['😠', '😗', '😊', '👌', '❤️'];

  ReviewDisplayScreen({
    required this.name,
    required this.surname,
    required this.dob,
    required this.address,
    required this.email,
    required this.phone,
    required this.gender,
    required this.review,
    required this.rating,
  });

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(title: Text('Review Details')),
      body: Padding(
        padding: EdgeInsets.all(16.0),
        child: Column(
          crossAxisAlignment: CrossAxisAlignment.start,
          children: [
            Text('Name: $name $surname', style: TextStyle(fontSize: 18, fontWeight: FontWeight.bold)),
            SizedBox(height: 8),
            Text('Date of Birth: $dob', style: TextStyle(fontSize: 16)),
            Text('Address: $address', style: TextStyle(fontSize: 16)),
            Text('Email: $email', style: TextStyle(fontSize: 16)),
            Text('Phone: $phone', style: TextStyle(fontSize: 16)),
            Text('Gender: $gender', style: TextStyle(fontSize: 16)),
            SizedBox(height: 8),
            Text('Review:', style: TextStyle(fontSize: 16, fontWeight: FontWeight.bold)),
            Text(review, style: TextStyle(fontSize: 16)),
            SizedBox(height: 10),
            Text('Rating: ${emojis[rating.toInt() - 1]}', style: TextStyle(fontSize: 24)),
          ],
        ),
      ),
    );
  }
}
```

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Screenshots

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Question and Answers	Answer the following Questions: 1. How to create snackbar? Which component of flutter it belongs to? Ans-

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How to Create a Snackbar in Flutter
A Snackbar in Flutter is a temporary message widget that provides feedback to users about an action. It belongs to the Material Design Components in Flutter.

Steps to Create a Snackbar
1. Wrap your app in a Scaffold widget: Snackbar is shown within a Scaffold.
2. Use the ScaffoldMessenger to display the Snackbar.

The Snackbar is a part of Material Design Components in Flutter and is only available in apps using MaterialApp. It ensures a consistent design across platforms.

---

2. How to give validation to any field in flutter?

Ans-To validate a field in Flutter, you can use the Form widget with a TextFormField and attach a validator function. This ensures that the user input meets specific requirements (e.g., not empty, valid email, etc.).

Steps to Add Validation
1.Wrap the fields in a Form widget: Use a GlobalKey to manage the form's state.
2.Use TextFormField: Each field has a validator property.
3.Call formKey.currentState!.validate(): This triggers validation for all fields.

---

3. How to navigate from one page to another.
In Flutter, you can navigate between pages (screens) using the Navigator class. The Navigator manages a stack of pages, allowing you to push (navigate to) or pop (go back) between routes.

Steps to Navigate Between Pages
1. Create Multiple Screens: Each screen is a separate widget (usually a StatelessWidget or StatefulWidget).

2. Use Navigator for Navigation:

3. Navigator.push: To navigate to a new screen.
4. Navigator.pop: To go back to the previous screen.

---

4. How are values of variables fetched in flutter.
Ans-In Flutter (using Dart), the values of variables are fetched based on **how and where they are declared**, and whether they are part of **state management** or **widget rebuilds**. Here's a breakdown:

1. Direct Variable Access
Variables declared in the same scope (e.g., in a method, widget, or class) can be accessed directly.

Example:
```dart
```

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```dart
void main() {
 String greeting = "Hello, Flutter!";
 print(greeting); // Directly fetch the value
}
``
```

2. Variables in Widgets
Flutter widgets (stateless or stateful) can use variables declared in their class or parent widgets.

Stateless Widget:
- Variables are immutable (declared as `final`).
- Values are fetched directly during the widget's `build` method.

```dart
class MyText extends StatelessWidget {
  final String message = "Hello!"; // Immutable variable

  @override
  Widget build(BuildContext context) {
    return Text(message); // Fetch value directly
  }
}
```

Stateful Widget:
- Variables are stored in the `State` class.
- Use `setState()` to update variables and trigger a UI rebuild.

```dart
class Counter extends StatefulWidget {
 @override
 _CounterState createState() => _CounterState();
}

class _CounterState extends State<Counter> {
 int count = 0; // Variable stored in the State class

 void increment() {
  setState(() {
    count++; // Update variable and rebuild UI
  });
 }

 @override
 Widget build(BuildContext context) {
  return Text("Count: $count"); // Fetch value directly
 }
}
```

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3. Variables from Parent Widgets
Values can be passed from a parent widget to a child widget via the constructor.

```dart
// Parent widget
class ParentWidget extends StatelessWidget {
  final String parentMessage = "Data from parent";

  @override
  Widget build(BuildContext context) {
    return ChildWidget(message: parentMessage); // Pass variable to child
  }
}

// Child widget
class ChildWidget extends StatelessWidget {
  final String message; // Variable received via constructor

  ChildWidget({required this.message});

  @override
  Widget build(BuildContext context) {
    return Text(message); // Fetch value from parent
  }
}
```

4. State Management Solutions
For app-wide or complex state, use state management libraries like Provider, Riverpod, Bloc, etc. These allow variables to be fetched from a global or scoped state.

Example with Provider:
```dart
// Define a state class
class CounterModel extends ChangeNotifier {
  int count = 0;

  void increment() {
    count++;
    notifyListeners(); // Notify listeners to rebuild
  }
}

// Wrap your app with a Provider
void main() {
  runApp(
```

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```dart
  ChangeNotifierProvider(
    create: (context) => CounterModel(),
    child: MyApp(),
  ),
 );
}

// Fetch the value in a widget
class CounterDisplay extends StatelessWidget {
 @override
 Widget build(BuildContext context) {
   // Fetch the variable from Provider
   final counter = context.watch<CounterModel>();
   return Text("Count: ${counter.count}");
 }
}
```

---

5. BuildContext and InheritedWidget
Use `BuildContext` to access variables provided by ancestor widgets (e.g., themes, media queries, or custom `InheritedWidget`).

```dart
// Fetch the app theme
Color primaryColor = Theme.of(context).primaryColor;

// Fetch screen size
double screenWidth = MediaQuery.of(context).size.width;
```

Conclusion	This experiment demonstrates a complete Flutter implementation of a dynamic movie review form with: Comprehensive form validation Complex input types (date picker, radio buttons, star rating) State management using controllers Navigation between screens User feedback mechanisms (SnackBar, AlertDialog) Data persistence and display Responsive UI design