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CLASS: D15A
ROLL NO 39

Experiment 2

Aim: To design Flutter UI by including common widgets.

Theory: Widgets: Each element on a screen of the Flutter app is a widget. The view of the screen completely depends upon the choice and sequence of the widgets used to build the apps. And the structure of the code of an apps is a tree of widgets. Category of Widgets: There are mainly 14 categories in which the flutter widgets are divided. They are mainly segregated on the basis of the functionality they provide in a flutter application.

1. Accessibility: These are the set of widgets that make a flutter app more easily accessible.

2. Animation and Motion: These widgets add animation to other widgets.

3. Assets, Images, and Icons: These widgets take charge of assets such as display images and show icons.

4. Async: These provide async functionality in the flutter application.

5. Basics: These are the bundle of widgets that are absolutely necessary for the development of any flutter application.

6. Cupertino: These are the iOS designed widgets.

7. Input: This set of widgets provides input functionality in a flutter application.

8. Interaction Models: These widgets are here to manage touch events and route users to different views in the application.

9. Layout: This bundle of widgets helps in placing the other widgets on the screen as needed.

10. Material Components: This is a set of widgets that mainly follow material design by Google.

11. Painting and effects: This is the set of widgets that apply visual changes to their child widgets without changing their layout or shape.

12. Scrolling: This provides scrollability of to a set of other widgets that are not scrollable by default.

13. Styling: This deals with the theme, responsiveness, and sizing of the app. 14. Text: This displays text.

Description of few of the widgets are as follows:
● Scaffold – Implements the basic material design visual layout structure.
● App-Bar – To create a bar at the top of the screen.
● Text - To write anything on the screen.
● Container – To contain any widget.
● Centre – To provide centre alignment to other widgets.

CODE:

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

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

class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Uber Login',
      theme: ThemeData(
        primarySwatch: Colors.blue,
        fontFamily: 'Roboto', // Custom font
      ),
      home: LoginPage(),
    );
  }
}

class LoginPage extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
```

```dart
body: Container(
  color: Colors.white, // White background
  padding: EdgeInsets.all(30),
  child: Column(
    mainAxisAlignment: MainAxisAlignment.center,
    crossAxisAlignment: CrossAxisAlignment.stretch,
    children: [
      SizedBox(
        width: double.infinity,
        child: ElevatedButton(
          onPressed: () {
            // Implement mobile number login
          },
          style: ElevatedButton.styleFrom(
            primary: Colors.blue,
          ),
          child: Text(
            'Continue with mobile number',
            style: TextStyle(
              color: Colors.white,
              fontWeight: FontWeight.bold,
            ),
          ),
        ),
      ),
      SizedBox(height: 20),
      _buildSocialLoginButton('Continue with Google', Icons.ac_unit, () {
        // Implement login with Google
      }),
      SizedBox(height: 10),
      _buildSocialLoginButton('Continue with Apple', Icons.phone_iphone, () {
        // Implement login with Apple
      }),
      SizedBox(height: 10),
      _buildSocialLoginButton('Continue with Facebook', Icons.facebook, () {
        // Implement login with Facebook
      }),
      SizedBox(height: 10),
      _buildSocialLoginButton('Continue with email', Icons.email, () {
        // Implement login with email
      }),
      SizedBox(height: 20),
      TextButton(
        onPressed: () {
```

```dart
            // Implement find my account functionality
          },
          child: Text(
            'Find my account',
            style: TextStyle(
              color: Colors.blue,
              fontWeight: FontWeight.bold,
            ),
          ),
        ),
      ],
    ),
  ),
);
}

Widget _buildSocialLoginButton(String text, IconData icon, VoidCallback
onPressed) {
  return SizedBox(
    width: double.infinity,
    child: ElevatedButton.icon(
      onPressed: onPressed,
      icon: Icon(icon),
      label: Text(
        text,
        style: TextStyle(
          color: Colors.white,
          fontWeight: FontWeight.bold,
        ),
      ),
      style: ElevatedButton.styleFrom(
        primary: Colors.blue,
      ),
    ),
  );
}
}
```

OUTPUT: