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.
- Center – To provide center alignment to other widgets.

The code in main.dart:

```
import 'package:flutter/material.dart';
import 'package:flutter/services.dart';
import 'package:flutter_riverpod/flutter_riverpod.dart';
import 'package:flutter_youtube_ui/screens/nav_screen.dart';

void main() {
 runApp(ProviderScope(child: MyApp()));
}

class MyApp extends StatelessWidget {
 @override
 Widget build(BuildContext context) {
  SystemChrome.setPreferredOrientations([DeviceOrientation.portraitUp]);
  return MaterialApp(
   title: 'Flutter YouTube UI',
   debugShowCheckedModeBanner: false,
   theme: ThemeData(
    brightness: Brightness.dark,
    bottomNavigationBarTheme:
      const BottomNavigationBarThemeData(selectedItemColor: Colors.white),
   ),
   home: NavScreen(),
  );
 }
}
```

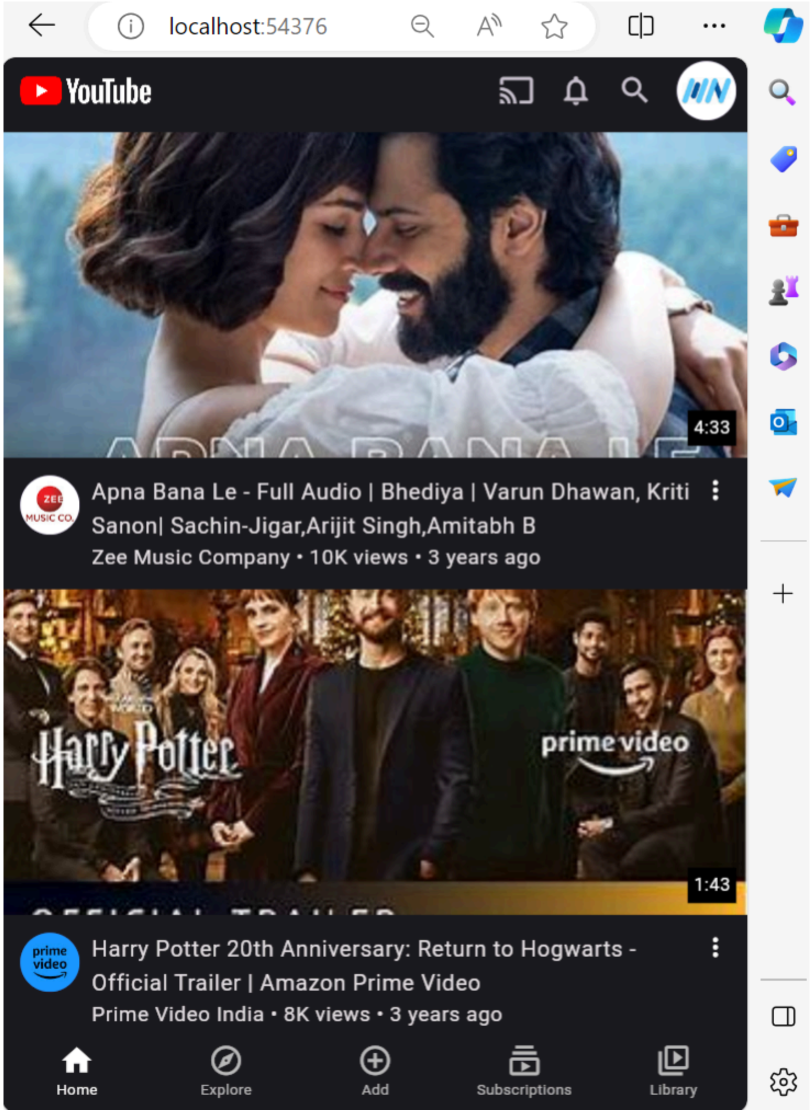
The code in home_screen.dart:

```
import 'package:flutter/material.dart';
import 'package:flutter_youtube_ui/data.dart';
import 'package:flutter_youtube_ui/widgets/widgets.dart';

class HomeScreen extends StatelessWidget {
 @override
 Widget build(BuildContext context) {
  return Scaffold(
   body: CustomScrollView(
    slivers: [
     CustomSliverAppBar(),
     SliverPadding(
      padding: const EdgeInsets.only(bottom: 60.0),
      sliver: SliverList(
       delegate: SliverChildBuilderDelegate(
        (context, index) {
```

```
                 final video = videos[index];
                 return VideoCard(video: video);
               },
               childCount: videos.length,
             ),
           ),
         ),
       ],
     ),
   );
 }
}
```

Output:



localhost:54376

YouTube

4:33

Apna Bana Le - Full Audio | Bhediya | Varun Dhawan, Kriti Sanon| Sachin-Jigar,Arijit Singh,Amitabh B

Zee Music Company • 10K views • 3 years ago

1:43

Harry Potter 20th Anniversary: Return to Hogwarts - Official Trailer | Amazon Prime Video

Prime Video India • 8K views • 3 years ago