

MAD PWA LAB 3

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Aim: Exploring Flutter Widgets

Theory:

Images:

- Flutter supports the integration of various image formats, such as PNG, JPEG, GIF, and WebP.
- Images can be displayed using the Image widget, and different aspects like width, height, and alignment can be customized.
- Asset images are commonly used and are declared in the pubspec.yaml file under the flutter section. The Image.asset constructor is then used to load these assets

Fonts:

- Fonts in Flutter can be customized by specifying the TextStyle for text widgets.
- Custom fonts, including TrueType and OpenType fonts, can be used by declaring them in the pubspec.yaml file and specifying them in the TextStyle with the fontFamily property.

Icons:

- Flutter provides a wide range of icons through the Icons class, including Material Icons and Cupertino Icons.
- The Icon widget is used to display icons, and you can customize their appearance using properties like color, size, and opacity.

Button Types:

- Flutter provides various button types, including ElevatedButton, TextButton, OutlinedButton, and more.
- These buttons offer different visual styles, allowing developers to choose the one that best fits the application's design.

Button Properties:

- Buttons can be customized using properties such as onPressed (to define the action when the button is pressed), style (to modify the button's appearance), and child (to set the content inside the button)

Code:

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

```
import 'search.dart';
```

```
class Shop extends StatefulWidget {
  @override
  _ShopState createState() => _ShopState();
}
```

```
class _ShopState extends State<Shop> {
  final List<Map<dynamic, dynamic>> products = [
    {'name': 'Wallet', 'rating': 3.0, 'image': 'https://m.media-
amazon.com/images/I/71ZKFRCKdkL._SL1500_.jpg'},
    {'name': 'Mixer', 'rating': 3.0, 'image': 'https://m.media-
amazon.com/images/I/61isgOoxj8L._SL1500_.jpg'},
```

```

    {'name': 'iPhone 11', 'rating': 4.0, 'image':
'https://rukminim2.flixcart.com/image/416/416/k2jbyq80pkrrdj/mobile-refurbished/x/j/s/iphone-11-
128-d-mwm02hn-a-apple-0-original-imafkg242ugz8hwc.jpeg?q=70&crop=false'},
    {'name': 'iPhone 11', 'rating': 4.0, 'image': 'https://images.unsplash.com/photo-1519125323398-
675f0ddb6308?ixlib=rb-
0.3.5&ixid=eyJhcnBfaWQiOjE5MDd9&s=94a1e718d89ca60a6337a6008341ca50&auto=format&fit=c
rop&w=1950&q=80'},
    {'name': 'iPhone 11', 'rating': 4.0, 'image': 'https://images.unsplash.com/photo-1519125323398-
675f0ddb6308?ixlib=rb-
0.3.5&ixid=eyJhcnBfaWQiOjE5MDd9&s=94a1e718d89ca60a6337a6008341ca50&auto=format&fit=c
rop&w=1950&q=80'},
    {'name': 'iPhone 11', 'rating': 4.0, 'image': 'https://images.unsplash.com/photo-1519125323398-
675f0ddb6308?ixlib=rb-
0.3.5&ixid=eyJhcnBfaWQiOjE5MDd9&s=94a1e718d89ca60a6337a6008341ca50&auto=format&fit=c
rop&w=1950&q=80'},
    {'name': 'iPhone 11', 'rating': 4.0, 'image': 'https://images.unsplash.com/photo-1519125323398-
675f0ddb6308?ixlib=rb-
0.3.5&ixid=eyJhcnBfaWQiOjE5MDd9&s=94a1e718d89ca60a6337a6008341ca50&auto=format&fit=c
rop&w=1950&q=80'},
    {'name': 'iPhone 11', 'rating': 4.0, 'image': 'https://images.unsplash.com/photo-1519125323398-
675f0ddb6308?ixlib=rb-
0.3.5&ixid=eyJhcnBfaWQiOjE5MDd9&s=94a1e718d89ca60a6337a6008341ca50&auto=format&fit=c
rop&w=1950&q=80'},
    {'name': 'iPhone 12', 'rating': 5.0, 'image': 'https://images.unsplash.com/photo-1523205771623-
e0faa4d2813d?ixlib=rb-
0.3.5&ixid=eyJhcnBfaWQiOjE5MDd9&s=89719a0d55dd05e2deae4120227e6efc&auto=format&fit=c
rop&w=1953&q=80'},
  ];
  final GlobalKey<ScaffoldState> scaffoldKey = GlobalKey<ScaffoldState>();
  @override
  Widget build(BuildContext context) {
    return DefaultTabController(
      length: 2,
      child: Scaffold(
        key: scaffoldKey,
        appBar: AppBar(
          actions: <Widget>[
            IconButton(
              icon: Icon(Icons.search, color: Colors.white),
              onPressed: () {
                scaffoldKey.currentState!
                  .showBottomSheet((context) => ShopSearch());
              },
            ),
          ],
          title: Text('Shop'),
        ),
        body: Builder(
          builder: (BuildContext context) {
            return DefaultTabController(
              length: 2,
              child: Column(
                children: <Widget>[
                  Container(
                    constraints: BoxConstraints(maxHeight: 150.0),
                    child: Material(
                      color: Theme.of(context).colorScheme.secondary,
                      child: TabBar(
                        indicatorColor: Colors.red,

```

```

    tabs: [
      Tab(icon: Icon(Icons.view_list)),
      Tab(icon: Icon(Icons.grid_on)),
    ],
  ),
),
Expanded(
  child: TabBarView(
    children: [
      Container(
        child: ListView(
          children: products.map((product) {
            return Builder(
              builder: (BuildContext context) {
                return InkWell(
                  onTap: () {
                    print('Card tapped.');
                  },
                  child: Column(
                    crossAxisAlignment: CrossAxisAlignment.start,
                    children: <Widget>[
                      Divider(
                        height: 0,
                      ),
                      Padding(
                        padding: const EdgeInsets.only(top: 10.0, bottom: 10.0),
                        child: ListTile(
                          trailing: Icon(Icons.navigate_next),
                          leading: ClipRRect(
                            borderRadius: BorderRadius.circular(5.0),
                            child: Container(
                              decoration: BoxDecoration(
                                color: Colors.red
                              ),
                            ),
                          child: CachedNetworkImage(
                            fit: BoxFit.cover,
                            imageUrl: product['image'],
                            placeholder: (context, url) => Center(
                              child: CircularProgressIndicator()
                            ),
                          ),
                          errorWidget: (context, url, error) => new Icon(Icons.error),
                        ),
                      ),
                    ],
                    title: Text(
                      product['name'],
                      style: TextStyle(
                        fontSize: 14
                      ),
                    ),
                    subtitle: Column(
                      crossAxisAlignment: CrossAxisAlignment.start,
                      children: <Widget>[
                        Row(
                          children: <Widget>[
                            Padding(
                              padding: const EdgeInsets.only(top: 2.0, bottom: 1),
                              child: Text('\$200', style: TextStyle(
                                color: Theme.of(context).colorScheme.secondary,
                                fontWeight: FontWeight.w700,
                              )),
                            ),
                          ],
                        ),
                      ],
                    ),

```

```

        Padding(
          padding: const EdgeInsets.only(left: 6.0),
          child: Text('\$400', style: TextStyle(
            fontWeight: FontWeight.w700,
            fontStyle: FontStyle.italic,
            color: Colors.grey,
            decoration: TextDecoration.lineThrough
          )),
        ),
      ],
    ),
    Row(
      children: <Widget>[
        RatingStars(
          value: product['rating'],
          starSize: 16,
          valueLabelColor: Colors.amber,
          starColor: Colors.amber,
        ),
      ],
    ),
  ],
),
);
}).toList(),
),
),
Container(
  child: GridView.count(
    shrinkWrap: true,
    crossAxisCount: 2,
    childAspectRatio: 0.7,
    padding: EdgeInsets.only(top: 8, left: 6, right: 6, bottom: 12),
    children: List.generate(products.length, (index) {
      return Container(
        child: Card(
          clipBehavior: Clip.antiAlias,
          child: InkWell(
            onTap: () {
              print('Card tapped.');
            },
          ),
          child: Column(
            crossAxisAlignment: CrossAxisAlignment.start,
            children: <Widget>[
              SizedBox(
                height: (MediaQuery.of(context).size.width / 2 - 5),
                width: double.infinity,
                child: CachedNetworkImage(
                  fit: BoxFit.cover,
                  imageUrl: products[index]['image'],
                  placeholder: (context, url) => Center(
                    child: CircularProgressIndicator()
                  ),
                  errorWidget: (context, url, error) => new Icon(Icons.error),
                ),
              ),
            ],
          ),
        ),
      ).toList(),
    ),
  ),
  Padding(


```

```
padding: const EdgeInsets.only(top: 5.0),
child: ListTile(
  title: Text(
    'Two Gold Rings',
    style: TextStyle(
      fontWeight: FontWeight.bold,
      fontSize: 16
    ),
  ),
  subtitle: Column(
    crossAxisAlignment: CrossAxisAlignment.start,
    children: <Widget>[
      Row(
        children: <Widget>[
          Padding(
            padding: const EdgeInsets.only(top: 2.0, bottom: 1),
            child: Text('\$200', style: TextStyle(
              color: Theme.of(context).colorScheme.secondary,
              fontWeight: FontWeight.w700,
            )),
          ),
          Padding(
            padding: const EdgeInsets.only(left: 6.0),
            child: Text('($400)', style: TextStyle(
              fontWeight: FontWeight.w700,
              fontStyle: FontStyle.italic,
              color: Colors.grey,
              decoration: TextDecoration.lineThrough
            )),
          )
        ],
      ),
      Row(
        children: <Widget>[
          RatingStars(
            value: products[index]['rating'],
            starSize: 16,
            valueLabelColor: Colors.amber,
            starColor: Colors.amber,
          )
        ],
      ),
    ],
  ),
);
```

}
}
Output:

[←](#) Shop


Back



Two Gold Rings

\$200 ~~(\$400)~~

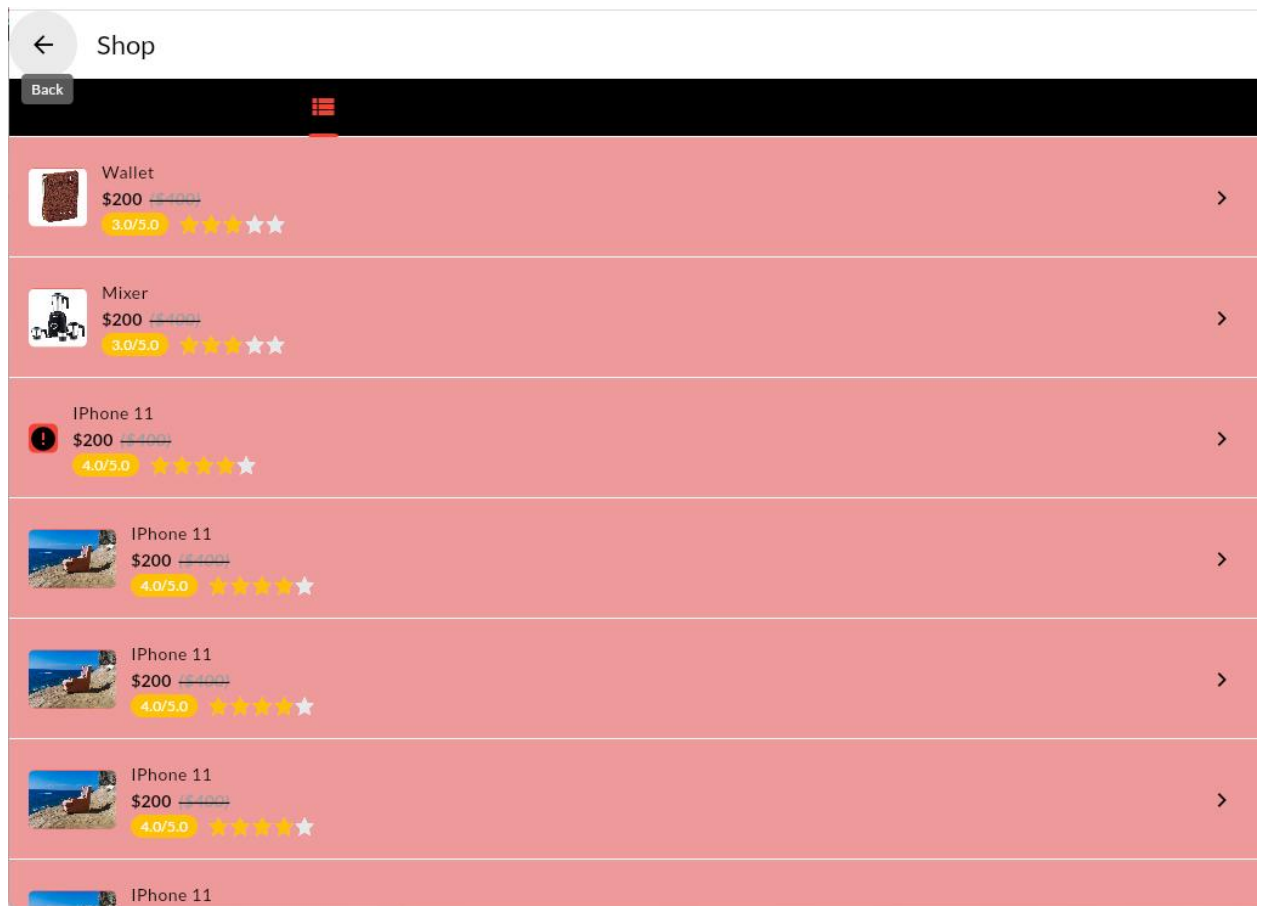
3.0/5.0 ★★☆☆



Two Gold Rings

\$200 ~~(\$400)~~

3.0/5.0 ★★☆☆



Conclusion:

Thus we studied how to design UI using various icons ,images,buttons.