MAD LAB EXPT 5

Name:Swarali Dhobale_D15A_13

Aim: To apply navigation,routing and gestures in Flutter.

Theory:

In Flutter, navigation, routing, and gestures are essential concepts for creating interactive and navigable user interfaces.

Navigation: Navigation refers to the process of moving between different screens or pages within a Flutter app. Flutter provides the Navigator widget for managing navigation and routing.

Routing:Routing is the mechanism used to define the paths or routes between different screens in your app. Each route typically corresponds to a different widget or screen in your app.

Gesture Detection:Gestures allow users to interact with the app by tapping, dragging, swiping, or performing other touch-based actions. Flutter provides various gesture detection widgets to handle user input.

```
GestureDetector(
  onTap: () {
    print('Container tapped');
  },
  child: Container(
    width: 200,
    height: 200,
    color: Colors.blue,
    child: Center(
      child: Text('Tap Me'),
    ),
  ),
)
```

Output:

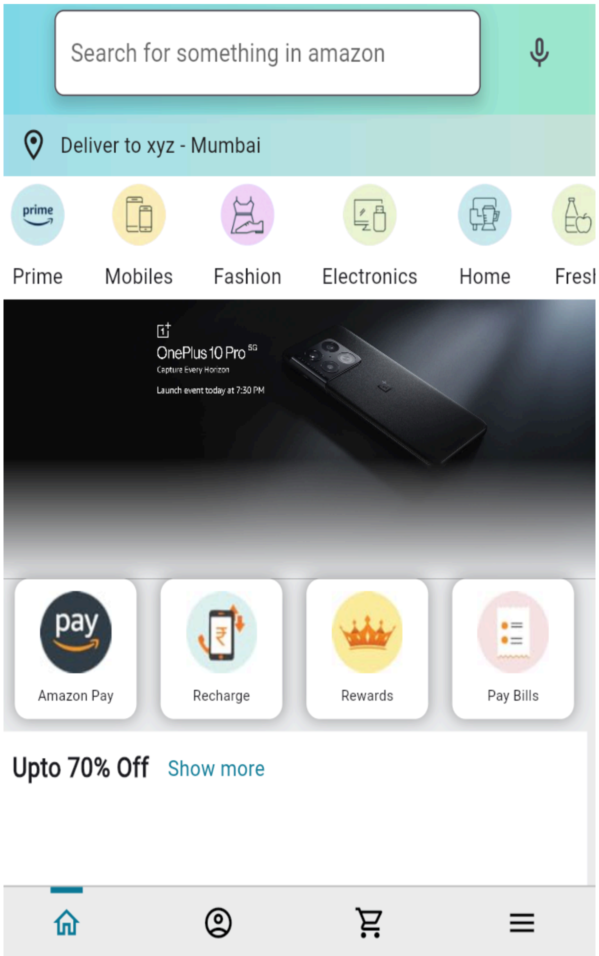
```
import 'package:amazon_clone/resources/authentication_methods.dart';
import 'package:amazon_clone/screens/sign_up_screen.dart';
import 'package:amazon_clone/utils/color_themes.dart';
import 'package:amazon_clone/utils/constants.dart';
import 'package:amazon_clone/utils/utils.dart';
import 'package:amazon_clone/widgets/custom_main_button.dart';
import 'package:amazon_clone/widgets/text_field_widget.dart';
import 'package:firebase_auth/firebase_auth.dart';
import 'package:flutter/material.dart';

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

  @override
  State<SignInScreen> createState() => _SignInScreenState();
}

class _SignInScreenState extends State<SignInScreen> {
  TextEditingController emailController = TextEditingController();
  TextEditingController passwordController = TextEditingController();
  AuthenticationMethods authenticationMethods = AuthenticationMethods();
  bool isLoading = false;

  @override
  void dispose() {
    super.dispose();
    emailController.dispose();
    passwordController.dispose();
  }

  @override
  Widget build(BuildContext context) {
    Size screenSize = Utils().getScreenSize();
    return Scaffold(
      backgroundColor: Colors.white,
      body: SingleChildScrollView(
        child: SizedBox(
          height: screenSize.height,
          width: screenSize.width,
          child: Padding(
            padding: const EdgeInsets.symmetric(horizontal: 10, vertical: 20),
            child: Center(
child: Column(
  mainAxisAlignment: MainAxisAlignment.spaceEvenly,
  crossAxisAlignment: CrossAxisAlignment.center,
  children: [
    Image.network(
      amazonLogo,
      height: screenSize.height * 0.10,
    ),
    Container(
      height: screenSize.height * 0.6,
      width: screenSize.width * 0.8,
      padding: const EdgeInsets.all(25),
      decoration: BoxDecoration(
        border: Border.all(
          color: Colors.grey,
          width: 1,
        ),
      ),
      child: Column(
        mainAxisSize: MainAxisSize.min,
        mainAxisAlignment: MainAxisAlignment.spaceBetween,
        crossAxisAlignment: CrossAxisAlignment.start,
        children: [
          const Text(
            "Sign-In",
            style: TextStyle(
                fontWeight: FontWeight.w500, fontSize: 33),
          ),
          TextFieldWidget(
            title: "Email",
            controller: emailController,
            obscureText: false,
            hintText: "Enter your email",
          ),
          TextFieldWidget(
            title: "Password",
            controller: passwordController,
            obscureText: true,
            hintText: "Enter your password",
          ),
          Align(
            alignment: Alignment.center,
            child: CustomMainButton(
                child: const Text(
              "Sign In",
              style: TextStyle(
                  letterSpacing: 0.6, color: Colors.black),
            ),
            color: yellowColor,
            isLoading: isLoading,
            onPressed: () async {
              setState(() {
                isLoading = true;
              });

              String output =
                  await authenticationMethods.signInUser(
                      email: emailController.text,
                      password: passwordController.text);
              setState(() {
                isLoading = false;
              });
              if (output == "success") {
                //functions
              } else {
                //error
                Utils().showSnackBar(
                    context: context, content: output);
              }
            }),
      )
    ],
  ),
),
Row(
  children: [
    Expanded(
      child: Container(
        height: 1,
        color: Colors.grey,
      ),
    ),
    const Padding(
      padding: EdgeInsets.symmetric(horizontal: 10),
      child: Text(
        "New to Amazon?",
        style: TextStyle(color: Colors.grey),
      ),
                      ),
                      Expanded(
                        child: Container(
                          height: 1,
                          color: Colors.grey,
                        ),
                      ),
                    ],
                  ),
                  CustomMainButton(
                      child: const Text(
                        "Create an Amazon Account",
                        style: TextStyle(
                          letterSpacing: 0.6,
                          color: Colors.black,
                        ),
                      ),
                      color: Colors.grey[400]!,
                      isLoading: false,
                      onPressed: () {
                        Navigator.pushReplacement(context,
                            MaterialPageRoute(builder: (context) {
                          return const SignUpScreen();
                        }));
                      })
                ],
              ),
            ),
          ),
        ),
      ),
    );
  }
}
```

```
class UserDetailsBar extends StatelessWidget {
  final double offset;
  const UserDetailsBar({
    Key? key,
    required this.offset,
  }) : super(key: key);
```

```
@override
Widget build(BuildContext context) {
  Size screenSize = Utils().getScreenSize();
  UserDetailsModel userDetails =
      Provider.of<UserDetailsProvider>(context).userDetails;
  return Positioned(
    top: -offset / 3,
    child: Container(
      height: kAppBarHeight / 2,
      width: screenSize.width,
      decoration: const BoxDecoration(
        gradient: LinearGradient(
          colors: lightBackgroundaGradient,
          begin: Alignment.centerLeft,
          end: Alignment.centerRight,
        ),
      ),
      child: Padding(
        padding: const EdgeInsets.symmetric(
          vertical: 3,
          horizontal: 20,
        ),
        child: Row(
          children: [
            Padding(
              padding: const EdgeInsets.only(right: 8.0),
              child: Icon(
                Icons.location_on_outlined,
                color: Colors.grey[900],
              ),
            ),
            SizedBox(
              width: screenSize.width * 0.7,
              child: Text(
                "Deliver to ${userDetails.name} - ${userDetails.address} ",
                maxLines: 1,
                overflow: TextOverflow.ellipsis,
                style: TextStyle(
                  color: Colors.grey[900],
                ),
              ),
            )
          ],
          ),
        ),
      ),
    );
  }
}
```

SIGN OUT-

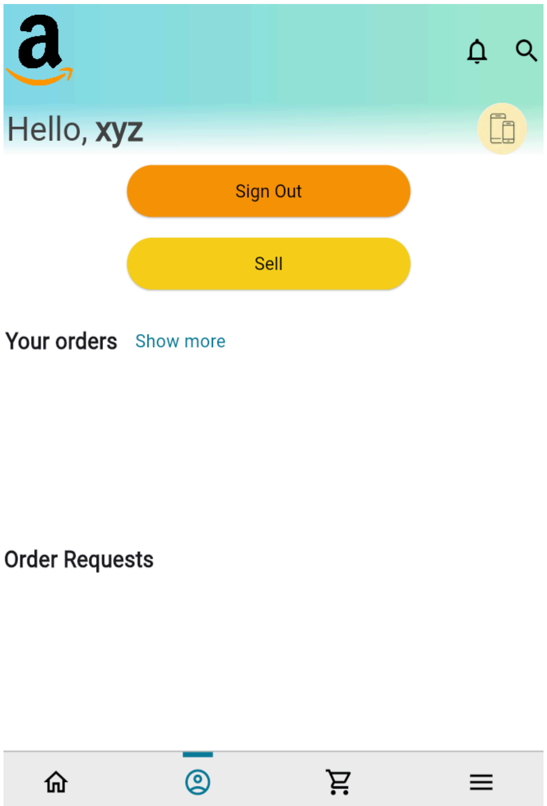
```
class AccountScreen extends StatefulWidget {
  const AccountScreen({Key? key}) : super(key: key);

  @override
  State<AccountScreen> createState() => _AccountScreenState();
}

class _AccountScreenState extends State<AccountScreen> {
  @override
  Widget build(BuildContext context) {
    Size screenSize = Utils().getScreenSize();

    return Scaffold(
      backgroundColor: Colors.white,
      appBar: AccountScreenAppBar(),
      body: SingleChildScrollView(
        child: SizedBox(
          height: screenSize.height,
          width: screenSize.width,
          child: Column(
            children: [
              IntroductionWidgetAccountScreen(),
              Padding(
                padding: const EdgeInsets.all(8.0),
                child: CustomMainButton(
                    child: const Text(
                      "Sign Out",
                      style: TextStyle(color: Colors.black),
                    ),
                    color: Colors.orange,
                    isLoading: false,
                    onPressed: () {
                      FirebaseAuth.instance.signOut();
                    }),
              ),
Padding(
  padding: const EdgeInsets.all(8.0),
  child: CustomMainButton(
      child: const Text("Sell",
          style: TextStyle(color: Colors.black)),
      color: yellowColor,
      isLoading: false,
      onPressed: () {
        Navigator.push(
            context,
            MaterialPageRoute(
                builder: (context) => const SellScreen()));
      }),
),
FutureBuilder(
    future: FirebaseFirestore.instance
        .collection("users")
        .doc(FirebaseAuth.instance.currentUser!.uid)
        .collection("orders")
        .get(),
    builder: (context,
        AsyncSnapshot<QuerySnapshot<Map<String, dynamic>>>
            snapshot) {
      if (snapshot.connectionState == ConnectionState.waiting) {
        return Container();
      } else {
        List<Widget> children = [];
        for (int i = 0; i < snapshot.data!.docs.length; i++) {
          ProductModel model = ProductModel.getModelFromJson(
              json: snapshot.data!.docs[i].data());
          children.add(SimpleProductWidget(productModel: model));
        }
        return ProductsShowcaseListView(
            title: "Your orders", children: children);
      }
    }),
```



Search for something in amazon

Deliver to xyz - Mumbai

Upto 70% Off Show more



Hello, xyz

Sign Out

Sell

Your orders Show more

Order Requests

Conclusion: Navigation,routing and gestures have been applied in Flutter Application.