**Pemrograman Mobile**

**Tugas Pertemuan 12**

**Kelompok 5**

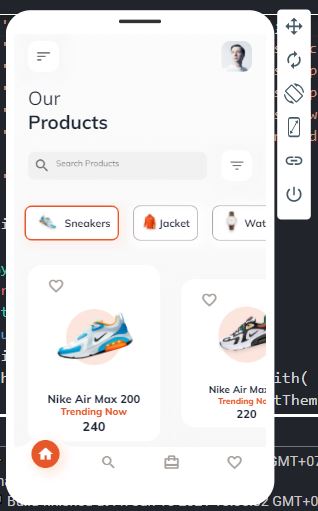
* **Fanri Ochadicta (1182002029)**
* **Febby Novanti A (1182002002)**
* **Rizky Maudy A (1182002032)**
* **Siti Rahila A (1182002033)**

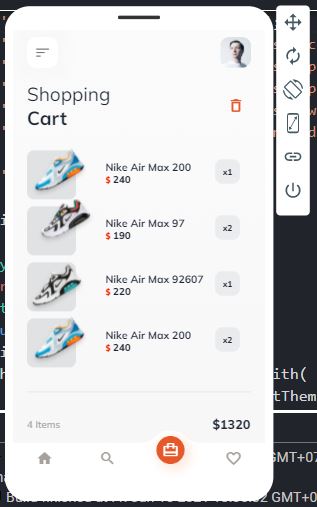
**Soal :**

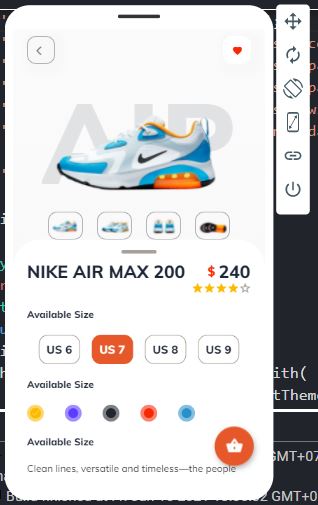
1. Buatlah sebuah projek aplikasi  (tema bebas) yang berisi setidaknya 4 atau 5 UI (user interface) secara berkelompok. Gunakan https://flutlab.io/ atau VS Code atau Android Studio untuk mencoba tutorial tersebut.
2. Jelaskan koding dari setiap widget pada tutorial yang anda coba.

**Jawab :**

Membuat sebuah aplikasi E-Commerce Sederhana, berikut penjelasan aplikasinya :

Tampilan disamping, merupakan contoh dari projek aplikasi E-commmerce yan kami pilih. Terdapat beberapa widget untuk tampilan utama yaitu terdapat profil picture pengguna, Search Product, kategori barang, serta tampilan ‘Now Tranding’ yaitu menampilkan barang yang sedang banyak di cari saat ini.

kemudian terdapat tampilan Shopping Cart yang menunjukan berapa banyak barang yang kita akan beli beserta total keseluruhan pembelian.



Pada projek aplikasi ini, kita juga dapat melihat detail barang yang tersedia, seperti tampilan disamping terdapat pilihan available size, foto produk, warna yang tersedia, serta informasi barang.

Disini kami akan menjelaskan kodingan dari tampilan diatas, sebagai berikut :

import 'package:flutter\_ecommerce\_app/src/model/category.dart';

import 'package:flutter\_ecommerce\_app/src/model/product.dart';

class AppData {

  static List<Product> productList = [

    Product(

        id:1,

        name: 'Nike Air Max 200',

        price: 240.00,

        isSelected: true,

        isliked: false,

        image: 'assets/shooe\_tilt\_1.png',

        category: "Trending Now"),

    Product(

        id:2,

        name: 'Nike Air Max 97',

        price: 220.00,

        isliked: false,

        image: 'assets/shoe\_tilt\_2.png',

        category: "Trending Now"),

  ];

  static List<Product> cartList = [

    Product(

        id:1,

        name: 'Nike Air Max 200',

        price: 240.00,

        isSelected: true,

        isliked: false,

        image: 'assets/small\_tilt\_shoe\_1.png',

        category: "Trending Now"),

    Product(

        id:2,

        name: 'Nike Air Max 97',

        price: 190.00,

        isliked: false,

        image: 'assets/small\_tilt\_shoe\_2.png',

        category: "Trending Now"),

    Product(

        id:3,

        name: 'Nike Air Max 92607',

        price: 220.00,

        isliked: false,

        image: 'assets/small\_tilt\_shoe\_3.png',

        category: "Trending Now"),

     Product(

        id:2,

        name: 'Nike Air Max 200',

        price: 240.00,

        isSelected: true,

        isliked: false,

        image: 'assets/small\_tilt\_shoe\_1.png',

        category: "Trending Now"),

    // Product(

    //     id:1,

    //     name: 'Nike Air Max 97',

    //     price: 190.00,

    //     isliked: false,

    //     image: 'assets/small\_tilt\_shoe\_2.png',

    //     category: "Trending Now"),

  ];

  static List<Category> categoryList = [

    Category(),

    Category(id:1,name: "Sneakers",image: 'assets/shoe\_thumb\_2.png',isSelected: true),

    Category(id:2,name: "Jacket", image: 'assets/jacket.png'),

    Category(id:3,name: "Watch", image: 'assets/watch.png'),

    Category(id:4,name: "Watch", image: 'assets/watch.png'),

  ];

  static List<String> showThumbnailList = [

    "assets/shoe\_thumb\_5.png",

    "assets/shoe\_thumb\_1.png",

    "assets/shoe\_thumb\_4.png",

    "assets/shoe\_thumb\_3.png",

  ];

  static String description = "Clean lines, versatile and timeless—the people shoe returns with the Nike Air Max 90. Featuring the same iconic Waffle sole, stitched overlays and classic TPU accents you come to love, it lets you walk among the pantheon of Air. ßNothing as fly, nothing as comfortable, nothing as proven. The Nike Air Max 90 stays true to its OG running roots with the iconic Waffle sole, stitched overlays and classic TPU details. Classic colours celebrate your fresh look while Max Air cushioning adds comfort to the journey.";

}

Koding di atas berasal dari file data.dart yang berfungsi untuk menampilkan data produk di aplikasi.

Kemudian pada file home\_page.dart dibawah ini untuk menampilkan tampilan Home pada aplikasi

import 'package:flutter/gestures.dart';

import 'package:flutter/material.dart';

import 'package:flutter\_ecommerce\_app/src/model/data.dart';

import 'package:flutter\_ecommerce\_app/src/themes/light\_color.dart';

import 'package:flutter\_ecommerce\_app/src/themes/theme.dart';

import 'package:flutter\_ecommerce\_app/src/widgets/product\_card.dart';

import 'package:flutter\_ecommerce\_app/src/widgets/product\_icon.dart';

import 'package:flutter\_ecommerce\_app/src/widgets/extentions.dart';

class MyHomePage extends StatefulWidget {

  MyHomePage({Key key, this.title}) : super(key: key);

  final String title;

  @override

  \_MyHomePageState createState() => \_MyHomePageState();

}

class \_MyHomePageState extends State<MyHomePage> {

  Widget \_icon(IconData icon, {Color color = LightColor.iconColor}) {

    return Container(

      padding: EdgeInsets.all(10),

      decoration: BoxDecoration(

          borderRadius: BorderRadius.all(Radius.circular(13)),

          color: Theme.of(context).backgroundColor,

          boxShadow: AppTheme.shadow),

      child: Icon(

        icon,

        color: color,

      ),

    ).ripple(() {}, borderRadius: BorderRadius.all(Radius.circular(13)));

  }

  Widget \_categoryWidget() {

    return Container(

      margin: EdgeInsets.symmetric(vertical: 10),

      width: AppTheme.fullWidth(context),

      height: 80,

      child: ListView(

        scrollDirection: Axis.horizontal,

        children: AppData.categoryList

            .map(

              (category) => ProductIcon(

                model: category,

                onSelected: (model) {

                  setState(() {

                    AppData.categoryList.forEach((item) {

                      item.isSelected = false;

                    });

                    model.isSelected = true;

                  });

                },

              ),

            )

            .toList(),

      ),

    );

  }

  Widget \_productWidget() {

    return Container(

      margin: EdgeInsets.symmetric(vertical: 10),

      width: AppTheme.fullWidth(context),

      height: AppTheme.fullWidth(context) \* .7,

      child: GridView(

        gridDelegate: SliverGridDelegateWithFixedCrossAxisCount(

            crossAxisCount: 1,

            childAspectRatio: 4 / 3,

            mainAxisSpacing: 30,

            crossAxisSpacing: 20),

        padding: EdgeInsets.only(left: 20),

        scrollDirection: Axis.horizontal,

        children: AppData.productList

            .map(

              (product) => ProductCard(

                product: product,

                onSelected: (model) {

                  setState(() {

                    AppData.productList.forEach((item) {

                      item.isSelected = false;

                    });

                    model.isSelected = true;

                  });

                },

              ),

            )

            .toList(),

      ),

    );

  }

  Widget \_search() {

    return Container(

      margin: AppTheme.padding,

      child: Row(

        children: <Widget>[

          Expanded(

            child: Container(

              height: 40,

              alignment: Alignment.center,

              decoration: BoxDecoration(

                  color: LightColor.lightGrey.withAlpha(100),

                  borderRadius: BorderRadius.all(Radius.circular(10))),

              child: TextField(

                decoration: InputDecoration(

                    border: InputBorder.none,

                    hintText: "Search Products",

                    hintStyle: TextStyle(fontSize: 12),

                    contentPadding:

                        EdgeInsets.only(left: 10, right: 10, bottom: 0, top: 5),

                    prefixIcon: Icon(Icons.search, color: Colors.black54)),

              ),

            ),

          ),

          SizedBox(width: 20),

          \_icon(Icons.filter\_list, color: Colors.black54)

        ],

      ),

    );

  }

  @override

  Widget build(BuildContext context) {

    return Container(

      height: MediaQuery.of(context).size.height - 210,

      child: SingleChildScrollView(

        physics: BouncingScrollPhysics(),

        dragStartBehavior: DragStartBehavior.down,

        child: Column(

          crossAxisAlignment: CrossAxisAlignment.start,

          mainAxisAlignment: MainAxisAlignment.start,

          children: <Widget>[

            \_search(),

            \_categoryWidget(),

            \_productWidget(),

          ],

        ),

      ),

    );

  }

}

Berikutnya koding dibawah ini untuk menampilkan detail product ini terdapat pada file product\_detail.dart

import 'package:flutter/material.dart';

import 'package:flutter\_ecommerce\_app/src/model/data.dart';

import 'package:flutter\_ecommerce\_app/src/themes/light\_color.dart';

import 'package:flutter\_ecommerce\_app/src/themes/theme.dart';

import 'package:flutter\_ecommerce\_app/src/widgets/title\_text.dart';

import 'package:flutter\_ecommerce\_app/src/widgets/extentions.dart';

class ProductDetailPage extends StatefulWidget {

  ProductDetailPage({Key key}) : super(key: key);

  @override

  \_ProductDetailPageState createState() => \_ProductDetailPageState();

}

class \_ProductDetailPageState extends State<ProductDetailPage>

    with TickerProviderStateMixin {

  AnimationController controller;

  Animation<double> animation;

  @override

  void initState() {

    super.initState();

    controller =

        AnimationController(vsync: this, duration: Duration(milliseconds: 300));

    animation = Tween<double>(begin: 0, end: 1).animate(

        CurvedAnimation(parent: controller, curve: Curves.easeInToLinear));

    controller.forward();

  }

  @override

  void dispose() {

    controller.dispose();

    super.dispose();

  }

  bool isLiked = true;

  Widget \_appBar() {

    return Container(

      padding: AppTheme.padding,

      child: Row(

        mainAxisAlignment: MainAxisAlignment.spaceBetween,

        children: <Widget>[

          \_icon(

            Icons.arrow\_back\_ios,

            color: Colors.black54,

            size: 15,

            padding: 12,

            isOutLine: true,

            onPressed: () {

              Navigator.of(context).pop();

            },

          ),

          \_icon(isLiked ? Icons.favorite : Icons.favorite\_border,

              color: isLiked ? LightColor.red : LightColor.lightGrey,

              size: 15,

              padding: 12,

              isOutLine: false, onPressed: () {

            setState(() {

              isLiked = !isLiked;

            });

          }),

        ],

      ),

    );

  }

  Widget \_icon(

    IconData icon, {

    Color color = LightColor.iconColor,

    double size = 20,

    double padding = 10,

    bool isOutLine = false,

    Function onPressed,

  }) {

    return Container(

      height: 40,

      width: 40,

      padding: EdgeInsets.all(padding),

      // margin: EdgeInsets.all(padding),

      decoration: BoxDecoration(

        border: Border.all(

            color: LightColor.iconColor,

            style: isOutLine ? BorderStyle.solid : BorderStyle.none),

        borderRadius: BorderRadius.all(Radius.circular(13)),

        color:

            isOutLine ? Colors.transparent : Theme.of(context).backgroundColor,

        boxShadow: <BoxShadow>[

          BoxShadow(

              color: Color(0xfff8f8f8),

              blurRadius: 5,

              spreadRadius: 10,

              offset: Offset(5, 5)),

        ],

      ),

      child: Icon(icon, color: color, size: size),

    ).ripple(() {

      if (onPressed != null) {

        onPressed();

      }

    }, borderRadius: BorderRadius.all(Radius.circular(13)));

  }

  Widget \_productImage() {

    return AnimatedBuilder(

      builder: (context, child) {

        return AnimatedOpacity(

          duration: Duration(milliseconds: 500),

          opacity: animation.value,

          child: child,

        );

      },

      animation: animation,

      child: Stack(

        alignment: Alignment.bottomCenter,

        children: <Widget>[

          TitleText(

            text: "AIP",

            fontSize: 160,

            color: LightColor.lightGrey,

          ),

          Image.asset('assets/show\_1.png')

        ],

      ),

    );

  }

  Widget \_categoryWidget() {

    return Container(

      margin: EdgeInsets.symmetric(vertical: 0),

      width: AppTheme.fullWidth(context),

      height: 80,

      child: Row(

          crossAxisAlignment: CrossAxisAlignment.start,

          mainAxisAlignment: MainAxisAlignment.center,

          children:

              AppData.showThumbnailList.map((x) => \_thumbnail(x)).toList()),

    );

  }

  Widget \_thumbnail(String image) {

    return AnimatedBuilder(

      animation: animation,

      //  builder: null,

      builder: (context, child) => AnimatedOpacity(

        opacity: animation.value,

        duration: Duration(milliseconds: 500),

        child: child,

      ),

      child: Container(

        margin: EdgeInsets.symmetric(horizontal: 10),

        child: Container(

          height: 40,

          width: 50,

          decoration: BoxDecoration(

            border: Border.all(

              color: LightColor.grey,

            ),

            borderRadius: BorderRadius.all(Radius.circular(13)),

            // color: Theme.of(context).backgroundColor,

          ),

          child: Image.asset(image),

        ).ripple(() {}, borderRadius: BorderRadius.all(Radius.circular(13))),

      ),

    );

  }

  Widget \_detailWidget() {

    return DraggableScrollableSheet(

      maxChildSize: .8,

      initialChildSize: .53,

      minChildSize: .53,

      builder: (context, scrollController) {

        return Container(

          padding: AppTheme.padding.copyWith(bottom: 0),

          decoration: BoxDecoration(

              borderRadius: BorderRadius.only(

                topLeft: Radius.circular(40),

                topRight: Radius.circular(40),

              ),

              color: Colors.white),

          child: SingleChildScrollView(

            controller: scrollController,

            child: Column(

              crossAxisAlignment: CrossAxisAlignment.start,

              mainAxisSize: MainAxisSize.max,

              children: <Widget>[

                SizedBox(height: 5),

                Container(

                  alignment: Alignment.center,

                  child: Container(

                    width: 50,

                    height: 5,

                    decoration: BoxDecoration(

                        color: LightColor.iconColor,

                        borderRadius: BorderRadius.all(Radius.circular(10))),

                  ),

                ),

                SizedBox(height: 10),

                Container(

                  child: Row(

                    crossAxisAlignment: CrossAxisAlignment.start,

                    mainAxisAlignment: MainAxisAlignment.spaceBetween,

                    children: <Widget>[

                      TitleText(text: "NIKE AIR MAX 200", fontSize: 25),

                      Column(

                        crossAxisAlignment: CrossAxisAlignment.end,

                        children: <Widget>[

                          Row(

                            crossAxisAlignment: CrossAxisAlignment.center,

                            children: <Widget>[

                              TitleText(

                                text: "\$ ",

                                fontSize: 18,

                                color: LightColor.red,

                              ),

                              TitleText(

                                text: "240",

                                fontSize: 25,

                              ),

                            ],

                          ),

                          Row(

                            children: <Widget>[

                              Icon(Icons.star,

                                  color: LightColor.yellowColor, size: 17),

                              Icon(Icons.star,

                                  color: LightColor.yellowColor, size: 17),

                              Icon(Icons.star,

                                  color: LightColor.yellowColor, size: 17),

                              Icon(Icons.star,

                                  color: LightColor.yellowColor, size: 17),

                              Icon(Icons.star\_border, size: 17),

                            ],

                          ),

                        ],

                      ),

                    ],

                  ),

                ),

                SizedBox(

                  height: 20,

                ),

                \_availableSize(),

                SizedBox(

                  height: 20,

                ),

                \_availableColor(),

                SizedBox(

                  height: 20,

                ),

                \_description(),

              ],

            ),

          ),

        );

      },

    );

  }

  Widget \_availableSize() {

    return Column(

      crossAxisAlignment: CrossAxisAlignment.start,

      children: <Widget>[

        TitleText(

          text: "Available Size",

          fontSize: 14,

        ),

        SizedBox(height: 20),

        Row(

          mainAxisAlignment: MainAxisAlignment.spaceEvenly,

          children: <Widget>[

            \_sizeWidget("US 6"),

            \_sizeWidget("US 7", isSelected: true),

            \_sizeWidget("US 8"),

            \_sizeWidget("US 9"),

          ],

        )

      ],

    );

  }

  Widget \_sizeWidget(String text,

      {Color color = LightColor.iconColor, bool isSelected = false}) {

    return Container(

      padding: EdgeInsets.all(10),

      decoration: BoxDecoration(

        border: Border.all(

            color: LightColor.iconColor,

            style: !isSelected ? BorderStyle.solid : BorderStyle.none),

        borderRadius: BorderRadius.all(Radius.circular(13)),

        color:

            isSelected ? LightColor.orange : Theme.of(context).backgroundColor,

      ),

      child: TitleText(

        text: text,

        fontSize: 16,

        color: isSelected ? LightColor.background : LightColor.titleTextColor,

      ),

    ).ripple(() {}, borderRadius: BorderRadius.all(Radius.circular(13)));

  }

  Widget \_availableColor() {

    return Column(

      crossAxisAlignment: CrossAxisAlignment.start,

      children: <Widget>[

        TitleText(

          text: "Available Size",

          fontSize: 14,

        ),

        SizedBox(height: 20),

        Row(

          mainAxisAlignment: MainAxisAlignment.start,

          children: <Widget>[

            \_colorWidget(LightColor.yellowColor, isSelected: true),

            SizedBox(

              width: 30,

            ),

            \_colorWidget(LightColor.lightBlue),

            SizedBox(

              width: 30,

            ),

            \_colorWidget(LightColor.black),

            SizedBox(

              width: 30,

            ),

            \_colorWidget(LightColor.red),

            SizedBox(

              width: 30,

            ),

            \_colorWidget(LightColor.skyBlue),

          ],

        )

      ],

    );

  }

  Widget \_colorWidget(Color color, {bool isSelected = false}) {

    return CircleAvatar(

      radius: 12,

      backgroundColor: color.withAlpha(150),

      child: isSelected

          ? Icon(

              Icons.check\_circle,

              color: color,

              size: 18,

            )

          : CircleAvatar(radius: 7, backgroundColor: color),

    );

  }

  Widget \_description() {

    return Column(

      crossAxisAlignment: CrossAxisAlignment.start,

      children: <Widget>[

        TitleText(

          text: "Available Size",

          fontSize: 14,

        ),

        SizedBox(height: 20),

        Text(AppData.description),

      ],

    );

  }

  FloatingActionButton \_flotingButton() {

    return FloatingActionButton(

      onPressed: () {},

      backgroundColor: LightColor.orange,

      child: Icon(Icons.shopping\_basket,

          color: Theme.of(context).floatingActionButtonTheme.backgroundColor),

    );

  }

  @override

  Widget build(BuildContext context) {

    return Scaffold(

      floatingActionButton: \_flotingButton(),

      body: SafeArea(

        child: Container(

          decoration: BoxDecoration(

              gradient: LinearGradient(

            colors: [

              Color(0xfffbfbfb),

              Color(0xfff7f7f7),

            ],

            begin: Alignment.topCenter,

            end: Alignment.bottomCenter,

          )),

          child: Stack(

            children: <Widget>[

              Column(

                children: <Widget>[

                  \_appBar(),

                  \_productImage(),

                  \_categoryWidget(),

                ],

              ),

              \_detailWidget()

            ],

          ),

        ),

      ),

    );

  }

}

Kemudian berikut koding untuk menampilkan shopping cart ini terdapat pada file shopping\_cart\_page.dart

import 'package:flutter/material.dart';

import 'package:flutter\_ecommerce\_app/src/model/data.dart';

import 'package:flutter\_ecommerce\_app/src/model/product.dart';

import 'package:flutter\_ecommerce\_app/src/themes/light\_color.dart';

import 'package:flutter\_ecommerce\_app/src/themes/theme.dart';

import 'package:flutter\_ecommerce\_app/src/widgets/title\_text.dart';

class ShoppingCartPage extends StatelessWidget {

  const ShoppingCartPage({Key key}) : super(key: key);

  Widget \_cartItems() {

    return Column(children: AppData.cartList.map((x) => \_item(x)).toList());

  }

  Widget \_item(Product model) {

    return Container(

      height: 80,

      child: Row(

        children: <Widget>[

          AspectRatio(

            aspectRatio: 1.2,

            child: Stack(

              children: <Widget>[

                Align(

                  alignment: Alignment.bottomLeft,

                  child: Container(

                    height: 70,

                    width: 70,

                    child: Stack(

                      children: <Widget>[

                        Align(

                          alignment: Alignment.bottomLeft,

                          child: Container(

                            decoration: BoxDecoration(

                                color: LightColor.lightGrey,

                                borderRadius: BorderRadius.circular(10)),

                          ),

                        ),

                      ],

                    ),

                  ),

                ),

                Positioned(

                  left: -20,

                  bottom: -20,

                  child: Image.asset(model.image),

                )

              ],

            ),

          ),

          Expanded(

              child: ListTile(

                  title: TitleText(

                    text: model.name,

                    fontSize: 15,

                    fontWeight: FontWeight.w700,

                  ),

                  subtitle: Row(

                    children: <Widget>[

                      TitleText(

                        text: '\$ ',

                        color: LightColor.red,

                        fontSize: 12,

                      ),

                      TitleText(

                        text: model.price.toString(),

                        fontSize: 14,

                      ),

                    ],

                  ),

                  trailing: Container(

                    width: 35,

                    height: 35,

                    alignment: Alignment.center,

                    decoration: BoxDecoration(

                        color: LightColor.lightGrey.withAlpha(150),

                        borderRadius: BorderRadius.circular(10)),

                    child: TitleText(

                      text: 'x${model.id}',

                      fontSize: 12,

                    ),

                  )))

        ],

      ),

    );

  }

  Widget \_price() {

    return Row(

      mainAxisAlignment: MainAxisAlignment.spaceBetween,

      children: <Widget>[

        TitleText(

          text: '${AppData.cartList.length} Items',

          color: LightColor.grey,

          fontSize: 14,

          fontWeight: FontWeight.w500,

        ),

        TitleText(

          text: '\$${getPrice()}',

          fontSize: 18,

        ),

      ],

    );

  }

  Widget \_submitButton(BuildContext context) {

    return FlatButton(

        onPressed: () {},

        shape: RoundedRectangleBorder(borderRadius: BorderRadius.circular(15)),

        color: LightColor.orange,

        child: Container(

          alignment: Alignment.center,

          padding: EdgeInsets.symmetric(vertical: 12),

          width: AppTheme.fullWidth(context) \* .7,

          child: TitleText(

            text: 'Next',

            color: LightColor.background,

            fontWeight: FontWeight.w500,

          ),

        ));

  }

  double getPrice() {

    double price = 0;

    AppData.cartList.forEach((x) {

      price += x.price \* x.id;

    });

    return price;

  }

  @override

  Widget build(BuildContext context) {

    return Container(

      padding: AppTheme.padding,

      child: SingleChildScrollView(

        child: Column(

          children: <Widget>[

            \_cartItems(),

            Divider(

              thickness: 1,

              height: 70,

            ),

            \_price(),

            SizedBox(height: 30),

            \_submitButton(context),

          ],

        ),

      ),

    );

  }

}