Documentation File

**Screenshot of Mobile Application**

A screenshot of a cell phone

Description automatically generatedA cell phone with a calculator

Description automatically generated The Main Landing Page of the application When BMI calculator is click

When calculator button clicked

It will redirect here, and it will serves as your calculator

After Inputting height and weight

it will pop up your BMI

A screenshot of a cell phone

Description automatically generatedA screenshot of a cell phone

Description automatically generated

**Summary of the functions of the Mobile app**

The Summary of the function of the mobile app is On the main menu screen, users of the mobile app can select between a Literal Calculator and a BMI Calculator. On the BMI calculator screen, users can enter their height and weight, which will compute and display their BMI and the result and weight category. A simple arithmetic calculator with operator and number buttons is available on the Literal Calculator screen. The software keeps both calculators' gradient backgrounds and button styles identical.

**Sample Use-case of the App**

**A diagram of a person with a diagram

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First Use Case the homepage of the Mobile application

A diagram of a user

Description automatically generatedA diagram of a person's diagram

Description automatically generated

Third use Case of the Calculator page of the Mobile application

Second use Case of the Bmi page of the Mobile application

**Source Code**

import 'package:flutter/material.dart';  
  
void main() {  
 runApp(MyApp());  
}  
  
class MyApp extends StatelessWidget {  
 @override  
 Widget build(BuildContext context) {  
 return MaterialApp(  
 title: 'Calculator App',  
 theme: ThemeData(  
 primarySwatch: Colors.*blue*,  
 visualDensity: VisualDensity.*adaptivePlatformDensity*,  
 ),  
 home: MainMenu(),  
 );  
 }  
}  
  
class MainMenu extends StatelessWidget {  
 @override  
 Widget build(BuildContext context) {  
 return Scaffold(  
 appBar: AppBar(  
 title: Text('BMI X Calculator App'),  
 backgroundColor: Colors.*blueAccent*,  
 ),  
 body: Container(  
 width: double.*infinity*,  
 decoration: BoxDecoration(  
 gradient: LinearGradient(  
 colors: [Colors.*blue*, Colors.*purple*],  
 begin: Alignment.*topLeft*,  
 end: Alignment.*bottomRight*,  
 ),  
 ),  
 padding: const EdgeInsets.all(20.0),  
 child: Column(  
 mainAxisAlignment: MainAxisAlignment.center,  
 children: <Widget>[  
 ElevatedButton(  
 onPressed: () {  
 Navigator.*push*(  
 context,  
 MaterialPageRoute(builder: (context) => BMICalculatorHomePage()),  
 );  
 },  
 child: Text('BMI Calculator'),  
 style: ElevatedButton.*styleFrom*(  
 backgroundColor: Colors.*white*,  
 foregroundColor: Colors.*blueAccent*,  
 padding: EdgeInsets.symmetric(horizontal: 30, vertical: 15),  
 textStyle: TextStyle(fontSize: 20),  
 shape: RoundedRectangleBorder(  
 borderRadius: BorderRadius.circular(12),  
 ),  
 elevation: 5,  
 ),  
 ),  
 SizedBox(height: 20),  
 ElevatedButton(  
 onPressed: () {  
 Navigator.*push*(  
 context,  
 MaterialPageRoute(builder: (context) => LiteralCalculatorHomePage()),  
 );  
 },  
 child: Text(' Calculator '),  
 style: ElevatedButton.*styleFrom*(  
 backgroundColor: Colors.*white*,  
 foregroundColor: Colors.*blueAccent*,  
 padding: EdgeInsets.symmetric(horizontal: 30, vertical: 15),  
 textStyle: TextStyle(fontSize: 20),  
 shape: RoundedRectangleBorder(  
 borderRadius: BorderRadius.circular(12),  
 ),  
 elevation: 5,  
 ),  
 ),  
 ],  
 ),  
 ),  
 );  
 }  
}  
  
class BMICalculatorHomePage extends StatefulWidget {  
 @override  
 \_BMICalculatorHomePageState createState() => \_BMICalculatorHomePageState();  
}  
  
class \_BMICalculatorHomePageState extends State<BMICalculatorHomePage> {  
 final TextEditingController \_heightController = TextEditingController();  
 final TextEditingController \_weightController = TextEditingController();  
 String \_result = "";  
  
 void \_calculateBMI() {  
 double height = double.*parse*(\_heightController.text) / 100;  
 double weight = double.*parse*(\_weightController.text);  
 double bmi = weight / (height \* height);  
  
 setState(() {  
 if (bmi < 18.5) {  
 \_result = "Underweight (BMI: ${bmi.toStringAsFixed(2)})";  
 } else if (bmi >= 18.5 && bmi < 24.9) {  
 \_result = "Normal weight (BMI: ${bmi.toStringAsFixed(2)})";  
 } else if (bmi >= 25 && bmi < 29.9) {  
 \_result = "Overweight (BMI: ${bmi.toStringAsFixed(2)})";  
 } else {  
 \_result = "Obese (BMI: ${bmi.toStringAsFixed(2)})";  
 }  
 });  
 }  
  
 @override  
 Widget build(BuildContext context) {  
 return Scaffold(  
 appBar: AppBar(  
 title: Text('BMI Calculator'),  
 backgroundColor: Colors.*blueAccent*,  
 ),  
 body: Container(  
 width: double.*infinity*,  
 decoration: BoxDecoration(  
 gradient: LinearGradient(  
 colors: [Colors.*blue*, Colors.*purple*],  
 begin: Alignment.*topLeft*,  
 end: Alignment.*bottomRight*,  
 ),  
 ),  
 padding: const EdgeInsets.all(20.0),  
 child: Column(  
 mainAxisAlignment: MainAxisAlignment.center,  
 children: <Widget>[  
 Card(  
 shape: RoundedRectangleBorder(  
 borderRadius: BorderRadius.circular(15),  
 ),  
 elevation: 10,  
 color: Colors.*white*.withOpacity(0.9),  
 child: Padding(  
 padding: const EdgeInsets.all(20.0),  
 child: Column(  
 children: [  
 TextField(  
 controller: \_heightController,  
 keyboardType: TextInputType.*number*,  
 decoration: InputDecoration(  
 labelText: 'Height in cm',  
 border: OutlineInputBorder(  
 borderRadius: BorderRadius.circular(10),  
 ),  
 prefixIcon: Icon(Icons.*height*),  
 ),  
 ),  
 SizedBox(height: 20),  
 TextField(  
 controller: \_weightController,  
 keyboardType: TextInputType.*number*,  
 decoration: InputDecoration(  
 labelText: 'Weight in kg',  
 border: OutlineInputBorder(  
 borderRadius: BorderRadius.circular(10),  
 ),  
 prefixIcon: Icon(Icons.*line\_weight*),  
 ),  
 ),  
 ],  
 ),  
 ),  
 ),  
 SizedBox(height: 30),  
 ElevatedButton(  
 onPressed: \_calculateBMI,  
 child: Text('Calculate BMI'),  
 style: ElevatedButton.*styleFrom*(  
 backgroundColor: Colors.*blueAccent*,  
 foregroundColor: Colors.*white*,  
 padding: EdgeInsets.symmetric(horizontal: 30, vertical: 15),  
 textStyle: TextStyle(fontSize: 16),  
 shape: RoundedRectangleBorder(  
 borderRadius: BorderRadius.circular(30),  
 ),  
 ),  
 ),  
 SizedBox(height: 30),  
 Text(  
 \_result,  
 style: TextStyle(  
 fontSize: 24,  
 fontWeight: FontWeight.*bold*,  
 color: Colors.*white*,  
 ),  
 ),  
 ],  
 ),  
 ),  
 );  
 }  
}  
  
class LiteralCalculatorHomePage extends StatefulWidget {  
 @override  
 \_LiteralCalculatorHomePageState createState() => \_LiteralCalculatorHomePageState();  
}  
  
class \_LiteralCalculatorHomePageState extends State<LiteralCalculatorHomePage> {  
 String \_output = "0";  
 String \_operand = "";  
 double \_num1 = 0;  
 double \_num2 = 0;  
  
 void \_buttonPressed(String buttonText) {  
 if (buttonText == "C") {  
 \_output = "0";  
 \_operand = "";  
 \_num1 = 0;  
 \_num2 = 0;  
 } else if (buttonText == "+" || buttonText == "-" || buttonText == "\*" || buttonText == "/") {  
 \_num1 = double.*parse*(\_output);  
 \_operand = buttonText;  
 \_output = "0";  
 } else if (buttonText == "=") {  
 \_num2 = double.*parse*(\_output);  
 switch (\_operand) {  
 case "+":  
 \_output = (\_num1 + \_num2).toString();  
 break;  
 case "-":  
 \_output = (\_num1 - \_num2).toString();  
 break;  
 case "\*":  
 \_output = (\_num1 \* \_num2).toString();  
 break;  
 case "/":  
 \_output = (\_num1 / \_num2).toString();  
 break;  
 }  
 \_operand = "";  
 \_num1 = 0;  
 \_num2 = 0;  
 } else {  
 \_output = (\_output == "0") ? buttonText : \_output + buttonText;  
 }  
 setState(() {});  
 }  
  
 Widget \_buildButton(String buttonText) {  
 return Expanded(  
 child: Container(  
 margin: EdgeInsets.all(4.0),  
 child: ElevatedButton(  
 onPressed: () => \_buttonPressed(buttonText),  
 child: Text(  
 buttonText,  
 style: TextStyle(fontSize: 24, color: Colors.*blueAccent*),  
 ),  
 style: ElevatedButton.*styleFrom*(  
 backgroundColor: Colors.*white*,  
 foregroundColor: Colors.*blueAccent*,  
 padding: EdgeInsets.symmetric(vertical: 18),  
 shape: RoundedRectangleBorder(  
 borderRadius: BorderRadius.circular(8),  
 ),  
 elevation: 2,  
 ),  
 ),  
 ),  
 );  
 }  
  
 @override  
 Widget build(BuildContext context) {  
 return Scaffold(  
 appBar: AppBar(  
 title: Text('Calculator'),  
 backgroundColor: Colors.*blueAccent*,  
 ),  
 body: Container(  
 width: double.*infinity*,  
 decoration: BoxDecoration(  
 gradient: LinearGradient(  
 colors: [Colors.*blue*, Colors.*purple*],  
 begin: Alignment.*topLeft*,  
 end: Alignment.*bottomRight*,  
 ),  
 ),  
 padding: const EdgeInsets.all(20.0),  
 child: Column(  
 children: <Widget>[  
 Expanded(  
 child: Container(  
 padding: EdgeInsets.symmetric(vertical: 24, horizontal: 12),  
 alignment: Alignment.*bottomRight*,  
 child: Text(  
 \_output,  
 style: TextStyle(  
 fontSize: 48,  
 fontWeight: FontWeight.*bold*,  
 color: Colors.*white*,  
 ),  
 ),  
 ),  
 ),  
 Card(  
 shape: RoundedRectangleBorder(  
 borderRadius: BorderRadius.circular(15),  
 ),  
 elevation: 10,  
 color: Colors.*white*.withOpacity(0.9),  
 child: Column(  
 children: <Widget>[  
 Row(  
 children: <Widget>[  
 \_buildButton("7"),  
 \_buildButton("8"),  
 \_buildButton("9"),  
 \_buildButton("/"),  
 ],  
 ),  
 Row(  
 children: <Widget>[  
 \_buildButton("4"),  
 \_buildButton("5"),  
 \_buildButton("6"),  
 \_buildButton("\*"),  
 ],  
 ),  
 Row(  
 children: <Widget>[  
 \_buildButton("1"),  
 \_buildButton("2"),  
 \_buildButton("3"),  
 \_buildButton("-"),  
 ],  
 ),  
 Row(  
 children: <Widget>[  
 \_buildButton("C"),  
 \_buildButton("0"),  
 \_buildButton("="),  
 \_buildButton("+"),  
 ],  
 ),  
 ],  
 ),  
 ),  
 ],  
 ),  
 ),  
 );  
 }  
}