ICT ACADEMY OF KERALA

VAMOS Internship Report

Flutter App Development

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EXECUTIVE SUMMARY

This internship project involved the development of a BMI Calculator application using Flutter. The purpose of the project was to gain hands-on experience in mobile application development and enhance skills in UI/UX design, state management, and cross-platform development using Flutter. The project includes features such as BMI calculation, user input validation, and dynamic UI updates. The primary outcome was a fully functional BMI Calculator app that demonstrates key competencies in Flutter development.

INTRODUCTION

The internship project focused on creating a simple yet effective mobile application that can calculate the Body Mass Index (BMI) for users based on their input data such as height, weight, age, and gender. Flutter, a UI toolkit developed by Google, was used to build this application due to its capability to create natively compiled applications for mobile, web, and desktop from a single codebase. The project explored various Flutter features, including state management, widget building, and custom theming.

OBJECTIVES

- To develop a functional BMI Calculator app using Flutter.
- To implement state management and navigation within the app.
- To design and implement a user-friendly interface.
- To learn and apply best practices in mobile app development.

SCOPE AND DELIVERABLES

- Scope:
  - Development of a cross-platform mobile application.
  - Implementation of BMI calculation logic.
  - Creation of a responsive and interactive UI.
  - Integration of navigation between multiple screens (LoginPage, HomePage, ResultPage).
- Deliverables:
  - A fully functional BMI Calculator app.
  - Source code and documentation.

METHODOLOGY

The project followed an iterative development approach. Key tools and technologies used included:

- Flutter SDK: For building the application.
- Dart: The programming language used with Flutter.
- Visual Studio Code: As the primary code editor.
- Google Fonts & Custom Themes: For enhancing the UI design.
- Git: For version control.

PROJECT ACTIVITIES

- Setup and Configuration:
  - Installed Flutter SDK and configured the development environment.
  - Set up project structure and integrated necessary packages like `google_fonts` and `flutter_native_splash`.
- UI Development:
  - Designed and implemented the `LoginPage`, `HomePage`, and `ResultPage` using Flutter widgets.
  - Integrated custom fonts and themes to improve the app's visual appeal.
- Business Logic Implementation:
  - Developed BMI calculation logic considering various units (kg, lbs, cm, ft).
  - Managed state across different screens using Flutter's state management techniques.
- Testing and Debugging:
  - Conducted extensive testing to ensure the app works correctly on different devices.
  - Debugged issues related to navigation, user input validation, and UI responsiveness.

RESULTS & FINDINGS

The BMI Calculator app successfully calculates the BMI based on user input and categorizes the result into different health categories such as Underweight, Normal weight, Overweight, and Obesity. The app is responsive and provides a smooth user experience. Some key accomplishments include:

- Effective implementation of dynamic UI updates.
- Smooth navigation between multiple screens.
- Successful integration of splash screen and custom fonts.

CONCLUSION

The project was a success, achieving all the defined objectives. Through this project, significant skills in Flutter development were developed, including UI design, state management, and responsive app development. The experience gained will be valuable for future projects in mobile application development.

APPENDIX

- Source Code: [https://github.com/Cobra-Sanjay/BMI-Calculator]

- Design Documentation: