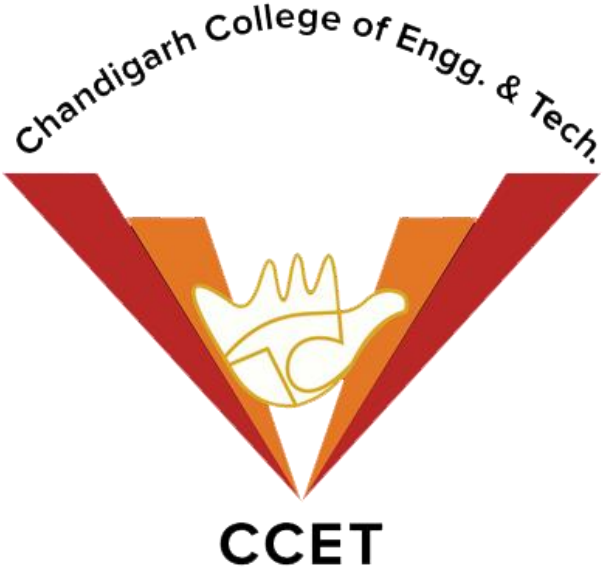
MAJOR PROJECT SYNOPSIS



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Project synopsis

Project Synopsis
Multipurpose Calculator App

➢ Introduction

The New Calculator app is an advanced multipurpose calculator designed to provide users with a wide range of functionalities beyond simple arithmetic operations. Developed using Android Studio with Java, this app is aimed at simplifying financial, mathematical, and unit conversion tasks in one place. Key features include an **EMI calculator, currency converter (real-time with offline mode), stock profit calculator, tax calculator, BMI calculator, calorie calculator, scientific calculator, and unit converter.** It also includes a **history feature** that saves both standard and scientific calculator operations for easy reference.

This app is designed for students, professionals, and traders, ensuring accuracy and efficiency in everyday calculations.

➢ Objective

The primary objective of this project is to create an all-in-one Android calculator application that:

- Provides real-time **currency conversion** with an API and supports **offline mode**.
- Assists in **financial planning** through an EMI calculator and stock profit calculator.
- Computes **taxes based on country-specific tax brackets**.
- Helps users track **BMI and calorie intake** using a health calculator.
- Offers a **scientific calculator** for complex mathematical operations.
- Converts **units and number systems** with an intuitive UI.
- Saves **calculation history** for better usability.
- Ensures a **smooth and user-friendly experience** with a clean UI and theme customization.

➢ Features of the New Calculator App

1. **Currency Calculator** – Converts currencies in real time using an API and also works offline.
2. **Unit Converter** – Converts different units like length, weight, temperature, etc.
3. **Number System Converter** – Converts numbers between binary, decimal, octal, and hexadecimal.
4. **EMI Calculator** – Helps users calculate monthly loan payments.

5. **Discount Checker** – Calculates discounts to help users make better shopping decisions.
6. **Scientific Calculator** – Supports advanced mathematical functions for complex calculations.
7. **Stock Profit Calculator** – Computes stock trading profit/loss, considering brokerage fees and taxes.
8. **Tax Calculator** – Estimates income tax based on country-specific tax brackets.
9. **BMI Calculator** – Calculates Body Mass Index (BMI) using height and weight.
10. **Calories Calculator** – Estimates daily calorie needs and calories burned during exercises.
11. **History Feature** – Saves calculation history for the main and scientific calculators.
12. **Theme Customization** – Allows users to switch between **Dark Mode and Light Mode**.

➢ Benefits

- **All-in-One Calculator** – Eliminates the need for multiple apps by providing a single solution.
- **User-Friendly Interface** – Simple, intuitive, and easy to navigate.
- **Real-Time Data** – Provides up-to-date currency and stock calculations.
- **Offline Support** – Key features work without an internet connection.
- **History Saving** – Keeps track of previous calculations for future reference.
- **Customization** – Users can personalize the app with theme settings.
- **Time-Efficient** – Quickly delivers accurate results, saving time.

➢ Software & Tools Used

Front-End:

- **Android Studio** – The primary IDE for development.
- **XML** – Used for designing the app's user interface.
- **Java** – Handles app logic, UI interactions, and processing.

Back-End:

- **Java** – Manages logic for all calculations.
- **Android SDK** – Provides libraries for app functionalities.
- **SQLite** – Used to store calculation history.
- **APIs** – Used for real-time currency and stock market data.
- **Gradle** – Automates build and dependency management.

➢ Minimum Hardware Specifications

- **Processor**: 1.2 GHz or higher (Quad-core recommended for better performance).
- **RAM**: 2 GB (for smooth app performance and multitasking).
- **Storage**: 50 MB of available internal storage for the app's installation and data.
- **Display**: 800 x 480 resolution or higher (supports basic user interface layout).
- **Operating System**: Android 5.0 (Lollipop) or higher for compatibility with the app.
- **Battery**: At least 2000mAh (for adequate battery life while using the app).
- **Graphics**: Basic GPU support for rendering the user interface and smooth visual experience.

➢ Conclusion

The New Calculator app is a feature-rich, multipurpose tool that simplifies financial, mathematical, and unit conversion tasks. By integrating advanced functionalities like a stock profit calculator, tax estimator, and calorie tracker, it becomes a must-have application for students, professionals, and traders. Developed using Android Studio with Java, the app ensures accurate calculations, a user-friendly experience, and reliable performance. With real-time data fetching, offline support, and history saving, this app aims to be an essential everyday tool.