

A Project on Basic Calculator with GUI

Supervised by:

Mohammad Shahin Uddin

Associate Professor CSE, IIUC

Submitted by:

- **Samiul Ahmed**

ID : C231241

- **Anas Bin Asad**

ID: C223415

Project Overview

The C++ calculator project aims to develop a versatile and user-friendly calculator application using the C++ programming language and Qt Creator. This calculator will provide a wide range of mathematical functions, a user-friendly graphical interface, and advanced features to cater to the needs of users who require professionals who require a powerful and versatile calculation tool.

Objectives:

1. Create a user-friendly GUI-based scientific calculator application.
2. Implement a wide range of mathematical and scientific functions, including basic arithmetic.
3. Develop a responsive and intuitive user interface that supports standard calculator features (e.g., number input, arithmetic operations) as well as advanced capabilities.
4. Provide a history log to keep track of previous calculations.
5. Enable memory storage and retrieval of variables and expressions.
6. Ensure cross-platform compatibility by targeting Windows, macOS and Linux.
7. Implement error handling and validation to prevent incorrect input and calculations.

Tools and Technologies:

- Qt Creator: For building the Graphical user interface and handling the application logic.
- C++: For programming the calculator's functionality and backend operations.
- Qt Widgets: For creating interactive user interface components.
- Version Control System (e.g., Git): To manage project source code and collaborate with team members.
- Unit testing: To ensure the reliability and accuracy of mathematical functions.

Proposed Features:

1. Standard arithmetic operations (addition, subtraction, multiplication, division).
2. To store value in memory.
3. Delete value from memory.

Project Timeline:

- Week 1: Project planning, requirements analysis, and design.
- Week 2: Implementing the calculator's core functionality and mathematical functions.
- Week 3: Design and development of the user interface.
- Week 4: Testing and bug fixing.

Team Members:

- Project Manager
- C++ developers
- UI/UX designer

Budget:

The project will be open source, with no direct budget requirements. Team members may work on a voluntary basis or be compensated if the project attracts sponsors or contributors.

Conclusion:

The "Advanced Calculator" project is aimed at creating comprehensive scientific calculator application using Qt Creator and C++. This calculator will offer an extensive range of functions and a user-friendly interface to cater to the needs of users. The project will be open source and benefit from community contributions, with the primary goal of providing a powerful, free and cross-platform calculator for all users.