Graphing Calculator
SOFTWARE REQUIREMENTS SPECIFICATION:
1. INTRODUCTION:

This document is to provide the software requirement specification for the graphing calculator. It does all arithmetic calculations and draw graphs of functions.

1.1. Purpose:

The main purpose of this is to perform all arithmetic operations and draw the graphs of functions.

The basic algebraic functions will include addition, subtraction, division, and multiplication. The calculator will also be able to compute the power, sine, inverse sine, cosine, inverse cosine, tangent, inverse tangent, exponential, logarithm and natural logarithm of functions and square root functions etc.

1.2. Scope:

The software products to be designed include: the virtual keyboard,
graphing input and output mode,standard input mode, menus for
selecting which scientific functions to compute, an options menu
for changing the options on the implemented machine.
The software products will be interactive with the client, in which it
allow him/her to choose menu from the first display screen.

Benefits:

 Do all arithmetic calculations

 Graph drawing

 Customer friendly.

1.2.2. Objectives:

 Provides tools to perform all mathematical operations

Draw graph of function

1.3. Reference:
The books and reference materials used during this stages of the project include:
 www.cplusplus.com : For coding syntax and their uses.
 Sumita arora : Introduction to c++
developer.gnome.org/gtk_tutorial : For gtk coding syntax

1.4. Overview:
The rest of this document gives an overview of the feature and functions of the Graphing Calculator.

2. OVERALL DESCRIPTION:

2.1. PRODUCT PERSPECTIVE:
The "Graphing Calculator" is an application that remains to be independent. The user interfaces and the hardware interfaces related with this software is defined below:

2.1.1. User Interfaces:
The screen formats and the menu structure should be in such a way that the user should find it easy to use the application. The application should be user-friendly.

2.1.2. Software Interfaces: OS	NAME	SOURCE
LINUX	Codeblocks with integrated Gtk libraries	Codeblocks.org
WINDOWS	Codeblocks with integrated Gtk libraries	Codeblocks.org

2.2. PRODUCT FUNCTIONS:

The main functions are:
- Arithmetic Operation
- Solving equations
- Drawing Graph

2.3. USER CHARACTERISTICS:

There is no great need for any experience or technical knowledge. But user should know some basic stuff that can be gain by user manual.

3. SPECIFIC REQUIREMENTS:

3.1. EXTERNAL INTERFACE REQUIREMENTS:

3.1.1. User Interfaces:

The interface used in GUI must be easy to understand. This interface serves as a bridge between the user and the application. It also makes the user interaction with the system easy.

The user interface includes:

- **Screen formats :**

The introductory screen will be the first to be displayed which allows the user to select mode.

- **Data Format:**

The data entered by the user will be alphanumeric and numeric.

3.2. SOFTWARE PRODUCT FEATURES:

3.2.1. FEATURE 1:Arithmatic Operation

3.2.1.1. Purpose:

The purpose of this is to do basic operations on numbers like addition, subtraction, log, trigonometric etc .

3.2.1.2 Input:

The user must provide the numbers to perform functions.

3.2.1.3 Output:

The result of the operation will be displayed on the calculator screen.

3.2.2.FEATURE 2::Solving Equation:

3.2.2.1. Purpose:

To solve the two degree :

3.2.2.2 input

User enter equation which is required:

3.2.2.3 output

It give the value of variabls:

3.2.3.FEATURE 3::Drawing graph

3.2.3.1. Purpose:

To draw of graph like sinx ,cosx,tanx etc.

3.2.3.2 input:

user enter function which function graph required:

3.2.3.3 output:

graph of corresponding function show on display:

3.2.4.FEATURE 4::Convertor

3.2.4.1.Purpose:

To convert one unit to other unit like Celsius to Fahrenheit, meter to yard etc:

3.2.4.2.input:

User enter a no. in one unit which required to convert in another unit:

3.2.4.3 output:

Convert value as a output print: