SOFTWARE REQUIREMENTS SPECIFICATION

- **Introduction**

- **Purpose**

The purpose of preparing this documentation is to provide a detailed analysis of the application that plots the graphs and also to list out the operating constraints, environment, and the effect of the system when exposed to external factors.

- **Document Conventions**

This document serves as a reference to the application development team as well as the management team. The priorities for the points are mentioned accordingly.

- **Intended Audience and Reading Suggestions**

This document is intended for everyone involved with the application in one way or the other i.e. developers, users, management, testers etc.

- **Product Scope**

- This document is intended for everyone involved with the application in one way or the other .

Overall Description

- **User Classes and Characteristics**

Any user with a smartphone or a PC can use this application for plotting a graph from a given equation.
A user can also insert or delete an equation as well as navigate any particular graph.

- **Design and Implementation Constraints**

  - The system should be coded in java as it is an android application.
  - The system should be able to run on any machine that supports android
  - The system should be reliable, quick to load .

- **User Documentation**

A CD will also be provided with visual animations to explain the features of the system and also an index with a text format will be provided as an manual to help someone who finds it difficult to use this particular android application.

- **Assumptions and Dependencies**

  - The application atleast assumes that the users knows everything related to equations and can atleast enter the given equation in the text box provided in that application.
  - The application may face crash issues
  - A prototype will be developed for a city-wide network.
  - The user should be within the Indian subcontinent to avail the services.

External Interface Requirements

- **User Interfaces**

The user interface shall include a well designed application. The entire application is made in the android studio.
Once the user enters the equation he gets the required graph in the area provided for the graph in the area provided

- **Hardware Interfaces**

The hardware in this application is not required.

- **Software Interfaces**

OS: The software is designed to run on all the android platforms.

- **Communications Interfaces**

The application will save the graphs of the equations in your personal device by communicating with the system manager of that particular device.

EQUATION INPUT

4.1.1 Description and Priority

This is higher prioritized function which contains a text field for equation input. User have to enter an equation there to use the system. This equation can be any polynomial, quadratic or trigonometric.

4.1.2 Stimulus/Response Sequences

The user will provide an equation and exactly with no interval of time the graph gets plotted on the area given and the best part id any number of graphs can be plotted over one and another.

4.1.3 Functional Requirements

R1.1: Input Equation

I/P: Any polynomial, trigonometric, quadratic equation as an input.

O/P: Decorated string with braces of the string worked upon.

Process: Application will take an equation as an input and then decorate the equation it will replace the value of ‘PI’ or ‘e’ etc and then it gives the equation as it could be worked upon further.

4.2.3 Functional Requirements

R2.1: Zoom IN and Zoom OUT

I/P: String Of an equation.

O/P: Zoom in or zoom out graph.

Process: After entering the equation the user obtains the required graph but by this functionality the user and magnify or demagnify the given graph upto any limit.

R2.2: Navigation

I/P: Equation

O/P: plotted graph with any values and in any quadrant

Process: When the user gets the graph form the entered string of the equation then user can use the navigation functionality to go through the entire graph with any value and in any quadrant just by swiping or scrolling the entire graph.

Feedback and query system

4.6.1 Description and Priority

This functionality have very low priority. By this feature, user can give feedback to our application. Or if user have any queries about the application, they can ask in in these feature.

4.6.2 Stimulus/Response Sequences

In this feature, user have to open feedback page of the application in it user can ask any queries or can give feedback to our system.

4.6.3 Functional Requirements

R1.1:feedback system

I/P: feedback in a form

O/P: successful submition message

Process: system will provide a from for feedback.user will fulfil the form and will submit. This feedback will go to one of our employee.

R6.2:Queries system

I/P: query related to our system

O/P:will go to system's employee and they will reply as soon as possible.

Process: System will provide interface so that user can ask any question to employee related to the system.