Vision and Scope Document

For

Calculator Software Project

**Version 1.2 approved**

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**Revision History**

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| --- | --- | --- | --- |
| **Name** | **Date** | **Reason For Changes** | **Version** |
| Karla Gonzales | 11/13/17 | Table Formatting | 1.1 |
| Chris Saravani | 11/22/17 | Separated Features section from Vision and Scope | 1.2 |

# Business Requirements

The requirements outlined to us in our Software Engineering course are to work through the project development process. In this process we as a group are to create a program that solves simple algebraic expressions. The core objective of this program is to gain experience in building the proper project documents such as the Vision and Scope. The overall value of calculator is to help high school students and college freshmen check algebraic problems.

## Background

Create a calculator that solves basic algebraic equations.

## Business Opportunity

This calculator is geared towards high school and college freshmen’s taking basic algebraic courses. Its purpose to facilitate the process of obtaining a result when defining a calculation.

## Business Objectives and Success Criteria

Correctly solve algebraic functions using syntax error detection.

## Customer or Market Needs

Our customers will be high school students and college freshmen.

## Business Risks

* Limited algebraic equations can be solved.
* Students may not use the program.
* Portability issues.

# Vision of the Solution

This section establishes a long-term vision for the system to be built to address our goals for the project. This vision will provide the context for making decisions throughout the course of the project development life cycle. Our vision is create a program that is able to correctly compute algebraic expressions.

## Vision Statement

Here we will write a concise vision statement that summarizes the purpose and intent of the new product and describes what the world will be like when it includes the product. The vision statement is to create a program that computes algebraic equations.

## Major Features

See Algebra Operations worksheet for full list of possible calculator functions.

## Assumptions and Dependencies

In this section we record our assumptions that were made when conceiving the project and vision and scope document. We are assuming that many of the features we want to add are feasible to code and that students will actually use this program to calculate algebraic problems.

# Scope and Limitations

The project scope defines the concept and range of the proposed solution. In this section it is also important to define what will not be included in the product. Clarifying the scope and limitations helps to establish realistic expectations of the many stakeholders. It also provides a reference frame against which proposed features and requirements changes can be evaluated.

## Scope of Initial Release

In this section we will describe the intended major features that will be included in the initial release of the product. We expect to have at least the first five major features in our programming calculator.

## Scope of Subsequent Releases

If a staged evolution of the product is envisioned over time, indicate which major features will be deferred to later releases.

## Limitations and Exclusions

Some of the product features or characteristics that the stakeholder might anticipate from the feature list may not be added in the final product due to project time constraints and the feasibility of coding algebraic expressions.

# Business Context

This section summarizes some of the business issues around the project, including profiles of major customer categories, assumptions that went into the project concept, and the management priorities for the project.

## Stakeholder Profiles

Stakeholders are individuals, groups, or organizations that are actively involved in a project, are affected by its outcome, or can influence its outcome. The stakeholder profiles in our project included students and teachers who are in classes that are revolve around algebra. The value that our program will bring to these two groups is that students will be able to verify algebra homework and practice problems are correct. This saves time for both the teacher and the students. Below are the stakeholder categories, each profile includes the major value or benefits they will receive from the product, their likely attitudes toward the product, major features and characteristics of interest, and any known constraints that must be accommodated.Here are some of the improvements expected.

* improved productivity
* reduced rework
* cost savings
* automation of previously manual tasks
* ability to perform entirely new tasks or functions
* improved usability or reduced frustration level compared to current applications

Stakeholder Profile:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Stakeholder** | **Major Value** | **Attitudes** | **Major Interests** | **Constraints** |
| Teachers | Free’s up time | Allows students to check their answers | Helps the learning process of algebra | Limited Calculator Functionality |
| Students | Able to verify answers | Highly receptive, but expect high usability | Faster answers; ease of use; high reliability | User input errors in the calculator can skew answers |

## Project Priorities

Below are the major priorities among the project’s requirements and schedule. The table below may is helpful in identifying the parameters around the project’s key drivers (top priority objectives), constraints to work within, and dimensions that can be balanced against each other to achieve the drivers within the known constraints.

|  |  |  |
| --- | --- | --- |
| **Dimension** | **Driver (state objective)** | **Constraint (state limits)** |
| Schedule | Project documents to be available by 11/20 | Limited time to fully complete program |
| Features | Begin Programming by  11/20 | Class Ends in December |
| Quality | Finish Majority of Programming by December | Class Ends in December |
| Staff | Staffing has already been determined at this point | Maximum team size is 5 developers/ testers |

## Operating Environment

Here the environment in which the system will be used is defined by the major availability, reliability, performance, and integrity requirements. This information will significantly influence the definition of the system’s architecture.

* Are the users widely distributed geographically or located close to each other?
* When do the users in various locations need to access the system?
* Where is the data generated and used? How far apart are these locations? Does the data from multiple locations need to be combined?
* Are specific maximum response times known for accessing data that might be stored remotely?
* What access security controls and data protection requirements are needed?