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Learning Report – Applied System Development Life Cycle and Software Testing



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**Document History**

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**Introduction**

## Project Name – Calculator

Helps in computing trigonometric functions, binary conversions, Dimension conversions and basic calculator.

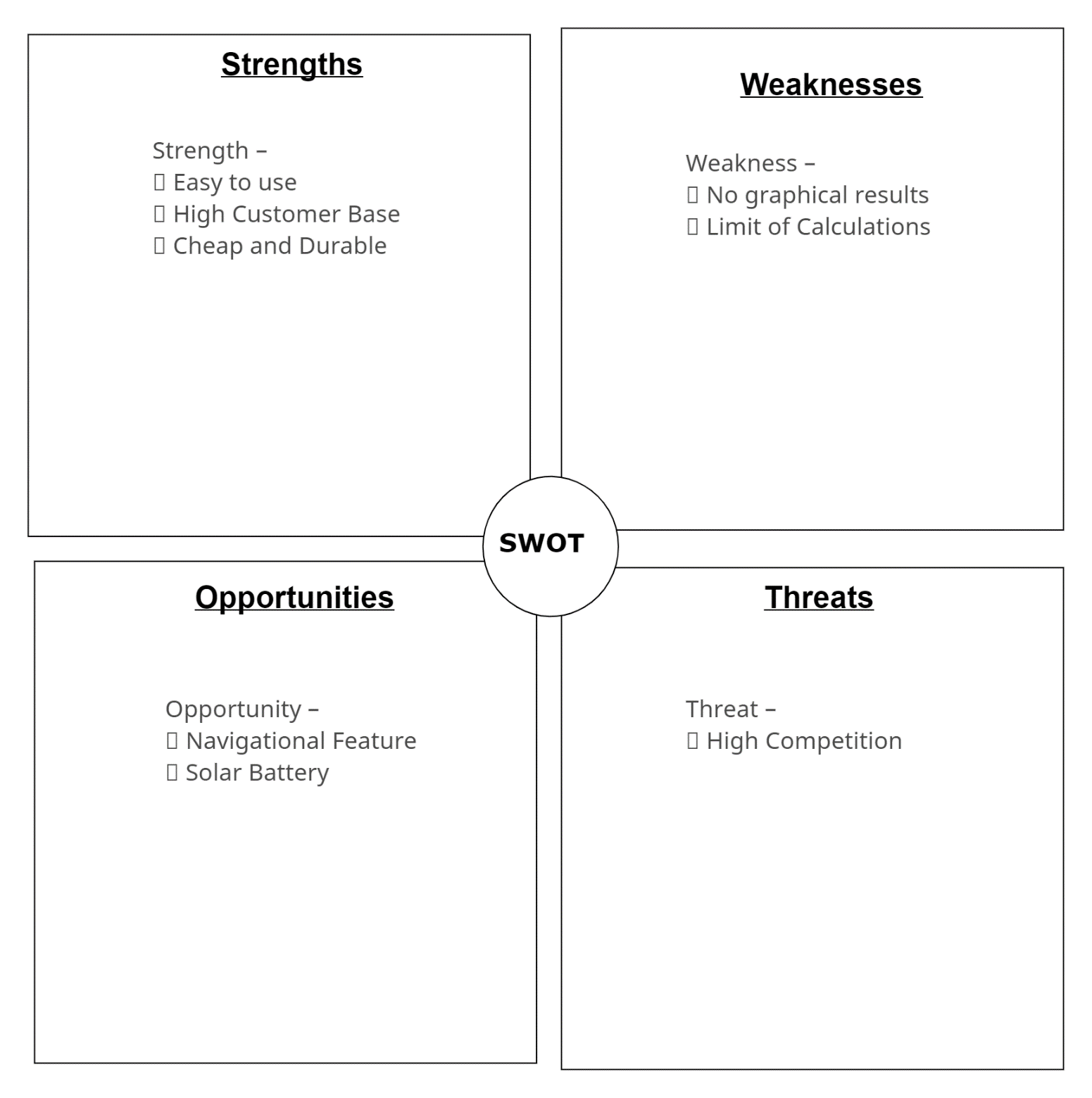
Features -

* Basic Calculation
* Binary Conversion
* Dimension Conversion
* Trigonometric Functions

### Arithmetic Conversions

* Addition
* Subtraction
* Multiplication
* Division
* modulus

# SWOT Analysis -



# Requirements

## High Level Requirements

* Basic Arithmetic Calculation
* Trigonometric Calculation
* Dimension Conversion
* Binary Conversion

## Low Level Requirements

### Arithmetic Conversions

* Addition
* Subtraction
* Multiplication
* Division
* modulus

### Trigonometric Conversions

* Sine, Cosine, Tan, Cot, Sec, Co-sec
* I/O type Floating Values

### Binary Conversion

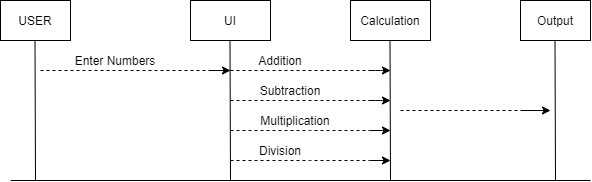
* Binary to decimal and Hex
* Decimal to Hex and Binary
* Positive integer values allowed
* Conversion for Range of word size

### Dimension Conversion

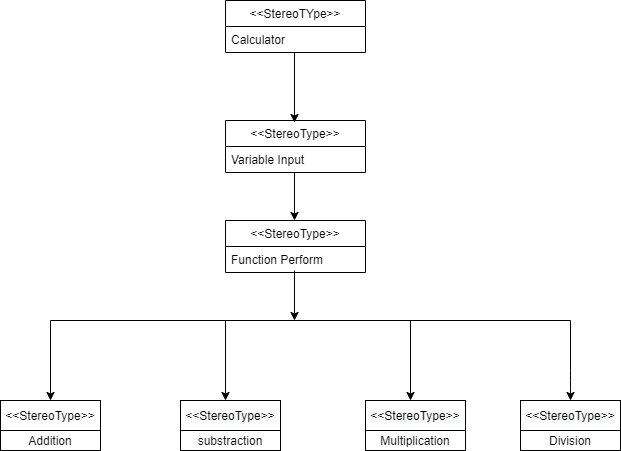
* Length Conversions (centimeter/meter/km, inch/foot)
* Mass Conversions(g/kg/pounds)
* Temperature Conversions(Degree/Fahrenheit)
* Floating Values

Design

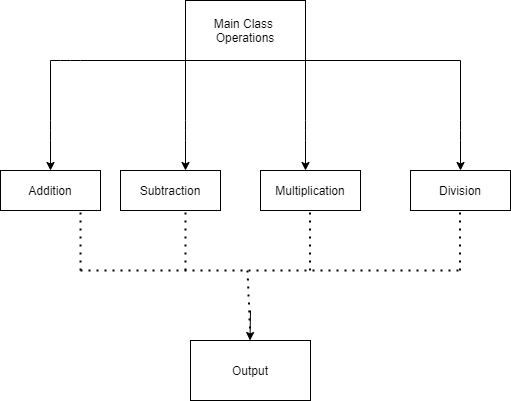
Low Level Design -



Low Level Design



High Level Diagram



Object Diagram

Test Plan

**# Arithmetic Operations**

| Test Id | Input                | Expected Output | Actual Output |   Status   |

|---------|----------------------|-----------------|---------------|------------|

| T1      | Addition 2,3         | 5               |    5          |      pass      |

| T2      | Subtraction 5,1      | 4               |   4          |         pass   |

| T3      | Multiplication 2,5   | 10              |  10          |       pass     |

| T4      | Division 18,6        | 3               |   3         |       pass     |

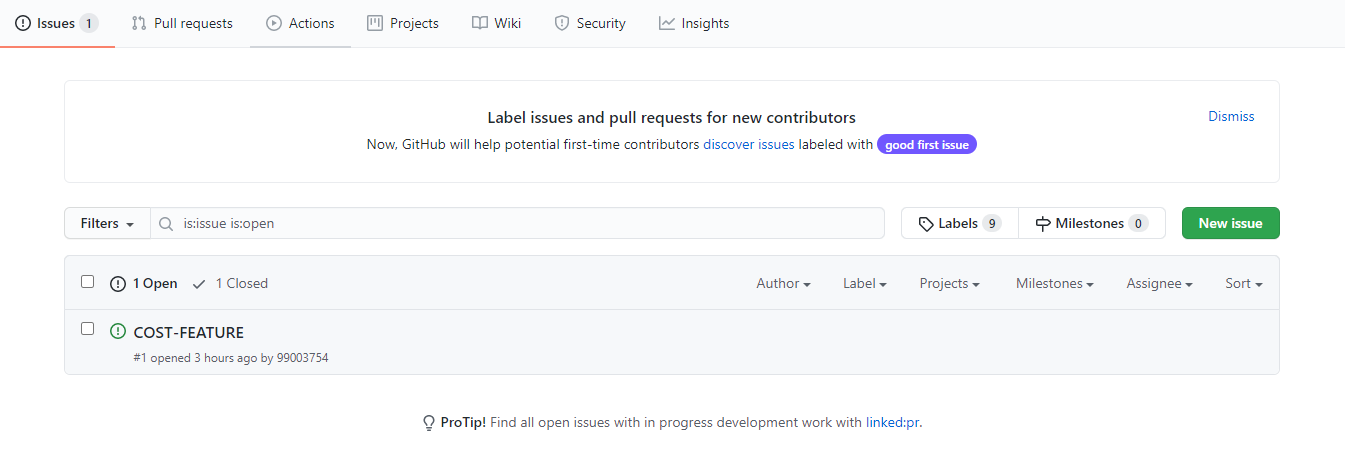
| T5      | Addition -2,5        | 3               |   3          |       pass     |

| T6      | Subtraction -3,5     | -8              |  -8         |       pass     |

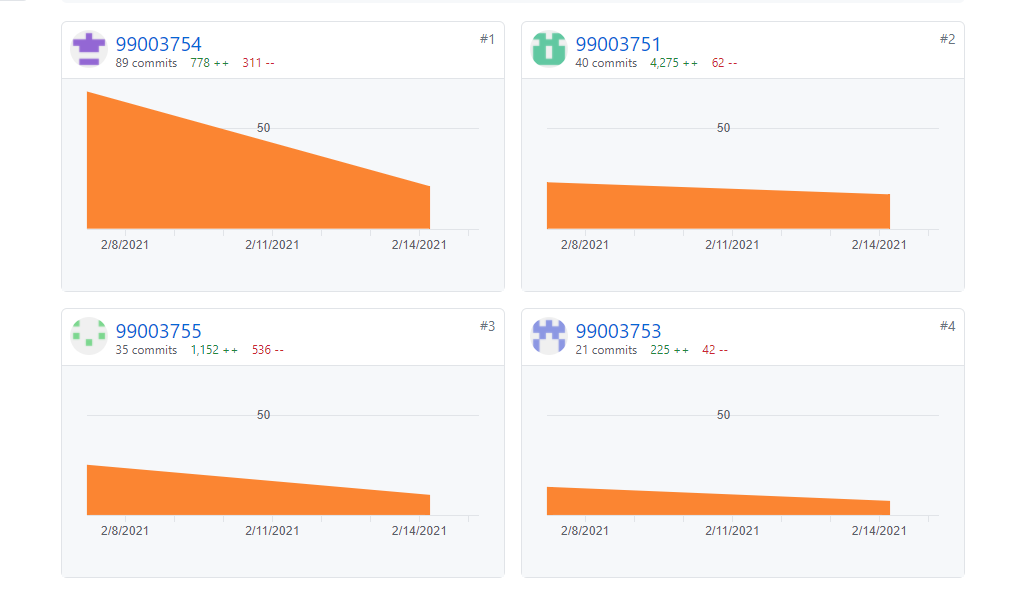
| T7      | Multiplication +5 ,-5| -25             |         -25   |       pass     |

| T8      | Division 15,0        | Error           |     Error     |    Pass        |

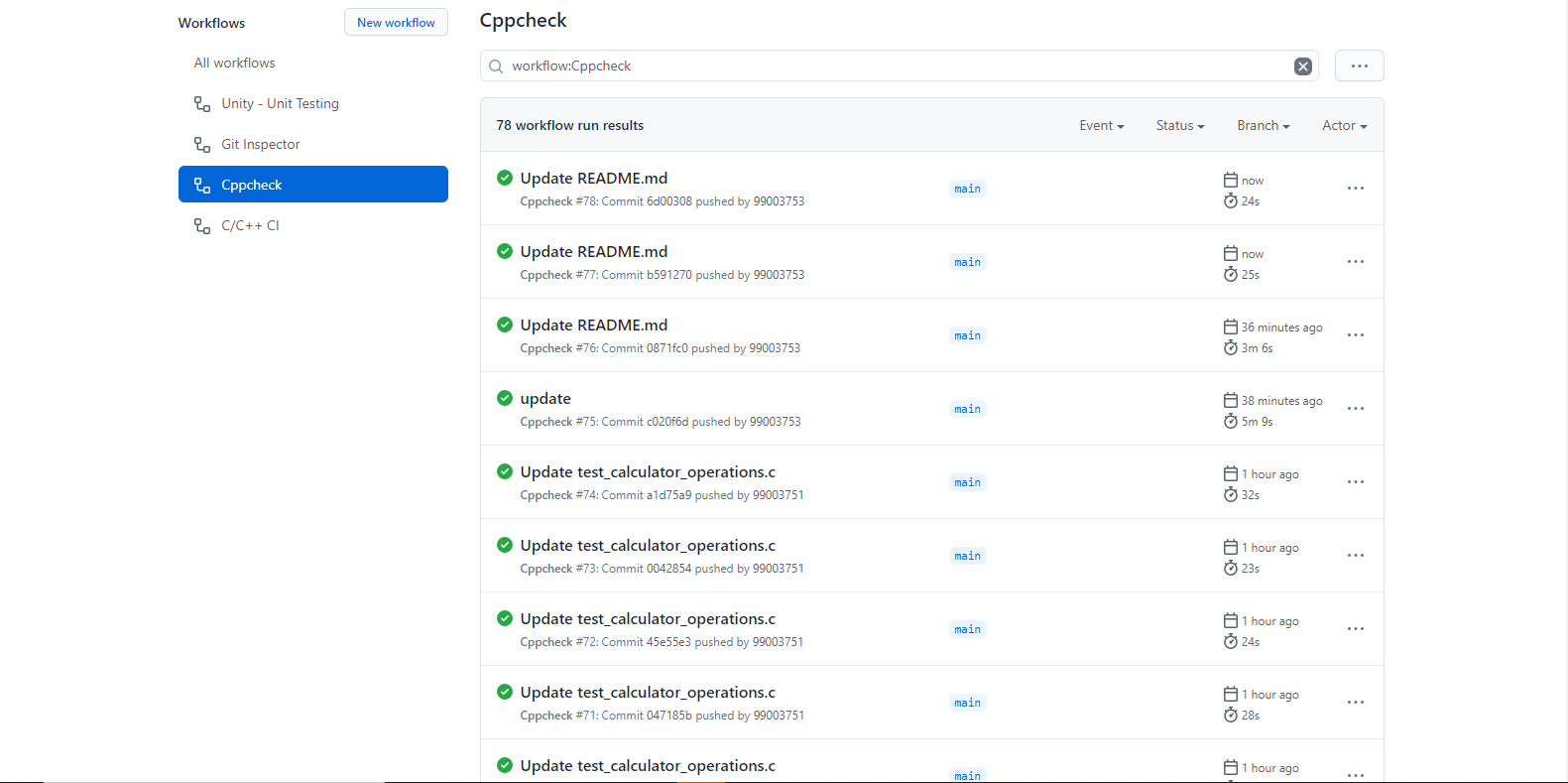
GIT Issues –



GIT Commits -



Cpp Check -



Agile Methodology

The **Agile software development** methodology is one of the simplest and effective processes to turn a vision for a business need into software solutions. Agile is a term used to describe software development approaches that employ continual planning, learning, improvement, team collaboration, evolutionary development, and early delivery. It encourages flexible responses to change.

Theme - Calculator

This Calculator helps in calculating basic calculation, conversion of dimensions, trigonometric functions and binary conversions.

Epic - The Calculator Is to perform basic arithmetic operation ,that is design by me.

Stories – Based on epic some are function given below –

1.Addition

2.Subtraction

3.Multipplication

4.Division

5.Remainder

Here is a graphical illustration of the Agile Model –



An iteration, in the context of an Agile project, is a during which development takes place, the duration of which:

* may vary from project to project, usually between 1 and 4 weeks
* is in most cases fixed for the duration of a given project