Advanced Calculator Application using Python and Tkinter

Chander Singh digari

CIS 641 – Systems Analysis and Design

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Project Overview

- This project focuses on developing a calculator application using Python and Tkinter.
- The calculator will support basic arithmetic and advanced scientific calculations, including trigonometric and hyperbolic functions.

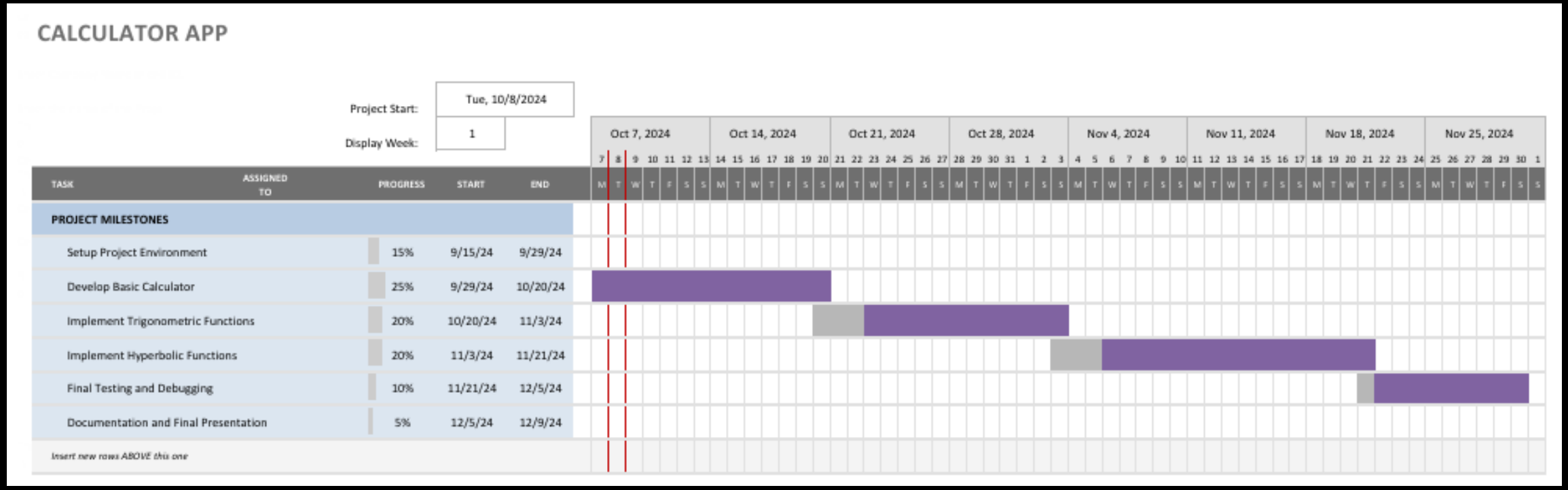
Objective

- To create an efficient, user-friendly calculator capable of performing advanced mathematical operations with a responsive graphical user interface.

Project Goals

- **Basic Arithmetic**: Addition, subtraction, multiplication, division.
- **Advanced Calculations**: Support for COS, SIN, TAN, and hyperbolic functions.
- **User Interface**: Design a simple and responsive GUI for easy use.

Gantt Chart


CALCULATOR APP
Project Start:
Tue, 10/8/2024
Display Week:
1
Oct 7, 2024
Oct 14, 2024
Oct 21, 2024
Oct 28, 2024
Nov 4, 2024
Nov 11, 2024
Nov 18, 2024
Nov 25, 2024
TASK
ASSIGNED TO
PROGRESS
START
END
PROJECT MILESTONES
Setup Project Environment
15%
9/15/24
9/29/24
Develop Basic Calculator
25%
9/29/24
10/20/24
Implement Trigonometric Functions
20%
10/20/24
11/3/24
Implement Hyperbolic Functions
20%
11/3/24
11/21/24
Final Testing and Debugging
10%
11/21/24
12/5/24
Documentation and Final Presentation
5%
12/5/24
12/9/24
Insert new rows ABOVE this one

Current Progress

- Developing: The basic calculator app (addition, subtraction, multiplication, and division).
- To be done: Trigonometric functions, hyperbolic functions, and error handling.

Remaining Tasks

- Implement Hyperbolic Functions
- Comprehensive Testing
- Error Handling and Input Validation

Challenges

- Challenge: Handling precision for scientific functions.
- Solution: Use Python’s math library for accuracy.

Next Steps

- Complete Hyperbolic Functions
- Perform comprehensive testing
- Prepare final documentation and presentation

Conclusion

- This calculator application will provide both basic and advanced functionalities, catering to users with different needs.
- Future plans include adding logarithmic and exponential functions to enhance its utility.