PROJECT FINAL REPORT

Project Name	**CALCULATOR**
Description	A user-friendly and efficient calculator application designed to perform basic arithmetic operations, including addition, subtraction, multiplication, and division. It offers a clean and intuitive interface, allowing users to input numbers and receive accurate results instantly. The calculator project aims to provide a reliable and convenient tool for quick mathematical calculations.
Course	Integrated Project
Course Code	CA160
Batch	2022
Date	24th May, 2023
Student Name	1. Rahamatulla Mandal 2. Sunil Sahoo
Student Roll Number	1. 2213986040 2. 2213986051
Project Guide Name	Mrs. Shivani Gautam

Project Results

Detailed Project Description
The goal of this project is to develop a versatile calculator application capable of performing a range of calculations, including scientific functions, number system conversions, length conversions, age calculations, and basic arithmetic operations. **Key Features:** 1. **Basic Arithmetic Operations:** The calculator will support essential arithmetic operations, including addition, subtraction, multiplication, and division. Users can input numerical values and perform calculations with ease. 2. **Scientific Calculator:** The calculator will include advanced mathematical functions such as trigonometric functions (sine, cosine, tangent), logarithmic functions, exponentiation, square root, and factorial. Users can input complex mathematical expressions and obtain accurate results. 3. **Number System Converter:** The calculator will provide the ability to convert numbers between different number systems, including binary, decimal, octal, and hexadecimal. Users can enter a number in one system and instantly obtain its equivalent representation in other systems.

4. **Length Converter:** The calculator will offer length conversion capabilities, allowing users to convert measurements between various units, such as centimeters, meters, inches, feet, yards, and miles. Users can input a value in one unit and obtain the equivalent value in other units.

5. **Age Calculator:** The calculator will enable users to calculate someone's age based on their birthdate and the current date. Users can input the birthdate, and the calculator will calculate and display the exact age in years, months, and days.

Project Successes includes

Name	Description
Functionality	The calculator project successfully implements a wide range of functionalities, including scientific functions, number system conversions, length conversions, age calculations, and basic arithmetic operations. Users can perform diverse calculations efficiently and accurately.
User-Friendly Interface	The calculator features a clean and intuitive user interface, making it easy for users to input values, select functions, and obtain results. The design prioritizes readability and usability, enhancing the overall user experience.
Accuracy and Reliability	The calculator ensures accurate calculations, adhering to mathematical principles and standards. It has been thoroughly tested to minimize errors and deliver reliable results, providing users with confidence in the accuracy of their calculations.
Learning Opportunity	The development of the calculator project serves as a valuable learning opportunity for programmers, especially beginners. It involves implementing fundamental programming concepts, mathematical algorithms, and user interface design principles, fostering skill development and knowledge enhancement.

Project Challenges

Description	Impact	Actions Taken
User Interface Design	Potential usability issues and confusion for users	Conducted user testing and incorporated feedback to improve the interface, followed established UI design principles, and iteratively refined the design.
Performance Optimization	Slow or inefficient calculations	Optimized algorithms, minimized computational overhead, and used efficient coding practices to ensure fast and responsive performance.

Lessons Learned

Description
• **Clear Project Goals:** Establishing clear and specific project goals at the outset helps maintain focus and guide decision-making throughout the development process. This

clarity prevents scope creep and ensures that the project stays aligned with its intended purpose
• **Documentation and Knowledge Transfer:** Creating comprehensive documentation, including code comments, user manuals, and technical documentation, aids in knowledge transfer and ensures the maintainability of the calculator. It facilitates future updates, bug fixes, and onboarding of new team members.
• **Continuous Improvement:** Reflecting on the project's successes and challenges provides valuable insights for future projects. Embracing a culture of continuous improvement allows for learning from mistakes, adopting best practices, and refining processes.

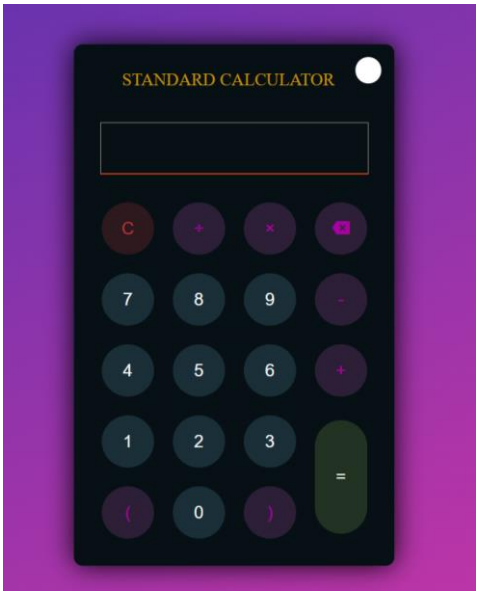
Project Performance

Meeting Expectations		
Success Criteria	**Criteria Met**	**Comments**
Functionality	☐	The calculator effectively implemented the desired functionalities, including scientific functions, number system conversions, length conversions, age calculations, and basic arithmetic operations. It provided users with a comprehensive set of tools for their mathematical calculations.
Performance	☐	The speed and responsiveness of the calculator impact user satisfaction. If the calculator performs calculations quickly and smoothly, users are more likely to be satisfied with its performance.
Accuracy and Reliability	☐	Users expect the calculator to provide accurate and reliable results. If the calculator consistently delivers correct calculations and operates reliably without errors or crashes, it enhances user satisfaction.

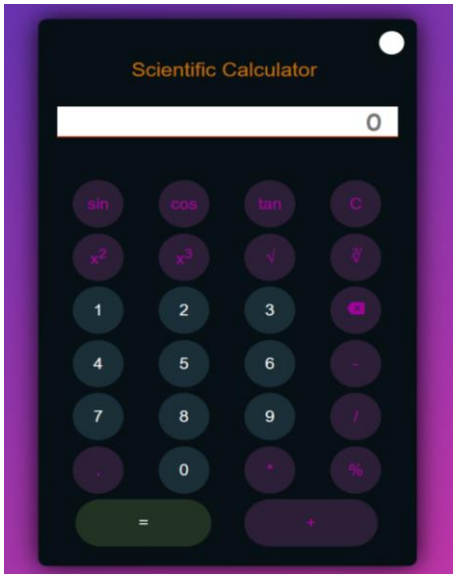
Transition to Operations and Archives	
Archiving Project Materials	Archive all relevant project materials, including documentation, source code, design files, and other artifacts. Store these materials in a secure and accessible location for future reference or potential project continuation
Project Evaluation	Conduct a project evaluation or retrospective to assess the overall project performance, identify lessons learned, and gather feedback from team members and stakeholders. Document the outcomes and recommendations for future similar projects.
User Support and Maintenance	Define and communicate the channels through which users can seek support for any issues they encounter while using the calculator. Establish a maintenance plan to address potential bugs, security updates, and future enhancements.

Screenshots

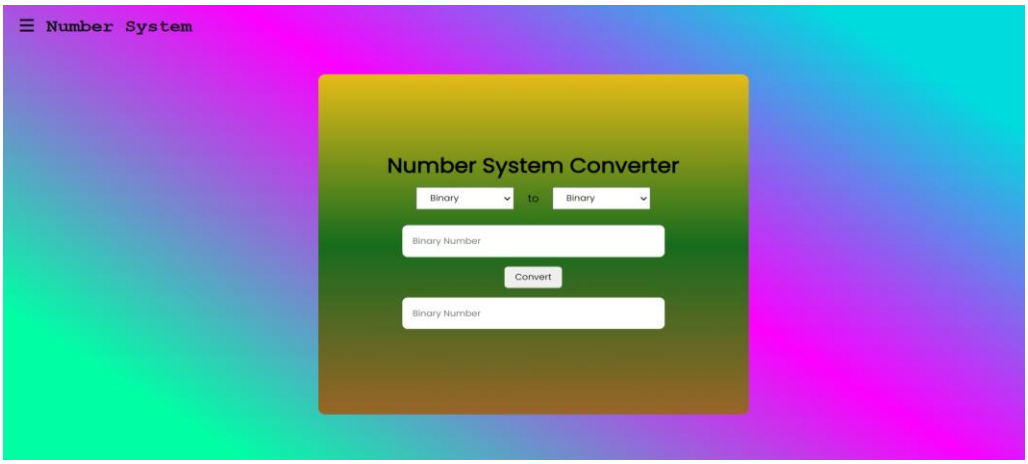
STANDARD CALCULATOR



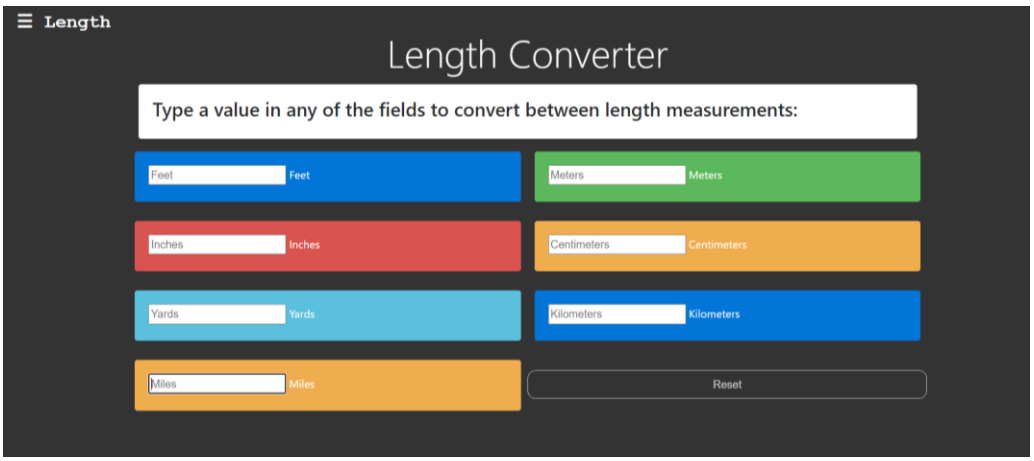
SCIENTIFIC CALCULATOR



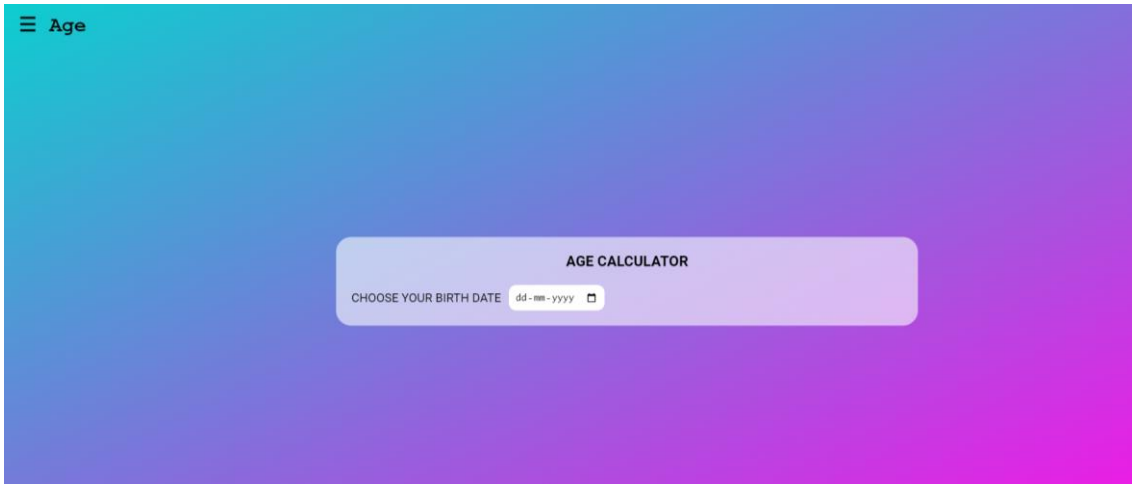
NUMBER SYSTEM CONVERTER



LENGTH CONVERTER



AGE CALCULATOR BEFORE ENTERING THE DATE OF BIRTH



AGE CALCULATOR AFTER ENTERING THE DATE OF BIRTH