**PROJECT FINAL REPORT**

*The Project Final Report is intended to concisely summarize the outcomes of a project and is the final document in the CCS Project Management Methodology. A Project Final Report is used to document project successes, lessons learned and performance in order to signal improvement in project delivery for the future. This template outlines the content and format of final reports to be used for all information systems projects. The* [*Project Management Office*](http://www.carleton.ca/ccs/project-office) *is your resource for completing this document.*

*A Project Final Report reflects the formal and informal feedback collected from project stakeholders and participants throughout the project. Commonly, a Project Post-Mortem is held to explore the experiences of the participants of the project in more detail. The information collected in this way should align with the details included in the Project Final Report.*

*The Project Final Report is to be developed between the project manager and the project director and should be circulated to project stakeholders and participants for feedback. Finally, the project sponsor should sign off on the details of the Project Final Report before it is forwarded to the Project Management Office for archiving.*

*The project sponsor is responsible for presenting the Project Final Report at a meeting of the Information Systems Steering Committee.*

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| **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**

What were the actual project end deliverables vs. the original baseline (i.e. those outlined in the Project Charter)? How close to the scheduled completion was the project and how close to budget was the final project cost? What was learned about the estimating of time, resources and cost; as well as the scheduling of activities and tasks that will help future projects? What project benefits were derived that were not originally identified?

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| **Detailed Project Description** | |
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| 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. | |

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| 1. **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. 2. **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**

List and describe the highlights and key success factors of the project.

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| **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**

List and describe any unexpected events that occurred during the project (including approved change requests), the impact that those events may have had on the project and the action(s) taken to address them.

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| **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**

List and describe any lessons learned from this project and provide recommendations that can be used to improve the delivery of future information systems projects.

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| **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**

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| ***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. |

The *Meeting Customer Expectations* variable must be completed by the Project Sponsor or Project Director.

| Transition to Operations and Archives | |
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| 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.D |
| 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. |

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| **Screenshots** | |
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| SCIENTIFIC CALCULATOR  STANDARD CALCULATOR      LENGTH CONVERTER  NUMBER SYSTEM CONVERTER | |
| AGE CALCULATOR BEFORE ENTERING THE DATE OF BIRTH      AGE CALCULATOR AFTER ENTERING THE DATE OF BIRTH | |