### Task Management Application - Initial Submission Report

#### Student Information

- \*\*Name:\*\* Bruhadev Kandimalla

- \*\*Registration Number:\*\* 12203561

#### Problem Statement

The project aims to create a console-based Task Management Application that enables efficient task management, including task names, descriptions, deadlines, and priorities. The application facilitates task addition, display, and management without relying on a database.

#### Approach

1. \*\*Understanding Requirements:\*\*

- Identified key functionalities: adding tasks, displaying tasks, and exiting the application.

- Recognized essential data attributes for each task: task name, description, deadline, and priority.

2. \*\*Designing the Data Structure:\*\*

- Formulated a `Task` class to encapsulate all task attributes.

- Constructed a `Task Manager` class responsible for managing tasks and their associated operations.

3. \*\*User Interface:\*\*

- Developed an intuitive console-based user interface, allowing seamless user actions.

- Incorporated a menu system guiding users to add tasks, view tasks, and exit the application.

4. \*\*Input Handling:\*\*

- Implemented robust input validation to ensure appropriate user inputs conform to expected formats.

- Integrated comprehensive error handling mechanisms to manage incorrect inputs and guide users accordingly.

5. \*\*Testing and Validation:\*\*

- Executed thorough application testing, covering various scenarios and edge cases.

- Verified that the application functions as intended, accurately managing tasks and presenting relevant information.

6. \*\*Documentation:\*\*

- Prepared a comprehensive documentation set, including this initial report, code comments, and a user guide.

- Outlined the application's usage, features, and specific input requirements clearly and comprehensively.

#### Milestones

1. \*\*Project Setup and Planning:\*\*

- Defined the project's scope, objectives, and target user base.

- Set up the development environment and selected the programming language (Java in this instance).

- Created a well-defined project timeline and allocated tasks to team members, where applicable.

2. \*\*Core Functionality Implementation:\*\*

- Developed the essential functionalities, encompassing task addition and task display.

- Ensured meticulous data handling and storage mechanisms.

3. \*\*User Interface and Input Handling:\*\*

- Designed an engaging console-based user interface, emphasizing usability and intuitiveness.

- Implemented robust input handling mechanisms to validate and process user inputs efficiently.

4. \*\*Testing and Debugging:\*\*

- Conducted extensive testing to identify and rectify bugs, ensuring the application's stability and reliability.

- Addressed any performance issues or unexpected behavior encountered during the testing phase.

5. \*\*Documentation and Finalization:\*\*

- Concluded the project's codebase, ensuring adherence to coding standards and proper organization.

- Developed thorough documentation, encompassing the final report, user guide, and comprehensive code comments.

#### Conclusion

The Task Management Application is the ultimate solution for anyone who needs to manage tasks, deadlines, and priorities in a practical and streamlined manner. With its robust and utilitarian design, this application is perfect for users who require a straightforward yet powerful tool for managing their tasks. The first release comes equipped with essential functions, a user-friendly console-based interface, and resilient input management mechanisms, all backed up by comprehensive documentation. As we continue to work on future updates, we are confident that we will be able to incorporate even more enhancements, such as improved error handling, data persistence, refined code structure, testing implementation, a graphical user interface, and additional features.