

Data Structures & Algorithms Project Proposal

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1 Project Title & Topic/Idea

Task Manager. Our project aims to develop a task manager program to help users manage their daily tasks, set reminders, and track their progress. Users will be able to add, edit, and delete tasks and prioritize them by setting deadlines and assigning importance levels.

2 How is your idea novel?

Our program combines features such as task management, prioritization, and reminders, all in a single platform. This makes it a unique tool for users who need to manage their tasks efficiently.

3 Data structure and Algorithm you will use

Our program will make use of priority queues, hashing, and sorting algorithms to manage and sort tasks. We will utilize sorting algorithms such as merge sort and quick sort to prioritize tasks based on their deadlines and importance levels.

4 Application Details

The task manager program will allow users to add, edit, and delete tasks. They can assign deadlines and importance levels to each task, and the program will automatically sort them based on these criteria. We will be using priority queues and hashing to enable quick task management. If time permits, we will convert our Python code into Pyscript and create a visual interface by connecting it to HTML and CSS.

5 Expected Outcomes

Our task manager program will enable users to sort their tasks according to their priority, making it easier for them to manage their workload and improve productivity.

6 Conclusion

In conclusion, our task manager program provides a unique solution for managing tasks by integrating various features into a single platform. By utilizing priority queues, hashing and sorting algorithms, we aim to provide users with an effective and efficient tool for managing their daily tasks.

7 References

1. <https://www.geeksforgeeks.org/priority-queue-set-1-introduction/>
2. <https://www.programiz.com/dsa/priority-queue>
3. <https://pyscript.net/>
4. <https://www.freecodecamp.org/news/pyscript-python-front-end-framework/>
5. <https://www.geeksforgeeks.org/python-program-for-quicksort/>
6. <https://www.programiz.com/dsa/merge-sort>
7. <https://levelup.gitconnected.com/sorting-and-hash-tables-python-12c12dd9c8fb>
8. <https://www.python.org/doc/>