To-Do Workflow System

Abstract

The **To-Do Workflow System** is a desktop application that will be developed using Java and the Swing framework, focusing on efficient task management through the integration of key data structures and algorithms (DSA). The system will enable users to add, edit, complete, remove, and prioritize tasks, each accompanied by a description and an optional due date to aid in task organization.

The application will feature an intuitive graphical user interface (GUI) with task operations handled through buttons, displaying tasks in a clear list format. Sorting algorithms, particularly by due date, will be implemented using a PriorityQueue, while a HashMap will support efficient task retrieval and manipulation. These DSA implementations will ensure the system performs efficiently even with large task lists.

File I/O operations will allow users to save and load tasks to and from a file, ensuring persistence between sessions. The project will serve as a comprehensive exercise in Java programming, object-oriented design, GUI development, and the application of sorting algorithms and data structures.

Keywords: *Java, Swing Framework, Task Management, File I/O, Sorting Algorithms, PriorityQueue, HashMap, OOP, DSA*

B. SRI VAISHNAVI

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