**Task Manager System**

**Overview**

The Task Manager System is designed to help users manage their tasks efficiently. It allows users to register, log in, add tasks, view tasks, mark tasks as completed, and delete tasks. The system ensures that each user's tasks are private and can only be accessed and modified by the respective user.

**Components**

1. **\*\*User Management\*\***: Handles user registration and login.

2. **\*\*Task Management\*\***: Allows users to add, view, mark as completed, and delete tasks.

3. **\*\*Interactive Menu\*\***: Provides a user-friendly interface for interacting with the system.

**Class Diagram**

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| TaskManager |

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| - USER\_DATA\_FILE: str |

| - TASK\_DATA\_FILE: str |

| - logged\_in\_user: str |

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| + \_\_init\_\_() |

| + hash\_password(password: str) -> str |

| + register\_user() |

| + login\_user() -> bool |

| + add\_task() |

| + view\_tasks() |

| + mark\_task\_completed() |

| + delete\_task() |

| + interactive\_menu() |

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**Flowchart**

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| Start |

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| Display Main Menu|

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| User Choice |

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| 1. Register |----->| Register User |

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| 2. Login |----->| Login User |

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| 3. Exit |----->| Exit Program |

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| Interactive Menu |

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| Task Choice |----->| 1. Add Task |

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| 2. View Tasks |----->| Display Tasks |

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| 3. Mark Completed|----->| Mark Task |

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| 4. Delete Task |----->| Delete Task |

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| 5. Logout |----->| Logout User |

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| End |

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**User Management**

- **\*\*Register User\*\***: Prompts the user to enter a username and password, hashes the password, and stores the user data in a JSON file.

- **\*\*Login User\*\***: Prompts the user to enter a username and password, verifies the credentials, and sets the logged-in user.

**Task Management**

- **\*\*Add Task\*\***: Prompts the user to enter a task description and stores the task in a JSON file.

- **\*\*View Tasks\*\***: Displays all tasks for the logged-in user.

- **\*\*Mark Task Completed\*\***: Prompts the user to enter a task ID and marks the task as completed.

- **\*\*Delete Task\*\***: Prompts the user to enter a task ID and deletes the task.

**Interactive Menu**

- Provides options for adding tasks, viewing tasks, marking tasks as completed, deleting tasks, and logging out.