**Task Management Application Report**

**1. Introduction** The Task Management Application is a Python-based tool designed to help users efficiently manage their tasks. It allows users to add, remove, list, and prioritize tasks, as well as receive task recommendations based on their priority levels.

**2. Features**

* **Add Task**: Users can add tasks along with their priority (Low, Medium, High).
* **Remove Task**: Tasks can be removed using their descriptions.
* **List Tasks**: Displays all tasks along with their assigned priority levels.
* **Prioritize Tasks**: The application sorts tasks based on priority, ensuring that high-priority tasks are addressed first.
* **Task Recommendation**: Uses a simple machine learning model to suggest tasks with the highest priority.

**3. Implementation Details**

* The application utilizes pandas for data handling and storage.
* CountVectorizer and MultinomialNB from scikit-learn are used for text-based task prioritization.
* The task list is stored in a CSV file (tasks.csv), allowing data persistence.
* The menu-based interface ensures ease of use for the user.

**4. Machine Learning Model**

* The application initially trains a Naïve Bayes model on existing task descriptions and their priority levels.
* The model uses CountVectorizer to transform text descriptions into numerical representations.
* Task recommendations are generated by selecting high-priority tasks at random.

**5. Issues and Improvements**

* The model requires sufficient data to provide accurate recommendations.
* Currently, the system does not retrain dynamically as new tasks are added.
* Future improvements could include an interactive UI, deadline-based prioritization, and more advanced machine learning techniques for recommendation.

**6. Conclusion** The Task Management Application provides a functional and efficient way to manage daily tasks with automated prioritization. With further refinements, it has the potential to become a robust task management solution.