

SIMPLE TASK LIST

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Overview

The Task Management App is a command-line application that allows users to manage tasks by adding, removing, listing, and prioritizing them. It also includes a feature to recommend tasks based on their priority using a machine learning model.

Prerequisites

- Python 3.x installed on your system.

Setting up the Environment

Creating a virtual environment is optional but recommended to manage dependencies.

Steps:

1. Create a virtual environment:

```
python -m venv task_app
```

2. Activate the virtual environment:

- On macOS/Linux:

```
bash
Copy code
source task_app/bin/activate
```

- On Windows:

```
bash
Copy code
task_app\Scripts\activate
```

Installing the Required Packages

Install the necessary Python packages using `pip`:

```
pip install pandas scikit-learn
```

Running the Task Management App

1. Navigate to the project directory containing `main.py`.
2. Execute the app with the following command:

```
python main.py
```

Using the Task Management App

Adding a Task

1. Select option 1 from the menu.
2. Enter the task description when prompted.
3. Enter the task priority (Low/Medium/High) when prompted.
4. The task will be added to the list and saved to `tasks.csv`.

Removing a Task

1. Select option 2 from the menu.
2. Enter the task description to remove.
3. The task will be removed from the list and the updated list will be saved to `tasks.csv`.

Listing All Tasks

1. Select option 3 from the menu.
2. All tasks will be displayed.

Recommending a Task

1. Select option 4 from the menu.
2. A high-priority task will be recommended if available.

Exiting the App

1. Select option 5 from the menu to exit the application.

Code Details

Imports and Initialization

The app imports necessary libraries and initializes the task list from a CSV file if available. If the file is not found, an empty task list is created.

```
import pandas as pd
from sklearn.feature_extraction.text import CountVectorizer
from sklearn.naive_bayes import MultinomialNB
from sklearn.pipeline import make_pipeline
import random

# Initialize an empty task list
tasks = pd.DataFrame(columns=['description', 'priority'])

# Load pre-existing tasks from a CSV file (if any)
try:
    tasks = pd.read_csv('tasks.csv')
except FileNotFoundError:
```

pass

Task Functions

- **save_tasks:** Saves the current task list to a CSV file.
- **add_task:** Adds a new task to the list.
- **remove_task:** Removes a task from the list by description.
- **list_tasks:** Lists all tasks.
- **recommend_task:** Recommends a high-priority task.

Main Menu Loop

The main loop displays the menu options and processes user input to perform the corresponding actions.

```
# Main menu
while True:
    print("\nTask Management App")
    print("1. Add Task")
    print("2. Remove Task")
    print("3. List Tasks")
    print("4. Recommend Task")
    print("5. Exit")

    choice = input("Select an option: ")

    if choice == "1":
        description = input("Enter task description: ")
        priority = input("Enter task priority (Low/Medium/High): ")
        description = description.capitalize()
        add_task(description, priority)
        print("Task added successfully.")

    elif choice == "2":
        description = input("Enter task description to remove: ")
        remove_task(description)
        print("Task removed successfully.")

    elif choice == "3":
        list_tasks()

    elif choice == "4":
        recommend_task()

    elif choice == "5":
        print("Goodbye!")
        break

    else:
        print("Invalid option. Please select a valid option.")
```

Troubleshooting

Common Issues and Solutions

- **ModuleNotFoundError:** Ensure all required packages are installed using `pip install pandas scikit-learn`.
- **FileNotFoundError:** If `tasks.csv` is not found on the initial run, it will be created after the first task is added.
- **Invalid Input:** Ensure to provide valid inputs for task descriptions and priorities as prompted by the app.

Enjoy using the Task Management App!