Task Management RESTful API Report

Introduction :

This report provides an overview of the Task Management RESTful API project, detailing its design, implementation, and functionality.

Project Overview :

The Task Management RESTful API project aims to provide a simple yet effective solution for managing tasks through a RESTful API interface. It facilitates CRUD (Create, Read, Update, Delete) operations on tasks stored in memory.

Approach :

Technology Stack :

The project utilizes the following technologies:

Node.js: Server-side JavaScript runtime environment.

Express.js: Web application framework for Node.js.

UUID: Library for generating universally unique identifiers.

npm: Package manager for Node.js.

Implementation :

The API is implemented using Express.js, a fast, unopinionated, minimalist web framework for Node.js. Each endpoint is designed to handle specific CRUD operations on tasks, with appropriate validation and error handling mechanisms in place.

Algorithm Choices :

UUID Generation: To ensure the uniqueness of task identifiers, UUIDs are generated using the uuid library. This approach eliminates the possibility of ID collisions and provides a robust solution for identifying tasks.

The API exposes the following endpoints:

GET /task/fetch_task: Retrieve a list of all tasks.

GET /task/fetch_task/:id: Retrieve a specific task by ID.

POST /task/create_task: Create a new task.

PUT /task/update_task/:id: Update an existing task by ID.

DELETE /task/delete_task/:id: Delete a task by ID.

Error Handling :

The API returns appropriate HTTP status codes and error messages for different scenarios, ensuring a consistent and user-friendly experience for clients.

Conclusion :

The Task Management RESTful API project provides a robust solution for managing tasks through a simple and intuitive interface. With its flexible architecture and comprehensive functionality, it serves as a reliable tool for task management in various applications.