Task Management Software Project Summary

# Introduction

This document provides a summary of the Task Management Software project developed by Netanel Shen and Gadi Yohanan. The project allows users to create, manage, and prioritize tasks. Users can also register and log in to manage their tasks securely. Netanel Shen primarily focused on the frontend development, while Gadi Yohanan handled the backend development.

# Project Overview

The Task Management Software provides the following functionalities:  
1. User Registration and Login  
2. Create, Read, Update, and Delete (CRUD) operations for tasks  
3. Prioritization of tasks (Low, Medium, High)  
4. Secure authentication using JSON Web Tokens (JWT)  
5. Viewing tasks specific to the logged-in user

# Frontend Components

## App Component

The App Component is the root component of the Angular application. It includes the header and the main content area where different components are displayed based on the user’s actions.

## Header Component

The Header Component contains navigation buttons for different actions such as viewing posts, creating a new post, logging in, and registering. It also updates based on the authentication state, hiding the login and registration buttons when the user is logged in.

## Post Components

1. PostCreateComponent: Allows users to create a new task by providing a title, content, and priority.  
2. PostListComponent: Displays the list of tasks created by the logged-in user. Users can edit or delete their tasks from this list.

## Authentication Components

1. LoginComponent: Allows users to log in by providing their email and password. On successful login, the user is navigated to the task list page.  
2. RegisterComponent: Allows new users to register by providing an email and password. On successful registration, the user is prompted to log in.

# Backend Overview

The backend of the Task Management Software is built using Node.js and Express. It uses MySQL as the database to store user and task data. Gadi Yohanan primarily handled the backend development, ensuring secure user authentication and efficient task management.

# Server-Side Components

## User Authentication

The backend handles user registration and login. Passwords are hashed using bcrypt, and JWT is used for secure authentication. When a user logs in, a token is generated and sent to the client, which is used for authenticating subsequent requests.

## Task Management

The backend provides endpoints for creating, reading, updating, and deleting tasks. Each task is associated with a user, and only tasks created by the logged-in user are accessible to them. Tasks can be prioritized, and this priority is stored in the database and displayed on the frontend.

# Database Schema

The database schema consists of the following tables:  
1. users: Stores user information (id, email, password).  
2. posts: Stores task information (id, title, content, priority, user\_id).  
The posts table has a foreign key relationship with the users table, ensuring that each task is linked to a specific user.

# Conclusion

This project demonstrates a full-stack application with secure authentication and user-specific data management. Netanel Shen and Gadi Yohanan successfully collaborated to create a functional and efficient task management system, leveraging their skills in frontend and backend development respectively.