

SPRING BOOT BASED TASK HANDLER

Premikkha S	Snega G T	Vidhya Shree A M
Student	Student	Student
Department of Computer Science and Engineering	Department of Computer Science and Engineering	Department of Computer Science and Engineering
Bannari Amman Institute of Technology	Bannari Amman Institute of Technology	Bannari Amman Institute of Technology
Sathyamangalam, India	Sathyamangalam, India	Sathyamangalam, India
premikkha.cs19@bitsathy.ac.in	snega.cs19@bitsathy.ac.in	vidhyashree.cs19@bitsathy.ac.in

I. ABSTRACT:

The Spring boot-based Task Handler System was created to handle or manage the daily tasks of an organisation. The proposed system or tool offers an online platform to carry out daily organisational tasks and providing task details to the designated user. In this project, the administrator can add new users, assign tasks to the users, update the tasks and delete tasks.

The user-friendly architecture of the proposed system has the important advantage of facilitating easy online interaction and task completion between the administrator and user. All of the resources are identified, acquired, allocated, and tracked using the online task management system.

The goal of this project's development is to create a platform where administrators may perform all kinds of tasks, including view, insert, edit, events, delete, and tracking operations. An administrator or the user of this online tool has the authority to add or change tasks. The proposed System uses Angular for developing attractive UI. The Task Handler will be developed using Spring Boot back-end using REST APIs and MySQL database.

Key Words: task management, Spring-boot, Angular, Maven, task handler.

II. INTRODUCTION:

Every project comprises of a variety of tasks that the project team members must complete on schedule. It is laborious to manage those tasks and progress by hand. The administration of projects from conception to completion benefits from effective task management. The workflow of an organisation can be significantly improved with a good task management system. Giving team members duties and responsibilities is part of this task management system. Anyone who has jobs to complete benefits from task management solutions.

The administration or management processes are automated using the online task management system. The task handler aids in monitoring the work or tasks that are assigned. The proposed system offers an online workspace for an organisation for handling or managing the daily tasks. The proposed software will facilitate communication between the organisation and the employee.

The system distributes assignments or tasks quickly in order to prevent all the time-consuming meetings that are pointless. The organisation and the employee can periodically exchange information about

the assignment and tasks. The task management or task handler eases the process of managing and handling tasks. The Employees can be given tasks by the manager or organisation. This software provides facilities to assign task, modify task status, view the list of tasks that are assigned and also user can delete a task.

III. PROPOSED SYSTEM:

The application is for advanced online task management that will be used by the organisation. The users of an organisation will make use of the system to handle tasks of the project. The organisation or the user can gather information about other Users' data and add or assign task to the team members of the task. This programme can be used by users to track or handle daily tasks. The two modules make up the entire system. List of Task Module, Assign Task Module. Inside the Assign Task Module user can be able to view, update and delete the tasks. The concept and implementation of an online task management system are presented in this application. The goal of the task handler project is to develop a platform that efficiently tracks and handles tasks and the due dates for those tasks. The system will allow users to create and assign tasks, set priorities, and receive notifications when due dates are approaching. The platform's user interface is simple and it will provide real-time updates on the status of the task. The TASK HANDLER project will improve task management processes, increase productivity, and reduce the chance of missed deadlines.

The platform will make it easier for teams to communicate and collaborate, which will make it easier for team members to work together on projects and get real-time information. The system's reporting function, which provides a comprehensive overview of task progress and completion, will enable managers to make astute

decisions. The task handler project will also include a data analysis component that provides analytical data on task management and productivity trends in order to help teams identify areas for improvement. The platform's mobile accessibility will allow users to manage projects and track progress while on the go. The TASK HANDLER project's connection with well-known project management tools and apps makes it easier for teams to integrate the platform into their present workflow. To ensure the security of sensitive data, the platform will have robust data protection systems in place, and they will be exceedingly secure.

As “Task Handler” is web application, it needs MYSQL for database, Spring-Boot and Maven for Server-Side Coding, Angular for Client Side Coding and the Visual Code Studio for the development.

A. SPRING-BOOT:

The Spring Framework serves as the foundation for the project known as Spring Boot. It offers a simpler and quicker way to set up, configure, and run both straightforward and web-based apps. It is a Spring module that gives the Spring Framework the RAD (Rapid Application Development) capability. Because it only requires a minimal amount of Spring configuration, it is used to construct standalone Spring-based applications.

We choose to utilise the Spring Boot Framework in our project because: Spring Boot employs the dependency injection methodology. Strong database transaction management features are present. Integration with other Java frameworks like JPA/Hibernate ORM, Struts, etc. is made easier by this. It speeds up the application's development and lowers its cost.

B. MAVEN:

Developers have access to a full build lifecycle framework with Maven, a project management and comprehension tool. Maven can set up the way to work in accordance with standards in the case of a numerous development teams environment in a very short amount of time. Maven makes the life of the developer simple while setting up reports, checks, build, and testing automation setups because the majority of project configurations are straightforward and reusable.

We used maven in our project because: It manages compilation, distribution, documentation, team collaboration, and other activities flawlessly; Maven increases reusability; and Maven handles the majority of build-related operations. Maven also simplifies and standardises the project build process.

C. ANGULAR:

The most widely used JavaScript platform and framework for creating single page or client-side (front-end) web applications for mobile and desktop devices is Angular. A client-side framework for building dynamic web apps is called Angular. It is built on TypeScript. The Angular CLI is constantly getting better. Now, third-party libraries and tools are included with the ng build, ng test, and ng run. For instance, AngularFire already employs a deploy command to take advantage of these new features.

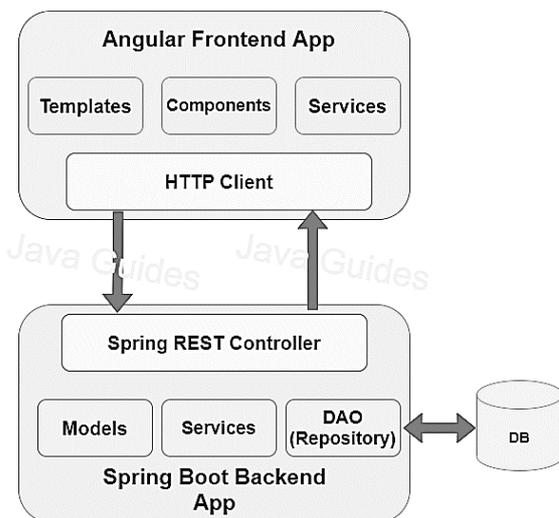
We choose to utilise angular in our project for the reasons listed below: Web Workers are supported by Angular, which also supports TypeScript 3.4. Ivy Rendering Engine, a new compiler for Angular, dynamic imports for modules that are loaded slowly, and an improvement to ngUpgrade are all features of this framework.

D. MYSQL:

A database management system, such as MySQL Server, is required to add, access, and process data contained in a computer database. Many small and large enterprises utilise MySQL, a quick and simple RDBMS. An open-source licence governs the distribution of MySQL. By itself, MySQL is a pretty potent programme. A standardised version of the well-known SQL data language is used by MySQL. PHP, PERL, C, C++, JAVA, and other languages are only a few of the many operating systems and languages that MySQL supports.

IV. SYSTEM DESIGN:

Single page web apps are best suited for use in form-intensive corporate level applications. The fundamental concept is to construct the server as a collection of stateless, reusable REST services and, from an MVC perspective, to move the controller out of the backend and into the browser. This differs from other, more conventional server-side designs.



The client is MVC-capable and contains all the presentation logic which is separated in a view layer, a controller layer, and a frontend services layer. After the initial application startup, only JSON data goes over the wire between client and server.

V. MODULES DESCRIPTION

A. Assign Tasks:

The organisation users are provided with ability to allot tasks to assistants or team members of the allotted project.

B. Update Tasks:

The organisation users are provided with ability to update tasks of assistants or team members of the allotted project. They can update task status, task id and so on.

C. Delete Tasks:

The organisation users are provided with ability to delete tasks of assistants or team members at once they have completed the assigned tasks.

D. View Details:

The organisation users are provided with ability to view the task details , such as task id, task holder name, task status, task completion date and so on.

E. List of Tasks:

The organisation users are provided with ability to view the list of task that are assigned to the team members.

VI. TECHNOLOGY USED:

A. Client-side technology:

AngularJS: AngularJS is utilized because it enables you to use HTML as your template language and enhance HTML's syntax to represent the components of your application succinctly and unambiguously. Data binding and dependency injection in AngularJS allow you to write a less code.

JavaScript: To produce content and manage HTTP requests, JavaScript is employed. Node.js allows JavaScript to operate on servers as well.

VS Code IDE: Debugging, task execution, and version control are supported by the simplified code editor Visual Studio Code. It seeks to give developers only the resources they require for a rapid code-build-debug cycle.

Bootstrap & CSS: The proposed system enables touch zooming and suitable device rendering by using Bootstrap CSS. It includes sample designs for the typography, buttons, drop-down menus, forms, navigation, and other interface elements.

B. Server-Side Technology:

Spring-boot: Spring Boot aids in the development of cross-platform programmes that can operate locally on a device without the need for an internet connection or other installed services. You may immediately embed servers like Tomcat, Jetty, or Undertow thanks to Spring Boot.

Maven: Maven primarily aids in the download of dependencies, which are libraries or JAR files, for Java-based applications. Due to the possibility of various versions of individual packages, the tool aids in obtaining the appropriate JAR files for each project.

JDK 1.8: We have utilized Java 8 because it has features that increase productivity, simplicity of use, security, performance, and polyglot development.

MySQL Database: Instead of placing all the data in one huge warehouse, a MySQL database keeps the data in individual tables. The logical model provides a flexible programming environment with objects like databases, tables, views, rows, and columns.

VII. CONCLUSION:

We introduced a task handler with spring boot for monitoring assigned tasks in this project. Task Handler can be beneficial to team members and project managers. It has been demonstrated that a project management software with task management features is more likely to succeed in the workplace. In fact, team members who manage their jobs are updated on the status of the project in real time, evaluated on a regular basis, and gain expertise for upcoming projects. In addition, project managers can provide feedback and comments on completed work as well as view the status and percentage of completion of each team member's project tasks.

When they have complete control over all aspects of the project, project managers feel more successful and productive. Task Handler gives you control over the status of each individual project task. The responsible manager can quickly respond in the event that they require one by using project handler software that includes a task management feature. This allows the manager to see every detail of the job at a glance. In general, management supports ongoing project flow.

Project managers are able to keep an eye on each team member's work through this procedure. Additionally, the manager may arrange for other team members to step in and assist in completing the task on time if one team member is overwhelmed with work and unable to handle it. By encouraging teamwork and collaboration, this strengthens connections between people.

VIII. REFERENCES:

- [1] D. A. Hillson, "Using a Risk Breakdown Structure in project management", *Journal Of Facilities Management*, vol. 2, no. 1, pp. 85-97, 2013.
- [2] S. McKenna, "Organisational Complexity and Perceptions of Task", *Task Management: An International Journal*, vol. 3, no. 2, pp. 53-64, 2013.
- [3] S. McKenna, "Organisational Complexity and Perceptions of Task", *Task Management: An International Journal*, vol. 3, no. 2, pp. 53-64, 2013.
- [4] M. Hopkinson, "Using Task Priority Models" in , *Briefing:Kluwer's Task Management*, vol. 40, pp. 4-8, 2014.
- [5] D. Hillson, S. Grimaldi and C. Rafele, "Managing Project Risks Using a Cross Risk Breakdown Matrix", *Risk management*, vol. 8, pp. 61-76, 2011.
- [6] J. Ellis, L. Kvavilashvili, "Prioritization of tasks in 2000: Past present and future directions", *Task Management*, vol. 14, pp.1-9, 2000
- [7] A. K. Dey and G. D. Abowd, "CyberMinder: A context-aware system for supporting reminders of Tasks", *Proceedings of HUC 2000*, pp. 172-186, 2000.
- [8] Darrell Etherington, "Google Acquires Timeful To Bring Smart Scheduling To Google Apps", *TechCrunch*, May 2015.
- [9] M. Czerwinski, E. Cutrell and E. Horvitz, "Instant Messaging and Interruption: Influence of Task Type on Performance", *Proceedings of OZCHI 2000*, pp. 356-361, 2010.