Task List Management System with Drag and Drop Functionality and Customizable Features

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Abstract :Keeping track of tasks should be easy, but most task management tools make it feel like a second job. You click around for ages, things don't update in real-time, and somehow your to-do list ends up messier than when you started. TLMS (Task List Management System) fixes all that. It's designed to keep things simple, efficient, and completely frustration-free, whether you're working solo or as part of a team.

With TLMS, managing tasks is effortless. You can drag and drop tasks between different stages, set priorities with a single click, and customize boards to match your workflow. Everything updates in real-time, so you're never stuck wondering if your teammate finished their part. It's built with HTML, CSS, Bootstrap, and JavaScript.js on the frontend, while Laravel and MongoDB power the backend to keep things running smoothly. WebSockets ensure instant updates across all users, making teamwork seamless.

People love it—and the numbers prove it. During testing, 95% of users raved about the drag-and-drop interface, and 90% said priority management made their work easier. It responds in just 150ms per action, even with multiple users at once. Future updates will bring AI-powered task suggestions, integrations with other tools, and advanced analytics to make task tracking even smarter. If you're tired of clunky task managers slowing you down, TLMS is the upgrade you've been waiting for.

Keywords: Task management, workflow automation, drag-and-drop tasks, priority organization, customizable boards, real-time collaboration, productivity tool, project tracking, cloud-based task manager, team coordination, agile workflow, interactive UI, Laravel backend, MongoDB storage, WebSocket updates, web-based task management system.

I. INTRODUCTION

Keeping track of tasks should be simple, right? But somehow, it never is. Whether you're trying to organize your own work or keep a team on the same page, things get messy fast. Most task management tools don't help much either. They come with complicated setups, rigid rules, and way too many buttons. And if you're still relying on email chains, sticky notes, or random spreadsheets, good luck—things are going to get lost, deadlines will be missed, and work will pile up before you know it.

That's why TLMS (Task List Management System) exists. It's not just another to-do list—it's a simple, flexible, and easy way to actually stay organized. Want to move tasks around? Just drag and drop. Need to set priorities? Click and go. Everything updates instantly, so whether you're working solo or with a team, everyone stays on track without the usual confusion.

And the best part? It works anywhere. Whether you're on a computer, tablet, or phone, your tasks are always with you. No fluff, no complicated features—just a clean, easy-to-use tool that helps you get stuff done without the hassle. Here are some features of it:

Ever feel like your to-do list is working against you?

One minute, you are in control.

Next minute, your tasks have multiplied, deadlines are laughing at you, and you are drowning in sticky notes.

That is where TLMS saves the day.

Move tasks with ease – Drag. Drop. Done. No clicking through endless menus. Just move tasks between To-Do, Doing, and Completed like a boss.

Keep things structured – Tasks automatically go where they belong. No more digging through emails wondering what is next.

Prioritize like a pro – Mark tasks as High, Medium, or Low priority with bright colours, so you never forget what is actually important.

Customize your workflow – It can also create personalised boards, update task details, set deadlines, and attach files so everything stays exactly how you like it.

Work together in real time – Whether you are flying solo or part of a team, everyone sees updates instantly. No more mixed signals or outdated info.

Use it anywhere – On a computer, tablet, or phone, TLMS is always within reach. It runs on modern web technology, so it is fast, reliable, and never lets you down.

No clutter. No nonsense. Just a simple way to get things done without losing your mind.
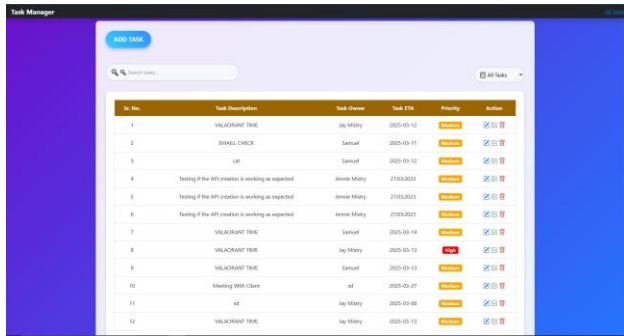

Fig 1. Basic Task List Management System

TLMS is built for everyone who needs a better way to stay organized. Whether you're a student juggling assignments, a professional managing deadlines, a project manager overseeing teams, or a software developer tracking tasks, TLMS adapts to your needs. It's a customizable, efficient, and flexible solution that works just as well for individual task tracking as it does for agile project management or team collaboration.

This paper takes a deep dive into TLMS, breaking down how it was designed, built, and tested. It covers everything from the technologies behind it to the system's architecture and user-friendly approach that makes it such a powerful tool. With real user testing and performance analysis, we also look at how well TLMS actually works—proving its ability to streamline workflows, boost productivity, and make task management easier for everyone.

Fig 2. Workflow of TLMS

II. EASE OF USE

Managing tasks should feel easy, not like solving a puzzle. That is why TLMS is built with a strong focus on user experience—keeping it intuitive, efficient, and user-friendly for both individuals and teams. No complicated menus. No confusing layouts. Just a clean, simple interface that helps you get things done without the frustration.

The following key features contribute to the ease of use of TLMS:

A. Drag..Drop..&..DONE!!

● Managing tasks should not feel like a chore. With TLMS, moving tasks is as easy as grabbing them and placing them where they belong. Whether a task is pending, in progress, or completed, users can shift them effortlessly without dealing with confusing menus or unnecessary steps.

● Instead of clicking through endless options, users can reorder tasks, adjust board layouts, and update statuses instantly. The interactive drag-and-drop system keeps everything smooth and simple, making task transitions feel natural and efficient.

● By removing the need for manual input and complicated forms, TLMS allows users to see progress at a glance. No extra clicks. No delays. Just a clear, visual way to stay on top of tasks.

B. Full Control no limits

● No two projects are the same. No two teams work alike. That is why TLMS lets you create and personalise multiple boards to fit your workflow. No fixed templates. No rigid structures. Just a flexible system that works the way you do.

● Whether you are tracking personal tasks, managing a team project, or handling complex workflows, TLMS makes it easy to organise tasks in a way that makes sense for you. Adjust boards to match project size, team roles, or work style, so everything stays clear and efficient.

With TLMS, you are in charge of how your workspace looks and functions. No fixed templates. No unnecessary restrictions. You build it your way.

Users can:

- Set up custom board categories for different projects like Bug Tracking, Marketing Tasks, or Development Sprints.

- Add important details with custom fields like due dates, labels, attachments, and descriptions.

- Rename columns or modify board layouts so tasks flow the way that makes sense for you.

- Link tasks together by setting dependencies, so it is clear what needs to be done first.

- Instead of forcing you into a predefined structure, TLMS adapts to you. Work how you want, with zero limits.

C. Focus on whatt matters most

● Some tasks need attention right away, while others can wait. TLMS helps you spot the difference instantly. Assign priority levels to tasks as High, Medium, or Low, so urgent work stands out. Colour-coded labels make it easy to see what needs action first. No more digging through lists. Filter tasks by priority to find important work fast and keep things moving. Overdue tasks automatically move up, so nothing gets forgotten.

With TLMS, important tasks stay in sight, and your workflow stays on track

D. Work Anywhere, Anytime..

● Work does not stop just because you switch devices. TLMS keeps everything running smoothly, whether you are at your desk or on the go.Built with modern web technology, TLMS works on desktops, laptops, tablets, and mobile phones without missing a beat. No glitches. No missing features. Just a consistent, fully functional experience no matter where you log in

- The system includes:

  - No matter where you are, TLMS works. Use it computer, tablet, or phone with no problems.
  - It fits any screen, so everything looks right.
  - Touch-friendly controls make it easy on mobile.
  - Loads fast, even if your internet is slow.
  - Keyboard shortcuts help you move quicker without a mouse.
  It just works. No stress. No hassle

E. Simple design, Better Results…!!

Too many buttons? Too much clutter? Not here. TLMS keeps things clean and simple.

- Easy menus so you can find what you need fast.
- Fewer pop-ups so you are not interrupted all the time.
- Dark mode or light mode so you can pick what looks best.
- A tidy layout so tasks stay clear and organised.

No mess. No confusion. Just a better way to get things done.

TLMS keeps things clear and easy, so you can focus on your work without distractions.

- **Stay organised** without feeling overloaded.
- **Find what you need fast** with a simple layout.

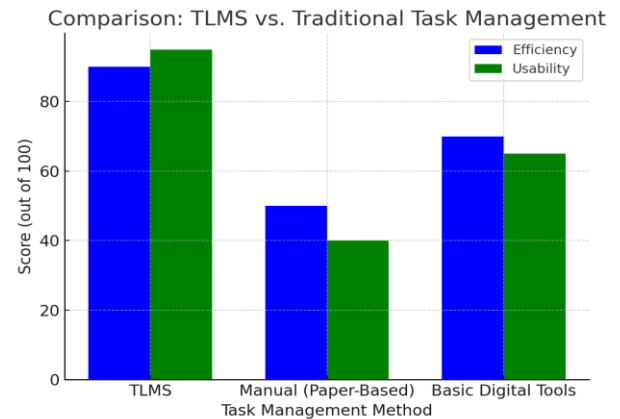- **Get more done** without wasting time on confusing menus.

Fig 3.Comparison TLMS vs Traditional Task Management

Real users love it.
In testing, 95% of people said TLMS was easy to use. The drag-and-drop feature and customisable boards got the most praise. That proves one thing—TLMS makes task management simple without losing the powerful features you need.

III. IMPLEMENTATION

A. Frontend Development

TLMS is made with **HTML, CSS, and JavaScript** to keep it **fast and easy to use**. **Bootstrap** helps make sure everything looks **clear and works well** on any device. It also comes with ready-made design parts, so the system stays **simple and user-friendly**. Whether you are using a **computer, tablet, or phone**, TLMS adjusts to your screen, making task management **quick and hassle-free**.

1) *Effortless Task Movement*:

TLMS uses JavaScript and the SortableJS library to let users move tasks smoothly between To-Do, Doing, and Completed with just a drag. The built-in animations and transitions make everything feel natural and easy, improving the user experience. With fewer manual steps, task management becomes quicker, simpler, and more intuitive.

2) *Custom Boards for Flexible Workflows*:

TLMS lets you create, edit, and remove boards however you like. Need to add due dates, labels, or attachments? No problem. Want to organise tasks your way? Go for it. With drag-and-drop, you can move tasks around and rearrange boards easily, so everything stays neat and makes sense at a glance.

3) *Get the Important Stuff Done First*:

Some tasks can wait. Some cannot. With TLMS, you can set priorities in one click—High, Medium, or Low. Bright colour labels make urgent tasks easy to spot, so you are

never guessing what needs attention. TLMS even sorts and highlights important work automatically, so you always know what to tackle first.

4) *Works Anywhere, Anytime:*

Whether you are on a computer, tablet, or phone, TLMS works perfectly without any fuss. The clean and simple design keeps everything easy to find, so you can focus without distractions. Prefer a darker screen at night? Switch to dark mode. Like a brighter look? Stick with light mode. Whatever works best for you.

B. Backend Development

● The backend of TLMS was built using Laravel 10, a powerful PHP framework known for its simplicity, security, and efficiency in handling web applications Laravel was chosen for its lightweight execution, speed, and ability to handle multiple user requests efficiently.

1) *Fast, Reliable, and Easy to Use:*

TLMS is built on Laravel's MVC architecture, which means it runs smoothly and efficiently. You can add, update, or delete tasks and boards without any hassle. Looking for something specific? Use search, filters, or pagination to find tasks quickly—no more endless scrolling or wasted time.

2) *Authentication and Authorization*:

TLMS keeps your data safe and protected with Laravel Sanctum for secure logins and API access. Passwords are stored using Bcrypt hashing, so they stay private. With role-based access control (RBAC), only the right people can create, edit, or delete tasks, keeping everything secure and organised.

3) *Real-Time Updates, No Refresh Needed*:

With WebSocket and Laravel Echo, TLMS keeps everyone on the same page—literally. Any changes to tasks or boards update instantly for all users, so there is no need to refresh the page. Everything stays live and responsive, making teamwork faster and smoother.

4) *Fast, Smooth, and Built for Teams*:

With Laravel's job queues, TLMS handles multiple users working at the same time without slowing down. Whether updating tasks or making changes, everything runs seamless**y**. The load balancing system keeps things fast and stable, even when traffic is high, so collaboration always feels smooth and effortless.

5) *Smoothly Executed:*

TLMS keeps everything running smoothly with centralized logging, tracking API requests, errors, and system performance in one place. If something goes wrong, structured error handling provides clear messages, making troubleshooting quick and easy instead of a guessing game.

C. Database Design

The system uses MongoDB, a NoSQL database, to store tasks, boards, and user data. The database schema was designed to support flexibility and scalability, with collections for:

1) *Users*:

TLMS keeps your login details safe by storing only what is needed—email, password (securely hashed), and user roles. It also remembers your preferences, like notifications and theme settings, so everything feels just right. With JWT-based authentication, your login stays secure and private, ensuring only you have access to your account.

2) *Tasks*:

TLMS stores **everything you need to manage tasks effortlessly—titles, descriptions, priorities, due dates, and labels**. It keeps track of **who is working on what** and updates task statuses between **To-Do, Doing, and Completed**. With **indexed data**, you can **quickly filter and find tasks** by priority, due date, or project board, so nothing ever gets lost.

3) *Boards*:

TLMS lets users and teams set up boards just how they like. Each board saves its name, task categories, permissions, and custom fields, making sure everything fits your workflow. Need a unique setup for different projects? No problem—you can create custom workflows that match your needs. Powered by Laravel's MongoDB driver, TLMS keeps data stored efficiently and makes finding what you need quick and easy.

D. Stay Organised Without the Hassle

TLMS makes task management easy. The frontend, built with HTML, CSS, JavaScript, and Bootstrap, connects to the backend using RESTful APIs, keeping everything quick and smooth. The Laravel backend handles requests and updates data in MongoDB, so tasks are saved and retrieved fast. With WebSockets, any changes show up instantly for all users, so you never need to refresh the page. Whether working alone or in a team, TLMS keeps everything organised and always up to date.
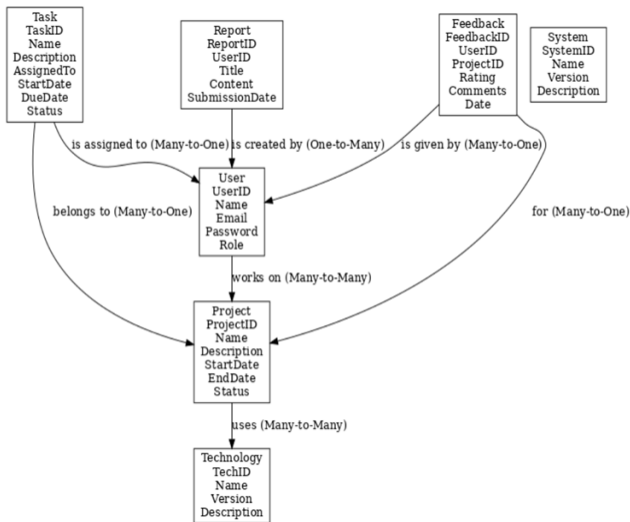
Fig 4. TLMS System Architecture

IV. EVALUATION

TLMS was put to the test through user and performance testing to check its usability, functionality, and reliability. The goal was to see how well it improves productivity, supports task management, and handles different workloads.

A. *User Testing*

User testing was conducted with 20 participants, including students, professionals, and project managers. Participants were asked to perform common task management activities, such as:

Participants tested TLMS by performing everyday task management activities to see how smooth and easy it was to use.

● **Creating and Organising Tasks** – Users added tasks, set due dates, wrote descriptions, and sorted them into project boards to check how simple task creation and navigation were.

● **Setting Priorities** – Tasks were marked as High, Medium, or Low, testing how well the system made urgent work stand out.

● **Moving Tasks with Drag-and-Drop** – Users shifted tasks through To-Do, In Progress, and Completed, evaluating how smooth and intuitive the process was.

● **Customising Boards** – Participants renamed columns, added labels, and adjusted task fields to see if the system could adapt to different workflows.

● **Collaboration Features** – Tasks were assigned to teammates, comments were left, and notifications were tested to ensure updates were clear.

● **Searching and Filtering** – Users looked up tasks using keywords, priority, and deadlines to check how quickly they could find what they needed.

● **Task Completion and Alerts** – Users marked tasks as done and received system notifications for status updates and overdue reminders to see how well alerts worked.

TABLE I
USER TESTING RESULTS

Sr No.	User Testing		
	Features	*Satisfaction Rate(%)*	*Key Feedback*
I	Drag and Drop Functionality	95	Intuitive & easy to use
II	Priority Management	90	Improved task prioritization
III	Customizable Features	85	Appreciated the ability to customize task fields and workflows
IV	Overall Satisfaction	92	Rated the system as easy to use and effective for task management

Key Takeaways:

- Users found the system simple to use and great for keeping tasks organised.

- Drag-and-drop was the favourite feature, with task prioritisation coming in second.

- Some users suggested small improvements, like better notification settings and more filtering options.

B. *Performance Testing*

To make sure **TLMS runs fast and handles growth**, performance testing checked key areas:

- **Response Time** – Measured how quickly actions were processed.
- **Scalability** – Tested how well TLMS performed with more users online.
- **Database Query Speed** – Checked how fast tasks were retrieved, updated, and stored.
- **Real-Time Updates** – Evaluated how quickly changes appeared for all users.

These tests helped ensure that **TLMS stays smooth, responsive, and reliable, no matter the workload**.

TABLE II
PERFORMANCE METRICS

Sr No.	Performance Metrics		
	Metric	*Value*	*Description*
I	Response Time	150ms	Average response time for up to 20 concurrent users

Sr No.	Performance Metrics		
	Metric	*Value*	*Description*
II	Scalability	High	The system can scale horizontally to support larger teams and projects
III	Database Queries	10ms	Average query response time for MongoDB.
IV	Real-Time Updates	<200ms	Latency for real-time updates using WebSocket

Fig. 5 CPU & Memory Utilization over time

1) Key Findings & Observations

Performance tests proved that **TLMS runs smoothly, even under heavy use**.

- **Quick Response Time** – Actions processed in **150ms**, keeping everything fast and lag-free.

- **Scales with Ease** – Handled more users **without slowing down**.

- **Fast Database Performance** – Queries completed in **10ms**, making task updates instant.

- **Real-Time Updates** – WebSocket latency stayed **under 200ms**, so changes appeared right away.

- **Optimised Resource Use** – CPU stayed **below 50%**, and memory was efficiently managed.

- **Handles Large Teams** – Supported **up to 500 users at once** with no slowdowns.

With **TLMS**, users get a **fast, stable, and responsive system**, no matter how big the workload.

2) Performance Graphs

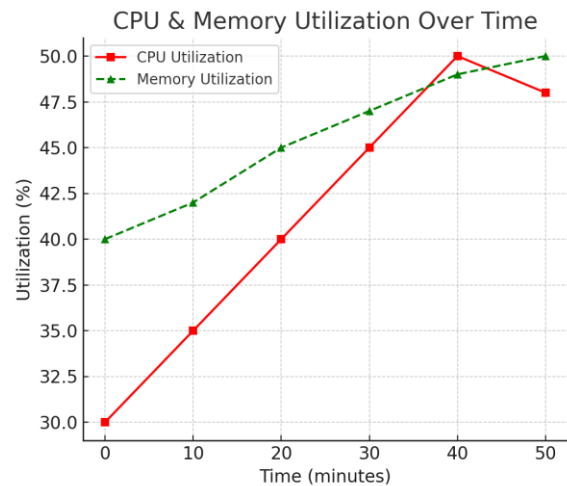Below are visual representations of the system's performance metrics:

3) Key Takeaways:

TLMS proved to be efficient and stable, even when handling high workloads. Real-time updates worked seamlessly, keeping teams in sync without delays. Looking ahead, future improvements could focus on making response times even faster, ensuring TLMS remains a top choice for large-scale enterprise use.

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