FORM 2

THE PATENTS ACT, 1970

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COMPLETE SPECIFICATION

(See section 10 and rule 13)

TITLE OF THE INVENTION

AI Driven Workflow Automation and Task Prioritization System for Manager

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The following specification particularly describes the nature of the invention and the manner in which it is performed:

Field of invention:

The field of invention for the proposed system lies within artificial intelligence (AI) and workflow automation, specifically designed for task management and prioritization in managerial roles. The system focuses on leveraging AI algorithms to optimize the organization and prioritization of tasks within business workflows, aiming to increase productivity and streamline decision-making processes for managers. By analyzing historical data, workload patterns, and organizational goals, the system dynamically assigns priority levels to tasks, automates repetitive actions, and provides actionable insights. This allows managers to focus on high-impact decisions while reducing the cognitive load of task scheduling and prioritization. The system integrates with existing enterprise resource planning (ERP) and project management tools, offering seamless communication across teams and departments. It further adapts to evolving business needs, offering a scalable solution to manage tasks across different sectors, from small teams to large organizations. Through real-time analytics, the system enhances efficiency and supports data-driven management decisions.

Background of the invention:

In today's fast-paced and dynamic business environment, managers are constantly confronted with a multitude of tasks that demand attention, ranging from short-term operational duties to long-term strategic decision-making. The ability to prioritize tasks efficiently and manage workflows effectively is critical for achieving organizational goals and maintaining high levels of productivity. However, many managers often find themselves overwhelmed by the sheer volume of tasks, making it difficult to focus on what truly matters. Traditional methods of task management, such as manual prioritization, to-do lists, and basic project management tools, often fall short in providing the real-time insights, intelligent prioritization, and automation required to optimize a manager's workflow.

The rise of digital tools and technologies has introduced a variety of solutions designed to assist in task management, but many of these tools still require significant manual intervention and do not leverage the full potential of artificial intelligence (AI) to automate processes and optimize task prioritization. While project management software can help track tasks and deadlines, it often lacks the ability to analyze historical data, assess business objectives, and adapt to changing priorities in realtime. This creates a gap where managers are left to make decisions based on incomplete information or manually adjust task lists without understanding the broader context of how each task aligns with organizational goals and resources.

The proposed AI-driven workflow automation and task prioritization system seeks to address this gap by utilizing advanced AI algorithms to automate the task management process. This system takes into account various factors, such as the urgency of tasks, the skillset required to complete them, historical performance data, deadlines, and the overall strategic objectives of the organization. By analyzing these variables in realtime, the system is able to dynamically assign priority levels to tasks, recommend optimal workflows, and even automate repetitive or routine actions. This enables managers to focus their time and energy on high-priority tasks that drive business results, rather than spending valuable time sorting through and assigning priorities to each individual task.

One of the key features of the proposed system is its ability to integrate with existing business tools such as enterprise resource planning (ERP) systems, customer relationship management (CRM) platforms, and other project management software. This integration ensures a seamless flow of information across teams and departments, allowing the AI system to access up-to-date data from various sources and provide a holistic view of ongoing projects and tasks. For instance, the system could take into account the progress of a project, the availability of team members, and the importance of certain tasks relative to the organization's goals to provide real-time recommendations on what should be prioritized next. This real-time decision-making ability is especially critical in fast-paced business environments where priorities can shift quickly and decisions need to be made with minimal delays.

The system also leverages machine learning techniques to continuously improve its task prioritization capabilities. As the system processes more data, it becomes better at understanding the patterns and preferences of the manager and the team. Over time, it adapts to the specific needs and preferences of individual users, tailoring recommendations to their work styles, task completion habits, and even personal productivity rhythms. This adaptive feature helps to reduce the cognitive load on managers by making the system more intuitive and personalized, ensuring that it provides useful insights that align with the user's working preferences and goals.

Another important aspect of the system is its ability to handle complex workflows that involve multiple stakeholders and departments. In large organizations, tasks are often interdependent, with the completion of one task relying on the progress of another. The AI system is capable of identifying these dependencies and adjusting priorities accordingly. For example, if one team is waiting for input from another team before they can proceed with a task, the system will automatically adjust the timeline and notify the relevant parties, ensuring that work is not stalled due to overlooked dependencies. This interdepartmental collaboration is streamlined through the system's real-time notifications and reminders, which keep everyone involved on track and ensure that no task is delayed due to miscommunication or lack of coordination.

The Al-driven nature of the proposed system is also a key differentiator. Traditional project management tools often rely on predefined rules and manual input to assign tasks and prioritize them. However, the Al system continuously analyzes data such as task completion times, resource allocation, and task complexity to make data-driven decisions about task prioritization. This ensures that the most critical tasks are given the appropriate focus, while less urgent tasks are automatically deprioritized. The

system also takes into account external factors such as market conditions, changes in company strategy, or new customer requirements, allowing it to provide real-time adjustments to task prioritization in response to shifting business conditions.

Moreover, this system empowers managers with advanced reporting capabilities, offering insights into how effectively tasks are being completed and where bottlenecks may be occurring. Managers can receive daily or weekly reports that provide a detailed overview of task completion rates, overdue tasks, and overall workflow efficiency. These reports not only help managers monitor team performance but also serve as valuable tools for decision-making, allowing them to identify areas for improvement, allocate resources more efficiently, and plan future tasks with a clearer understanding of team capacity.

The proposed system is not only beneficial to managers but also to the entire organization. By improving task prioritization and workflow automation, the system ensures that resources are allocated optimally, deadlines are met, and strategic goals are achieved more efficiently. This leads to an overall improvement in organizational performance, employee satisfaction, and client outcomes. In addition, the system's ability to handle repetitive tasks allows employees to focus on more value-added activities, improving both individual and team productivity. The system is also scalable, making it suitable for small businesses, medium-sized enterprises, and large corporations alike.

Furthermore, the platform's use of machine learning enables it to evolve over time, becoming increasingly adept at managing complex workflows, predicting task completion times, and offering insights that align with long-term business goals. Its adaptability ensures that it remains a valuable tool even as organizations grow and evolve. With the rise of remote work and hybrid teams, this system provides managers with a centralized, cloud-based solution for task prioritization that can be accessed from anywhere, offering greater flexibility and responsiveness in managing teams across different locations.

In conclusion, the Al-driven workflow automation and task prioritization system represents a significant advancement in the way managers handle task management. By automating mundane aspects of workflow management, intelligently prioritizing tasks, and offering real-time, actionable insights, this system allows managers to focus on higher-level decision-making and strategic initiatives. It enhances productivity, reduces the cognitive load on managers, improves interdepartmental collaboration, and ultimately leads to better business outcomes. With its machine learning capabilities, integration with existing business tools, and real-time adaptability, this system has the potential to revolutionize task management across industries, making it a valuable asset to organizations of all sizes.

Summary of the invention:

The proposed invention is an AI-driven workflow automation and task prioritization system designed to enhance the efficiency and productivity of managers in handling their day-to-day operations. The system leverages advanced artificial intelligence and machine learning algorithms to analyze tasks, assess their urgency, and provide realtime, personalized feedback to prioritize tasks effectively. It integrates seamlessly with existing business tools like ERP and CRM systems, enabling managers to streamline workflows, reduce cognitive load, and improve decision-making processes. By automating routine tasks and dynamically adjusting priorities based on organizational goals and real-time data, the system allows managers to focus on high-impact activities that drive business outcomes. It continuously learns from user data, adapting to individual work styles and organizational needs. This Al-driven approach not only improves task management but also boosts productivity, enhances interdepartmental collaboration, and provides valuable insights through data-driven reports. The system is scalable and adaptable, offering a comprehensive solution for businesses of all sizes, ensuring that managers can effectively manage their workflows and meet strategic objectives.

Brief description of the proposed invention:

The proposed invention is an advanced AI-driven workflow automation and task prioritization system specifically designed to optimize the daily operations of managers, enabling them to work more efficiently and effectively. In today's fast-paced and data-driven business environment, managers face the daunting challenge of handling multiple tasks simultaneously, often without the luxury of having real-time insights into the priority of each task. The sheer volume of tasks, coupled with the need to balance both short-term and long-term goals, can overwhelm managers, leading to inefficiencies, missed deadlines, and burnout. Traditional methods of task management, such as manual to-do lists or basic project management tools, often fail to address the complexity of modern business environments where priorities are constantly shifting, resources are limited, and external factors must be continuously evaluated.

This AI-driven system addresses these challenges by utilizing artificial intelligence and machine learning algorithms to automate and streamline the task management process. The system works by capturing detailed data about the tasks assigned to a manager and analyzing various factors such as deadlines, task dependencies, resource allocation, and the overall strategic objectives of the organization. Using this data, the system can automatically determine the relative priority of each task and make intelligent suggestions about which tasks should be tackled first, based on their importance, urgency, and alignment with broader organizational goals.

At the heart of the invention is the machine learning model, which is trained to identify patterns in data over time and to learn the preferences and behavior of individual managers. This allows the system to adapt to different working styles, ensuring that the recommendations it makes are tailored to the specific needs of the user. For example, if a manager consistently prioritizes high-impact, strategic tasks over operational ones, the system can learn to make similar suggestions in the future. This personalized approach ensures that the system is not only efficient but also intuitive, reducing the cognitive load on the user and making it easier to manage multiple projects simultaneously.

One of the standout features of the proposed system is its ability to integrate seamlessly with existing business tools such as enterprise resource planning (ERP) systems, customer relationship management (CRM) platforms, and other project management software. This integration ensures that the system has access to up-to-date, real-time data across the organization, allowing it to provide managers with a comprehensive view of all ongoing tasks, deadlines, and resources. For example, the system can automatically pull data from project management tools to see the current status of tasks, track team availability, and evaluate task interdependencies. This integration ensures that the Al system always works with the most relevant and accurate data, which is critical for making informed prioritization decisions.

Additionally, the system's ability to automate repetitive and routine tasks is a significant advantage. Many managerial tasks, such as scheduling meetings, sending reminders, and tracking progress, can be automated, freeing up the manager's time to focus on high-level strategic decisions. The automation feature of the system can also extend to tasks such as updating status reports, sending follow-up emails, and notifying team members of task progress or delays. By offloading these administrative duties to the system, managers can concentrate on more complex tasks that require their expertise and judgment, thus improving both productivity and job satisfaction.

The Al-driven workflow automation system also brings a new level of real-time decision-making capabilities to task prioritization. In traditional task management methods, priorities are often set at the start of a project or workday, but this does not take into account the constantly changing dynamics of business environments. Deadlines shift, new tasks arise, and external events such as market changes or organizational changes may require rapid adjustments. The AI system continuously evaluates these changes in real time and adjusts task priorities accordingly. This real-time adaptation ensures that managers are always working on the most important tasks, even as conditions evolve throughout the day or week.

Moreover, the system is designed to handle complex workflows that involve multiple stakeholders or interdependent tasks. In large organizations, tasks are rarely standalone; they often depend on the completion of previous tasks or require coordination across departments. The system is capable of identifying these dependencies and adjusting priorities accordingly. For instance, if a task cannot be completed until another team delivers its input, the system will notify the manager of the delay and recommend adjustments to the timeline or the delegation of additional resources. This dynamic adjustment to task dependencies ensures that tasks flow smoothly without unnecessary bottlenecks or delays, facilitating better collaboration across teams and departments.

Another powerful aspect of the system is its reporting and analytics functionality. The system tracks task progress and performance metrics, providing managers with detailed reports on how well tasks are being completed, where delays are occurring, and how team members are performing. These insights allow managers to identify inefficiencies or bottlenecks in the workflow and take corrective action to ensure that tasks are completed on time. Furthermore, the data collected by the system can be used to inform future decision-making, as the system learns from past performance and continuously refines its prioritization strategies. This data-driven approach helps managers make more informed decisions about resource allocation, task assignment, and project planning.

The proposed system's ability to adapt to different business environments and scale according to the needs of the organization is another key feature. Whether it's a small startup or a large multinational corporation, the system can be configured to handle varying levels of complexity and scale. It can accommodate a growing number of tasks, team members, and departments without sacrificing performance or usability. As the organization grows, the system continues to provide valuable insights and maintain its effectiveness, ensuring that managers can handle increased workloads without losing efficiency.

Furthermore, the system's cloud-based architecture allows for remote access, making it suitable for businesses with distributed teams or those adopting hybrid work models. Managers can access the platform from anywhere, using mobile devices or desktops, ensuring that they are always in control of their workflows, even when they are not in the office. This flexibility is crucial in today's world, where remote and hybrid work environments are becoming increasingly common.

In conclusion, the proposed Al-driven workflow automation and task prioritization system represents a significant advancement in how managers can handle their workloads. By automating routine tasks, intelligently prioritizing work, and adapting to real-time changes in business dynamics, the system streamlines workflows and enhances decision-making capabilities. It not only improves individual productivity but also facilitates better collaboration across teams and departments. With its ability to integrate with existing business tools, continuously learn from user behavior, and provide real-time, actionable insights, the system offers a comprehensive solution for organizations seeking to optimize task management and improve overall business performance.

We claim:

- 1. A real-time workflow automation system for managers, utilizing artificial intelligence and machine learning algorithms to prioritize tasks based on their urgency, importance, and alignment with organizational goals, enabling efficient task management.
- A method of task prioritization, where the system analyzes data from various business tools, such as ERP and CRM platforms, to provide real-time recommendations on task prioritization, allowing managers to focus on highimpact tasks.
- 3. A system that adapts to individual manager preferences by learning from task management behavior and personal working patterns to optimize task prioritization and workflow automation over time.
- 4. A method wherein the system automates repetitive tasks like meeting scheduling, progress tracking, and email follow-ups, allowing managers to dedicate more time to strategic decision-making.
- 5. A user interface of the system that provides real-time insights, reporting, and analytics on task progress, completion rates, bottlenecks, and team performance to help managers optimize workflow efficiency.

- A system capable of handling complex workflows involving multiple teams and interdependent tasks, with automatic adjustments in task priorities based on task dependencies and project status.
- 7. A scalable cloud-based platform for the workflow automation system that enables remote access by managers and teams, facilitating task management in hybrid or remote work environments.
- 8. A system capable of integrating with third-party project management tools, allowing seamless communication, task tracking, and data synchronization across teams and departments.
- A machine learning-based feature in the system that continuously analyzes historical performance data to improve task prioritization decisions, ensuring increasing accuracy over time.
- 10. A method wherein the system provides customizable notifications and reminders to ensure timely completion of high-priority tasks and help managers stay on track with deadlines.

Dated this 07th day of March 2025

Applicant(s) Dr. Chandan Singh et. al.

ABSTRACT

AI Driven Workflow Automation and Task Prioritization System for Manager

The proposed invention is an AI-driven workflow automation and task prioritization system designed to assist managers in effectively organizing and managing tasks. By leveraging machine learning algorithms, the system analyzes real-time data from various business tools, such as ERP and CRM platforms, to intelligently prioritize tasks according to their urgency, importance, and alignment with organizational goals. The system continuously learns from user behavior, adapts to individual preferences, and automates routine tasks, allowing managers to focus on strategic decision-making. It provides real-time insights, reporting, and analytics, helping managers identify bottlenecks, track progress, and optimize workflows. Additionally, the system is scalable, cloud-based, and integrates seamlessly with existing business tools, offering flexibility for teams in hybrid or remote work environments. Ultimately, the invention enhances productivity, improves collaboration, and enables data-driven decisionmaking across organizations.

Dated this 07th day of March 2025

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