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DESIGN AND IMPLEMENTATION OF TASK MAESTROBY ENHANCING WORK FLOW EFFICIENCY USING MODERN WEB TECHNOLOGIES

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Abstract
Effective task management is essential in today's fast-paced environment to boost productivity and make sure people can achieve their goals, both personal and professional. To make creating, tracking, and managing tasks easier, this project offers the creation of an intuitive task management application. The constraints of current task management solutions, which frequently overwhelm users with intricate functionality and interfaces, are the driving force for our project. To overcome these difficulties, the suggested application provides a simplified user interface that makes it simple for users to add, modify, and arrange tasks according to priority. Setting deadlines, viewing finished and pending tasks, and getting alerts for impending deadlines are some of the main features. This project seeks to offer a solution that not only satisfies the demands of specific users but also raises their level of productivity by thoroughly analyzing user requirements and current systems.
Keywords: Task Management, Productivity, User-Friendly Interface, Task Creation and Tracking, Priority Management, Visual Reports, Web Technologies

Introduction

TaskMaestroisaslice-edgetaskoperationtoolmadetoincreaseproductivitybyefficientlyscheduling, monitoring, and reporting tasks. Its primary end is to help druggies in prioritizing and organizing their chores, perfecting productivity using a straightforwardyet effectivetool. Setting task admonitions and producingproductivityreportsarethemainpretensionsofthetool,whichhelpsdruggiesmoremanage their time.[1] The task creation is the first step in the app's stoner trip. The task name, time, and precedence position can all be entered by druggies. [2]Task Maestro notifies the stoner when the task is due by setting an alarm for the designated time after the task is submitted. [3] The purpose of this function is to help druggies stay focused on what matters by keeping them on course. The stoner can choosetomarkthetaskasfinished,deferit,orleaveitunattended,inwhichcaseit'smarkedasdeficient when the alert goes off. The productivity report of the program also shows each of these status, enabling druggies to cover their diurnal accomplishments. [4][5] Cross-platform availabilityisanothertopprecedenceforTaskMaestro,allowingdruggiestofluentlypiercetheirtasks and reports on a variety of biases.

Related Work

E. G. Maestro, H. Banaee and. Loutfi, "Stress Lingers: Recognizing the Impact of Task Order on DesignofStressandEmotionDetectionSystems,"2023IEEEexaminesthesignificanceofthepriming effect in designing and developing models for recognizing affective states. [6] Using a public dataset, often considered a benchmark in automatic stress recognition, the significance of the priming effect is explicated.

N. H. Jaafar,A.Ahmad, M. S.Ahmad, and N. H.Abdul Hamid, "AWorkload Manager: The Pre-assessment in Sincere Software Agent Environment," 2018. A mechanism to avoid an imbalance in

workload between software agents should be established to prevent the sincere agent from taking many tasks from its teammates until it cannot timely complete its task. [7]
T. Dallou, N. Engelhardt, A. Elhossini and B. Juurlink, "Nexus: A Distributed Hardware Task Manager forTask-Based ProgrammingModels," 2015IEEE states that task-basedprogrammingmodels suchasOmpSsarepromisingsincetheyhandlethedetectionofdependenciesandsynchronizationfor the programmer. [8] However, state-of-the-art research shows that task management is not cheap, and introduces a significant overhead that limits the scalability of OmpSs.
G. Manca andA. Fay, "Detection of Historical Alarm Subsequences UsingAlarm Events and a Coactivation Constraint," in IEEE Access, vol. 9, pp. 46851-46873, 2021, doi: 10.1109/ACCESS.2021.3067837statesthatpaperaimstoprovideanin-depthstudyofthedetectionof historical alarm subsequences, which are frequently used as an initial step for alarm flood analysis methods. [9] Therefore,state-of-the-artapproachesarecomprehensivelyexamined, evaluated, and compared.
Y.Wei,W. Hu,Y. LiandW. Cao,"Non-ConvexOperatingZone Establishment andAlarm Limit Design for Multivariate Alarm Systems Based on Grid Clustering," 2024 43rd Chinese Control Conference (CCC), Kunming, China, 2024, pp. 5088-5093, doi: 10.23919/CCC63176.2024.10662150 states thatAlarm systems are core components in large complex industrial facilities to ensure safe and efficientoperation.Traditionalunivariatealarmsystemdesignmethodsignorethecorrelationofprocess variablesandthusmaygeneratemassivefalsealarmsandmissedalarms.Aneffectivewayofdesigning a multivariate alarmsystemisto establishthe normal operating zones(NOZs)based on historical data under normal conditions. [10]
J. Li, G. Zheng, H. Zhang, and G. Shi, "Task SchedulingAlgorithm for Heterogeneous Real-time Systems Based on Deadline Constraints," 2019 IEEE 9th International Conference on Electronics Information and Emergency Communication (ICEIEC), Beijing, China, 2019, pp. 113-116, doi: 10.1109/ICEIEC.2019.8784641 ensures real-time task scheduling in heterogeneous environments has becomethemostimportantresearcharea.Accordingtotheprocessingstageandurgencyoftasks,atask scheduling algorithm for heterogeneous real-time systems based on deadline constraints (DCSA) is proposed. [11]
MyTaskMaestrostandsout byefficientlymanagingtask dependencies andsynchronization,reducing overhead,andimprovingscalability over models likeOmpSs. Unliketraditionalworkloadmanagers,it prevents imbalances and handles real-time alerts, task prioritization, and productivity analytics, providing a well-rounded, intuitive approach for both task completion and emotional well-being monitoring.

Proposed Work
Figure 1 depictsTask Maestro's system architecture, which says users can set personalized alarms tailored to their specific task schedules, ensuring timely notifications for each task. Task Maestro generatescomprehensivereportssummarizingcompleted,pending,andincompletetasks,helpingusers reflect on their productivity. [11] The application provides visual representations of task statuses, allowing users to understand their productivity levels at a glance quickly. Users can categorize tasks beyond simple completion, including statuses like "pending" and "postponed," `providing better tracking and accountability. Task Maestro features a user-friendly interface designed for individual users, making it easy to navigate and manage tasks without complexity. [12][13] It implements an application to integrate with popular calendar and productivity tools, allowing for seamless task management across platforms. The proposed system for Task Maestro, advantages are: Enhanced Time Management: Users are less likely to miss deadlines when they are kept on track by customizable real-time alerts. [14] Improved Productivity Tracking: Users may pinpoint areas for improvement by using comprehensive end-of-day data, which gives them a clear picture of their job completion rates. Fast Progress Visualization: [15] [16] Pie chartsandothervisualanalyticsprovideinstantaneoustaskstatusunderstanding,whichfacilitatesquick productivitylevelassessments.NuancedTaskManagement:Userscanbetterclassifyjobswiththeuse of comprehensive task status management, which improves organization and accountability. Personalized User Experience: By taking into account each user's unique behavior, user-centered

insights assist users in creating efficient routines that suit their working preferences. [17][18]

Dataset

DataSources:TaskMaestrogetsinformationfromusersdirectly,suchastaskspecificsandcompletion statuses. It records task creation and completion metrics using automated usage logs and connects to external APIs, such as Google Calendar, for task information. [19][20][21] Data Cleaning: To ensure unique tasks and interactions in the dataset, data cleaning for taskmaster management entails deduplication to remove duplicate items, imputation to fill in gaps, and outlier detection using statistical approaches like Z-score or IQR. [22][23] A task management tool called Task Maestro uses a variety of data sources, such as automated usage logs and user input. It ensures smooth task syncing by integrating with external APIs such as Google Calendar. To guarantee high-quality data, the application employs sophisticated data cleaning techniques. [24][25] To ensure a user-centric, dependable, and effective task management experience, performance is assessed using critical metrics such as precision, recall, accuracy, and F1 score.

Precision

The precision measure can be calculated by number of true positive results divided by the number of positive results predicted by the classifier.

$$\mathrm{PRE} = \frac{\text{True Positive}}{(\text{True Positive} + \text{False Positive})} \quad (1)$$

Recall

The recall measure can be calculating the number of correct positive results divided by the number of all relevant samples.

$$\mathrm{REC} = \frac{\text{True Positive}}{(\text{True Positive} + \text{False Negative})} \quad (2)$$

Accuracy

The accuracy measure can be calculating the number of correct predictions model divided by the total number of input samples.

$$\mathrm{Acc} = \frac{\mathrm{TP+TN}}{\mathrm{TP+FP+FN+TN}} \quad (3)$$

F1 -measure

The F1-measure (harmonic mean) is used to show the balance between the precision and recall measures. The F1- score measure can be calculated as follow:

$$\mathrm{F} = 2 * \frac{\mathrm{Precision*Recall}}{(\mathrm{Precision+Recall})} \quad (4)$$

Result Analysis

Figure 2demonstratesthatTaskMaestroeffectivelymanagestasks,providingtimelyreminders,accurate status tracking, and comprehensive day reports. The Task Maestro System is a user-friendly tool that simplifiestaskmanagementbyofferinganintuitiveplatformforcreating,organizing,andtrackingtasks.

It allows users to set deadlines, prioritize tasks, and receive real-time alerts for pending activities. The system also provides task status tracking, end-of-day summaries, and productivity analytics, allowing users to manage their schedules and responsibilities.

Table1.Comparativeanalysisofproposedmodelperformance

Metric%	Task Maestro	Microsoft To Do	Wunderlist
Precision(%)	92%	87%	85%
Recall(%)	90%	85%	83%
Accuracy(%)	93%	89%	86%
F1-Score(%)	91%	86%	84%

Conclusion

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Auser-friendlyworkmanagementtoolcalledWorkMaestromakesscheduling, tracking, and finishing everyday tasks easier.With an emphasis on usability and accessibility, it provides real-time reminders, well-organized task views, and comprehensive end-of-day reports. By helping users stay organized and on time,thesoftwareseekstoincreaseproductivity.TaskMaestrooffersamoreindividualizedexperience and has room to grow significantly. In the future AI-driven insights, voice command integration, gamificationfeatures,cross-devicesync,offlineandinteractionwithprojectmanagementplatformsfor team collaborations are possible future improvements.These enhancements establishTask Maestro as afeature-rich,flexibleproductivitytoolthataccommodatesusers'changingrequirements.Plans for the program include gamification features, voice command integration,AI-driven insights, cross-device sync, offline capability, and project management platform integration.

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