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Implementation on Smart Computer Usage Control System

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ABSTRACT: The Smart Computer Usage Control System is designed to help users maintain better control over their computer use. The web application allows users to set a time limit for specific applications, and automatically exits the designated application once the predetermined time limit is reached. Users can customize the time limit for each application to promote responsible and healthy computer usage habits. This system helps users reduce distractions and improve productivity by preventing excessive or unnecessary computer use.

KEYWORDS: Smart Computer Usage Control System, Computer use, time limit, specific applications, exit, predetermined time limit, healthy computer usage habits, responsible, reduce distractions, improve productivity, excessive, unnecessary.

I. INTRODUCTION

Computers are becoming a common part of our daily life, which has increased convenience and productivity. However, due to overuse, it has also had a severe impact on our physical and mental health. Eye strain, back pain, headaches, and other health problems can result from spending long periods of time in front of a computer screen, using the same programmes nonstop, and working without pauses. Additionally, excessive computer use can harm productivity by leading to burnout, reducing concentration and creativity, and raising stress levels. To maintain a healthy work-life balance, it is crucial to control computer usage and set time limits on specific programmes.

A Smart Computer Usage Control System that enables users to establish time limitations for certain apps is suggested as a solution to this problem. Once the time restriction has expired, the system will immediately quit the selected programme. According to their preferences, the user can choose the time restriction for each application, and the system will alert them before closing the programme. Users will also be able to set break reminders through the system, which will encourage them to take frequent breaks, stretch, and exercise, resulting in a better work schedule.

The implementation of the proposed Smart Computer Usage Control System can yield a multitude of advantages, including enhanced health and productivity. By setting time limits for individual applications, users can effectively prevent burnout, sustain focus, and alleviate stress. The system's built-in break reminders can further facilitate a healthier work routine, resulting in heightened energy levels and improved productivity. Furthermore, the system's customizable nature allows it to be tailored to individual preferences, making it a versatile solution for regulating computer usage.

II. LITERATURE REVIEW

A. The Effects of Excessive Computer Usage On Productivity and Health[1]

This work is based on the automatic recording of application focus data in natural situation from a wide representative panel of 661 households with 1,434 users at home over 19 months. To process these large-scale data, we build a two-level classification of PC applications describing the whole PC use. At the household level, we worked on computer usage temporality: we observed two strategies of PC usage reflecting a tension between synchronous and asynchronous usage profiles. At the individual level, we found out that software preferences and usage intensity are rather independent; therefore, we distinguished five specific profiles of users reflecting strong routine behaviours of



computer usage at home. These observations tend to show the strength of routine behaviours in computer usage. Author Keywords Computer usage, user generated events, user profiles, representative panel. Online Recommendation of Electronic Goods

B. Computer usage and task-switching during resident's working day[2]

Author : Marie Mean, Antoine Garnier , Nathalie Wenger, Julien Castioni

Abstract:- Background Recent implementation of electronic health records (EHR) has dramatically changed medical ward organization. While residents in general internal medicine use EHR systems half of their working time, whether computer usage impacts residents' workflow remains uncertain. We aimed to observe the frequency of task-switches occurring during resident's work and to assess whether computer usage was associated with task-switching. Methods In a large Swiss academic university hospital, we conducted, between May 26 and July 24, 2015 a time-motion study to assess how residents in general internal medicine organize their working day. Results We observed 49 day and 17 evening shifts of 36 residents, amounting to 697 working hours. During day shifts, residents spent 5.4 hours using a computer (mean total working time: 11.6 hours per day). On average, residents switched 15 times per hour from a task to another. Task-switching peaked between 8:00–9:00 and 16:00–17:00. Task-switching was not associated with resident's characteristics and no association was found between task-switching and extra hours. Computer usage occurred more frequently at the beginning or ends of day shifts and was associated with decreased overall task-switching. Conclusion Task-switching occurs very frequently during resident's working day. Despite the fact that residents used a computer half of their working time, computer usage was associated with decreased task-switching. Whether frequent task-switches and computer usage impact the quality of patient care and resident's work must be evaluated in further studies.

C. Internet Use and Its Impact on Individual Physical Health[3]

Internet use has seriously affected individual health in potential and subtle ways. Past research on the subject mainly concentrated on the mental health caused by addictive use, e.g., impulse control disorders and obsessive-compulsive disorder. With the constant development of cyber technology, Internet has been an indispensable element of living and working, which can provide more convenient and efficient support and help. At the same time, the effects of Internet use more than Internet addiction on individual health cannot be ignored in living and working. This paper aims to identify the most common physical complaints associated with Internet use, and further investigate the association between the frequency of Internet use and individual physical health. Five hundred and thirteen participants completed the questionnaires by online or offline manner, which covers demographic questions and questions concerning Internet use and physical complaints. The most common complaints were involving dry eyes, decreased vision, and cervical pain. The positive pearson correlation coefficient were found between the level of physical complaints and the frequency of Internet use, place of residence and education. Especially, the higher amount of time for the Internet use is strongly associated with a higher level of physical complaints.

III. METHODOLOGY

Gathering and analysing requirements: In this stage, we will determine the system's requirements as well as its possible risks and advantages. This will entail studying current software programmes and solutions, speaking with prospective users, and examining market norms.

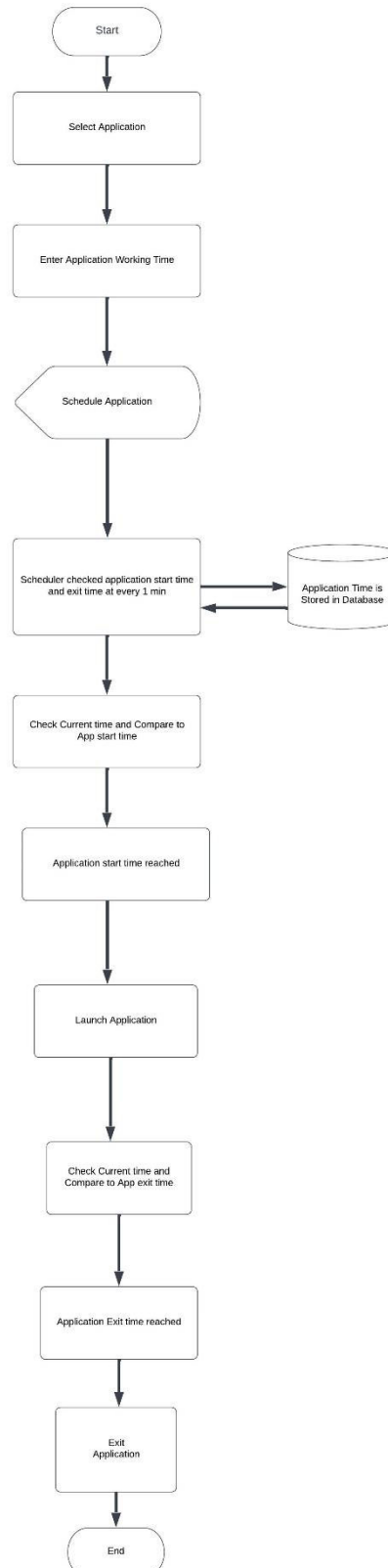
System Design and Development: Using programming languages and tools, we will design the system architecture, produce thorough specifications, and develop the system at this point. A user-friendly interface for setting time limits, keeping track of application utilisation, and sending notifications will be created during this step.

Testing and deployment: In order to find and fix bugs and enhance the user experience, we will test the system's usability and functionality at this point. Deploying the system will also be part of this phase; this may entail producing an installer and end-user instructions.

The skills of project managers, user experience designers, and software developers are necessary for the implementation of this approach. The methodology will make sure the system is user-friendly, dependable, secure, and fulfils their needs. The suggested method can encourage productive and healthy computer usage habits, allowing users to balance computer use with other obligations and activities.



System Architecture:





IMPLEMENTATION:

Firstly, the application will be started by the user, and they will have the option to select the specific application for which they want to set a time limit. Once the application is selected, the user will be prompted to enter the desired working time for that application. After the working time is entered, the system will display a confirmation alert indicating that the application schedule has been set successfully.

The entered time limit will then be stored in the database for future reference. When the application is launched, the system will continuously check the current time against the stored time limit in the database. Once the time duration is reached, the system will automatically close the designated application to ensure that the user adheres to the predetermined time limit. Finally, the user will have the option to exit the application when they are done using it.

The implementation of this system will enable users to effectively manage their computer usage by setting time limits for specific applications, promoting responsible and healthy computer usage habits. It will help users reduce distractions, improve productivity, and achieve a better balance between their computer use and other activities.

Steps for Implementation:

1. Application Launch: The application will be launched by the user on their computer or device.
2. App Selection: The user will be able to choose the app they wish to set a time limit for. This could be any installed application on their system, such as a web browser, social media app, or gaming app.
3. Setting Time Limits: After selecting an application, the user will be invited to enter the desired working time for that application. This can be accomplished through the use of a user-friendly interface in which the user can enter the desired time restriction in hours, minutes, or seconds.
4. Confirmation Alert: Following the user's entry of the time limit, the system will display a confirmation alert indicating that the application schedule has been successfully set. This will inform the user that their preferred time limit has been saved.
5. Time Limit Storage: The time limit entered will be saved in the database for future use. This enables the system to continuously monitor the time elapsed during application usage and compare it to the previously saved time limit.
6. Time Checking: Once the application is running, the system will constantly compare the current time to the time limit recorded in the database. This will entail real-time monitoring of the application's usage and time tracking.
7. Application Closure: When the time duration reaches the predetermined time limit, the system will automatically close the designated application. This will ensure that the user adheres to the time limit set for that particular application, preventing excessive or unnecessary usage.
8. Exit Option: The user will have the option to exit the application manually when they are done using it, even before the time limit is reached. This will provide flexibility to the user in case they need to stop using the application before the set time limit.

IV. RESULTS

1)Main Page

Show Application Software					
ID	Application Name	Start Time	End Time	Launch app	Minimize app
1	7zFM	--:-- -- Ⓞ	--:-- -- Ⓞ	▶	▢
2	chrome	--:-- -- Ⓞ	--:-- -- Ⓞ	▶	▢
3	notepad++	--:-- -- Ⓞ	--:-- -- Ⓞ	▶	▢
4	Spotify	--:-- -- Ⓞ	--:-- -- Ⓞ	▶	▢
5	VirtualDJ	--:-- -- Ⓞ	--:-- -- Ⓞ	▶	▢
6	wps_wid.cid-1052511457.1681234780	--:-- -- Ⓞ	--:-- -- Ⓞ	▶	▢
7	7z	--:-- -- Ⓞ	--:-- -- Ⓞ	▶	▢
8	7zFM	--:-- -- Ⓞ	--:-- -- Ⓞ	▶	▢
9	7zG	--:-- -- Ⓞ	--:-- -- Ⓞ	▶	▢



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2) Select Time for application

ID	Application Name	Start Time	End Time	Launch app	Minimize app
1	7zFM	---	---	[Launch]	[Minimize]
2	chrome	---	---	[Launch]	[Minimize]
3	notepad++	---	---	[Launch]	[Minimize]
4	Spotify	---	---	[Launch]	[Minimize]
5	VirtualDJ	10:26 PM	10:27 PM	[Launch]	[Minimize]
6	wps_wid.cid-1052511457.1681234780	---	---	[Launch]	[Minimize]
7	7z	---	---	[Launch]	[Minimize]
8	7zFM	---	---	[Launch]	[Minimize]
9	7zG	---	---	[Launch]	[Minimize]

3) Application starting and exiting at given time

ID	Application Name	Start Time	End Time	Launch app	Minimize app
1	7zFM	---	---	[Launch]	[Minimize]
2	chrome	---	---	[Launch]	[Minimize]
3	notepad++	---	---	[Launch]	[Minimize]
4	Spotify	---	---	[Launch]	[Minimize]
5	VirtualDJ	10:26 PM	10:27 PM	[Launch]	[Minimize]
6	wps_wid.cid-1052511457.1681234780	---	---	[Launch]	[Minimize]
7	7z	---	---	[Launch]	[Minimize]
8	7zFM	---	---	[Launch]	[Minimize]
9	7zG	---	---	[Launch]	[Minimize]



IV. CONCLUSION

In conclusion, the creation of a smart computer usage management system that enables users to establish time restrictions for specific apps can be beneficial for both social and individual well-being. Users who use the system effectively can combine computer use with other obligations and activities by learning effective time management techniques. The system can motivate users to take a break and participate in other activities by sending notifications when the time limit has been met. This can improve users' productivity, health, and social interactions.

The system may be an intuitive and adaptable option that is simple to implement and set up to the user's preferences. The initiative has the potential to both address the issue of excessive computer use and encourage productive and healthy computer usage practises. For parents, educators, and employers who are applications, the system can be a useful instrument. Overall, the endeavour can help create a creative and practical solution that encourages a good balance between using computers and other aspects of life.

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