19CSE100-PSAT Mini Project

Mobile Usage Monitor

Presented by
R Sruthi CB.EN.U4CYS22051
S Vishal CB.EN.U4CYS22075
B Prem Kumar CB.EN.U4CYS22014
TIFAC-CORE in Cyber Security
Amrita Vishwa Vidyapeetham, Coimbatore Campus

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AMRITA
VISHWA VIDYAPEETHAM

Outline

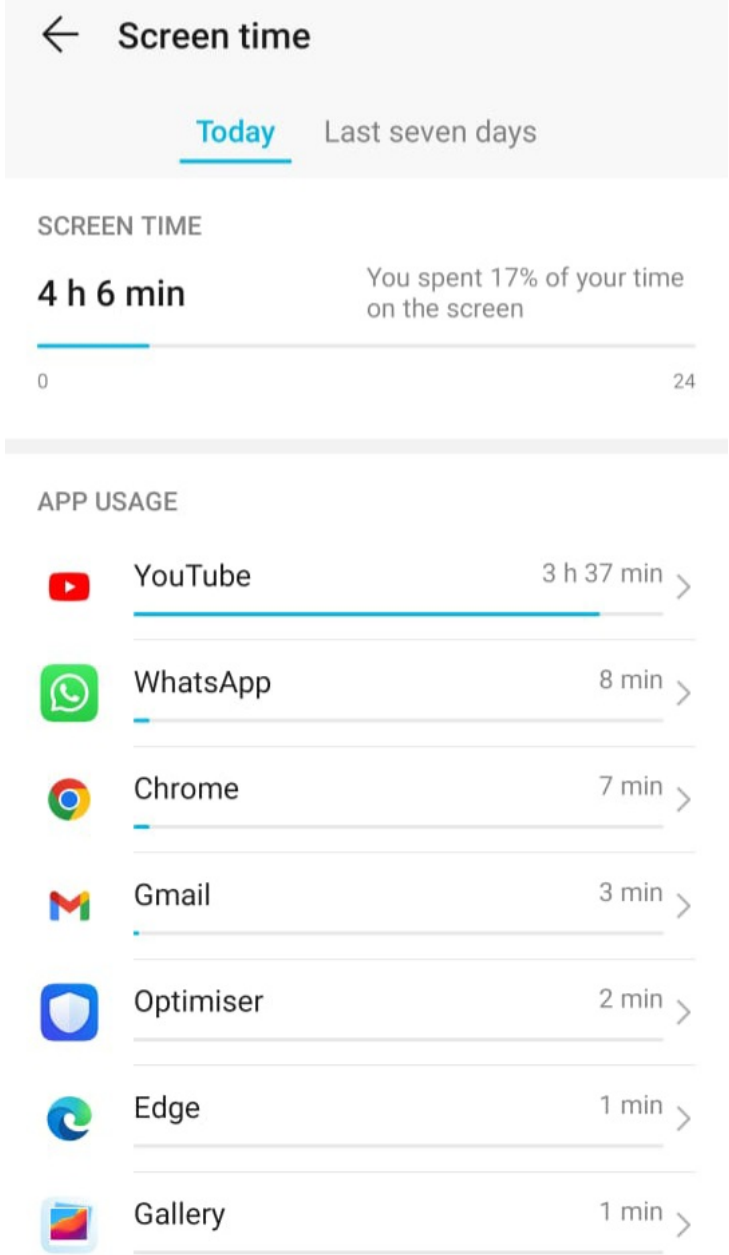

Figure: Phone Usage Monitor

Introduction

The need for a mobile screen time monitor arises from the increasing amount of time that people spend on their mobile devices. With the rise of smartphones and the internet, people have access to a virtually limitless amount of information and entertainment at their fingertips. This has led to an increase in the amount of time people spend on their devices, which can have negative consequences on their physical and mental health, as well as their productivity.
Some of the specific reasons why a mobile screen time monitor might be needed include:

- To help individuals understand their usage habits and identify patterns of excessive usage.
- To set limits and goals for usage, and help individuals stick to them.
- To monitor how much time is spent on specific apps or activities, and make more informed decisions about which apps or activities to prioritize or cut back on.

Introduction

- To reduce the negative effects of excessive screen time, such as eye strain, headaches, poor sleep, and decreased productivity.
- Additionally, mobile screen time monitor can also be beneficial parents who want to monitor and manage their children's device usage, to ensure that it does not interfere with their education, socialization, or physical activity.

Purpose of a Mobile Screen Time Monitor

A mobile screen time monitor is a tool that helps users track and manage the amount of time they spend on their mobile device. The purpose of a mobile screen time monitor is to help users understand their usage habits, set limits and goals for usage, and make more informed decisions about their device usage. This can be beneficial for individuals who want to reduce their screen time for health reasons, improve their productivity, or manage their digital distractions.

Basic Algorithm Logic For Phone Usage Monitor

There are several ways to monitor screen time on a mobile device, but here is an example of a basic algorithm that could be used to track the amount of time a user spends on their device:

- Create a variable to store the start time of the app usage.
- Create a variable to store the end time of the app usage.
- When the app is opened, set the start time variable to the current time.
- When the app is closed, set the end time variable to the current time.
- Subtract the start time from the end time to get the total amount of time the app was used.
- Repeat steps 3-5 for each app on the device.
- Display the total amount of time spent on each app to the user.

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Basic Algorithm For Phone Usage Monitor

This algorithm tracks the time of the user spent on each app, by recording the start and end time of the app usage, then subtracting the start time from the end time to get the duration of the usage. This can be repeated for each app. The algorithm can be improved by tracking the usage of the apps in the background, and also by providing more detailed statistics such as the number of times the app was opened or closed, and the time of day when it was used the most.
Note that this is a basic example and there are other ways to track screen time on mobile devices and many apps available on the app store that use more advanced methods to track screen time.

Basic Algorithm For Phone Usage Monitor

- Create a timer that will track the amount of the device is in use.
- Start the timer when the device is unlocked.
- Stop the timer when the device is locked or goes to sleep.
- Create a dictionary to store the total screen time for each app.
- When an app is opened, add the current time to the app's entry in the dictionary.
- When an app is closed, subtract the current time from the app's entry in the dictionary.
- Repeat steps 5-6 for each app on the device.
- Display the total screen time for each app to the user.

Limitations

- **Limited accuracy**: The data collected by mobile screen time monitors may not always be accurate. For example, the monitor may not be able to distinguish between active use and background use of an app.
- **Inability to track all activities**: Mobile screen time monitors may not be able to track all activities on a device, such as time spent on a computer or watching TV.
- **Limited customization**: Many mobile screen time monitors have preset time limits and categories, which may not be suitable for all users.
- It's not taking into account that the phone could be used for productive purposes, so the monitor will show a lot of usage time when in fact was used for work or study.
- It's not able to track the context of the usage, for example, if the phone was used for watching a video tutorial, it will be tracked as entertainment but it could be educational.

Limitations

- **Privacy concerns**: Some users may be hesitant to install a screen time monitor on their device due to concerns about privacy and data collection.
- It's not a solution for the problem, it's a tool to measure the problem, users should be aware that if they want to change their habits they should look for other methods rather than relying solely on the monitor.

References

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