

Employee monitoring software
H. Dhaliwal
June 29 2020

Abstract:

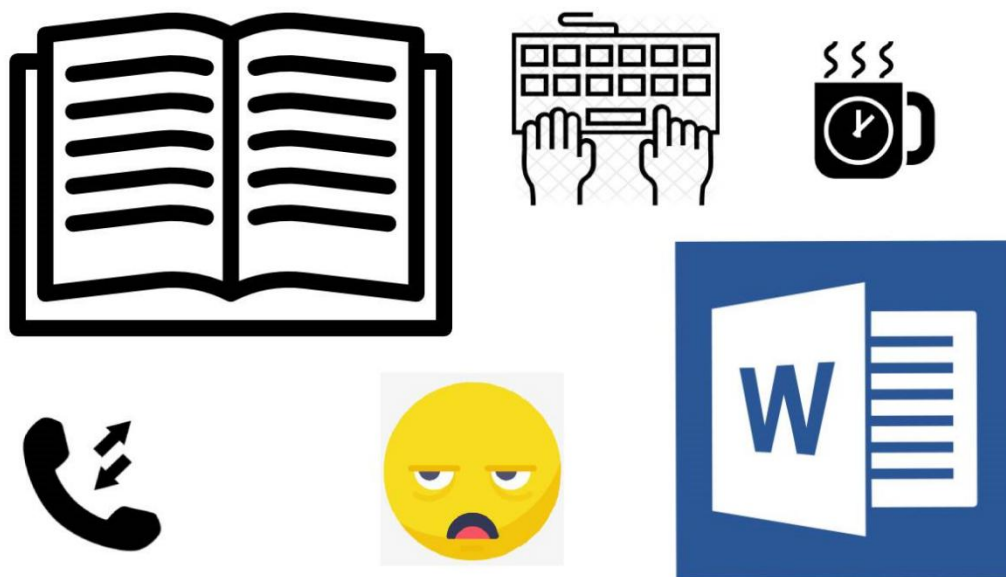
Work from home software monitoring application comprising icons displayed in a palette view wherein each icon is sized based on the time spent on the icon's respective task. Eye tracking software may also be used to determine a user looking at and or performing certain tasks via assessing eye movements and or eye gaze direction.

An employee monitoring system comprising icons or graphics which represent a certain task. The task may be any task an employee performs. The icon size will increase the more time the employee spends on the task or at the end of the shift the icon that had the most time spent on it will be larger relative to other icons. Icons of tasks will be displayed as a mosaic or palette to a manager. Eye tracking software may scan the employees eye movement through a camera of their computing device and determine if the user is reading, scrolling, not reading, looking away, watching a movie or any other activity by analyzing the visual data and also determining where the employee is looking on the screen to make sure the eye movement correlates with the area they are looking. For example, if the user is looking at text, and their eyes are determined to be going side to side, reading is confirmed. The icon sizes of each icon may also be relative time spent. For example if the employee only worked 80 percent of the time on reading and 20 percent of the time on a break, the icon size total will be 100 percent and twenty percent of that size may be allocated to the break and eighty percent of the total size may be allocated to reading and displayed as such. Furthermore an icon may be highlighted or have an added visual effect if the employee is currently working on the task of the icon. A background grid may also show time in blocks to compare the size of the icons in relation to the time blocks. For example a square represented by lines may equal one hour. Furthermore the icons may connect to a timeline on the display which linearly shows the activities performed by the employee and if filled in with a part of the tether. The icons can be zoomed in on in the early part of the shift as it may be that the icons are too small as little time has been consumed on a task by the employee. An icon may be highlighted or an added visual effect added to the icon if their is cause for concern for a certain task for example not spending enough time or spending too much time on a task. The manager may hover over an icon to receive more information such as time spent on the task or the time the task was being worked on. A timeline may show on the display and by clicking an icon a timeline of the activity may show up on the timeline and a video may also be played of the employee activity by pressing play or next clip near the timeline. Chunks are populated in the timeline related to a task. The icons may also be animated, for example the lunch break icon may show someone eating and the reading icon may show someone reading with their head or eyes moving side to side. A tether graphic may connect an icon to the timeline with each tether being a different color and these tethers may have atleast one portion stacked over atleast one portion of another tether. The timeline will have a start time and an end time. The icon may display a symbol or a graphic of a task like a person reading for a reading task. An icon may be clicked and more icons may appear which are also sized based on time and more specific to the parent icon. For example a reading icon when clicked may open icons related to websites, documents, programs, or applications that were used to read or content that was read such as a website and its respective icon. The sensitivity of the growth or sizing of an icon may also be set. For example an icon may grow a certain +/- percentage more than its absolute value. Averages of employees or groups of employees may be tallied and shown as icons on a palette using the concepts described. The manager may also view previous days icons to measure performance. The manager may click on an icon and see a live view of the screen of the employee. A manager may also assign custom graphics to an icon. Tasks may include but are not limited to reading, scrolling, looking away from the display, lunch break, on a call, typing, thinking, boredom, talking, on their smartphone, writing, or any other task an employee may perform for any job. These tasks may be determined by the camera or due to an application on the display. These tasks may also be confirmed by eye tracking software wherein a users eye movements must correlate to a task to determine the task via eye tracking and the application

related to it on the display. Furthermore the eye tracking software may also need to confirm to the user is looking at a portion of the display showing an application and performing eye movements related to the content looked at to determine a task. For example a user looking at text on a display is determined by image data, and the user should therefore have their eyes making movements that are indicative of reading to determine the reading task is occurring and the icon of the reading task grows the more time is spent on reading. Threshold may set a maximum time spent on a task and if this time is passed then the icon may have an alert.

These concepts may also be applied to exercise monitoring, and the tasks may be running, walking, jogging, weight training of any other exercise. These tasks may be sensed by wearable devices like smart watches and accelerometers. The concepts may also be used on monitoring temperatures or pressures or any characteristic of a machine such as a rocket launch. For example there may be squares mapped out on a display and the area within each square has a threshold drawn and an icon inside or a colored square may grow based on a characteristic in the square and if the icon grows larger than the threshold it may indicate a problem and the icon or colored square may change color once that threshold is passed. Furthermore the colored square may gradually change color as it increases in size. This concept may also be applied to the dashboard of a car representing for example the speed of the car. There may be successively smaller squares within larger squares. Each square may represent a speed. A square that is colored solid may grow from the center of the squares and sized in relation to the speed of the car and the speed of a square on the dashboard.

The following shows one example of a palette or mosaic:



An application with icons representing tasks such as reading, emailing, on a break, scrolling, looking away, talking to someone else, outbound calls, data entry, reviewing, recording, on a particular website, or on a call. Each icon is sized in relation to the time spent on that task by an employee wherein the longer the time spent the bigger the icon resulting in quick and easy viewing by a manager of a workers shift. In an example, if the employee took a 4 hour long break, the break icon will be larger than if the employee took a 2 hour break. The size of each icon is sized relative to other icons based on time spent on a task. These icons are displayed on a mosaic or palette to the manager. In an example, if the employee spends 1 hour on break, 2 hours on

calls, 5 hours on emailing and 2 hours typing, the palette will show the emailing icon the biggest, the calls and typing icons smaller and equal in size and the break icon as the smallest icon as a non limiting example in one simple view. In another scenario, if an icon looks too small such as the emailing icon, or too big such as the lunch break icon, the manager may ask why.

Furthermore the manager may click on the icon and a timeline opens at the bottom of the display from a start time to an end time linearly and the active time of the task is filled in on the timeline at the time it was performed and the rest of the timeline may remain blank. This way the manager can see when the person took the break within the shift. Furthermore the manager may click a back button to see the previous days timeline. Furthermore the manager can play a video from the timeline, skip forward if there is a break on the timeline, or by clicking a icon to see an expanded view video of the users activity. The averages may also be taken into account for an employee or all employees and a icon palette may be displayed. Alternatively the manager can click on, as an example, the reading icon. This will open up a more detailed view of icons representing the sites or apps that were used while reading which are also size based. For example if the user spent most of their time on a website, the icon of that website may be displayed as one of the icons (eg. [reddit.com](https://www.reddit.com) alien icon) and sized accordingly to time spent in relation to other icons. A second icon in the palette may be the microsoft word icon. Both of these icons may be equal in size if 4 hours each was spent on them. Each icon can be assigned a custom graphic by the manager also. To determine what task the user is doing, an eye tracking app can determine which task is being performed via tracking the eyes and determining which apps are where on the display. For example when text is displayed and the eyes go side to side and a certain content is looked at, code stored in memory when executed enables the cpu to analyze eye motions and gaze from data captured by the camera to determine the person is reading particular content displayed if the eye motions and gaze matched the characteristics of a person reading.

Some concepts of the disclosure may also be applied to icons on smartphones or smart watches wherein the more an app is used the larger the app icon becomes on the display of the device. The time spent on the app and or the number of times the app is opened in a length of time may be factors in determining the sizing of the app icons. The increase in size of an app icon may be incremental so a user is not confused and barely notices the increase in size. Apps that are used less often may also decrease in size on the display of the device.