Arduino – workday in an office

This code represents the automation of a typical working day in an office. It came from thinking about the needs of an office worker when he starts his workday, and from helping him to keep good health. At the beginning of the workday, the worker will pick a seat from the available ones- the ones where the LED light is off. When he will sit, a button will be pressed, a LED light will turn on and the chair will move to the optimal posture in front of the computer screen. In addition, as we know the damages of the screen light when one sits too close, we show the worker his distance from the screen in cm (on the LCS screen). We let him know when he sits too close by providing him a warning.

How to Use

1. At the start of the workday, pick an available seat whose LED lights are off.
2. Sit on the chair. A button will be pressed automatically, and the LED light will turn on as well.
3. When the button is pressed, the chair will be set in the best posture facing the screen.
4. If you choose to get up, the button will be deactivated, and the chair will return to its original position. The LED light will turn off as well.
5. Throughout, an LCD screen indicates the distance from the screen. If you sit too close (under 20 cm), the LCD screen will display a message to sit further and will disappear when the worker sits back.

The automation process

The button is on the chair, so when the worker sits the button will be immediately pressed and when he gets up it will be deactivated. We used the servo mechanism to adjust the chair to the optimal posture in front of the computer screen. When the button is pressed, the LED light will be turned on. In order to determine the distance from the

screen, we used a distance sensor and added a condition in the code- if the distance is under 20 cm, an LCD will show a message: "Sit further" and the value of the current distance. Otherwise, the LCD will only show him his current distance.