

The Annoying Alarm Clock (One-Page Description)

For my microcontroller project I decided to build an alarm clock that was intentionally designed to be annoying so that I could be more effectively woken up by just trying to turn it off. I will sometimes fall asleep after turning off my phone alarm without even realizing it, so there is a very real and personal application for my project. The alarm clock has a very annoying loud high pitch buzzer that goes off after some number of minutes (the exact number is changeable inside the program logic) and the Arduino will randomly select one task among five equally as annoying methods of turning the alarm off. With the method of turning the alarm off being potentially different each time, it helps make the user more alert.

Before the alarm sounds off, it provides a countdown (displayed on the serial monitor since my LCD is broken) as to how many minutes remain before the alarm sounds. Once the alarm begins, at random, some method of turning off the alarm is chosen and the user will have to interact with the various components of the circuit (i.e. joystick, IR remote, etc.) in order to end the loud buzzing caused by an active buzzer. Once the user completes the random method of turning off the alarm, the timer will reset and begin counting down once more (in true annoying fashion). As mentioned previously, there are five such methods of turning the alarm off and they are as follows:

First, the user may need to observe the serial monitor and look at some combination of buttons to press on the IR remote. Second, the serial monitor may inform the user that they need to move the attached joystick in a series of certain directions. Third, it could be the case that the attached servo begins to move, and the user will have to follow its movement with the joystick while simultaneously pressing the joystick down, pushing the sharp pieces of solder into their hand. Fourth, the user may be asked to pick up the entire alarm clock circuit and hold it upside down continuously for some number seconds while a tilt ball switch confirms their cooperation. And lastly, through the use of an attached thermistor you will be told the current temperature and will be given the task of cooling the thermistor by 5°F by a fan powered by a DC motor.