

# **YOU CAN'T SNOOZE ME**

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## **➤ INTRODUCTION**

Our project, You Can't Snooze Me is basically an alarm mat which compels the user to wake up on time. The purpose of our project is to get our users rid of their daily habit of putting the alarm on snooze and drifting back to sleep again.

This alarm mat, as we call it, has an AVR module, pressure sensors and a bluetooth module inside of it, as part of an electronic circuit. This bluetooth module connects our mat to an android alarm app (built by us) on the user's mobile phone or tablet.

By this whole procedure, once the alarm starts ringing, the user won't get any option of snoozing or stopping the alarm by just pressing a button like in the normal alarms. He/she would have to get up from their sweet bed and stand or jump on the doormat sized- mat (which will be random) for the prescribed amount of time to stop the blaring alarm ringtone!

## **➤ MOTIVATION FOR THE PROJECT**

Well, we all have faced this situation at least once :D

That we put the alarm on snooze, knowingly or unknowingly, and then ended up getting late for meetings, classes or even exams :p

So that's how we came to one possible solution to one of the most common problems, our alarm mat.

## **➤ CONCEPTS BEHIND THE PROJECT**

1. Using AVR  
<https://www.youtube.com/watch?v=JMMamSVy1Zs>
2. Creating a pressure plate  
<https://www.youtube.com/watch?v=60AU2Pq-X9g>
3. Using velostat material for making pressure sensors  
<https://www.youtube.com/watch?v=Qnoso-uHNfs>

4. Using android studio  
<https://www.youtube.com/watch?v=LQpAmM4vznQ>
5. Microcontroller interfacing  
<http://www.dharmanitech.com/2009/01/sd-card-interfacing-with-atmega8-fat32.html>
6. Music playing alarm clock  
<http://www.instructables.com/id/Music-Playing-Alarm-Clock/?ALLSTEPS>

### ➤ **PLAN OF ACTION**

#### **Week 1 (20th-26th may)**

- Attended the bootcamps
- Figured out the components needed for the project

#### **Week 2 (27th may-2nd june)**

- Started learning AVR
- Started learning Android
- Bought the components
- Finalised mat design and placement of components

#### **Week 3 (3rd-9th june)**

- Made a prototype of the pressure sensor
- Finalised the electronic circuit
- Started AVR coding
- Started Android coding

#### **Week 4 (10th-16th june)**

- AVR coding almost finished
- Android coding almost finished
- Started researching on bluetooth interfacing with microcontroller

#### **Week 5(20th-26th june)**

- Made the alarm in the app
- Did the bluetooth connectivity for the app
- Debugging of the app

#### **Week 6(27th june-3rd july)**

- Completed making the mat
- Debugging the android application

### ➤ **PROJECT DETAILS**

### How we reached towards our project?

- We first made the pressure sensor using velostat and aluminium foil.
- The pressure sensor works like this: as we apply pressure the resistance of the velostat decreases and the resistance also decreases more rapidly on prolonged application of pressure.
- We started with programming the Atmega32 microcontroller. We first created a circuit so that we take the analog voltage across the pressure sensor in the avr and coded it so that it measures the change that we are standing or jumping.
- Then we made the android application which sets the alarm , connects to bluetooth and sends information to the avr to sense if the person is jumping or standing. And the avr sends the information back.
- Then we made the mat where in we we put pressure sensors according to the foot position for the user to stand or jump.

### How to use it?

- The user chooses to either stand or jump 4 or 8 times to shut the alarm. She/he then connects it to bluetooth and sets the alarm.
- The user then sleeps. :P
- Then the alarm rings and the user has no option but to do the desired job they chose :P to shut the alarm or else it will keep ringing.

### Problems faced

- If the phone gets discharged at night the mat will not work and the bluetooth has to be connected at the time of alarm
- The user has to jump on the foot mark only

### Future developments

- We can make the mat independent of the phone that is we can add speakers and audio card in the mat itself so that once we have uploaded the information we will not require the phone to be present nor the bluetooth connectivity.
- The pressure sensors' sensitivity has to be worked upon



