

POTENTIAL MIDTERM IDEAS

IDEA 1: HOME SECURITY SYSTEM

SUMMARY:

- Existing home security system services are expensive and subscription-based
- Simple system for those with lower budget
- Detect entrance, if password wrong or not entered, buzzer rings + notifies homeowner (sms/email)

INSPIRATION:

<https://www.hackster.io/nkalamokateule/noas-protect-be33b6>

<https://www.hackster.io/ArduinoBasics/arduino-based-security-project-using-cayenne-eb379b>

IDEA 1: HOME SECURITY SYSTEM

MATERIALS NEEDED:

- Arduino
- Keypad
- Motion detector / Laser Trigger?
- Camera (optional)
- Buzzer
- Some method of remote notification (sms/email)

IDEA 1: HOME SECURITY SYSTEM



IDEA 2: MUSICALITY DECONSTRUCTOR

SUMMARY:

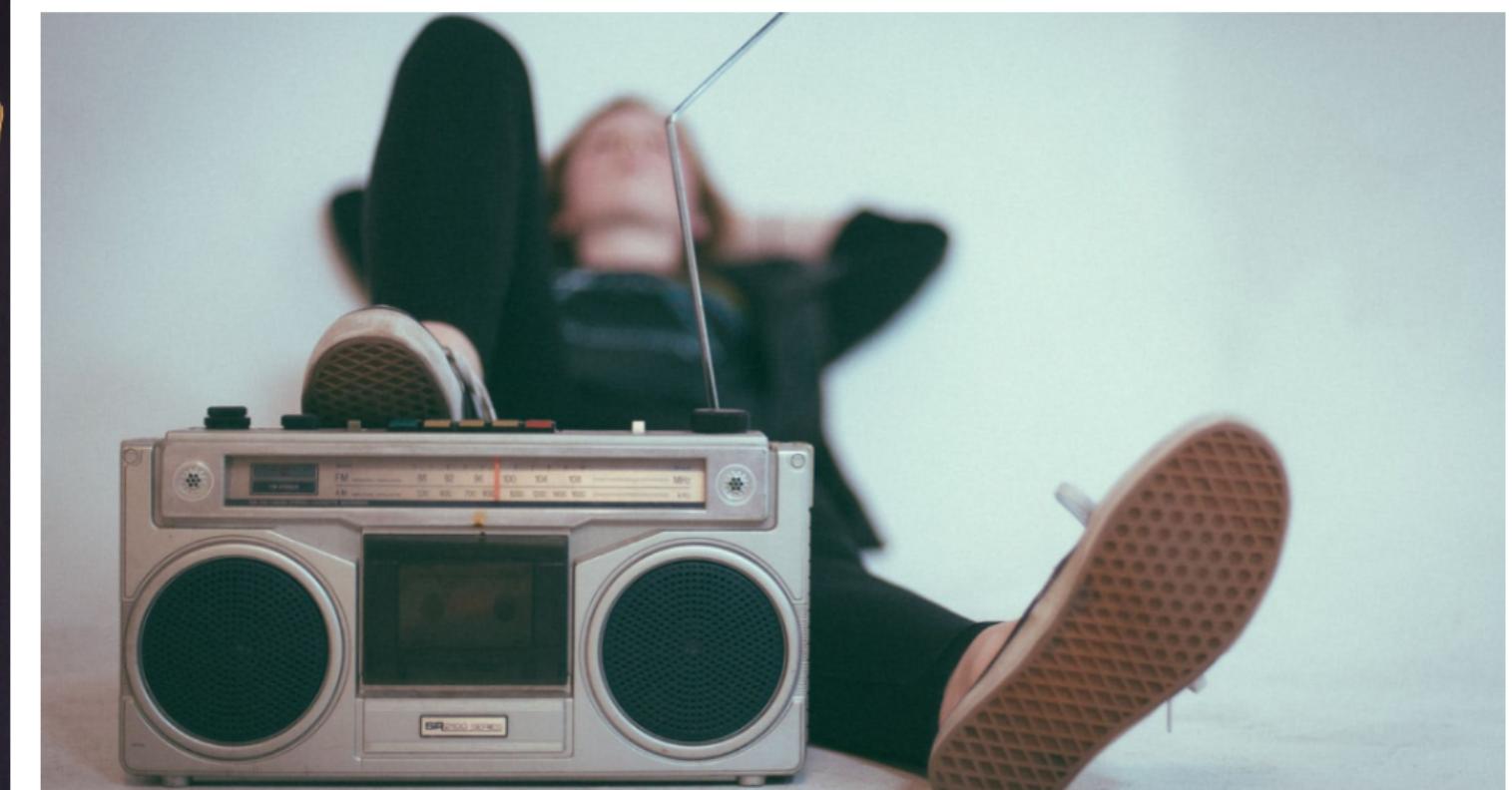
- Music has different layers - bass drums, snares, hi-hats, melody, synth etc
- Dancers (especially Hip Hop / Urban Choreography dancers) need to know how to count the beats, and also differentiate the sounds
- Hard for beginners
- Visual tool to help dancers to:
 - break down music into different layers
 - recognize beat patterns
 - learn to count the beats

IDEA 2: MUSICALITY DECONSTRUCTOR

MATERIALS NEEDED:

- Arduino
- Microphone / Sound Sensor
- Bread board / Display
- LEDs
- Program to break down music

IDEA 2: MUSICALITY DECONSTRUCTOR



IDEA 3: SLINK V2

SUMMARY:

- Slink is a previous project of mine
- A spinoff of the classic Snake, the fruits are now different colors
- Eating same colored fruits in a row leads to a higher score
- Ideally portable, but would be fun to make it into:
 - multiplayer game (connect 2 devices to make a bigger map)
 - VR version
 - big screen version (control snake with movements)

IDEA 3: SLINK V2

MATERIALS NEEDED:

- Arduino
- Bread board / Display
- Controller (single player/VR mode) / Camera (big screen version)
- VR device (VR mode)

IDEA 3: SLINK V2

