ECE 266 – Introduction to Embedded Systems
Spring 2018

Final Lab/Updated
Report Final

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Purpose:

The projects design is to function as portable music player with more advance features.

Inputs:

- Light Sensor
- On Board Buttons
- Power Supply

Outputs:

- Buzzer
- LED Lights

Functions:

- Light Sensor: Detects if it is day time or night time / bright or dark room. The sensor requires activation and returns a numerical value of light.
- Power Supply: Supplies power to the system.
- On Board Buttons: The first switch is the start and stop of songs. The second switch the current song to the next song.
- Buzzer: Main source of music. The sensor requires activation and it allows music to be played.
- LED Lights: The lights display if it is night or day.

Performance:

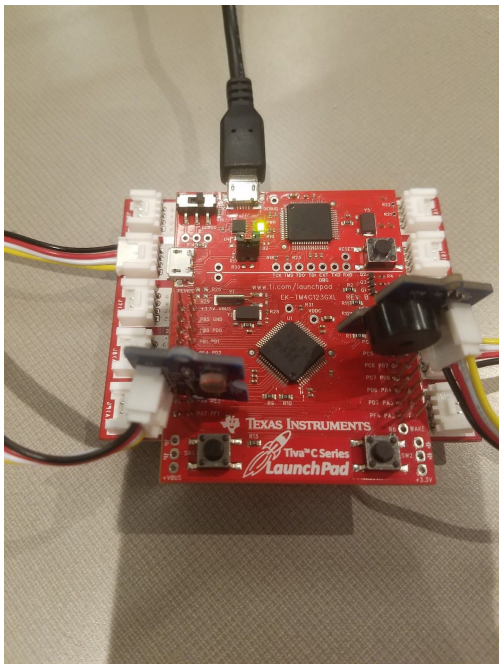
Device will have fast response time and operate as intended.

Part cost:

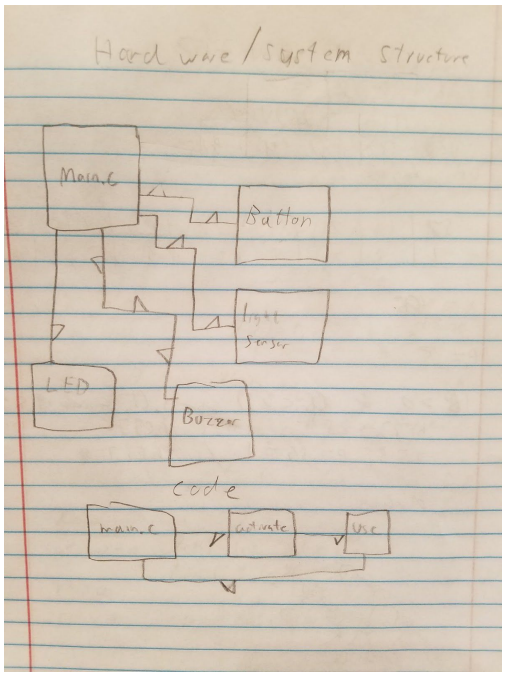
The total cost for the project's parts are $34.3(parts) + $12.99(launch) = $47.29(without tax). Could be sold retail for $79.98.

Architecture:

The project appearance and form is this:



The two components at the top of the microcontroller are the buzzer and light sensor. The analog piece is the light sensor. Part descriptions/formations are in the Function section.
Diagram:



Hardware/system: Arrows indicate direction of communication.
Code: Arrows indicate order of use of component.

Project status:

- All features have been implemented. PROJECT COMPLETION: 100%. The contribution in percentage was 50% for Jonathan and 50% for Thomas.
- There was issues in ordering parts and timing. As a result, base kit parts were used as a result to compensate for the missing parts. Even with the dilemmas, the final product was satisfactory.
- The data for flash is 14200 (5%) and the SRAM is 4354 (13%).
- ~20 hours was spent on this project.