**DESCRIPTION**

             The music player project was designed to accomplish two tasks that involved playing audio files.  The first task was to create a circuit that resembled a single button digital audio player that was capable of reading digital files from a micro SD card and play them over an audio jack.  This circuit would be controlled by a single button that, when pressed, would play or pause the current song being played.  If the button was held down for a period of one second, the next song would be read.  In order for the arduino unit to read specific audio files, they had to be converted into a 8-bit WAV file which were then transferred onto the SD card.  The second task of this project was to create a program and circuit that would play audio files accessed by typing into a browsers URL bar an assigned IP address given to the Arduino. These songs, when clicked on, will be output by the PWM in the Arduino and can be heard by plugging in any device to the 2.5mm headphone jack in the circuit.

​http://www.youtube.com/watch?v=YdL66N9AYgw

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**KNOWLEDGE GAINED**​

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* Convert between various number systems and interface between analog and digital systems;
* Characterize and use various sensors and actuators;
* Design, build, and program systems that use sensors, actuators, and microcontrollers to implement real-time measurement, monitoring, and control systems;
* Analyze power quantities in AC circuits, and analyze circuits that include ideal transformers;
* Analyze circuits using the Laplace transform.

**FILES**