Materials Needed:

- Arduino Uno
- Prototype Expansion Board
- ~3 Foot Solid Core Cable
- 3 Meters Stranded Wire
- Momentary Switch Button
- 9v Battery
- Stereo Jack
- 18 Pins
- Soldering Iron
- Solder Wire
- 6 MicroServos
- Heat Shrink
- Heat Gun
- 3K Resistor

PCB Construction Instructions:

1. Using a few inches of solid cable, solder, and the soldering iron, attach 3 separate cables to the signal, ground, and positive connections of the stereo jack.
2. Cut 2 separate cables, each 1 meter, of stranded wire. Use this to connect to the Momentary Switch Button. Then, cut 7 ~1 inch strips from the solid core cable in preparation for the signal wires for the MicroServo signals.
3. On the Expansion Board, attach 9(18 total) separate pins in line on either side of the middle power strips. Then, route the pins to Positive and Ground in the appropriate orientations with regards to the order of each input on the MicroServos using solder. Lastly, solder the connection wires that were cut prior to the signal input pins on the Expansion Board.
4. Connect each signal pin for the servos to respective digital pins 3, 5, 6, 9, 10, and 11.
5. Attach a few inches of solid wire to 5V power on the Expansion board, then connect this to one of the stranded wires from the Momentary Switch Button using solder. Be sure to apply a piece of Heatshrink to the wire PRIOR TO SOLDERING and then use the Heat Gun after to close it. Then, route a second solid wire to the 5V connection on the Expansion Board through a 3K resistor. Connect this new solid wire to the other stranded wire from the button with solder and a Heat Shrink cover once again.
6. Solder an inch of solid stranded wire onto the Expansion Board where the wire connected to the resistor is, then connect this wire to Digital Read Pin 12 on the Expansion board.
7. Connect the signal, ground, and positive connections from the stereo input jack to the Expansion board, making sure to connect the signal wire from the jack to analog read pin A0.
8. Finally, connect the Expansion Board bottom to the top of the Arduino board. When ready, connect the MicroServos to the pins that were added to the top of the Expansion Board earlier, making sure to follow the order of signal, positive, and ground.