**ECE 3822: Software Tools FOr eNGINEERS**

# HOMEWORK No. 3: Shell Programming

The goal of this homework is to demonstrate how to do some basic shell coding. Later, we will revisit this using C++ and Python.

The tasks are:

1. Put 100 audio files (mp3 format) in a directory called “songs”.
2. Write a program that randomly selects one of these songs and plays it.
3. You must guarantee that all 100 songs will be played once before you start playing a song a second time. Similarly, all songs must be played twice before you continue to the third pass.
4. Your program automatically progresses from one song to the next (use a loop). It must play forever.
5. It must keep track of its status so that you can restart the program. If I kill it, it should resume from where it left off. You don’t have to start the song that was currently playing, but you must randomly select the next most available song.
6. When all songs have been played once and you start the next pass, the order must be randomized (you can’t use the same order for every pass).
7. It must be coded in shell (Bourne shell, not bash).
8. It must run from a terminal window as a Linux command (e.g., my\_player.sh). A GUI is not required.

What you are implementing is essentially a random shuffle mp3 player function.

If you need 100 songs, I can provide them. But you might not like my music choices ;)

Finally, try to minimize memory (don’t load all 100 songs into memory) and run-time (you want this running in the background with a low priority.