

## **CS 4590**

### **Homework #2: Polygraph Sonification**

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Sounds Description:

Heart Beat: real heart beat sound

Respiration: a wood click sound

GSR alert: a warning sound

Truth Alert: a playful sound

Lying Alert: a loud and long warning sound

Calm mode:

The subject is in the calm mode, the heart rate and the respiration rate should be at a low level in same time, therefore, I adjust the random number for both of heart rate pitch and respiration pitch, make sure they both get the random number in a low range.

Excited Truth mode:

The subject is telling a truth under exciting emotion, therefore I think the subject should have a high heart beat in exciting mood, but with a low respiration rate because the subject isn't lying. He won't have a high respiration. So adjust a low random range for the respiration pitch and a high random range heart rate.

Excited Lying mode:

The subject lying and exciting at the same time, therefore give him a high range heart rate and a high range respiration rate. Also random numbers with corresponding alert sounds generates the range.

Moderate:

This mode is hard to determine, by generating a random number, and given a high range and low range to heart rate and respiration rate. And range between these high and low range can be said as moderate mode.