

Assignment 1: Functional Sound Design

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I chose to design sounds for an electronic securities trading environment. The environment is a lot like any other office space, with many people working on desktop computers in close proximity to one another. Because traders are often holding very valuable and sometimes volatile positions, good sound design is helpful in updating and alerting a trader to a moving market.

The five sounds I chose to create were;

- **A trade going through (TGT)**

I knew that due to the potential high frequency of trades executed by a single trader that this sound in particular needed to be easy to distinguish, yet not annoying. I tried to do this by giving the sound an airy, non abrasive characteristic. In particular, I tried to mimic the sound of a flute or bass flute. The sound's tone is also quite low with a late attack and long decay to avoid any startle (Patterson). I chose the particular sound envelope to allow the alert to be easily discernable from background noise or other alerts, yet not stick out too much as for it to become abrasive.

- **A small strengthening of a position (SSP)**

With this sound, I wanted to create a tone that was easily distinguishable and almost intuitive to its meaning. I decided that instead of using a low tone, a high, xylophone like tone would be more appropriate. This is because it would contrast well with the trade going through sound, as they may well be activated at the same time. With three notes played with harmonic evenness with an interchanging rhythm, I tried to encode an underlying sense of somewhat-urgency. If you were to hear the sound one off it isn't too striking to afford action, but hearing several in succession would. To create this sound, I played around with vacuum until I synthesized a single xylophone sound. From this I created an instrument track in Pro Tools, which within I created the rhythm and notes for the sound.

- **A small decrease in a position (SDP)**

As with the previously mentioned sound, I wanted to create a tone that was easily distinguishable and intuitive. I decided to use the same high xylophone like tone as of the position strengthening sound, but changed the notes being played. I decided early on that I would try and group the types of sounds that convey similar information by using similar sounds. Dissimilar to the previous tone, by going down the scale obvious parallels can be

drawn with the loss in value of a trader's position. As with the previous sound, I kept the same interchanging rhythm and harmonic evenness to convey 'somewhat-urgency'.

- Increase in volume traded of a position (IIV)

With this sound, I decided to take a different tact from what I had previously produced. With an increase in the volume of a traded position, there is an increase in the 'speed' of the market as more trades are going through. For a trader, this could be an intense moment and I felt a good way to capture this would be to try and design a human pulse, acting as a metaphor for the alert. Once again, I did this because I tried to focus on the sound being easily distinguishable and intuitive. To create this sound I synthesized a single beat sound and overlaid them on an instrument track in Pro Tools. The single beat is enveloped with a late attack, long decay and a long release in order to get the pulse sound.

- Large negative swing against a position (LNS)

For my final sound, I decided to create an alarm that would signal during a worst case scenario. I particularly wanted to create this kind of alarm because the other sounds I created were more notifications and I feel alone, they lacked any real sense of urgency. For this sound, I created a single alarm sound in Vacuum by using the ARP function and turning up the rate. To really make the sound feel synthesized and not natural, I pushed up the cut off of the LPF. Once my initial sound was created, I placed it in an instrument track to slowly oscillate between notes. The sound I created was meant to have an even pulse rate, with harmonic evenness in order to convey urgency (Edworth & Hellier). I could have made the alarm louder and sharper; however the context of use did not warrant this. I wanted the alarm to force a response, however to avoid startling (Patterson) I enveloped the single tone with a later attack.

I chose to design these sounds because they are key indicators for traders as to how a position is performing at the present time. It provides the trader useful information that may be overlooked on a crowded computer screen. Overall I am quite happy with the sounds I have created and feel that they fit quite nicely into their context.

When playing my sound file, the order of sounds I have used is as followed;

TGT, TGT, TGT, TGT, SSP, TGT, TGT, TGT, IIV, TGT, SDP, IIV, TGT, TGT, SDP, TGT, TGT, SDP, TGT, SDP, LNS