Synthesis of Auditory Alerts

Chosen scenario:

For my chosen scenario I have chosen ‘the modern car’; what this consists of is a ‘smart car’ which is able to determine if appropriate variables have been met, if these have not been met, various alerts will play to remind the user that they have missed something or that their attention is required in a particular area.

The sounds I have chosen to create for this scenario are:

**Door Open alert:** This alerts the user the door is still open. The way this would be activated is if the door is still open once the user turns on the ignition; you may think it is obvious when a door is open but on rare occasions doors do not close correctly which can cause trouble when driving around corners if they fling open.

This sound is a short 3 note alert which loops until the door is detected as closed. It is a subtle alert with a high pitch and low pitch layered together. It has a ‘ring’ type feel so not to put the user into panic but to rather give a gentle reminder. The sound has a slight tremolo effect to break up the notes, this is done to hopefully be more alerting.

**Seat Belt alert:** This alerts the user if they do not have their seatbelt on. Similar to the ‘Door Open’ alert, this only activates when the engine has been turned on. This is a 2 note high pitched sound with each not being quite close to each other. This also loops until the user has fastened their seat belt.

This has a similar ‘ring’ type feel to it to keep the alert pleasant enough to not cause panic but still remind the user that their attention is required.

**Collision alert:** This alerts the user if they are about to have an impact. The idea of this came about from our last lecture where we spoke about 3D sounds while wearing headphones. My idea for this was for the collision sound to come from the speakers closest to the collision. For example if the user was about to reverse into a wall the alert would come from the back speakers. The idea behind this is in a real-life situation if you are about to hit someone and they beep their horn you would hear that horn from that direction, this is where I have borrowed the idea of this directional alert based on the impact location.

This alert is meant to simulate a car horn as if it was passing by, this is done by a subtle ‘wah’ effect to create the feeling of motion. Obviously a car horn blaring out of the car speakers would definitely cause too much panic so I decided to settle for a more subtle version which still creates a feel of discomfort which then hopefully alerts the user quick enough to make a decision.
**Low Fuel alert:** This alerts the user when they are close to running out of fuel. For this sound I wanted to create a ‘tired’ sound, similar to how a child’s toy or a toy keyboard sounds when it is about to run out of batteries; the notes start to slide and it really does just sound ‘tired’. I think the sliding of the notes in this alert really creates that feeling effectively.

This alert uses 4 notes that it slides between.

**Speeding alert:** This alerts the user when they are speeding. For this sound I decided to stick to what people are use to so I based my sound off a siren. This would hopefully cause enough panic to allow the user to slow down.

**The Simulation:**

For the simulation we start off with the user getting in the car, here we hear the car door open but not close, once the user starts the engine we can hear the ‘door open’ alert activate. It turns off once the door is closed.

Soon after this happens we hear the ‘seat belt’ alert activate, before it is activated you can already hear the user pulling the seat belt ready to fasten it. Once it is fastened the sound is turned off.

Once the user is backing their car out we hear the ‘collision’ sound activate from the left of the speaker, this indicates that a collision is imminent from the left side of the car; the situation is avoided.

Once the user starts to drive off we hear the fuel is slow, the car then slows down. We then hear the car quickly speed away, we assume here he has filled his card with petrol and is late to get to his desired location, the user then breaks the speed limit and the alert is activated telling him to slow down.