Task 16 - Spike: Sound Board

CORE SPIKE

Context: Playing sounds on demand for a game, based on game events, and playing background music, are key components to creating entertaining and immersive game environments.

Knowledge/Skill Gap: The developer needs to know how to use a framework to load, play and control game sound and music. For this case we will use SDL2 to provide sound and music playback and keyboard event response support.

Goals/Deliverables:
[CODE] + [SPIKE REPORT]

Create a simple application, using SDL2, that demonstrates the following features.

1. Keys 1, 2, and 3 will each play a unique sample sound as soon as each key is pressed even if that sound is already playing.

2. Play or pause (not stop) background music in response to key-down press “0” (zero) being used as a toggle.

Recommendations:

- Find and read tutorials for playing a sound when an event occurs, and for playing and pausing the playback of music. (Note – you need to PAUSE the music, not just stop and start it again from the start.)
- Create or download some sounds and a music file suitable for your intended work. (Ensure you have the right licenses for any sound or music.)
- Your keyboard input spike will give you suitable code starting point for response to key events. Keep it simple.
- You may need to add debug code to your work to ensure systems are initialising and loading as needed. For example, if you are unable to load a file (file not found?) make sure *you* know about it!
- You will need to research an appropriate format for your sound file.

Extensions: (These could make some nice custom projects or research projects)

- **Sound level mix:** Demonstrate how to mix sound at different levels (volume) to create a balanced mix. You might want to create a “slider” control for this.
- **Stereo sound placement:** Can you place a sound at a particular stereo location, based on - say – the moving location of a game entity on screen)?
- **EQ/FX?** Are you able to do any “eq” (frequency based adjustment) or “fx” (sound effects)?
- **Beat Detection:** Are you able to analyse a music file as it play and identify “beats”?
- **MP3 Meta Details:** Are you able to read the meta (tag) details contained in an mp3 header?