Project Brief: Unity Timeline Visualizer

Goal

- Read the provided XML EDIT file and visualise the information in a scene in Unity,
- Use the TRACK, AUDIOCLIP elements with position information.
- **NOTE: The goal is not to spend too much time on this, but implement the core, and document HOW you could tackle elements that you didn't have time to code (architecture, planning, considerations, etc.)**

Skills Tested

- Ability to parse XML cleanly and effectively.
- Proficiency in handling and representing data in a 3D and UI environment.
- Creativity in visualising audio and timeline data.
- Understanding of Unity's 3D rendering, object instantiation, and UI layers.
- Shaders

Project Requirements

XML Parsing

- Parse the given XML file in Unity to extract relevant data.
- Focus on elements like TRACK, TRANSPORT, AUDIOCLIP, etc.
- Handle errors and inconsistencies in the XML file gracefully.

Scene and Object Creation

- Create a scene representing the parsed data.
- Visual elements should correspond to different XML elements (e.g., AUDIOCLIP, TRANSPORT, TRACK)

AudioClip + Track Visualization

- Implement AUDIOCLIP visualisation including positional information and place them under their respective TRACK and FOLDER TRACK nodes

Timeline UI

- Create a timeline UI that would potentially allow manipulation of data such as TRANSPORT, TRACK, AUDIOCLIP, distinctively.
- Show proficiency in using layout groups and UI components to organise the controls in logical groupings

Deliverables

- A fully functional Unity project.
- Source code for all scripts and shaders used.

Evaluation Criteria

- Correct and efficient XML parsing.
- Creativity and clarity in the visual representation of the data
- Quality and organisation of the code.
- User interface design cleanliness

Additional Challenges (Bonus Points)

- Create custom shaders for unique visual effects.(waveform, visualizer - we want to see that you understand vertex+frag shaders)
- Create custom shader that can mask elements correctly (images, specifically, for the UI layer)
- Any other elements that can show a strong engineering background and knowledge of Unity systems