

#### Brief 1:

Learning how frames are calculated in the unity game engine

I figure out that the "Update" function is executed every single frame of the game, this means that if I use a variable to count the frames as they show on the player's screen. Then I could average this every second by dividing it by a number that counts up using the delta variable that is attached to the update function.

An extra credit part of this brief was to display the frame data in a graph on the screen for the player to see the performance over time

#### Brief 2:

The Radar brief immediately gives me an idea to use ray cast. A ray cast allows me to detect colliders using invisible rays.

The brief says that I must use a script that is placed on the objects that can be detected by the player. This means that the ray cast check had to ignore any objects without this specific script, so a simple check on the game object to see if it has a component is how this was done.

#### Brief 3:

The Shuffle Song list brief is meant to replicate a music player like Spotify.

The first step to making this feature is to find out ways to shuffle a list of objects. My preferred method is to use a scriptable object made up of all the data needed for a song, for example the name of the audio track itself and other metadata about the song like the artist. Using scriptable objects allows me to add this very easily. I also used it to assign the order number of the song, so this is how the list of songs will be ordered in.

After figuring out how to shuffle the list, it's then to display my output to the players' screen, I am making this using the built-in UI feature in unity. A basic game object with Text component is instanced multiple as much time as there are songs in the list, and the text component is set to the name of the song.