Pitch Dark – an Ear Training Game

Ear training exercises are an integral part of musicianship training, but are notoriously difficult to engage students in and maintain their practice routine of. The goal of the prototype design shared here, created as part of the course Music, Computing, and Design I, led by Prof. Ge Wang at Stanford University, was to create a more continuously engaging experience that does not feel like a monotonous chore. The presentation at this seminar will demonstrate the power of the added game elements in creating a better flowing experience while exercising pitch identification.

Pitch Dark was prototyped in the Unity development environment as a 2D platformer game, using custom created sounds and graphics with a playful nod to classic video game aesthetics. The player chooses a subset of notes to practice identifying and then enters the challenge trial. Here, as enemy sprites fire projectiles at the player, they make a sound with one of the pitches being practiced. To fire back and score points, the player must identify the pitch name and press the corresponding letter on the keyboard – thus stressing the name of the pitch rather than allowing mere higher/lower trial and error process. This all happens as the player attempts to avoid the incoming projectiles, adding an engaging level of challenge and promoting continued engagement through the needed movement.

A playable prototype of the game will be presented to the seminar participants to foster discussion of the design, from which feedback and responses will be taken into consideration for future work on the tool. Further development of this software is planned as an upcoming student project at CIRMMT, McGill University, and the final iteration from this project is intended to be made open-source and readily available as an online utility for students, educators, and self motivated musicians.

BIO:

Yuval Adler is a researcher and composer studying towards a PhD in Music Technology at McGill University's Schulich School of Music, where he studies with Prof. Stephen McAdams at the Music Perception and Cognition Laboratory, and is an active student member of CIRMMT. Yuval earned his MA in Music, Science, and Technology from Stanford University in 2018, and a B.Mus in Composition from Tel-Aviv University in 2015. An interest in helping students with learning differences, shaped by his own experiences as a student, brought him to explore complementary methods of pedagogy - the product of which we can see in the project presented here.