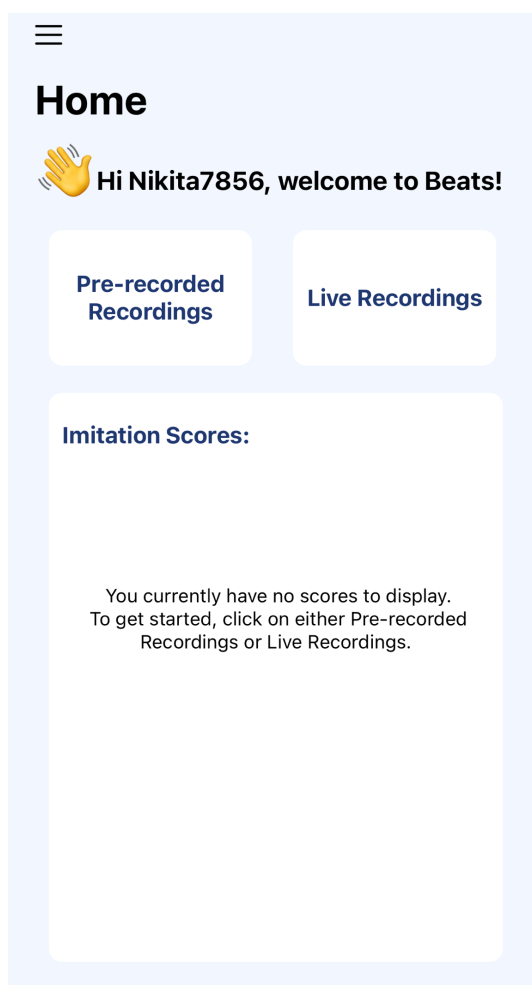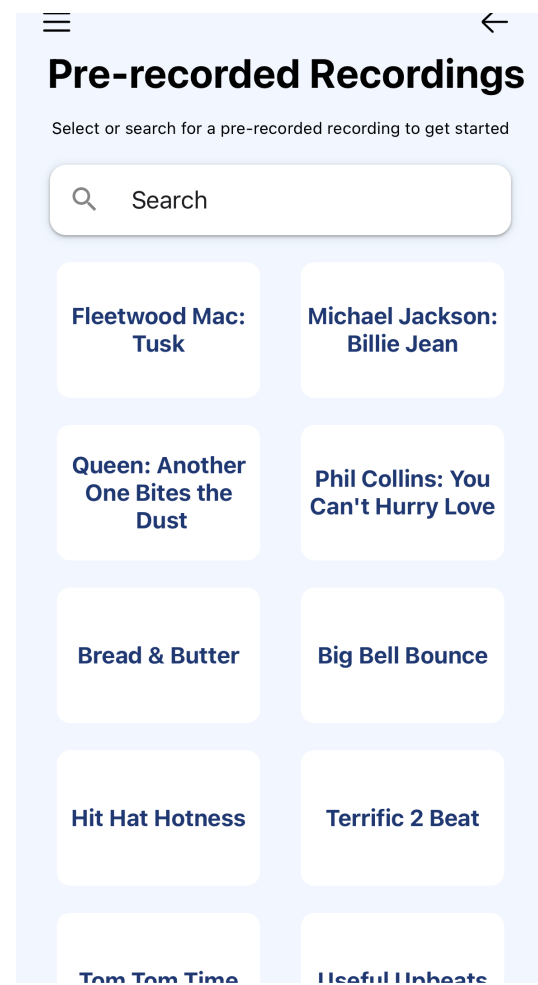# Percussion Mobile Application
for Automatic Assessment of Percussion Rhythm Imitation for Beginner Percussion Players

Student: Bachhas Nikita   Supervisor: A/P Goh Wooi Boon

NTU Final Year Project 2022-2023
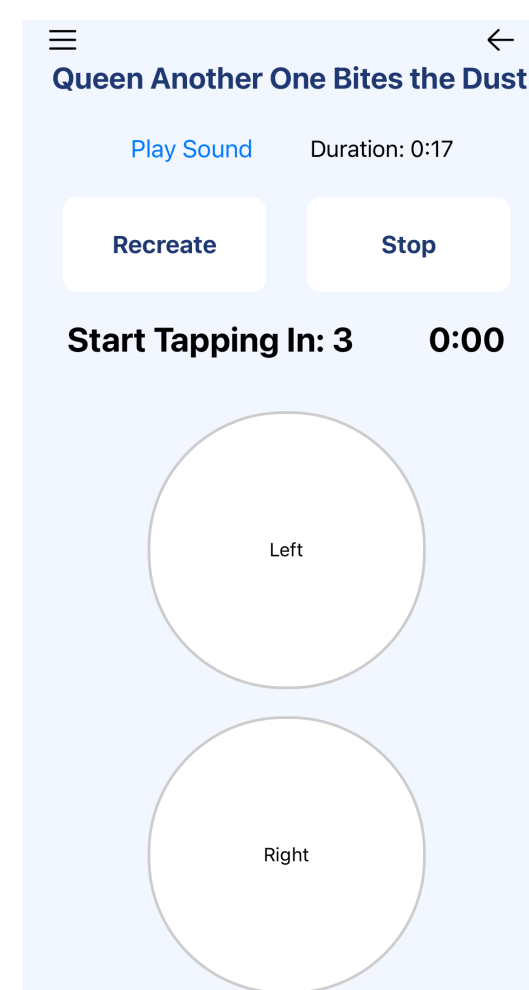Developed By: Bachhas Nikita

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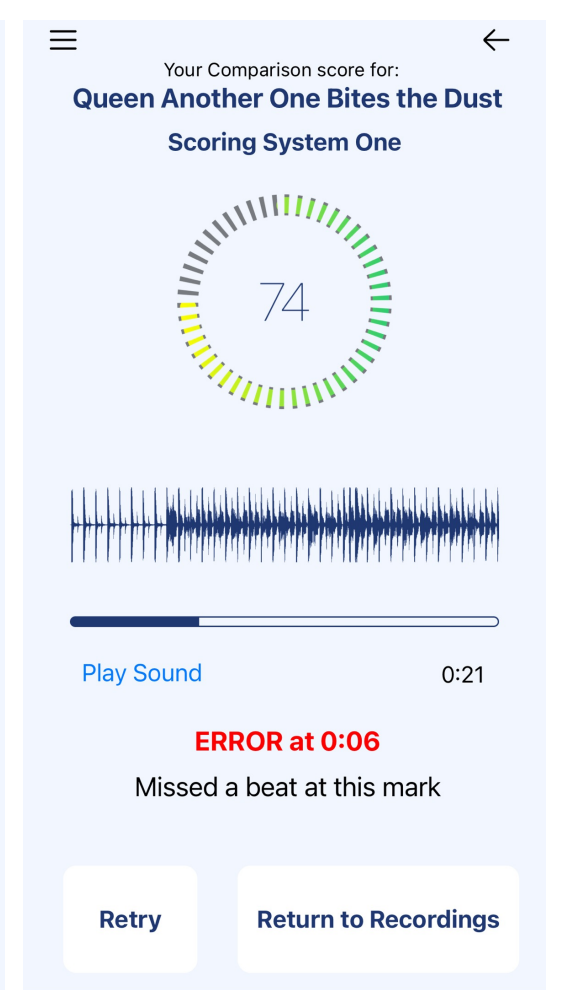
Project Objectives:

This project aims to develop a mobile application that allows new percussionists to learn basic percussion skills and music theory through continuous practice and imitation. Beginners can experience and learn without paying exorbitant fees to percussion teachers. Users can listen to any recording and then attempt to imitate them. The application will then compare the two recordings and provide a comparison score.

Comparison Algorithm:

Two features are tested: **Frequency** (i.e., tempo) and **Timbre** (i.e., beats played). The imitation score is calculated by finding the percentage of similarity in tempo and the percentage of similar beats between the imitated and the original beat. The final imitation score is then calculated using Linear Programming, following the structure of $A = Bx + Cy$.
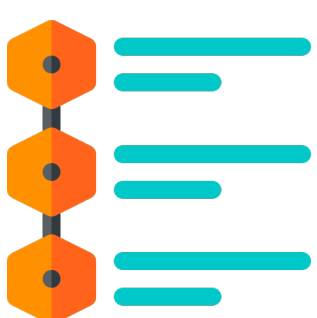

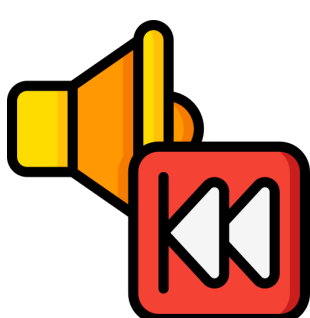NTU Final Year Project 2022-2023
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Main Features
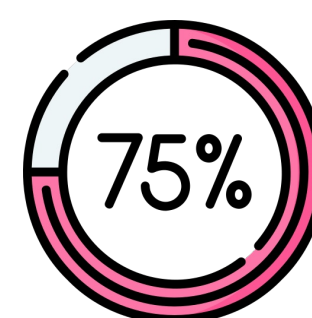

List of Recordings

Playback of Recording

Imitation of Recording

Circular Buttons to Imitate Drums

Comparison Score as a %

Listing and Explaining Errors