Development of an iOS App for Learning Intonation of Wind Instruments

Swathi Pamidi, Wright State University

Publication Date
2018

Document Type
Thesis

Committee Members
Shelley Jagow (Committee Member), Yong Pei (Advisor), Mateen Rizki (Committee Member)

Degree Name
Master of Science (MS)

Abstract
Learning music instrument is a challenging task for a beginner without constant guidance from an instructor. The primary objective of this thesis research is to design and develop an iOS mobile / iPad learning app that helps users to learn and practice intonation for a suite of wind instruments by themselves with comfort and ease through app-provided tuning and charting guidance and app-assisted self-assessment. Particularly, our successfully-implemented app provides the following features to enhance the user's learning experience: 1) Provides learners easy-to-access information for the fingering and tuning techniques of wind instruments by converting Dr. Shelley Jagow's book - "Tuning for Wind Instruments: A Roadmap to Successful Intonation" to an iOS app. 2) Provides instant feedback on learner's technique and performance by assessing the intonation of individual note being played, while the fingering and tuning chart is presented simultaneously for the early practices. 3) provides instant feedback on learner’s technique and performance by identifying the sequence of notes being played for subsequent practices. The app is implemented using Xcode and Swift 4.0 and will be distributed through Apple App Store.

Page Count
58

Department or Program
Department of Computer Science and Engineering

Year Degree Awarded
2018

Copyright
Copyright 2018, some rights reserved. My ETD may be copied and distributed only for non-commercial purposes and may not be modified. All use must give me credit as the original author.

Creative Commons License
This work is licensed under a Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 License.

ORCID ID
0000-0002-1780-588X
Well, GB IOS seems focused on fairly basic arrangements (drums, piano, guitar, bass) and wind instruments were possibly not the first priority. That said, the MIDI percussive model of musical events is not a great fit for most wind instruments. (or bowed strings for that matter. Much of the performance and nuance in these instruments depends on how notes are initiated by the player (vs an abrupt note on) and how they are modulated over the time the note sounds. Typical approaches to them in synthesis are Modelled instruments can rise to the occasion of a solo. The key thing is that the player is directly in control of the musical expression of the sound. I play models with either a WX5 wind instrument or an Eigenharp Alpha.