3D GAME-BASED LEARNING MUSIC THEORY WITH AUGMENTED REALITY (AR)

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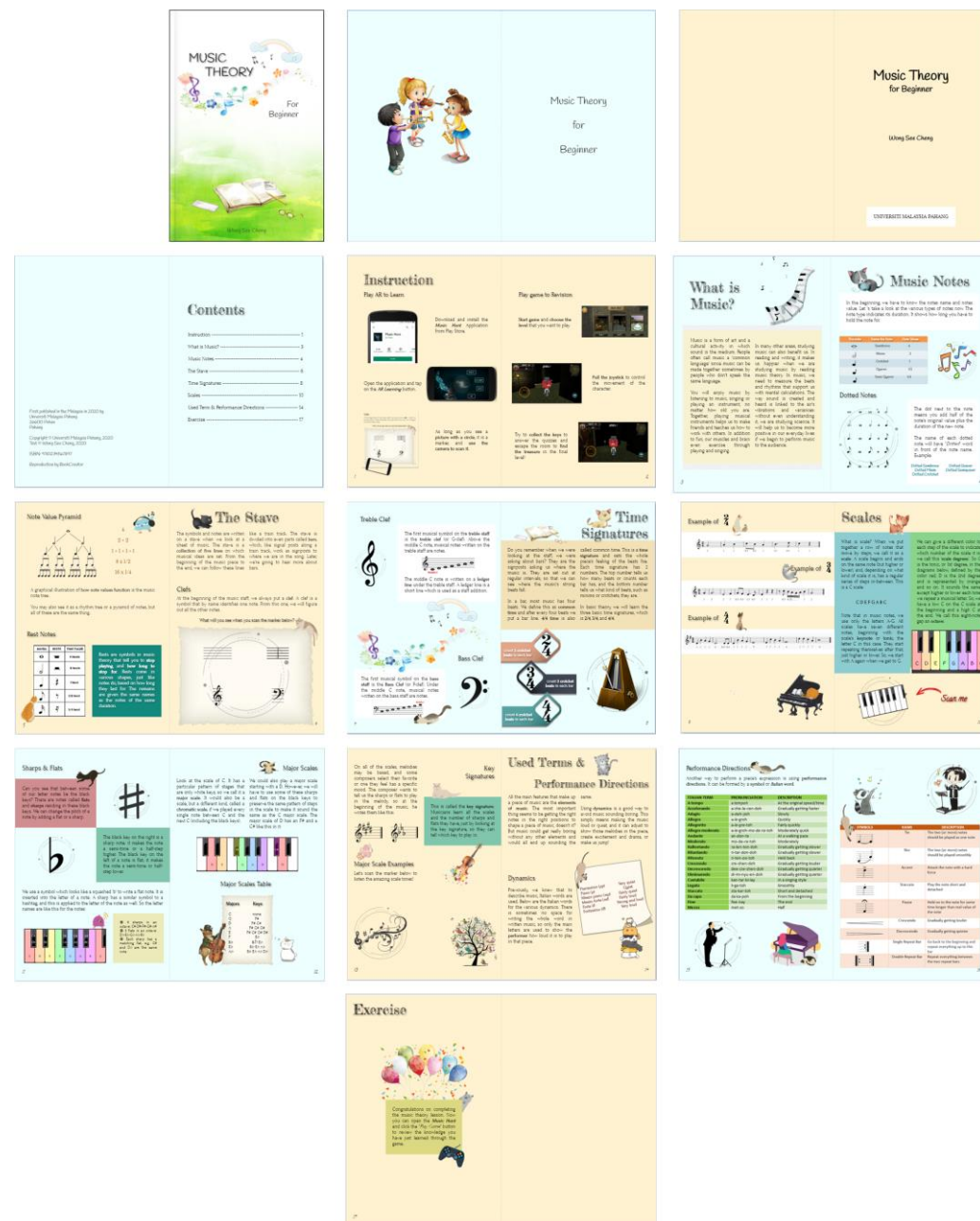EMAIL: crystalwsc5390@gmail.com, tahahussein@ump.edu.my

Product Background

- Music theory is a kind of difficult course since its logic is biased towards art, and most people cannot measure and understand it with normal logical thinking, thus, most of them will encounter problems in the process of learning music, especially children.
- This application applies 3D game-based learning with Augmented Reality (AR) and a book tutorial with this application for scanning used.
- It aims to design new music learning application that helps to attract the children to learn and can be more impressive and firming in music theory.
- Music topic covers on notes name, notes value, time signatures, clefs, music terms, and performance direction.
- AR technology is used for the learning part (with book), while the game part is an escape game with quizzes to determine the children's level of understanding.
- The innovation in the project is to improve the effectiveness and performance of children's learning processes and reduce family burden.
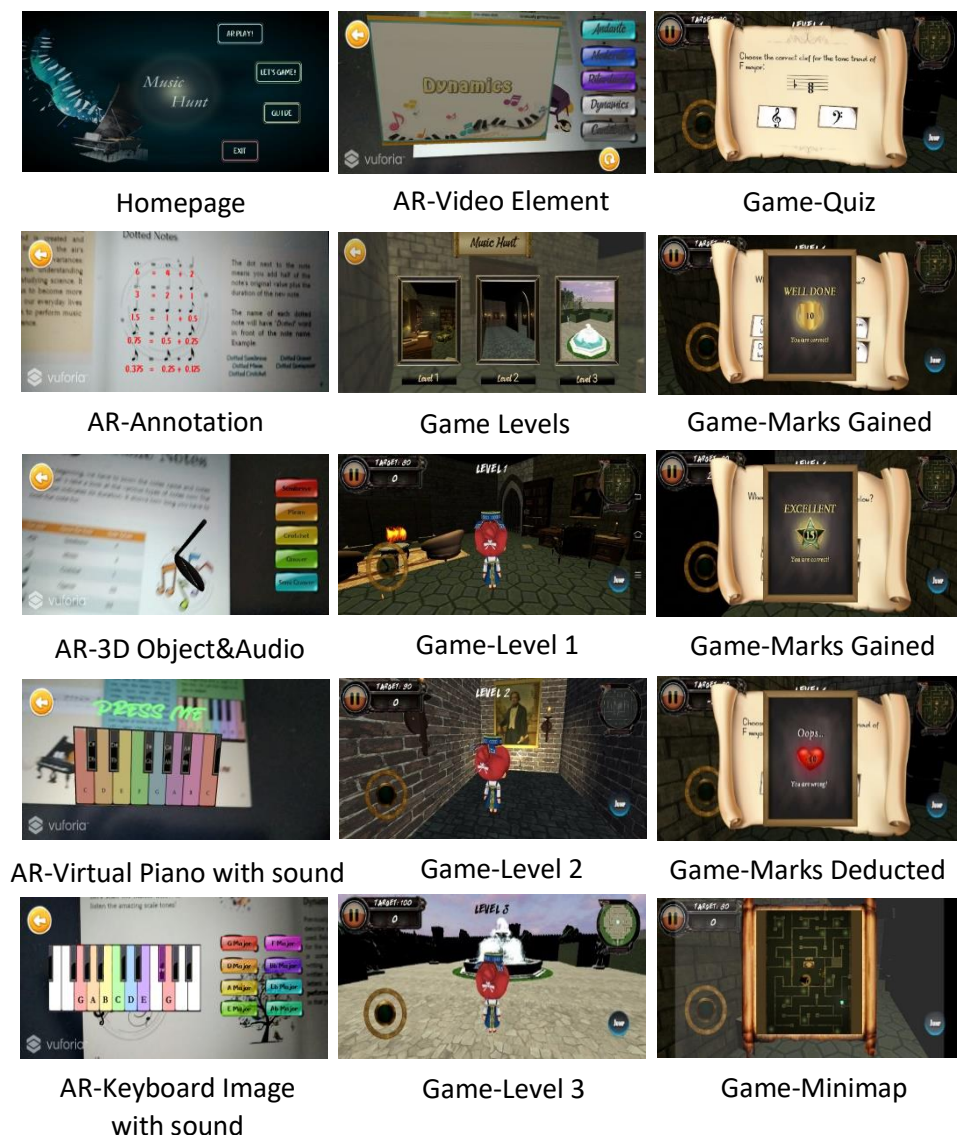
Novelty & Inventiveness

- Enhancing the learning experience of children with new learning methods
- It can interact with children to learn music theory
- Offer a new experience to children so that they can play in new environment of double-designed application

Product Image and Product Characteristics/Results

Homepage

AR-Video Element

Game-Quiz

AR-Annotation

Game Levels

Game-Marks Gained

AR-3D Object&Audio

Game-Level 1

Game-Marks Gained

AR-Virtual Piano with sound

Game-Level 2

Game-Marks Deducted

AR-Keyboard Image with sound

Game-Level 3

Game-Minimap

Photo of the Book Tutorial

Problem Statement

- Music learning fees is expensive, and not everyone can afford it.
- The conventional way of learning music will take longer times to understand its theory and knowledge.
- The conventional way of learning music theory is lack of fun and not attractive enough, and cause most children to lack interest in music learning and may poor in learning ability.
- Covid-19 prevented students from attending music classes as usual.

Marketability & Commercialisation

- Can be used in pre and primary schools for music subject
- Can be used by interesting users and family, and simple download from the online store
- Can be used in critical moments such as Covid-19, which unable to conduct the class face-to-face.
- More appealing and beneficial learning approaches

Price of the App & Book

- The price of a book = RM 15
- Special price will be given for schools (>100 books)
- (App can be downloaded for free).

To Who

Children between the ages from 7 to 12 years old