LET'S TASMIK MOBILE APPS :
QURAN TASMIK APPLICATION USING DEEP LEARNING

CITReX 2021

Universiti Malaysia PAHANG
Engineering • Technology • Creativity

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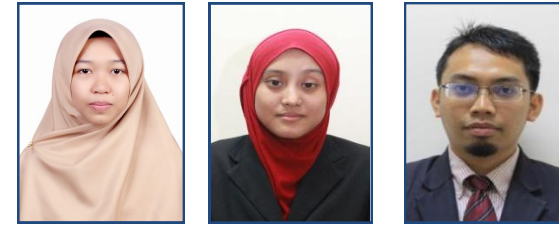3. Dr Ahmad Afif b Mohd Faudzi

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Benefits
- Let's Tasmik allow users to record their voice and the system will recognize the spoken verse and detect the mistake.
- Let's Tasmik may replace current traditional memorization method, which is conventional method

Novelties
- No similar system is currently available
- A fully software-based system
- Database references were mostly collected from the experts of Quran recitations to give an accurate results
- Can detect which chapter and verse from the recording of user's voice
- Can predict correctness accuracy of the memorization

System Descriptions
- Let's Tasmik is an intelligent voice recognition system to assist Quran memorization
- Deep learning method is used in designing the full system
- 1500 databases were collected from different reciters with correct pronunciations according to Tajwid rules
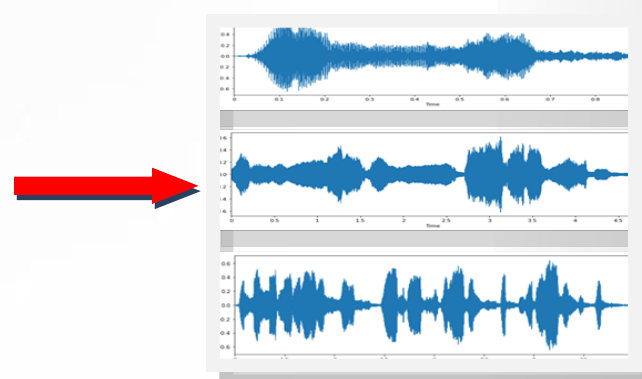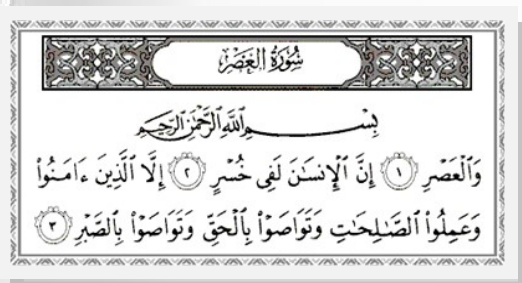
Technical Elements
- Python as the system language
- Mel Frequency Cepstral Coefficients (MFCC) as feature extractions
- Multi-Layer Perceptron (MLP) neural network for classification
- Android Studio for apps development

Marketability
- Target – Tahfiz schools, Islamic Institute, all types of generations

Status of Innovation
- Market Readiness Level : 60%
- Lab Report/Documentation : 80%
- Status of Finished Product :

Plan	√
System Design using Deep Learning	√
User Interface (Mobile Apps Development)	In Progress

Impacts
- Islamic Community : Able to attract their interest in memorizing Quran
- Time : Able to have a flexible time to revise the memorization
- Financial : Able to save money since there is no need to pay for class with experts.
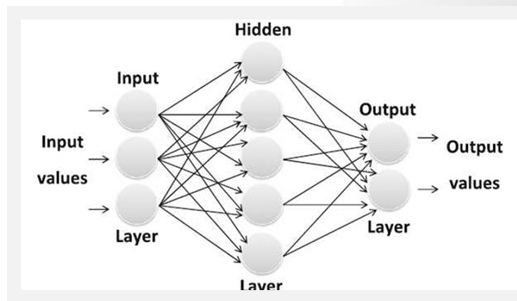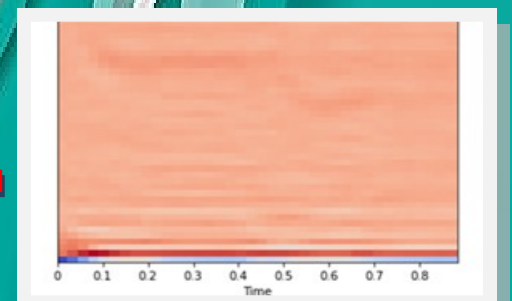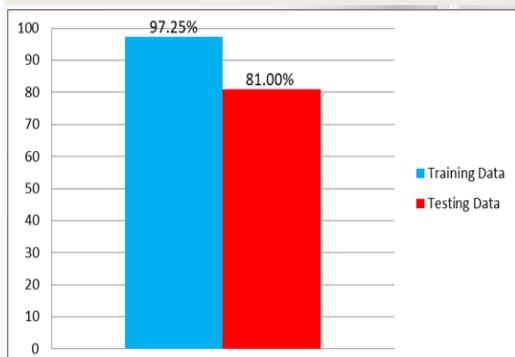
Train and Test Data Accuracy

Future Updates
- Increase number of database by including more expert reciters
- Develop a Quran recognition system in real-time
- Build a user-friendly, efficient and accurate system

Comparison with The Existing Systems

No.	Existing Systems	Manufacturer	Country	Use Deep Learning / Machine Learning	Record User's Memorization	Playback to Check for Accuracy	Detection of Name of Surah and Verses	Automated Prediction for Correctness of Memorization	Fully Software Based (No Human Involved)
1	Quran Companion	Quran Academy	USA	X	√	√	X	X	√
2	Tarteel	Tarteel Incorporation	USA	√	X	X	√	X	√
3	Memorize Quran	Muslim Central	South Africa	X	√	√	X	X	√
4	E-Hafiz	University of Engineering & Technology	Pakistan	X	X	X	X	√	√
5	E-Halaqat	Al-Imam Muhammad Ibn Saud Islamic University	Saudi Arabia	X	√	√	X	√	X
6	Mobile Quran Memorization System using RFID	KUIS	Malaysia	X	X	X	X	√	X
7	Let's Tasmik	UMP	Malaysia	√	√	√	√	√	√

Flow of System Design

Pre- Processing Data

Recognize Verses

Hidden, Input, Output, Input values, Output values, Layer