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**Project Name:** Artificial Ardhah

**Project Track:** AI Music/ Interactive AI

**Project Brief Description:**

The project will take the sound of the traditional Saudi dances as an input, where each region of the kingdom “west, south, north etc..” has a specific traditional dance “Ardhah” or “عَرْضَة” associated with a specific type of music or beats.

After the classification is done and the region is determined, the program will recognize the associated pattern to that sound and then will produce the animated art related to that specific region in the background of a video with Saudi men performing the traditional Ardhah.

**Project AI description:**

First of all, our data will be collected by our side, initially in the form of videos of Ardhah performances, then the data conversion process will begin where we will convert video files into audio files containing the Ardhah beats so it’s ready for the training phase, moreover each region will have its own folder containing multiple audio files of the regions Ardhah beats.

In the training phase the Ardhah beats will go through the Feature Extraction process to extract patterns that will help distinguish between each Ardhah region, after that the main classifier that will be utilized is the “AudioClassifier” and it will be first used to train the model on the different Ardhah beats for each region, then we could use K-Nearest neighbor (KNN) as a similarity algorithm or Support Vector Machine (SVM) algorithm.

Lastly, the testing phase will begin, and the program will be exposed to a new Ardhah beat that wasn’t in the training set, and the classification process will begin, and it will try to output the appropriate art (the right regional art) as well as state the region name in an automated way.

**Project Technologies Description:**

Technologies used are:

K-nearest neighbor (KNN).

Audio Classifier.

Support Vector Machine (SVM).

Python as the programing language.

Jupyter notebook as the IDE.

**Project Art Description:**

The inspiration of this project was Dubai Expo 2020 Saudi Arabia Pavilion that offers a glimpse into our shared future, where we saw the performance of saudi Ardhah, and we wanted it to be immortal and thought that it is doable so everyone can enjoy and see our culture.

Each region of Saudi Arabia has its own unique patterns, colors, clothing style, dance style and beats, so we wanted to combine these into an animated piece of art in an artistic way.