**NITTE MEENAKSHI INSTITUTE OF TECHNOLOGY**

(AN AUTONOMOUS INSTITUTION, AFFILIATED TO VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM,

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**Learning Activity Project Proposal**

on

**Title: MUSIC ANALYSIS**

*Submitted in partial fulfilment of the requirement for the award of Degree of*

*Bachelor of Engineering*

*in*

*Computer Science and Engineering*

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**INTRODUCTION:**

Data mining is defined as extracting information from huge sets of data. In other words, we can say that data mining is the procedure of mining knowledge from data.

Music has been known to humans for times immemorial. Ever since the melody of instruments has fallen on the ears of humans, it has implanted the seeds of emotions that are otherwise hard to achieve.

While music is altogether a melody that connects all hearts in this world, there are further classifications of music that bind together music lovers and keep the melody going on.

 Music Genre Classification or classification of music into different categories or genres is a concept that helps the masses to differentiate between 2 genres based on their composition or the beats they withhold. In recent times, music genre classification has become a very popular concept as more and more genres are emerging around the world.

**DATA MINING TASK:**

* Classification – To create data structures of predefined classes
* Prediction – It uses regression analysis and detect the missing values of data
* Outlier analysis–To discard noise
* Correlation analysis -To reduce dataset ,to get more accuracy
* Association analysis -Uncovering the relationship between data and deciding the rules of the association.
* Data discrimination-compares common features of class which is under study. Output can be represented in many forms like graphs, pie chart, curves

**DATA SET:**

We took the dataset from Kaggle website, and it has the attributes id,name,popularity,duration\_ms,explicit,artists,id\_artist,release\_date,danceability,energy,key,loudness,mode,speechiness,accousticness,instrument,liveness,valence,tempo,time\_signature.

The dataset contains 586673 rows and 20 columns.

**METHODS AND MODELS:**

To come out with a good output we use the following methods:

* Decision Tree algorithms
* Outliers for missing values
* Graphs for visualization
* KNN algorithm
* Min max normalization

**ASSESSMENT:**

We use python3 to do classifications and tasks. By applying data mining algorithm we find accuracy. Comparing training and testing sets class attributes we come to a conclusion on reducing dataset using correlation or not. If we are satisfied with accuracy, we will be continuing with original dataset.

**PRESENTATION AND VISUALIZATION:**

The final presentation results in proving whether the song is popular or not. Based upon its danceability, energy, key, loudness, mode, speechiness,accousticness,instrument,liveness,valence,tempo,time\_signature we differentiate between each songs. For visualization, the graphs would be a good fit. Using matplot in python the graphs are created.

**ROLES:**

We worked as a team in finding dataset and preparing proposal.As our team has good understanding and common ideas we did everything with unity.

**SCHEDULE:**

|  |  |
| --- | --- |
| **Date** | **Task to be completed** |
| 28/12/2021 | Proposal uploaded in GitHub |
| 15/01/2022 | Completion of implementation |
| 16/01/2022 | Final submission of report |

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