Sprint - 2 Work Summary

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What were we planning ?

Objective: Establish a comprehensive understanding of the project scope.
Tasks:

i. Develop a thorough understanding of the project objectives.
ii. Begin studying relevant resources and materials.
iii. Gather information from a variety of sources.
iv. Distribute tasks among team members based on expertise and interests
v. Start writing the report

What we did :

- We have divided the work among ourselves such that the main topic is same for all but the subtopics are divided such that they don't have any interdependencies. We did this so that we will be able to work parallelly.
  - We Divided The Impacts of Digitalization into three subtopics.
    - What is Digitalization? And How is Digitalization Done (In what ways?) such as Sound Enhancements, Data Storage ways, Security, Copyrights etc.
    - Digitalization Evolution, How the music industry affected due to the digitalized era. What are the advantages and disadvantages of Digitalization? Etc.
    - Evolution in streaming technologies, new advancements.
    - How Digitalization Affected Genres. How new genres emerged in this generation of music.
- We have started Collecting the resources and gathered important information from different research papers and websites and we are citing them in our report.
  - The information that we are gathering is in parts and is completely unorganised
  - We are making the flow chart diagrams and visualising the content so that we can figure out the flow of information.
  - We are then Organising the information from these flow charts.
  - We are building some coded models on how music data is stored and how we can extract important information from them. For now we understood how midi files store the data and how we can

convert the Song created by one instrument to the Other instrument.

- We have collected information on how genres played a major role in the digitalization of music. (For example, People are more interested in 30 sec reels. And to grab their attention, music plays a key role)
- We have collected information on how genres attract different ages of people and how digitalization contributed to this.
- To conclude on whatever work we did, we have completed all the works that were mentioned in the Sprint Planning. Along with that we have started making the report.

Summary of Content we Gathered :

- We have collected information of History of Music Industry and Its evolution in terms of the Digitalization. A research paper categorised the evolution timeline into four phases.
    - Phase - 1 is related to Initial Digitalization works to store music
    - Phase - 2 is related to how the music industry got commercialised and how companies such as Sony, EMI and Warner musics were able to succeed in this era.
    - Phase - 3 is related to how the Internet has changed the way of distribution of Music and what challenges
    - were faced in this timeline.
    - Phase - 4 is related to the present trends happening in music. How techniques like ML and Neural Nets are used in music enhancements.
- We have collected information on how storage of music has been changed in the present phase. How music is compressed and How streaming devices are enhancing the experience of Music.
- We have referred to a few resources which describe the Technologies in terms of software and Hardware used in the Music Industry to store and enhance the music.
- We have collected a few resources that describe how music affected traditional Music. (For example, nowadays most of the music creation process doesn't involve the concept of Ragas. But even though some of them feel good to hear).
- We built a python code that combines a midi file and a SoundFont file and generates an Audio Clip. We are trying to work on How we can

convert raw files to midi files and SoundFont so that in future, we can convert the music played by one instrument to another instrument seamlessly.

- Digitalization has mixed up genre boundaries, letting artists combine different styles to create new ones, while streaming services introduce listeners to a variety of music they might not usually hear.
- How democratisation of music has happened due to the effect of digitalization on genres.
- Some of the old genres are also preserved due to the digitization of music. And some new hybrid genres are emerging because of digitalization.

```python
from midi2audio import FluidSynth

# Initialize the FluidSynth object with the path to the SoundFont file
fs = FluidSynth('b.sf2')

# Convert MIDI to WAV (output will be in the same directory as the script)
fs.midi_to_audio('greensleeves.mid', 'output2.wav')

from pydub import AudioSegment

# Convert WAV to MP3
audio = AudioSegment.from_wav("output2.wav")
audio.export("output2.mp3", format="mp3")
```