

Chapter 12

Time–Slot Based Intelligent Music Recommender in Indian Music

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ABSTRACT

Music listening is one of the most common thing of human behaviors. Normally mobile music is downloaded to mobile phones and played by mobile phones. Today millennial people use mobile music in about all the age groups. Music recommendation system enhances personalized music classifications that create a profile with the service and build up a music library based on the choice preferences using mobile cloud services. Music recommendation through cloud is therefore an emerging field, and this can be done using various parameters like song genre similarity, human behavior, human mood, song rhythmic patterns, seasons etc. In this article an intelligent music recommender system that identifies the raga name of one particular song music and then mapping with the raga time database and classify the songs according to their playing time and create time slot based personalized music libraries.

1. INTRODUCTION

Music Information Retrieval (MIR) is a contemporary research discipline of Computer Science and Information Technology that aims at retrieving semantic information from musical data sources. Those involved in MIR may have a background in musicology, music study, signal processing, machine intelligence and learning or several combinations of these. One of the most important features of Indian Classical Music is the assignment time slot of a particular day for each music and that is depend on the

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ragas of that particular music. There are some ragas are attractive for listening in the early mornings, or mornings, or before noon, or noon, or after noon, or evening, or night, or late night, etc. This relation of time of the day or night with the raga is based on daily cycle of changes of different moments that occur in our own body and mind of the day and stimulate different moods and emotions. It is believed that the human body is dominated by three phases in Indian Music – Kaph, Pitta, and Vata. These elements work in a cycle order of rise and fall during the 24-hour period. Also the reaction of these three elements differs with the seasons. Hence it is said that performing or listening to music at the proper allotted time can affect the health of human being.

Therefore, listeners of Indian Classic Music must have to know the playing time of a particular music. It requires a Music Recommendation System that generates list of music for a particular time slot from the whole collection of music library. This article presents the representation of music recommendation system based on these time slots using mobile cloud services.

Music recommendation systems help users find music from large music databases, and an effective system is one that consistently matches a user's preference. Existing music recommendation systems rely on collaborative filtering or content-based technologies to satisfy users' long-term music playing needs. Normally a full day consists of eight time slots or beats each of which length is three hours. The first beat is starting from 3 AM to 6 AM and it is known as Early Morning. The second beat is starting from 6 AM to 9 AM and it is known as Morning. The third beat is starting from 9 AM to 12 Noon and it is known as Before Noon. The fourth beat is starting from 12 Noon to 3 PM and it is known as Near Noon. The fifth beat is starting from 3 PM to 6 PM and it is known as After Noon. The sixth beat is starting from 6 PM to 9 PM and it is known as Evening. The seventh beat is starting from 9 PM to 12 Midnight and it is known as Night. The eight or last beat is starting from 12 Midnight to 3 AM and it is known as Late Night.

Music Recommendation System on mobile depends on different time slots or beats of a day is one of the greatest work for listeners of Indian or Hindustani Classical Music. Although many mobile play music as ringtones, allow users to stream music or download music files, import audio files over the cloud. Mobile music being stored within the memory of the mobile phone like traditional business models applicable in the music industry. The user can either purchase the music or access entire music libraries via a subscription model using mobile cloud services. Music playing depends on various factors, like human mood, human behavior, places, seasons, cultures, different time domains of a particular day, and some other biological factors. Therefore, time is very important for listening music for a particular listener. Time slots of a particular day can change the music choices of any particular listener or the user of this system. In this chapter a method is proposed that creates a personalized music library depends on the different time slots of a day according to listener's perspective. This article focuses this intelligent approach and creates a significant era in the multimedia audio application and therefore the title of the chapter is highly appropriate. Another very important measure of this intelligent recommender is that there is no requirement of storage for huge musical data for different time slots of listener as storage is fully maintained by cloud.

The availability of influential computing systems escorts to extraordinary development of multimedia information. The recommended term, "multimedia" refers now-a-days not only restricted in traditional multimedia information such as images and videos, but also promising media such as audio signal and speech processing systems like Musical pattern recognition and information retrieval. Music Information Retrieval (MIR) is a contemporary research discipline of Computer Science and Information Technology that aims at retrieving semantic information from musical data sources. Those involved in MIR may

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