

# CHARSUR-MUSICALE-MUSIC WEB APPLICATION DEVELOPMENT

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**Abstract-** It is a web application for Carnatic music lovers. This product will be a common place to buy cd's, to download Carnatic songs and to watch live streaming of Carnatic Utsavam. This application have its own limitations and restrictions in downloading any songs and viewing live concerts. This product is being created on a vision to preserve Carnatic music. This product will have customers with various categories based on their subscription. There will be normal users, subscribers and digital membership holders. Only paid subscribers (digital membership) can access full track, others will have access to the sampler version of all the songs in the catalog that will be 1.20 minutes of each song. The records on orders, customers, subscribers and digital members are being tracked and maintained separately. This product makes Carnatic music easily available to everyone at any time. This will act as a common platform where everything related to Carnatic music is available.

**Keywords**— Carnatic songs, Digital membership holders, Application.

## 1.0 LITERATURE SURVEY

This product makes Carnatic music easily available to everyone at any time. This will act as a common platform where everything related to Carnatic music is available. In any music application Carnatic music will be one of the various genres, here this product will be particularly for Carnatic music. Anyone can get Carnatic songs and videos but in different platforms this product will be helpful in that way.

[1] Open Symphony: Creative participation for audiences of live music performances author-Yongmeng Wu, Leshao Zhang, Nick Bryan-Kinns, Mathieu Barthet Member, IEEE

Most contemporary Western performing arts practices restrict creative interactions from audiences. Open Symphony is designed to explore audience-performer interaction in live music performance assisted by digital technology. Audiences can conduct improvising performers by voting for various musical 'modes'. Technological components include a web-based mobile application, a visual client displaying generated symbolic scores, and a server service for the exchange of creative data. The interaction model, app and visualization were designed through an iterative participatory design process. The visualization communicates audience directions to performers upon which to improvise music, and enables the audience to get feedback on their voting. The system was experienced by about 120 audience and performer participants (35 completed surveys) in controlled (lab) and "real world" settings. Feedback on usability and user experience was overall positive and live interactions demonstrate significant levels of audience creative engagement. We identified further design challenges around audience sense of control, learnability and compositional structure.

[2] iSargam: music notation representation for Indian Carnatic music authors-Stanly Mammen1\* , Ilango Krishnamurthi, A. Jalaja Varma and G. Sujatha.

Indian classical music, including its two varieties, Carnatic and Hindustani music, has a rich music tradition and enjoys a wide audience from various parts of the world. The Carnatic music which is more popular in South India still continues to be uninfluenced by other music traditions and is one of the purest forms of Indian music. Like other music traditions, Carnatic music also has developed its musicography, out of which, a notation system called Sargam is most commonly practiced. This paper deals with development of a music representation or encoding system for the Sargam notation scheme which enables easy music notation storage, publishing, and retrieval using computers. This work follows a novel idea of developing a Unicode-based encoding logic and allows storage and easy retrieval of music notation files in a computer. As opposed to many existing music representation systems for western music notation, iSargam is the only music notation encoding system developed for Indian music notation.

[3] Musical Onset Detection on Carnatic Percussion Instruments authors-P A Manoj Kumar, Jilt Sebastian and Hema

In this work, we explore the task of musical onset detection in Carnatic music by choosing five major percussion instruments : the mridangam, ghatam, kanjira, morsing and thavil. We explore the musical characteristics of the strokes for each of the above instruments, motivating the challenge in designing an onset detection algorithm. We propose a non- model based algorithm using the minimum- phase group delay for this task. The music signal is treated as an Amplitude-Frequency modulated (AM-FM) waveform, and its envelope is extracted using the Hilbert transform. Minimum phase group delay processing is then applied to accurately determine the onset locations. The algorithm is tested on a large dataset with both controlled and concert recordings (tani avarthanams). The performance is observed to be the comparable with that of the state-of- the-art technique employing machine learning algorithms.

[4] Raga Identification of Carnatic music for Music Information Retrieval author Rajeswari Sridharl, and T.V. Geetha

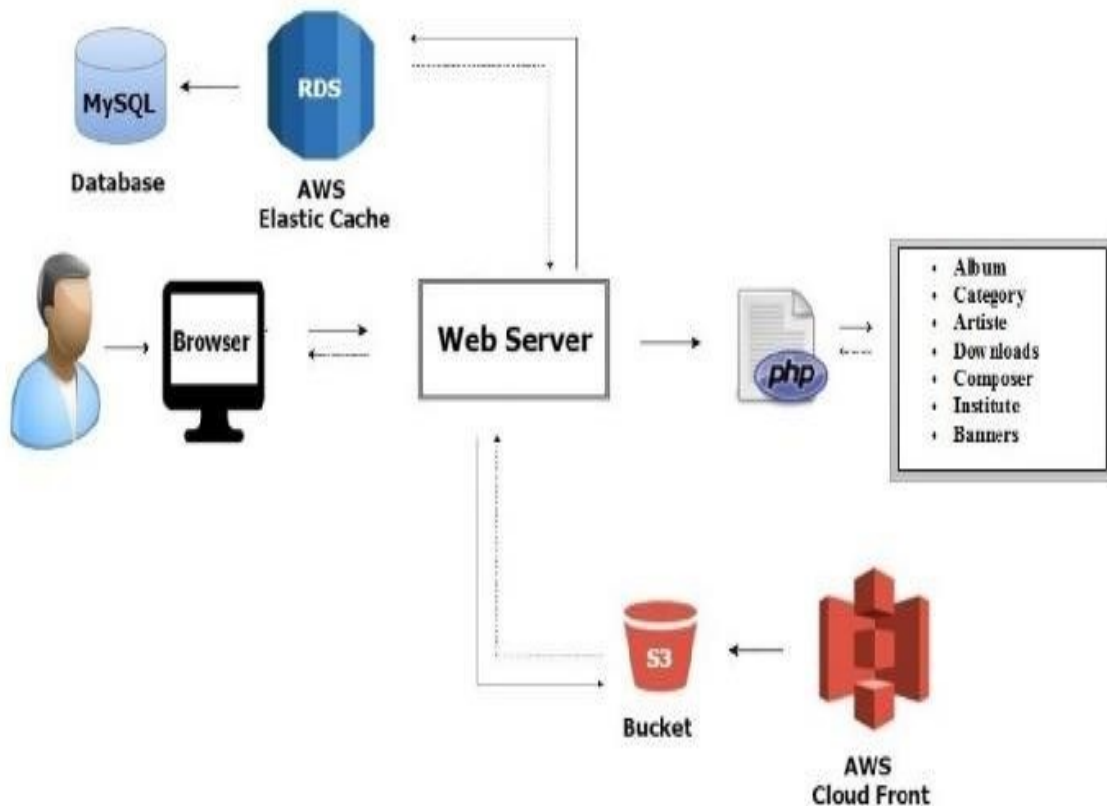
In this work we propose a method to identify the raga of a Carnatic music signal. Raga is analogous to melody in Western music but is much richer and stronger in its representation. The main motive behind Raga identification is that it can be used as a good basis for music information retrieval of Carnatic music songs or Film songs based on Carnatic music. The input polyphonic music signal is analyzed and made to pass through a signal separation algorithm to separate the instrument and the vocal signal. After extracting the vocal signal we segment the vocal signal using our proposed segmentation algorithm. Using our proposed singer identification algorithm we determine the singer to know the fundamental frequency of the singer. The frequency components of the signal are then determined and we map these frequency components into the swara sequence and thereby determine the Raga of the particular song, which could be used to index the songs and further for retrieval based on the Raga.

[5] Modeling and Analysis of Indian Carnatic Music Using Category Theory author-Sarala Padi, Spencer Breiner, Eswaran Subrahmanian, and Ram D. Sriram, Fellow, IEEE.

This paper presents a category theoretic ontology of Carnatic music. Our goals here are twofold. First, we will demonstrate the power and flexibility of conceptual modeling techniques based on a branch of mathematics called category theory (CT), using the structure of Carnatic music as an example. Second, we describe a platform for collaboration and research sharing in this area. The construction of this platform uses formal methods of CT (colimits) to merge our Carnatic ontology with a generic model of music information retrieval tasks. The latter model allows us to integrate multiple analytical methods, such as hidden Markov models, machine learning algorithms, and other data mining techniques like clustering, bagging, etc., in the analysis of a variety of different musical features. Furthermore, the framework facilitates the storage of musical performances based on the proposed ontology, making them

available for additional analysis and integration. The proposed framework is extensible, allowing future work in the area of raga recognition to build on our results, thereby facilitating collaborative research. Generally speaking, the methods presented here are intended as an exemplar for designing collaborative frameworks supporting reproducibility of computational analysis and simulation.

## 2.0 SYSTEM BLOCK DIAGRAM



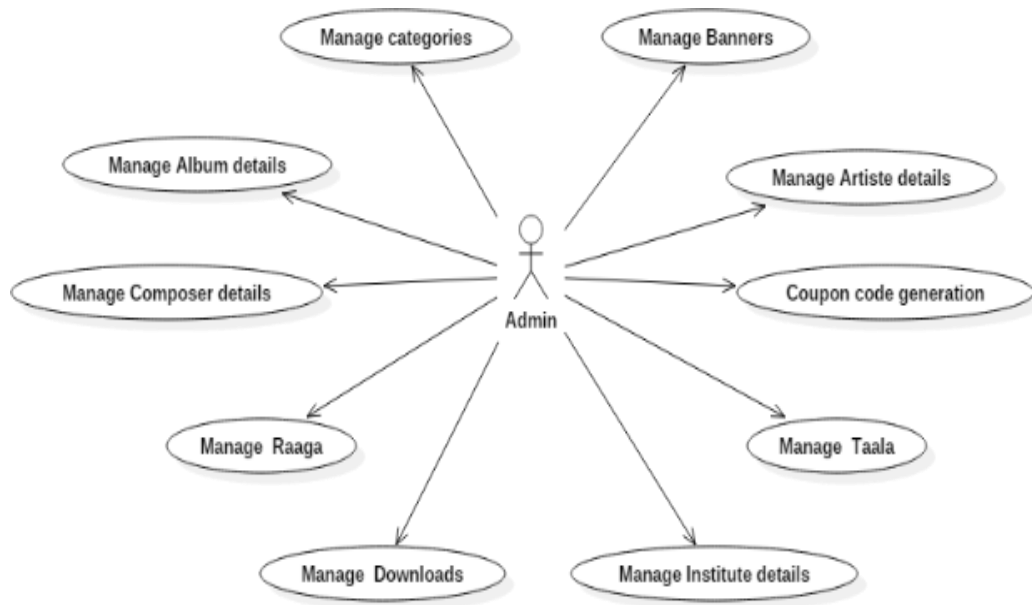
## 2.0 UML DIAGRAMS (use case)

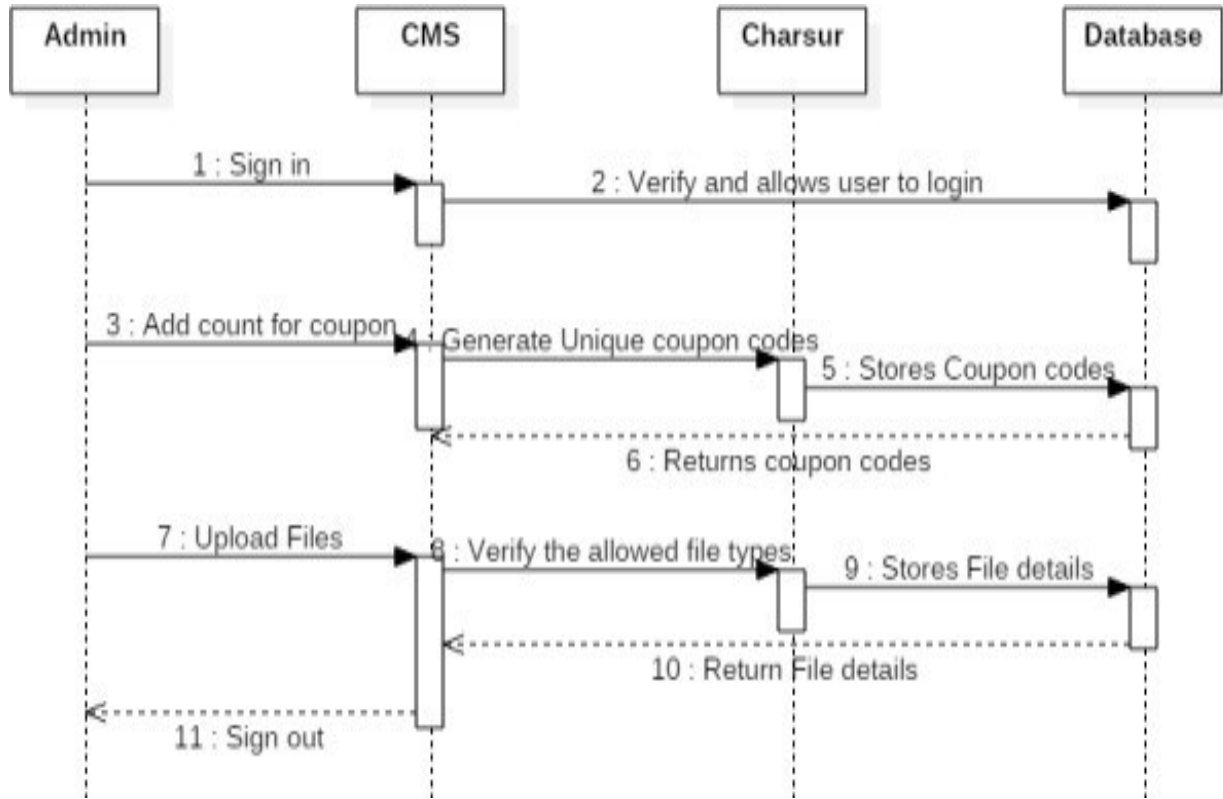
The Unified Modeling Language (UML) is a graphical language for visualizing, specifying, constructing, and documenting the artifacts of a software intensive system. UML is a language for specifying and not a method or procedure. The UML is used to define a software system. The UML may be used in a variety of ways to support a software development methodology. The purpose of use case diagram is to identify external and internal factors influencing the application and show the interacting among the Carnatic music lovers. This is important to gather the requirements of a application. To get an outside view of a application, use-case diagram will be extremely helpful. Charsur represent roles that users take on when they use the application. It is important to know what role of music has in the application. A use case represents a part of the functionality of the application and enables the user (modeled as an Carnatic music lovers) to access this functionality. The Use Cases in the below diagram are each of the

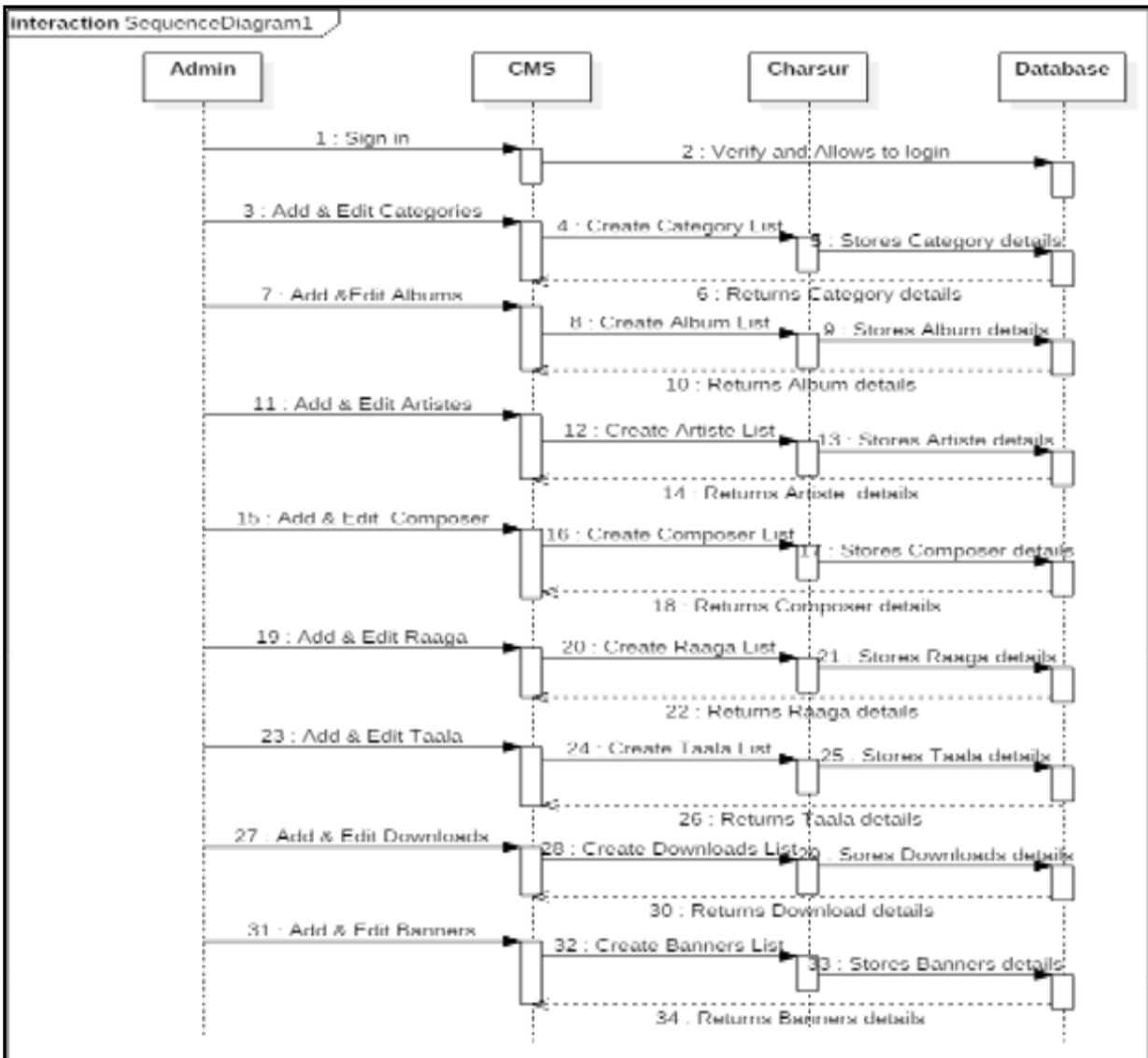
functionalities of the Carnatic music and Carnatic music lovers of the application that is developed. These are the actions the Carnatic music and Carnatic music lovers can perform.

### 3.0 SEQUENCE DIAGRAM

A Sequence Diagram is an interaction diagram that shows how processes operate with one another and in what order. It shows object interactions arranged in time sequence. This diagram shows the complete sequence flow of the web application Sequence diagrams is typically associated with use case realizations in the logical view of the system under development. The admin has the right to login through CMS to add or modify the application from the admin panel.







#### 4.0 Smarty Frame Work

Smarty framework is a template engine system to develop the front end .it is a feature set of fast and lean with a small memory foot print. This is called smarty frame work.

#### 5.0 Structured Query Language

SQL is a programming language designed for managing data in relational database management systems (RDBMS). SQL is a standard interactive and programming language for getting information from and updating a database. According to ANSI (American National Standards Institute), it is the standard language for relational database management systems. SQL statements are used to perform tasks such as update data in a database or retrieve data from a database.

## 6.0 PHP (Hypertext Preprocessor)

PHP is a server-side scripting language designed primarily for web development but also used as a general-purpose programming language. PHP stands for the recursive acronym PHP: Hypertext Preprocessor. PHP code may be embedded into HTML or HTML5 markup, or it can be used in combination with various web template systems, web content management systems and web frameworks. The PHP code is usually processed by a PHP interpreter implemented as a module in the web server or as a Common Gateway Interface (CGI) executable. The web server software combines the results of the interpreted and executed PHP code, which may be any type of data, including images, with the generated web page. PHP code may also be executed with a command-line interface (CLI) and can be used to implement standalone graphical applications.

## 7.0 RESULT

Fig: CATALOG



Fig: Log in page

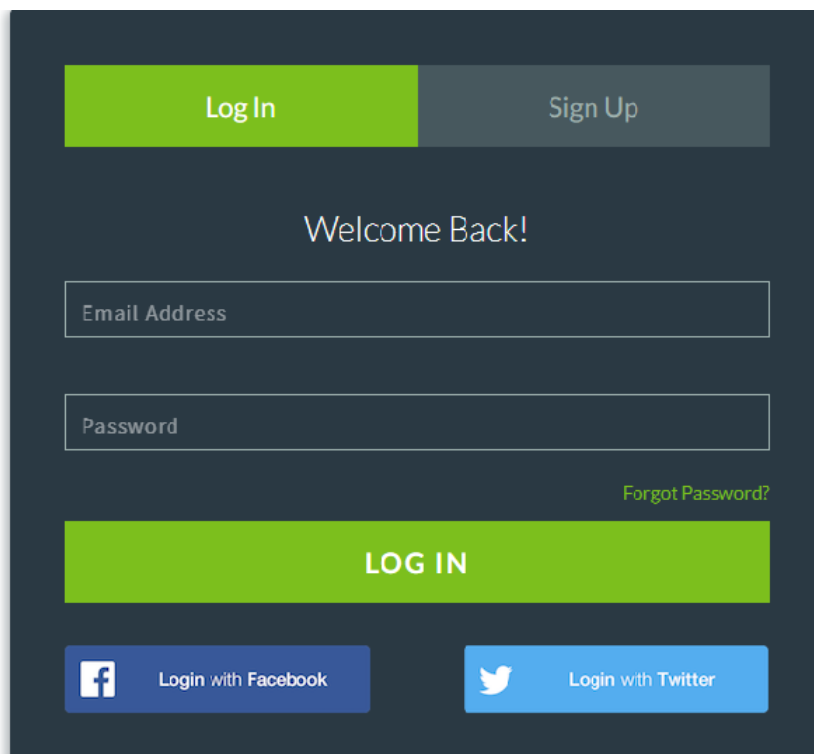
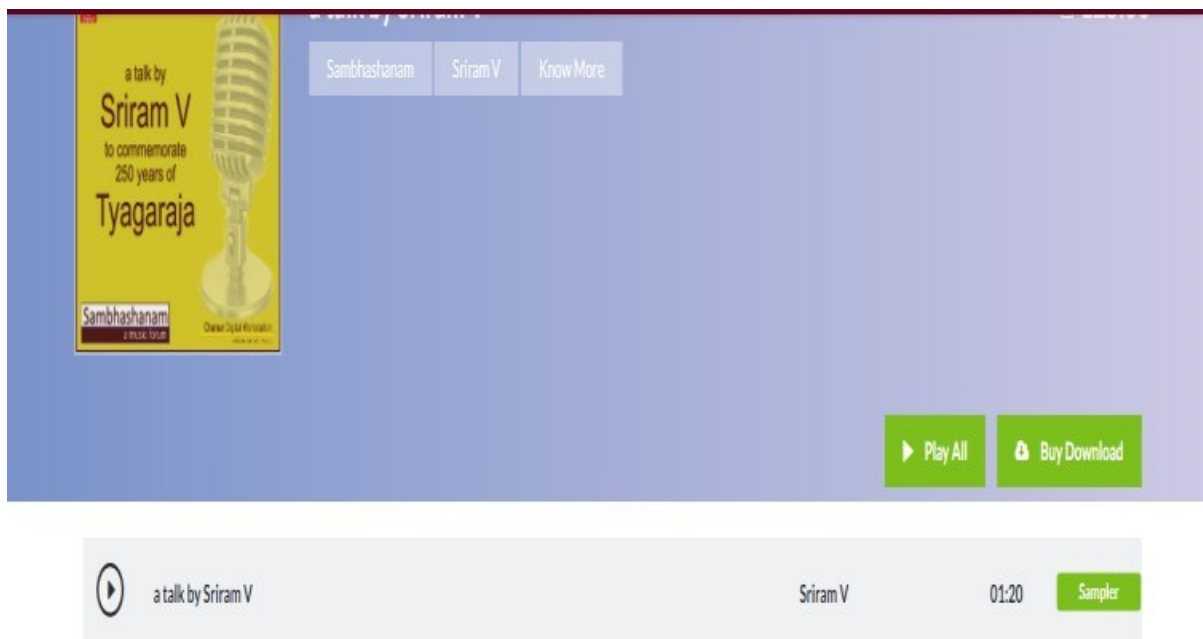


Fig: sample song





## 8.0 Conclusion

This chapter summarizes the whole project. The Charsur web application was mainly created to provide a way for listening, watching, and downloading Carnatic music for Carnatic music lovers, and it has been streaming successfully. The back-end work involved the usage of tools and technologies like MySQL Server and PHP. To create the front-end, Smarty framework code was used. The code was written in PHP.

## 9.0 Future Enhancement

The application may need a future enhancement based on the upcoming requirements. This application also needs some enhancements. now, at this time we should buy only one album and only one track has been downloaded, in the future it should be enhanced to buy multiple album at the same time and download multiple track at same time.

## References:

- a) Open Symphony: Creative participation for audiences of live music performances author- Yongmeng Wu, Leshao Zhang, Nick Bryan- Kinns, Mathieu Barthe Member, IEEE
- b) iSargam: music notation representation for Indian Carnatic music authors-Stanly Mammen1\* , Ilango Krishnamurthi, A. Jalaja Varma and G. Sujatha.
- c) Musical Onset Detection on Carnatic Percussion Instruments authors-P A Manoj Kumar, Jilt Sebastian and Hema.
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