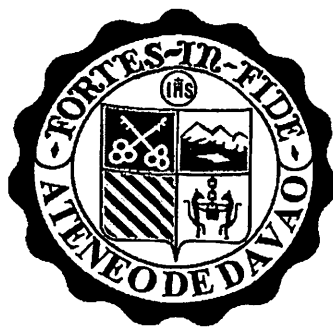


**INTEGRATING A NEW LYRIC FETCHING AND SEARCHING APPROACH IN
MEDIA PLAYERS**



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TABLE OF CONTENTS

I. Chapter 1

1. INTRODUCTION

1.1 Background of the Study	9
1.2 Problem Statement	10
1.3 Objectives of the Study	10
1.4 Significance of the Study	11
1.5 Scope and Limitations of the Study	11
1.6 Definition of Terms	12

II. Chapter 2

2. REVIEW OF THE RELATED

LITERATURE AND WORKS

2.1. Audio Mining Software	
2.1.1 Nuance – Dragon AudioMining	13
2.1.1.1 Technology	13
2.1.1.1 Disadvantage	13
2.1.2 Voice Insert SDK	14
2.2 Lyrics Fetcher	14
2.3 Theoretical Framework	14
2.3.1 Audio Mining	14
2.3.2 Lyrics Fetcher	15

III Chapter 3

3. Research Design and Methodology	
3.1 Conceptual Framework	16
3.2 Methodology	17

IV Chapter 4

4. THEORETICAL BACKGROUND	
4.1 Audio Mining	18
4.2 LyricsFetcher	18
4.2.1 Lyrics Plug-in	18
4.2.2 Lyrics Wiki API	18

V Chapter 5

5. RESULTS AND DISCUSSION

5.1 Audio Mining	20
5.2 Lyrics Fetching	20
5.3 String Searching Algorithm	22
5.4 Framework of the new lyric Fetching Approach	22
5.5 The Prototype	22

VI Chapter 6

6. CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion	26
6.2 Recommendations	26

BIBLIOGRAPHY	27
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APPENDIX A	
User Guide	28

APPENDIX B	
Relevant Source Codes	42

ABSTRACT

The initial idea of this study is to search a keyword/phrase in an audio file using audio mining, display its filename and the location of the keyword/phrase in the audio file to the user. This is to make use of the audio mining technology since it hasn't been used in this way before. However, due to certain circumstances, the initial study was not pursued. Therefore, the proponents decided to shift the idea into something similar to the desired output which is to display the title of the song, or its filename to the user after a search has been done. Lyric fetching was used. This is to make it possible for the user to search the lyrics of the audio files given the search keyword/phrase. Three APIs were used to fetch lyrics from a wide range of database in each respective host lyric fetching website. The user is allowed to choose which lyric result is desired since it does an exhaustive search, which means that it makes use of all the lyric fetch results. After fetching the lyrics, the system saves it in a local database. The searching functionality makes use of the Boyer-Moore algorithm. Search keyword/phrase is matched to the lyrics of an audio file. The audio file with the most number of search results is the most probable desired audio file to be searched. Further study of the audio mining technology is also recommended.

Keywords:

Audio mining, media players, lyric fetching

CHAPTER I – INTRODUCTION

1.1. BACKGROUND OF THE STUDY

Music has been widely used for entertainment. In computers, different kinds of software are being made and used for playing different kinds of audio files. Countless of music has been released and played throughout the years, and because of that, people tend to forget song titles and people somehow recall only some of the phrases in the lyrics. Given a play list of songs, it is not easy to find the music if the title and the artist is forgotten. The alternative way to do it is to search for the song through certain key phrases in its lyrics.

Audio mining, also called audio searching is a technique by which the content of an audio signal can be automatically analyzed and searched. It is most commonly used in the field of automatic speech recognition, where the analysis tries to identify any speech within the audio (Wikipedia, 2009). It takes a text-based query and locates the search term or phrase in an audio file (Leavitt, 2002).

The proponents first decided to make an audio mining plug-in framework for media players. However, audio mining software like its Software Development Kit (SDK) has proven to be expensive. Open source ones on the other hand are proven inaccurate. Hence, the proponents decided to integrate a new approach of lyric fetching and searching by designing a prototype that downloads lyrics of songs in the playlist that would be later used for searching because it has never been implemented on media players, thus, also implementing a new approach of searching. The output of this new study similar to audio mining since it also focuses on searching for a keyword/phrase in an mp3 file.

Lyric fetching is a technique by which the filename of an audio file is passed to a lyrics fetching website, where its Application Program Interface (API) processes the filename to fetch the lyrics from its database, and then sends back the results to the user.

1.2. PROBLEM STATEMENT

The study sought to answer the general problem: How can a new approach of lyric fetching and searching be designed and implemented into media players?

Specifically, it seeks to answer the following questions:

- How are lyrics automatically fetched from the internet?
- How can we utilize the lyric fetching feature to search for a wide array of websites?
- How are search keywords associated with its corresponding titles?
- What kind of searching method is appropriate for its searching feature?

1.3. OBJECTIVES OF THE STUDY

The general objective of this research was to integrate a new lyric fetching and searching approach to be designed and implemented in media players.

The specific objectives are:

- To come up with a new approach of lyric fetching for media players
- To produce a search index that would be the basis of the searching process.
- To develop a kind of searching method that would be able to identify phrase/keywords within the lyrics of an audio file for a given play list and

output only the audio files that corresponds with the given phrase/keywords.

- To produce a prototype, integrating a new lyric fetching and searching approach in a media player.
- To test and debug the prototype.

1.4. SIGNIFICANCE OF THE STUDY

This study is significant for all individuals who like listening to music on their computers but who cannot remember the exact title to play or listen to. It allows users to search for a keyword within lyrics of an audio file, which helps identify the song title that has been forgotten. This study focuses on integrating a new lyric fetching and searching approach for media players. It may also serve as a basis for implementing new this feature. This study proposes a new kind of a search approach that may also be used in other studies.

1.5. SCOPE AND LIMITATIONS

This study generally focused on integrating a new lyric fetching approach for media players. A new approach of lyric fetching technology should be made and implemented in a media player as a prototype. It will also focus on the design of the searching process to be used in the study. Since the technical output of the study would only be a prototype, the study will only cover mp3 music files and does not include non-melodic audio files and instrumental audio files. Also, the filenames of the audio files should contain at least the title of the song with the name of the artist.

1.6. DEFINITION OF TERMS

Audio Mining – is an audio searching technique by which the content of the file is being analyzed and searched.

Media Players - a software application allowing to playback audio and video files

Lyrics Fetching – automatic lyric fetching for all the songs within a playlist of a media player from the internet.

SDK – or software development kit, is typically a set of development tools that allows for the creation of applications for a certain software package, software framework, hardware platform, computer system, video game console, operating system, or similar platform.

API - or application programming interface, is an interface implemented by a software program to enable interaction with other software, much in the same way that a user interface facilitates interaction between humans and computers

MP3 - is a popular digital audio encoding and loss compression format, designed to greatly reduce the amount of data required to represent audio, yet still sound like a faithful reproduction of the original uncompressed audio to most listeners.