dpl music magic

Dr. Sean Thorpe

Design of Programming Languages

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| **Professors:** |
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**Introduction**

This project, DPL Music Magic, is geared towards to making a music compiler with the ability to translate lyrics into Spanish from English and vice versa, then sync the text to a beat via a Text-to-Speech API.

**Rules to Be Considered**

Lexical Phase:

1. Should split the song lyrics into tokens, words.
2. These words will be able to be identified by identifier of the following type: Lyric which can be further group into Stanza, Chorus.

Output: File of the tokenized lyrics to the song

Syntax Phase:

1. The song lyrics must contain a “[“ start identifier and a “]” end identifier
2. The text proceeding an identifier is considered a value for that token type until another identifier is read.

Output: None physical file, throws error if the above conditions are violated

Semantic Phase:

1. The BPM token value must be an integer which will be used to sync the beat
2. Ensures all lyrics found within the text file are words.
3. Ensures metadata is valid

Output: AST View of song lyrics

Intermediate Code Generation:

1. Conversion of lyrics into ASCII values

Output: File of the song lyrics in acsii values.

Code Optimization:

1. An attempt to compress and or remove dead code from the song lyrics file.

Output: File of the optimized (compressed) file content. Readable in symbol

Code Generation

Code is produced

**Limitations to Bear in Mind**

Perfect synchronization of the Text to Speech and generated beat might not be possible

The voices generated by the Text to Speech engine tend to sound generic and not of that of a human

**Professors’ Participation**

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| Tarique Solomon | Systems Admin (Input at All Phases) |
| Brandon Burke | Syntax/Optimization/IR Generation |
| Jovin Bailey | GUI/Client-Server |
| Shanice Vernon | Lexical Phase/Beat Generation |
| Tanice Blair | Semantic Phase |

\*Interchangeable input ideas throughout