Project - 2

MP3 Tag Reader & Editor

Team Emertxe

Introduction

MP3 Tag Reader

MP3 tag reader is a software which will read and display MP3 (ID3) tag information from MP3 files.

About (mp3) ID3 tag:

ID3 is a metadata container most often used in conjunction with the MP3 audio file format. It allows information such as the title, artist, album, track number, and other information about the file to be stored in the file itself.

ID3 Versions :

1. ID3v1
2. ID3v2

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Introduction

ID3v1

1. ID3v1.0
2. ID3v1.1

Song title	30 characters
Artist	30 characters
Album	30 characters
Year	4 characters
Comment	30 characters
Genre	1 byte

ID3v1.0

ID3v1.1

- Total 128 bytes used for storing these metadata.
- 30 + 30 + 30 + 4 + 30 + 1 ➜ 125bytes
- The missing three bytes can be found at the very end of the tag, before the song title.
- These three bytes are always "TAG" and is the identification that this is indeed a ID3 tag

Introduction

ID3v2
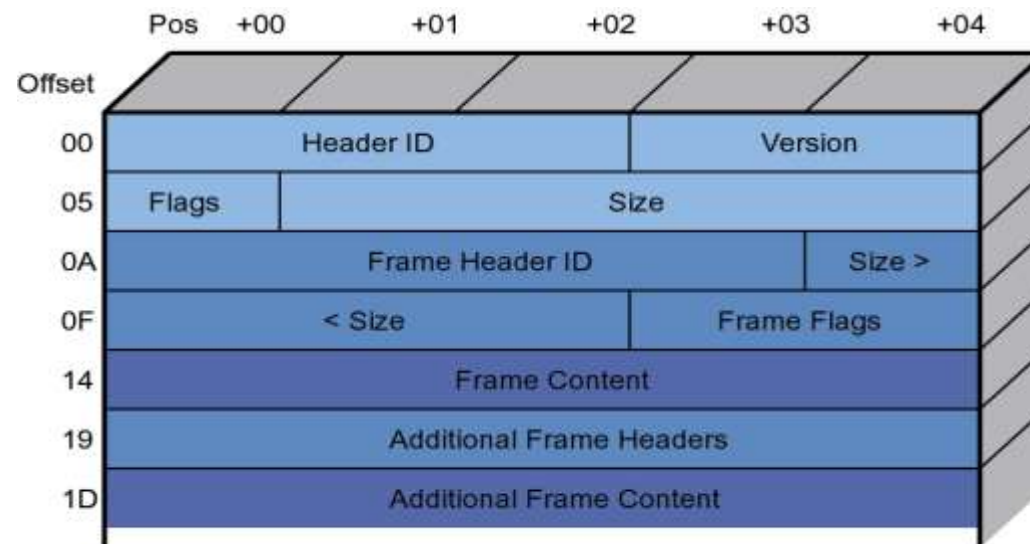
1. ID3v2.2
2. ID3v2.3
3. ID3v2.4

ID3v2 header : (10 bytes)

ID3v2/file identifier   "ID3"

ID3v2 version $03 00 (2, 3 or 4)

ID3v2 flags   1byte
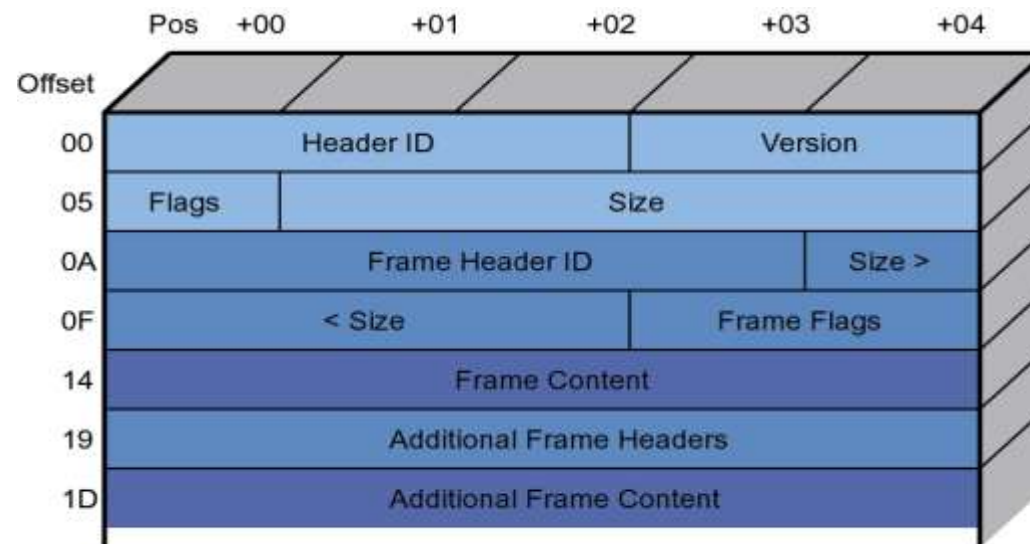
ID3v2 size   4 bytes

Introduction

ID3v2

1. ID3v2.2
2. ID3v2.3
3. ID3v2.4

Pos	+00	+01	+02	+03	+04
Offset					
00	Header ID			Version	
05	Flags		Size		
0A	Frame Header ID			Size >	
0F	< Size		Frame Flags		
14	Frame Content				
19	Additional Frame Headers				
1D	Additional Frame Content				

ID3v2.2 Frame header

Frame ID $xx xx xx(Three characters)
                  TAL → Album/Movie/Show title
                  TOA→ Original artist(s)/performer(s)

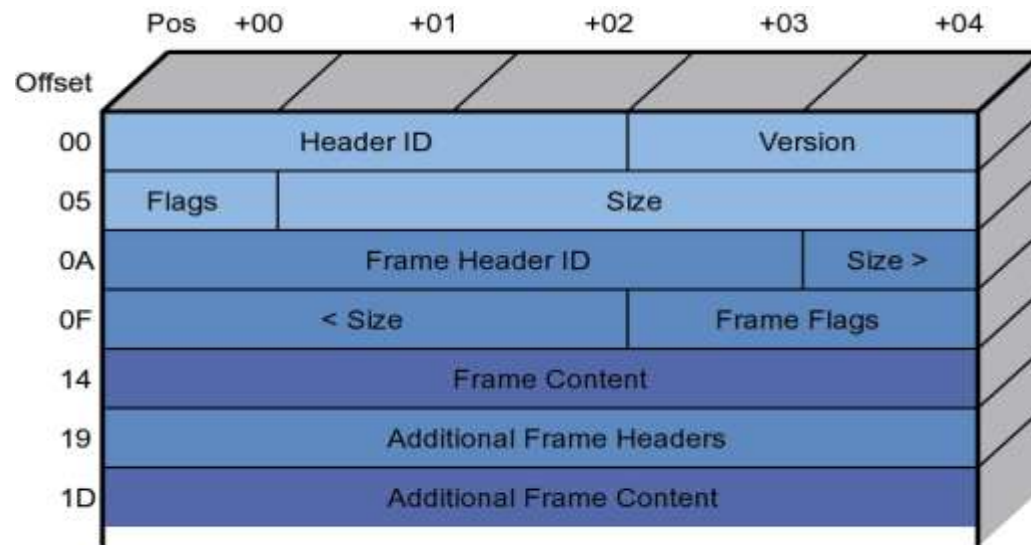Size $xx xx xx(Three characters)

Introduction

ID3v2

1. ID3v2.2
2. ID3v2.3
3. ID3v2.4

ID3v2.3 or ID3v2.4 Frame header

Frame ID $xx xx xx xx (Four bytes)
                 TALB   Album/Movie/Show title
                 TIT2   Title/songname/content description
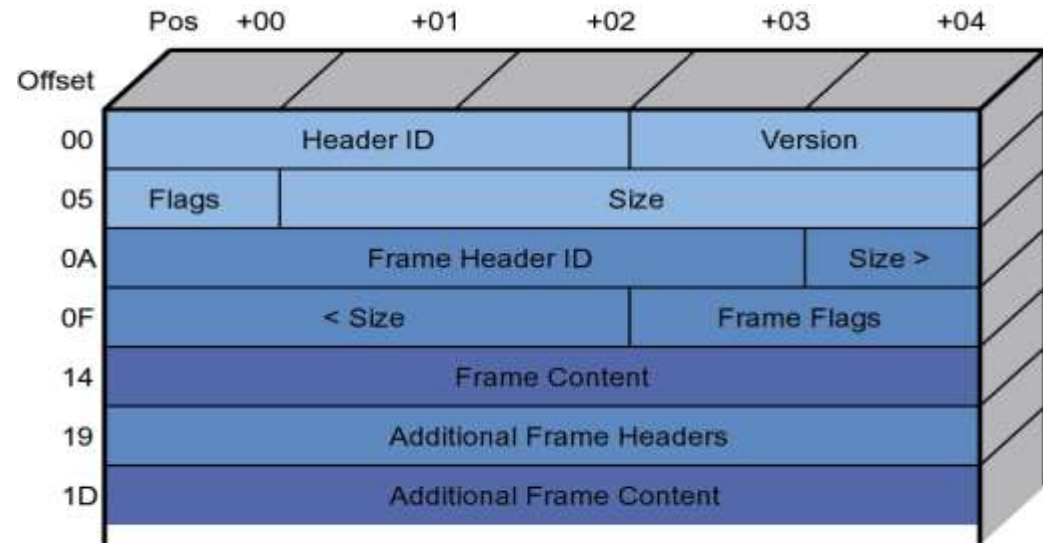
Size $xx xx xx xx (Four bytes)

Flags $xx xx (2 Bytes)

Introduction

ID3v2.3 Frame header

TPE1	→ Artist name
TIT2	→ Title / Song name
TALB	→ Album
TYER	→ Year
TCON	→ Content type
TCOM	→ Composer

Project Requirements

MP3 Tag Reader & Editor

1. Usage - Help

```
$ mp3tag --help
usage: mp3tag -[tTaAycg] "value" file1
       mp3tag -v
 -t    Modifies a Title tag
 -T    Modifies a Track tag
 -a    Modifies an Artist tag
 -A    Modifies an Album tag
 -y    Modifies a Year tag
 -c    Modifies a Comment tag
 -g    Modifies a Genre tag
 -h    Displays this help info
 -v    Prints version info
$
```

MP3 Tag Reader & Editor

2. Usage – View [Read]

```
emertxe@emertxe-desktop-android02:~/ECEP-1/C/project/MP3-TagReader$ ./a.out -v Otha_Sollaala.mp3
-----------------------------------------------------------------------------
MP3 Tag Reader and Editor for ID3v2
-----------------------------------------------------------------------------
Title        :        Othasollala
Artist       :        Velmurugana
Album        :        Aadukala
Year         :        2004
Music        :        SenSongsPk.Com0)(
Comment      :        eng
-----------------------------------------------------------------------------
emertxe@emertxe-desktop-android02:~/ECEP-1/C/project/MP3-TagReader$
```

MP3 Tag Reader & Editor

3. Usage - Edit

```
kishore@DESKTOP-AU98RFC:/mnt/c/Users/hp/Downloads/My _MP3-TagReader-20220204T052648Z-001/My _MP3-TagReader$ ./a.out -e -y 2014 sample.mp3
---------------------------------Select Edit option---------------------------------------------
---------------------------------Select Year change option--------------------------------------
          year    : 2014
---------------------------------Year changed successfully--------------------------------------
kishore@DESKTOP-AU98RFC:/mnt/c/Users/hp/Downloads/My _MP3-TagReader-20220204T052648Z-001/My _MP3-TagReader$
```

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MP3 Tag Reader & Editor

3. Usage - Edit

```
kishore@DESKTOP-AU98RFC:/mnt/c/Users/hp/Downloads/My _MP3-TagReader-20220204T052648Z-001/My _MP3-TagReader$ ./a.out -e -y 2014 sample.mp3
---------------------------------------Select Edit option---------------------------------------
---------------------------------------Select Year change option---------------------------------------
           year    : 2014
---------------------------------------Year changed successfully---------------------------------------
kishore@DESKTOP-AU98RFC:/mnt/c/Users/hp/Downloads/My _MP3-TagReader-20220204T052648Z-001/My _MP3-TagReader$
```

```
kishore@DESKTOP-AU98RFC:/mnt/c/Users/hp/Downloads/My _MP3-TagReader-20220204T052648Z-001/My _MP3-TagReader$ hd sample.mp3 | head
00000000   49 44 33 03 00 00 00 10  13 19 54 49 54 32 00 00  |ID3.......TIT2..|
00000010   00 2f 00 00 00 73 75 6e  6e 79 5f 73 75 6e 6e 79  |./...sunny_sunny|
00000020   00 00 00 00 00 d8 01 00  00 00 00 00 00 00 ea 4e  |...............N|
00000030   d4 32 6a 77 a0 d4 54 bc  3e 48 7f 00 00 b0 e4 32  |.2jw..T.>H.....2|
00000040   ea ff 7f 54 50 45 31 00  00 00 21 00 00 00 41 6e  |...TPE1...!...An|
00000050   69 72 75 74 68 00 00 00  00 00 00 00 00 00 28 02  |iruth.........(.|
00000060   00 00 00 00 00 00 6c 16  40 00 00 00 00 00 54 41  |......l.@.....TA|
00000070   4c 42 00 00 00 09 00 00  00 79 61 61 6e 6a 69 00  |LB.......yaanji.|
00000080   00 54 59 45 52 00 00 00  05 00 00 00 32 30 31 34  |.TYER.......2014|
00000090   54 43 4f 4e 00 00 00 1f  00 00 00 6b 6f 6c 6c 79  |TCON.......kolly|
kishore@DESKTOP-AU98RFC:/mnt/c/Users/hp/Downloads/My _MP3-TagReader-20220204T052648Z-001/My _MP3-TagReader$ _
```

MP3 Tag Reader & Editor

Usage – Error Handling

```
nithya@nithya-Lenovo-ideapad-110-15ISK:~/Dharshini/C/c-project/C_Project Files/MP3-TagReader$ ./a.out

--------------------------------------------------------

ERROR: ./a.out : INVALID ARGUMENTS
USAGE :
To view please pass like:  ./a.out -v mp3filename
To edit please pass like : ./a.out -e -t/-a/-A/-m/-y/-c mp3filename
--------------------------------------------------------
```

MP3 Tag Reader & Editor

Usage – Error Handling

```
nithya@nithya-Lenovo-ideapad-110-15ISK:~/Dharshini/C/c-project/C_Project Files/MP3-TagReader$ ./a.out -e sample.mp3

————————SELECTED EDIT DETAILS————————

Please pass tag arguments which you want to edit
eg: ./a.out -e -t/-a/-A/-y/-m/-c mp3filename
```

References

References

- Wikipedia article on ID3 tag - http://en.wikipedia.org/wiki/ID3
- ID3 tag standard website - http://id3.org
- ID3 tag version 2.3 standard - http://id3.org/id3v2.3.0

Thank You