Developer documentation

“Songs”

‘Song’ - structure data type is defined to track the record of a song by combining data items of different

kinds.

‘\*dataString’, ‘\*title’, ‘\*artist’, ‘\*album’, ‘\*genre’ – are all just a pointers and stores address of string

literal.

"Add()" function is to of void so it does not return anything it is needed to add a song to database

it defines array of char size of 21 and 2 variables type of integers for corresponding details of the song.

FILE \*fpointer=(songs-database.txt, "a") to access database and fopen function in append mode

printf() and scanf() functions follow to let user know what info of a song to type and scan inputed info

and store them in previously declared arrays of strings

After having necessary details of the song we are going to fprintf() them in a database with additional

text for easy readability

fclose() to closes the File

"\*Read()" function is type of the Song structure to read details of the songs in database and we need to

make a linked list for all songs in database to get info by going through each of them

FILE \*fpointer=fopen(songs-database.txt, "r") open file in read mode

'line' is array of characters to store the whole details of the song

while loop iterates through entire database until the end of file is reached, and stores each line in

previously defined line array of characters

Song \*u is a pointer to Song struct and the memory sizeof Song is allocated

u->dataString - we use pointer to make a duplicate of the array of characters that contains all the

details of the song as in database

sscanf() we need to scan that string stored in line array of characters to get only the necessary details

and pointing them to appropriate pointer to do that

we need to use strdup() since it returns a pointer to the duplicated string

u->next and lis = u to make a linked list

fclose() close file

and return lis because we will use this function in all of the following functions to read data and that is

why we declared this function of type of Song construct

artist() function of type of void since it returns nothing. Takes no parameters. Prints the title of the song

of the user-entered artist

defining head pointer type of Song to assign to it the Read() function for getting into linked list

scanning and storing the user-entered year in artist array of characters

while loop loops until the head is not holding details of the song

and it is going to print the title of the song if head->artist is the same as the user entered artist

head

is equal to head->next since we need to loop through every song

year() function of type of void since it returns nothing. Takes no parameters. Prints the year of user

entered song's release

defining head pointer type of Song to assign to it the Read() function for getting into linked list

scanning and storing the user-entered year in year integer

while loop loops until the head is not holding details of the song

and it is going to print the title of the song if head->year is the same as the user entered year

head is equal to head->next since we need to loop through every song

genre() function of type of void since it returns nothing. Takes no parameters. Prints the genre of the

song of the user-entered genre

defining head pointer type of Song to assign to it the Read() function for getting into linked list scanning and storing the user-entered genre in genre array of characters

while loop loops until the head is not holding details of the song

and it is going to print the title, artist, album and year of the song if head->genre is the same as the

user entered genre

head is equal to head->next since we need to loop through every song

album() function of type of void since it returns nothing. Takes no parameters. Prints all songs and all

details from the user-entered album

defining head pointer type of Song to assign to it the Read() function for getting into linked list

scanning and storing the user-entered album in album array of characters

while loop loops until the head is not holding details of the song

and it is going to print the details of the song if head->album is the same as the user entered album

head is equal to head->next since we need to loop through every song

in main function there is a mini user interface with switch statements that are calling appropriate

functions based on user-entered number in range 1-5

USER GUIDE

This is the user guide for Songs application!

When running a program you will see the list of options in range 1 to 5.

To choose the option you need to type the number of that option and press Enter.

All inputs, except digits, should be in Title Case and with no spaces between the words! -->

\*\*ForExampleThis\*\*

1. Add a song to database.

By choosing this option the program will then expect a couple of inputs from you in the following order:

Title of the song, Performer, Album, Release year, Genre and Duration of the song (minutes and then

seconds).

The program is Case Sensitive and requires no spaces in between TheWords. So, it is important to type

the details of the song,

in Title Case if it is only one word and in Title Case with NoSpaces between the words if there are more

than one word.

After you have done the typing you need to press Enter in order to go to the next input section until the

"SAVED!" message appears on your screen. It would mean that you have successfully saved your song in

to database.

2. Display all song of one specific artist

By choosing this option the program will then expect one input from you. You need to provide the

Artist's or Group’s name in Title Case and with no spaces between TheWords.

After pressing Enter you will see the name of the artist's songs if there is any in database.

The limit is 100 symbols for each input

3. Display all songs released in specific year

By choosing this option the program will then expect one input from you. You need to provide a year in

four digits.

After pressing Enter you will see the name of the songs that were released in this year if there is any in

database.

4. Display all songs of the same genre

By choosing this option the program will then expect one input from you. You need to provide the genre

in Title Case and with no spaces between TheWords.After pressing Enter you will see the name of the songs of that genre if there is any in database.

5. Display details of all songs in an album

By choosing this option the program will then expect two inputs from you, in case different artists have

the albums with the same name. First, you need to provide the album's name in Title Case and with no

spaces between TheWords.

Second, you need to provide the artist's name in Title Case and with no spaces between TheWords

After pressing Enter you will see all details of the songs of that artist's album if there is any in database.