

The System

The system performs everything the project description asked. The program runs using HW2.c and the titles of the songs are Hot cross buns, Scale, Twinkle twinkle, and three blind mice. When the program starts the main menu will appear and the user can type in 1, 2, or 3 and does not have to hit enter. If the user types in 1 the code will then print the titles of the songs available. If the user types in 2 the code will then print another menu where the user can choose to play the song by number selection or by searching the title. Here the user can enter 1 or 2 and does not have to hit enter. If the user selects 1 the user has to enter numbers between 1 and 4 and does not have to hit enter and the code will play the song the user wanted. If the user types in 2 the code will then ask the user for a title. The user then types in a title and then hits enter and the code tries to find the best case of that string. If the code cannot find the song it will play the first song otherwise it will play the song the user wanted. If the user hits 3 the code will then ask the user which song they wish to replace here the user types in 1 through 4 and does not have to hit enter. Next the code will ask the user what is the title of the song here when the user is done with the title they hit enter and the code will save that title in the place the user wanted. Next the user must enter the song by note then duration. If the user does not enter the right format the code will not save the song.

Design Decision

- For number the user does not have to hit enter
- For strings and entering new songs the user needs to hit enter when finished
- Song must be in the format note duration otherwise the code will not save song
- If the duration is greater than 31 everything before that duration will be save not including the note
- For the rest I really didn't know how long to set it compared to the other notes so when it says 5 it will rest for maybe close to 5 seconds
- Songs can only be 64 characters long
- Song titles can only be 32 characters long
- Search songs can only be 32 characters long
- If either goes above those limits the code will save the max
- If the song cannot be found while searching the code will play the first song

User Manual

The code, HW2.c, works properly any number the user needs to enter in does not need to type in enter. However if the user needs to type in a string, i.e. song title, or song when the user is done the user must hit enter.

Overall Status

As far as I can tell I have completed everything this project has asked for.

Conclusion

To run the code use HW2.c set the UART to 4800 with 2 stop bits.