CSE331: Computer Networks Lab

FNB Listen: A music streaming application

Section 2 Group 1:
Bhumiti Gohel (AU1841051)
Nirva Sangani (AU1841074)
Frency Chauhan (AU1841105)
Guided by: Prof. Jitendra Bhatia

Ahmedabad University

Definition

➤ **Music streaming applications are widely used applications by almost all the people.**

➤ **Our music streaming application " FNB Listen " aims to give by commonly used applications like Spotify , Ganna, Savan etc.**

➤ **FNB Listen is a menu-driven application, giving user the options to play, pause and stop the currently playing song and allows to select song from the given list.**

➤ **It is a multi-user application.**

Ahmedabad University

Approach for Problem Solving

➢ **Firstly , we have used IP multicasting to stream the media(audio) and for the reliable connection between clients and server we have used TCP protocol**

➢ **A menu is given using GUI for various options like play , pause , and stop the song and also to select other songs**

➢ **As the streaming should be uninterrupted and fast, we have used UDP protocol for multicast transmission of the audio**

Ahmedabad
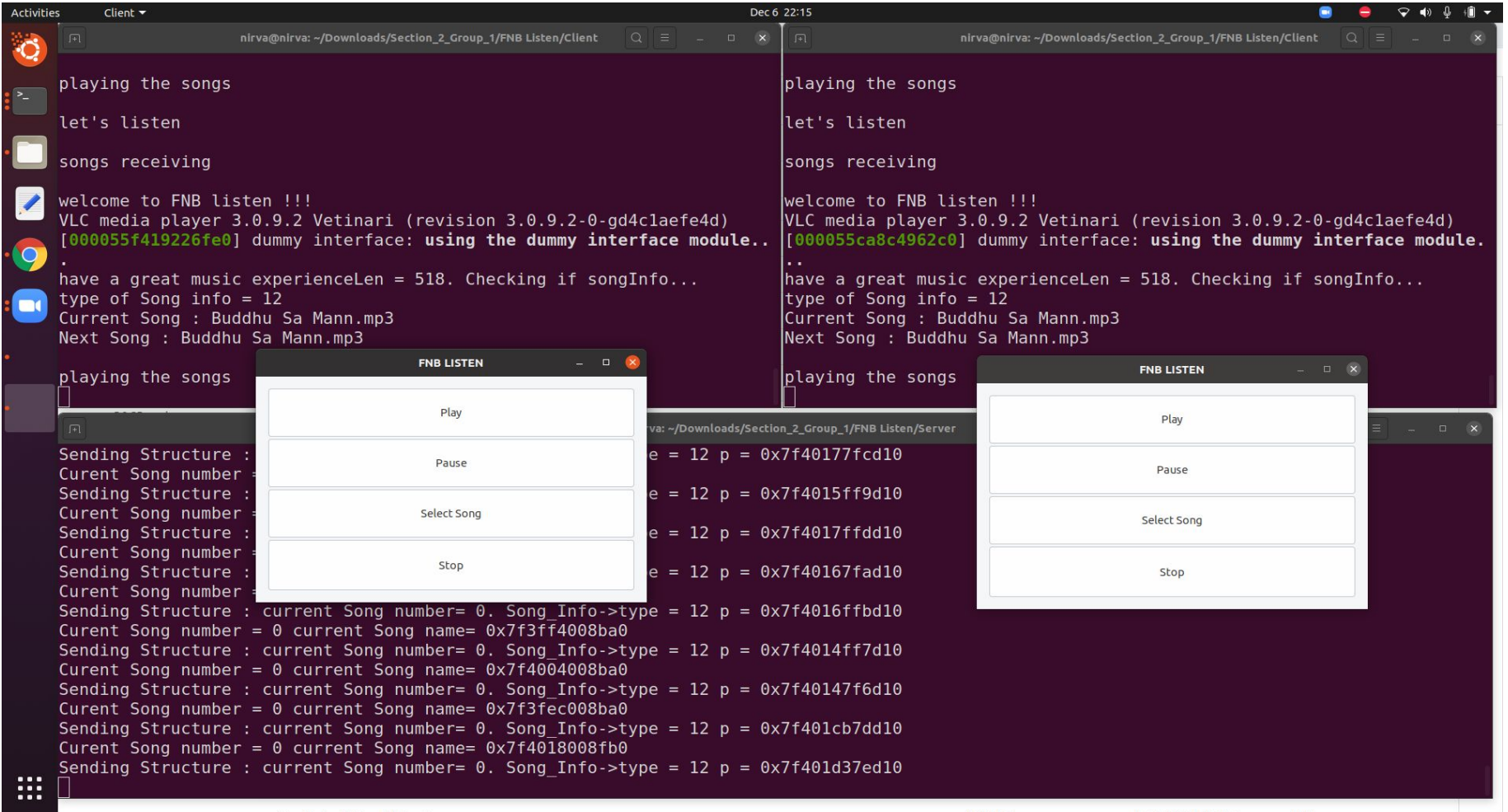University

Approach for Problem Solving

➢ **Seperate port is assigned to the specific song in order to play it.**

➢ **We have used structures for storing information related to the location of the song, song name, size, path and port.**

➢ **We have used threads to support application use by multiple users and multicasting of audio.**

Ahmedabad University

Originality

➢ **The primary function of any music streaming application is to play the audio, which is implemented in our project with the functionalities of pausing, stopping and selecting other songs.**

➢ **As part of novelty, we have tried to implement the playlist functionality but we have not been successful in doing so.**

nirva@nirva: ~/Downloads/Section_2_Group_1/FNB Listen/Client

```
playing the songs

let's listen

songs receiving

welcome to FNB listen !!!
VLC media player 3.0.9.2 Vetinari (revision 3.0.9.2-0-gd4c1aefe4d)
[000055f419226fe0] dummy interface: using the dummy interface module..
.
have a great music experienceLen = 518. Checking if songInfo...
type of Song info = 12
Current Song : Buddhu Sa Mann.mp3
Next Song : Buddhu Sa Mann.mp3

playing the songs
```

FNB LISTEN

| Play |
| Pause |
| Select Song |
| Stop |

nirva: ~/Downloads/Section_2_Group_1/FNB Listen/Server

```
Sending Structure :                     e = 12 p = 0x7f40177fcd10
Curent Song number
Sending Structure :                     e = 12 p = 0x7f4015ff9d10
Curent Song number
Sending Structure :                     e = 12 p = 0x7f4017ffdd10
Curent Song number
Sending Structure :                     e = 12 p = 0x7f40167fad10
Curent Song number
Sending Structure : current Song number= 0. Song_Info->type = 12 p = 0x7f4016ffbd10
Curent Song number = 0 current Song name= 0x7f3ff4008ba0
Sending Structure : current Song number= 0. Song_Info->type = 12 p = 0x7f4014ff7d10
Curent Song number = 0 current Song name= 0x7f4004008ba0
Sending Structure : current Song number= 0. Song_Info->type = 12 p = 0x7f40147f6d10
Curent Song number = 0 current Song name= 0x7f3fec008ba0
Sending Structure : current Song number= 0. Song_Info->type = 12 p = 0x7f401cb7dd10
Curent Song number = 0 current Song name= 0x7f4018008fb0
Sending Structure : current Song number= 0. Song_Info->type = 12 p = 0x7f401d37ed10
```

Limitations of the application

➢ **The user has to let the default song(song 1) play first, at the start of the application and then only user can select to play other songs.**

➢ **Similarly, pause and stop song operations can be done only after the playing of the default song is completed.**

➢ **Uploading new songs option is not available, so the developer has to add them manually and program logic according to that also needs to be updated manually.**

Ahmedabad University

Tools

➢ **The entire client and server programs are written in C language.**

➢ **The audio are played using VLC Media Player.**

➢ **Gtk library is used for making GUI interface.**

References

1. http://zetcode.com/

2. GitHub.2020.Meet-Modi/Internettv-Ipmulticast-Stream-Radio. [online] Available at: <https://github.com/Meet-Modi/InternetTv-IPmulticast-Stream-radio> [Accessed 6 December 2020].>

Ahmedabad University

Thank You