ISSN (Online) 2278-1021
ISSN (Print) 2319 5940

International Journal of Advanced Research in Computer and Communication Engineering
Vol. 4, Issue 10, October 2015

Android Assisted Wireless Slide Cruising and File Transfer Application

G. P. Mohole[1], Rohan Kulkarni[2], Amit Shinde[3], Vitthal Jadhav[4], Umesh Ahire[5]

Department of Computer Engineering, JESITMR, Nashik, India[1, 2,3,4,5]

Abstract: Now-a-days, data communication has become much faster. Smart phones can send and receive data much faster than older phones. Taking this into account Android-Assisted Wireless Slide Cruising and File Transfer Application is designed and implemented to provide the users with the facility of transferring files across the network, i.e. between PC and android smart phone. Then allow users to navigate the slides of power point presentation remotely and wirelessly. This application can be widely used in the multiple surroundings, such as board meetings, classrooms, seminars and presentations where big screens like projector screens or big televisions are used.

Keywords: Wireless fidelity, Android Phone, IP Address, Socket Programming, Java.

I. INTRODUCTION

Data communication is becoming faster and can be transferred more easily day by day. Smartphone's has become ineludible and are major part of our day to day life. Many wireless devices such as computers, tablets, smart phones etc with applications are used by users in order to get the work done. Smart phones can send and receive data much faster than older phones. To govern as well as control computer is the main objective of the application. Taking this into account Android-Assisted Wireless Slide Cruising and File Transfer Application is designed to provide the users with the facility of transferring files across the network, i.e. between android phone and laptop.

This could be a replacement for traditional USB sticks. A user only needs to carry files in Smartphone instead of a USB stick. Smartphone can be used by the user in order to authenticate android device with the server and then do the above defined task. It also allows presenter to navigate the slides of power point presentation remotely and over Wi-Fi. This helps the presenter to navigate the slide without being dependent on other person.

The spokesperson can remotely navigate a slide on PC as per the requirement. This application can be widely used in the multiple surroundings such as board meetings, classrooms, seminars and presentations where big screens like projector screens or big televisions are used.

In order to enable a user to transfer a file from android based Smartphone and then allows the user to navigate the slide from Smartphone which is the main motto of this application. The android application is capable of transferring commands to the server present on PC which will parse the request and perform corresponding action over Wi-Fi.

II. LITERATURE REVIEW

Through the literature review we came across certain papers which provided capability to the user to have remote access to laptop using android Smartphone. Various applications are available in the market that enables a user to have remote access to laptop. We realized that there was no application that enabled a user to transfer a file from android Smartphone without the help of internet. A user could only transfer a file or have access to these by using USB sticks or by connecting mobile phone to PC. There are many problems faced by the presenter while navigating slides as he always needs to be dependent on another person for performing the job for him. Keeping all these drawbacks in mind we have decided to develop an application that will allow a user to transfer a presentation file from android mobile to PC. This application not being limited to only presentation files a user can send any type of file from mobile to PC.

A. Related Work

The papers previously published had a client server module capable of performing task remotely on server side. This allowed a user to control some application by interfacing android mobile with laptop over internet.

1.) Android based wireless PC controller:

This paper proposes a system which will control the various applications of targeted PC using android Smartphone. It is capable of performing some actions on PC like controlling slides, audios, videos etc. To use this application a file must be available on PC. The paper elaborates a clear contribution to the field computing education research audience.

2.) Pocket Droid–A PC Remote Control:

This paper describes an architecture which will control multiple PC using android mobile phones. It enables a client to have full access to the pc for controlling remote applications present on it. All relevant work are discussed and cited, and relationship to submission is clearly described.

3.) Turn Smartphone into Computer Remote Controllers:

This article describes how to turn smart devices, more specifically smart phones, into computer remote controllers, thus providing a major and significant contribution to the computer field with the promise of more to come.

B. Proposed System

Proposed system includes a client and server module. Module residing on android phone is client and that on

ISSN (Online) 2278-1021
ISSN (Print) 2319 5940

International Journal of Advanced Research in Computer and Communication Engineering
Vol. 4, Issue 10, October 2015

computer is server. Client side module sends a request or broadcast some packets so that it can identify a valid server available. Default port needs to be assigned. Server communicates with client with the help of assigned port. Connection needs to be established using standard protocol IEEE 802.11 i.e. Wi-Fi. Handshaking needs to be used in order to establish connection. Server side module will be coded in java and client side module in android. Both platforms being free are easily available

III. SYSTEM ARCHITECTURE

A. File Transfer Module

Windows registry is configuration file that enable some operations on windows operating system. Windows registry will be used to control mouse movements from android phone. As the user transfers a file from android mobile mouse movements from android Smartphone can be used to open the file that was transferred on PC. User selects the file that is to be transferred to server. Size of the file depends on speed of connectivity. Any type of files such as document, presentation, image etc can be transferred using this application. Same can be opened on PC or projector screen by using mouse simulator. Mouse events will be monitored on server side which will be given from client side. Wireless file transfer application module can manage to transfer file from mobile phone to PC without need of any wire or USB stick.

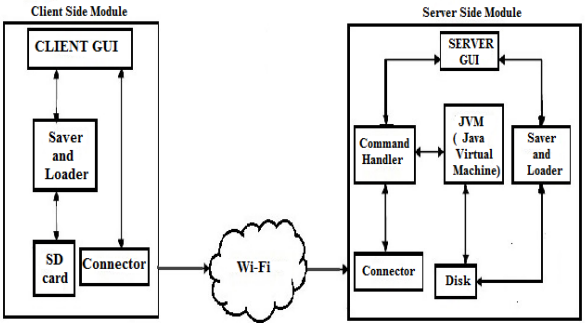

Fig.1. System Architecture of File Transfer Application

The architecture shown in Fig. 1 denotes overview of file transfer application. Client side module constitutes of GUI as frontend. Saver and Loader module is used to load the file that needs to be transferred. File initially is present on android mobile phone on SD card. Connector module is used which acts as a path for transferring file from client to server over Wi-Fi.

The server side also constitutes of connector which serves the same purpose as in client side module. Connector module is responsible for connection between client and server. Connector is further interfaced with command handler which is responsible for file management in PC. Command handler interacts with java virtual machine so as to identify the path for saving the file. Similarly, Saver and Loader on server side enables to save the received file from client on disk.

B. Slide Navigation Module

The application can also be used to cruise slides over Wi-Fi. Navigation of slides can be controlled from android mobile. Navigation commands needs to be given from the client side. These navigation commands can be recognized by server running on PC and corresponding command is parsed over server side.

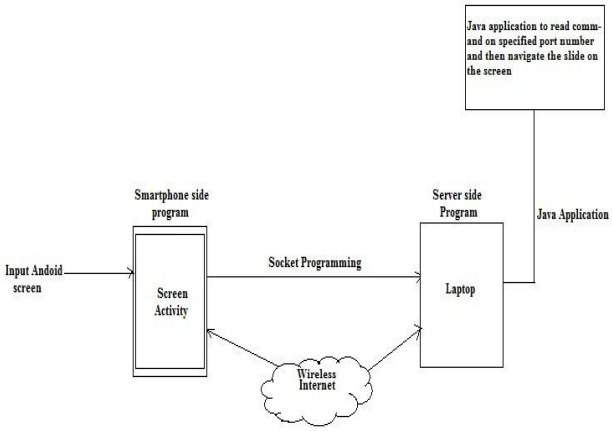

Fig.2. System Architecture for wireless Slide Navigation

The Fig. 2 denotes System Architecture for wireless Slide Navigation where Smartphone side module resides on android mobile phone which is initially running the screen activity. Screen activity interacts with the user. Input is given by user to this screen activity to navigate the slide which is residing on PC. Client and Server module communicate with each other using socket programming over Wi-Fi. Server Side Module present on PC has an application program which continuously governs the incoming command and immediately executes these navigation commands. The java application present on server side reads the commands on specified port number and executes the same. This enables a user to execute navigation commands.

IV. STRATEGIES USED

A. Socket programming

A socket programming can be referred as a technique which is capable of enabling communication between two processes present on the same machine or on different machines. In the proposed application sockets can be used to enable connection and data transfer between laptop and android Smartphone. The server listens on specific port for executing commands using sockets. To connect to the server the client request connection request on known port. Port number is bind with server which is responsible for parsing the received command and interacting with the client. Local port present on server side is assigned by the system. Upon successful connection the client gets connected with server. The server gets a new socket which is bounded to the local port. Sever will create new socket so that it handles incoming request from client side.

B. File Transfer Protocol

A standard mechanism provided by the internet which helps in copying a file from one host to the other. FTP establishes two types of connections while transferring a file. One of them is used for data transfer and the other is for control information. FTP is uses port number 21 for control connection and port 20 for data transfer. FTP

ISSN (Online) 2278-1021
ISSN (Print) 2319 5940

International Journal of Advanced Research in Computer and Communication Engineering
Vol. 4, Issue 10, October 2015

header consists of 8 bit descriptor and 16 byte count. The control connection connects the control processes while data connection connects the data transfer process between client and server. The control connection is kept alive during the entire FTP session. The data connection is first opened, file is transferred and data connection is closed. This is done for transferring each file. Data connection uses port number 20 at the server side. The connection between client side and server side is opened when file is ready to be transferred.

C. Wi-Fi technology

Wi-Fi Manager can be used to turn ON Wi-Fi services. Wi-Fi operates on IEEE 802.11. Wi-Fi Manager is responsible for controlling all the aspects of the system related to this service. Wi-Fi Manager is used to find the currently active Wi-Fi network and change the Wi-Fi state.

V. ALGORITHM

1.) START
2.) Send request to the valid server for connection establishment over Wi-Fi.
3.) Ports as well as sockets are created and defined upon successful connection of client side module and server side module. Acknowledgment will be received by client sent from server. (Connection is established by socket programming)
4.) Select option to transfer a file or navigate a slide.
5.) If file transfer option selected then choose the file which is present on android mobile that is to be sent to the server. (File will be transferred using file transfer protocol)
6.) Java application running on laptop accepts the incoming request to transfer the file and stores at default path defined.
7.) Step 4 to 6 can be used by the user to one transfer one or more file over Wi-Fi.
9.) If slide navigation option is selected then give navigation commands to the server.
10.) Java application running on laptop accepts the commands and executes immediately over Wi-Fi.
11.) Step 9 to 10 can be used to navigate the slide.
12.) Step 4 to 10 can be used to transfer a file as well as navigate the slide.
13.) STOP

VI. CONCLUSION

This paper proposes an architecture which will be used to transfer file and navigate slide over Wi-Fi. This application will provide a better perspective for the end users to transfer files and navigate slides on big screens. There will be no need to carry files in USB sticks. Files can be easily transferred by android Smartphone over Wi-Fi without the need of USB wires. Navigation of slides can be achieved by the use of this application. A presenter can navigate a slide from any corner of the room within the range of Wi-Fi without being dependent on others. Due to the wide use of android the application can be used for android mobiles, tablets and other handheld devices. Thus the system can be used to provide mobility for the presenter as it can be controlled within a confined space.

ACKNOWLEDGEMENT

We have immense pleasure in presenting the paper “Android assisted wireless slide cruising and file transfer application" under the guidance of Prof. G. P. Mohole. We would also like to thank Jawahar education Societies Institute of technology management and research for providing all the required facilities.

REFERENCES

Chen, H. , Lin, Y. , Sung,Y. , Liou, R.: Ubiquitous Computing, and Dependable Applications, pp. 33-45.
1. Chintalapati, J. , Rao, S.(2012): Remote computer access through Android mobiles,5(3), pp. 1694-0814.
2. Deshmukh, M. , Jawale, D. , Joshi, S. , Kulkarni, P.(2015): Android Based Wireless PC Controller, 6 (1), pp. 395-398.
3. Gavhane, S. , Phanse, R., Sadafule, M., Balkhande.B.W.(2013): Remote Desktop on Mobile,2(1),pp 2319 – 1058.
4. Jadhav, A. , Oswal,V., Madane,S., Zope,H., Hatmode,V.(2012): VNC ARCHITECTURE BASED REMOTE DESKTOP ACCESS THROUGH ANDROID MOBILE PHONES,1(2),pp. 2278 – 1021. Mishra, S.; Singh, A.; Patil, H. (2013): Controlling PC Application through Mobile Phone, 3(1), pp. 141-145.

[6] Myers, B.(2004): Using handhelds for wireless remote control of PCs and appliances, Interacting with Computers,pp. 251–264.
[7] Navasare, C. , Nagdev, D. , Shree. J.(2012): PocketDroid - A PC Remote Control,37.
[8] RemoteDroid. http://remotedroid.net/ Retrieved 23rd july, 2015.
[9] Thadani, H., Kumari, S., Shaikh, M., Baravkar N., Kale. S.(2013): Monitoring PCs using Android.

BIOGRAPHIES

Geetanjali P Mohole H.O.D at Department of Computer Engineering, Jawahar Education Society's Institute of Technology, Management & Research, Nashik, India.

Rohan R Kulkarni Department of Computer Engineering, Jawahar Education Society's Institute of Technology, Management & Research, Nashik, India.

Amit R Shinde Department of Computer Engineering, Jawahar Education Society's Institute of Technology, Management & Research, Nashik, India.

Vitthal A Jadhav Department of Computer Engineering, Jawahar Education Society's Institute of Technology, Management & Research, Nashik, India.

Umesh K Ahire Department of Computer Engineering, Jawahar Education Society's Institute of Technology, Management & Research, Nashik, India.