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Control of PC Remotely Via Android Application

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Abstract--- *The evolution of mobile devices, especially in these modern days, has drastically changed the face of business. A mobile phone device is often expected to offer computer-like functionality. These days, most mobile phone users find it somehow inconvenient to do some tasks using their computers. Most individuals prefer to change positions while sitting, stretching, and also feeling a bit more comfortable when browsing through their computers. It can be very impractical to be confined to the keyboard and mouse while sitting 5 or 10 feet from the computer. Hence, the proposed application is meant to turn the hand phone into a wireless keyboard, mouse with a touch-pad, Also, the system provides the features to access the files available in the computer, if the file seems to be a media file this android app can play, pause, stop, mute and enable/disable full screen mode of the respective media. The connection establishment is made through the wireless network(WIFI). This prototype is proven to be able to perform most of the actions a normal computer can perform.*

Keywords--- *Touchpad, Keypad, Multi-Scrolling, Pinch Gesture.*

I. INTRODUCTION

In recent years, there has been a phenomenal growth in mobile or handheld computing and communication devices such as mobile phones, personal digital assistants, personal media players and so on [1]. The evolution of mobile devices, especially in these modern days, has drastically changed the face of business. It is now currently attainable with our knowledge infrastructure, and powerful mobile devices, for some individuals in doing most of their work outside the workplace [2].

With the emergence of the mobile phones of nowadays, particularly Apple iPhone, Android, HTC and Blackberry products, individuals can work nearly anywhere. A lot of mobile applications have taken control over the mobile market trend [2][3]. Every day, new mobile applications are developed with its own compatibility, making sure it serves purposefully to a particular mobile phone model and its specifications.

Nowadays, besides using computers for working purpose, most of the users use their computers for entertainment purposes such as watching a movie, sharing photos, browsing music or playing games. Sitting on a particular spot is never a fun especially when viewing an entertaining media. It can be very impractical to be confined to the keyboard and mouse while sitting 5 or 10 feet from the computer. Therefore, remote controls or wireless mouse and keyboards are also available for computers to solve the limitation mentioned above. However, these remote controls or wireless keyboard and mouse have a fixed set of buttons attached to the device it has been

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attached and designed to control. A fixed distance from the computer would be another concern of using the existing remote controls or wireless keyboard and mouse. When sitting far from the computer, the user is unable to view clearly the items on the computer screen, which would limit them in controlling the computer.

II. LITERATURE SURVEY

TITLE: A MOBILE-BASED COMPUTER CONTROLLER via ANDROID TECHNOLOGY

AUTHOR: Siew-Chin Chong, Lee-Ying Chong & Stephanie Bosed Ajiroba

YEAR: 2015.

DESCRIPTION:

The evolution of mobile devices, especially in these modern days, has drastically changed the face of business. A mobile phone device is often expected to offer computer-like functionality. These days, most mobile phone users find it somehow inconvenient to do some tasks using their computers.

TITLE: WEB BASED REMOTE EXPLORATION AND CONTROL SYSTEM USING ANDROID MOBILE PHONE

AUTHOR: Milton, M.A.A & Khan A.A.S.

YEAR: 2017

DESCRIPTION:

A remote exploration and control system has been developed using web Application, web server, database, GSM network, and Android mobile phone. Web application is used to control remotely an Android mobile phone and electrical devices connected with the mobile phone.

TITLE: SMART LIVING USING BLUETOOTH-BASED ANDROID SMARTPHONE

AUTHOR: Ming Yan & Hao Shi

YEAR: 2017

DESCRIPTION:

In this paper, a new Smart Living system called home lighting control system using Bluetooth-based Android Smartphone is proposed and prototyped. First Smartphone, Smart Living and Bluetooth technology are reviewed. Second the system architecture, communication protocol and hardware design are described.

A host Bluetooth device is capable of communicating with up to seven Bluetooth modules at the same time through one link.

TITLE: ANDROID BASED SECURITY AND REMOTE SURVEILANCE SYSTEM

AUTHOR: Senthil Kumar M & Padmavathy N

YEAR: 2018

DESCRIPTION:

Mobile phones have been important Electronic devices in our life. Consequently, Home automation and security system becomes one of the prominent futures on mobile devices. In this paper, we have developed the android application that interfaces with the security system using wifi direct technology. The Wifi technology is relatively new as compared to other technologies and there is huge potential of its growth and practical application. The android application loaded on mobile devices, can connect with security system and easy to use GUI.

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TITLE: ANDROID BASED SECURITY LOCK SYSTEM WITH PASSWORD RECONFIGURABLE OPTION USING BLUETOOTH

AUTHOR: A.V. Thejas

YEAR: 2019

DESCRIPTION:

Essential motive of designing this tool is to provide a greater secured multilevel protections and password reconfigure Options Using PAN (Personal Area Network) protocol gadgets like Bluetooth and Microcontroller. Android clever telephone are included to this protection locks to provide a GUI (Graphical User Interface) for customers to have greater flexible and right away accusable.

III. EXISTING SYSTEM

Controlling the PC through Mobile via Bluetooth is not in Practice till now.

Secure access is not available in the Server-side.

Unable to access the media and presentation oriented tasks from the remote place.

IV. PROPOSED SYSTEM

1. Smart Phones are the major Resource of the Present system for Speedy and Smarty Activities.
2. Security is provided to the Remote Server through passwords in our system.
3. There is no requirement for the user to see the system whether the task is performed or not. The mobile holds the screen of the system which indicates every action.
4. Our Android application act as a wireless mouse and keyboard for transferring the files to the Computer.
5. In order to reduce the work of the user, the remote server needs to be just started and no other activity need not be performed at the server-side.
6. User Interface is convenient for all the users with proper fragment activity and a small tutorial like screen for the first time.
7. Android is the Mobile Operating System Platform, which is getting used by almost all the Mobile Phones, Android's open platform is being embraced by many operators.

Advantage

1. Wireless network connection is established.
2. Proper Authentication to the Client-Server interaction.
3. Ease access of PC with the screen available in our mobile device.

V. MODULES

1. ANDROID USER
2. SERVER SIDE
3. SECURE CONNECTION
4. MOUSE AND KEYBOARD
5. MEDIA AND PRESENTATION
6. FILE EXPLORER

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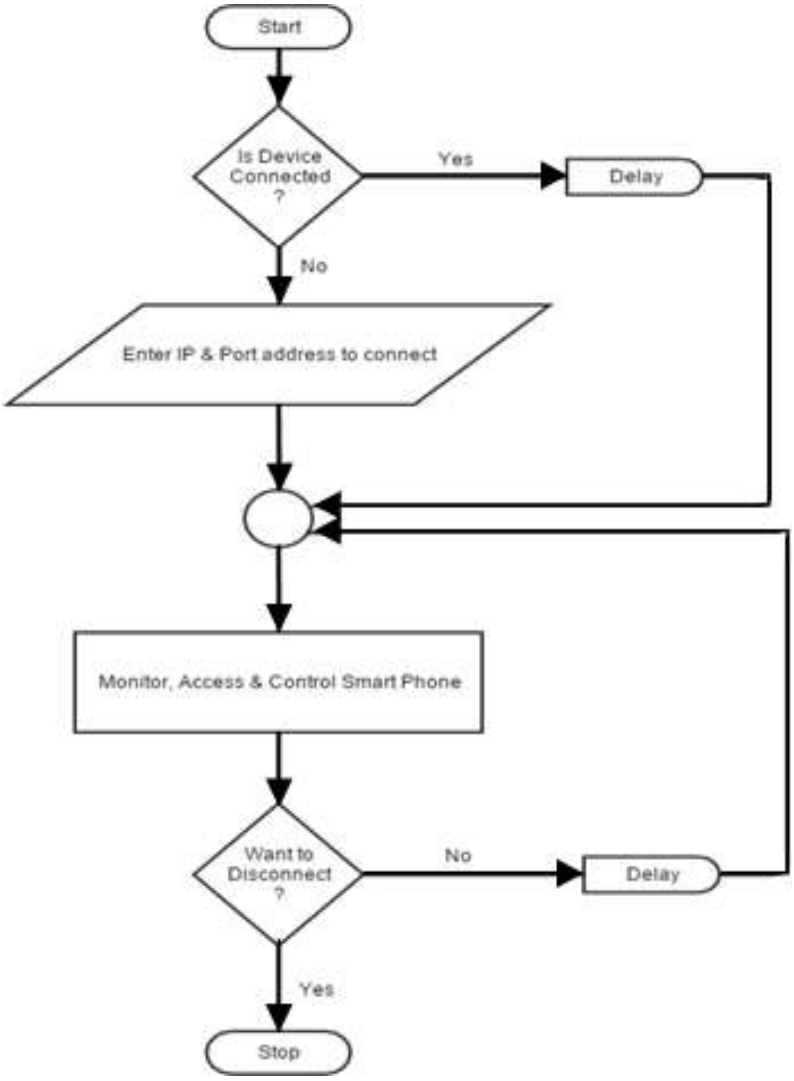
DESCRIPTION

Android user

Develop an android application. We cannot control our personal computer from sitting in one place with its screen available in our handheld device. **So,** an android application for the indoor navigation is done by using Bluetooth& Wifi instead of GPS (Global Positioning System). Mobile Client is an Android application which created and installed in the User's Android Mobile Phone. So that we can perform the activities. The Application First Page Consist of the Connection establishment and authentication process.



Server-side

Develop a main server in the type of a jar format. Here we can see the details about the password, Wifi and Bluetooth server. The Server Application is used to communicate with the Mobile Clients. The Server can communicate with their Mobile Client by Wi-fi or Bluetooth Technology. The Server Application can be created using Java Programming Language. The start of the server will be notified as Sever Started in your server-side.

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Secure connection

To improve the security level in the communication between the Client and Server password is used. This password will be shown in both server and client machine at the time of connection. If the password in both the machine matches then "Connection Established" notification will be displayed else "Connection Refused" appears in the client side. The Server will not allow the Unauthorized User.

Mouse & Keyboard

This module defines about the functions a mouse and keyboard performs in a normal computer. Like wired mouse it has a left click and a right click button and the keyboard's format is like an android keyboard format.

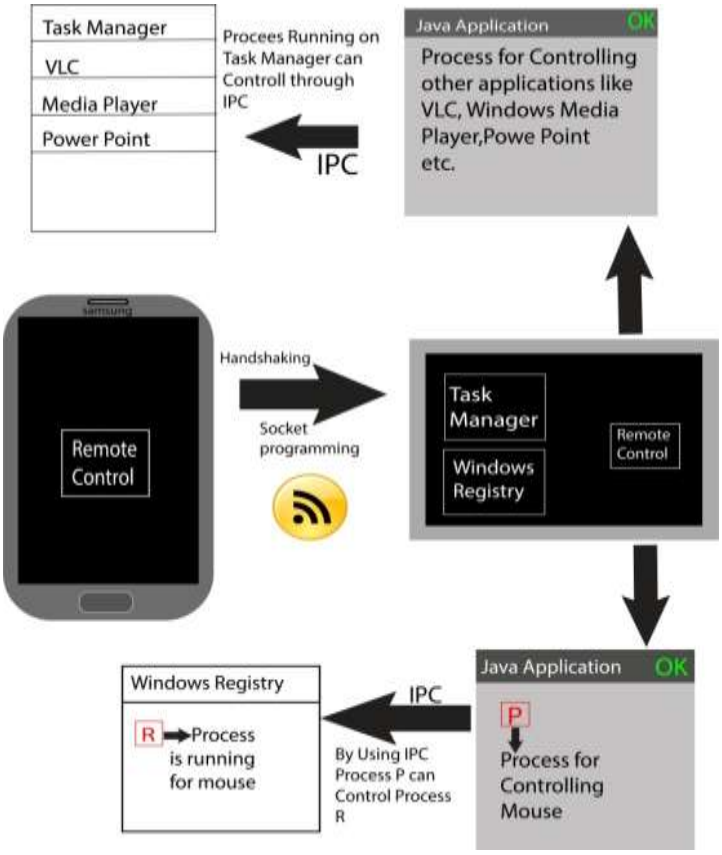
Media & Presentation

This module helps in controlling the videos and songs with keys like play, pause, forward, previous, stop, shuffle, repeat. The presentation helps in accessing the PowerPoint application in which the keys to move to next and previous slides, to edit the presentation, to view in laser is also present.

File explorer

File Explorer generates all the drives you have partitioned in your computer to the device. The files you need to select can be selected using your mobile device itself.

VI. SYSTEM ARCHITECTURE



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In the proposed system there is a client-server architecture. In which android mobile phone is a client and PC/Laptop is a server. Client sends request to the server for connection establishment via wireless communication (Wi-Fi). Connection is established using handshaking. After connection establishment ports are assigned and sockets are established at both ends for communication. Desktop application is in Java and mobile application is in android. Windows registry is hierarchical database which stores some configuration setting options and some processes which helps to control mouse movements. When the user control mouse from android mobile then in background the process of desktop application will communicate with mouse process which is in windows registry. And this communication is done through Inter Process Communication.

Similarly, windows task manager provides limited information about computer performance and applications as well as processes running on that computer. For example, the processes of applications such as Windows Media Player, VLC, Power Point Presentations the processes resides in task manager. The procedure of controlling these applications is similar to the procedure of controlling mouse.

VII. FUTURE ENHANCEMENT

Furthermore, The proposed system has been designed in such a way that the mobile can control the computer for a certain distance which is covered by the wifi and Bluetooth. In future directions for this research the remote connection through SMS can be replaced by GPRS. The GPRS can work for higher distance through which the user can access their computer.

VIII. CONCLUSION

This project explores the possibility of controlling the computer remotely using an Android phone device. The proposed prototype is able to control a lot of operations a normal computer keyboard and mouse would perform. It practically turns a mobile phone into a wireless computer where you can get the screen of your PC and perform functions in your mobile device using a wireless network. It helps mobile phone users to the use of the prototype in easing the device control.

REFERENCES

[1] Shane Conder, Lauren Darcey. Android Wireless Application Development, Second Edition. *Boston, Addison-Wesley Professional*, December 2010
[2] H. Haeil, et al., "PC application remote control via mobile phone," *In Control Automation and Systems (ICCAS), 2010 International Conference*
[3] Chung, C.-C., Wang, S.-C., Huang, C. Y., and Lin, C.-M.(2011) "Bluetooth-based Android
[4] Interactive Applications for Smart Living", 2011 Second International Conference on Innovations in Bio-inspired Computing and Applications (IBICA-2011), Shenzhen, China, 16-18 December2011.
[5] Android Developers Guide. Android Architecture. [online] http://developer.android.com/about/versions/index.html.
[6] Android SDK: http://developer.android.com/sdk/android-2.3.html
[7] Android Emulator: http://developer.android.com/guide/developing/tools/emulator.html
[8] Android Developer Guide, Managing Projects [online] URL: http://developer.android.com/tools/projects/index.html. Genoa, Italy, Sep 2007.
[9] Learn Android App Development –Wallace Jackson

DOI: 10.37200/IJPR/V24I5/PR202039
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