

## A Novel Encoding Remote control using VNC by Android Phone

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**SnehalShahaji Varpe<sup>1</sup>; Somnath Sakore<sup>2</sup>; Vishal Mate<sup>3</sup> & Ritesh Thakur<sup>4</sup>**

<sup>1</sup>BE Dept. of CSE From SP's INSTITUTE OF KNOWLEDGE COLLEGE OF ENGINEERING,  
PUNE. Mail Id: - [snehalvarpe2012@gmail.com](mailto:snehalvarpe2012@gmail.com)

<sup>2</sup>BE Dept. of CSE From SP's INSTITUTE OF KNOWLEDGE COLLEGE OF ENGINEERING,  
PUNE. Mail Id: - [sakoresomnath@gmail.com](mailto:sakoresomnath@gmail.com)

<sup>3</sup>BE Dept. of CSE From SP's INSTITUTE OF KNOWLEDGE COLLEGE OF ENGINEERING, PUNE.  
Mail Id: - [vishalmate01@gmail.com](mailto:vishalmate01@gmail.com)

<sup>4</sup>Prof & HOD Dept. of CSE from SP's INSTITUTE OF KNOWLEDGE COLLEGE OF ENGINEERING,  
PUNE. Mail Id: - [hod\\_comp\\_iok@yahoo.com](mailto:hod_comp_iok@yahoo.com)

### **Abstract:-**

*This paper speaks to how your PC can be controlled from remote spot with your perspicacious telephone contraption (Android portable) with the benefit of Internet. It connotes the screen of PC will be outwardly seen in versatile. In the method for telephone into a remote console and mouse with touchpad. This strategy used to possess remote system. It obliges invention running on the Android working framework with some remotely remote association between them. To joined cellular telephone to PC by using remote system. A working remote system to which your PC is joined or not in the middle of portable and PC. Another approach to probe the PC on portable by relegating legitimate IP to the PC and make the PC web facilitating server by DNS ingress into ISP supplier. A door of ISP and true IP can be facilely accessible from ISP and buying area name from business sector. The cellular telephone is joined PC On portable by getting to space name or valid IP on application server utilizing program which is introduced on multifarious. Access the PC concretely into the multifarious can have the capacity to get to its capacities by portable keys and utilizing inbuilt console. The resplendency is that PC is joined with the digital world and portable is withal associated with web by its system office because of SIM card. The ingress the PC in cell telephone by the sending message for remote system. Remote control frameworks are a prodigiously needful component to control and screen inventions expeditiously. This paper actualizes a nascent configuration for remote control of Android portable inventions, breaking down the sundry culls and probing for the best arrangement for every situation. But the component of remote control, if there should arise an occurrence of portable inventions, has been minimal investigated, it may give eminent points of interest to testing programming and equipment advancements in a few authentic engenderment.*

**Keywords**— Android; Encoding; Remote control; Remote visualization; RFB; VNC

### **1. INTRODUCTION**

The project conception includes presenting android predicated remote control of mobile contrivances through VNC. This project proposes and analyzes different architectural approaches for

the implementation of remote control systems of mobile contrivances utilizing the Android software stack. In this work, we propose an expeditious screen sharing method to ameliorate screen update rate in mobile VNC systems. In



case of mobile contrivances, high intricacy video compression techniques cannot be employed due to their rigorous computation limit. However, the bandwidth constraint requires a certain level of compression ratio. Thus, there subsists a trade-off between encoder involution and compression ratio for expeditious mobile VNC systems. We first integrate sundry video encoders into our prototype system, and explore their felicitousness for mobile VNC. Withal, the subsisting RFB protocol for VNC is elongated to facilely integrate video encoders in a rearward-compatible way. We adscitiously propose an incipient modified region coding method which transmits only modified regions between current and anterior screen images. It can further reduce encoder computation and resultantly increase screen update rate. We implemented a prototype mobile VNC system genuinely, and its practical performance is widely evaluated. In recent years, there have been popularly relinquished a variety of multimedia mobile contrivances such as smartpone and tablet PC. VNC has been utilized as an implement for a multiplatform application suite sanctioning users to access graphic exhibits remotely. It is predicated on the thin-client architecture and utilizes the RFB (remote frame buffer) protocol for sharing a screen between distinct contrivances.

## 2. RELATED WORK

### Existing System

The area of pervasive, or ubiquitous, computing was founded by Wieser (1991) who soothsaid that computers would one day be integrated into everyday objects and interacts with people seamlessly. There have been a number of research projects cognate to the utilization of the cell phone as a remote monitor and controller. [1] Describes architecture for remote controlling predicated on Android. According to [1], there are

different types of possibilities establishing connectivity between the Target PC and the Mobile Client such as USB Interface, Java Sockets, and Android Debug Bridge Client. Each of them has its own consequences. [2] Describes architecture for remote controlling predicated on Bluetooth. It is implemented in J2ME and the target PC is Windows predicated. It utilizes two technologies for engendering connection COM ports and JSR-82. Personal Computers do not fortify the JSR-82 API by default. The connection is established utilizing 802.11 links. The client is a PDA. There are cyclopean projects and initiatives designed that sanction remote control between contrivances. Even there are some initiatives that aim to control mobile contrivances. But most of them lack in utilization of

In integration, Android platform sanction the development of incipient conceptions facilely andTest them with a set of open standards. The prototype engendered as implementation of the proposed architecture will be provided additionally as gratuitous software. According to data relinquished by Nielsen a moiety of the consumers who recently purchased a Smartphone culled an Android Smartphone.

### Disadvantages

Transferring files requires other mechanisms (e.g. ftp).

Access to non-Unix platforms does not have good multi-user support.

Doesn't have modem access or features.

Display can be a bit slow, jerky, and/or incomplete.

### Proposed System

Cellular phones have shown a dramatic improvement in their functionality to a point where it is now possible to have cellular phones execute Java programs. As a result, cellular users

throughout world are now able to read and write e-mail, browse Web pages, and play Java games using their cellular phones. This trend has prompted us to propose the use of a cellular phone as a device for remotely controlling computers. Virtual Network Computing is a graphical desktop sharing system providing remote control via network. It supports a controlling functionality by usage of a graphical screen update from a controlled device and capturing a mouse and/or a keyboard. VNC system is based on RFB (Remote Frame Buffer) protocol [3] to transmit all information between connected devices. Transmission is running on one port from range 5900-5906 using TCP/IP protocol. VNC system required two type of application for a proper work - server application for a machine under control and client - for a supervisor (controlling) device. Client side is called viewer because of its functionality. Controlling machine is responsible for viewing a shared desktop (or screen in general) and capturing and converting all user activity into the RFB protocol [7] messages

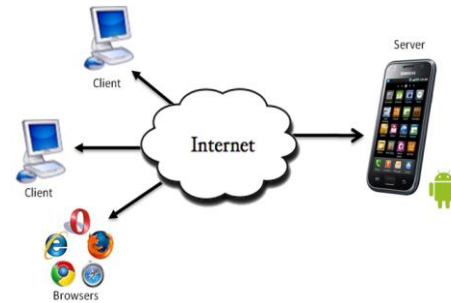
#### **Advantages:**

Clients compatible with the Remote Desktop Protocol run on a number of different operating systems.

Users do not, however, need a broadband connection to access their desktop, as even a 56K modem provides enough speed to provide 5-6 screen refreshes per second.

Private network to communicate confidentially over a public network.

Can send data, video or combination of both of these Medias across secured and encrypted and private channels between these two points



**Fig: - 1 High Level Architecture.**

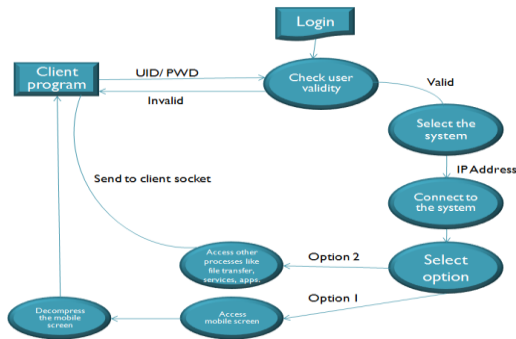
The VNC client sends the request to VNC server to make the updates. Server accepts the request and makes updates and sends the updates back to the client. This is done through the internet. For this it uses RFB protocol. VNC client can be PC, android cell phones or browsers like Opera Mini, Mozilla Firefox, Google Chrome, Internet Explorer etc. Here in our proposed system we are developing our new Protocol named 'COREE' which is based on NOVNC service. Ideally all the VNC applications has encryption mechanisms Like RAW, XLIB ,Hexical Tight . In our concept we are directly capture the screen pixels from display driver before it is displaying on Screen and do encryption and send it to our VNC client .This is very effective method which saves lots of bandwidth and eventually provide very good performance

#### **Applications:**

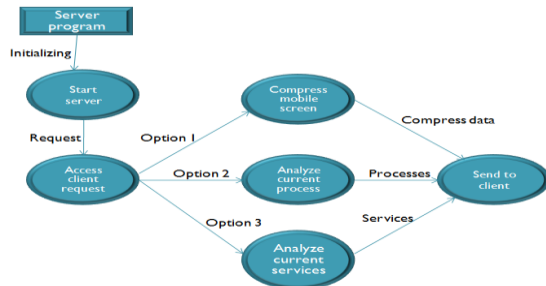
System administration IT support and helpdesks. It can be used for educational purposes. For example students in a distributed g Group can view the computer screen which is been manipulated by the instructor.

It can be used by the android application for remote administration at the time of practical exams by the supervisor.

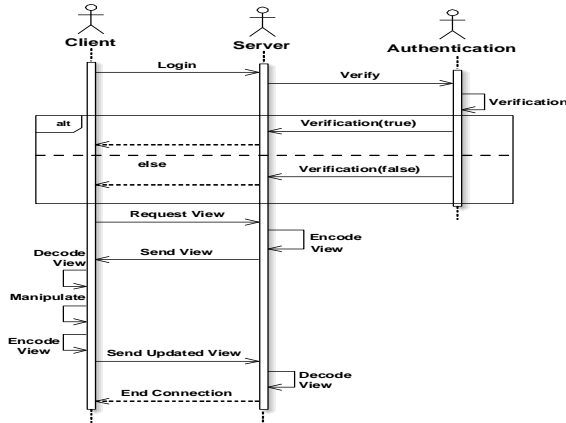
### 3. DESIGNING



**Fig:-2 Client Side Flow of the System**



**Fig:-2 Server Side Flow of the System**



**Fig:-3 Sequence Flow of the Application**

### 4. IMPLEMENTATION

#### Desktop Sharing:

In this module the remote desktop screen will be shared. This can be implemented with the help of the VNC protocol. VNC protocol is based on the concept of a remote frame buffer (RFB). The protocol simply allows a server to update the frame buffer displayed on a viewer. Because it

works at the frame buffer level it is potentially applicable to all operating systems, windowing systems and applications. The protocol will operate over any reliable transport such as TCP/IP.

#### Panning and zooming:

The user can move the viewport horizontally and vertically. The viewport can be widened (zoom out) to browse its contents and narrowed (zoom in) to see the display in greater detail.[1]

#### Over viewing and twin view:

In order to browse the entire area of the desktop display and to choose a specific area within it, the over viewing mode is provided. When the user turns this mode on, the aspect ratio is changed so that the whole area is rendered to fit the screen of the cellular phone. This helps the user adjust the viewport to the desired area of the desktop display. [1] Sometimes, it is convenient to display two areas of the desktop simultaneously. We can enter test conditions and observe the results simply by moving our line-of-sight slightly

#### Pointing and clicking:

The user can move the pointer on the remote desktop display vertically and horizontally by pressing keys. Dragging can be executed by pressing a key to specify the start of the dragging operation, then moving the pointer, and finally pressing the same key to indicate the end of the dragging operation

#### Inputting text:

Text is entered and edited locally on the cellular phone using the built-in text input capability of the cellular phone.

#### Shortcut Assignment:

Common GUI operations, such as pressing GUI buttons and opening pull-down menus become very tiresome when only basic operations are provided.

## 5. RESULT

Algorithm: VNC System:

### COREE Encoding

```
#include <CORRE-encoder.h>
...

{
    TIGHT_ENCODER encoder; /* structure
    maintaining the state of the encode*/
    charbuf[BIG_NUMBER]; /* in real programs,
    don't use fixed-size buffers */
    intnum_bytes;
    ...

    /* For each rectangle: */

    Capture the screen bytes from display driver with
    NO-VNC

    Identify the screen rectangle where value is
    changed Store the value in X,Y, Width and Hight

    num_bytes = tight_encoder_start(&encode, x, y,
    width, height);
    while (num_bytes > 0) {

        /* write num_bytes to buf[] here. */

        num_bytes = tight_encode_continue(&encoder,
        buf);
    }
    if (num_bytes < 0) {
        /* Handle errors. */
    }
    /* Rectangle has been encoded successfully. */

COREE Decoding
#include < CORRE-decoder.h>

{
```

```
TIGHT_DECODER decoder; /* structure
maintaining the state of the decoder */
charbuf[BIG_NUMBER]; /* in real programs,
don't use fixed-size buffers */
intnum_bytes;
...

/* For each rectangle: */
num_bytes = tight_decode_start(&decoder, x, y,
width, height);
while (num_bytes > 0) {
    ...
    /* Read num_bytes to buf[] here. */
    ...
    num_bytes = tight_decode_continue(&decoder,
    buf);
}
if (num_bytes < 0) {
    /* Handle errors. */
}
/* Rectangle has been decoded successfully. */
```

## 6. CONCLUSION

The conclusion of Remote controlling PC with Smartphone (Android mobile) Inputs from remote place with internet project is Smart phone and tablet universal remote software is usually highly customizable. As with traditional universal remotes some are programmed using the handset (phone/tablet) itself and others are programmed using a computer. remote control features, you can finally clean up your coffee table and put your extra remotes away in a drawer somewhere. Now your phone (or tablet) is your remote. At last your whole family (and even guests) will be able to figure out how to control all the different devices and inputs you have in the living room. A customizable remote control interface, where you decide exactly which buttons appear when you want them to. The dominant remotecontrol

technology in home-theater applications is infrared (IR). Infrared light is also known as plain-old "heat." The basic premise at work in an IR remote control is the use of light to carry signals between a remote control and the device it's directing.

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