



# Android Based Remote Desktop Client

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**ABSTRACT:** Android based remote desktop client is a remote control system which allows you to view and interact with one computer (known as “server”) to another computer or cellular phones (Android OS) anywhere on the intranet. A viewer is provided on the cellular phone that enables the user to see and manipulate the desktop of remote systems such as MS Windows. The system to be accessed must be running a server and it must be attached to a network. A proxy is used to send the image of the desktop to the cellular phone, to convert different devices, to suppress network traffics, and to support recovery from an unscheduled disconnection. A prototype of the proposed system been implemented using Android and will be tested on a Android Virtual Device emulator. To reduce user effort and solve problems inherent to the cellular phone’s small screen, several functions are provided on the cellular viewer. Virtual Network Computing protocol is used to access Graphical User Interface of remote computer. It is based on the concept of a Remote Frame Buffer or RFB. The system will use Remote method invocation (RMI) and screen image capturing techniques of API’s to implement VNC. All functions such mouse clicking, opening files, Playing media can be perform on server computer.

**Keywords:** VNC, Remote, Client, Server, Desktop.

## I. INTRODUCTION

This system should able to communicate with the remote system and can find out whole description about the remote system and can have control on the peripheral devices connected to remote system from the mobile phones. The remote system administrate tasks can also be performed from the cellular phone. Whether you are travelling on business or you are out of office, this system will give you the right solution to keep you connected. In computing, this is a graphical desktop sharing system which uses the protocols to remotely control another computer, but now we are trying to implement access to remote computers from Android phones. It transmits the keyboard and mouse events from remote computer to cellular phones. This system makes use of Virtual Network Computing. VNC are platform-independent — a VNC is a viewer on any operating system and can usually connect to a VNC server on any other operating system. There is a server in Java that can be used to communicate to any operating system running Java. This system can be use to remote technical support and getting access to files on remote computer.

## II. AIM

The aim is to develop an application through which user can monitor the computer over a network and can perform the administrative tasks such as accessing programs, hardware details, manipulating the files, logoff the system, mouse operations, viewing the full screen or navigating only to the part required, refresh operations and several other functions can be performed from the cellular phones itself.

## III. IMPORTANCE

It enables us to access computer anywhere within our network, it saves time

It does cover more distance than Bluetooth.

Conventional VNC System comprises accessing of remotely located computer desktop via internet by another computer or

Smartphone’s. In proposed system we provide access to those smart phones which are in our own network.

It helps to establish the connection to the remote computer and can perform various administrative tasks and enables us to do troubleshooting.

A viewer is provided on the cellular phone that enables the user to see and manipulate the desktop of various remote systems such as MS Windows, Macintosh, and UNIX. The system to be accessed must be running a server and it must be attached to a network.

#### IV. DESIGN OF THE PROJECT

While developing the system portability was the main aim of our system. To achieve portability targeting the architecture was main issue, we proposed a VNC based architecture. VNC is an implementation of a remote display system based on a Remote Frame Buffer (RFB) protocol.

##### A. Structure

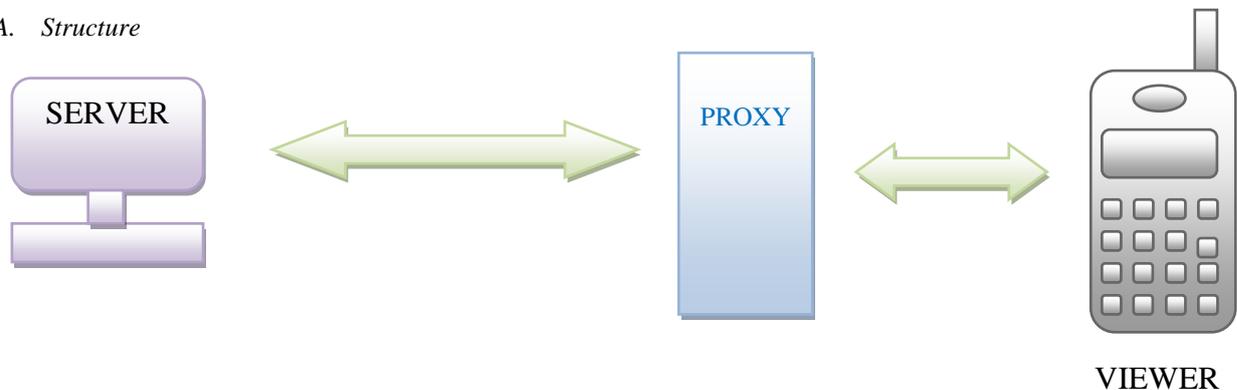


Fig.1 Basic structure

Figure no.1 depicts the VNC architecture. It consists of VNC servers running on one or more remote computers, a Smart VNC (SVNC) proxy, and a SVNC viewer on a cellular phone. A VNC server sends a remote desktop display as bitmap images in RFB protocol. A SVNC proxy converts the display image and then transfers the converted image to a SVNC viewer in response to a user request that was received from that SVNC viewer. Then, the SVNC viewer displays the transferred images. Key events received by the SVNC viewer are transmitted to a SVNC proxy that converts them and sends them to the server. When the user first tries to connect to a remote computer, he must specify his user name and password for authentication as well as the host name of the computer that is running a VNC server. If authentication succeeds, the SVNC proxy establishes a session with the VNC server and the SVNC viewer starts user services. Usually, color display images are transferred from the SVNC proxy to the SVNC viewer. However, while the user is manipulating the remote desktop, such as scrolling and moving the pointing device, the display images are gray-scaled to reduce the number of bytes required to encode the image.

#### V. MODULES

##### A. Server Connecting Module

Authentication is set by asking the username and password on the cellular phone, if the validation is correct it asks for the ip address of the remote system. Otherwise it displays an error message. If the ip address is incorrect it displays an error message and if the ip address is correct, with the help of the http proxy the client is connected to the server which is our remote desktop. Connection from the server to the mobile client can be done using Stream Socket Connection. As the connection is wireless we should use intranet compatible cell phone which is compatible for the java programs to run.

Http supports proxy server. A proxy server is a computer that keeps copies of responses to recent requests. In the presence of a proxy server, the Http client sends a request to the proxy server. The proxy server checks its cache. If the response is not in the cache, the proxy server sends the request to the corresponding server. Incoming responses are sent to the proxy server and stored for further requests from client. The proxy server reduces the load on the original server, decreases traffic, and improves latency. Proxy is used to send the image of the desktop to the cellular phones. Proxy is also used for the compatibility of the different devices to run the java programs.

##### B. Desktop viewing module

The computer screen's view is fragmented into 8 to 16 parts to synchronize with the display area of the mobile using Remote frame buffer protocol(RFB).A VNC server sends a remote desktop display as bitmap images in RFB protocol. A SVNC proxy converts the display image and then transfers the converted image to a SVNC viewer in response to a user request that was received from that SVNC viewer. Text is entered and edited locally on the cellular phone using the built-in text input capability of the cellular phone. After editing on the cellular phone, the text is transmitted to the VNC server via the SVNC proxy. With the help of refresh method the remote system can be refreshed. As shown in

figure no 2, in order to browse the entire area of the desktop display and to choose a specific area within it, four navigation keys are provided. These four keys let us to move left, right, up and down. For selecting particular menu on desktop right click and left click buttons are provided on the screen. When user click on right click button it generally does work of selecting that particular menu such as opening a file within folder. Similarly when user clicks on left click button it generates popup menu on desktop. While troubleshooting communication is necessary within two parties for example how somebody would know where example.doc file is located which is having problem so user of that file must tell troubleshooter about location of that file. For that we have provided notepad client which enables client to save notepad file to server machine. If troubleshooter wants to convey any message he can just type in notepad client and save it to server machine. Server running on remote computer will notifies us about the location of the file. If user at the server side wants to convey any message he can just open notepad on their system type message as he will be having total control of his machine at any point of time.



Fig.2 viewing desktop

### C. Notepad client

For sake of communication between parties involved in, we have provided notepad client. This client enables us to type any kind of message that we wants to convey to the user which is working on server. This client saves .txt file to server computer. By seeing message in the notepad file user will respond.

## VI. CONCLUSION

In the proposed system we allow access to user which is registered on the network, so there is less constraint on security. Server we designed is java based and can be installed on any operating system which runs java. The only thing needed is android operating system Smartphone.

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