Controlling Remote Desktop
Shubhra Saggar
Sr. Lecturer, GNIM, New Delhi, shubhrasaggar@yahoo.co.in

Abstract
Today computers have become an integral part of everyone’s life. Use of computers is not only restricted for corporate use but also for personal use and intercommunication purpose. For all these different purposes networking or network has become the magic word. Today, lots of information and resources are shared all over the world through the network. The buzzword or the revolutionary term originated from this is global network i.e. Internet. But along with all the advancements and developments, the danger of misusing the network has also increased.

The main objective behind development of “Remote Desktop Monitor” to build a server application that allows to view or even control the desktop session on another machine that is running a compatible client application, with the efficiency to provide the real time information about the remote machine.

Introduction
This project is a network based one. The primary objective behind development of “Remote desktop Monitor” is to provide a mechanism by which system administrators could remotely connect to a desktop machine and resolve basic problems for users. However, the umbrella term "Remote Desktop" encompasses much more functionality and use cases. The project aims at developing an application to access and interact with a remote desktop. Aim is to remotely administer a system over the network. It may comprise of following tasks:
1. View a desktop remotely.
2. Interact with remote desktop.
3. Open a connection to user desktop, having user aware of the connection.
4. Open a connection to user desktop, without having user aware of the connection.

Today, from a general user to network administrators (corporate or institutional) — will be benefited a lot from this new system.

Existing Systems
The current existing systems are potentially good systems, which do allow us to remotely connect to the remote machines and access their respective desktops. But most of the existing systems are quite difficult to use and implement for a layman.

Limitations of the existing systems
The existing systems have the following limitations:
1. Remote Desktop Protocol (RDP) is a multi-channel protocol that allows a user to connect to a computer running Microsoft Terminal Services[5].
2. In most of the existing remote desktop capturing applications, the user working on the remote machine is aware with the fact that someone else is viewing his/her desktop remotely[4].
3. In some of the existing systems, when a user accesses the desktop of the remote machine then the display terminal of that remote machine is disabled. This is a major limitation, because it prohibits the original user of the remote machine to carry out his/her task[4].
4. In some of the already existing systems, the quality of desktop image captured is of poor quality.

Proposed System
The new system will overcome all the anomalies and limitations of the existing system(s).

System Overview
The Remote desktop Monitor will allow the system administrator to use or to remotely control the other systems through a simple application. This software intends to leverage existing technologies and to utilise them in a new way. The proposed Remote desktop will exist in a distributed computer environment such as the Internet but will also be accessible from within an intranet such as an office or in the home itself. The proposed system can best be illustrated with the following diagram

Copy Right © INDIACom – 2008
The basic objectives are:

- The software will help in viewing the desktop screens of other systems.
- The software will enable to control the mouse of the remote system, taking control of the system in whole.

Here are a number of scenarios that could fall under the "remote desktop umbrella".

- **Ms X**: manager, just wants to get stuff done
- **Mr Y**: system administrator doesn't enjoy wasting more time than necessary on users.
- **Mr Z**: call centre employee, bored with everything, just wants the shift to end.

Ms. X, Mr. Y and Mr. Z are all employees of ABC, Inc. Some scenarios:

- Ms X has a problem checking her email. She telephones the internal helpdesk where she finds herself talking to Mr. Y. Mr. Y would like to be able to remotely see what problem Ms X is having and, hopefully, fix it without having to waste time walking around the office looking for Ms X’s desk before fixing the problem.

- Mr. Y has noticed from his proxy server logs that somebody is looking at an awful lot of porn. Mr. Y suspects Mr. Z but needs to prove it by catching him in the act. Mr. Y wants to snoop on Mr. Z every now and again over the course of the day.

- Ms. X has to give a presentation to senior management at 4pm in the boardroom downstairs. She hates having to spend ages getting stuff set up before she gives the presentation - especially with a presentation like this where she's nervous enough without having to worry about the computer going wrong on her. Wouldn't it be great if she could have everything set up before she went into the room and could launch straight into the presentation?

- One of Mr. Y's colleagues in the office on the other side is trying to diagnose a problem with their mail server. Mr. Y is doing his best helping the guy out over the phone but he's having difficult understanding exactly what the guy is seeing. Mr. Y would love to remotely sit on the guys shoulder and talk him through it.

**Tasks**

The scenarios above can be broken up into three distinct use cases:

1. Remote administration
2. Terminal Services
3. Collaboration

Here is the task list for each of those use cases:

1. Remote administration
   - Browse the network for machines to connect to.
2. Terminal services
   - Log Off a remote desktop.
   - Shutdown the remote machine.
3. Collaboration
   - Share information
   - Individually approve each attempt to control your desktop
   - Collaboratively work on a particular file like more than one person working on the same MS Word file at a same time.
   - Using software from another system which is not available on the local system.

**Design**

The table below shows the proposed Client/Server architecture:

<table>
<thead>
<tr>
<th>Tier</th>
<th>Installed On</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client</td>
<td>Any number of client desktop computers.</td>
<td>Captures the screen and sends it to server side.</td>
</tr>
<tr>
<td>Server</td>
<td>Server application installed in the administrator system.</td>
<td>Control of client remote system.</td>
</tr>
</tbody>
</table>

**Data Flow Diagram 0-level**

![Data Flow Diagram](image-url)
User will interact with server side application. Server will display/control the remote (client) desktop. Server gives its request/control signal to client application via socket. Client in turn starts capturing and sending its desktop image or performs action and send status to server. Server application displays received client image or can continue sending control signal to client. This continues till either side terminates the connection.

**Flow Chart**

**Remote Side**

**Conclusion**

Remote desktop Monitor is a potentially huge growth area and several companies are currently developing software that enables users to access remote systems from the office or other remote locations by using even embedded system. By using platform independent languages like C#, for development, gives freedom to use same application in heterogeneous system.

**Future Scope**

There are a number of changes to the design that could be added.

1. **Remote Drag and Drop**
   Transfer files between two computers easily by dropping a file or folder from host computer onto a remotely controlled computer—or from a remote computer onto host.

2. **Remote Copy & Paste**
   Copy & Paste information between local computer and a remote computer.

3. **Auto Install**
   With automatic policy-based installation of software packages, administrator can stage software to install on remote, mobile, or online systems. Auto Install is ideal for distributing software to mobile computers.

4. **Accesses from Embedded system**
   People usually carry the PDAs, which can be used to access the remote desktop. This important feature will provide any time any access.
REFERENCES


