



University of Dhaka
Department of Computer Science and Engineering

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CSE – 2112: Object Oriented Programming

Project Name: PC Dictator

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Project Name:

PC Dictator

Introduction:

“PC Dictator” is a user friendly remote PC controlling project. It is actually JAVA networking and GUI based project. The main objective of doing this project is to learn OOP (Object Oriented Programming) and implement it practically. This is our first project using OOP language. We have learnt a lot from this project.

The main objective of this project is controlling other computers via socket. Besides, to make an efficient program where a server PC can control single as well as multiple client PCs.

Overview:

In our project we have divided the PCs into two categories. One is a server PC and other is client PCs. All the PCs are connected under same LAN connection. So, using IP address of server PC other client PCs can be easily connected.

Firstly, server PC needs an account. We used MySQL database for sending and retrieving information to open an account. After opening account, one can easily login and use our project efficiently.

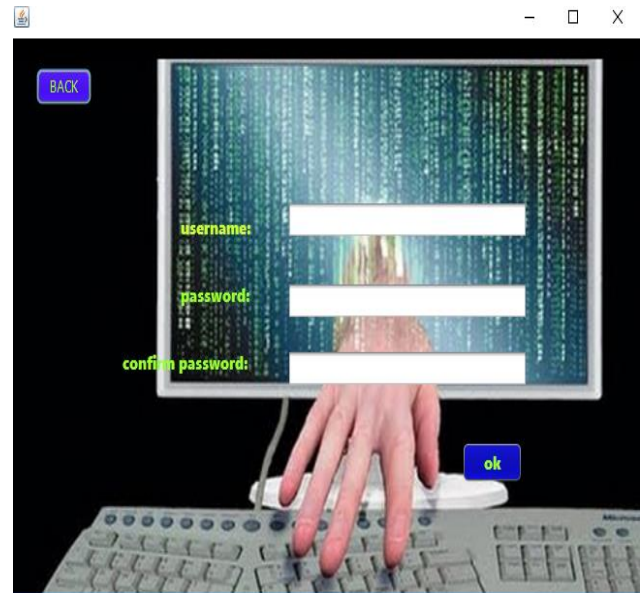
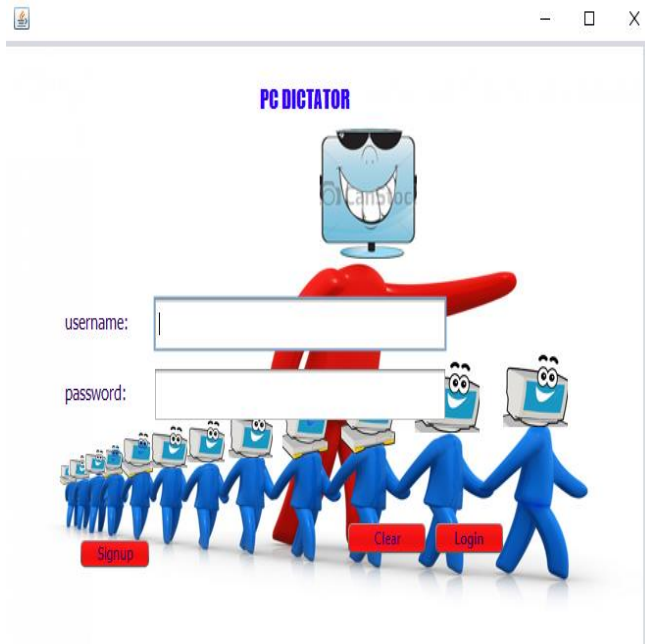
Secondly, we have added the features to control other PCs. Features are sleep, shutdown, lock pc, send files, receive files, give a message, delete files, install software. We did these using command prompt. Even we used “Robot” class for monitoring and controlling other PC.

Actually, in our project we have given option to control a single PC or multiple PCs. Even user can determine how many PCs he wants to control. This option helps user to specify the amount of PCs he wants to dictate. To make it more user friendly one just need to click button. Then the correct command will go to client PCs. According to the button clicking the program of the project will react.

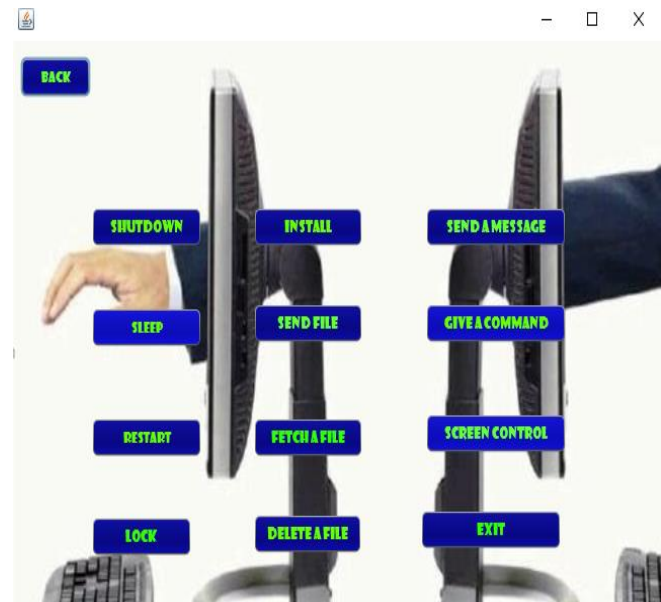
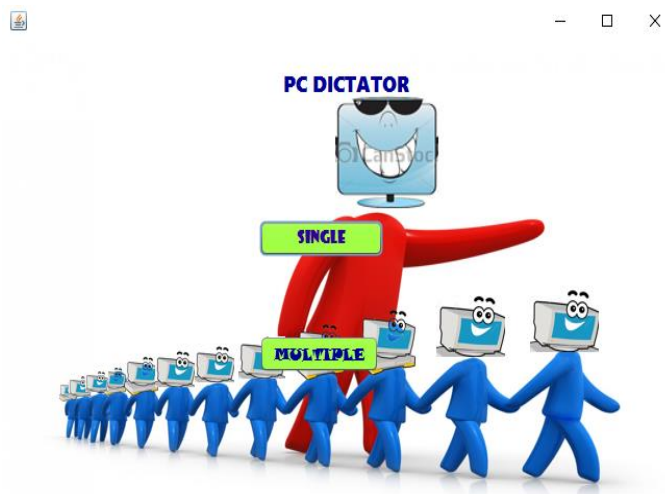
We used MySQL database for security. Then we used Java GUI, Robot class and multithreading system to make it more user friendly.

Graphical Interface:

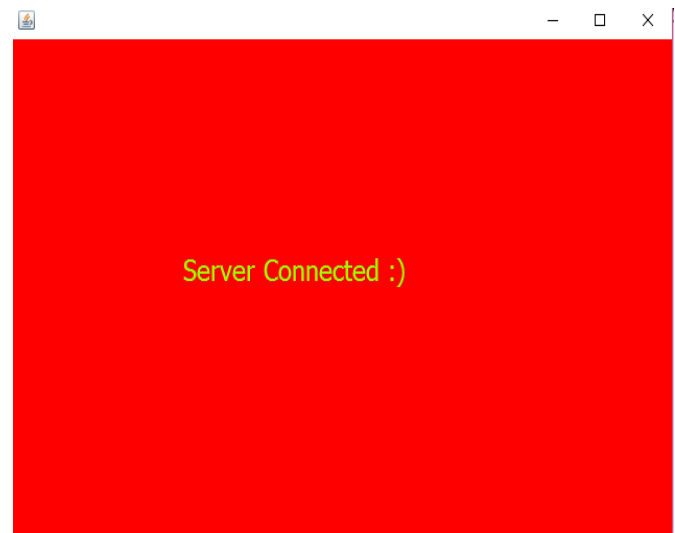
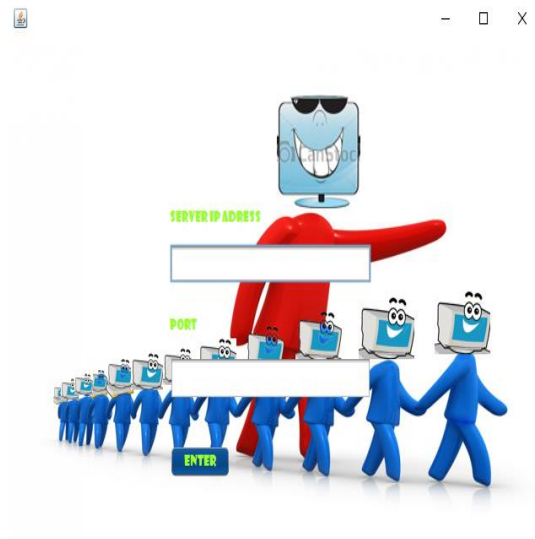
Firstly there is a login form for server. If user does not have any account he/she has to click “signup” button to go to sing up form.



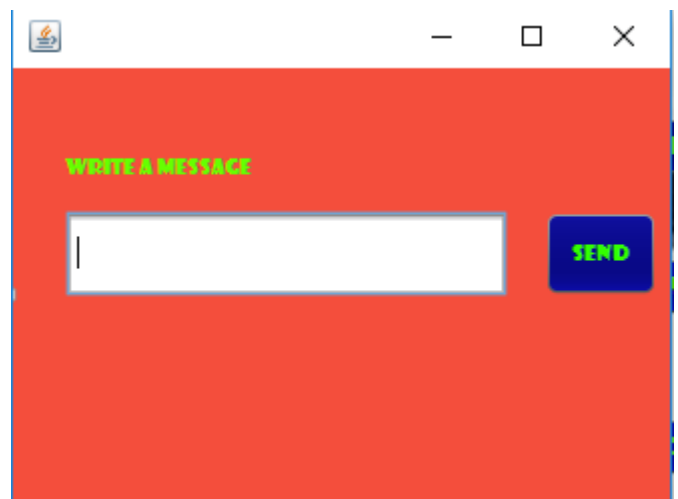
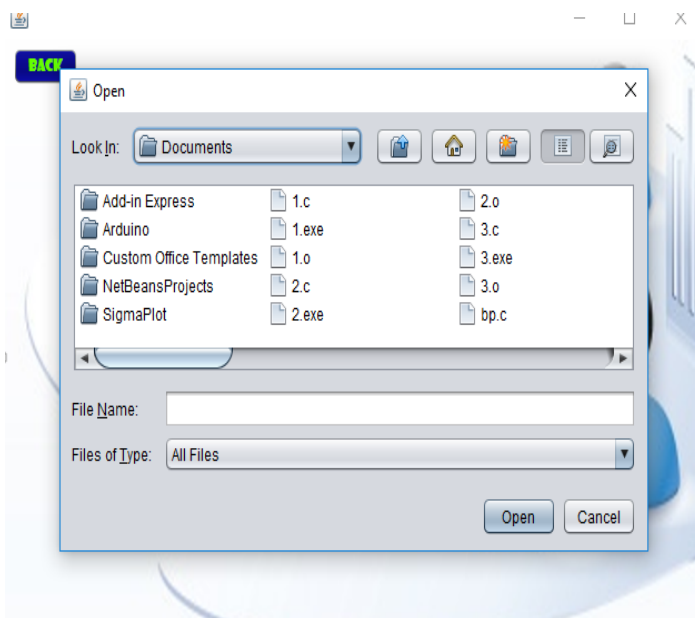
Then, after login we get to modes page. There if we select single we go to single feature page.



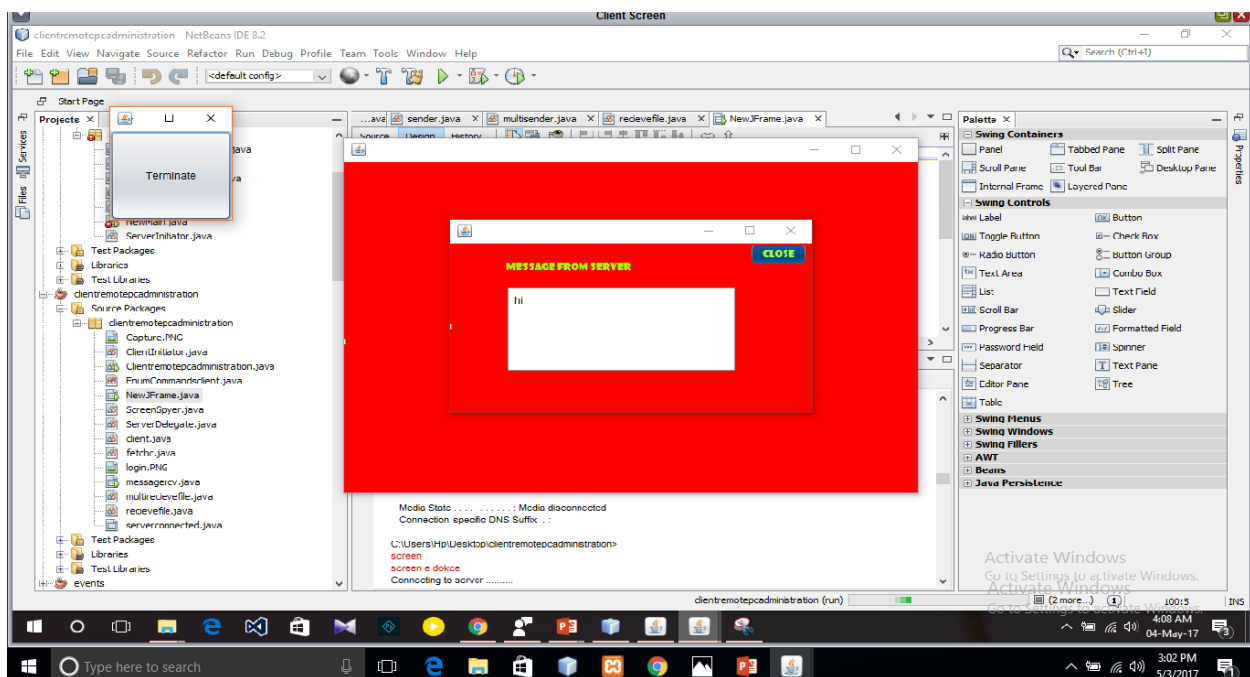
If client want to get connect, client has to write port and server IP address. After writing IP address client get connected.



Server can send files and give message. Client receives message.



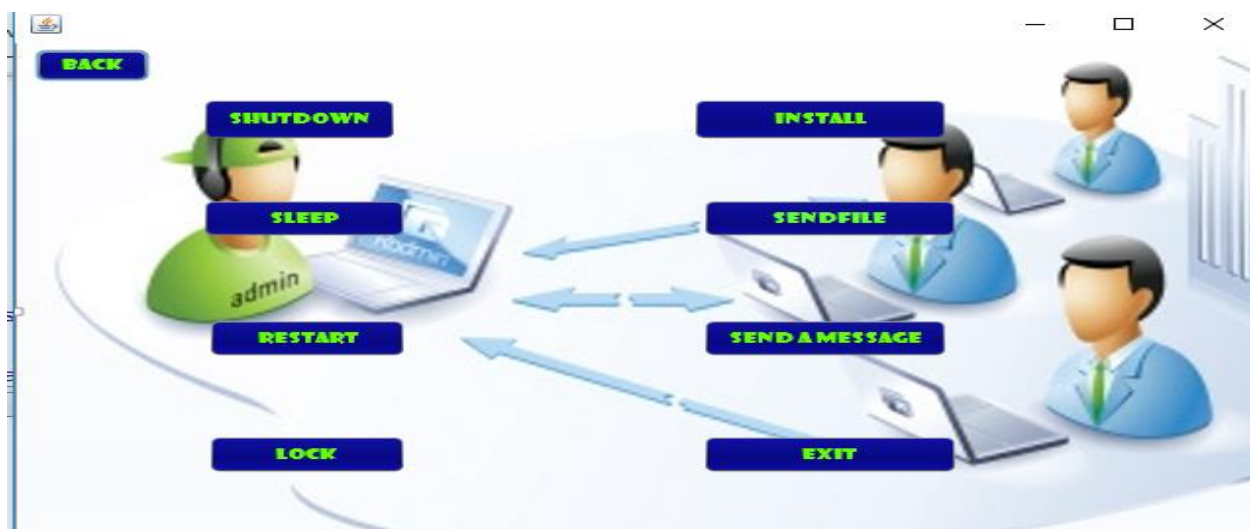
Clients receive message. Even client screen can be seen from server



In multiple mode, there is an option to select how many clients user want to control.



Then it goes to multiple clients feature page.



Resolving Problems:

In our departmental lab, most PCs are left without turning off. So, it is a great problem to shutdown each pc for lab supervisors. Through this project all PCs can be turned off simultaneously by a single server PC. Even PCs can be restart or locked instantly.

Again, for lab supervisors it is a great problem to install a software for all PCs. Using “PC Dictator”, they can easily install a program.

Even they can delete the files of other PCs sitting in front of server PC. Also send files and retrieve files from client pcs.

If they want to monitor a certain PC they can select that PC and control every movement of that PC. This way they can handle that PC.

We tried to solve the problems in our departmental lab. But actually, our project can solve the problems of many offices, industries where controlling single as well as multiple PCs are very important.

Our project actually saves a lot of time and energy from performing the above tasks.

Project Outline:

We divided our project into three parts.

1. Designing the GUI
2. Creating network interface
3. Merging different projects

1. Designing the GUI

- Designing the login form.
- Designing the sign up form.
- Designing the option form (Single, Multiple).
- Designing the features form of single computer control.
- Designing the selection of computers form.
- Designing the features form of multiple computers control.
- Designing the sending files path.

- Designing the monitoring PC background.

2. Creating network Interface:

We have designed server using the following interfaces-

- Creating files into byte code
- Sending data byte by byte
- Sending cmd commands
- Receiving data byte by byte

We have designed clients using the following interfaces-

- Receiving cmd commands
- Sending data byte by byte
- Receiving data byte by byte

3. Merging the projects:

We have to merge all the projects like cmd commands project, file sending and receiving project, sign up login project, screen controlling project in both server and client.

We had to use multithread programming to merge all those project. We also used multithread in server.

Main Features:

We have divided our main features into two categories.

1. Single
2. Multiple

1. Single:

We have added some features in single mode.

i) Shutdown: This helps the user to shut down a single pc.

- ii) Restart: This helps the user to restart a single pc.
- iii) Lock: It helps user to lock a pc.
- iv) Sleep Down: It helps user to sleep a pc.
- v) Install file: It helps user to install files in a client's pc.
- vi) Send file: It helps user to send files to a client's pc.
- vii) Fetch file: It helps user to fetch files from client's pc.
- viii) Screen control: It helps user to monitor and control client's pc.
- ix) Give a command: It helps user to access cmd command of the client's pc.
- x) Delete file: It helps user to delete files of a certain pc.
- xi) Send messages: It helps to send message to a certain pc.

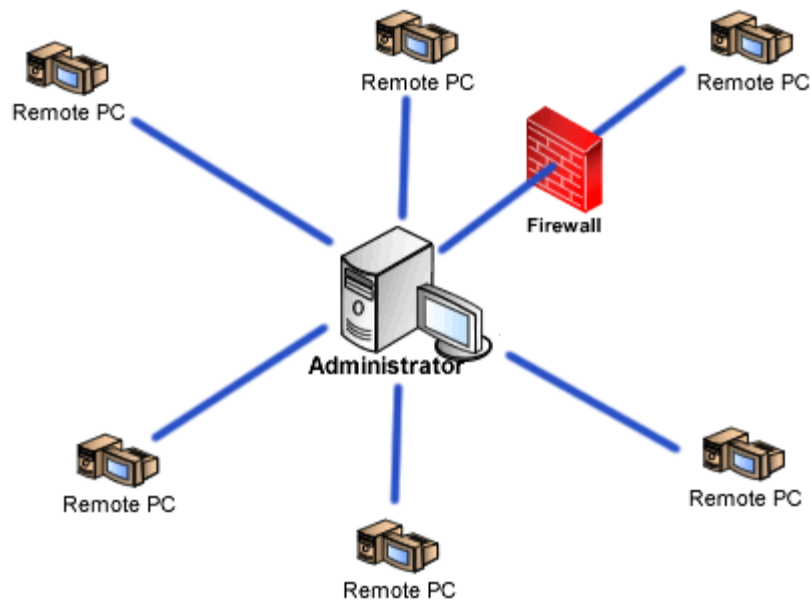
1. Multiple:

We have added some features in multiple mode.

- i) Shutdown: This helps the user to shut down multiple pcs simultaneously.
- ii) Restart: This helps the user to restart multiple pcs simultaneously.
- iii) Lock: It helps user to lock multiple pcs instantly.
- iv) Sleep Down: It helps user to sleep multiple pcs.
- v) Install file: It helps user to install files in multiple pcs simultaneously.
- vi) Sending file: It helps user to send files to multiple pcs instantly.
- xii) Send messages: It helps to send messages to client pcs instantly.

We have also given features like sign up, login.

Project Architecture:



Challenges:

- Using MySQL database for login & sign up.
- Using multithread in our project.
- Using networking in our project.
- Using Robot class in this project.
- Merging all the projects.

Area of further improvement:

In future, we will try to upgrade and modify this project to make it more user friendly and efficient. So, user can handle multiple computer more easily. We will try to connect all the PCs directly, so that user can easily handle those PCs. We will try to add more features in multiple mode. So that user can monitor multiple pcs simultaneously.

Experience:

When we started this project, many ideas came to our mind. At first we used cmd prompt to do all the works. But we faced some difficulties to use it. After that when we tried to send files, we found that server to server files are transferring. But server to client files are not transferring byte by byte. So, it was tough for us to solve it. After solving it when we moved controlling client screen we faced some problems. Again when we tried to connect multiple clients we faced serious problem. We almost spent two days trying to solve it. But we failed. Then at third day, we came up with some ideas and was able to solve it. The final problem was merging all the projects and classes. We used multithread though it took much time.

We stayed together almost two weeks to complete this project. To be honest, we enjoyed and learnt a lot in this java project. We are looking forward doing this type of project which we can use in our practical life.

Reference:

<http://www.javatpoint.com>

<http://www.javaworld.com>

<http://docs.oracle.com>

<https://www.tutorialspoint.com/java>

<http://stackoverflow.com/>

