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SMS Based Remote PC Monitoring Android Application

by

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Abstract

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In todayâĂŹs era, electronic devices and PCâĂŹs are the vital part of onesâĂŹ life. Our project represents how a single PC or multiple PCs connected in a network can be controlled from remote place with your smart phone device with the help of Internet. An important aspect of the technology is to remotely monitor these devices. The project presents an application using which user can connect to any computer having Client Application running on it provided this application is currently installed on the android phone. It is basically an Android based Mobile Application for keeping an eye on a Target PC or multiple PCs. User can monitor the Target PC, provided its MAC address is known. By getting MAC address from the PC, the smart phone can constantly keep in touch with all the computers registered.

Acknowledgements

We take this opportunity to express our profound gratitude and deep regards to our guide Mr.R.D.Ghorpade for his exemplary guidance, monitoring and constant encouragement throughout the course of this project. The blessing, help and guidance given by him time to time shall carry us a long way in the journey of life on which we are about to embark.

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Miss.Lotake Rutuja Uttam

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Chapter 1

INTRODUCTION

1.1 Introduction of project

The introduction of smart phones has brought a bigchange in the technical field related to cellular phones. Now adays , smart phones are used worldwide and provide muchbetter facilities than previously available cellular phones. These phones provide features which were previouslyprovided by computer system architecture. In this paper ,wedescribe the system which can provide access to remotecomputer system .

Initially phones were merely used for calling or texting.Now-a-days, the scenario has changed.In todayâĂŹs world,more focus is given on the availability of the internet and thus using various applications present in the android market. Our project focuses on providing the user with the ability to keep a constant watch on the computers that he has registered using the smart phone.With the help of the project, the user can use various facilities which includes configuration of the applications which the user wishes to restrict or when such applications are opened, using the hand held device the user can terminate these applications. Also file transfer can take place between the phone and the computer also between the computers registered on the phone. The application will work only if the Android phone is above version 2.3 and the serverhas to be Windows server 2003 or above. The application is developed using .Net on the client side and using Java on the hand held device.To manage and control the activities of the computers while in office is an easy task. But, while you are outstation /away from office, how will you monitor and control these computers? Instead of depending on third party information,you can always have your cell phone serve the purpose.

The basic idea behind our project is to provide the user with an Android application that helps him to monitor the computers while he is away from his desk. The userâĂŹs request will be sent to the client for processing through the server and the client then responds accordingly and the result is sent to the Android phone. All the applications running on the computers will be monitored by the hand held device. One can use the application to copy files from PC to the android device, start and stop any applications installed on the Target PC, shutdown the Target PC, configure allowable applications on the target PC, get the online/off line status of the machine and much more. In our project we will be using JAVA and Android as both are open source platform thus they allows the development of new ideas and tests them with a set of open standards.

Chapter 2

LITERATURE REVIEW

2.1 Literature Review:

Through the literature survey we came across certain papers which provided remote access to a single computer. Also,presently in the android market we have applications which can access the PC using the phone as if we were actually using the PC. Some examples include, TeamViewer, LogMeIn, etc.While going through all the similar applications, we realized that no application in the current market could provide the user to monitor the computers that are connected to it. This was one of the drawbacks of the applications that are present in the android market. Keeping this drawback in mind, we decided to develop an application which can help the user to remotely monitor all the computers that he has registered through his android phone. What the previously developed applications lack, we focus on those areas to built an application which will be user friendly and will provide the user with better facilities.[1]

2.1.1 VNC

VNC architecture based remote desktop accessthrough android mobile phones A user will be able to access and manipulate the desktops of remote computers through a VNC viewer that will be provided on the user's cell-phone. The user can access and manipulate the desktop within the Wi-Fi range irrespective of various platforms like windows, mac or linux.[2]

2.1.2 PocketDroid

PocketDroid - A PC Remote Control This paper presents an application named PocketDroid, using which user can connect to any computer having Server Application running on it. It is basically an Android based Mobile Application for controlling a Target PC. User can have full access of the Target PC, provided its IP address is known.[3]

2.1.3 Monitoring PCs using Android

Here the android phone sends a request to the servervia WCF services provided by .NET and then the request is processed and forwarded to the client computers. All the databasemodifications are done by the database server. Data isstored in an XML file which can be easily retrieved by the android user. The XML classes in the .NET Framework have been designed to offer High productivity, Compliance with W3C standards, Extensibility, A pluggable architecture, High performance, etc.[1]

2.1.4 Remote Control of Mobile Devices in Android Platform

The architecture proposed in this paper consists of a remote control architecture of mobile devices on the Android platform based on a client / server model oriented to services. The server layer is performing the services of mobile device management and accepts the connection from different clients. The client layer, available from a remote device, performs the interaction between the control equipment and the monitored device.[4]

2.1.5 Concept of Remote controlling PC with Smartphone Inputs from remote place with internet

It allowing the user to program command sequences to be sent with one button press. Programmable soft keys, allowing user-defined functions and macros. It allowing the remote to be programmed to control new devices not already in its code list by IR coding.[5]

2.1.6 Proposed work:-

In this system user can monitor the lab using our application. The tablet/smartphone at the user contains the android application with all the lab monitoring details.This wireless application is user-friendly, improves efficiency and accuracy for user by saving time, reduces human effort. This system successfully overcomes the drawbacks in earlier lab controlling systems and is less expensive as it requires a one-time investment for gadgets.

The user can start and kill the process on which machine was selected in app.Also user can shutdown or restart the machine.User can get the desktop screenshot using screen capture.The user can share file from shared folder on another pc to the email-id which is provided by user. User can check the diskspace on machine.Through processlist user can see the which process are in running state or not.

This all procedure is done via SMS and internet. so,it can be remotely used from any place.

Chapter 3

Objective and scope

3.1 Objective and scope

3.1.1 Objective of project:-

- To monitor and control Machines in Network through Android based device using SMS.

3.1.2 scope of project:-

- List of running processes
- Start and kill process
- Check the disk space
- File sharing
- Get captured desktop screen

3.1.3 Out of scope:-

- Get the Antivirus Update of each machine.
- Direct handle target Pc on Android

Chapter 4

Requirement Analysis

4.1 Requirement Analysis

4.1.1 Hardware Requirement

Hardware for devlopment machine:-

- Processor: C2D 2.0 GHz or above
- Memory: 4 GB or more
- Other Requirements: Dongle with SIM card

Hardware for PC LAB SERVER:-

- Processor: C2D 2.0 GHz or above
- Memory: 2 GB or more
- Other Requirements: Dongle with SIM card

Hardware for Android Client:-

- Android OS 2.3 installed device with SIM card

4.1.2 Software Requirement :-

Software for devlopment machine:-

- OS: Windows 7 or above
- Frontend: C Sharp
- Backend: MS Access.
- Eclipse studio for android
- Jdk 1.6 or above

Software for PC LAB SERVER:-

- OS: Windows XP or above
- Dot net Framework 4.0 or above
- Backend: MS Access.

Software for Android Client:-

- Android

4.2 Tools and technologies Requirement:-

A) C Sharp (Visual Studio 2008) It is a multi-paradigm programming language encompassing strong typing, imperative, declarative, functional, generic, object-oriented (class-based), and component-oriented programming disciplines. It was developed by Microsoft within its .NET initiative and later approved as a standard by Ecma (ECMA-334) and ISO (ISO/IEC 23270:2006). Csharp is one of the programming languages designed for the Common Language Infrastructure. C sharp is an elegant and type-safe object-oriented language that enables developers to build a variety of secure and robust applications that run on the .NET Framework. You can use C sharp to create Windows client applications, XML Web services, distributed components, client-server applications, database applications, and much, much more. Visual C Sharp provides an advanced code editor, convenient user interface designers, integrated debugger, and many other tools to make it easier to develop applications based on the C Sharp language and the .NET Framework.

B)Microsoft Access:- Microsoft Access, also known as Microsoft Office Access, is a database management system from Microsoft that combines the relational Microsoft Jet Database Engine with a graphical user interface and software-development tools. It is a member of the Microsoft Office suite of applications, included in the Professional and higher editions or sold separately. Microsoft Access stores data in its own format based on the Access Jet Database Engine. It can also import or link directly to data stored in other applications and databases. Software developers and data architects can use Microsoft Access to develop application software, and "power users" can use it to build software applications. Like other Office applications, Access is supported by Visual Basic for Applications (VBA), an object-oriented programming language that can reference a variety of objects including DAO (Data Access Objects), ActiveX Data Objects, and many other ActiveX components. Visual objects used in forms and reports expose their methods and properties in the VBA programming environment, and VBA code modules may declare and call Windows operating-system functions.

C) Eclipse:-

a) Description:

Eclipse is an integrated development environment (IDE). It contains a base workspace and an extensible plug-in system for customizing the environment. Written mostly in Java, Eclipse can be used to develop applications. By means of various plug-ins, Eclipse may also be used to develop applications in other programming languages: C, C++, COBOL, Fortran, JavaScript, Natural, Perl and PHP. It can also be used to develop packages for the software Mathematical.

b) Android Development Tools for Eclipse:-

ADT (Android Developer Tools) is a plug-in for Eclipse that provides a suite of tools that are integrated with the Eclipse IDE. It offers you access many features that help you develop Android applications quickly. ADT provides GUI access to many of the command line SDK tools as well as a UI design tool for rapid prototyping, designing, and building of your application's user interface. Because ADT is a plug-in for Eclipse, you get the functionality of a well-established IDE, along with Android-specific features that are bundled with ADT. Developing in Eclipse with ADT is highly recommended and is the fastest way to get started. With the guided project setup it provides, as well as tools integration, custom XML editors, and debug output pane, ADT gives you an incredible boost in developing Android applications.

Chapter 5

SYSTEM DESIGN

5.1 An Overview of the UML

The UML is a language for

- Visualizing
- Specifying
- Constructing
- Documenting

THE UML LANGUAGE

A language provides a vocabulary and the rules for combing words in that vocabulary for the purpose of the communication. A modeling language is a language whose vocabulary and rules focus on conceptual and physical representation of a system. A modeling language such as the UML is thus a standard language for software blueprints. In this context, specifying means building models that are precise, unambiguous, and complete. In particular, the UML addresses the specification of all the important analysis, design and implementation decision that must be made in developing and deploying a software intensive system. The UML is not a visual programming language, but its model can be directly connected to a verity of programming languages. This means that its possible to map from a model in the UML to a programming language such as java, cpp, or visual basic or even to tables in a relational database. Things that are best expressed graphically are done so graphically in the UML, whereas things that best expressed textually are done so in the programming language. A healthy software organization produces all sorts of artifacts in addition to raw executable code. These artifacts include requirements, architecture, design, source code, project plans, tests, prototypes, releases. The UML addresses the documentation of a systems architectureâĂŹs and all of its details. The UML also provides for expressing requirements and for tests. Finally, The UML provides a language for modeling the activities of project planning and release management.

5.2 Goals Of UML

The primary goals in the design of the UML were:

- Provide users with a ready-to-use, expressive visual modeling language so they can develop and exchange meaningful models. Provide extensibility and specialization mechanisms to extend the core concepts.
- Be independent of particular programming languages and development processes.Provide a formal basis for understanding the modeling language
- Encourage the growth of the OO tools market.
- Support higher-level development concepts such as collaborations, frameworks, patterns and components.
- Integrate best practices

5.3 A Conceptual model of the UML

To understand the UML, you need to form a conceptual model of the language, and this requires learning three major elements: the UMLâĂŹs basic building blocks, the rules that dictate how those building blocks may be put together, and some mechanisms that apply throughout the UML. Once you have grasped these ideas, you will be able to read UML models and create some basic ones. As you gain more experience in applying the UML, you can build on this conceptual model, using more advanced features of the language.

5.3.1 Building Blocks of the UML

The vocabulary of the UML encompasses three kinds of building blocks:

- Things

- Relationships
- Diagrams

These are the abstractions that are first-class citizens in a model; relationships tie these things together; diagrams groups interesting collections of things.

5.4 Diagrams in the UML

A diagram is the graphical presentation of a set of elements, most often rendered as a connected graph of vertices (things) and arcs (relationships). You draw diagrams to visualizing a system from different perspectives, so a diagram is a projection into a system. For all but the most trivial systems, a diagram represents an elided view of the elements that make up a system. The same element may appear in all diagrams. In theory, a diagram may contain any combination of things and relationships. The views that comprise the architecture of software âĂŞ intensive system. For this reason, the UML includes following diagrams:

- Use case diagram
- Class diagram
- Sequence diagram
- Deployment diagram

5.5 Use Case Diagram

A use case diagram is a diagram that shows a set of use cases and actors and their relationships. A use case diagram is a just special kind of diagram and shares the same common properties as do all other diagram-a name and graphical contents.

5.5.1 Contents

Use case diagrams commonly contain

- **Use Case**

  Use case is a description of a set of sequence of actions that a system performs that yields an observable result of value to a particular actor. A use case is rendered as an ellipse with solid lines usually including its name.

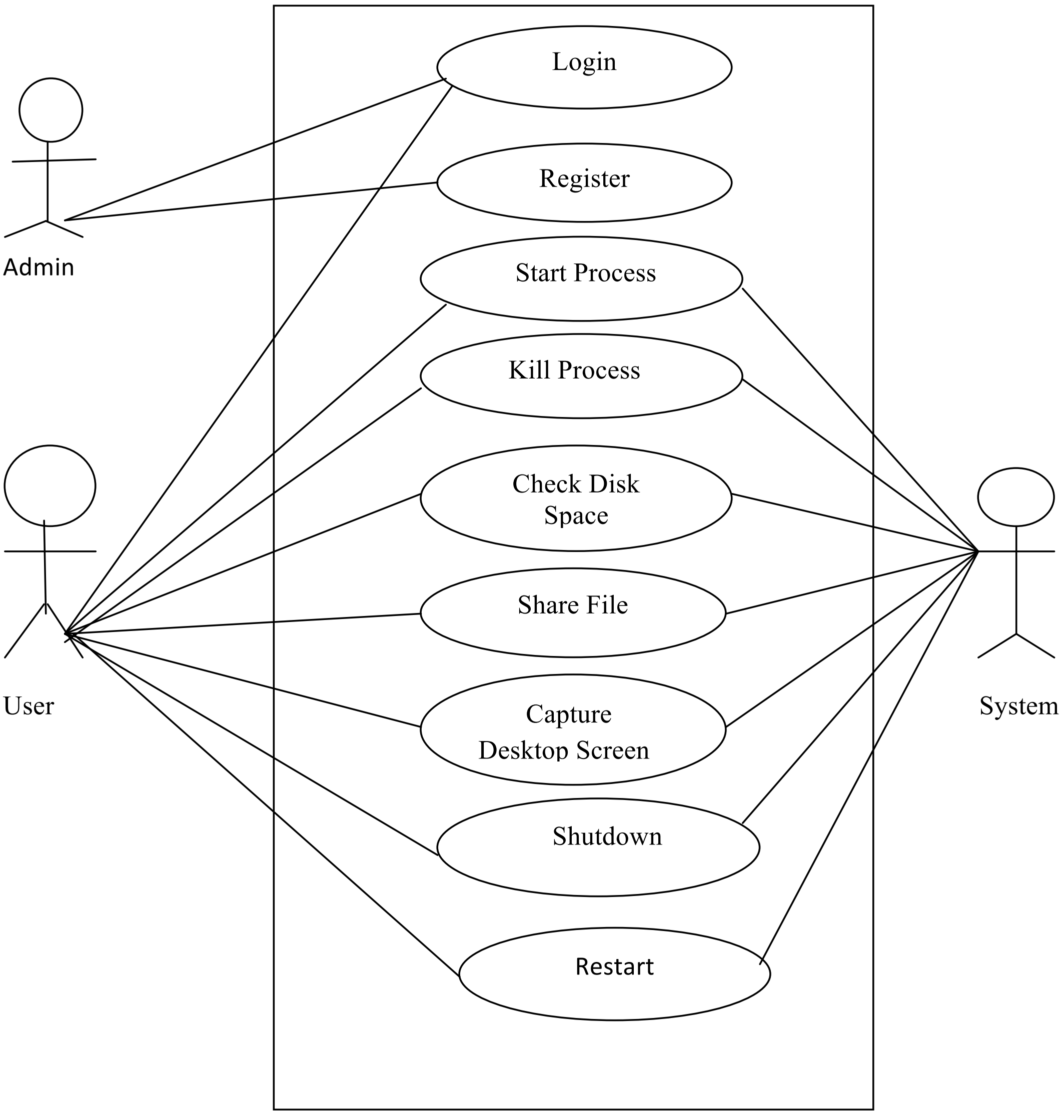


FIGURE 5.1: Use Case

- **Actors**

  An actor represents a role that an outsider takes on when interacting with the business system. For instance, an actor can be a customer, a business partner, a supplier, or another business system and every actor has a name.

- **Dependency, generalization, and association relationships.**

  A dependency is a semantic relationship between two things in which a change to one thing may affect the semantics of the other thing.

  A *generalization* is a relationship in which objects of specialized elements (the child) are substitutable for objects of the generalized element.

An *association* is a structural relationship that describes a set of links, a link being connection among objects

Like all other diagrams, use case diagram may contain notes and constraints.

5.5.2 Common uses

Use case diagram typically contain in one of two ways.

- To model the context of the system

  Hear system involves drawing line around the whole system and actors outside of the system and interact with it.

- To model the requirement of a system

  Hear specifies what the system should do, independent of how that system should do.

5.5.3 Use-Case Scenarios

5.6 Sequence Diagram

5.6.1 Contents:

Sequence diagram commonly contains

- Objects
- Links
- Messages

5.6.2 Definition and Overview

A *sequence* diagram is an interaction diagram that emphasizes the time ordering of messages. A sequence diagram shows a set of objects and the messages sent and received by those objects. The objects are typically named or anonymous instances of classes, but may also represent instances of other things, such as collaborations, components, and nodes. You use sequence diagrams to illustrate the dynamic view of a system. An Actor models a type of role played by an entity that interacts with the subject (e.g.,

Table 5.1: Add caption

USE CASE	**USE CASE SCENARIO**
Login	1) User welcome with login form. 2) User enters user name in user name text field. 3) User enters user password in user password text field. 4) User click on login button. 5) user can see the respective users form.
	Alternate flow 1) User will click on exit button.
Register	1) After Admin Login user redirect to registration form. User Clicks on cancle button. Registration form will redirect to main form.
	Alternate flow 1)User enters a name. 2) User enters a Contact number. 3)User enters a username. 4)User enters a password. 5)User clicks on register button. 6)Register form sends customer information to register.cs. 7)Register.cs stores information to Database. 8)Register sends registration complete successfully to the registration form. 9)registration form will be redirected to the main form.
Start Process	1) User will select machine From Drop Down on Start and Kill Form. 2) Select Application From Drop Down on Start and Kill Form. 3) Click on start Button for start Process on Start and Kill Form.
	Alternate flow 1)If process is already running then warning message is given on Start and Kill Form.
Kill Process	1)User will select machine From Drop Down on Start and Kill Form. 2) Select Application From Drop Down on Start and Kill Form. 3) Click on Kill Button for Kill Process on Start and Kill Form..
Disk Space	1)User will select machine From Drop Down on Disk Space Form. 2) Select disk From Drop Down on Disk Space Form. 3) Click on Show Button. 4) Disk Space is given of respective machine which was selected.
Capture Screen	1)User will select machine From Drop Down on Capture Screen Form. 2) Click on capture Button. 3)captured Screen is send to registered contact numbers E-mail id. .
Share File	1)Enter Email-id on fileshare.cs Form . 2)User will select machine From Drop Down on fileshare.cs Form. 3)select Shared Folder name from Drop Down 4)select file From Drop Down list. 5) Click on share Button. 6)file is send to E-mail id.
Process List	1)User will select machine From Drop Down on Share File Form. 2)Click on Show Button for view the process list on Process List form. 3) Process List is given to Process List form.
shutdown	1)User will select machine From Drop Down on machine Form. 2)Click on perform for sutdown the system .
Restart	1)User will select machine From Drop Down on Share File Form. 2)Click on perform Button for view restart the system.

by exchanging signals and data), but which is external to the subject (i.e., in the sense that an instance of an actor is not a part of the instance of its corresponding subject). Actors may represent roles played by human users, external hardware, or other subjects. Note that an actor does not necessarily represent a specific physical entity but merely a particular facet (i.e., "role") of some entity that is relevant to the specification of its associated use cases.

Sequence diagram have two features that distinguish them from collaboration diagrams.

- First, there is the object lifeline. An object lifeline is the vertical dashed line that represents the existence of an object over a period of time. So these objects are at the top of the diagram. With their lifelines drawn from the top of the diagram to the bottom
- Second, there is the focus of control. The focus of control is a tall, thin rectangle that shows the period of time during which an object is performing an action, either directly or through a subordinating procedure. The top of the rectangle is aligned with the start of the action; the bottom is aligned with its completion and also it can be marked by replay message.

5.6.3 Sequence Diagram:

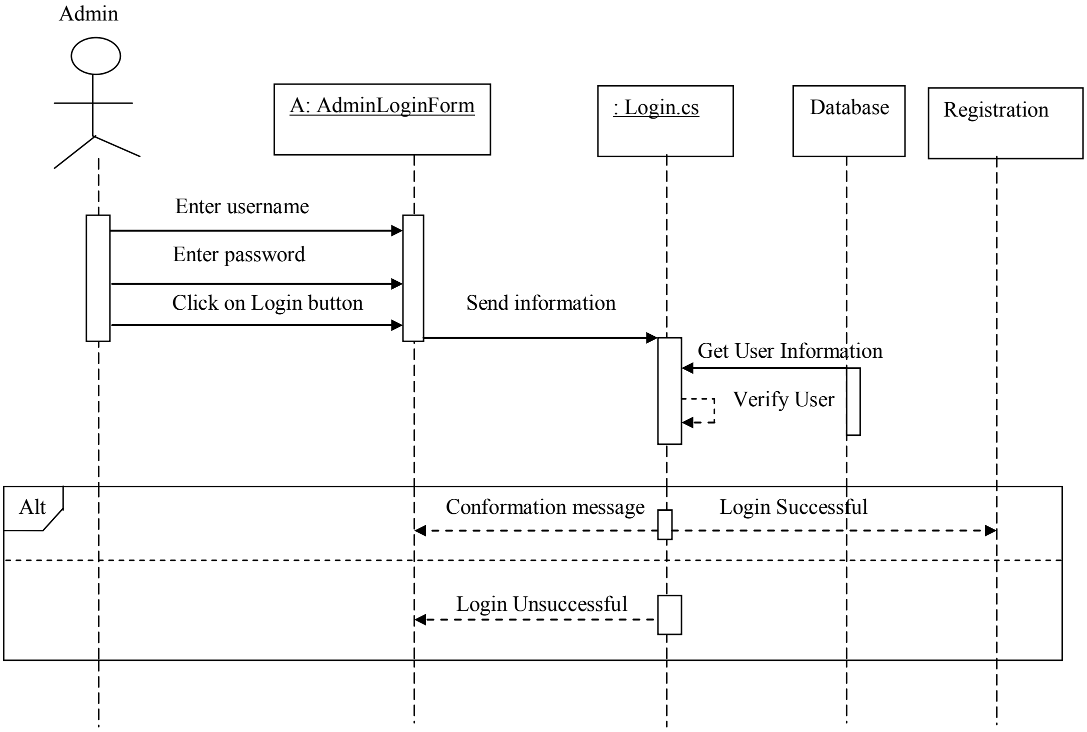


FIGURE 5.2: sequence Digram for Admin Login..

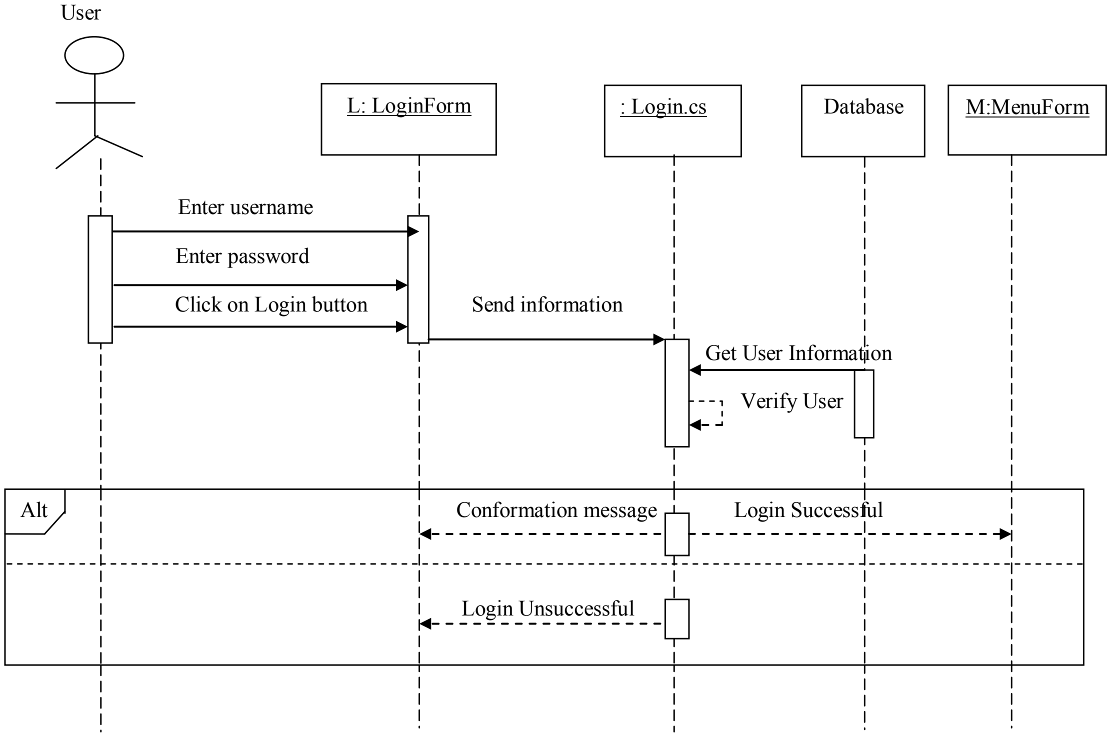


FIGURE 5.3: sequence Digram for User Login..

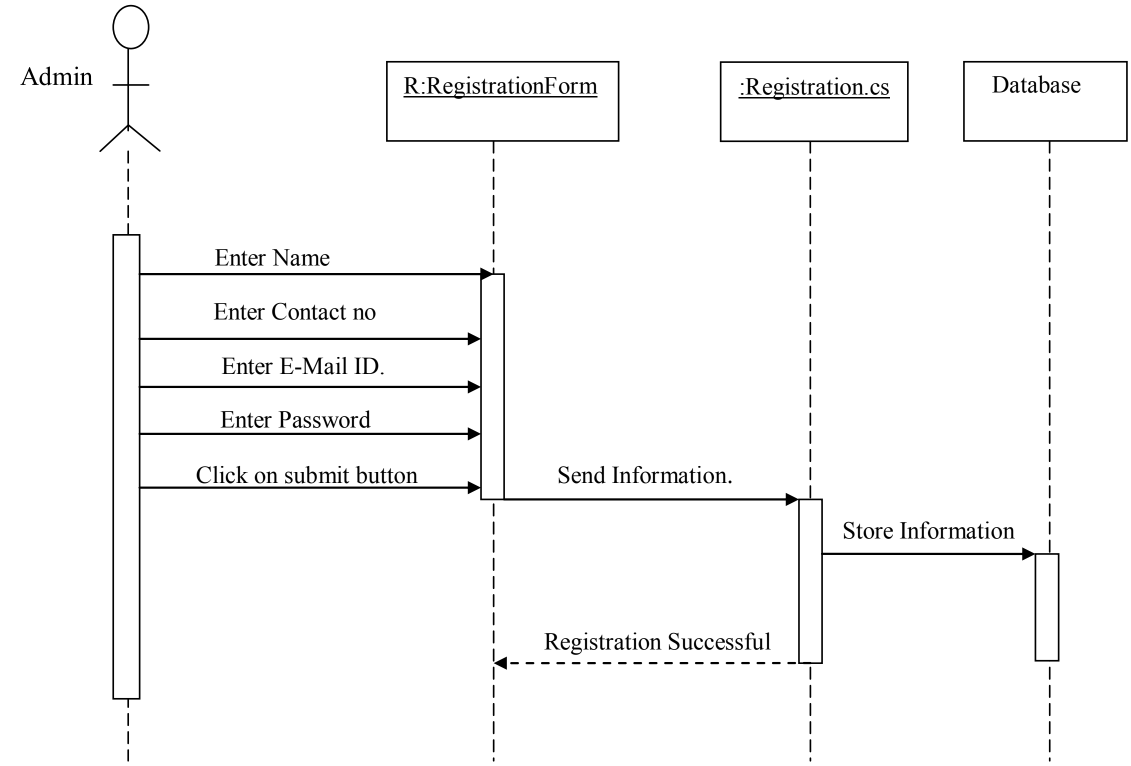


FIGURE 5.4: sequence Digram for registration of user..

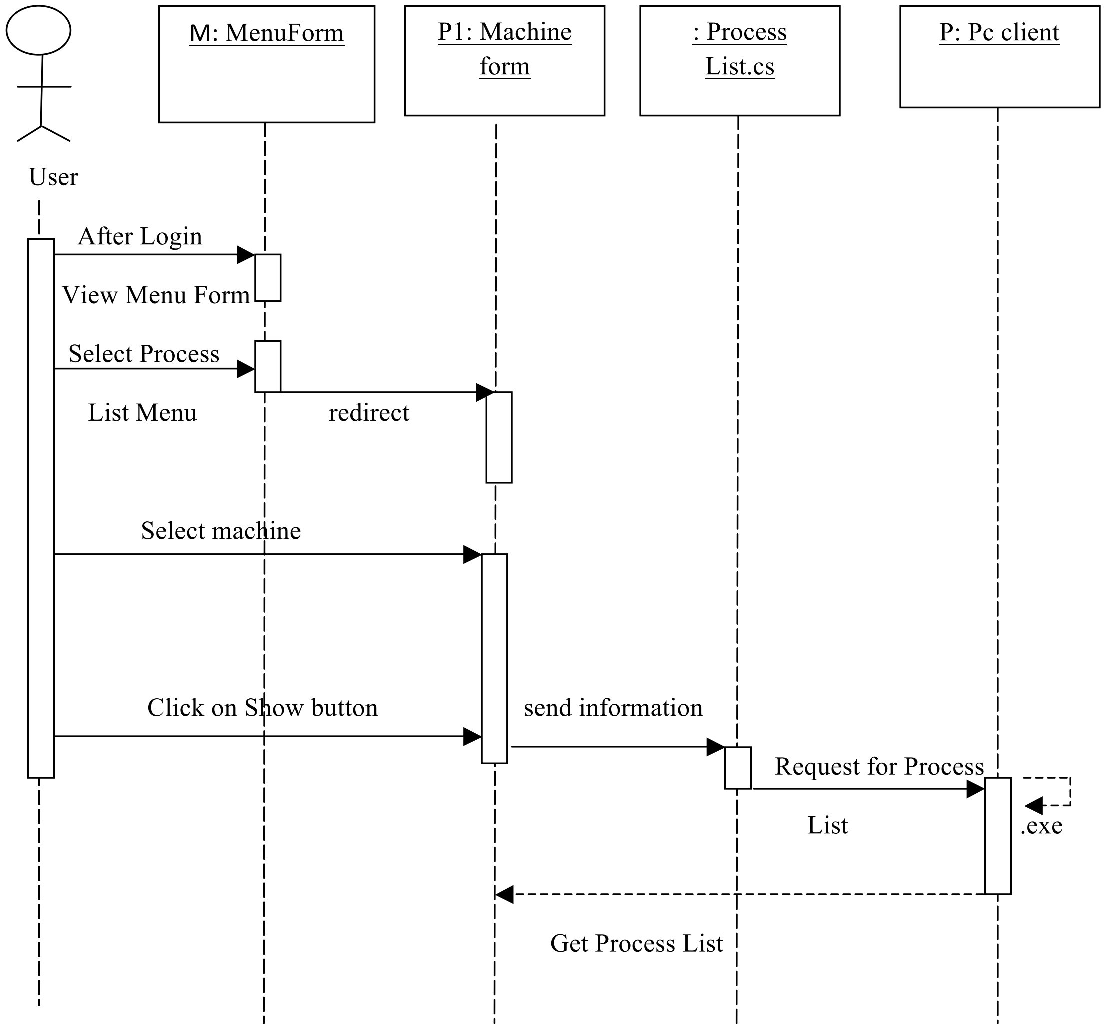


FIGURE 5.5: sequence Digram for Process List..

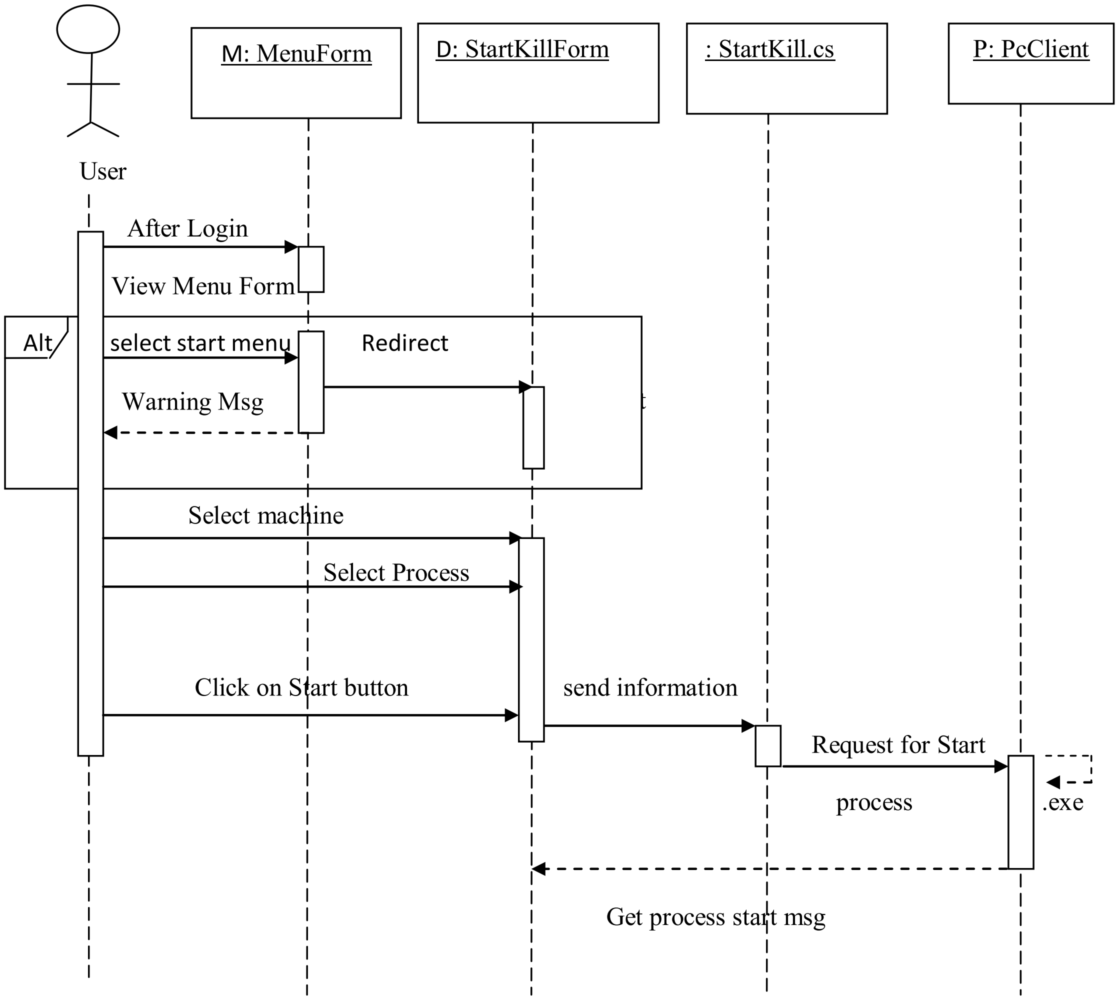


FIGURE 5.6: sequence Digram for start process..

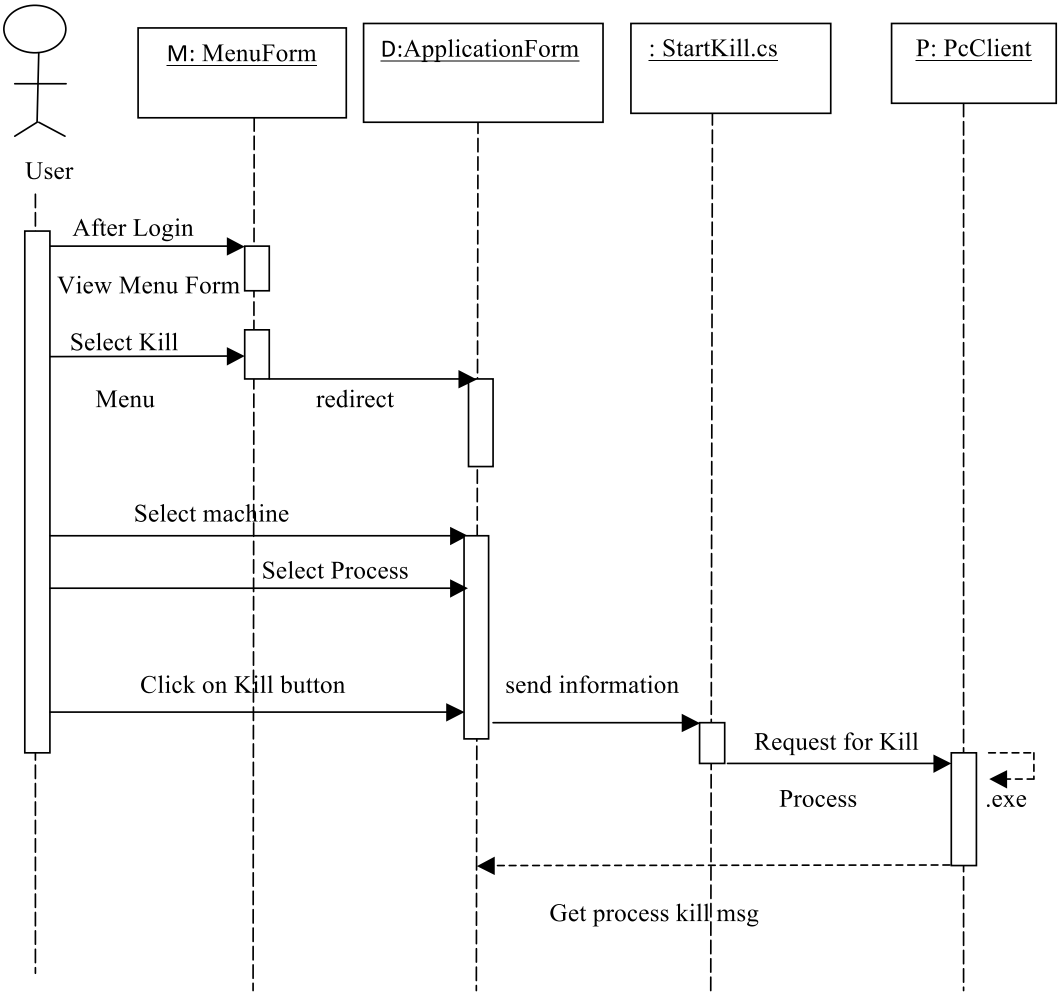


FIGURE 5.7: sequence Digram for kill process..

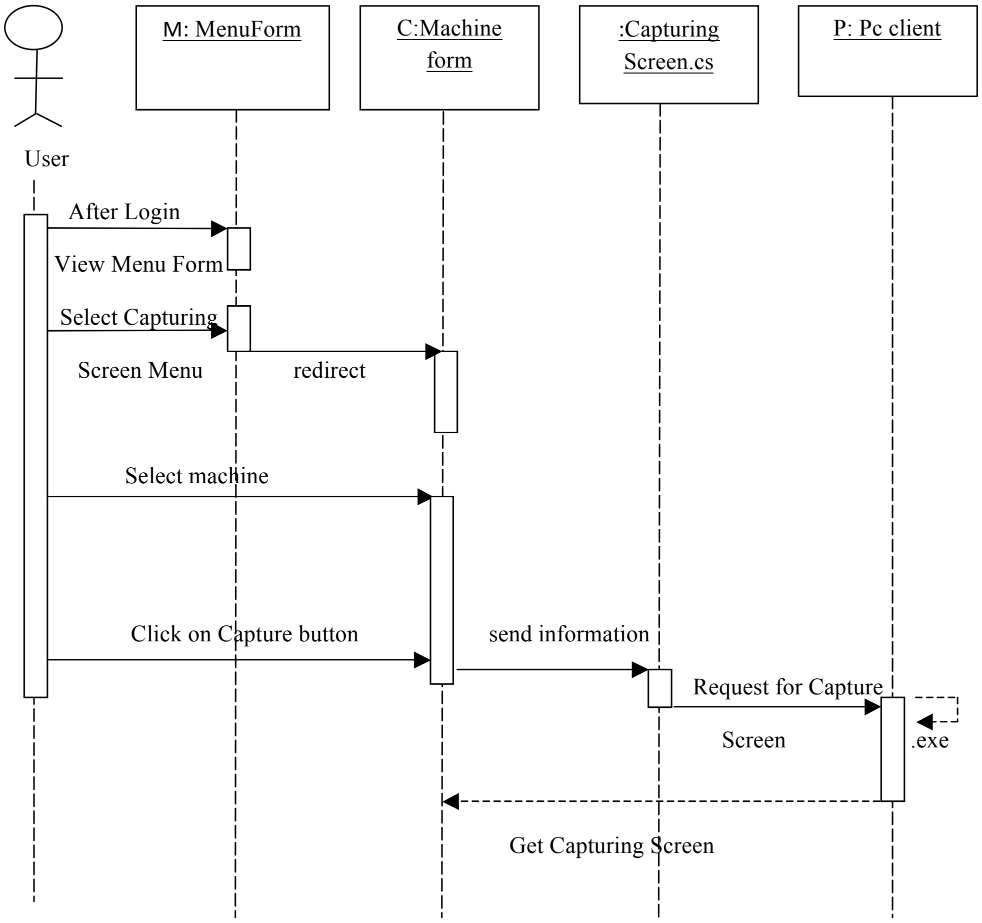


FIGURE 5.8: sequence Digram for capture Screen..

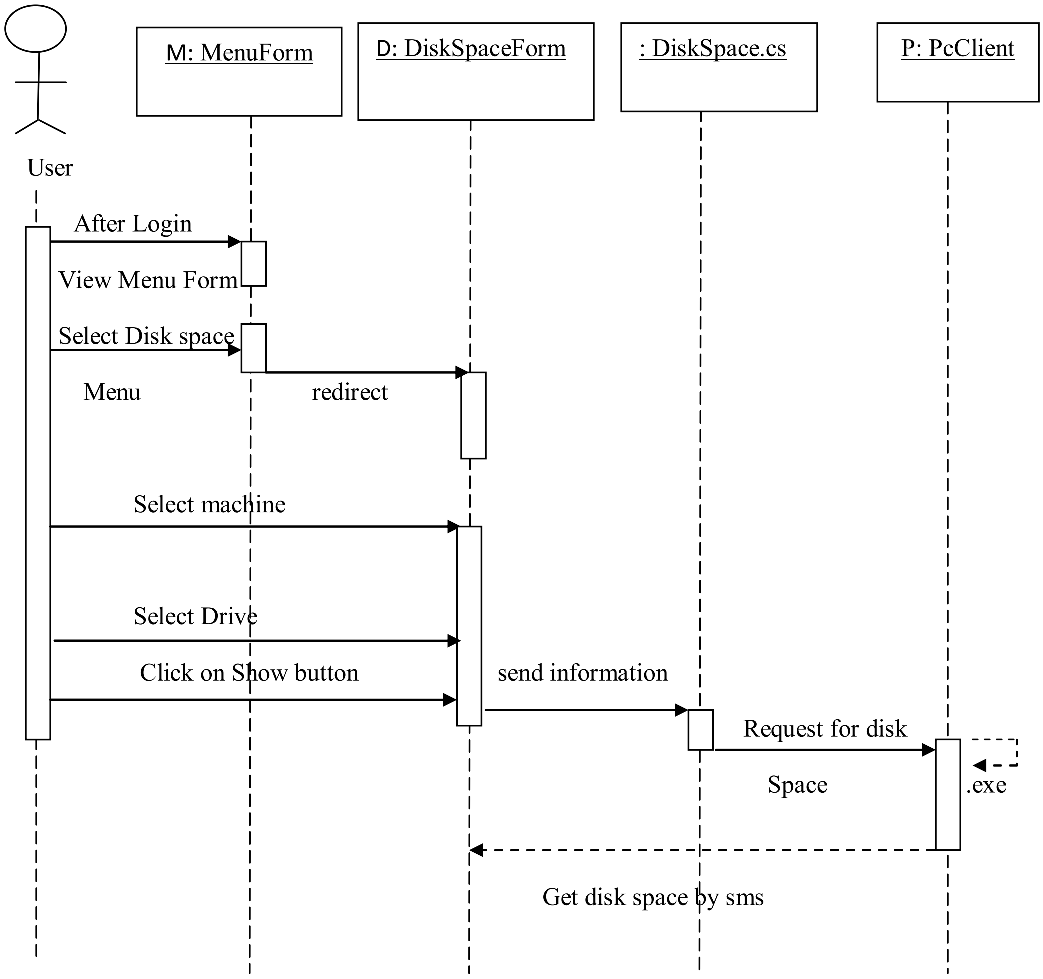


FIGURE 5.9: sequence Digram for Check disk space..

5.7 Class Diagram

5.7.1 Contents:

Class diagram commonly contain the following things:

- Classes
- Interfaces
- Collaborations
- Dependency, generalization, and association relationships.

5.7.2 Definition and Common Uses:

A class diagram is a diagram that shows a set of classes, interfaces and their relationships. Graphically, a class diagram is a collection of vertices and arcs. A class diagram will shares the same common properties as do all other diagrams. A class diagram is an illustration of the relationships and source code dependencies among classes in the Unified Modeling Language (UML). In this context, a class defines the methods and variables in an object, which is a specific entity in a program or the unit of code representing that entity. Class diagrams are useful in all forms of object-oriented programming (OOP). The concept is several years old but has been refined as OOP modeling paradigms have evolved. In a class diagram, the classes are arranged in groups that share common characteristics. A class diagram resembles a flowchart in which classes are portrayed as boxes, each box having three rectangles inside. The top rectangle contains the name of the class; the middle rectangle contains the attributes of the class; the lower rectangle contains the methods, also called operations, of the class. Lines, which may have arrows at one or both ends, connect the boxes. These lines define the relationships, also called associations, between the classes.

- Class: A definition of objects that share given structural or behavioral characteristics.
- Attribute: A typed value attached to each instance of a classifier.
- Operation: A method or function that can be performed by instances of a classifier

5.7.3 Class Diagram:

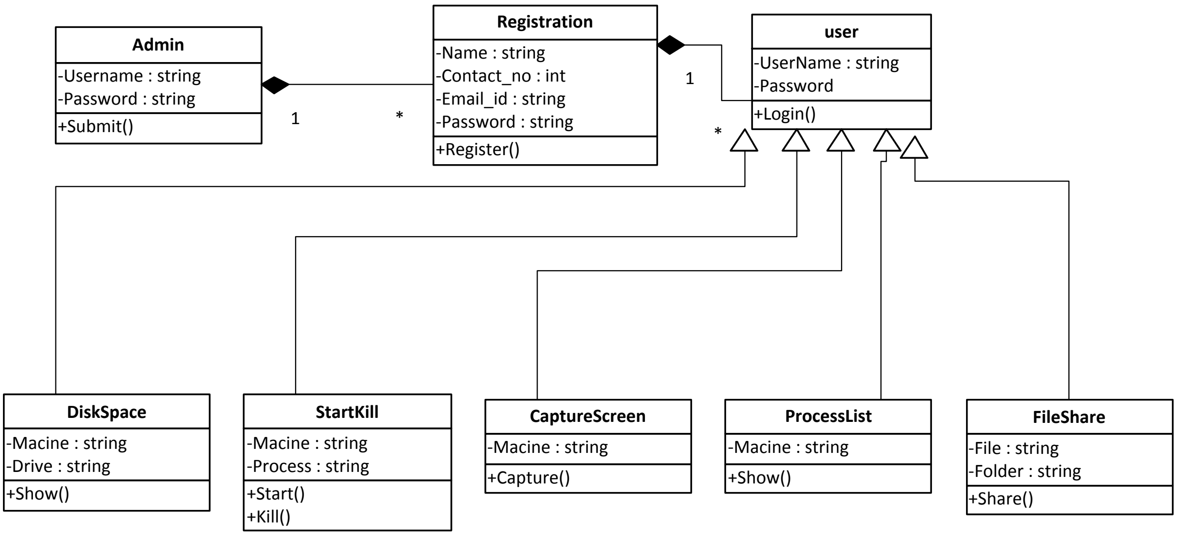


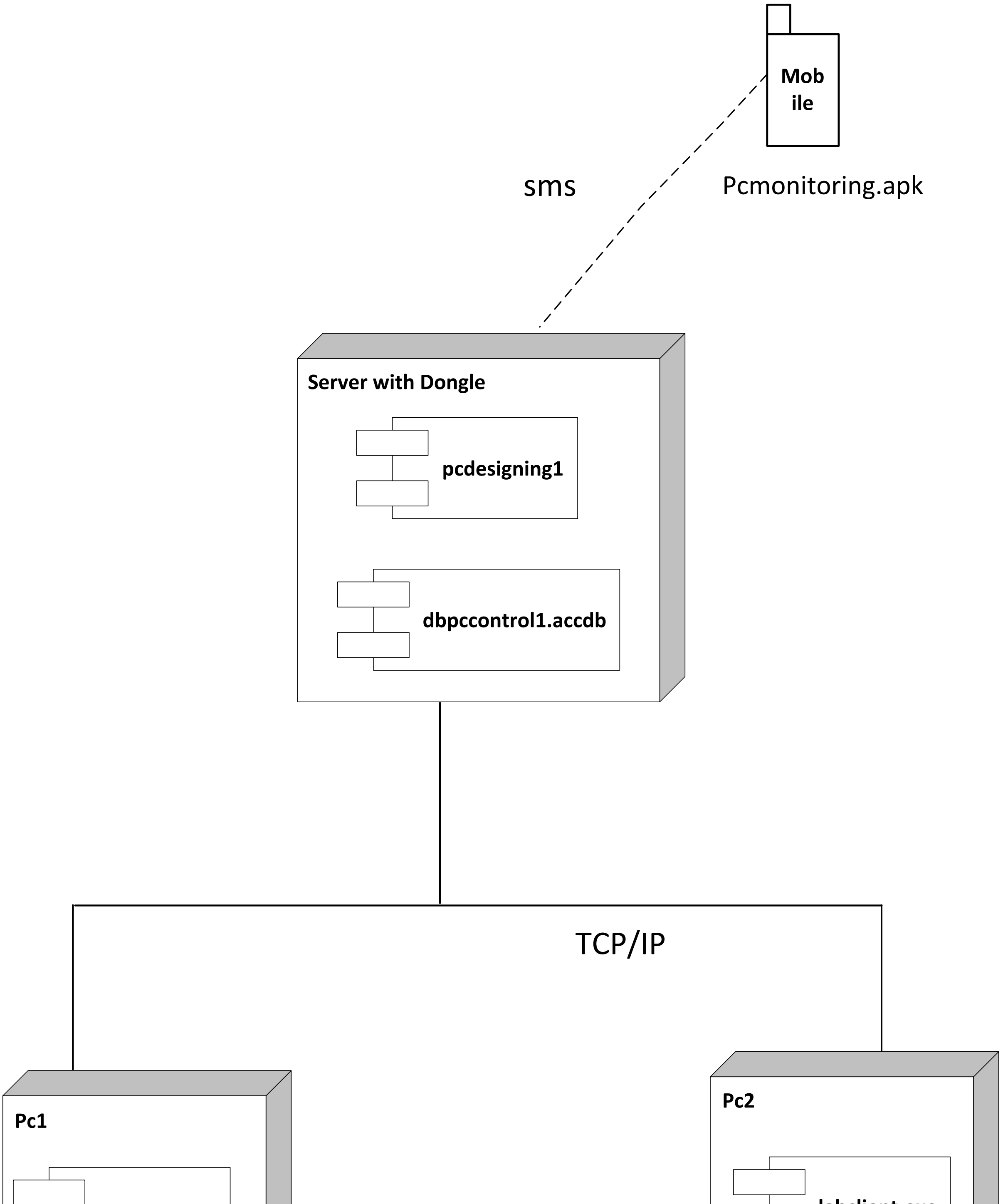
FIGURE 5.10: Class diagram

5.8 Deployment Diagram

5.8.1 Definition:

A deployment diagram shows the configuration of run time processing nodes and the components that live on them. Deployment diagram address the static deployment view of architecture. They are related to component diagrams in that a node typically encloses one or more components .

5.8.2 Deployment Diagram:


Mob
ile
sms
Pcmonitoring.apk
Server with Dongle
pcdesigning1
dbpccontrol1.accdb
TCP/IP
Pc1
Pc2

Chapter 6

Coading

6.1 Coading

6.1.1 Android

There's no other software quite like Android. Google engineered Android, and GoogleâĂŹs own apps run better on it. And with millions of apps, games, songs, and videos on Google Play, Android is great for fun, and for getting things done.

Android devices come in all kinds of sizes, with all sorts of features, and in all sorts of prices. Each version of Android is named after a dessert, and the most recent version of Android is lolipop. With Android, youâĂŹre in control of your mobile experience.

The world is contracting with the growth of mobile phone technology. As the number of users is increasing day by day, facilities are also increasing. Starting with simple regular handsets which were used just for making phone calls, mobiles have changed our lives and have become part of it. Now they are not used just for making calls but they have innumerable uses and can be used as a Camera , Music player, Tablet PC, T.V. , Web browser etc. . And with the new technologies, new software and operating systems are required.

- What is android

Operating Systems have developed a lot in last 15 years. Starting from black and white phones to recent smart phones or mini computers, mobile OS has come far away. Especially for smart phones, Mobile OS has greatly evolved from Palm OS in 1996 to Windows pocket PC in 2000 then to Blackberry OS and Android.

- ADT Bundle

The Android SDK is a software development kit which provides API libraries and necessary developer tools necessary for building Android applicationâĂŹs. Android SDK is officially provided by android developers.

steps for the installation and set-up of Android development environment:

1. Download Eclipse
2. Download JDK and install it, set the environment path.
3. Download ADT plugin inside Eclipse.
4. Set the Preference with Android-SDK path.
5. Download the latest platform-tools and everything.

The ADT Bundle includes everything you need to begin developing apps:

1. Eclipse + ADT plugin
2. Android SDK Tools
3. Android Platform-tools
4. The latest Android platform
5. The latest Android system image for the emulator

6.2 Snippets

Login code

```
        {
package com.example.finalpcmonitoring;

import android.app.Activity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.Spinner;
import android.widget.Toast;

public class LogIn extends Activity
{
        EditText lun,lpwd;

        @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.login_activity);
        lun=(EditText)findViewById(R.id.txtusername);

   lpwd=(EditText)findViewById(R.id.txtpassword);

    }



        public void dodisplaylogin(View v)
        {

   if(lun.getText().toString().equals("Admin")&&lpwd.getText().toString(
                {
                        Intent i = new
   Intent(getApplicationContext(), Main_Menu.class);
                        startActivity(i);
```

```
                                finish();
                        }
                        else
                        {

    Toast.makeText(getApplicationContext(),"login
    unsuucessful" , 500).show();
                        }

                }
                public void doexit(View v)
                {

                System.exit(0);
                }
}
```

code for start process in C Sharp (Visual Studio 2008) It is a multi-paradigm programming language encompassing strong typing, imperative, declarative, functional, generic, object-oriented (class-based), and component-oriented programming disciplines. It was developed by Microsoft within its .NET initiative and later approved as a standard by Ecma (ECMA-334) and ISO (ISO/IEC 23270:2006). Csharp is one of the programming languages designed for the Common Language Infrastructure.

```
{

if ((receivedmsg.Contains("Start")) ||
   (receivedmsg.Contains("Kill")))
                {
                    // Start Or Kill Process
                    string processnm = receivedmsg.Split('
   ')[1];
                    pcnm = receivedmsg.Split(' ')[2];
                    if (receivedmsg.Contains("Start"))
                    {
                        try
                        {
                            pcnm = pcnm.Trim().ToUpper();
                            //pcnm = pcnm.Substring(1);
                            // Code To Write Command To The
   File ...
                            int flg=1;
                            // check process is started
                                string prclist = "";
                                string line = "";
                                //StreamReader fread = new
   StreamReader("\\Server\\" + pcnm + ".txt");
                                StreamReader fread = new
   StreamReader(Program.serverpath + "\\" + pcnm + ".txt");
                                while ((line =
   fread.ReadLine()) != null)
                                {
                                    string ss =
   processnm.Substring(0, processnm.Length - 4);
                                    if(line.Contains(ss))
                                    {
```

```
                                    flg=0;
                                    break;
                                }

                            }
                            fread.Close();

                        //ends
                        if(flg==1)
                        {
                            StreamWriter outfile = new
StreamWriter(Program.serverpath + "\\op.txt", true);


outfile.WriteLine(pcnm.Trim() + " " + processnm);
                            outfile.Close();

                        }
```

Chapter 7

TESTING

7.1 What is Software Testing

Software testing is an investigation conducted to provide stakeholders with information about the quality of the product or service under test.[1] Software testing can also provide an objective, independent view of the software to allow the business to appreciate and understand the risks of software implementation. Test techniques include, but are not limited to, the process of executing a program or application with the intent of finding software bugs (errors or other defects). It involves the execution of a software component or system component to evaluate one or more properties of interest. In general, these properties indicate the extent to which the component or system under test:

7.1.1 Black Box Testing

Black-box testing is a method of software testing that examines the functionality of an application without peering into its internal structures or workings. This method of test can be applied to virtually every level of software testing: unit, integration, system and acceptance. It typically comprises most if not all higher level testing, but can also dominate unit testing as well.

Test Cases

Test cases are built around specifications and requirements, i.e., what the application is supposed to do. Test cases are generally derived from external descriptions of the software, including specifications, requirements and design parameters. Although the tests used are primarily functional in nature, non-functional tests may also be used. The test designer selects both valid and invalid inputs and determines the correct output without any knowledge of the test object's internal structure.

7.1.2 White Box Testing

White-box testing (also known as clear box testing, glass box testing, transparent box testing, and structural testing) is a method of testing software that tests internal structures or workings of an application, as opposed to its functionality (i.e. black-box testing). In white-box testing an internal perspective of the system, as well as programming skills, are used to design test cases. The tester chooses inputs to exercise paths through the code and determine the appropriate outputs. This is analogous to testing nodes in a circuit, e.g. in-circuit testing (ICT).

White-box testing can be applied at the unit, integration and system levels of the software testing process. Although traditional testers tended to think of white-box testing as being done at the unit level, it is used for integration and system testing more frequently today. It can test paths within a unit, paths between units during integration, and between subsystems during a systemâĂŞlevel test. Though this method of test design can uncover many errors or problems, it has the potential to miss unimplemented parts of the specification or missing requirements.

7.1.3 Unit Testing

In computer programming, unit testing is a software testing method by which individual units of source code, sets of one or more computer program modules together with associated control data, usage procedures, and operating procedures, are tested to determine whether they are fit for use. Intuitively, one can view a unit as the smallest testable part of an application. In procedural programming, a unit could be an entire module, but it is more commonly an individual function or procedure. In object-oriented programming, a unit is often an entire interface, such as a class, but could be an individual method. Unit tests are short code fragments created by programmers or occasionally by white box testers during the development process. It is also known as component testing. Ideally, each test case is independent from the others. Substitutes such as method stubs, mock objects, fakes, and test harnesses can be used to assist testing a module in isolation. Unit tests are typically written and run by software developers to ensure that code meets its design and behaves as intended.

7.1.4 Test cases:-

TABLE 7.1: caption.

TC_ID	Objectives	Prerequisites	Steps to be followed	Expected Result	Actual Result	Remark
1	Login into the application	User Must be login	1.User Should be enter the correct user name. 2.User shold be fill the password in the password field. 3.click on <login> button	The Application will give an authorized access.	Granted the permissions and login successfully.	Pass
2	Login into the application	User Must be login	1.User Should be enter the incorrect user name. 2.User shold be fill the password in the password field.			

Continued on next page

Table 7.1 –âĂŘ–âĂŘ continued from previous page

TC_ID	Objectives	Prerequisites	Steps to be followed	Expected Result	Actual Result	Remark
			3.click on <login> button	The Application will not give an access to login.	Check user name and password to login successfully	pass
3	Login into the application	User Must be login	1.User Should be enter the correct user name. 2.User shold be fill the wrong password in the password field. 3.click on <login> button	The Application will not give an access to login.	Check user name and password to login successfully	pass
4	Login into the application	User Must be login	1.User will be exit on the login window			
Continued on next page						

Table 7.1 –âĂŘ–âĂŘ continued from previous page

TC_ID	Objectives	Prerequisites	Steps to be followed	Expected Result	Actual Result	Remark
			2.clicks on exit button	The login window will be terminated frequently.	Abort it's current operation.	pass
5	Disk space	To perform it's operation user must be click on this button	1. Select machine From Drop Down on Disk space form 2.Select Disk From Drop Down on Disk space form 3.Click on Show Button for Checking Disk space on Disk space form.	It will give disk space the machine which is selected	it give disk space	pass

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Table 7.1 –âĂŘ–âĂŘ continued from previous page

TC_ID	Objectives	Prerequisites	Steps to be followed	Expected Result	Actual Result	Remark
6	capture Screen	To perform it's operation user must be click on this button	1. Select machine From Drop Down on Disk space form 2.Click on capture button	It will send mail to registered numbers email-id	It send mail to registered numbers email-id	pass
7	process list	To perform it's operation user must be click on this button	1. Select machine From Drop Down on Disk space form 2.Click on show button	It will show process list	It shows process list	pass
8	Share file	To perform it's operation user must be click on this button	1.User should Enter email-id	the file will be send to e-mail id successfully	the file send to e-mail id successfully	pass

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Table 7.1 –âĂŘ–âĂŘ continued from previous page

TC_ID	Objectives	Prerequisites	Steps to be followed	Expected Result	Actual Result	Remark
			2. Select machine From Drop Down on fileshare form 3.User should Enter shared folder name 4.enter the file into the text field 5.Click on share button			
9	shutdown	To perform it's operation user must be click on this button	1. Select machine From Drop Down on machine form 2.Click on shutdown button	The machine will be shutdown	The machine will be shutdown	pass

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Table 7.1 –âĂŘ–âĂŘ continued from previous page

TC_ID	Objectives	Prerequisites	Steps to be followed	Expected Result	Actual Result	Remark
10	Restart	To perform it's operation user must be click on this button	1. Select machine From Drop Down on machine form 2.Click on perform button	The machine will be Restart	The machine will be Restart	pass
11	Start Process	To perform it's operation user must be click on this button	1. Select machine From Drop Down on machine form 2. Select process From Drop Down on machine form 3.clicks on show button	The process will be start	The process start perform successfully	pass

Continued on next page

Table 7.1 –âĂŘ–âĂŘ continued from previous page

TC_ID	Objectives	Prerequisites	Steps to be followed	Expected Result	Actual Result	Remark
12	Start Process	To perform it's operation user must be click on this button	1. Select machine From Drop Down on machine form			
			2. Select process which is already open From Drop Down on machine form 3.clicks on show button	the warning message will be shown	Display the warning message	pass
13	kill Process	To perform it's operation user must be click on this button	1. Select machine From Drop Down on machine form	The process will be kill	The process kill perform successfully	pass

Continued on next page

Table 7.1 –âĂŘ–âĂŘ continued from previous page

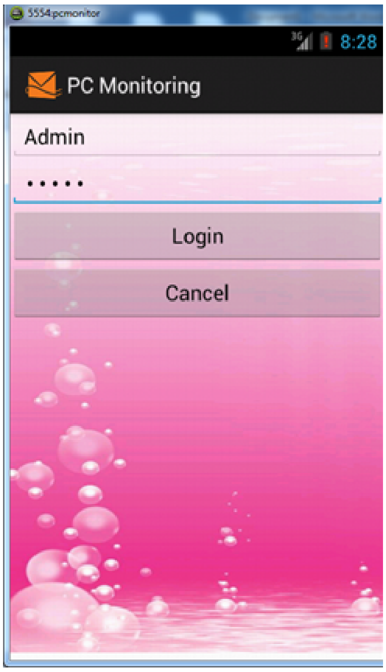
TC_ID	Objectives	Prerequisites	Steps to be followed	Expected Result	Actual Result	Remark
			2. Select process which is already open From Drop Down on machine form 3.Clicks on show button			

Chapter 8

SNAPSHOTS

8.1 User Panel[Client Side]

8.1.1 Login Window



Admin

•••••

FIGURE 8.1: Login Window.

8.1.2 DashBoard:-

Dashboard is nothing but the applications home page with this page we can move to any particular forms which are included into the user panel which has been controlled by user.

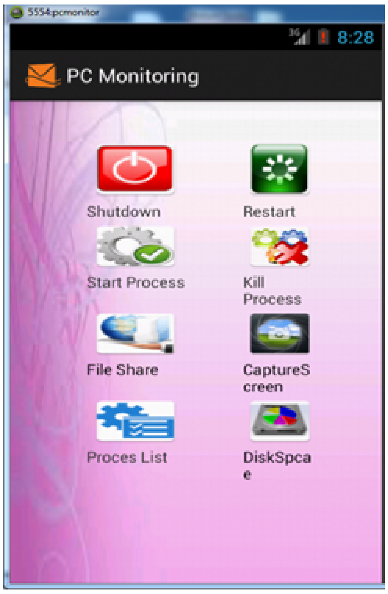
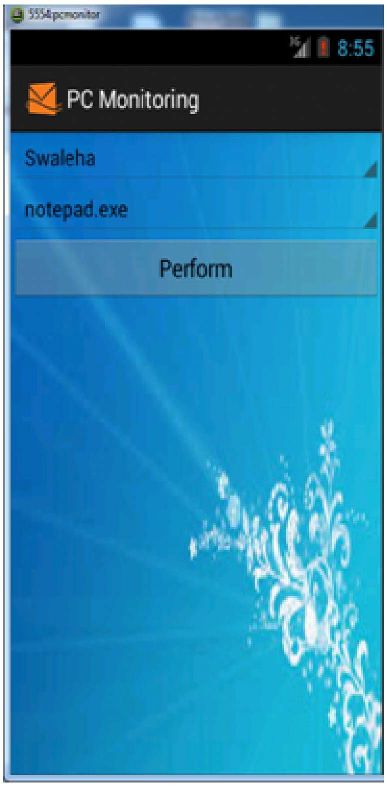


FIGURE 8.2: home panel

8.1.3 Start and kil process:-



Swaleha

notepad.exe

FIGURE 8.3: start and kill process

user select machine and apllication. start and kill process done through this page

8.1.4 Shutdown,Restart,Capurescreen,Processlist:-

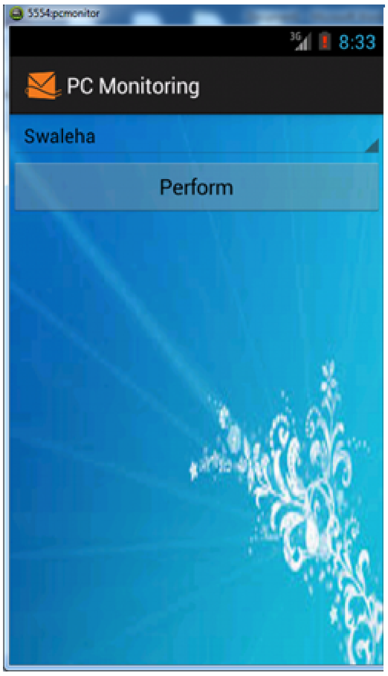


FIGURE 8.4: Shutdown,Restart,Capurescreen,Processlist operation page

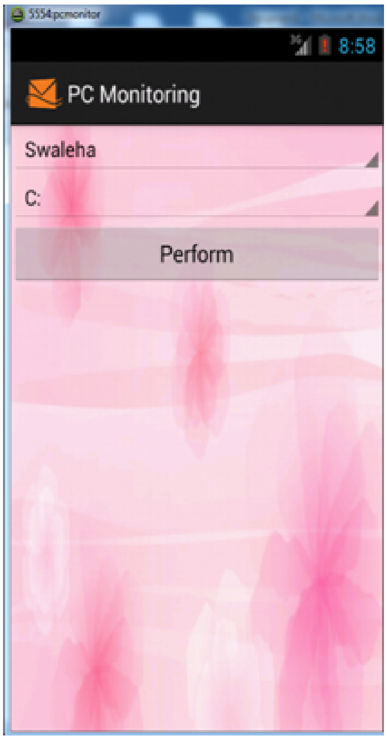
user select machine.Shutdown,Restart,Capurescreen,Processlist operation can be done through this page

8.1.5 Diskspace:-

user select machine and drive.Diskspace operation can be done through this page.

8.1.6 Share file:-

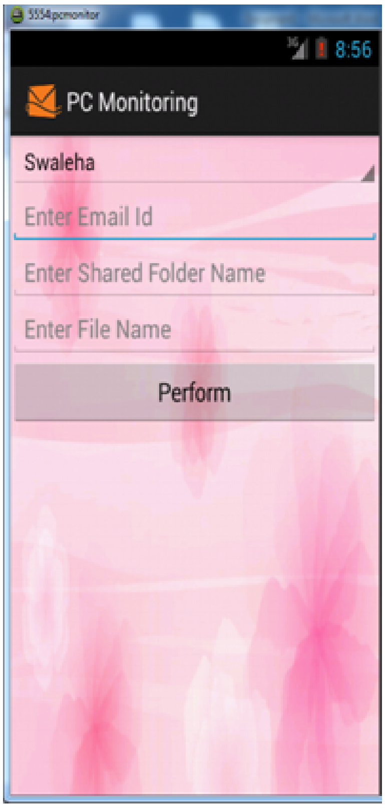
user enter email-id,machine name,path.Share file operation can be done through this page



Swaleha

C:

FIGURE 8.5: Diskspace operation can be done through this page



Swaleha

FIGURE 8.6: Share file operation

Chapter 9

Conclusion

9.1 Conclusion

Using our application, the user just needs to register all the computers which he need to keep an eye on. This application contributes for IT Administrators to remotely control any computer present in the network. It can help the colleges to monitor the labs, to restrict the use forbidden sites or applications.

Appendix A

Appendix Title Here

Write your Appendix content here.

Bibliography

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