A project report on

Enumerator Incorporated Proactive Observer

Submitted in partial fulfilment of the requirement

For the award of the degree

MASTER OF COMPUTER APPLICATIONS
Of

Visvesvaraya Technological University
Belagavi, Karnataka

By

Pallavi CL
1CR18MCA81

CMR INSTITUTE OF TECHNOLOGY

132, IT Park Road, Kundalahalli, Bangalore-560037
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Under the guidance of

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<tr><td>Internal Guide</td><td>External Guide</td></tr>
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132, IT Park Road, Kundalahalli, Bangalore-560037
2019-2020

CMR INSTITUTE OF TECHNOLOGY
Department of Master of Computer Applications
Bangalore - 560037

CERTIFICATE

This is to certify that the project work entitled

Enumerator Incorporated Proactive Observer

*Submitted in partial fulfilment of the requirement for the
award of the degree of
Master of Computer Applications of the
Visvesvaraya Technological University, Belgaum, Karnataka
bonafide work carried out by*

Pallavi CL
1CR18MCA81

during the academic year 2019-2020.

_____	_____	_____
Signature of the Guide	**Signature of the HOD**	**Signature of the Principal**
Dr. Anu Manchanda	**Ms. Gomathi.T**	**Dr. Sanjay Jain**
Associate Professor, MCA.	HOD, MCA	PRINCIPAL, CMRIT

<u>External Viva</u>

Name of the Examiners   Signature with date
  1.
  2.

CERTIFICATE

This is to certify that the project titled "Enumerator incorporated proactive observer" is submitted to elixir software's in fulfillment of the requirement for the final semester degree of MCA from CMRIT, Bangalore.

The project is a bona fide record at work carried out by Miss. Pallavi C L (1CR18MCA81) under the supervision and guidance of Mr. Uttkersh (Team Lead) elixir software's, Bangalore between the periods from 23/12/2019 – 28/5/2020.

The source code of the Project is not issued to the trainee as per the policy of the company. Screen print for the application is provided in limited no's.

Thanking You,

For elixir software's

ELIXIR SOFTWARE
Miss. Shilpa D. Floor, 2nd Block
Koramangala Extn., Madivala
(HR Manager) Bangalore

DECLARATION

I, **PALLAVI CL,** student of 6th MCA, **CMR Institution of Technology**, bearing the USN **1CR18MCA81**, hereby declare that the project entitled **"Enumerator Incorporated Proactive Observer"** has been carried out by me under the supervision of External Guide **Mr. Uttkersh**, Team Lead**,** and Internal Guide **Dr. Anu Manchanda**, **Associate Professor, Dept. of Master of Computer Applications** and submitted in the partial fulfillment of the requirements for the award of the Degree of Master of Computer Applications by the **Visvesvaraya Technological University** during the academic year 2019-2020.The reports has not been submitted to any other University or Institute for the award of any degree or certificate.

Place: Bangalore   Pallavi CL

Date: (1CR18MCA81)

ACKNOWLEDGEMENT

I would like to thank all those who are involved in this Endeavour for their kind cooperation for its successful completion. At the outset, I wish to express my sincere gratitude to all those people who have helped me to complete this project in an efficient manner.

I offer my special thanks to my external project guide Mr. Uttkersh, Team Lead, Elixir software. Bangalore, and to my Internal Project guide Dr. Anu Manchanda, Department of MCA, CMRIT, Bangalore without whose help and support throughout this project would not have been this success.

I am thankful to Dr. SANJAY JAIN, Principal, CMRIT, Bangalore for his kind support in all respect during my study. I would like to thank Mr. Uttkersh ,Team Lead ,Elixir Software., Bangalore, who gave opportunity to do this project at an extreme organization Most of all and more than ever, I would like to thanks my family members for their warmness, support, encouragement, kindness and patience. I am really thankful to all my friends who always advised and motivated me throughout the course.

Pallavi CL
 (1CR18MCA81)

Project Report

CHAPTER 1

INTRODUCTION

1.1 Project Description

All types of environment administrative activities with multiple topologies are required when the companies are needed to associate multiple offices at the same time reference. The system is incorporated to provide multiple added frameworks which can be used for substantially multiple activities based on Environment at the same time to provide a reference of control and usability. The system is accompanied with analytical information converter which will be used in a way that any type of information required to the prospect for understanding different types of behavior related to the activities can be achieved in the graphical format.

The associations that have provided can be generalized with the help of different types of category that are included. Which type of category can be individually process by providing the requirement and accordingly based on which the reference of the information will be generated by the system. All types of establishment for multiple performance analysis provisions are also associated within the system which will help to understand the real time optimization and processing of the network association. Everything that is related to the network can be controlled from Central framework in real time which will be helpful for the organization as they will be having different types of substantial and environment worldwide.

Multiple stages can be selected and as the stages are selected we can be incorporated with multiple processing rights and output generation rules so that the system can understand that what type of information provisions are required to be generated and how the user using the system needs the system to act. The monitoring page that is provided to get multiple workability information's can be altered by incorporating multiple pages on a single frame and each page can be utilized for different types of monitoring references so for example if a related understanding of the device is required to be monitored for the related uptime provision is required to be monitored for the referential security perceptions are required to be monitored it can be done on a single page by dividing it into different reference pages.

The users can optimize the system by incorporating more types of visual effects for each frame on a single reference window so that more understanding about complex information that is fetched by the system can be acquired. Each type of chart that is provided to the users will provide real-time information. The charts that are provided can even the customized in terms of view or we can say the different types of charts are incorporated which can be selected and can be utilized by the users according to their own perceptions of view. Various types of frame customization options are also included or we can say that if the users require the system can be seen in a column base or if required the users can utilize multiple window frame view so according to the requirements even the page views can be customized.

Even a detailed setup that is required for each and every page that is associated with the design understanding will be provided to the users and where multiple steps will be guide for the standardized working and references.The settings data provided can be elaborated in such a way that non experts can also understand the working. The system options are provided in a selective mode so that by reading and understanding the considerations the settings can be commenced. The system can be used for different types of client services, different types of performance analysis different types of fault analysis, security perception understanding etc. making it very much flexible for multi task provisions so that multiple types of environment can be handled with more control options.
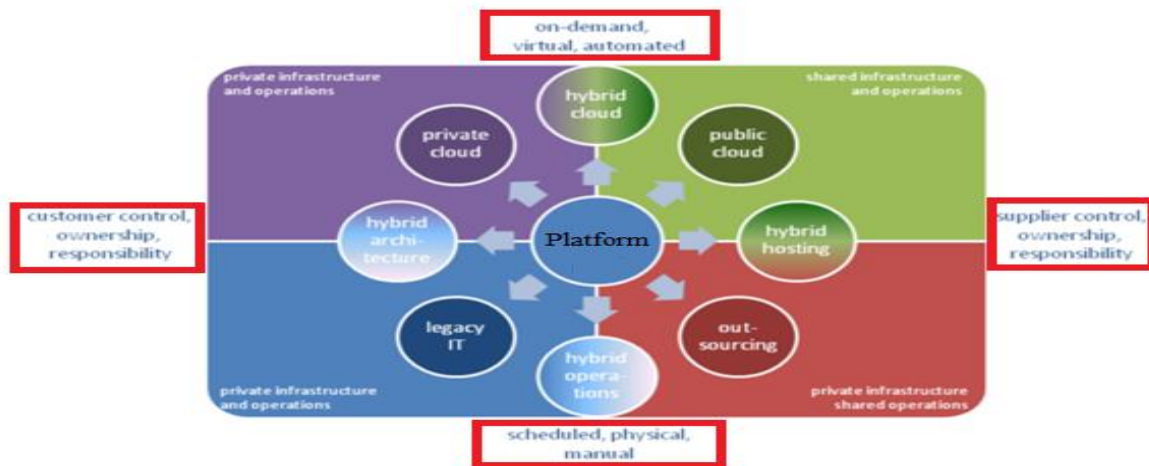

Figure 1: Figure shows various accomplishments that will associated

The integrity that is required to be maintained for the security aspect and for the accessibility is undertaken with proper measures where the administrator will be defining the rights for the usability of the system and each type of information that is transferred will be checked with security methodologies. As multiple types of information will be undertaken the system is also added with a

security update where the triggers can be set so that the system can understand that which type of information in which scenario has to be sent to whom. Information pages that are provided with the system can be also shared with the help of security link generation which will be supported by the customer orientation so that according to the security need it can be associated with the type of person it is required.

The system provides the conversion option where the reports that are presented will be generated in multiple formats which make it easier for the transfer and presentations. The system will provide all types of acknowledgements based on the export platforms so that any type of platform required can be directly added for the information transfer. Data security is also provided when the transfer will be undertaken with the help of different types of encryption algorithms which will be support it is provide more optimized working.

1.2 Company profile

Elixir software's

Elixir is Technology driven association where all the most recent developing Technologies is considered for different customization support however observation utilities for the association unconcerned forthcoming. Different skill group and experts will be associated with in house plan of IT arrangements that are requiredfor different contemplations of examination and activities. The organization works in different kinds of area and Designs away at circumstances in a configuration that it ought to be fast and moderate with the whole related goal incorporated for the achievement of the customer thought.

We outfit the point of convergence of Excellence with all the inclination data and game plans with association with various Optimization consultant courses of action required for completing difficulties uninterested perspective on working. Numerous hierarchical comprehensions on a worldwide scale

have been accomplished; the association is likewise related with conference so different figuring difficulties can be connected with the customer's recognition to give ideal development and comprehension.

PRODUCTS AND SERVICES -

Software Development

› Customized Software Development

› Product Development

› Web Application Development

› Sales Support Application

IT Services

› Internet Marketing

› E-mail Marketing

› SMS Marketing

› Server Hosting

› Web Design & Development

› Web 2.0 Designing & SEO

CHAPTER 2

LITERATURE SURVEY

2.1 Existing and Proposed System

2.1.1 Existing System

The existing system is based on different references as acknowledge that for a particular network multiple types of activities in task are related to be accompanied which eventually increases the cost and complication. In the existing system for analysis different teams working by using different types of resources and at the same time for any type of activity that has to be processed different teams are working eventually we can say that all the work is scattered and the companies are not having a central control.

Some of the major problems that are associated with the existing system are listed as following-

✓ Various types of incorporated tools are utilized by the existing clients for different types of monitoring measurement planning and analysis activities in terms of networks making it very much expensive for them

✓ Consolidation that is required for the better control is also not supported in the existing work scenario as we have found that each type of activities and each type of networks are processed individually indifferent relation

✓ Different types of information analysis the information which is required to be gathered and required to be modeled is also very much difficult in the existing system as it has to be done by using a particular resource and even different types of associated experts are required

✓ Multiple activities of workability and monitoring is not supported to be acknowledged from a single frame making it difficult and elaborated for the company to indulge in terms of the related activities

✓ The type of automation that is required for the network Information retrieval is also quite difficult and in various counts it is not supported the reason why the Information retrieval is quite difficult

✓ Statistical information conversions that are required to associate the statistics in a proper way is not supported as again the information that is retrieved requires converted

✓ Working and real-time references which is important is not supported which makes the coordination quite difficult in the existing system

✓ Different types of activities in parallel cannot be consolidated in the existing system the analytical departments are using different references and integrations in the same time the monitoring teams are using different references and association

2.1.2 Proposed System

Scattered environment are required to the organized on a universal scale in different types of references so the system provides mechanism in such a way that all types of scalable information required and different types of direct requirement need to be established can be properly associated.The proposed system is designed to promote all types of controlled interface for the complicated statistical understanding and workability based on different types of networks that will be added at the same time for more controlled workability provisions.

Some of the important references of the proposed system are listed as following

➕ The standard regulations that are required to be followed for the conversion of statistical data into optical is also provided making the work more visible and flexible for the users has the information in the real count can be converted with different types of conversion styles provided in the proposed system

➕ In the proposed system for planning statistics review, for managing the networks, for security references or in terms of any network provision different tools are not required making the system overall workability platform which supports different types of working consideration making it very much cost effective

➕ Consolidation of all the networks are provided in the proposed system so any number of officers or networks can now be added on a central console to maintain and manage the provisions required

➕ The information references which is important part to govern the network components that are included in a particular network or in reference to multiple networks that are added to the system so the system provides a mechanism of integrated information modeling to get the acknowledgement for any type of components

➕ All types of activities can be processed at a time while using the system making it very much flexible for the organizations; all types of sensors can be controlled according to the requirements by the authenticated users those were added

- Automation can also be achieved with the help of the system as the references are very much important to be acknowledged at the right time so different types of triggers can be set where according to the conditions the system will provide the differential information
- All types of coordination that are required will be promoted in real time which is helpful to get the inside more appropriately
- Any type of customization that is required in terms of getting the information or in terms of working can be also achieved which is very much helpful for the adjustments to the made by the clients using it

2.2 Feasibility Study

Feasibility understanding is important as we have to maintain all the required identity for the development of the system before it is actually been started or we can say with the help of the feasibility study we can identify what all things we require for the perception that are required to be designed for example how the cash or the money will be finalized , in the same way the type of Technology we require to process the related workability and different types of operational requirements will be also discussed

Technical feasibility

Operational feasibility

Economic feasibility
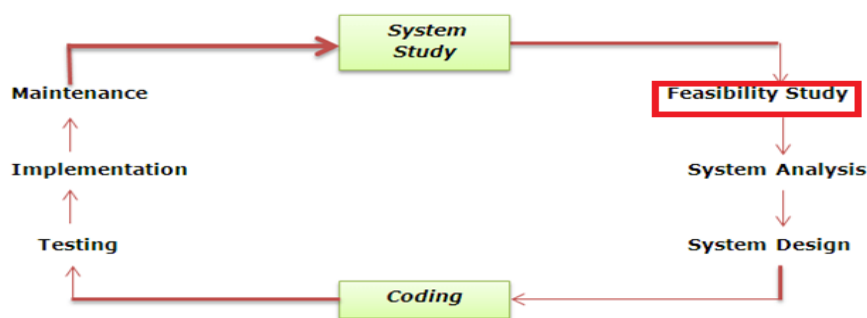
The above figure shows that how the feasibility study

Technical feasibility

Technical feasibility is associated with all types of processes that are involved in providing different types of environment to be incorporated for the activities

Each activity that will be process will be incorporated within the system so that the users can have the define standard orientation of the constable task for example if the required network analysis has to be achieved it will be provided with the references

Each type of consideration is of the information that is included in the system will be also checked and we have to identify that each information is correct in the formation

Multiple teams will be design for the technical aspects design and each team will be e associated with a guidance that will be provided by that expert in technology

Task allocation and control will be done with the help of automatic tools

Operational feasibility

Operational references to make the client understand that how the activities are required to be performed on to the system will be provided, each type of guidance requires a proper understanding which we will be providing with the documentation with clear elaboration of each and every aspect provided

The references of the operations that have acknowledged will be also in terms of training which will be provided in house so that the substitutions can be provided in more appropriate manner and it is easier for the clients to understand the real objective of the system to be designed

Economic feasibility

The economic considerations are related with all types of understanding in terms of cash requirements and how the fund will be provided for different types of development and implementation processes which will be undertaken for the final system design and maintenance

The company will be self-investing in terms of the economic considerations and does not require any type of loans

Even the usage fees will be calculated so that understanding can be established properly

2.3 Tools and Technologies used

Java

We are using Java Technology because it is having multiple significant advantages over the other languages and it is also different types of environment. The major references of the Java language is

It is object oriented

Platform independent so it can be easily transferred

Even the compilation the writing and debugging of the language is easier to understand

Rich API for the application development is provided and various types of communication among various activities like networking utility and database references can be properly generalized

It also supports multithreading so that several task can be organized in parallel

Distributed computing is also properly in hand with the help of Java and even the networking references can be properly associated with secured integrations

NetBeans 10 Installation

Go to https://netbeans.org to download Apache NetBeans 10 then click on the download button as shown below-

Figure 2: Download

Figure 3: Download NetBeans
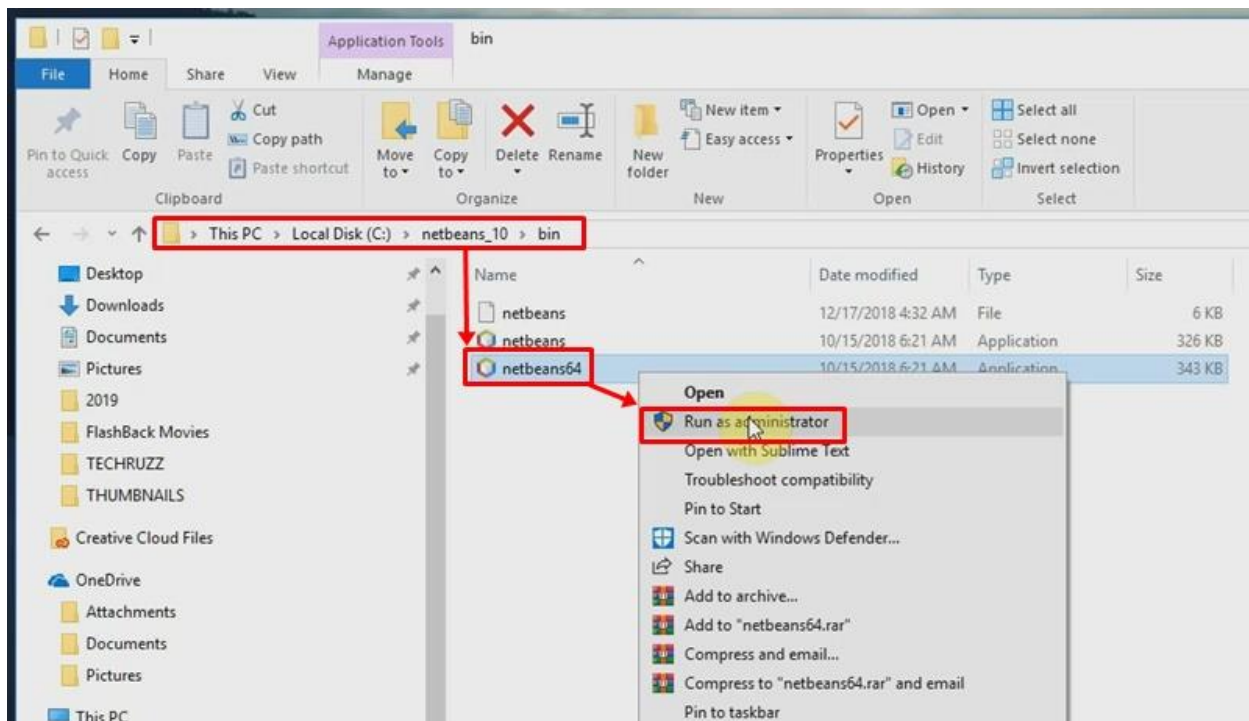
Figure 4: Run as Administrator

SQL

Retrieval for large amount of records can be efficiently and quickly managed

Most references of the database system can be managed without writing the substantial amount of courts

All types of standards are being adopted

Multiple data view can be structure

Supports client server architecture

More interactive in terms of getting the references

2.4 Hardware and Software Requirement

2.4.1 Hardware Requirement

- Computer processor   :   Intel core i3
- Processor speed   :   1.7 GHz
- Hard Disk Space   :   500 GB
- RAM   :   4 GB

2.4.2 Software Requirement

Databases   : MySQL 8.0.13

Technology   : Hybrid cloud (implementation)

Platform   : Windows

Languages   : JAVA (J2EE, JavaScript, JSP)

Integrated development environment: NetBeans/Eclipse

Supporting Server: Apache Tomcat 8, SSD cloud server, Amazon s3

CHAPTER 3

SOFTWARE REQUIREMENTS SPECIFICATION

3.1 Users

Administrator

The administrator will be the person to acknowledge different types of networks that are required to be added on to the frame for different mechanism. Various types of administrator regulations will be provided so that the real-time prospective as required by the particular organization can be maintained

Team members

Team members are different related provisional users those who will be provided with different types of task which is required to be performed so for example the relational workability in terms of any type of information statistics analysis is required the particular user will be having the monitoring reference in the same way if any

Assumptions and dependencies

Important assumption is that as the network perceptions are required to be managed it should be known to the users which means that everyone using the system should be having a authentication and should be having a related knowledge of working

All types of dependencies that have required being associated is that the users are required to incorporate and work onto the system. Each type of provisions required will be done only through the system making it more dependent for the company has settings and working is required to be done

3.2 Functional requirements

Proper understanding of the features is required which is needed and which will be considered with related documentation and this is what the functional requirement is all about. Detailed functional processing which will be undertaken by the system for a particular function with all types of triggers and all types of input provisions will be listed

Windows substances

Use Case Name	Windows substances
Trigger	Settings
Precondition	Admin login required
Process	Windows substances are added by the administrator which includes the details setting for getting the type of networks required for activities and processes so the administrative will be liable to perform these activities by bye provisional setup mechanism which will be again updated by the system itself. All types of substances that have required by a particular organization will be set up and it will be done with elaborated understanding of security setups and workability guidelines. The system will save the requirements in accordance
Post-condition	Settings options provided

Statistics generation

Use Case Name	Statistics generation
Trigger	Selective
Precondition	Networks added
Process	Statistics generation will be done by selecting the type of information required and the system will process the information with the help of the Incorporated platform or the networks. Each type of statistics will be provided with different types of information outputs which will be associated with a report format and with the help of optic format. The optic format will be more useful to get the reference in detail
Post-condition	Data generated and viewed

Integrated sharing

Use Case Name	Integrated sharing
Trigger	Selections
Precondition	Working done and access
Process	Integrated sharing will be provided to the users by the administrator and in the real-time the users will be having the rights to use different types of platform for the related work sharing or we can say that system is incorporated with different types of publishing and sharing options which can be utilized for the information transferring
Post-condition	Sharing options seen

Window marking

Use Case Name	Window marking
Trigger	Settings
Precondition	Access control required
Process	Window marking is also provided within the system interface so that multiple types of Windows can be generated and according to the reference multiple types of activities can be performed so we can say that at the same time for example information analysis requirements can be categorized which will be very much helpful to get multi-activity understanding from a central controller
Post-condition	Windows generated

Data retrieval and data management

Use Case Name	Data retrieval and data management
Trigger	Choice settings
Precondition	Access
Process	Data retrieval and data management is associated in such a way that all that's a prospective data generation will be saved in different hierarchical manner where different types of users will be having different types of accessibility liability
Post-condition	Reference data allocation seen

3.3Non-functional requirements

Accommodate the system in real time for more prospective quality we have to provide multiple real time the sensors to the users for example when the users are using the system they should understand the situation aspects, the system should provide the working help to the users, all types of accessibility control has to be managed properly etc. So the non-functional requirements are based on more quality provisions that are required in real time working
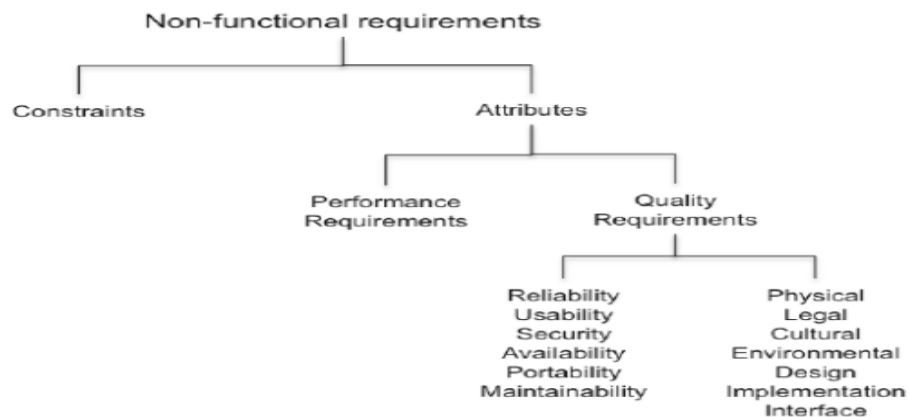
Security

Proper security references are considered as the system is based on critical information analysis based on the network system which will be integrated with different types of business data. Security will be provided with different accessibility control different types of setup controls and with the help of different types of encryption algorithms

Maintainability

The administrator will be maintaining all types of setup that are required to be incorporated for the task and processes to be performed in the same way all types of variations of data that will be saved will be maintained on a secure platform by the service provider

Reliable

The system is reliable as all types of securities provided which can be set up by the user themselves in the same way all types of setup that are required to incorporate the networks will be also provided to the company user whereas all types of data that will be generated will be also properly provided in terms of accurate reports and will be saved on a cloud platform of the choice

Scalability

The scalability is in reference of the scalable requirement as large number of data will be generated when the system will be used on multiple networks and on large networks. Describe ability is in reference of workability requirements so according to the extension required the system can be utilized by different types of organization whenever it is needed

Robust

System will also guide the users and each type of errors or problems that will occur at the time of working will be handled by the system making it more advance as the users will be able to work properly with more understanding

CHAPTER 4

4.1 SYSTEM DESIGN

4.1.1 Architectural diagram

Architectural diagram shows the detailed plans of the system components in different level office implementation
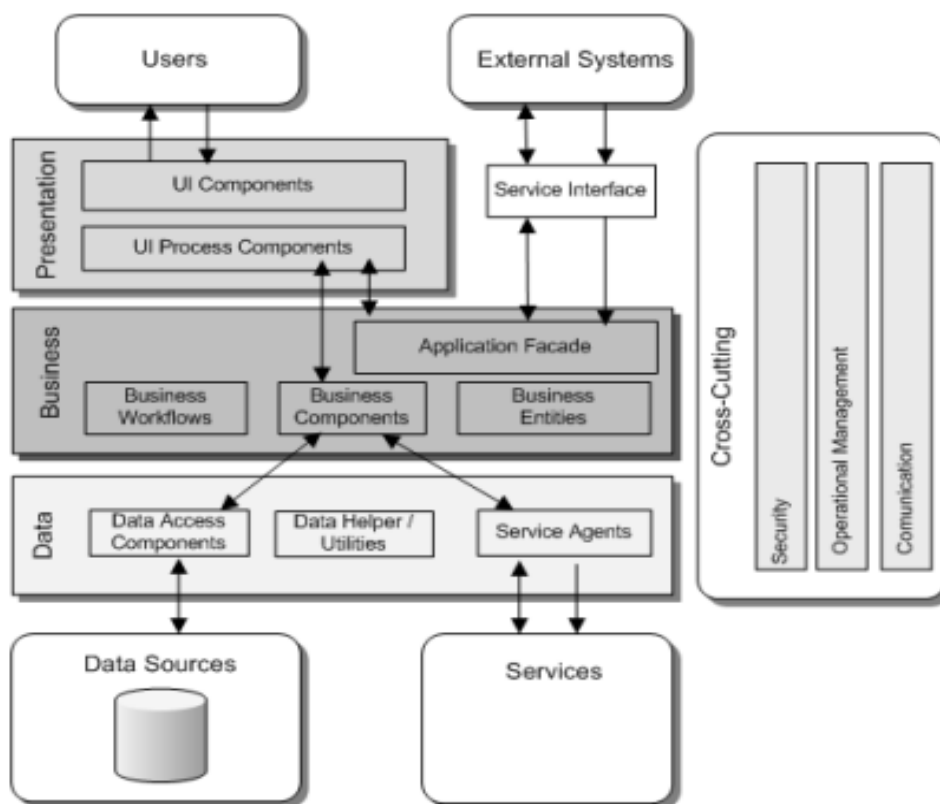
Figure 6: Architecture diagram

4.2 CONTEXT DIAGRAM

Context diagram can help the stakeholders and analysts to understand the context of the system which is been designed without any technical knowledge

The context diagrams helps to understand the business analysts. It is the high level system to understand easier
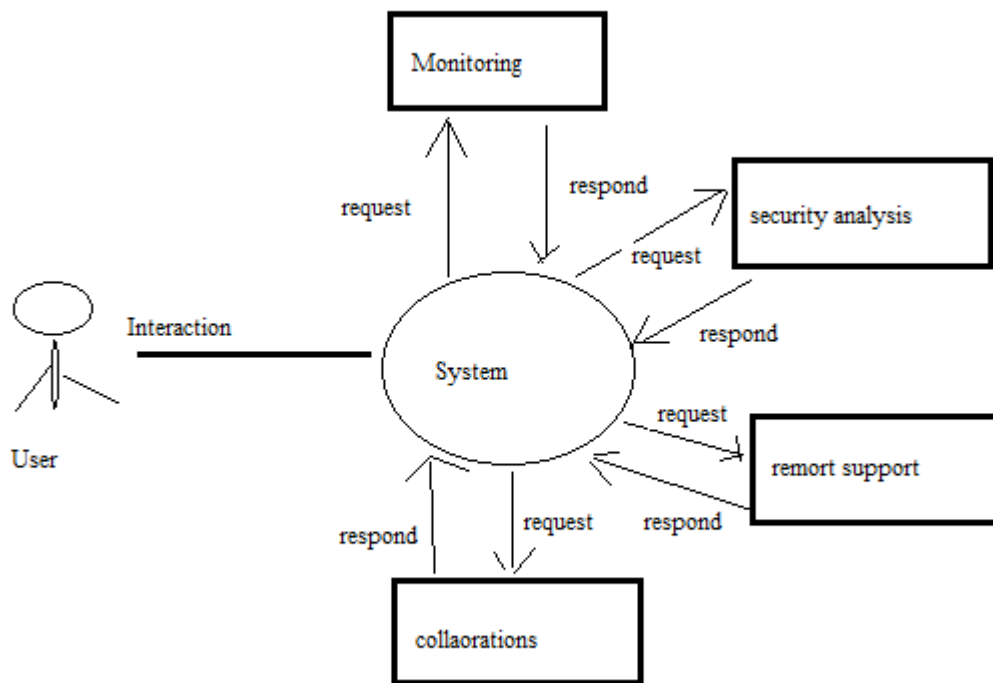
Figure 7: Context diagram

4.2.1 Data flow diagram

Data flow diagram represents the flow of data of a process where the related information based on inputs and outputs of each entity will be represented
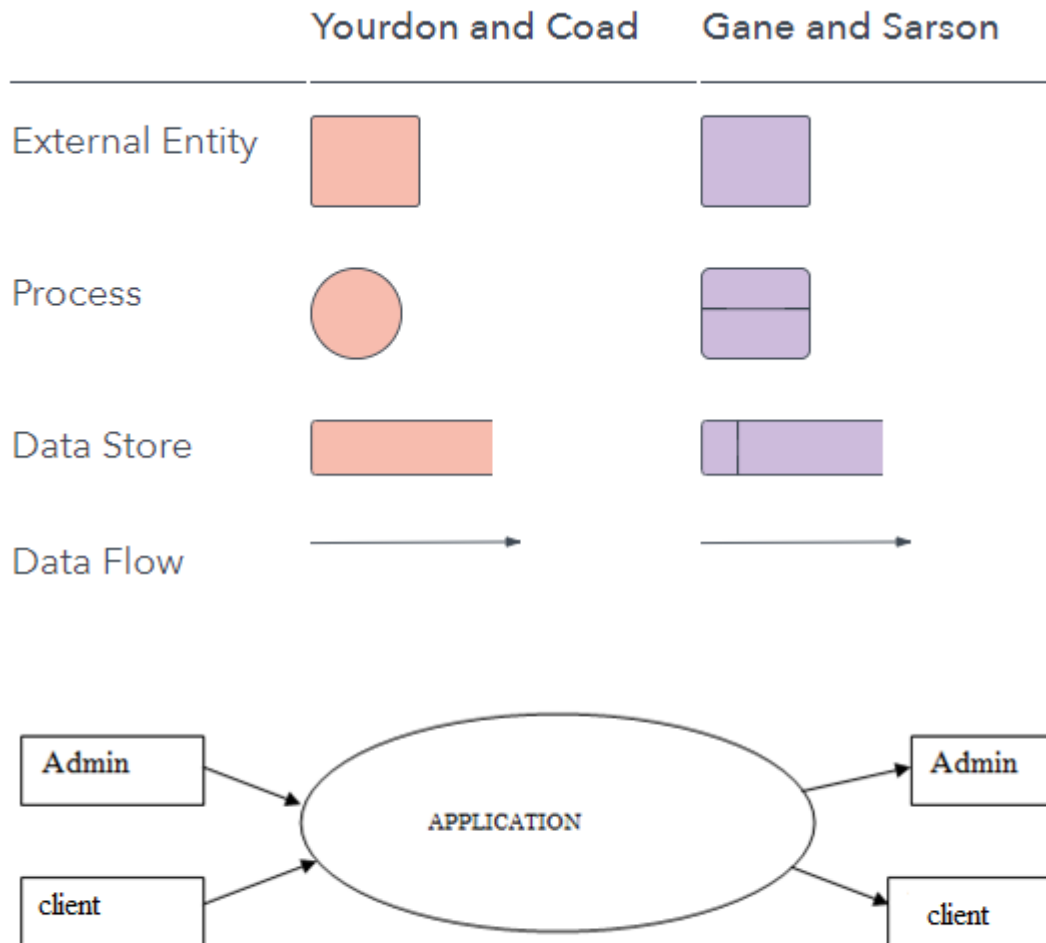
Figure 8: Level-0 DFD diagram

The above **Figure 3** shows how admin and client interaction takes place between an application. Admin and client can interact with application and and get responses back to the client from application. The above diagram will make users to undersand easier how an application works between client , server as well as application.client make request to application which process the request and it will send to server and sent back the response to the client
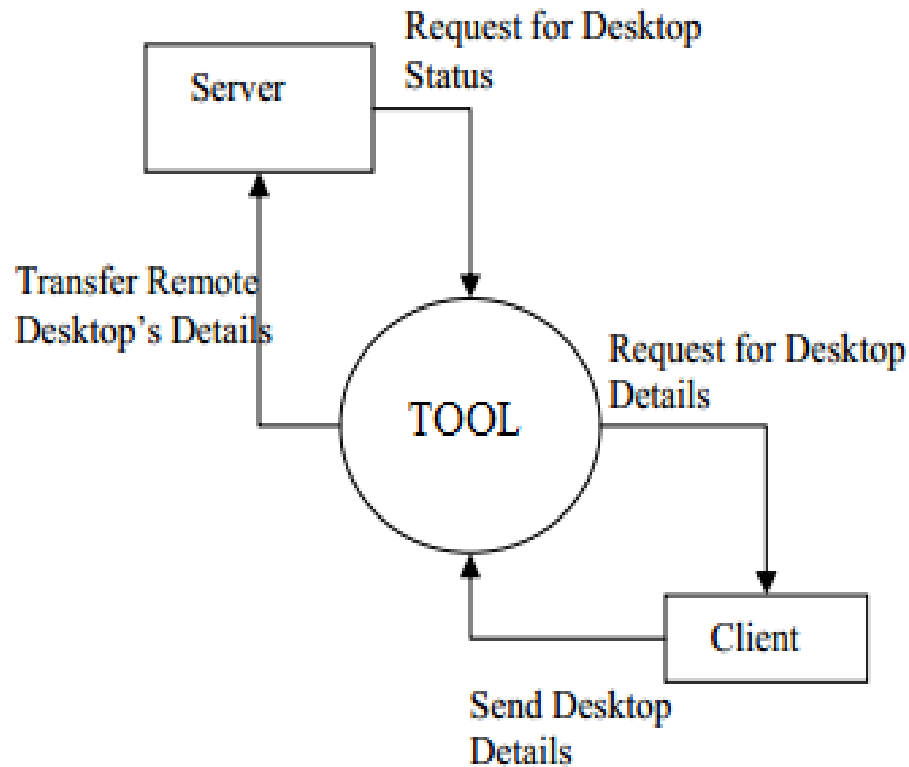
Figure 9: Leve-1 DFD diagram

Above **Figure 9** shows how remote side and client side interactions takes place via Tool which acts as the intermediter between client side and server side such as Transfer,request and sending the desktop details.server request for the desktop details to the client. Client send back the details of the desktop to the toll which will transfer the remote desktop's details.server always takes the status of the desktop everytime it request
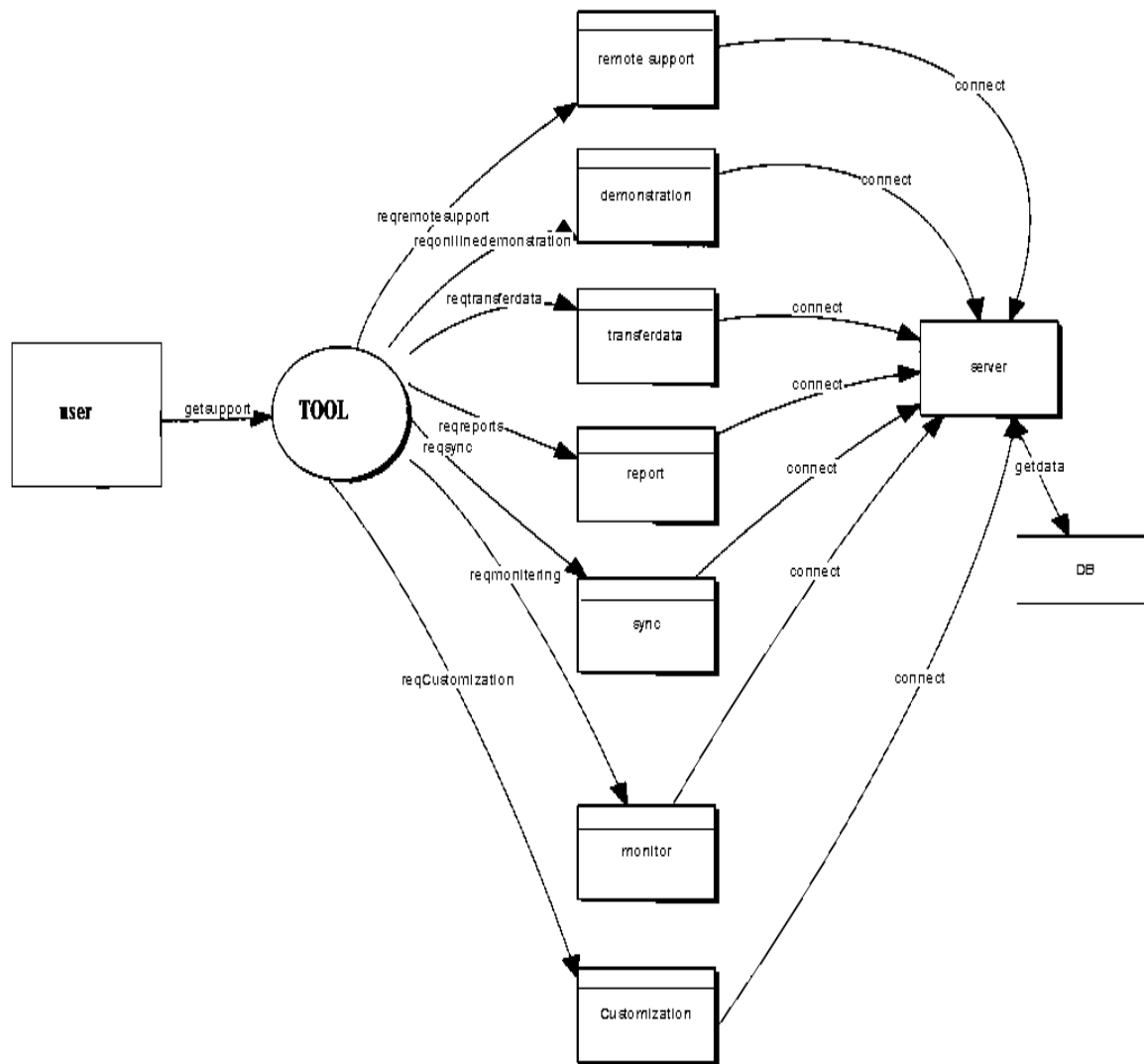
Figure 10: Level-2 DFD diagram

The above **figure 10** shows user interact with a tool which is responsible for requesting remote support,online demonstration,transfer of data,monitering,customization.After connecting to server will get the database details.Remote support will get connect to the server in order to get the details of the database.similarly it will demonstrate to connect to server, user will customize the connection to the server using the tool. Sync will be done through the remote monitoring of the server.
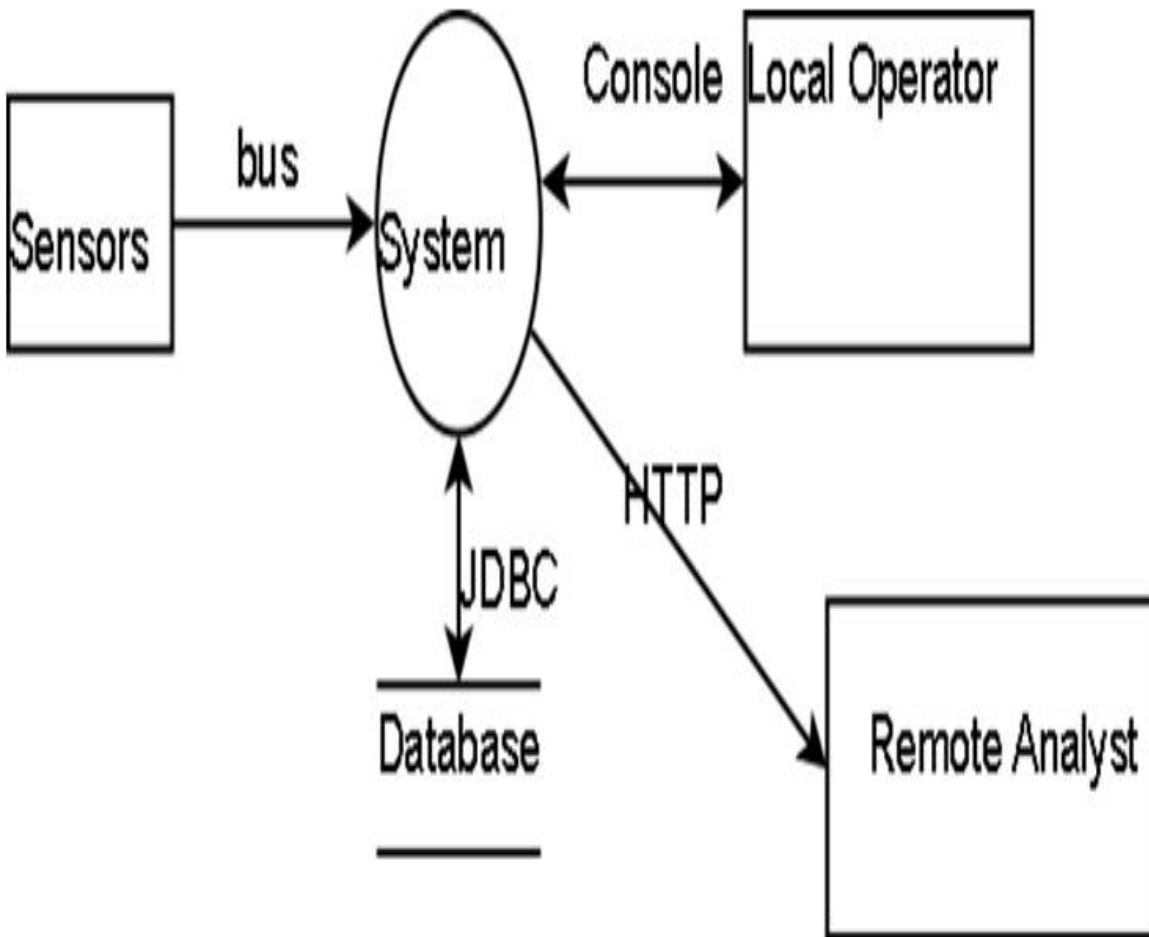
Figure 11: DFD diagram

The Above shows the how Sensors connected to the system using bus. System will interact to the database using driver. by making use of HTTP in order to interact with Remote Analyst.it consoles the local operator as shows in above Figure.database will interact with system through the drivers.
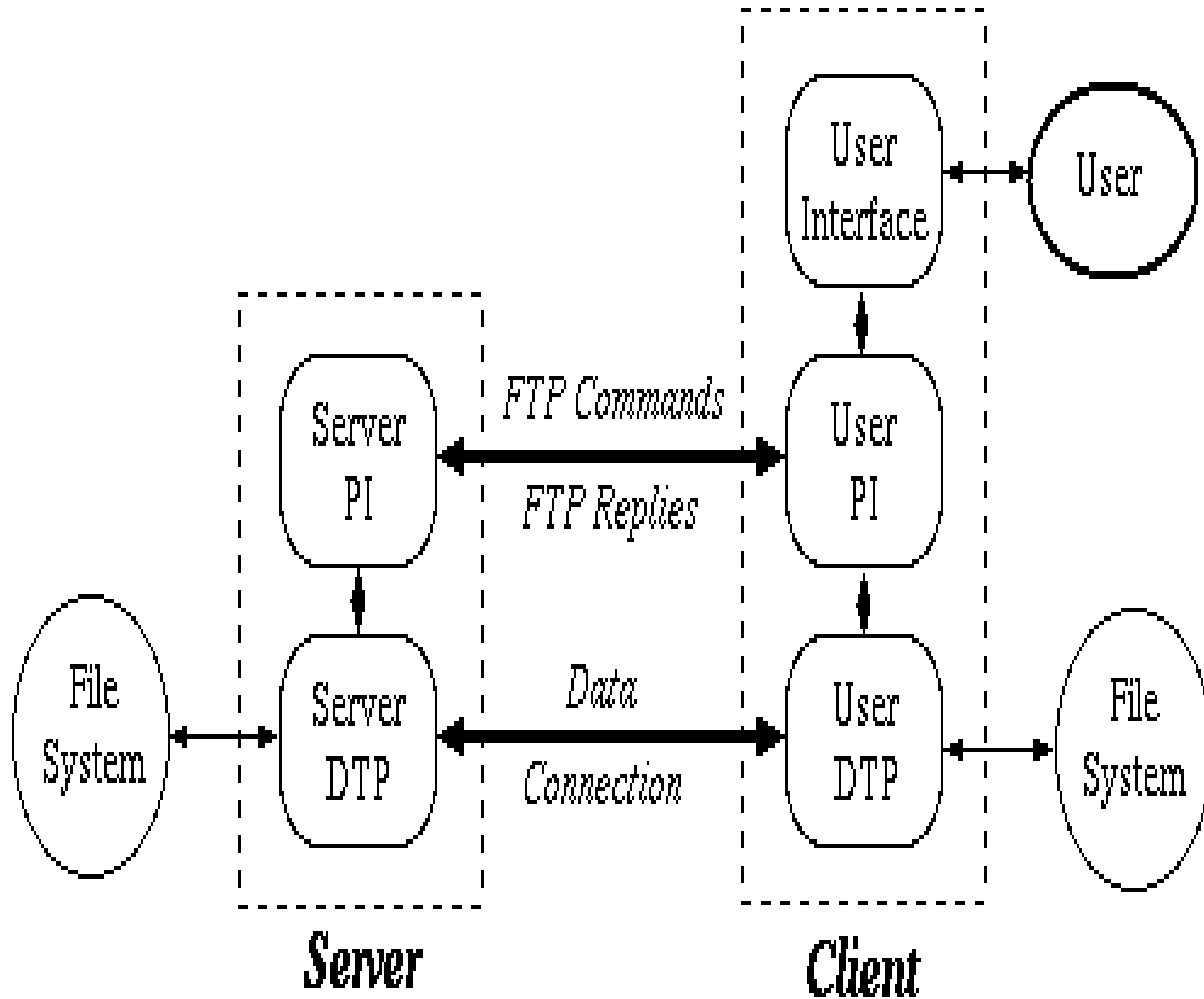
Figure 12: File transfer DFD diagram

The above **Figures 12** shows file transfer data flow diagram which shows how server and client interactions takes place between file System. In the client User interacts with the User Interface which is connected to the User PI, User DTP. File transfer protocol commands are used between server PI and User PI. Server sends FTP replies to the client side. File system will w interact with both client and server through various technologies.

CHAPTER 5

DETAILED DESIGN

5.1 Use Case Diagram

The use case diagram define the interaction between the actor and the system to achieve a particular goal that has to be considered for the working
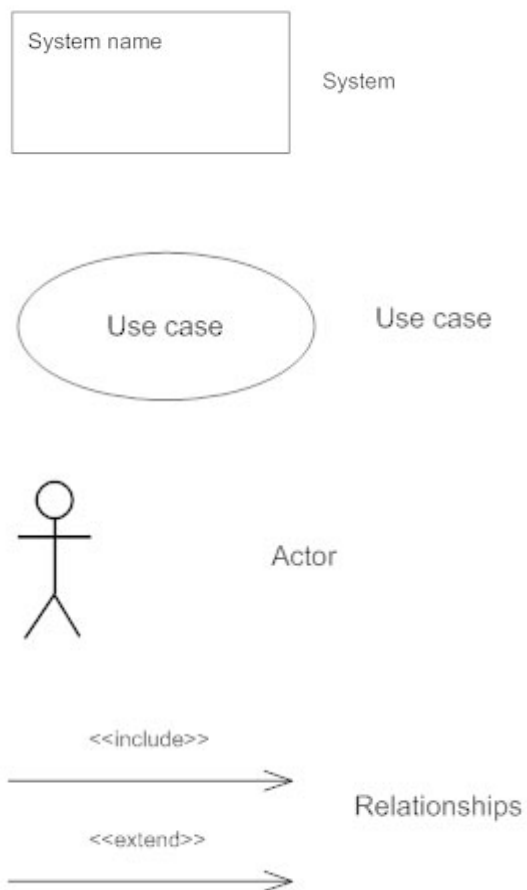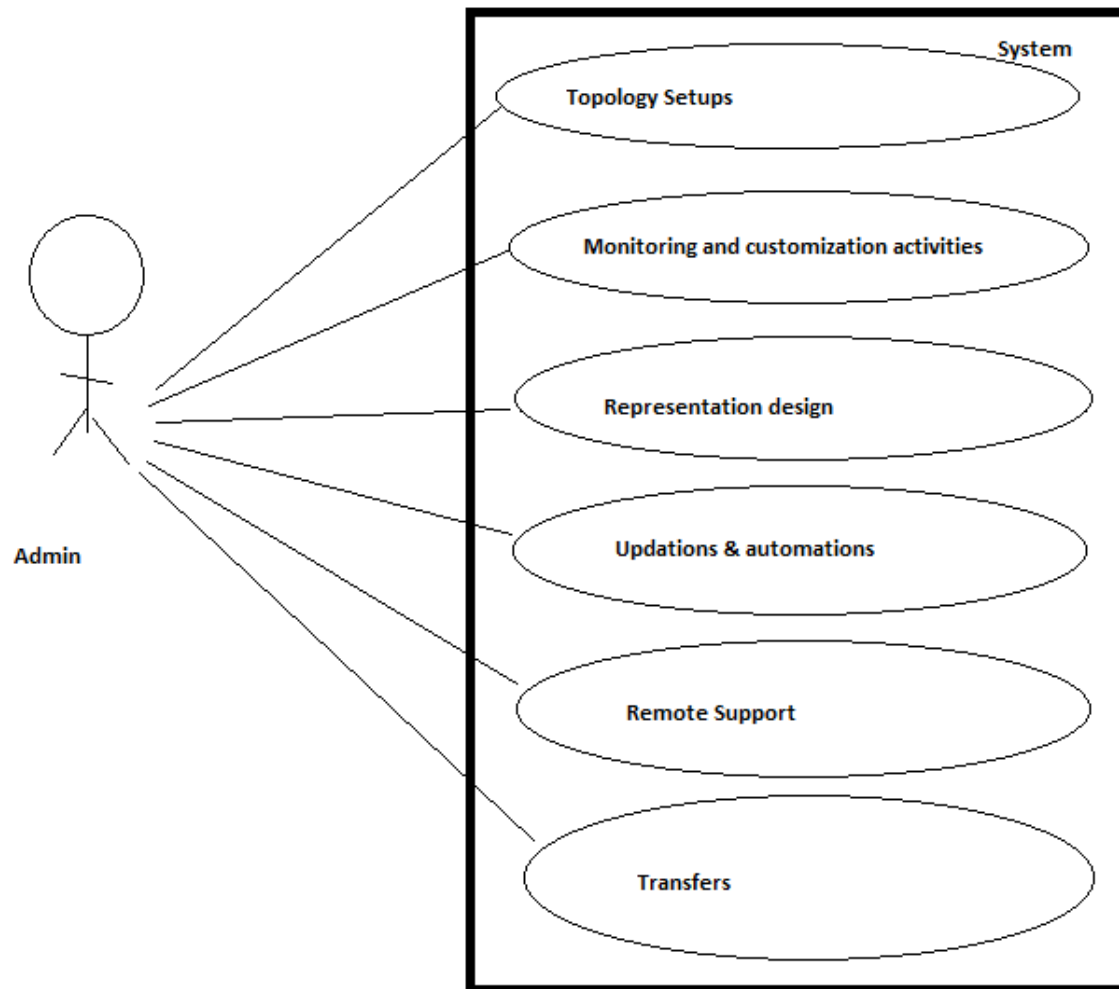
Figure 13: Uses case for Admin

UML Description

In the above UML Diagram Figure 8 Admin is an actor. Admin role is as follow:

- Admin will setup topological requirements for the system.
- Monitor and customization of various activities of the system is done only by an admin of the system.
- Admin is responsible for the representation of the various designs for the activities
- Updations are only done by the admin when any changes happened.
- Admin is responsible for automations as well as remote support of the system.
- Transfer is always done by the admin.
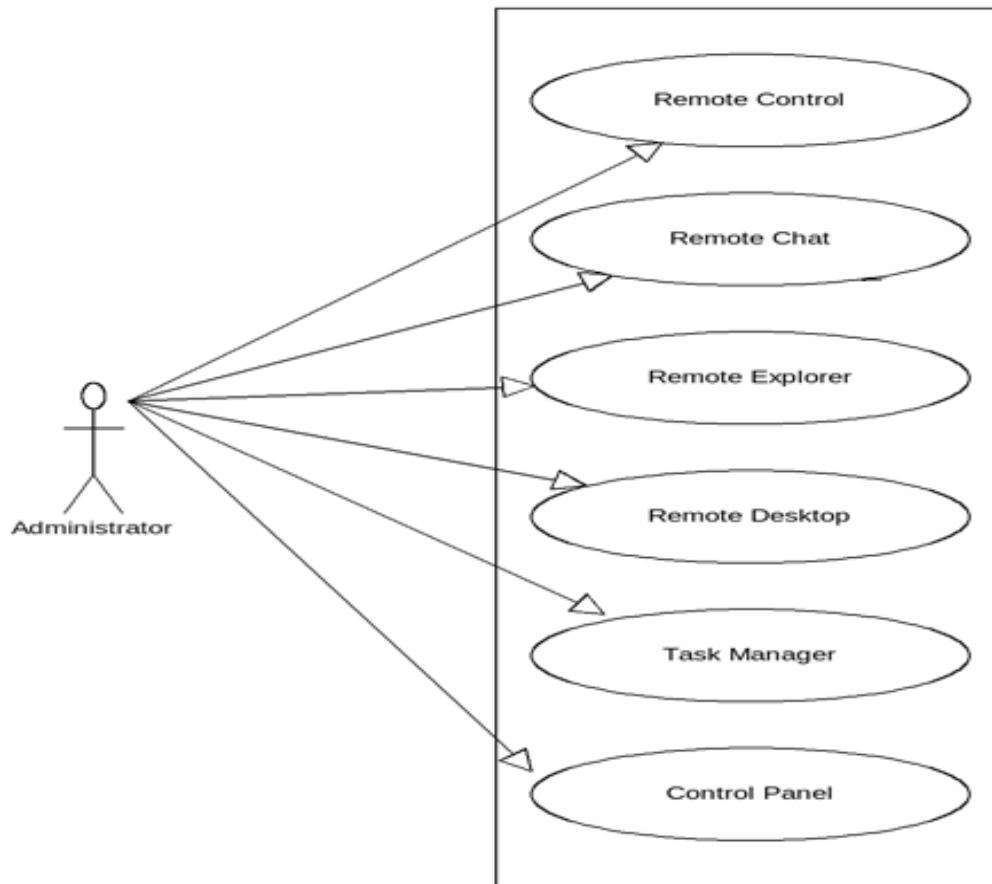
Figure 14: Use Case for remote management

UML Description

- In above UML Figure 9 Administrator is an actor whose roles are as follows:
- Administrator is responsible for remote management including Remote control, Remote chat, Remote Explorer, Remote Desktop, task manager, Control panel.
- Whenever administrator requires something he will convey through the remote chat and he will interact directly.
- Task manager is used to view the various activities has done the application.
- Remote desktop and remote explorer used to explore various activities in detail about the application.
- Overall system will be controlled by an admin through the remote control sytem.

5.2Sequence diagram

Sequence diagram shows different types of task that will be done between the user and the system
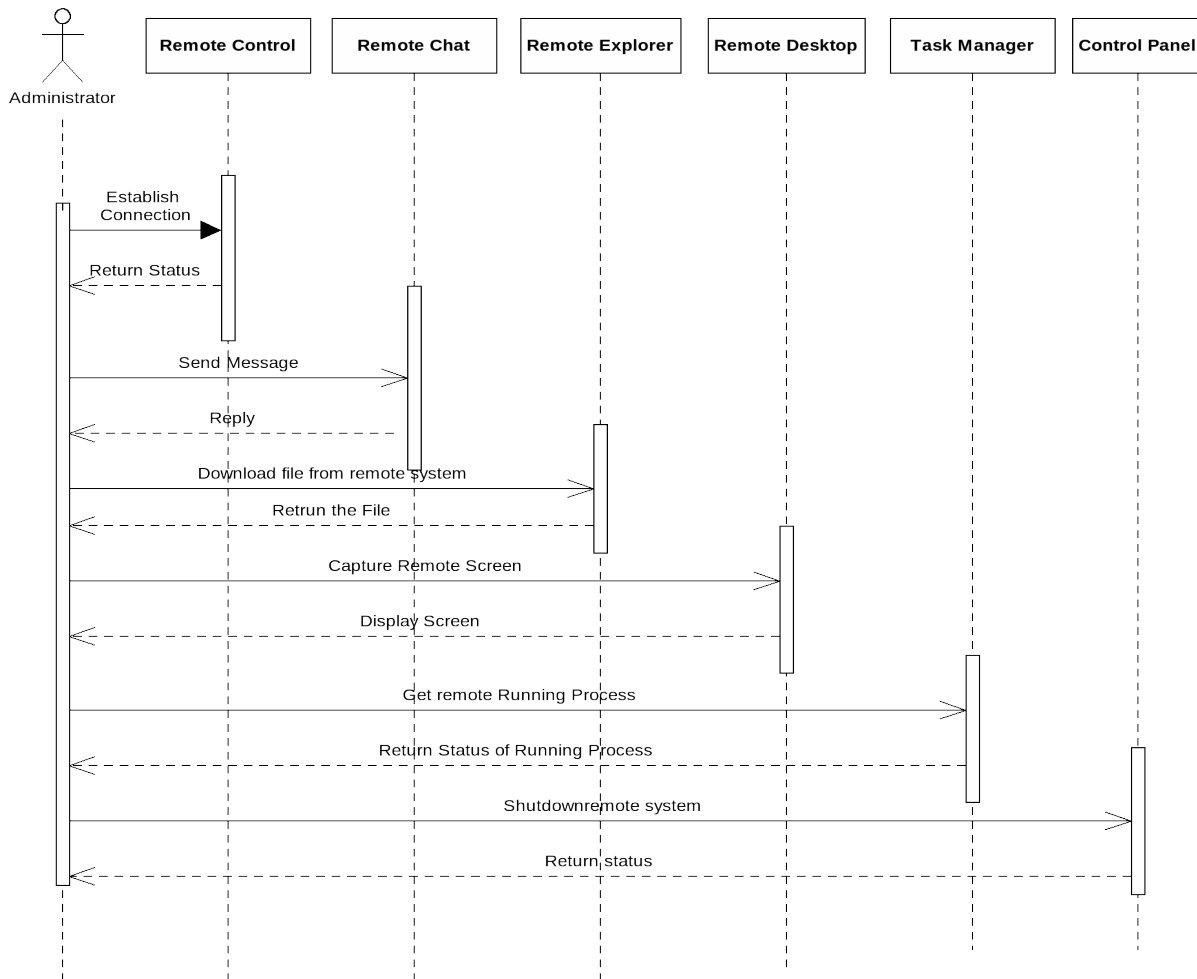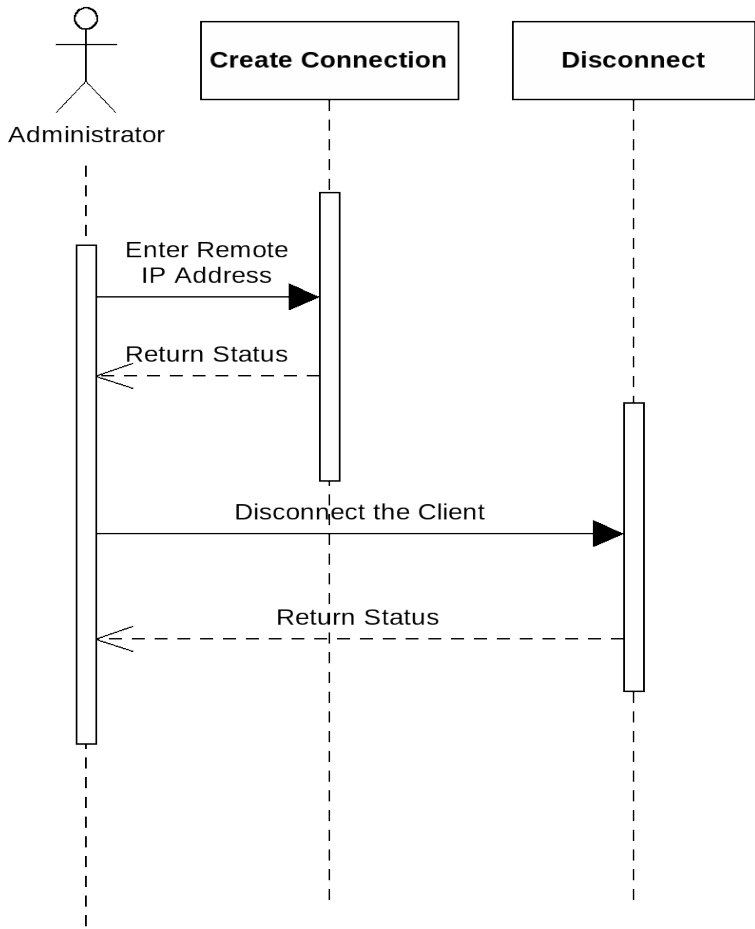
Figure 15:   Sequence diagram for Remote management
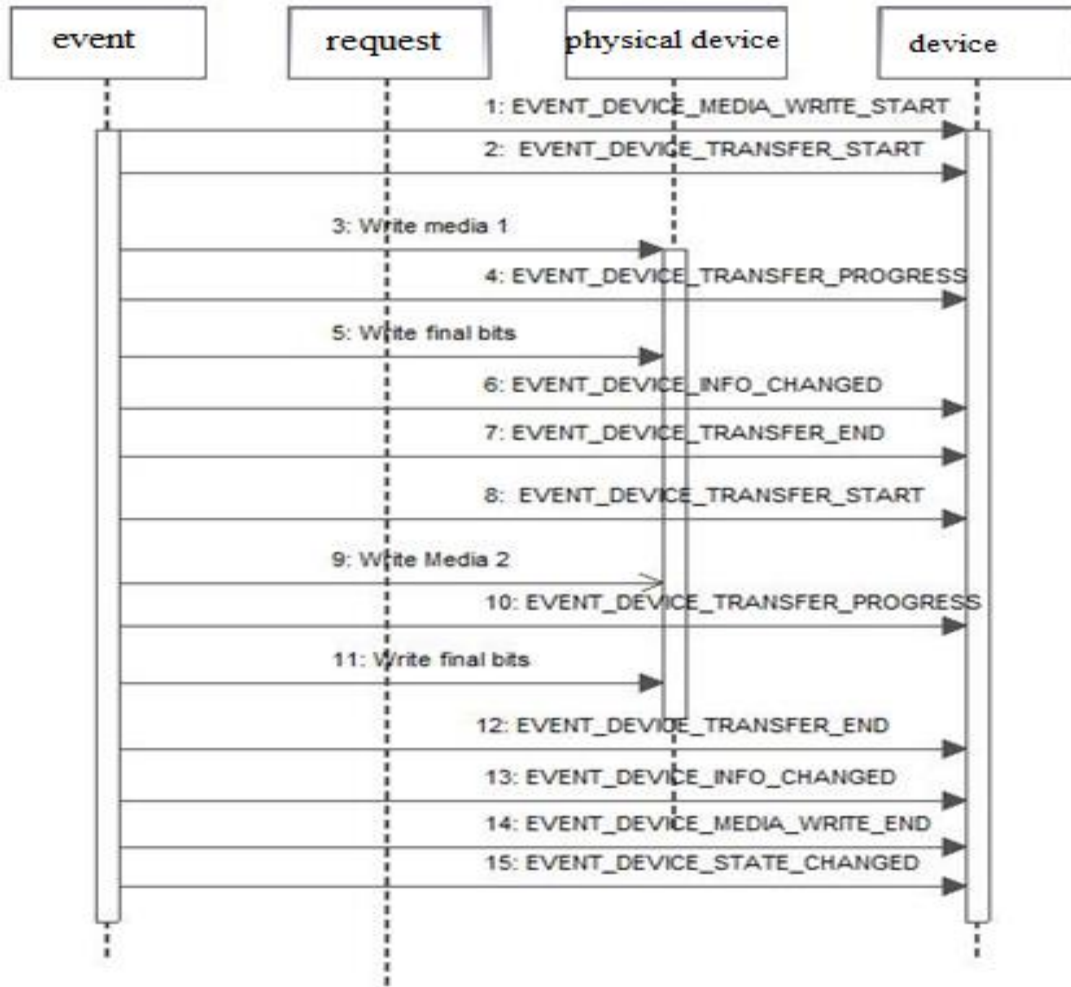
Figure 16: Sequence diagram for file transfer
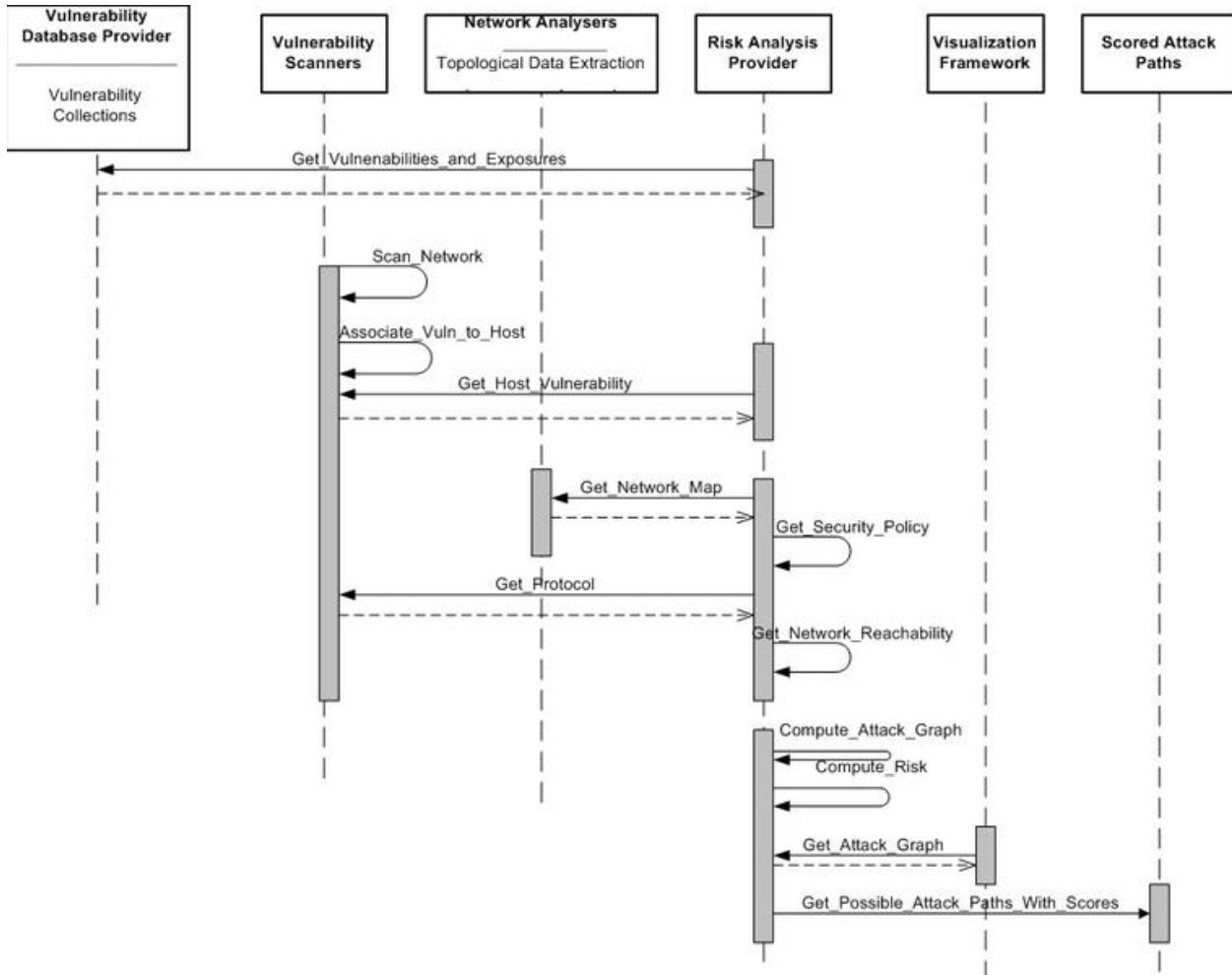
Figure 17: Sequence diagram for network Autentication

5.3 Collaboration Diagram

5.4 Activity diagram

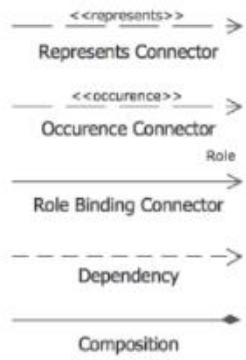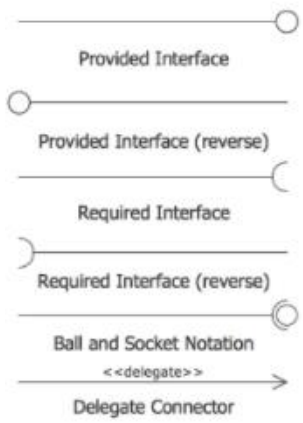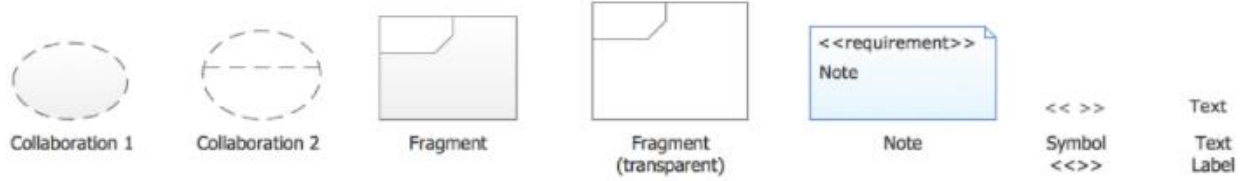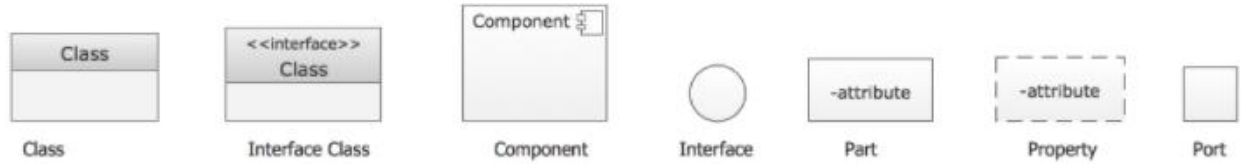Activity diagram captures the dynamic behavior and shows the message flow from one object to the another

Figure 18: Activity diagram

The above Figure 14Activity diagram captures the dynamic behavior and shows the message flow from one object to the another

5.5 Class diagram

Class diagram is a reference where the structure is described in the format of classes attributes operations in the relationships
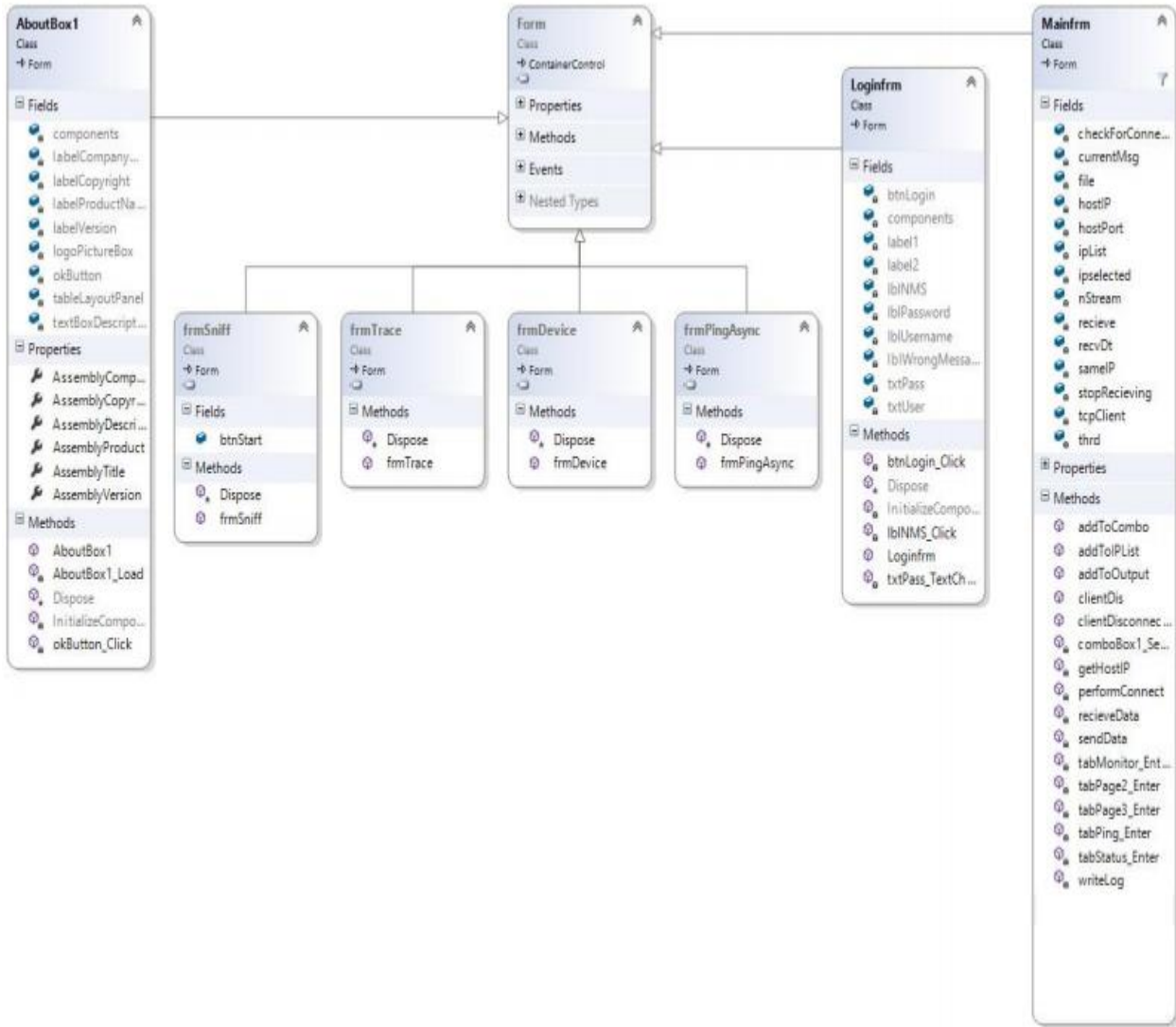
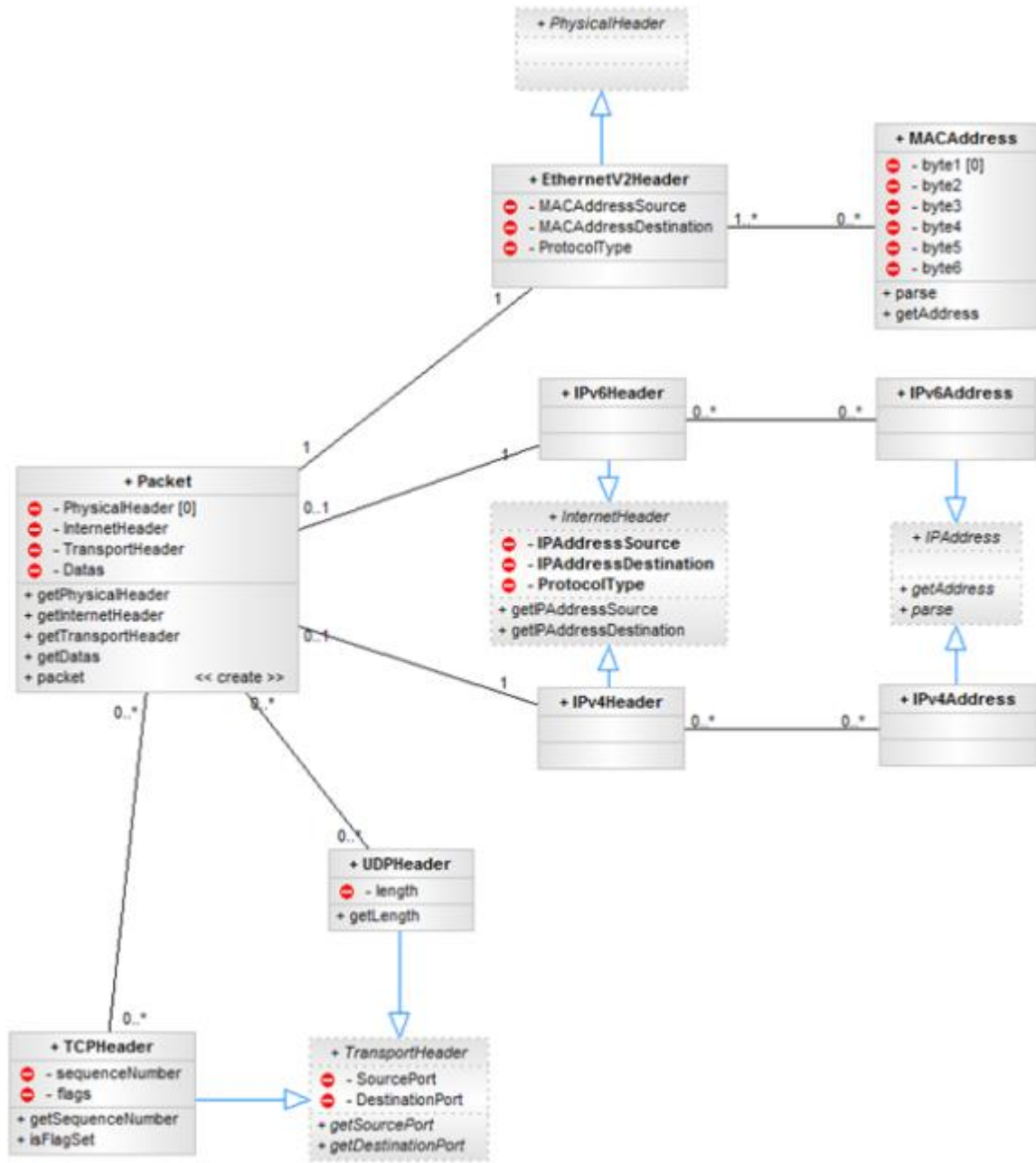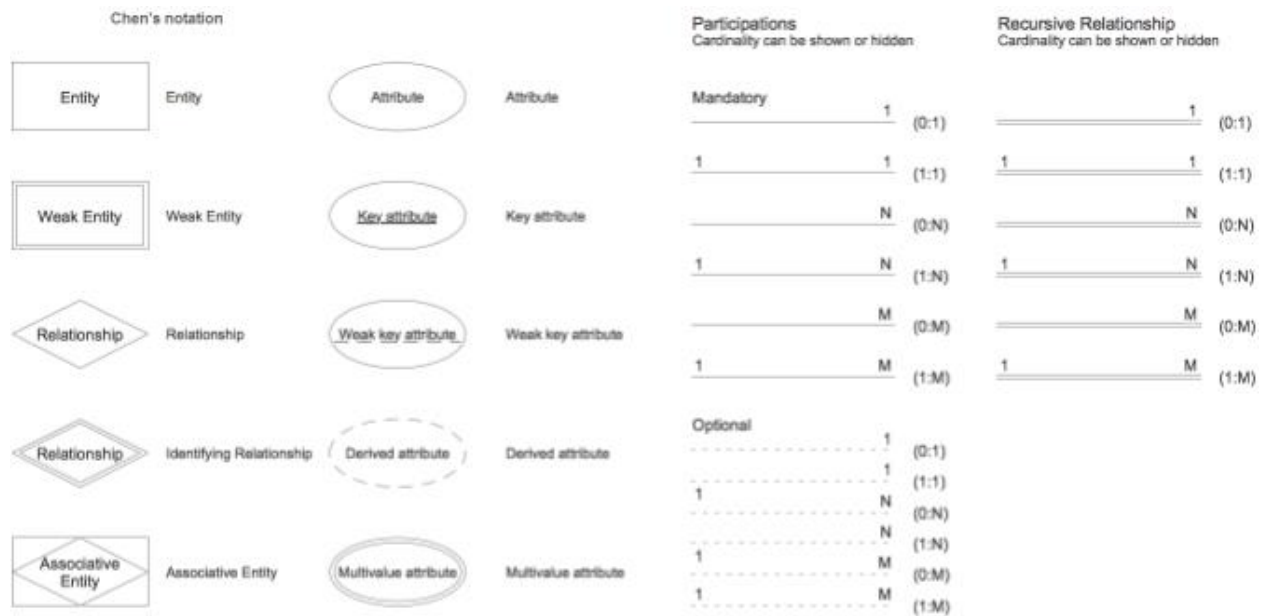|		
Class	Interface Class	Component
Interface	Part	Property	Port

Class — Interface Class — Component — Interface — Part — Property — Port

Collaboration 1 — Collaboration 2 — Fragment — Fragment (transparent) — Note — Symbol << >> `<<>>` — Text / Text Label

<<requirement>>
Note

Provided Interface

Provided Interface (reverse)

Required Interface

Required Interface (reverse)

Ball and Socket Notation

<<delegate>>
Delegate Connector

<<represents>>
Represents Connector

<<occurence>>
Occurence Connector

Role
Role Binding Connector

Dependency

Composition

Aggregation

Generalization

Realization

Association

{or}
Constraint

1   *
text   text
Association One-to-Many

*   *
text   text
Association Many-to-Many

1   1
text   text
Association One-to-One

Connector (with options)

Connector Line

Port Connector

AboutBox1
Class
→ Form

☐ Fields
- components
- labelCompany...
- labelCopyright
- labelProductNa...
- labelVersion
- logoPictureBox
- okButton
- tableLayoutPanel
- textBoxDescript...

☐ Properties
- AssemblyComp...
- AssemblyCopyr...
- AssemblyDescri...
- AssemblyProduct
- AssemblyTitle
- AssemblyVersion

☐ Methods
- AboutBox1
- AboutBox1_Load
- Dispose
- InitializeCompo...
- okButton_Click

Form
Class
→ ContainerControl

☐ Properties
☐ Methods
☐ Events
☐ Nested Types

frmSniff
Class
→ Form

☐ Fields
- btnStart

☐ Methods
- Dispose
- frmSniff

frmTrace
Class
→ Form

☐ Methods
- Dispose
- frmTrace

frmDevice
Class
→ Form

☐ Methods
- Dispose
- frmDevice

frmPingAsync
Class
→ Form

☐ Methods
- Dispose
- frmPingAsync

Loginfrm
Class
→ Form

☐ Fields
- btnLogin
- components
- label1
- label2
- lblNMS
- lblPassword
- lblUsername
- lblWrongMessa...
- txtPass
- txtUser

☐ Methods
- btnLogin_Click
- Dispose
- InitializeCompo...
- lblNMS_Click
- Loginfrm
- txtPass_TextCh...

Mainfrm
Class
→ Form

☐ Fields
- checkForConne...
- currentMsg
- file
- hostIP
- hostPort
- ipList
- ipselected
- nStream
- recieve
- recvDt
- sameIP
- stopRecieving
- tcpClient
- thrd

☐ Properties

☐ Methods
- addToCombo
- addToIPList
- addToOutput
- clientDis
- clientDisconnec...
- comboBox1_Se...
- getHostIP
- performConnect
- recieveData
- sendData
- tabMonitor_Ent...
- tabPage2_Enter
- tabPage3_Enter
- tabPing_Enter
- tabStatus_Enter
- writeLog

Figure 20: Class diagram

Figure 21: Class diagram

5.6 ER Diagram

Entity relationship model

Entity model helps us to understand the related entities and all types of related modeling based on the relationships and attributes will be performed

Crow's Foot notation

| | Entity (with no attributes) |

| | Entity (with attributes field) |

| | Entity (attributes field with columns) |

| | Entity (attributes field with columns and variable number of rows) |
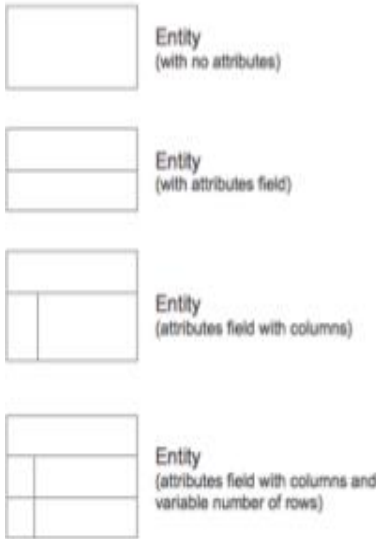
Relationships
(Cardinality and Modality)

>○—————	Zero or More
>|—————	One or More
||—————	One and only One
+○—————	Zero or One

Many - to - One

M:1	a one through many notation on one side of a relationship and a one and only one on the other
M:1	a zero through many notation on one side of a relationship and a one and only one on the other
M:1	a one through many notation on one side of a relationship and a zero or one notation on the other
M:1	a zero through many notation on one side of a relationship and a zero or one notation on the other

Many-to-Many

M:M	a zero through many on both sides of a relationship
M:M	a one through many on both sides of a relationship
M:M	a zero through many on one side and a one through many on the other

Many-to-Many

| 1:1 | a one and only one notation on one side of a relationship and a zero or one on the other |
| 1:1 | a one and only one notation on both sides |

5.6.1 ER DIAGRAM

Figure 8: Entity Relationship Diagram for Enumerator incorporated proactive observer

The above figure represents 7 entities and many attributes for each entity and represented as in the database relationship between entities and attributes.

CHAPTER 6

6.1 IMPLEMENTATION

Screenshots
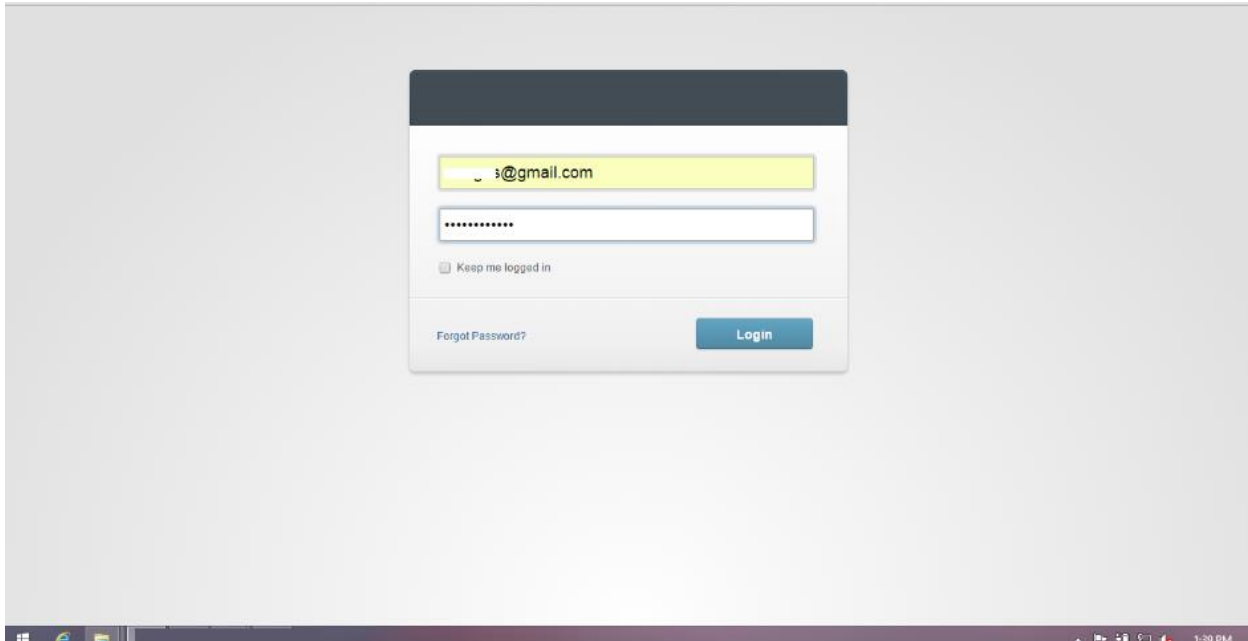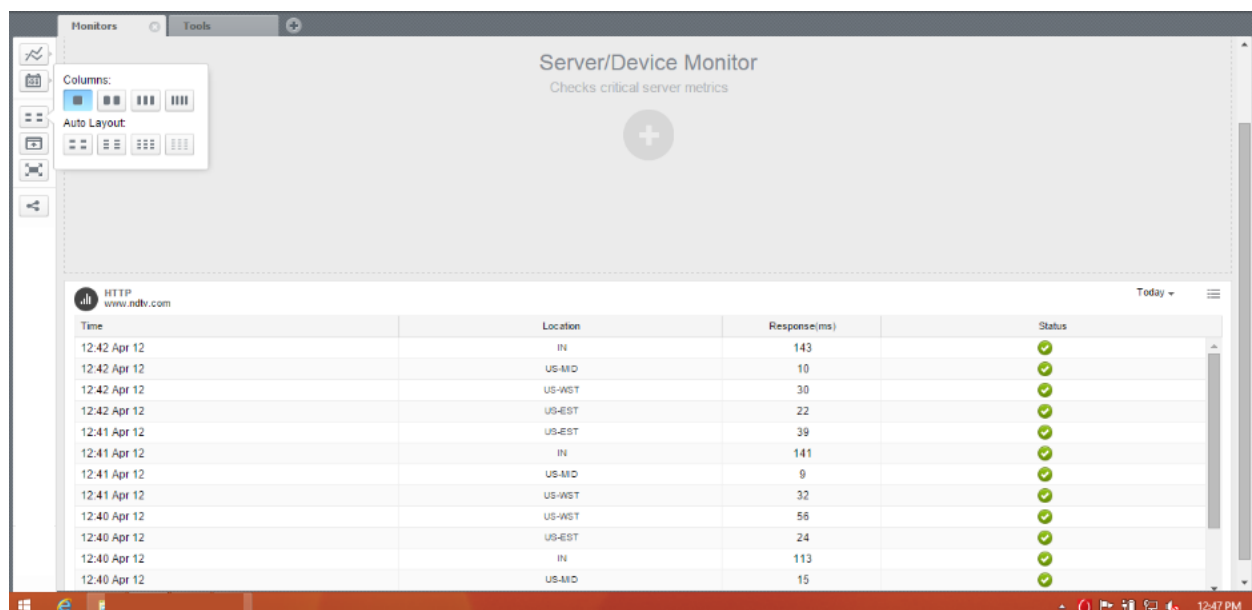
Figure 24: Login page for the admin

Figure 25: Representation and layout selection
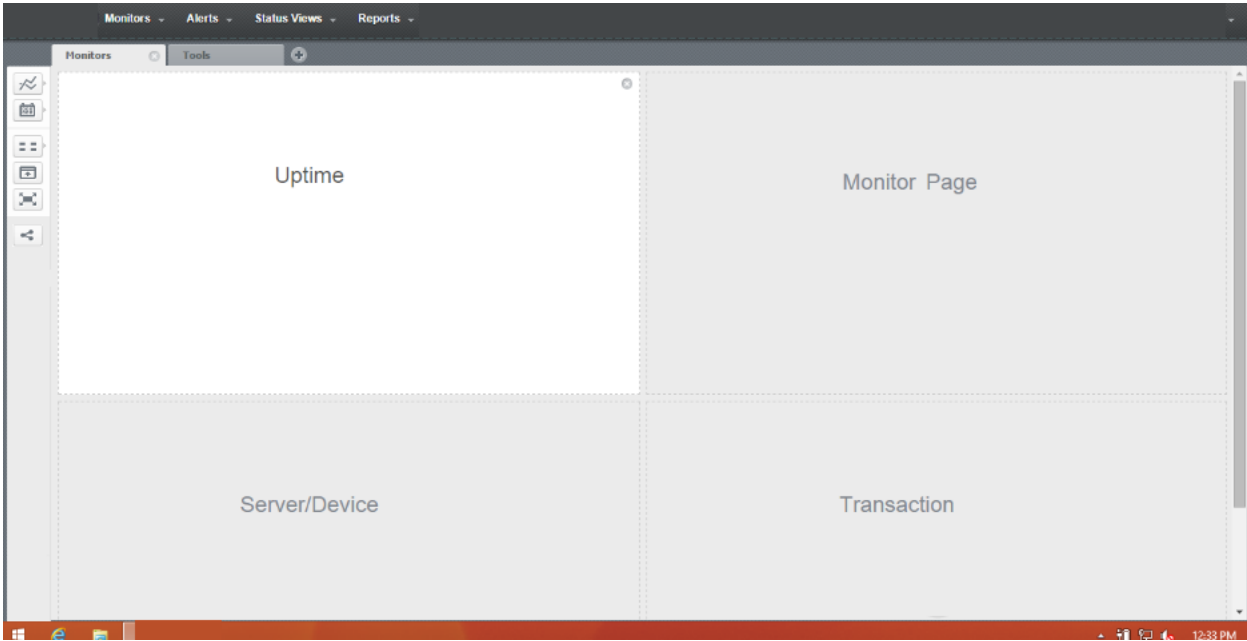
Figure 26: Various activities for the network reference can be organized in parallel
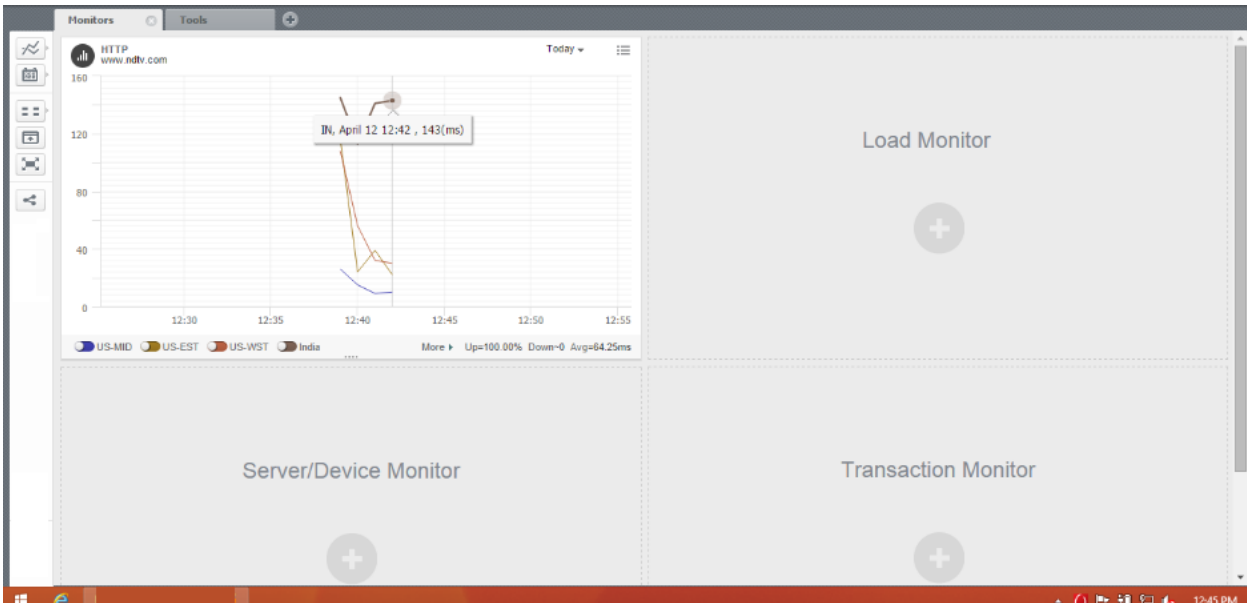
Figure 27: Chart representation
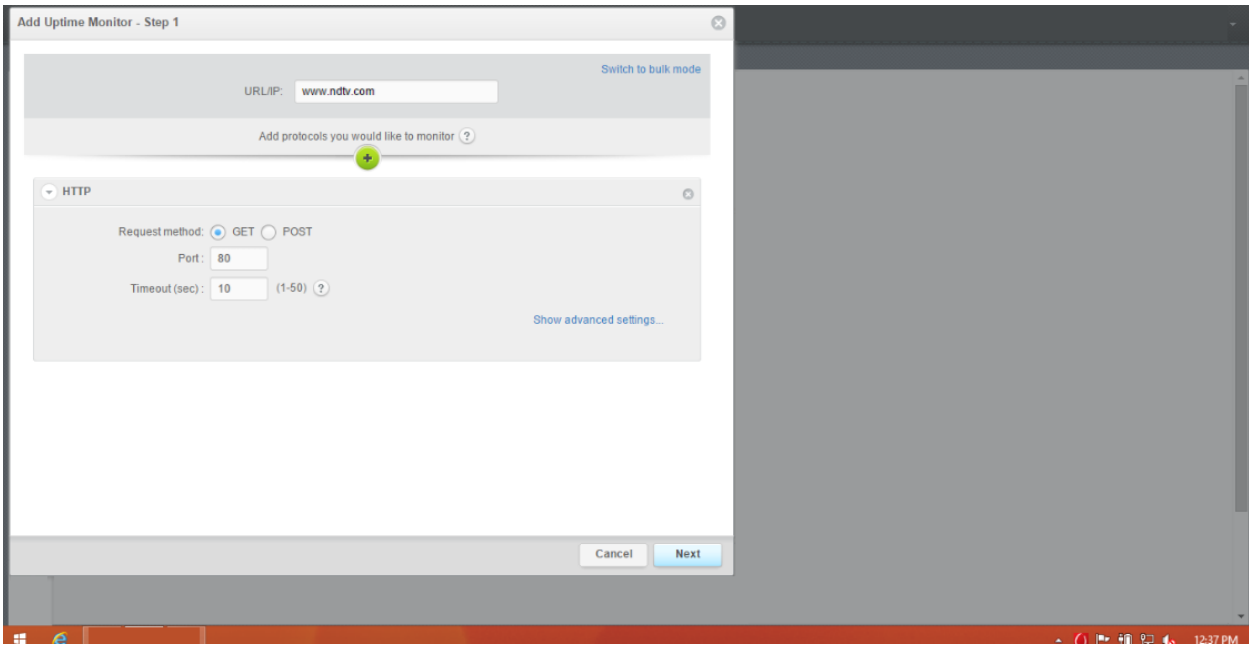
Figure 28: Setups to be entered
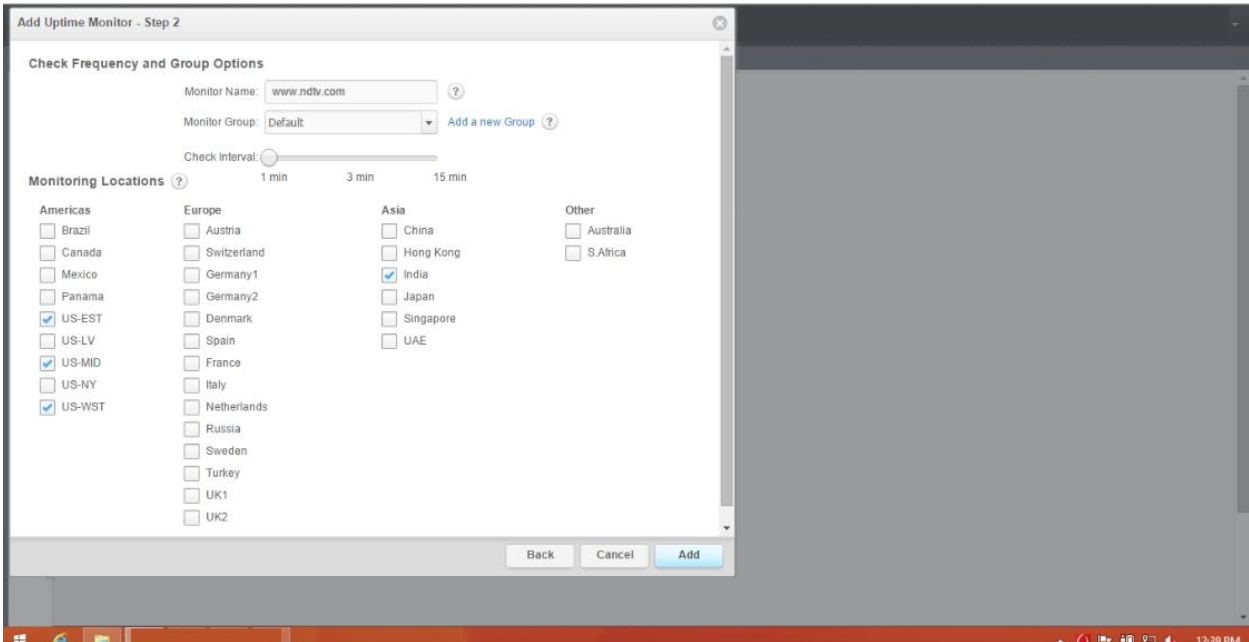
Figure 29: Adding preferences step 2
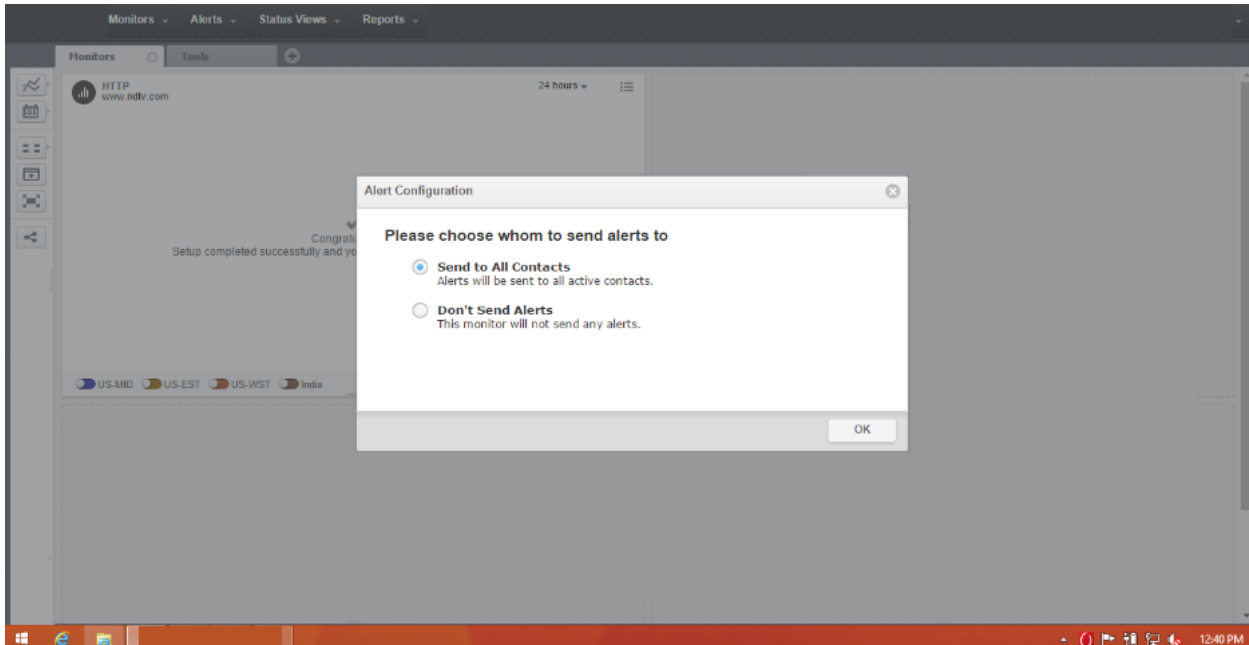
Figure 30: Shows how to setup alerts
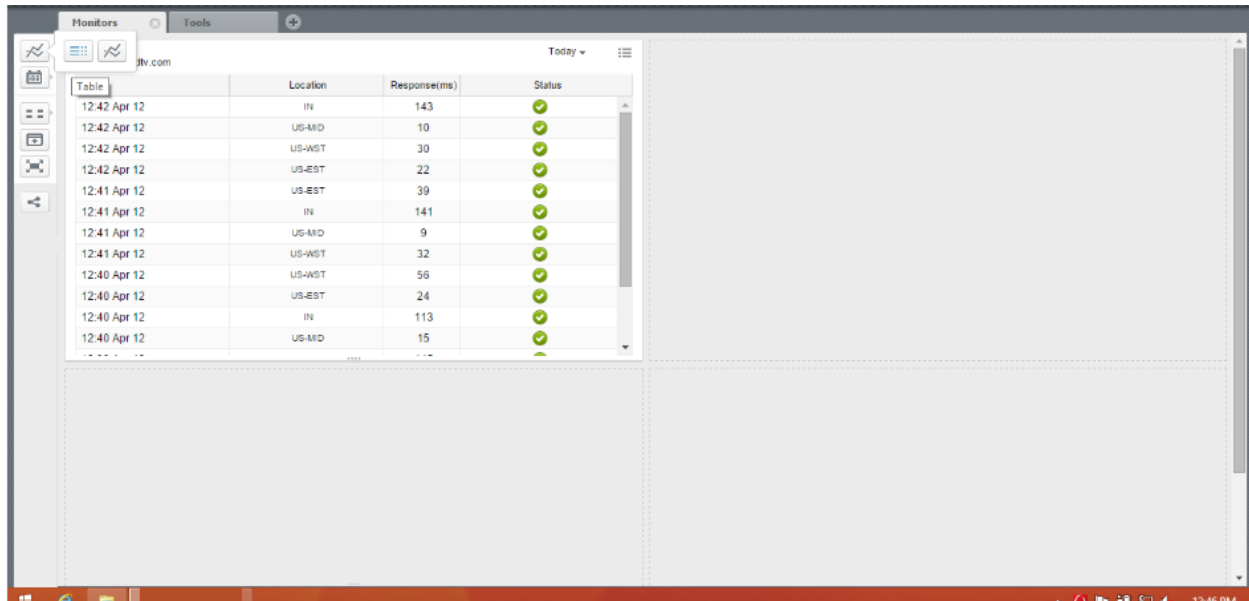
Figure 31: Design of the report is shown (even conversion is shown)
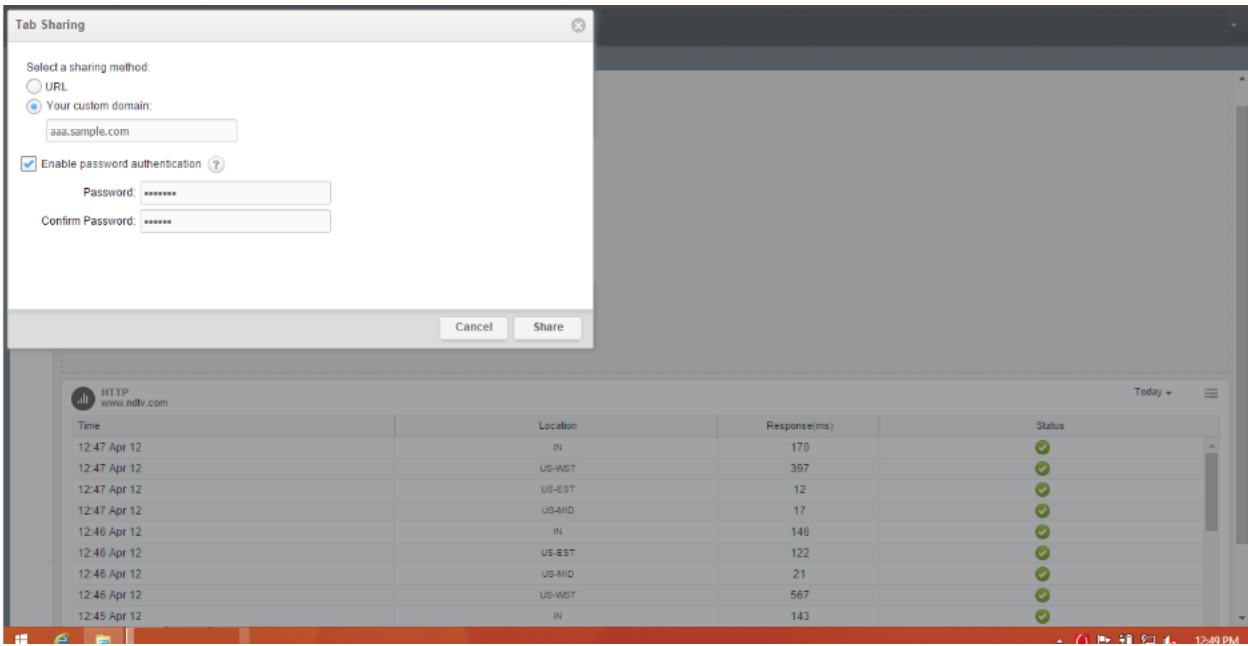
Figure 32: Authentication for the collaboration
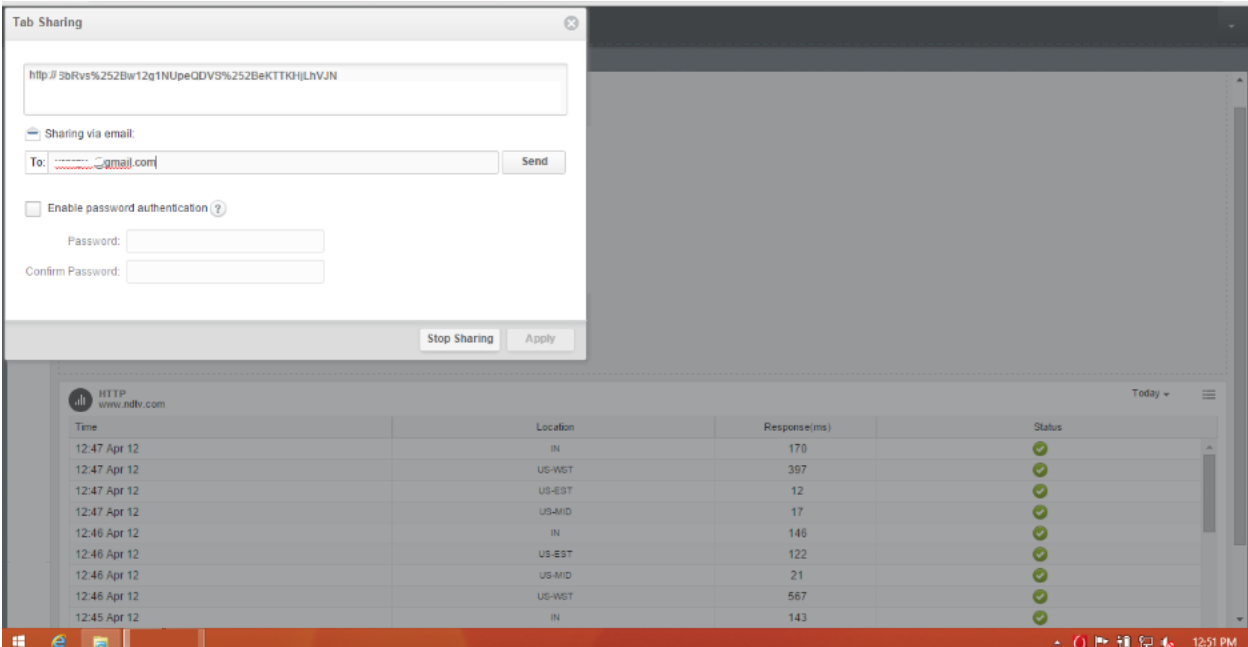
Figure 33: Link
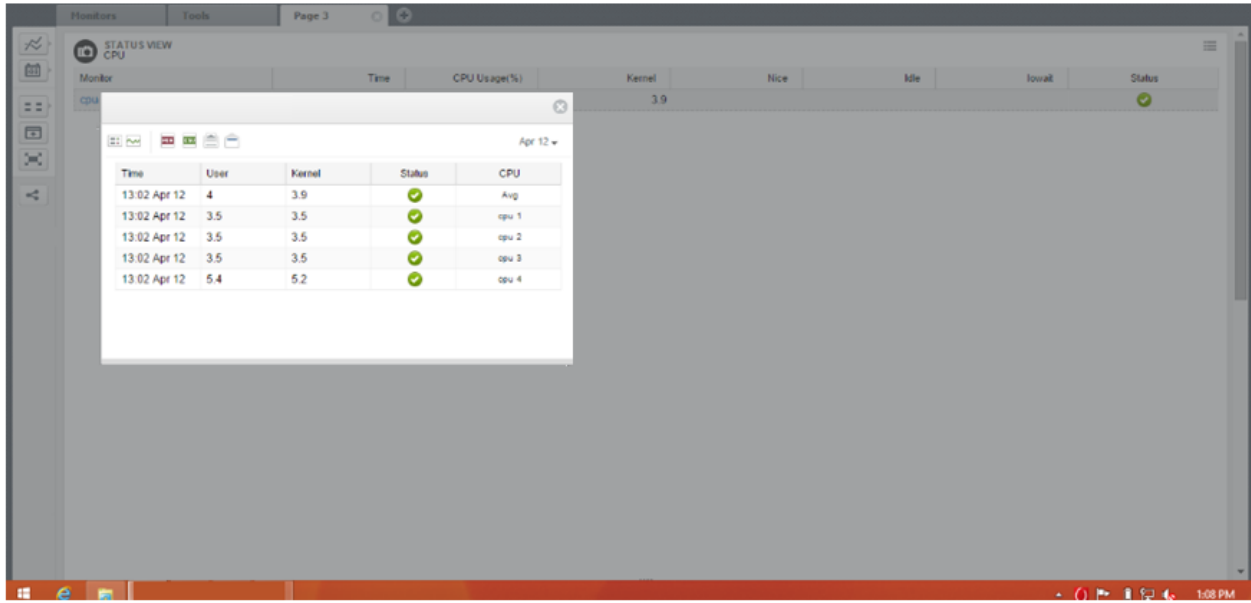
Figure 34: Transfer of report conversions shown
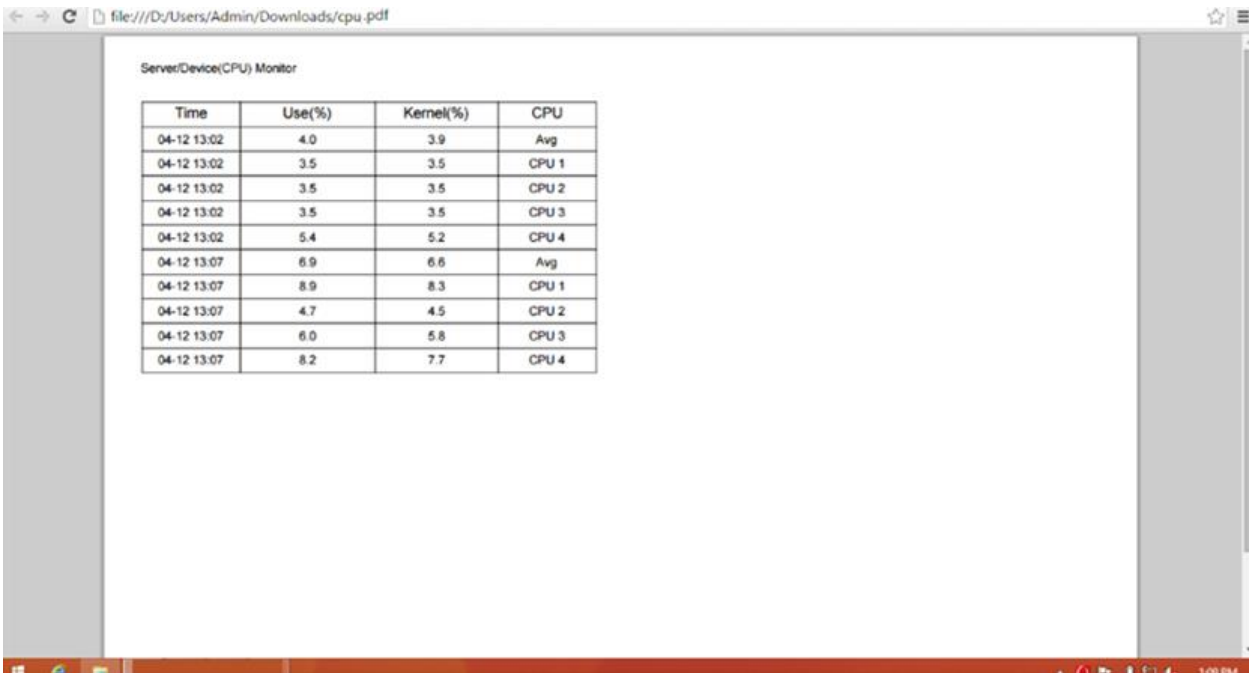
Figure 35: Report conversions in PDF
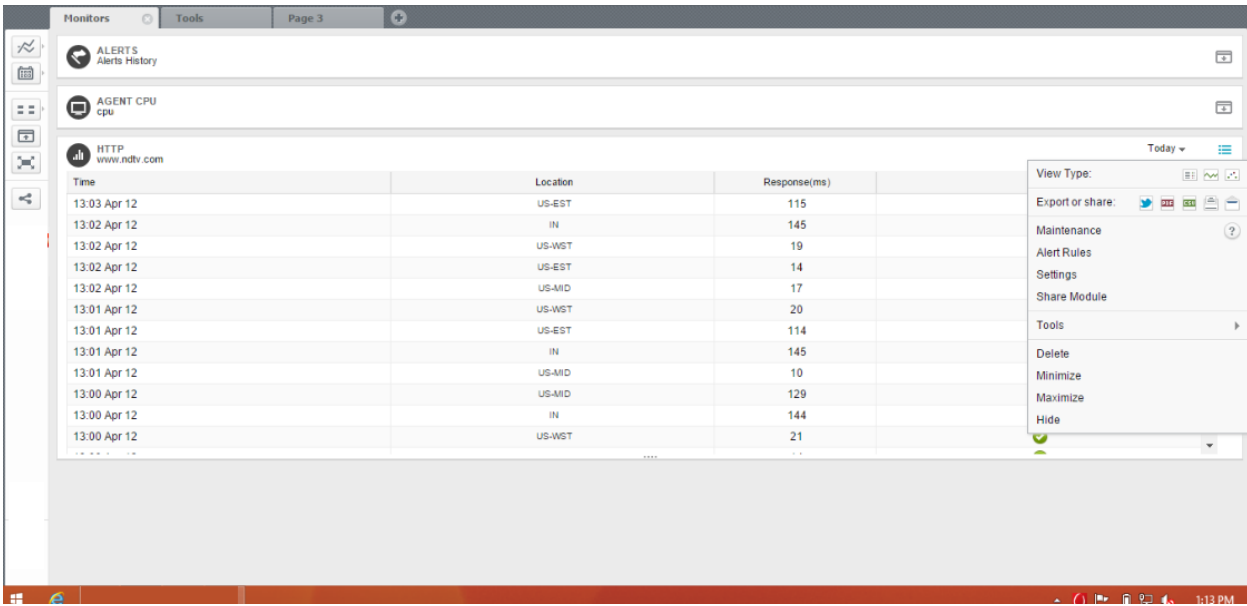
Figure 36: parallel working is shown
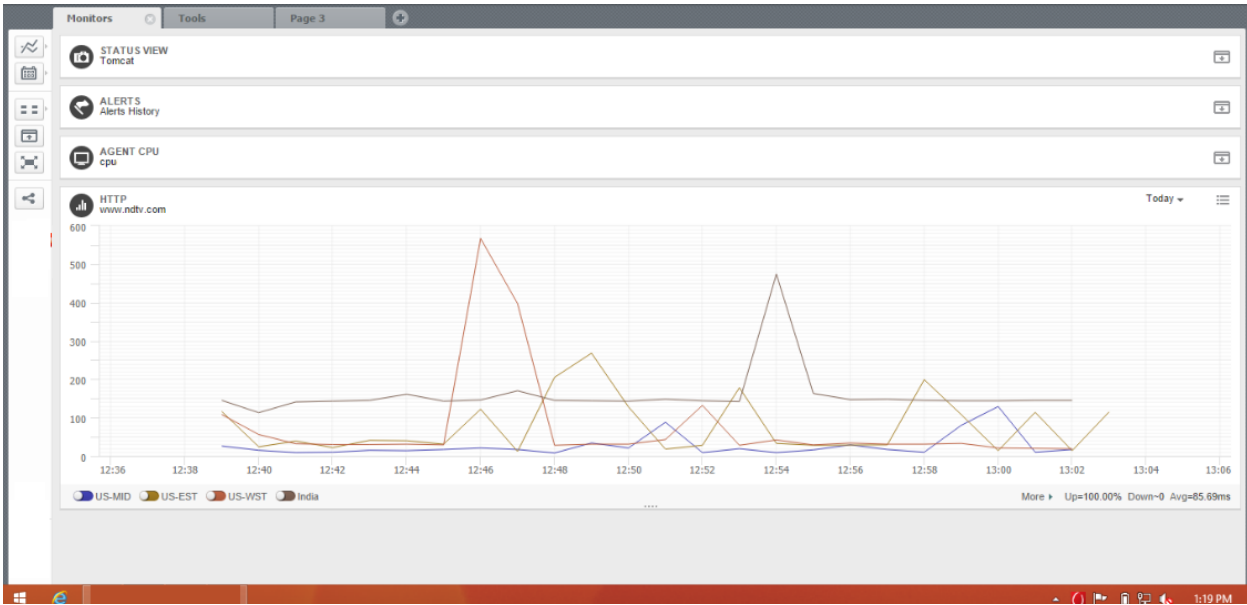
Figure 37: Chart display shown with settings option for the page

CHAPTER 7

7.1 SOFTWARE TESTING

Software testing is to establish all types of perceptions in the system which has been discussed with the client when the requirement understanding has been accomplished. Software testing is important as we require that the quality of the system should be produced to the clients as the system will be utilized by multiple clients worldwide and it has to be associated in such a way that no for the problem should be obtained by them. Software testing will be done with different types of techniques and each technique will be in relation to the considerations of workability requirements.
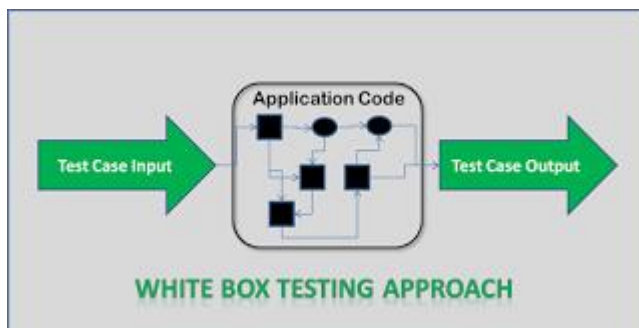
Figure 38

Shows the white box testing

The type of methodology that has to be selected will be properly established and properly discussed with the reference of teams that have involved in the software testing process for example the testing department and the development department. All types of references that are required will be outlined also with the help of test cases that has to be returned properly for the understanding in future.

Unit testing

Unit references are very much important as we have seen that system is incorporated with different types of perspective that is based on monitoring or either based on different types of information channel link so perfection has to be properly understood

The unit perceptions based on the windows that have provided will be checked and each window will be checked for the considerable usability of different types of options also

The references that have provided for the customization will be checked for the accuracy as according to the user requirements the modifications will be made

The considerations of different types of reports and the base of the information generation with the accuracy will be required to be checked properly

White box testing

White box testing is the testing in that we have to consider because we are using multiple references and each reference is required to be understood with proper for strategic perceptions so in detail all the codes will be checked

White box testing is very much important and it requires a proper team to take the formations and the team should be having in detail knowledge about the design and perception of the system that has been designed

$$\text{Statement coverage} = \frac{\text{Number of statements exercised}}{\text{Total number of statements}} \times 100\%$$

Test cases

Series	Test-cases	Test-Input provided	Results	Actual-result	Test Status	Severity
1	Admin control	Details of the admin consideration added	Setups provided	All details added	Pass	Critical
2	Working rules	Setups and inputs	Different process rules added	Reference added	Pass	Critical
3	Notificatio n	Automated	Working rules added	System will automate reference	Pass	Critical
4	Reports	Selective	Custom data provided	Multi-reference added for the view	Pass	Critical
5	Real-updates	Automated	All updates will be considered	Reference will be added	Pass	Critical
6	Collaborati on	Added uses details	Added users can collaborate	Reference working seen	Pass	Critical

7	Data accuracy	Auto	Different options selected	Different reference added and seen with accuracy	Pass	Critical
8	Sharing option	Select	Added requirements	Support provided for different platform	Pass	Critical

CHAPTER 8

CONCLUSION

To conclude we can say that different types of activities related to the network perspective has been provided within the system that we have utilized in different considerations and all types of considerations are found to be working properly. We have acknowledged different types of divisions at the same time and we acknowledge that the differences are purely drafted with standardization and in a way that all the users can understand that how the system will provide the requirements and how it can be utilized. We drafted multiple pages and each page has been added for different activities for example monitoring for associated task and we found that each page works properly with all the references for which it has been added for.

The considerations where accelerate and provided in real time which was very much helpful as for the complex network provisions we require updated information. All sets of activities that will be required to be performed on multiple stages of platforms where also established and we found that it was very much helpful to perform multiple task as we have added multiple users to identify different types of working task also.The optimized guidelines that were provided within the system also help us to achieve the objectives for which the system is being designed and we found it was very much easier to acknowledge different types of task with proper accessibility control from a central frame which makes it very much manageable. We have also considered all types of security provisions that are required for the integration and for the network analytical report generations and we found that all perceptions where according to the standards that have to be followed by the industry norms.

CHAPTER 9

FUTURE ENHANCEMENTS

Future enhancement is required as in the future more network-related activity provisions can be required by the clients so we have to provide different references for example if more formations of reports are required for other working task requirements arises it has to be provided. Some of the important references that can be added is as listed below

The report format that have provided can be included with more provisions of different layers of network activities

The considerable format that have provided in terms of report generation can be optimized

More collaboration can be added to perform more communication which is needed when different types of officers are added

Appendix A

BIBLIOGRAPHY

- "The Arrival of Java 14!". Oracle. March 17, 2020. Retrieved March 17, 2020.
- "Binstock, Andrew (May 20, 2015). "Java's 20 Years of Innovation". March 18, 2016.

Web referrals-

- www.wikipedia.com
- www.scribd.com
- www.microsoft.com
- www.google.com

Appendix B

USER MANUAL

Login page for the admin

. **Figure 39**: Login page
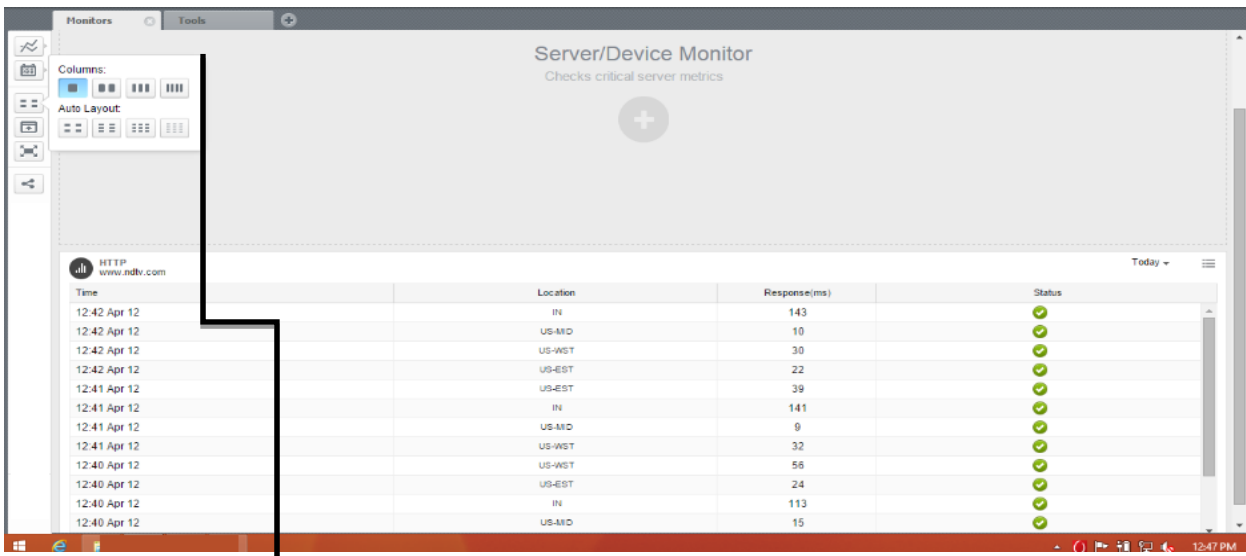
Figure 40: Representation and layout selection
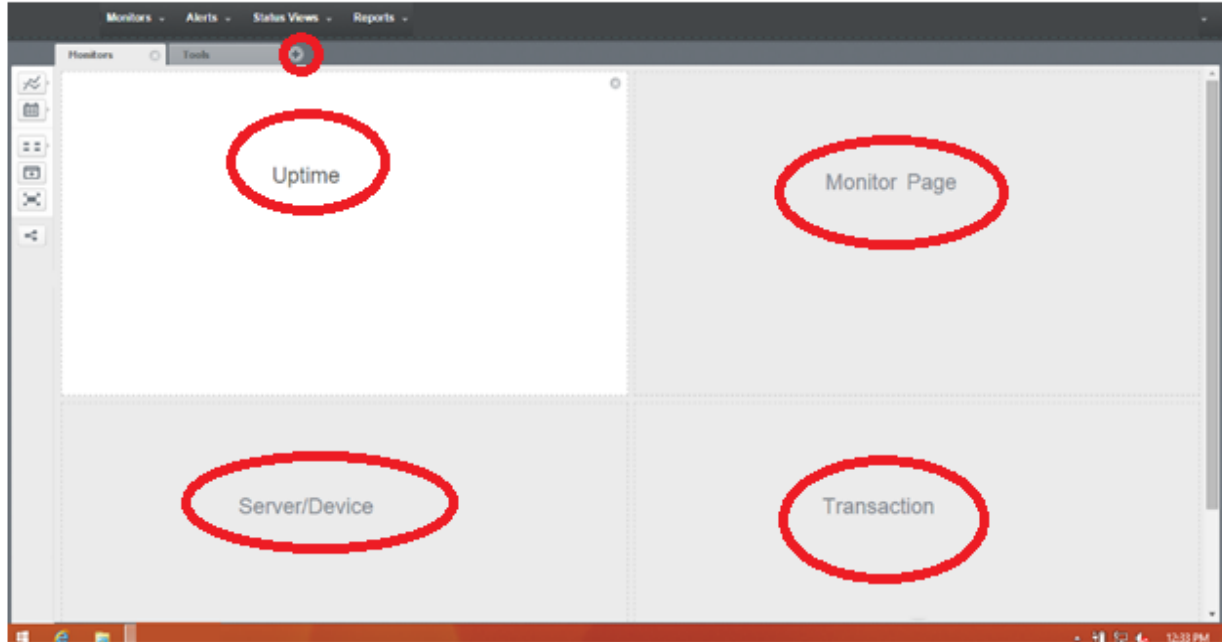
Various activities for the network reference can be organized in parallel

Figure 41: Various Activities
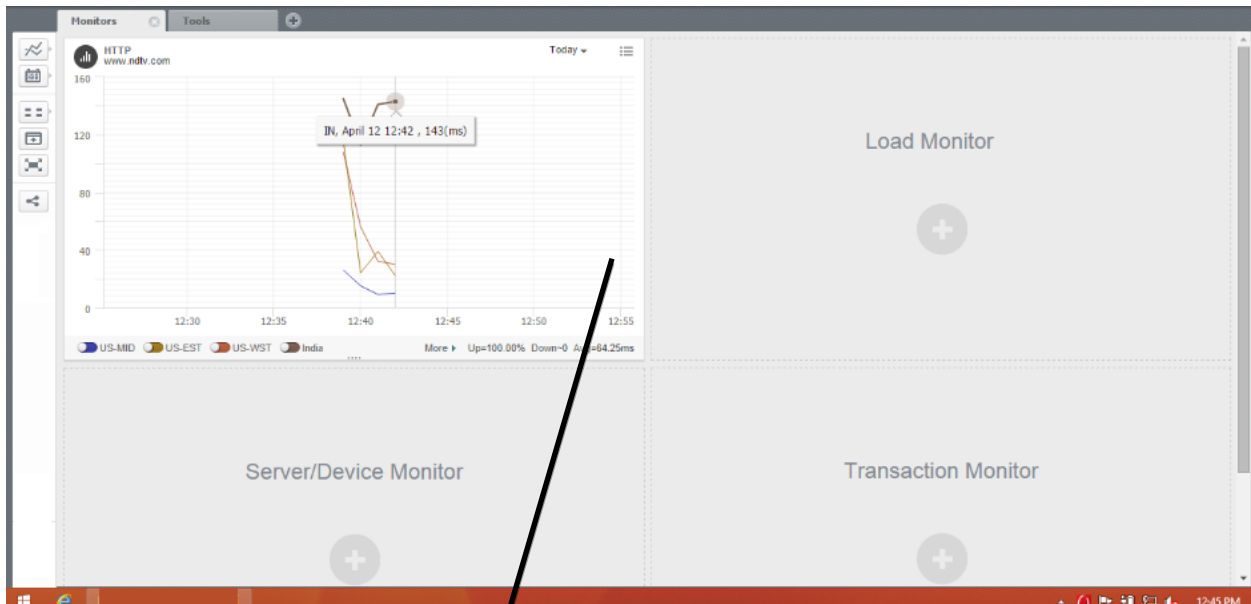
Figure 42: Chart representation
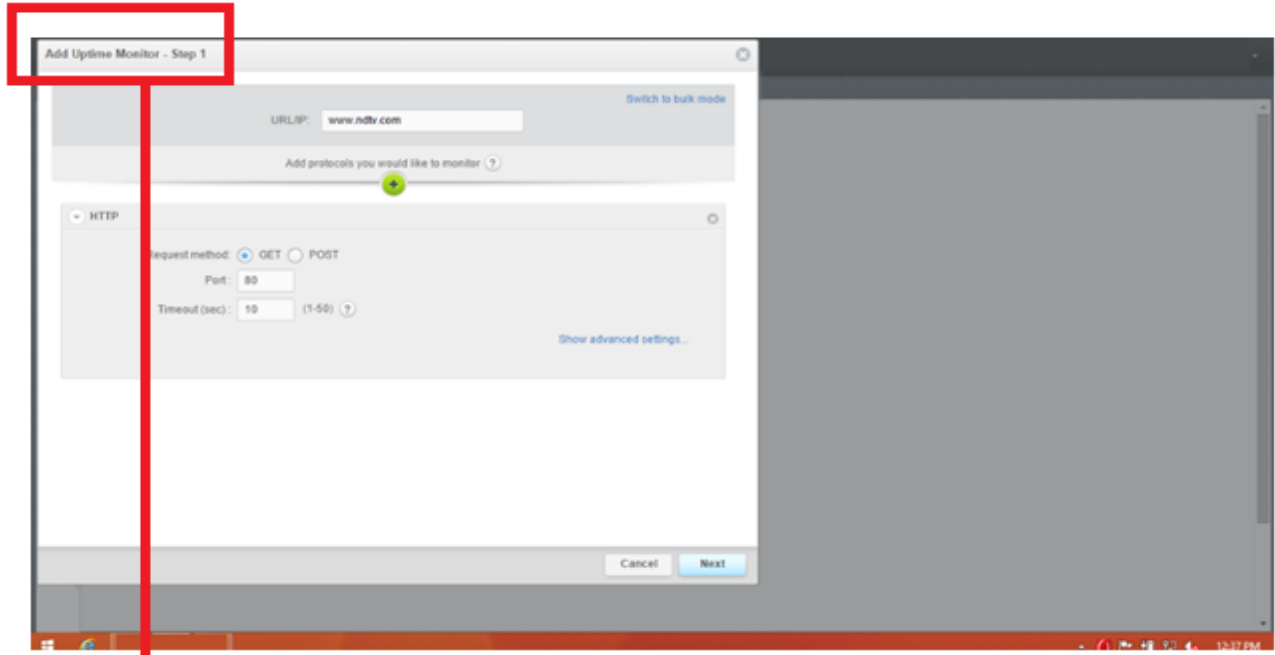
Figure 43: Setups
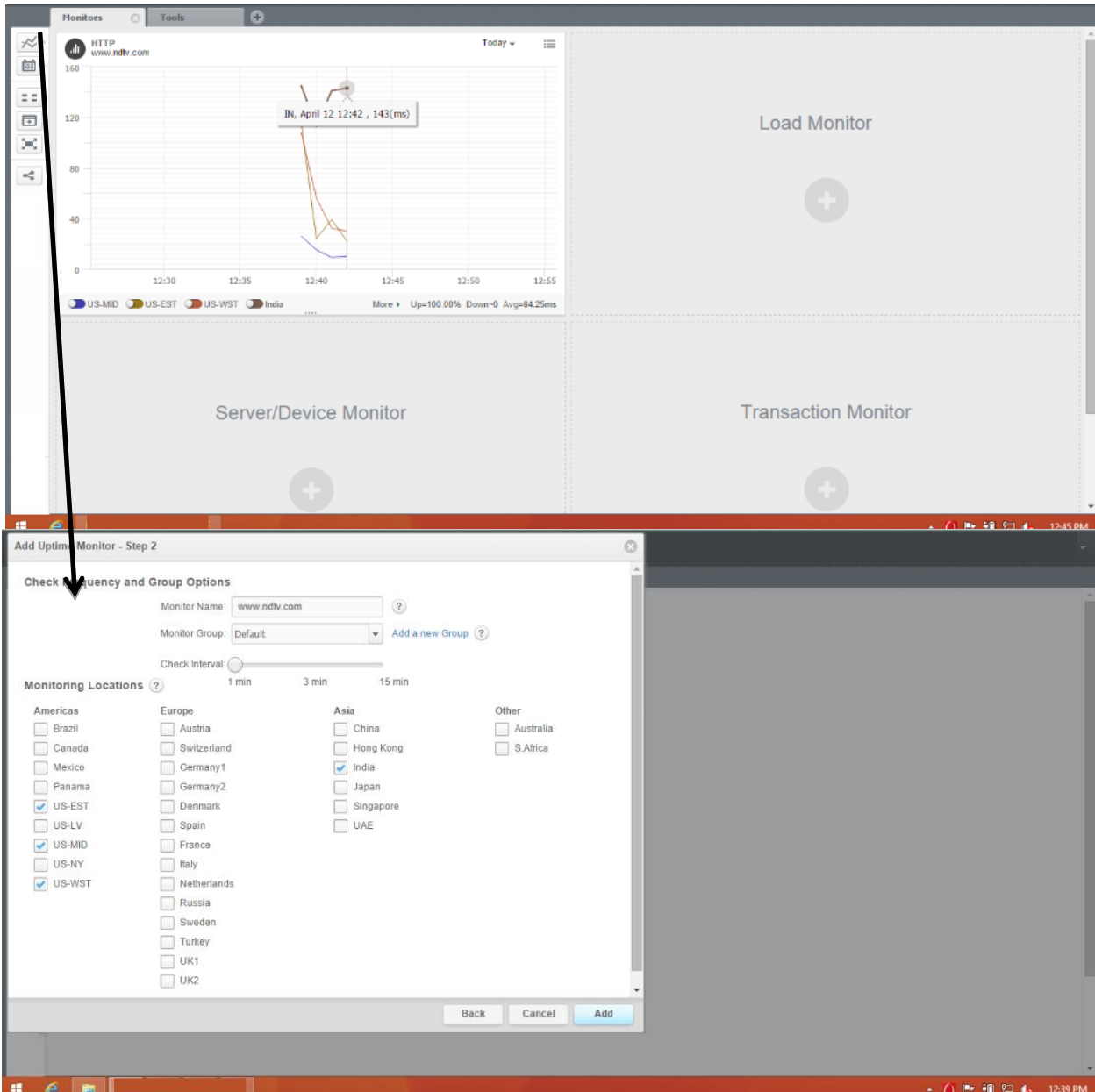
Figure 44: Adding preferences step 2
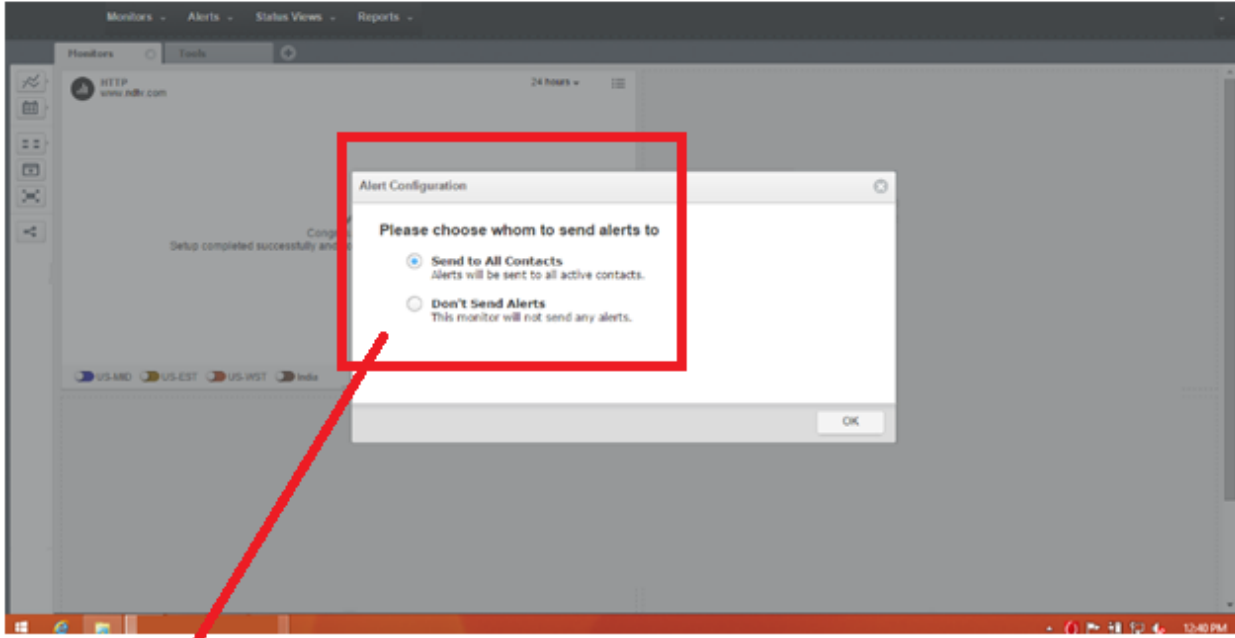
Shows how to setup alerts

Figure 45: Setup alert
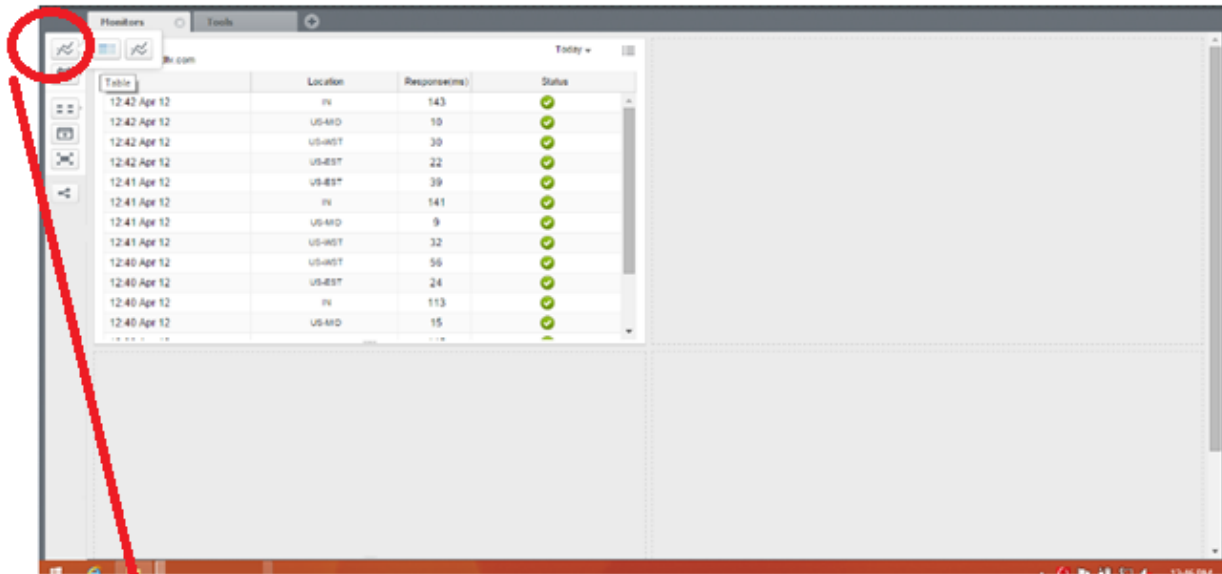
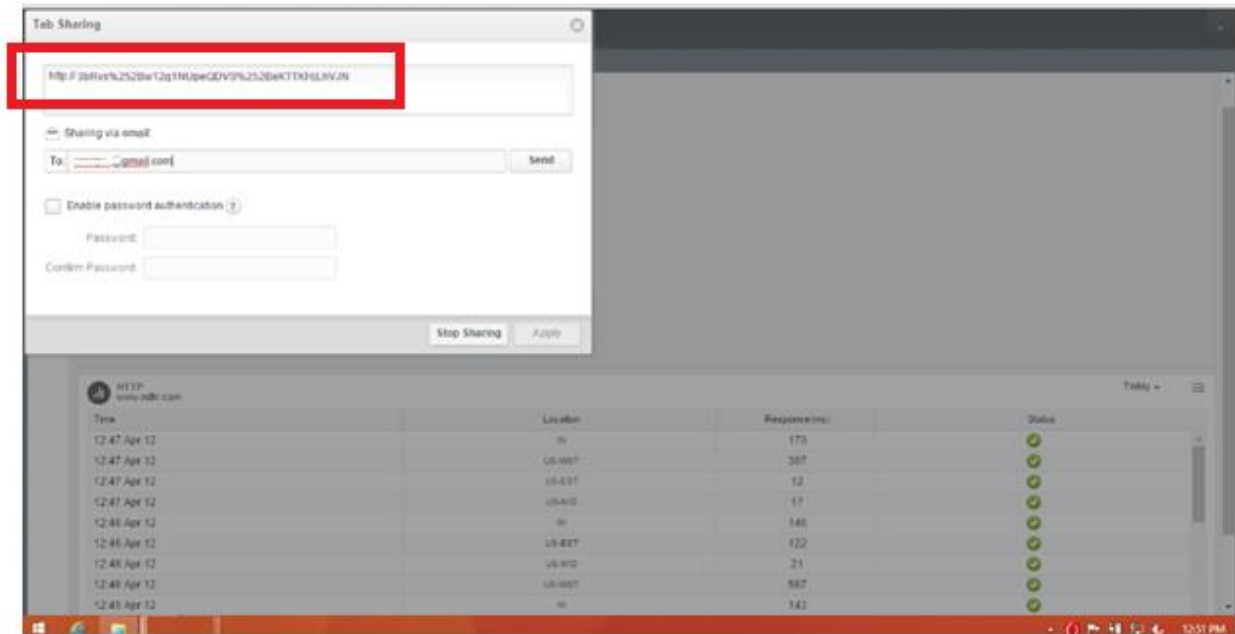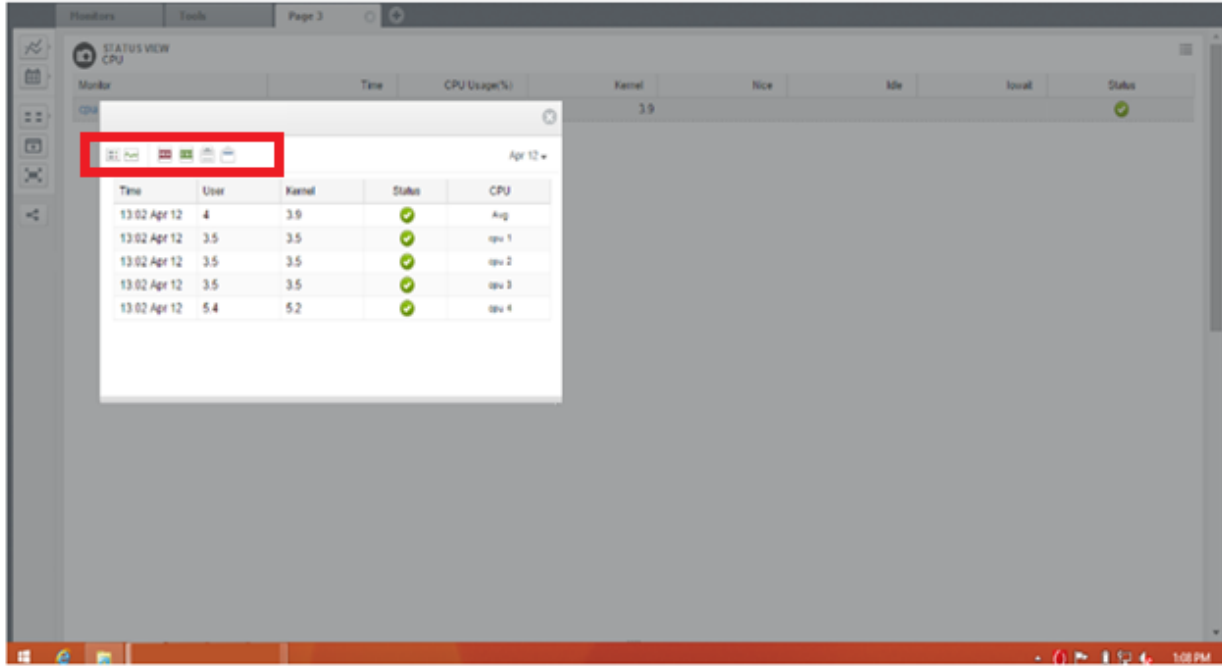Design of the report is shown (even conversion is shown)

Figure 46: Design Report
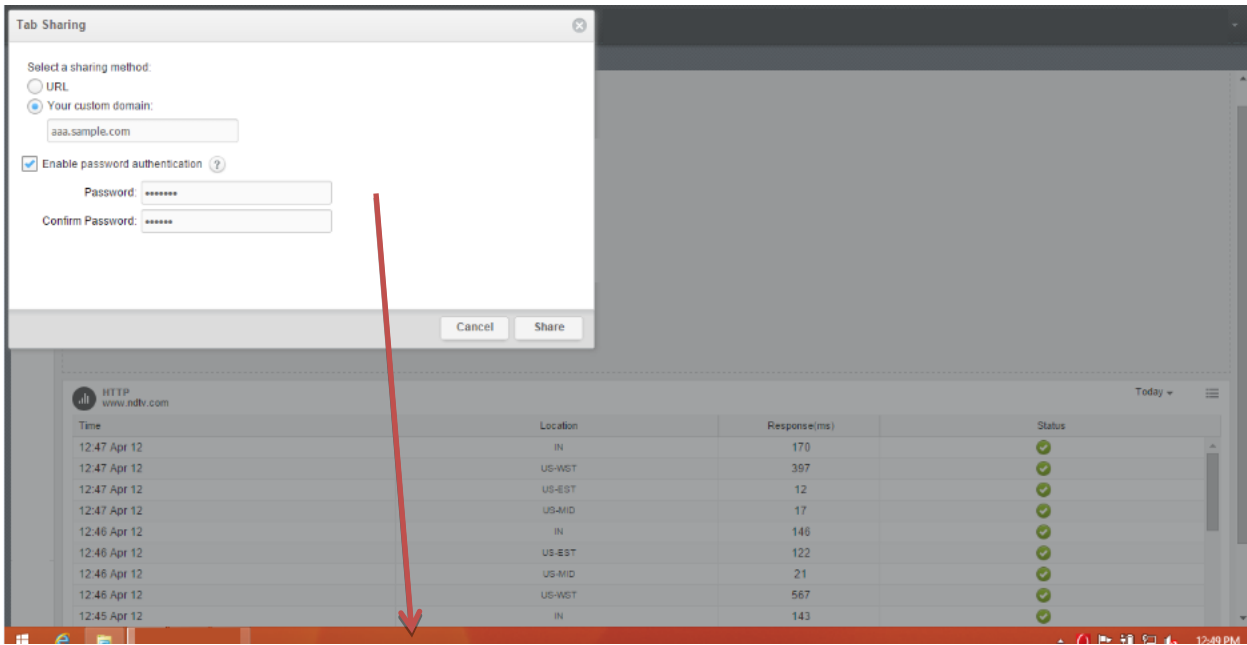
Figure 47: Authentication for the collaboration

Link

Figure 48: Link

Transfer of report conversions shown
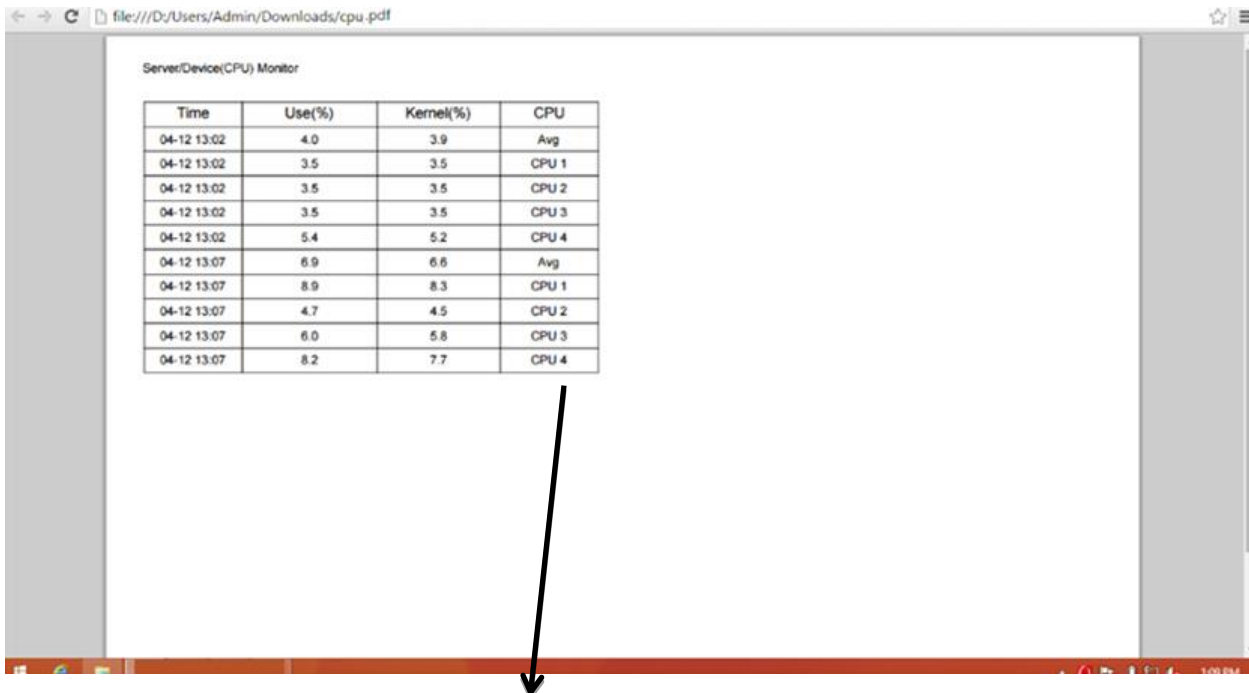
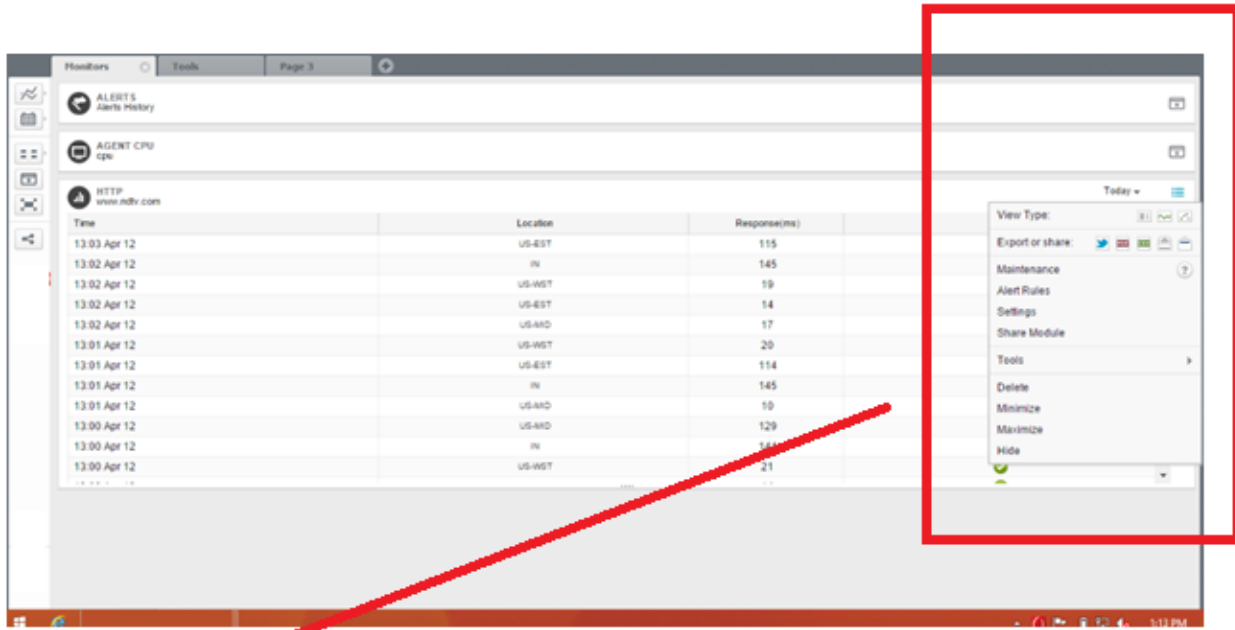**Figure 49:** Transfer of report conversion

Figure 50: Report conversions in PDF

Parallel working is shown
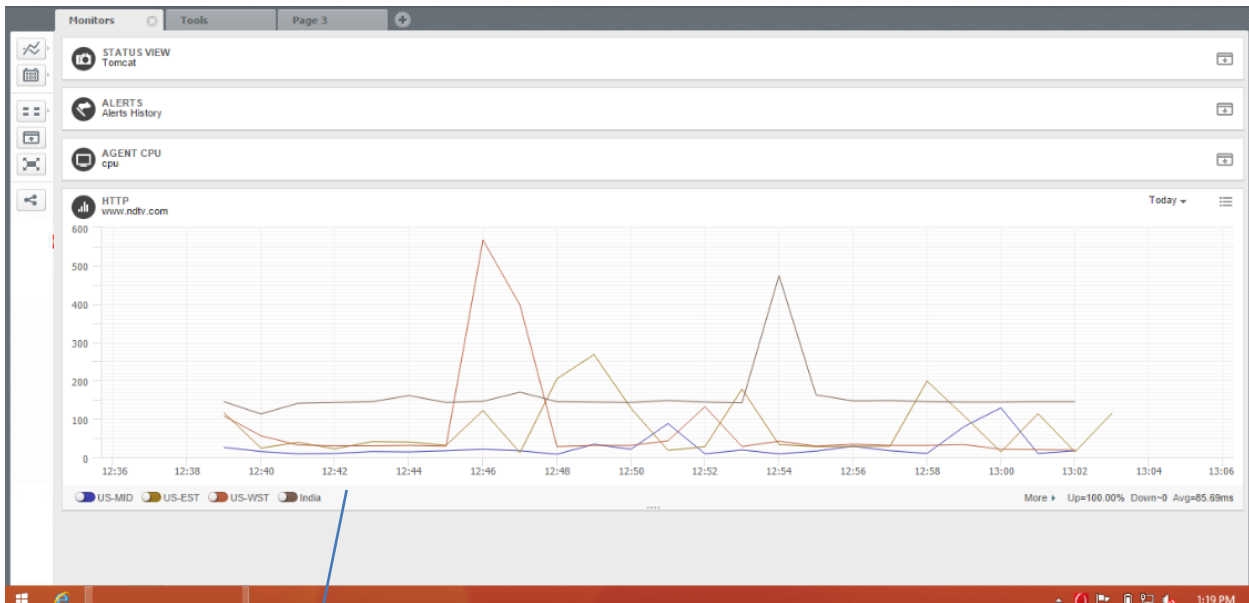
Figure 51: Parallel working

Figure 52: Chart display shown with settings option for the page