GUJARAT TECHNOLOGICAL UNIVERSITY
Chandkheda, Ahmedabad

Affiliated

GANDHINAGAR INSTITUTE OF TECHNOLOGY

A Report on

COMPUTER COMPONENTS SECURITY MANAGEMENT

Under the subject of
Design Engineering – 1 A
B.E. II, Semester-III
(Computer Engineering Branch)

Submitted By

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Abstract

Computer Components Security Management is basically designed for the security and protection of the different components of computers. As we see that most of the work is done through computers. So safety of it's different pats is required at the computer labs in schools, colleges, companies and many other places.

Generally, at this places computers are in more numbers so proper security is not there. Therefore, some people harms the computer and its parts, and some robs some parts. Due to this the owner comes in loss. But with our security management all components are protected with a software which connects all computers to one main computer of administrator/manager. So if some of the parts is removed or damaged such that it doesn't work then through our software the administrator will be notified through a message in his computer that which part has been removed and from which computer. So if anyone robs any parts or damages any part then the administrator will be known about it.

Contents

Chapter 1

Introduction

1.1 About Domain

Our project is Computer Components Security Management. It is based on the security of the different parts of the computer at labs where computers are used by many peoples for different purposes. Nowadays in the digital age where at every place computer are being used so their safety is also required. We have observed at many computer labs and cyber cafes and other places where components of computer are not functioning or not available because someone steal it. So our domain helps for the security of the components of the computer where the administrator/owner gets notified if some components have been removed or damaged from the computer from his lab. This software is helpful for administrator, manager, faculty, lab assistant, supervisor at places like schools, colleges, cyber cafes, Computer labs and other places also.

1.2 Design Thinking and its Importance

What we understand about design thinking is that we want to take each project find its problems and design solutions which are very much useful for future. Design thinking is also an approach that can be used to consider issues, with a means to help resolve these issues, more broadly than within professional design practice and has been applied in business as well as social issues.
It's wonderful that design thinking is now applied to so many different problems designing better experiences for hospital patients, designing and implementing better client experiences at social-service agencies, starting new companies, teaching leadership, inventing new radio shows, changing organizational structures, and developing new products and services for people at the bottom of economic pyramid. Due to design engineering we can able to increase our thinking ability. From this we can learn how to manage or work together in team. This also increases our planning ability.

Chapter 2

AEIOU Summary

2.1 Activities

- Rough Use
- Less Security
- Improper functioning
- Maintenance
- Creating files/Documents
- Web surfing

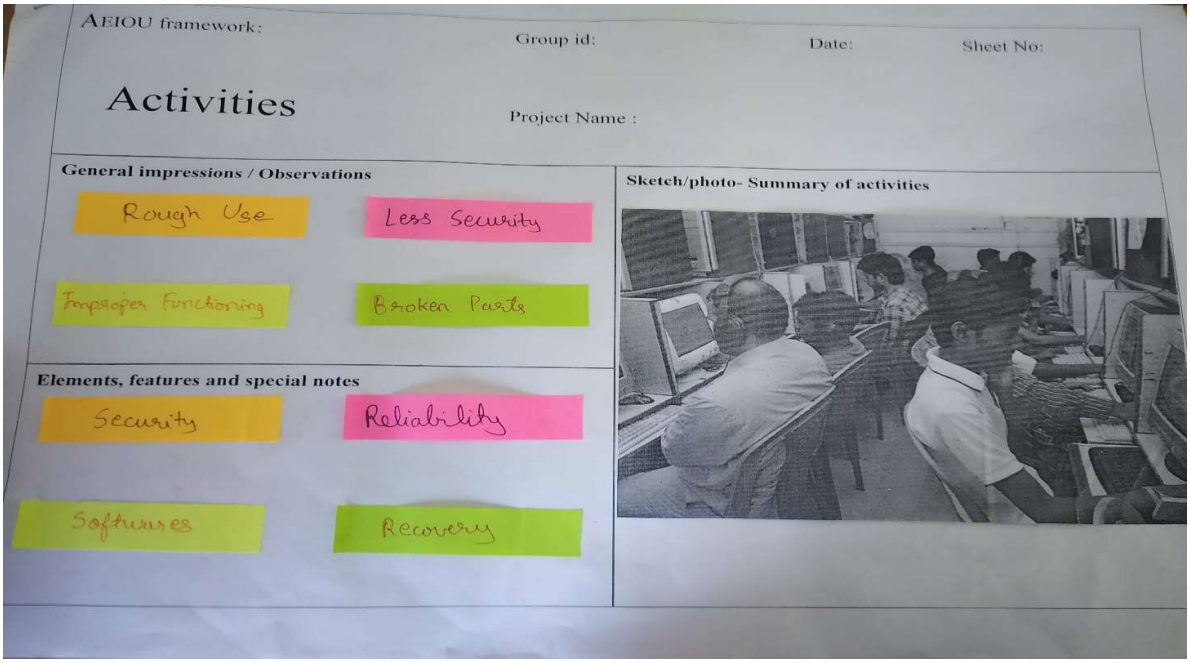

Fig 2.1 Activities

2.2 Environment

- Silent
- Busy
- Concentrating
- Doing work

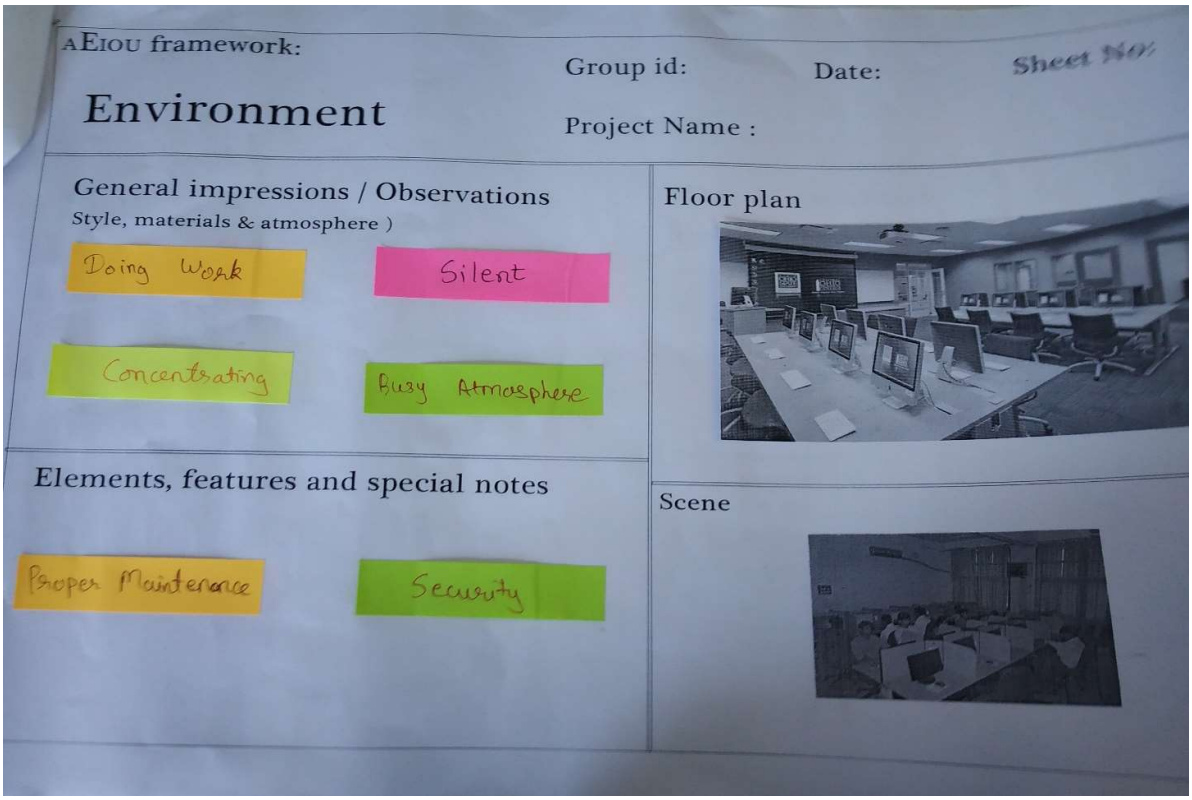

Fig 2.2 Environment

2.3 Interaction

- Employee to manager
- Examinee to supervisor
- Students to faculty
- Common user to Administrator
- Person to computers

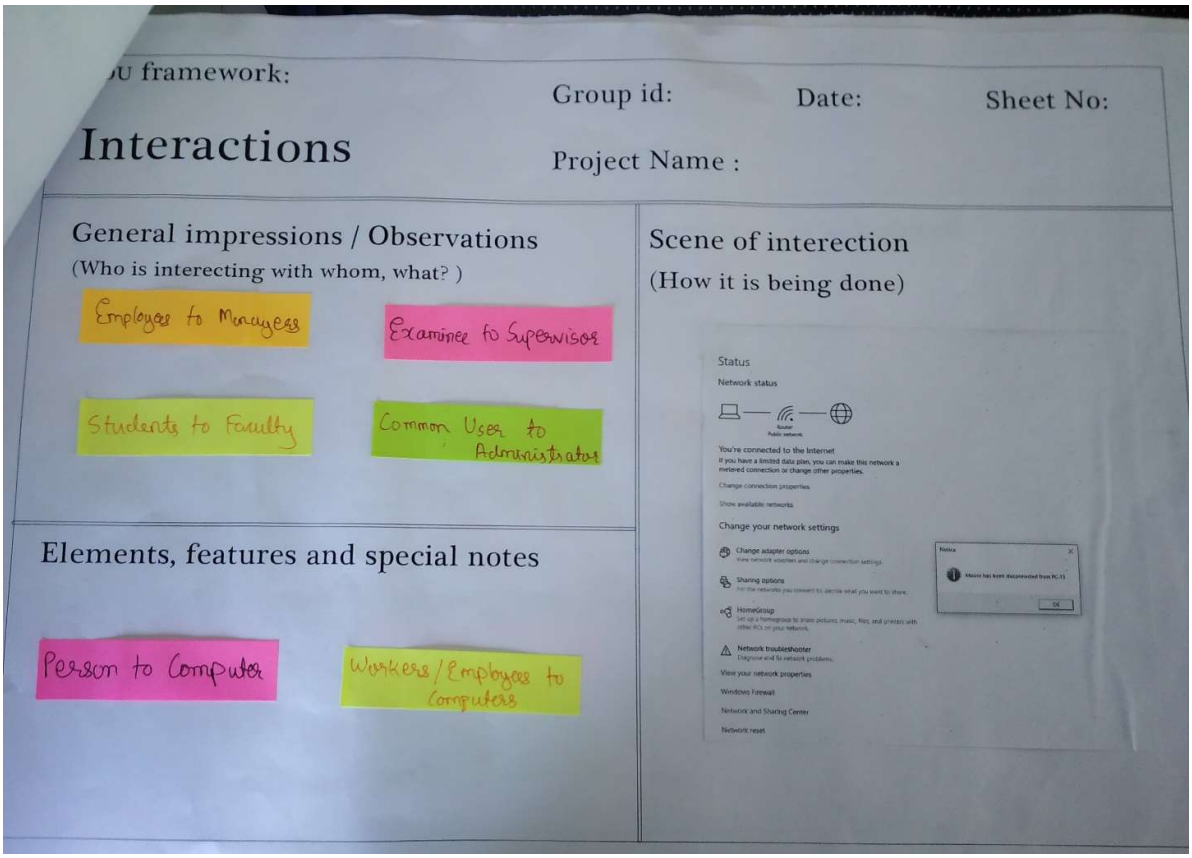

Fig 2.3 Interactions

2.4 Objects

- Mouse
- Keyboard
- Processor
- Router
- RAM
- Printer

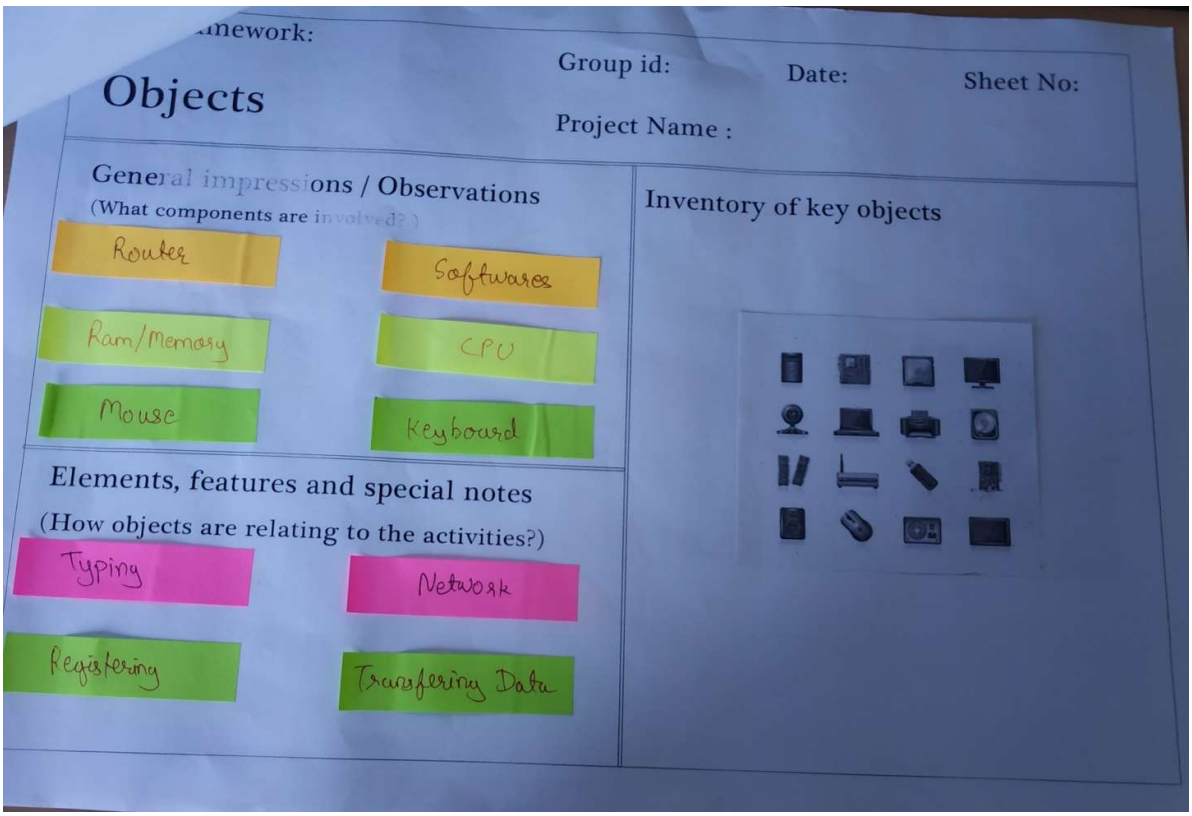

Fig 2.4 Objects

2.5 Users

- Manager
- Faculty
- Supervisor
- Administrator
- Lab Assistant
- Head of department

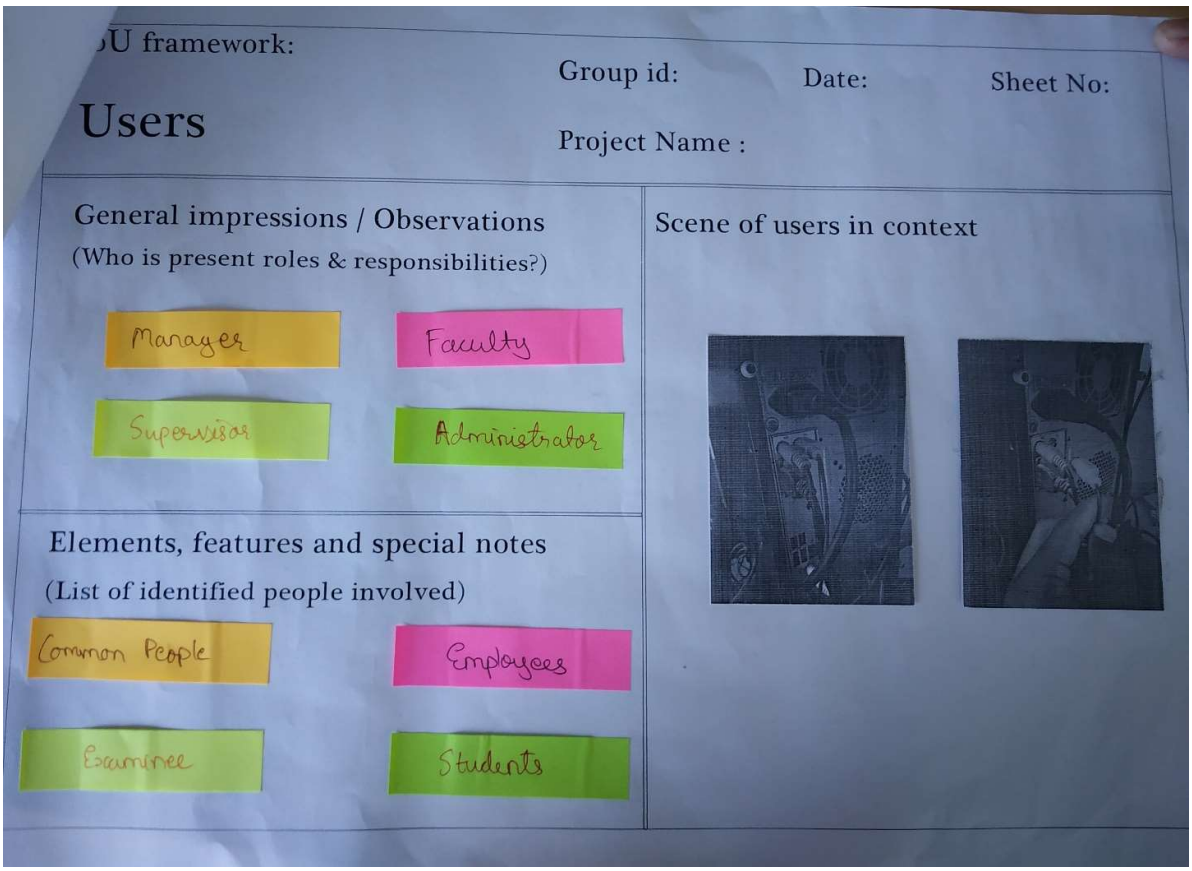

Fig 2.5 Users

Chapter 3

Secondary Research and Diachronic and Synchronic Analysis towards Problem Definition

The following are solutions proposed by other people:

1. Proper Cameras should be fixed at different positions such that all the corners and other area of the computer lab are covered.
2. Registration should be done before entering the labs so that it can be known which person was using which computer.
3. Checking should be done at exit so if someone steals anything it can be known.
4. Bags or any other things similar to it should be avoided.
5. The user should have his ID card and show it to the administrator before using the computer.

At first the computer was made by Charles babbage in 19th century. The size of that computer was very large related to computer in modern days. Then more computer was made with reduced size then before and it was used for calculations and computations. So only few people use computer. But after then new computer were made with new function and size was also reduced so number of people were increased using it.

In old days cyber cafes were made but at first only 100 were there and the security at such places was also not proper. It was used for information exchange and have been used as places to read the paper, send postcard home, play traditional or electronic games and find out local information. In the schools, students were not provided computer labs for study of computer. But in modern days every school are having computer labs where it is compulsory for students to do practical in the labs. And the use of computer is increased in cyber cafes, companies and many more other similar places.

Chapter 4

MIND MAP

4.1 Mind Mapping

Mind mapping refers to a technique that designers and engineers use to express and generate ideas. All that mind mapping really is, however, is a way to get all of the ideas in your head down onto paper. Mind mapping helps you to release all of the ideas in your head and gives you the opportunity to see those ideas visually.

In below snapshot of mind map which is divided in 6 groups: Places means in which place it can be used, User are person who will use computers, Objects are the components of the computer, advantages of the software and the people for whom it is made(stakeholders).

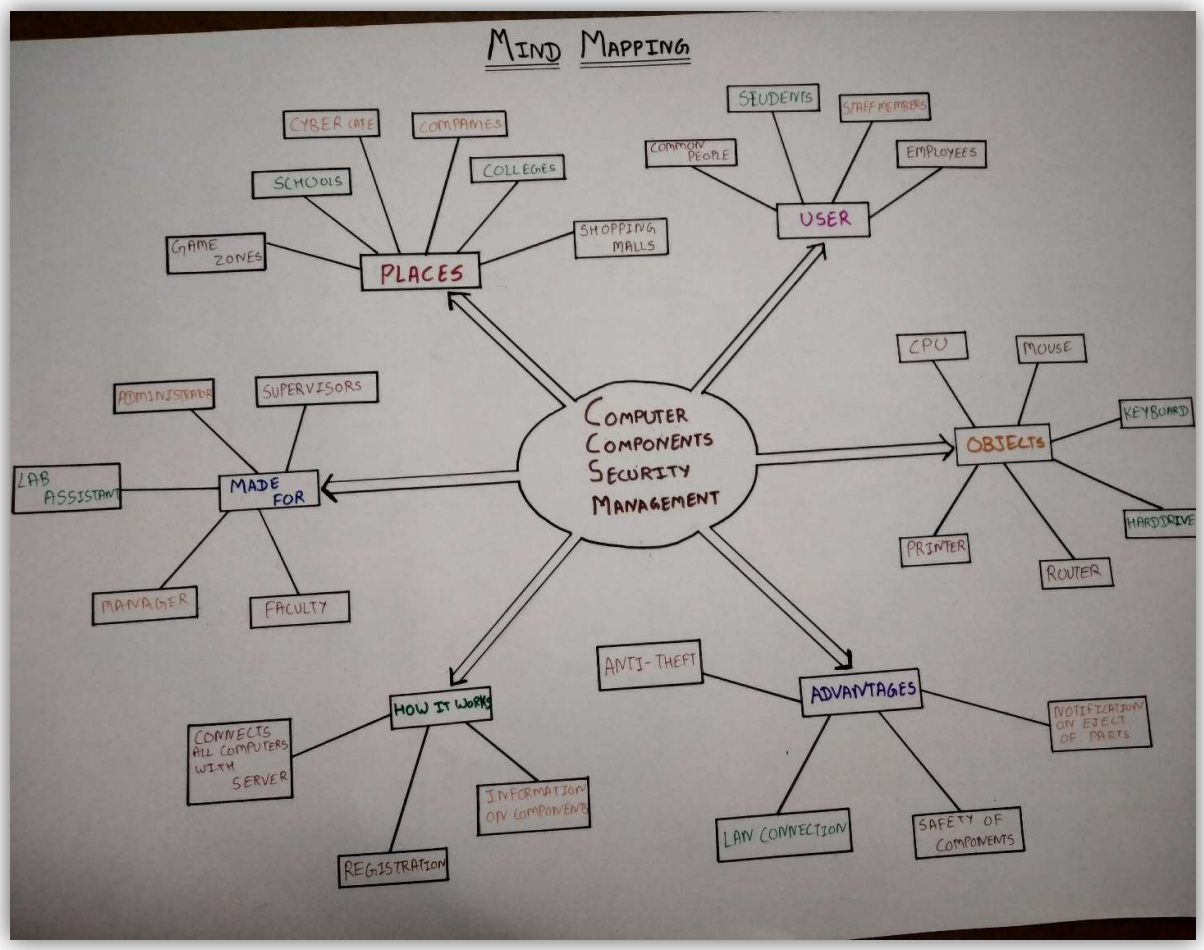

Fig 4 Mind Mapping

Chapter 5

Empathy Canvas

5.1 Users

- Students
- Employees
- Common People
- Staff members
- Examinee
- Scientists

5.2 Stakeholders

- Administrator
- Manager
- Supervisor
- Faculty
- Lab Assistant
- Head of Department

5.3 Activities

- Installing Software
- Web Surfing
- Registering Forms
- Studying
- Transferring Data
- Checking Mails
- Writing
- Online Examination
- Watching tutorials
- Printing
- Discussion
- Coding
- Gaming
- Computer Maintenance
- Creating Files/Documents.

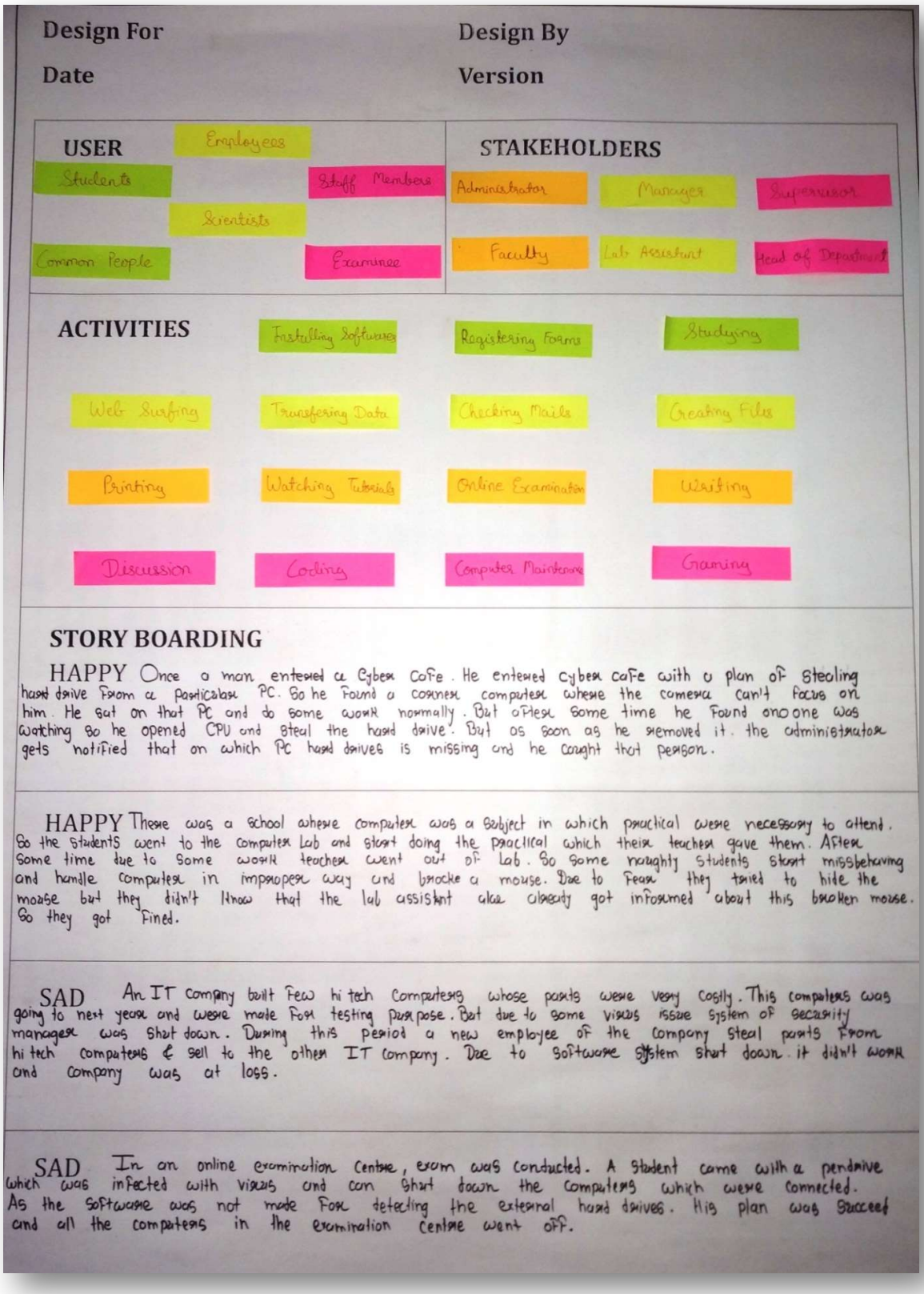

Fig 5 Empathy Canvas

Chapter 6

IDEATION CANVAS

6.1 People

The following are the list of peoples involved: -

- Students
- Staff Members
- Employees
- Workers
- Teachers
- Manager
- Engineers
- Examinee
- Faculty
- Operators
- Scientists
- Common users

6.2 Activities

The following are the list of activities that are being done in the places: -

- Web Surfing
- Creating Documents
- Software Installation
- Studying
- Registration
- Filling online forms
- Proper Maintenance
- Online Examination
- Gaming

6.3 Situation/Context/Location

The following are list of Situation/Context/Location where the domain can be used: -

- Cyber Cafe
- Colleges
- Schools
- Labs
- Offices
- Game zones
- Coaching centre
- Universities
- Companies

6.4 Props/Possible Solutions

The following is the list of Props/Possible Solutions: -

- Installed Anti-Virus
- Proper Security
- Maintenance
- Non-Defective Parts
- Latest Operating system
- Regular checking of components
- Proper Cameras
- Avoid Bags
- Entry Registration
- Checking on exit

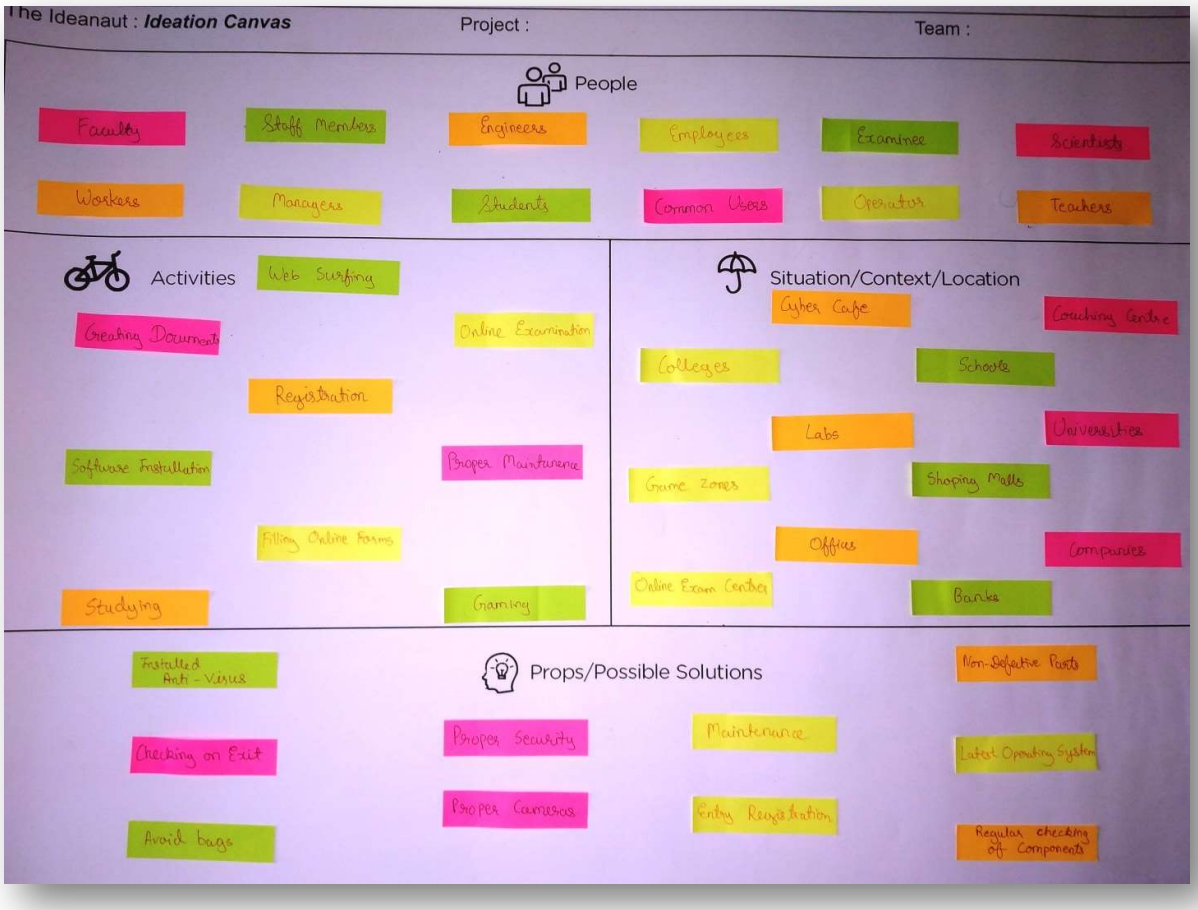

Fig 6 Ideation canvas

Chapter 7

Product Development

7.1 Product Functions

The product functions are: -

- Protection against robbery
- Safety of components
- Easy to manage parts

7.2 Product Experience

The product experience is: -

- Satisfaction
- Entry and exit registration
- Security cameras

7.3 Product Features

The features of the product are: -

- Notification on eject
- Data about components
- Warning message
- Wireless network

7.4 Purpose

The purpose was to: -

- Damage prevention
- Informed about parts
- Protection of components
- Safety

7.5 People

The people who will use this product/service are: -

- Administrator
- Faculty
- Manage
- Lab Assistant
- Supervisor
- Foreman

7.6 Components

The following is the list of Components: -

- Mouse
- CPU/Processor
- Software
- Codes
- Router
- RAM/Memory
- CD/DVD Rom
- Printer

7.7 Customer Revalidation

- More than one server
- Include Software
- Implementation in other machinery
- Virus Detection

7.8 Reject/Redesign/Retain

- Retain

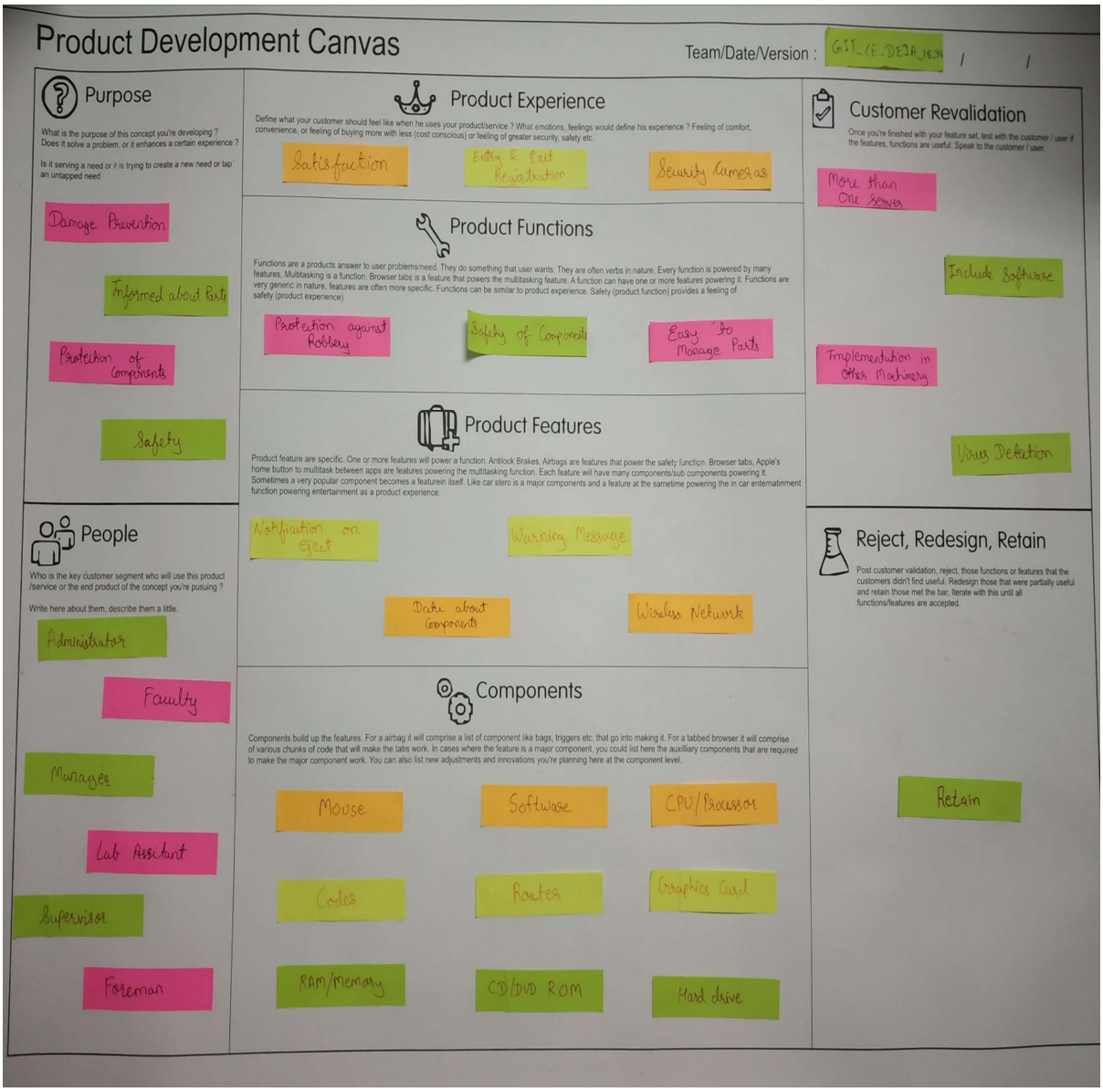

Fig 7 Product Development Canvas

Chapter 8

Prototype

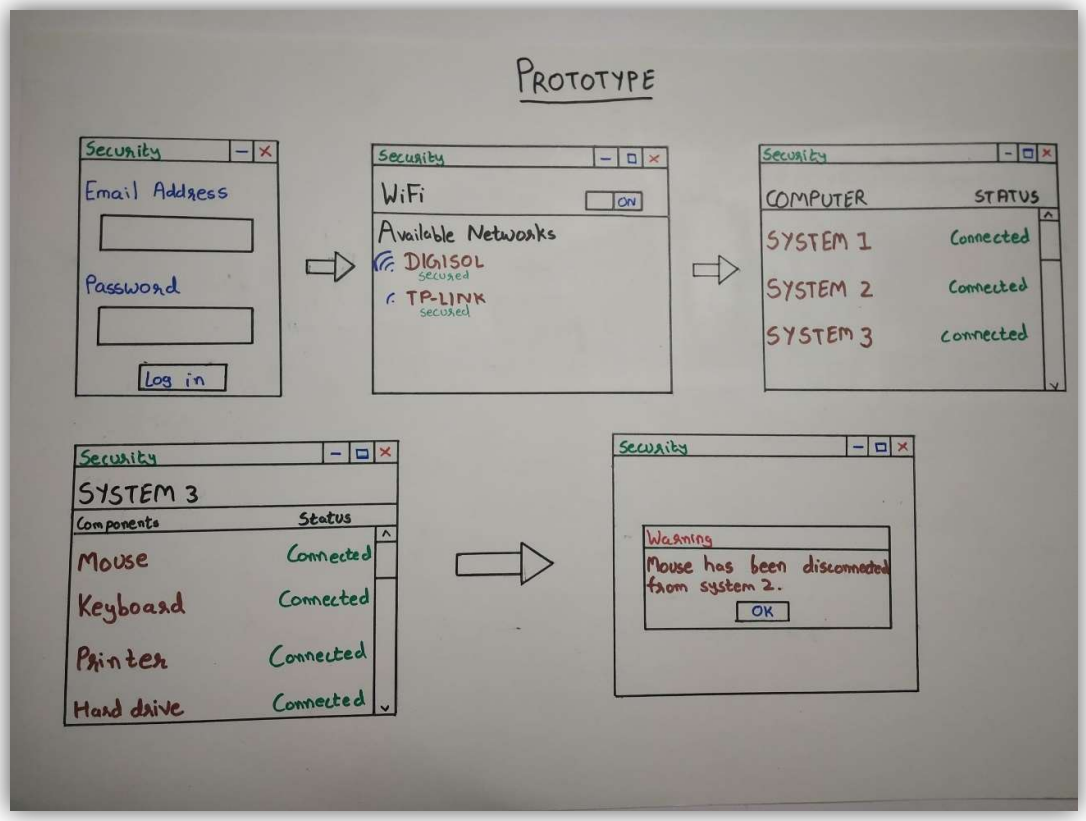

Fig 8 Prototype

- Here is the basic interface of Computer Components Security Management. First user has to login in the software.
- After the login process Wi-Fi networks will be shown and he/she has to connect his Wi-Fi with which every computer is connected.
- After choosing appropriate network user will be shown the number of computer connected.
- Selecting any computer which will show the status of the components whether connected or disconnected. And if someone will remove or damaged any part such that the part no longer be detected in that computer then the user will get notified through the software.

Conclusion

Initially we got this idea when we see computers parts missing at cyber cafes and labs and sometimes also watched people roughly using them. We observe and research about it and we learned that we need to do something for prevention of this problem. So by this software problem related to it can be minimised and parts will be protected.

References

1. www.wikipedia.org
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