GUJARAT TECHNOLOGICAL UNIVERSITY
Affiliated

L.D. College of Engineering, Ahmedabad
Electronics and Communication Engineering
B.E. SEMESTER 5th
Design Engineering-2A
Team ID: 334811

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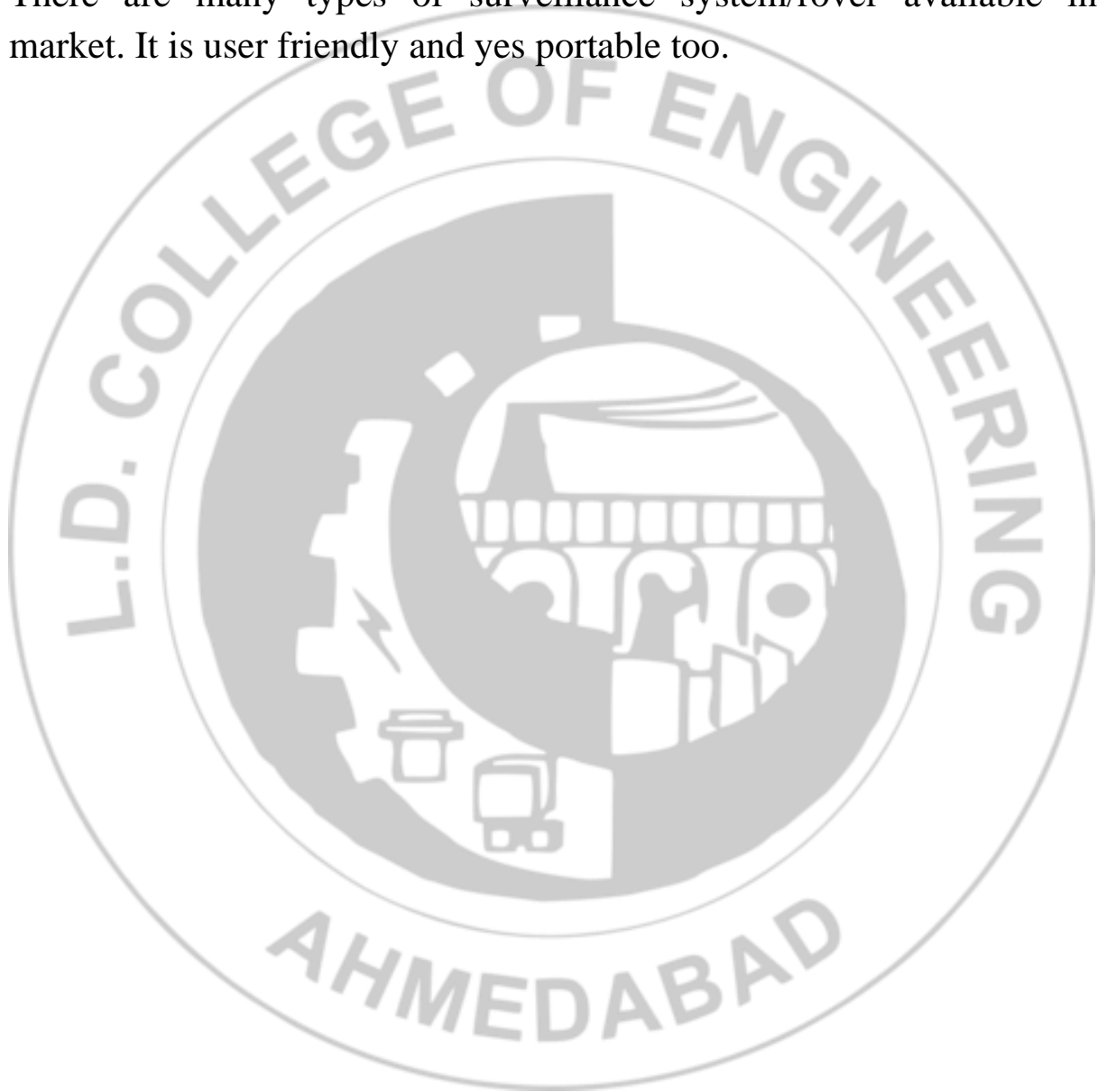
Acknowledgment

We have put our efforts into this project. But other than us a lot of individuals have helped us in creating this project and guiding us in the correct direction. We would like to Thank all of them.

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Abstract

This is safety and protection device especially designed for human beings. It is also used in private in sectors and government sectors for surveillance, Also it can be used in defence sectors for monitoring. There are many types of surveillance system/rover available in market. It is user friendly and yes portable too.

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Introduction

Rover is a vehicle equipped with different type of sensors and moving mechanisms aimed to work for scientific, defence and security applications. It is a hybrid product of electronics and mechanics. A rover essentially consists of a platform that can move on either wheels or chains. It can be controlled remotely. The sensors collect required data from the surroundings and generate audio-visual indications or transmit the data to distant monitoring facilities.

This rover is self powered with a rechargeable battery and it moves on wheels. It can work continuously for hours with this in-built battery. This can be done by observing conditions prevailing on ground from a distance via CCTV, by intercepting the information that was transmitted electronically or through post. It can also be done manually by humans who gather the intelligence information. Surveillance is used by governments for intelligence gathering, prevention of crime, the protection of a process, person, group or object, or the investigation of crime.

Ideation Canvas

The ideanaut : *Ideation Canvas*   Project :   Team :

People

| WATCHMAN | SECURITY TEAM | EMPLOYEES | DETECTIVE | CONTENTN CREATO | RESEARCHERS |

Activity

| SURVEILLANCE | RESEARCH | SAMPLE COLLECTIC |

| MONITORINTG | ROBBERY |

Situation/Context/Location

| OFFICE | FOREST | LONELY STREET |

| HOUSE | RUINS | CAVES |

Props/Possible Solution

| SENSORS | CAMERA | RADAR | ATTACKING SYS. | ALERTING SYSTEM |

AEIOU Summary

AEIOU stands for A- Activity
E- Environment
I- Interaction
O- Object
U- User

AEIOU Summary	Group ID: Domain Name:	Date:	Version:

Environment :

OFFICE	FOREST
LONELY STREETS	HOUSE
RUINS	CAVES

Interaction :

RESEARCH	SECURITY
SURVEILLANCE	DATA COLLECTION
Video Recording	

Objects :

CAMERA	MOTORS
CONTROLLERS	MOTOR DRIVERS
RADAR	COMM. SYSTEM

Activities :

| SURVEILLANCE | RESEARCH | SAMPLE COLLEC |
| MONITORING | ROBBERY | |

Users :

| WATCHMAN | SECURITY TEAM | EMPLOYEES |
| Detective | RESEARCHERS | CONTENT CREAT |

Empathy Mapping

Empathy Mapping gives information about the users and the stakeholders of the project, how this project affects a user in constructive or destructive manner.

Design for :   **Design By :**

Date: **Version :**

USER

| Watchman | Security Team | Employees |

| Detective | Content Creator |

STACKHOLDER

| Parents | Corporate Org. | Government |

| Security Org. |

ACTIVITIES

| Surveillance | Research | Sample Collectio | Monitoring | Robbery |

STORY BOARDING

HAPPY
during an excavation site monitoring it was very difficult to have physical man surveillance all over the time being but as we had an rover which would go in places where man were unable to reach so so it was very helpful.

HAPPY
once we were not able to reach a particular place due the transportation issue but at the moment we had a rover at that place and wee need to check around the place how and what is happening so rover helped us in that thing as it onlv needed internet for the connection

SAD
during and an surveillance of an area there where place were man were not able to reach as it was in a very dense area only if we had something that was very small and were able to be controlled from far away would give us the feedback on what's out there it would had been nice

SAD
once i left my house for a long weekend once i comeback from my thing all the things in my house were in a chaos now only if i had something that would have recorded it or at least scared the one who it did it then that would had been nice.
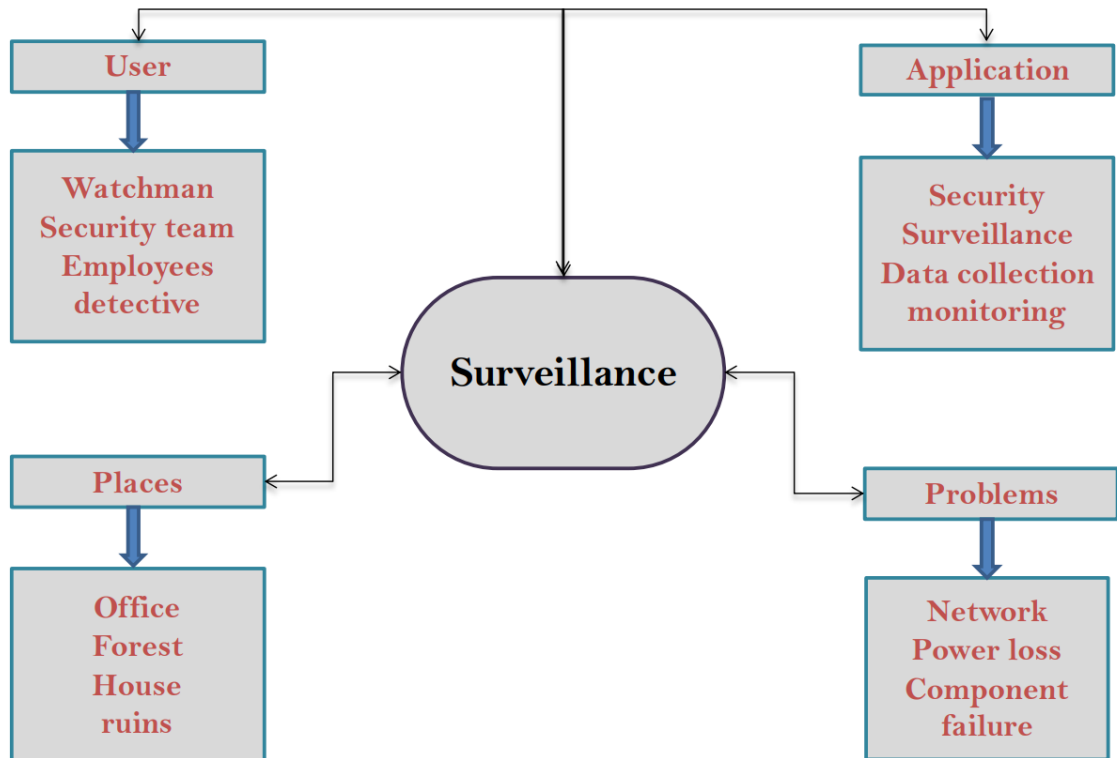
Product Development Canvas

In product development we discuss about the features, users, user feedbacks, components of the products and some modifications and removal of objects as per user feedback of the product.

Mind Mapping

In mind mapping, we try to create an overview about how the product can be developed, components used for development, Procedure for implementation of the product, manufacturing of product and maintenance of the product.

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        ┌──────────────┐                    ┌──────────────┐
        │     User     │                    │  Application │
        └──────┬───────┘                    └──────┬───────┘
               ▼                                    ▼
        ┌──────────────┐                    ┌──────────────┐
        │   Watchman   │                    │   Security   │
        │ Security team│                    │ Surveillance │
        │   Employees  │   ┌──────────┐     │Data collection│
        │   detective  │   │Surveillance│    │  monitoring  │
        └──────────────┘   └──────────┘     └──────────────┘
        ┌──────────────┐                    ┌──────────────┐
        │    Places    │                    │   Problems   │
        └──────┬───────┘                    └──────┬───────┘
               ▼                                    ▼
        ┌──────────────┐                    ┌──────────────┐
        │    Office    │                    │   Network    │
        │    Forest    │                    │  Power loss  │
        │    House     │                    │  Component   │
        │    ruins     │                    │   failure    │
        └──────────────┘                    └──────────────┘
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Prototype