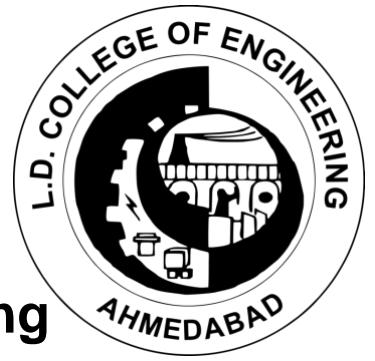# GUJARAT TECHNOLOGICAL UNIVERSITY

Chandkheda, Ahmedabad

L.D College of Engineering

A

Project

Report

On

SOCIETY MANAGEMENT SYSTEM

Under subject of

DESIGN

ENGINEERING

Submitted by:

Group:

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Head of the Department

Academic

year (2019-

2020)

INDEX

Chapter – 1   INTRODUCTION

Design Thinking:

What is Design Thinking? Your understanding…

Design Engineering is the best example of critical thinking and solving problem by developing a product therefore to solve it. Suppose it you see a problem, and being a human or rather an Indian we use to complain about it, but we don't think of solving it.

a. A cognitive problem-solving process

b. Origins = Edison and other inventors

    c.   Encourages creative consideration of a wide array of innovative solutions.

d. Can be applied to any field, including higher education.

e. Approaches challenges from the point of view of the end user.

f. Calls for a deep understanding of that user's unmet needs.

g. A skill that allows a Designer to align

    h.   what people want with what can be done, and produce a viable business strategy that creates customer value and market opportunity
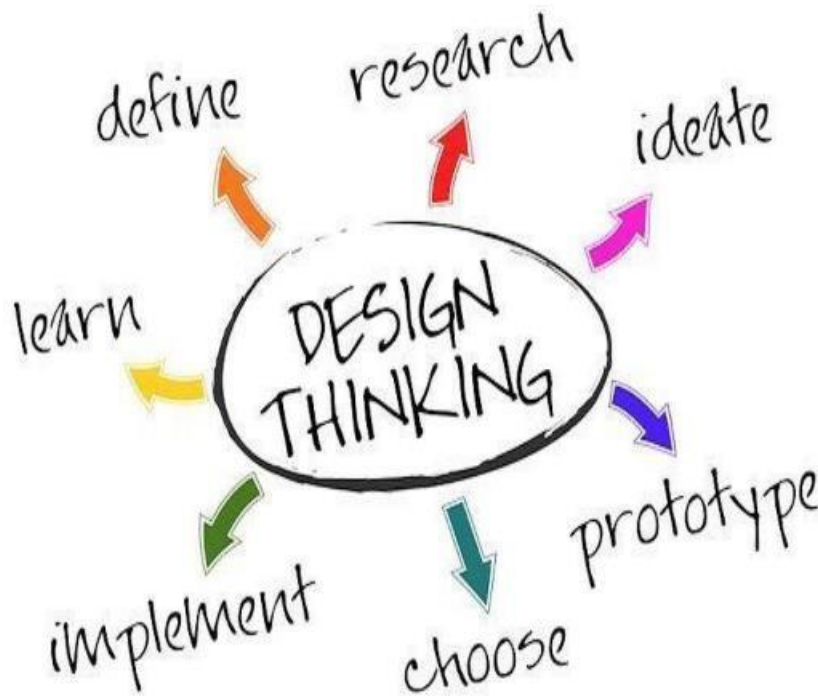
The given diagram defines the steps to detect the problem and solution of the problem by Design Thinking.

In Design Thinking We believe that rather waiting for Moses (Genius) to come and showed us Innovation shouldn't we try something new! With Design Thinking, we can build the bridges to cross over the other side to the new land of promised future, so we can reliably manufacture our own Miracles.

i. Innovation is iterative and the outcome of a series of experiments

j. Effective innovation involves risk-taking, assessment and mitigation

k. Innovation begins with creativity

l. Innovation is smooth linear process

m. Innovation is about risk-taking

n. Innovation begins with Curiosity

o. Encourages creative consideration of a wide array of innovative solutions.

p. Can be applied to any field, including higher education

q. Approaches challenges from the Point of View (POV) of the end user.

r. Calls for a deep understanding of that user's emotional needs

Importance & Socio-Economical relevance

Design Thinking in this paper will examine how design disciplines relate to the social sectors and what are the distinctive values that design as a methodology can offer to tackle social challenges. The great attentiveness from business leaders and social innovators towards design as a source for creative methodologies and ways to gain valuable knowledge has elevated the discipline to management and strategy levels. As a result, creative approaches have successfully migrated from the design disciplines towards the business sectors. However, design thinking still needs to overcome the apparent complexity of social organizations. The inherent futuristic and descriptive nature of design and its methodologies provide valuable insights and efficient ways of doing things that are not well understood by the members of the social sector. This paper will look at how the discipline of design has evolved in the last fifty years and how new articulations of its methodologies and techniques can be applied to the achievement of social change. This paper will conduct a thorough analysis of the concepts of design thinking in order to unveil the historic evolution of this approach and enable this research to forecast future applications and realize recommendations to improve and foster its implementation. This investigation will be backed up with interviews with experts in the industry to engage in a dynamic debate that will define the reasons and

Casualties of why design methodologies are such a potentially compelling fit to meet the requirements of the social sectors

Nowadays in Design Framework there is not a unique definition that analyses the origins of design thinking and the shift in description of design. The coexistence of several form an 'object-cantered' discipline into the study valid and valuable interpretations of its nature, as of the principles and practices behind the design Fraser (2006) puts it, only shows how diverse and process leveraged into a problem-solving activity. Sometimes contradictory the perception of the design activity is. In this part we will Design from objects to an approach Traditionally Design has dealt with objects, thus the "immersed in this material culture, and draw design theory has revolved around them for most

upon it as their primary source of their think- of its existence despite the intentions of theorizing. Designers have the ability both to 'read' to shift away from them for the last twenty years. And 'write' in this culture; they understand Flusser (1999) for example, States from which design begins, what messages objects communicate before any activity or physical form take place. They can create new objects which embody takes the Search to discover opportunities beyond new messages" (Cross 2006). The materialistic level emphasizing the etymological origin of the words as the basis of any discipline.

Learning Tools and its importance

Design thinking incorporates constituent or consumer insights in depth and rapid prototyping, all aimed at getting beyond the assumptions that block effective solutions. Design thinking— inherently optimistic, constructive, and experiential— addresses the needs of the people who will consume a product or service and the infrastructure that enables it. Businesses are embracing design thinking because it helps them be more into market faster. Non-profits are beginning to use design thinking as well to develop better solutions to social problems. Design thinking crosses the traditional boundaries between public, for-profit, and non- profit sectors. By working closely with the clients and consumers, design thinking allows high-impact solutions to bubble up from below rather than being imposed from the top.

Team building and Log book exercises and importance

Team building is the collective term for various types of activities used to enhance social relations and define roles within teams. These often involve collaborative tasks. Many team building exercises are intended to find and address interpersonal problems within the group.

Over time, this activity developed to address the best practices for accomplishing tasks in a team-based environment It is distinct from team training, which is designed to improve the efficiency of the process, rather than the interpersonal aspect of it.

Team building is in the category of the theory and practice of organizational development. It can, however, be applied to a multitude of cooperative groups, such as sports teams, school classes, divisions of armies, or flight crews. The formal definition of team-building includes the following pillars:

s. Goal setting: Aligning around goals

t. Interpersonal-relationship management: Building effective working relationships

u. Role clarification: Reducing team members' role ambiguity

v. Problem solving: Finding solutions to team problems

According to Klein et al. (2009), team building is one of the most widely used group development activities in organizations today. Of all organizational activities, teamdevelopment was found to have the strongest effect out of various financial measures for improving organizational performance. Recent meta-analyses show that team development activities, including team building and team training,
improve both a team's objective performance and supervisory subjective ratings of said performance.

Type of Team Formation

w. You (Faculty) pick teams

x. They (Student) pick teams

y. Completely random selection

z. A hybrid

➢ **Random Selection:**

▪ It is quick selection will not take time.

▪ When to do Random Selection?

▪ Project is Less Thoughtful

▪ For short term discussion

▪ Methods to do Random(arbitrary) selection

▪ Write name in chit and through in bowl then pick up the chit

▪ Same letter for starting of their name

▪ By enrolment number

▪ Cards or number allocation

What happens when students select team?

One student just pretends to do work but does not. Other one disappears day oneitself and comes on final day.

Ultimately only one person does the drill.

What happens when faculty selects team?

Faculty does not know how that people are synced with each other. They don't know in which areas they live. They generally decide by consecutive roll call.

This in a way is very hazardous.

How to form hybrid team?

❖ Find quality of student
❖ Form an intermediate group
❖ Ask student to make their final Team

Qualities to be searched

aa.   Project Organizer (who manages the entire project)
bb.   An analyser (who can do analysis of data)
cc.   Stream wise technical Skill person (Mechanical, Electronics, Software and etc.)
dd.   Concept Ideator (Person who visualizes the Idea a solution for the problem)

Requirement of TEAM Formation

ee.   Teach each other
ff. Practice communication, teamwork, project management skills
gg.   Work on higher-order assignments
hh.   Expand network & meet new people
ii. Learn readings better (discussion groups)
jj. Simulate real-life work environment

Why to keep a log book?

kk.   An engineering logbook is a personal/professional reference about project learning and results.

ll.   These records may become necessary to provide a history of the design if there is a turnover in staff, if patent applications are made, or in the case of legal action where the demonstration of professional practices is necessary.

mm.   Monitor and control where you invest your time,

nn.   Learn and apply the best practices for your profession

oo.   Regularly take time to learn from successes and failures

Log book Specifications

pp.   Think of the logbook as a design diary.

qq.   Contain all sketches, notes and decisions pertaining to the design.

rr. Bound notebook so pages can't be removed

ss.Write in ink. Don't erase.

tt. Date every page

uu.   Fill consecutive pages

vv.Keep up to date

ww.   Include everything you contribute to ... good, bad, and ugly

Contents of a log book

xx.Sketches/doodling

yy.Customer needs or requirements

zz.Class notes

aaa.   Project objectives

bbb.   Meeting notes

ccc.   Action Items

ddd.   Half-baked Ideas

eee.   Math calculations

fff. Work-in-progress

ggg. Design alternatives

hhh. Vendor notes

iii. Research findings

jjj. Sources of ideas

kkk. Evaluation of data/results

lll. Design reviews

mmm. Decision criteria

nnn. Design process

ooo. Rational for decisions

ppp. Project reflections

qqq. Professional development
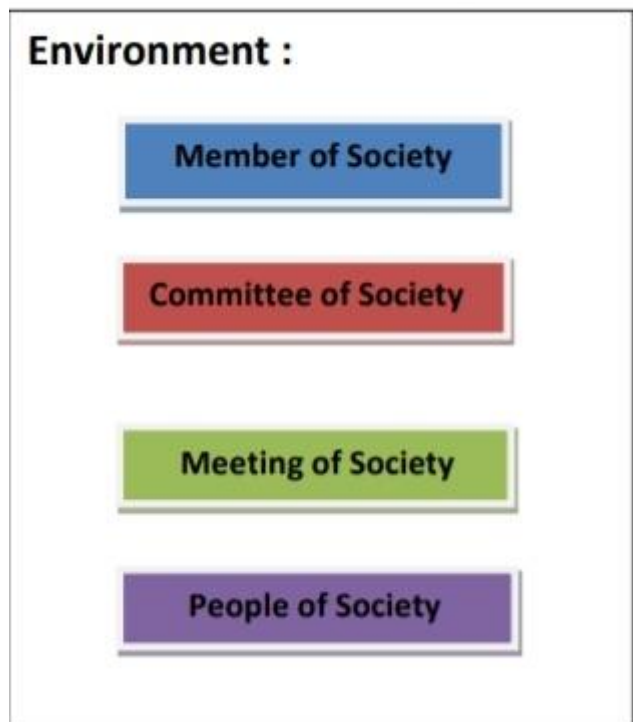
Chapter –2 Empathy Mapping

Empathy Mapping:

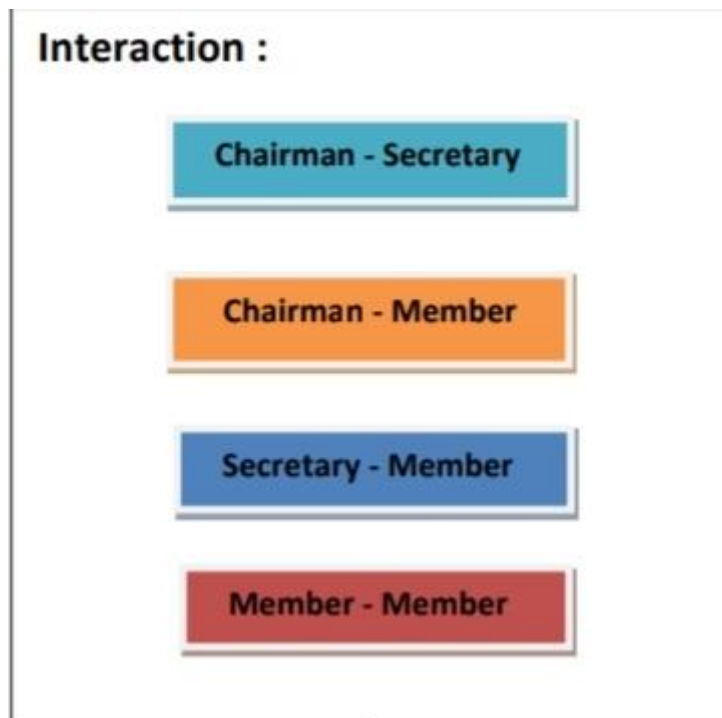**Observation through AEIOU methods and other**

1.Activities:

Activities :

Bill Payments	Receipts
Maintenance	Sell / Rent Information
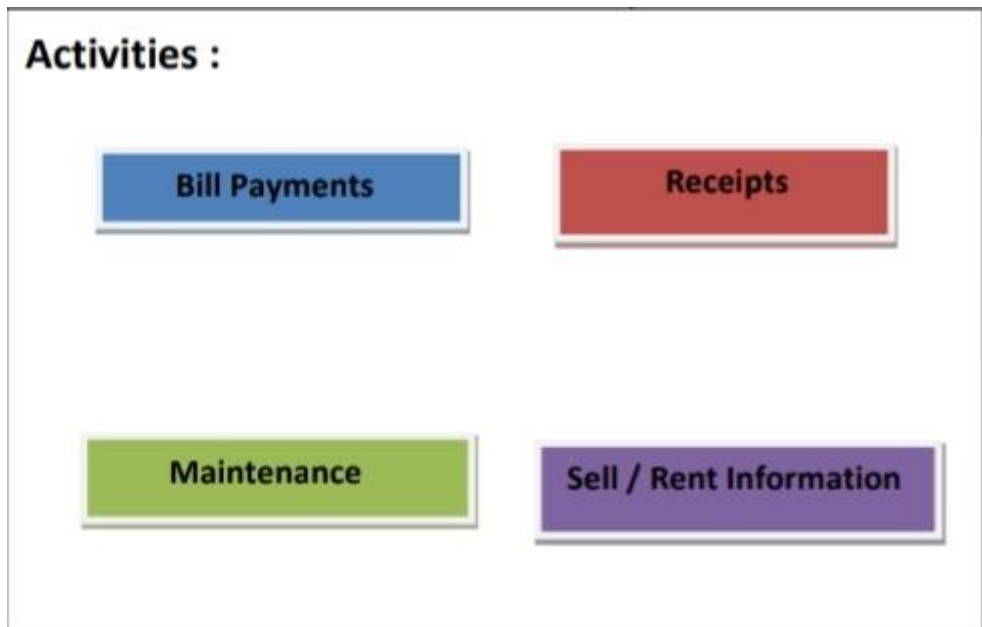
    i. Bill payments
   ii. Maintenance
  iii. Sell / Rent information
  iv. Receipts

2.ENVIRONMENTS:

Environment :

- Member of Society
- Committee of Society
- Meeting of Society
- People of Society

- Member of Society
- Committee of Society
- Mettinf of Society
- People of Society

3.Interaction

Interaction :

- Chairman - Secretary
- Chairman - Member
- Secretary - Member
- Member - Member
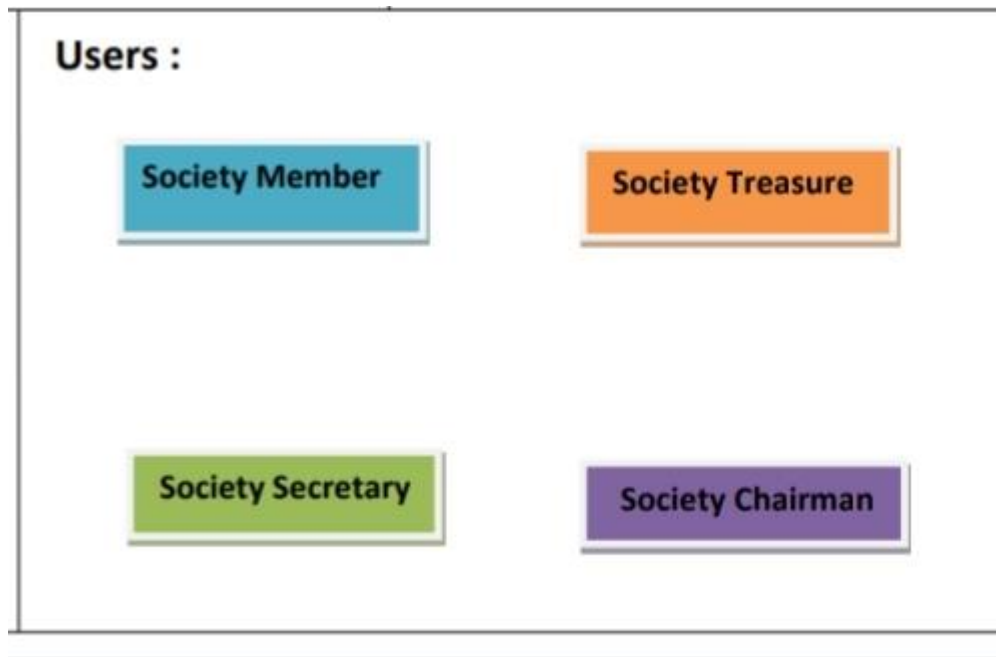
- Chairman-Secretary
- Chairman-Member
- Secretary-Member
- Member-Member

4.objects:
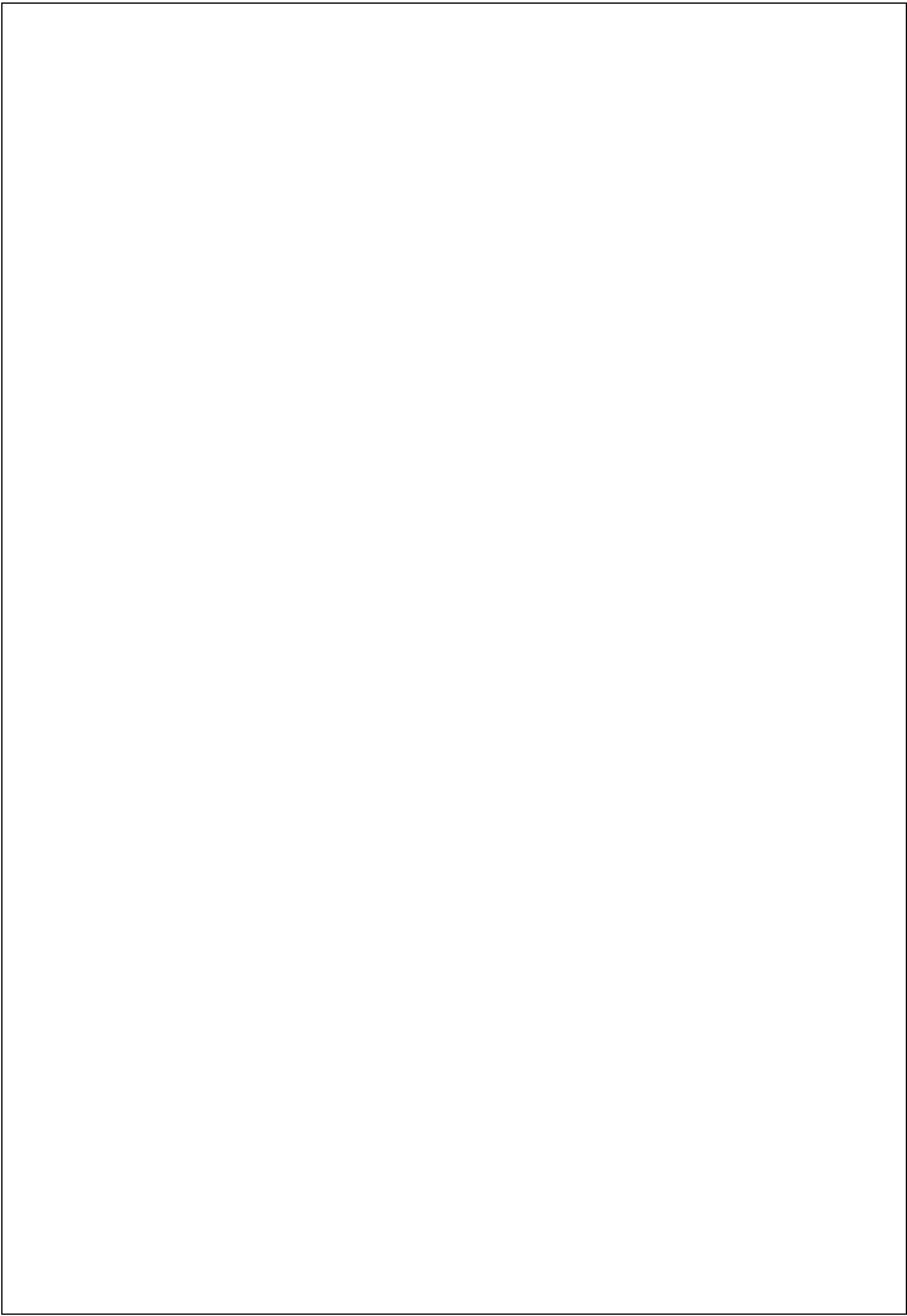

- Easy to operate
- Efficient
- Low cost
- Easy Maintenance

5. USERS:

Users :

Society Member

Society Treasure

Society Secretary

Society Chairman

- **Society Member**
- **Society Treasure**
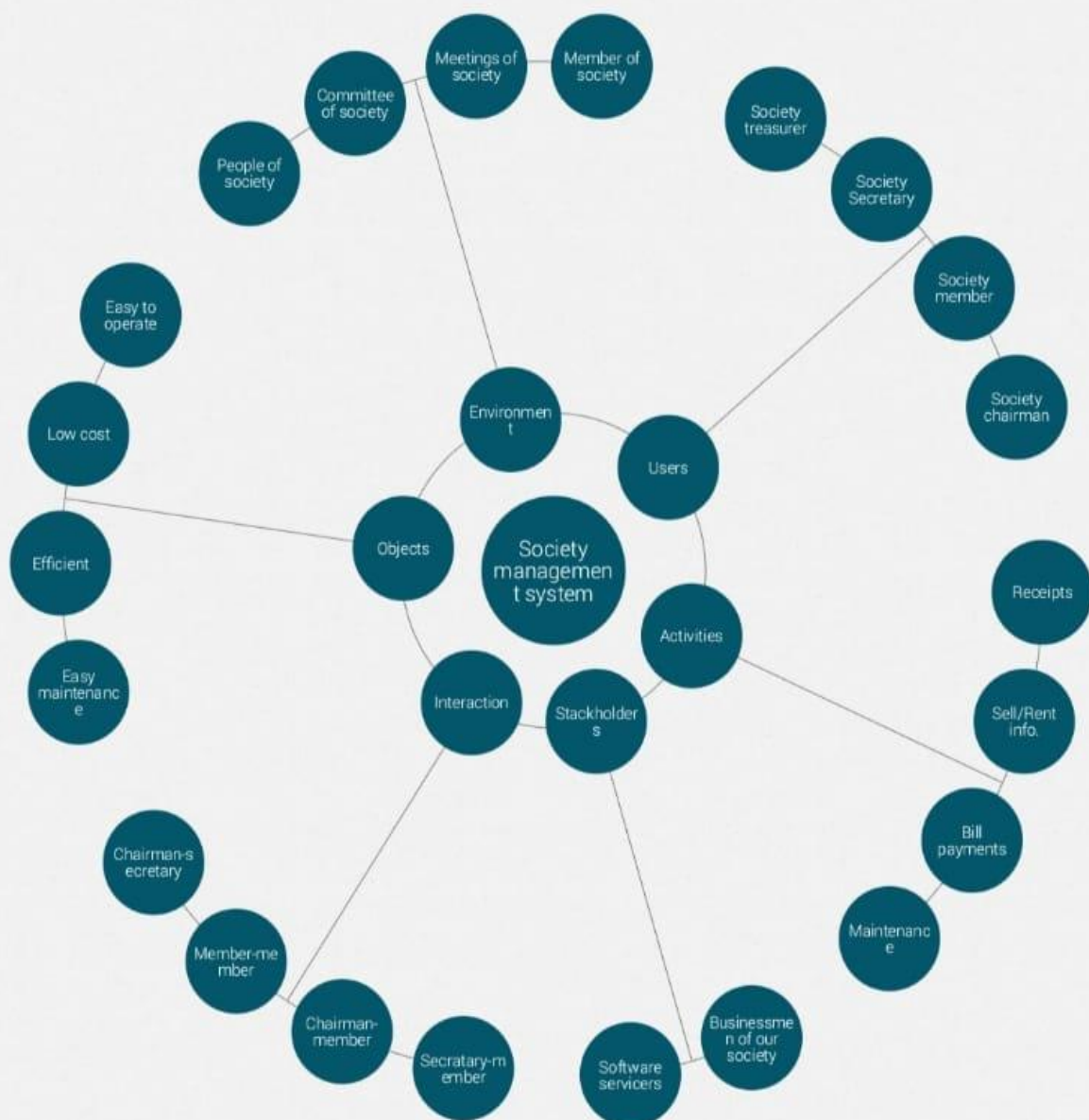- **Society Secretary**
- **Society Chairman**

(3) .Mind Mapping (Data analysis):

"A mind map is a visual representation of hierarchical information that includes a central idea surrounded by connected branches of associated topics"

BENEFITS:

-Helps brainstorm and explore any idea, concept, or problem

-Facilitate better understanding of relationships and connections between ideas and concepts

-Make it easy to communicate new ideas and thought processes - Allow students to easily recall information

-Help students take notes and plan tasks

-Make it easy to organize ideas and concept.

(4). Empathy Mapping Canvas:

Design For : Society Management System   **Design By : 237380**

Date : 04-04-2020   **Version :**

USER   **STAKEHOLDERS**

Society Secretary

Society Members

Society Treasure

SND Software Services   **Businessman Of Our Society**

ACTIVITIES

Society Meeting   **Maintenance Payment**

Light bill Payments   **Sell / Rent Information Of Houses**

STORY BOARDING HAPPY :

There is a person of our society and he want to pay there light bill with use of our society website. He was going to society website and click light bill payment option and he was pay a light bill through website via debit card and he got a 5% discount on this light bill payment. And he got a light bill payment receipt.

HAPPY :

There is a person of our society and he want to pay there maintenance with use of our society website. He was going to society website and click maintenance payment option and he was pay a maintenance through website via amazon pay and he got a amazon discount vouchar on the payment of maintenance. And he got a maintenance receipt.

SAD :

There is a person in our society. At once time in person house, the water suddenly stopped. He went to our society website and complain about it and there person receives a sms that there problem was solved with in 2 days. But after 2 days the problem was not solved.

SAD :

There is a society member in our society and he want to pay a light bill with use of our society website. And he was going to our society website and click light bill payment option. He was pay a light bill through a society website via debit card. The amount was debited from his bank account but the light bill payment receipt was not generated due to some website error.

USER:

- Society Secretary
- Society Members
- Society treasure

STAKEHOLDERS

- SND software services
- Businessman of our society

ACTIVITIES:

- Society Meeting
- Maintenance Payment
- Light Bill payments
- Sell / Rent information of Houses

STORY BOARDING:

1. happy story

2. sad story

Chapter – 5

Ideation Canvas

Ideation Canvas:

1.People:

People

Society Members

Society Secretary

Society Treasure

- Society Members
- Society Secretary
- Society Treasure

2.Activities:

Activities

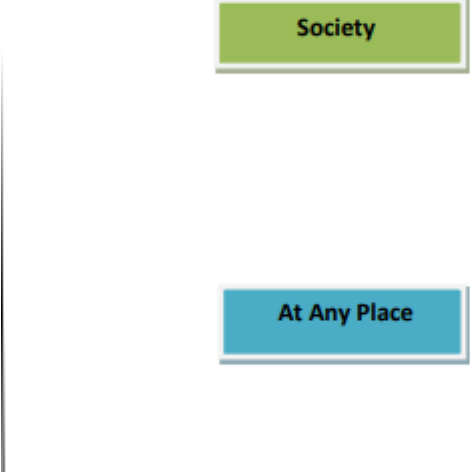|	
Light bill Payment	**Maintenance Payment**
Society Meeting	**Sell / Rent Information of houses**

- Light Bill Payment
- Maintenance Payment
- Society Meeting
- Sell / Rent information of Houses

Situation/Context/Location:

Situation / context / Location

Society

At Any Place

- Society
- At any place

4.Props/Possible Solution:

Props / Possible Solutions

Secure	Safety	Working Fast

- **Secure**
- **Safety**
- **Working Fast**

Chapter –6 Product Development

Canvas Purpose

Purpose

Easy Payment

Acquire Information At Any Time

Time Saving

- Easy Payment
- Acquire information At Any Time
- Time Saving

PEOPLE

People

- Society Members
- Society Chairman
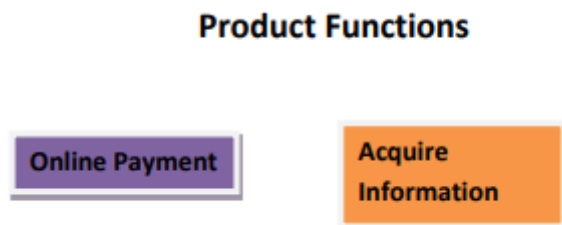- Society Treasure

PRODUCT EXPERINCE

Product Experience

Easy To Use   Secure

- Easy to use
- Secure

PRODUCT FUNCTIONS

Product Functions

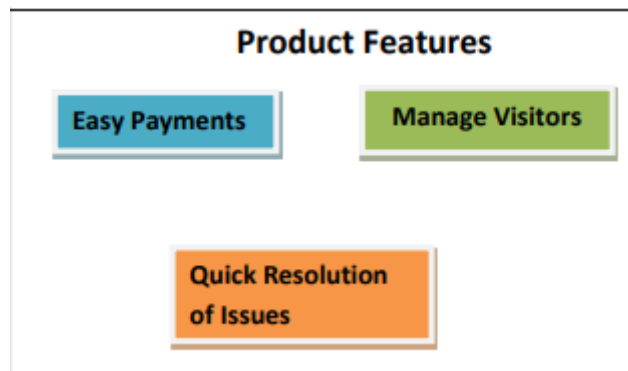Online Payment   Acquire Information

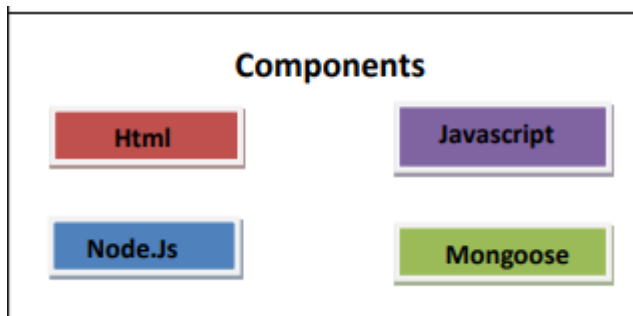- Online Payment
- Acquire Information

PRODUCT FEATURES

- Easy Payments
- Manage Visitors
- Quick Resolution of issues

COMPONENTS

Components

| Html | Javascript |
| Node.Js | Mongoose |

- Html

- javascript

- node.js

- mongoose

Customer Revalidation

Customer Revalidation

Features

Safety

Fast Service

- Features
- Safety
- Fast Service

REJECT,REDESIGN,RETAIN

Reject, Redesign, Retain

Reject Previous Theme

Redesign Menu

Retain Database

- Reject Previous Theme
- Redesign Menu
- Retain Database

Chapter –7 LNM CANVAS

THEORY METHOD & APPLICATION PROCESS INVOLVED IN MATHEMATICAL REQUIREMENT

During BE4th/stage3

APPLICABLE STANDARD DESIGN SPECIFICATION PRINCIPLE AND EXPERIMENT

During BE3rd/stage2

During BE2nd/stage1

Study of implementation of SMS

Follow the rules and regulations

Accounting & Billing

For Designing Use Autocad

Maintanence & Documenting

Purpose/Product concept

To reduce conflicts among society members

Society Management system

ADDA

Administrator

Mongoose

DATA

MS OFFICE

SOFTWARE TOOLS/ SIMULATION

COMPONENT MATERIALS

Chapter –8 Conclusion

In this project most probably target on the time consuming parameter. Because the secretary of the society has responsibility to tell all the things related to society so, the secretary have to go all the houses separately for one common thing like for collecting a maintenance,for give a electricity bill etc. So in this project we make a website so the secretary have not necessary to go to all the house separately for collecting all the bills related to the society and the society members can easily pay all the bills of the society through net banking easily and acquire a payment receipt. All the common matter related to society are found on the dashboard so all the society members can see easily at anytime anywhere.