



Vidya Pratishthan's
Kamalnayan Bajaj Institute of Engineering and Technology
Vidyanagari, Baramati, Pune 413 133

INDEX

Department of :- Artificial Intelligence & Data Science

CLASS T.E

SR. NO.	NAME OF EXPERIMENT	Expt. Conducted on	Expt. Checked on	PAGE NO.	SIGN	REMARK
1.	To perform STEEP analysis by using sense of steep analysis and Strategic Priorities template and frame 'Your Design challenge'. Conduct interviews design and ask 5x why & SW + H questions.	25/8/22	22/9/22	1	C ✓ 12/11/2022	
2	To observe the user and design Empathy map, Generate persona user profile & CJM	8/9/22	22/9/22	5		

CERTIFICATE

This is to certify that Mr./Miss Devrat Yashraj Deepak of
Class T.E (A.T. D.S) Roll No. 2237097 has Satisfactorily Completed the term work of the subject,
Design Thinking Lab for V Semester of 2022-2023.

Date : 12 / 11 / 22

~~Staff Member~~
In-charge

H.Q.D.

PRINCIPAL



Vidya Pratishtan's
Kamalnayan Bajaj Institute of Engineering and Technology
Vidyanagari, Baramati, Pune 413 133

INDEX

Department of:- Artificial Intelligence &
Data Science.

CLASS T.E

SR. NO.	NAME OF EXPERIMENT	Expt. Conducted on	Expt. Checked on	PAGE NO.	SIGN	REMARK
3.	To Share Stories and learning from research Clusters, insights into themes, create insights statement, create "How might we" questions	22/9/22-12/11/22	10			(@) 12/11/22
4.	To brainstorm, select your ideas, create a storyboard, determine what to prototype and implement the prototype phase.	29/9/22-12/11/22	14			
5.	Study and Present any into Case Studies of Design Thinking.	21/9/22	12/11/22	19		

CERTIFICATE

This is to certify that Mr./Miss Devrat Yashraj Deepak of
Class T.E (A.I.T.D.S) Roll No. 2237031 has Satisfactorily Completed the term work of the subject,
Design Thinking Lab for IV Semester of 2022-2023

Date : 12 / 11 / 22

Staff Member

In-charge

H.O.D.

PRINCIPAL

① 03/01/2022
21/01/2022

Assignment 1 : Inspiration Phase DATE:

AIM : To perform STEEP analysis by using sense of steep analysis & strategic priorities template & frame your design challenge. Conduct Interviews, design & ask 5x Why & 5W+H questions.

Objectives :

- ① To understand the problem from a human perspective with the objective of designing innovative & desirable products/services or experiences that reflect all three aspects.
- ② To understand the concept of STEEP analysis.
- ③ To identify the opportunities & challenges for design thinking innovation.

Theory :

The Inspiration Phase :

Getting meaningful solution begins with gaining a deep understanding of people's need. In the inspiration phase, you will learn directly from the people you are designing for as you immerse yourself in their lives & come to deeply understand for their needs and aspirations. The inspiration phase is about learning on the fly, opening yourself up to creating possibilities & trusting that as long as you remain grounded in desires of the people, your ideas will

evolve into the right solution.

Step 1: Choose a design challenge.

- a. Collect thoughts.
- b. Review what you already know.
- c. Define what you don't know.
- d. Review constraint & barriers.

Step 2: Plan your research methods.

- a. Learn from people.
- b. Learn from expert.
- c. Immense yourself in context.
- d. Analogue Inspiration.

Step 3: Build Your Interview Guide.

- a. Identify objectives.
- b. Organize your questions.
- c. Use tangible conversation starters.
- d. Confirm your plans.
- e. Assign roles.

Step 4: Additional Research Methods

- a. Photo essays.
- b. Customer Journey.
- c. Card Sorts.
- d. Concept provocations

Step 5: Capture Your Learning.

- a. Share your impressions.
- b. Illustrate your ideas.

Steep Analysis: The Steep analysis is a tool used to map the external factors that impact an organization. STEEP stands for the five key areas on which the analysis focuses: socio-cultural, technological, economic, environmental/ecological & political. Usually, the STEEP analysis is compulsory alternative to other methods such as SWOT or PESTLE analysis. STEEP analysis gives a business perspective on the market it operates.

① Socio-Cultural:

This encompasses a broad range of social characteristics likely to affect the product.

② Technological: This includes research & development, automation, transport, patent, regulation, the product life cycle & the rate of technological change.

③ Economic: How much purchasing power does the consumer have under certain economic conditions.

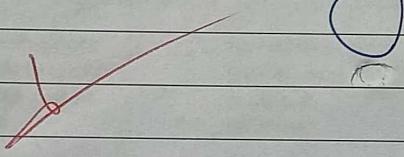
④ Environmental / Ecological: Factors such as weather, natural resources & climate change.

⑤ Political: We have studied the inspiration phase in which Steep analysis is included. STEEP enables you to take a step out of the your personal

5. Political: what is the legal & political environment of the country the business operates in? To what extent does the government interfere in business affairs?

Conclusion:

We have studied the inspiration phase in which STEEP analysis is included. STEEP enables you to take a step out of your personal experiences & gain a better understanding of many influential factors that may affect your decision making.



Vidya Pratishthan's Kamalnayan Bajaj Institute Of Engineering And
Technology ,Baramati.

Design Thinking-Lab

Online Voting System

Guidance By-
DR. Arvind Jagtap

BY-

2237022 Utkarsh Khandare

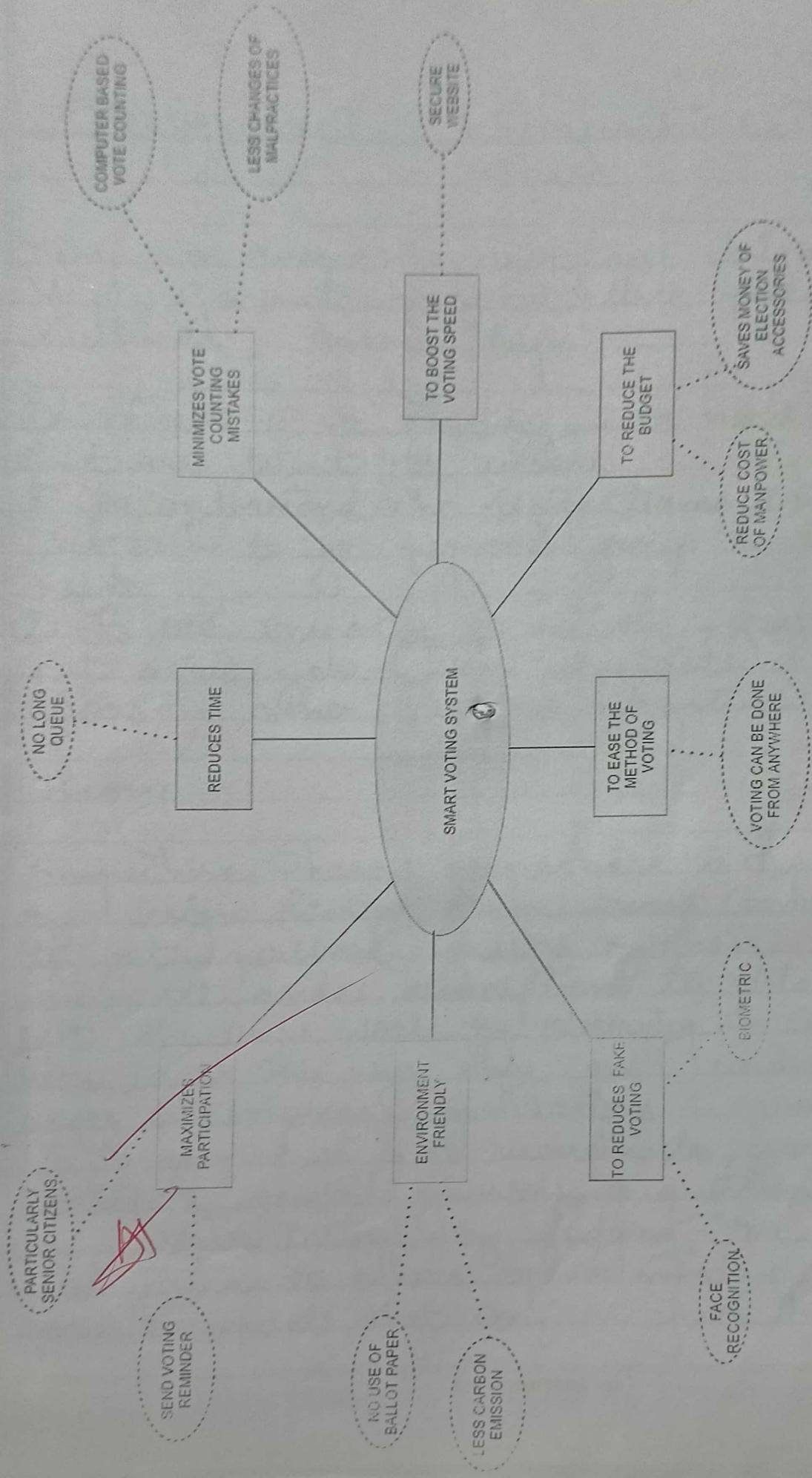
2237025 Vaibhav Barawkar

2237024 Rohit Dhotre

2237038 Shreyas Kulkarni

2237031 Yashraj Devrat

Social	Technological	Environment	Economical	Political
1. provide improved accessibility for disabled voters.	1. This technology intends to speed the counting of ballots.	1. environmentally friendly and resource-efficient	1. reduce the cost of paying staff to count votes manually	1. Reduces Corruption
2. easy for voters to feel disconnected from the process of traditional voting.	2. Results can be reported and published faster.	2. no paper ballots, no postage and no printing	2. cheaper voting and polling	2. Public trust is built
3. Voting should be simple, location-independent and accessible.	3. Real-time Result Generation	3. they don't require many resources: compared to postal elections,	3. eliminate the need of cost of the Printing materials	3. Avoids illegal political activities during election
4. Higher response rates from voters	4. avoid result-distorting mistakes like loss of voting documents and miscounted votes.	4. online voting reduces CO2 emissions	4. Multiple online elections can be conducted throughout the year without any additional fees	4. Trust in election administration and confidence with the broader electoral framework



Assignment 2 :- Empathize^{08/10/2022} Phase

Aim :- To observe the user and design Empathy Map, generate persona / User profile & Customer Journey Map.

- Objectives :-
- ① To identify user needs & behaviours that are latent or unders.
 - ② To understand the Design teams conduct research to get personal group of their user needs.
 - ③ To use empathy effectively, you need to put aside your own viewpoint & see things from the other person's perspective.

Theory :-

Empathise Phase: Empathise is the first stage of design thinking. Design teams conduct research to get personal grasp of their user needs. They set aside assumptions to obtain insights into the user's world by observing & consulting with users. This way, they can understand user experiences, motivations & problems.

To empathise is to research. So, you should constantly remind yourself to question everything you observe instead of judging. You should also listen to others open mindedly rather than focus on points that confirm your biases.

User Persona:

User personas are archetypical users whose goals & characteristics represent the needs of a larger group of users. Usually, a persona is presented in a one or two-paged document. That describe include behaviour patterns, goals & skills, attitudes & background information as well as the environment in which a persona operates.

User personas help product team find the answer to one of their most important questions, "Who are we designing?" By understanding the expectations, concerns & motivations of target users, it's possible to design a product that will satisfy user's need. It's possible to design a product that will satisfy user's needs & therefore be successful.

Creating User personas in design process:

The research that goes into forming user personas usually happens exactly in the designer's often start creating personas, during the second phases - the define phase: like most design elements. Personas can be developed iteratively. Personas will be used during all later phases of a design process to inform design decisions made by the team.

Because our biases will naturally creep into how we view the world & the situations we consider, as designers or design thinkers - we must & overcome these before fulfilling objective before you can start to see through your user eyes & interpret their viewpoints optimally. They can expect you must understand the users & their feelings before you can work towards delighting them through your design.

Empathy Map:

An empathy map will help you understand your users need while you develop a deeper understanding of the persons you are designing for. There are many techniques you can use to develop this kind of empathy. An empathy map is just one tool that can help you empathise & synthesise your observations from the research phase & draw out unexpected insights about your users need.

An empathy map consists of four quadrants. The four quadrants reflect your key traits, which user demonstrate refer to what the user said, did, thought, & felt. It's fairly easy to determine what the user said & did. However determining what they thought & felt should be based on careful observations & analysis as how to behave & responded to certain activities, suggestions, conversations etc.

Steps to create user personas:

Step 1: Collect the information about your users.

Step 2: Identify behavioural patterns for research.

Step 3: Create personas & prioritize them.

Step 4: Find scenarios of interaction & create user UX documentation.

Step 5: Share your findings & obtain acceptance from the team.

Customer Journey Maps: Customer Journey Maps are used to map the relationships between a customer & an organization over time & across all channels on which they interact with the business. Design teams use customer journey maps to see how customer experiences meet customer expectations & find areas where they need to improve designs.

~~Customer~~ Journey maps are research based tools. Team members examine tasks & questions regarding how a design meets the goals to meet customer needs over time when they encounter a product or service. Therefore, these maps should be detail & rich timeline that shows the

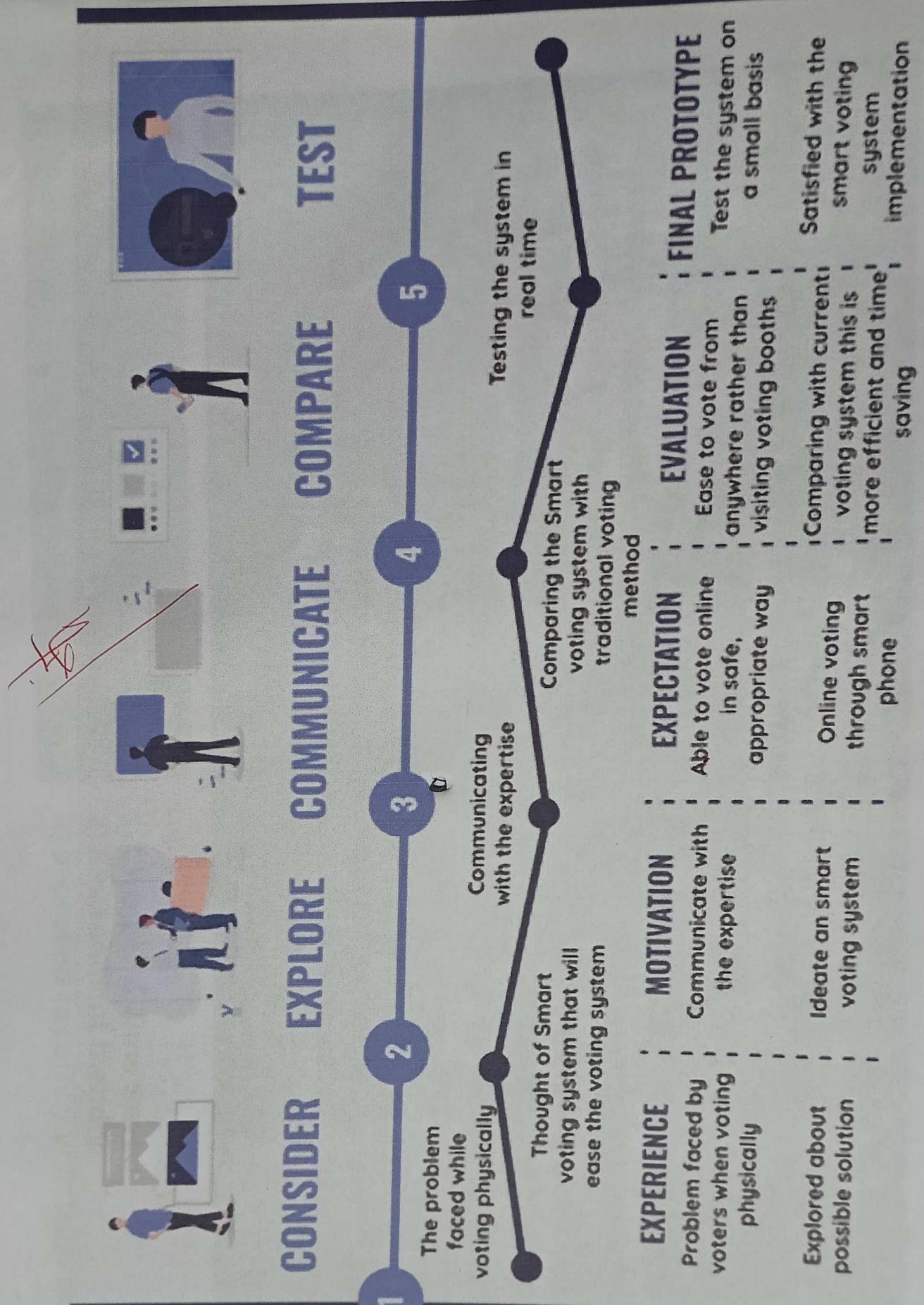
most important subtasks & events. Over this timeline framework, you add insights of what customers think & feel when proceeding along the timeline. The map should consist of

- ① Timescale.
- ② Scenarios
- ③ Touch points
- ④ Channels
- ⑤ Thought & feelings

To Create Customer Journey map, you can follow these steps :

- ① Define your Map's business goal.
- ② Conduct research
- ③ Review Touchpoints & channels.
- ④ Make an empathy map.
- ⑤ Sketch the Journey
- ⑥ Iterate & Refine
- ⑦ Share with Stakeholders

Conclusions: Empathy map - Customer Journey map & the empathetic phase are important because it helps us understand how others are feeling so we can respond appropriately to the situation. It is typically associated with social behaviour. There is lots of research showing that greater empathy leads to more helping behaviour.



CUSTOMER JOURNEY MAP SMART VOTING SYSTEM

Think and feel?

- 1) Real-time result generation
- 2) Reduce corruption
- 3) Moving a step towards innovation

- 1) Does it Compatible ?
- 2) Is this system available across multiple Platforms & Devices ?
- 3) Do you think, it really needs or not ?

Hear?

See?

- 1) Social media information websites.
- 2) Magazines & related paper.
- 3) Focus on the problems to find optimised solutions.

- 1) Developing such system will create healthy environment during election.
- 2) Proper planning & understanding is required.

Say and do?

Pain

- 1) Lack of Awareness about its usages.
- 2) Security ,Public opinion & investment.
- 3) Occurance of technical issues

Gain

- 1) Cheaper & Time Saving.
- 2) Environment friendly.
- 3) Improved accuracy with least manpower.

10
9
8
7
6
5
4
3
2
1

Assignment No. 3

(10)

Define and Ideate

(8)
10 ✓

Aim: To share stories and learning from research cluster, insights into themes, create insights statement, create "How might we" questions.

Objectives:

1. To understand the problem statement and cluster insights about the same.
2. To generate well-functed opportunities that have a good prospect of created values.
3. Fabricate "How might we" questions and share idea initiate ~~and build~~.

Theory:

Ideate:

1. Ideation is a creative process where designers generate idea in sessions (example - Worst possible idea).
2. It is the third stage in design thinking process participates together with open-mind (to produce as many ideas as they can do gather with open mind) to produce as many ideas as they can to address a problem statement in a facilitated, judgement free environment.

Q3 The main aim or the ideation stage is to use creativity and inspiration, innovation in order to develop Solutions.

Ideation will help you

- Ask the right questions and innovate.
- Go beyond the obvious solutions and therefore increase the innovation potential of your solution.
- Bring together perspectives and strengths of team members.
- Uncover unexpected area of innovation.

Create value and variety in your innovation

Ideation methods to Select Ideas:

Once the ideation session is completed the ideas must be collected, categorized, defined and narrowed down, so the team is able to select the best solution idea and strategies from a pool.

These methods can help you to select the best idea at the end of an ideation sessions.

- dot voting or dot not voting.
- voting selection.
- Idea Selection Criteria.

Define:

An integral part of the Design Thinking process is the definition of a meaningful and actionable problem statement which the design thinkers will focus on solving.

- This perhaps the most challenging part of the design.
- Thinking process as the destination of a problem which is also called a design challenge will require you to synthesize your observation about your user from the first stage in the design thinking process, which is called the empathetic stage.

Before we go into what makes a great problem statement. It's useful to first gain and understand the relationship between analysis and synthesis.

"How might we questions"

Constructing how might we questions generate creative solutions while keeping them focused on the right problem solving.

Start with the problems (or insights) you have covered.

Avoid suggesting a solution in your HMW questions.

- keep your HMW broad
- Focus your HMW's on the desired outcome.

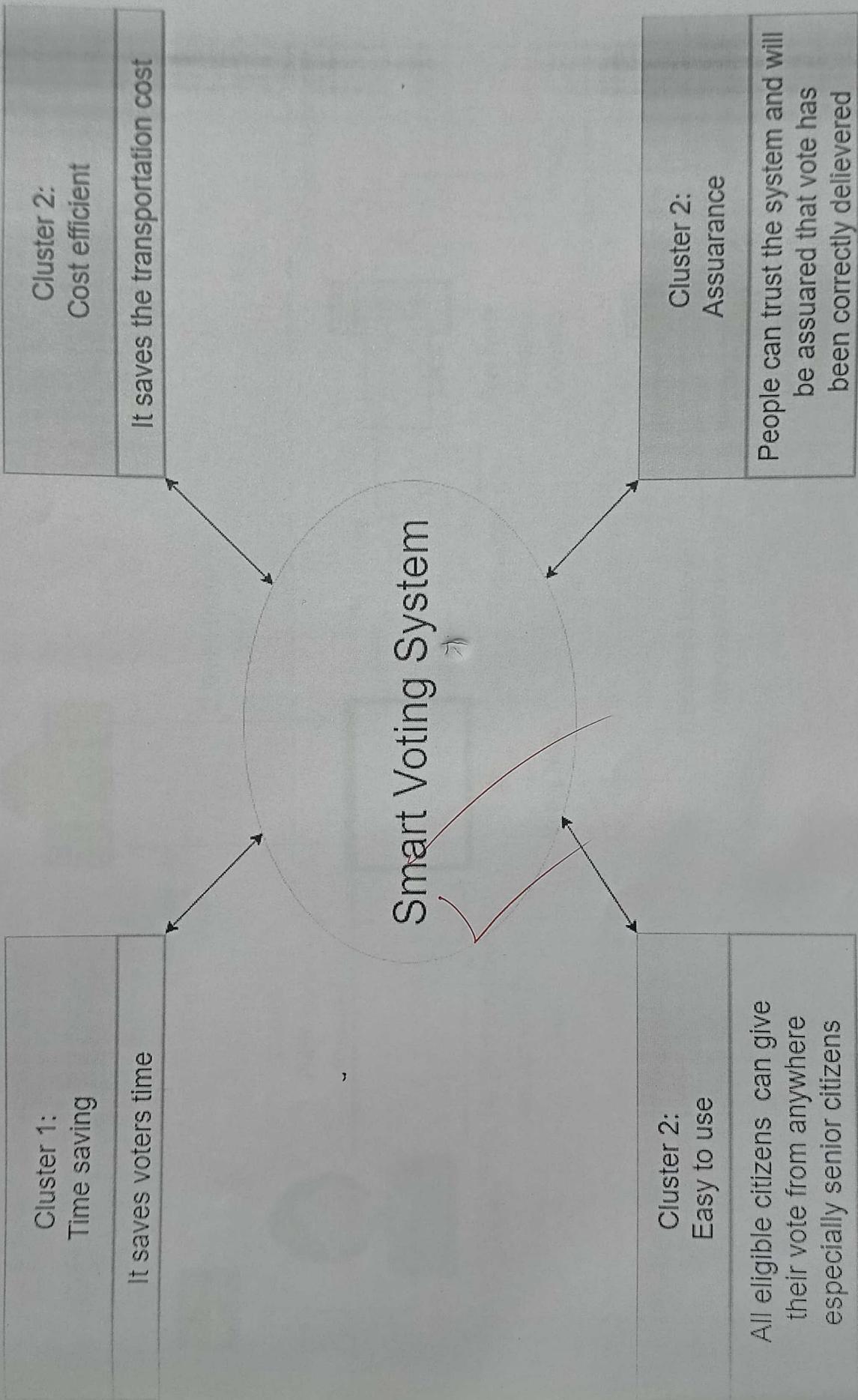
Conclusion:

Thus, we are able to learn and understand design thinking, and Ideate Steps Create insights and create "How might we" questions.

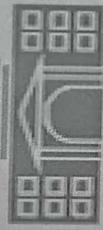
Assignment no 3

"HOW MIGHT WE" QUESTIONS

1. How might we help our customer's in day to day activities?
2. How might we make our user feel that their information is safe and secure with us?
3. How might we increase awareness regarding our product for especially abled?
4. How might we make users feel confident in our product/services?
5. How might we make our product easy to use?
6. How might we suggest best/affordable products to our users?
7. How might we ease the mental suffering of our patients?
8. How might we help doctors and staff to perform better?
9. How might we enhance the performance of our product?



IEC



Voting ID Smart card



2) Authenticate Voter

3) Return Digital ballot

1) Login

Public key &
Password

5) Validate Transaction

4) Select candidate
and sign with Private
key

6) Endorse Transaction

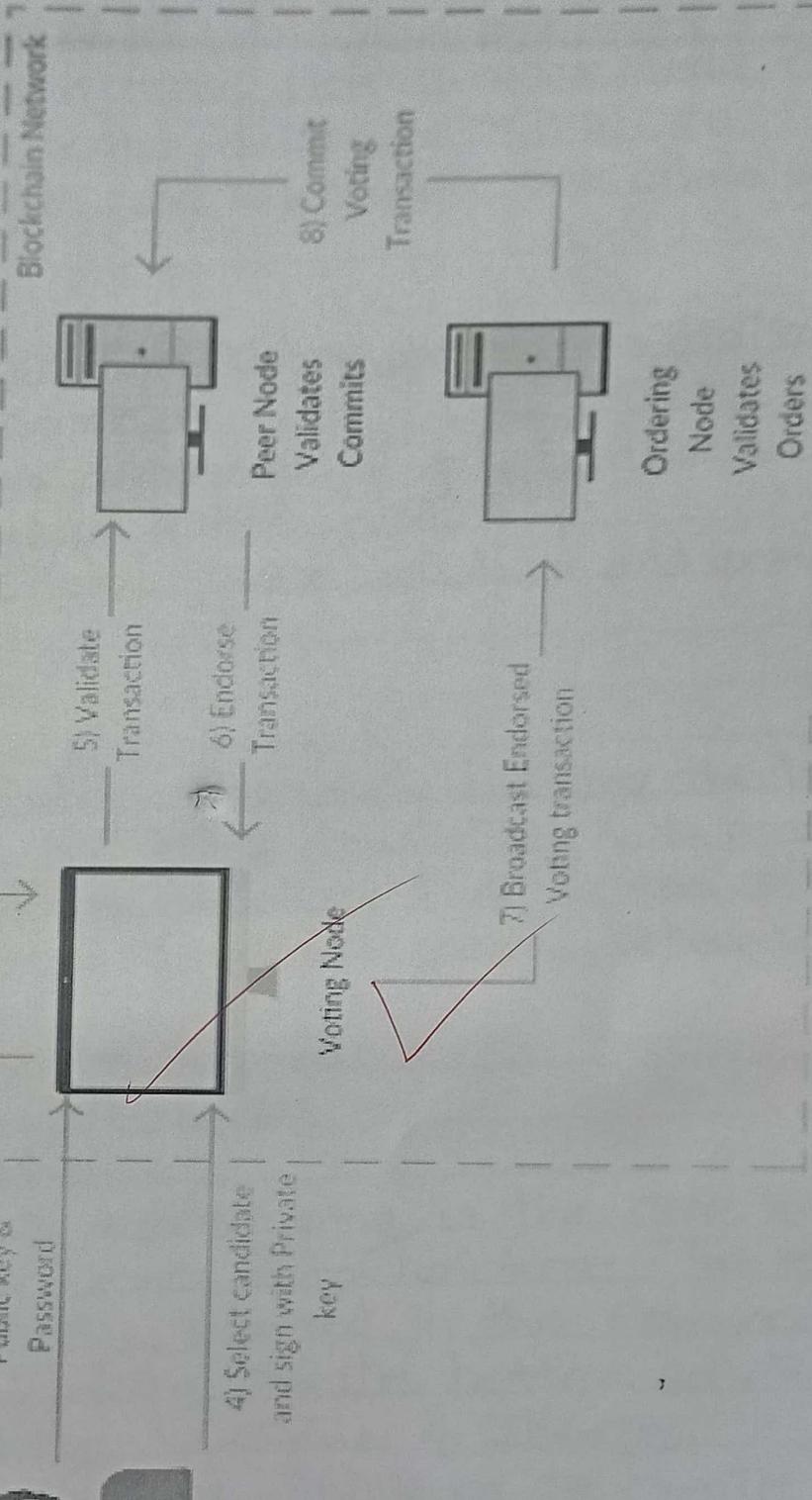
Peer Node
Validates
Commits

8) Commit
Voting
Transaction

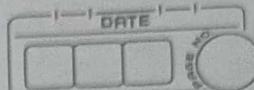
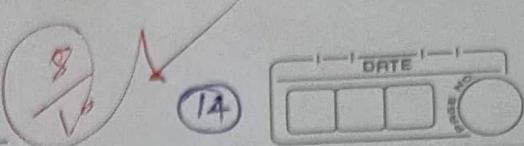
Voting Node

7) Broadcast Endorsed
Voting transaction

Ordering
Node
Validates
Orders



Assignment No. 4



Aim : To brainstorm, select your ideas, create a story board, determine what to prototype and implement the prototype phase.

Objectives : ① Design paper prototype / digital prototype.

- ② Test your prototype & get feedback.
- ③ Create your action plan.
- ④ Create pitch, your solution and perform reflection.

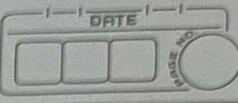
Theory: Prototype phase :

This step deals with building the ideas and checking for their feasibility to arrive at the final solution. This is the step in which three things are mainly taken care of

- Creation of experience.
- Getting feedback.
- Iteration.

The step of prototyping is the one in which the end user comes into picture. The end user is actively involved in this component of Design Thinking to create better solution after iterating. Define & Ideate.

Prototype requires thinkers to create tangible products which can be small-scale models of the exact solution.



Brainstorming :

Brainstorming is a method design teams used to generate ideas to have & solve clearly defined design problem. In controlled conditions and a free thinking environment teams approach a problem by such a "How Might We" questions. They produce a vast Jarray of ideas & draw links between them to find potential solutions.

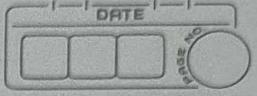
- ① Set a time limit
- ② Begin With target problems / brief
- ③ Refrain from judgement / criticism
- ④ Encourage weird ideas
- ⑤ Aim for quality
- ⑥ Build on others Ideas
- ⑦ Stay visual

Creating a Storyboard:

A Storyboard communicates a Story through images displayed in a sequence of panel that chronologically maps the Story's main event

A storyboard doesn't have to be complicated or high fidelity. Simple visuals & basic, but specific scenario will be measurable for your team & Stakeholders.

There are always 5 common Storyboard elements, regardless of form: a specific



Scenarios, visuals & corresponding captions.

Use of Storyboard :-

1.] Research & Utility Testing.

2.] Augmenting Story of Journey Maps.

3.] Prototyping.

Paper Prototype :

Proper prototype is a process where design teams create paper representations of digital products to help them realize concepts & let designs. They draw sketches or adapt printed materials & use these low-fidelity screenshot samples to cheaply guide their designs & study users reaction from early in project. Paper Prototype is great for exploring design possibilities.

Pros :-

1. Quick Iteration
2. Cheap
3. Universal
4. Pieces serve as documentation.
5. Team building.
6. Honest feedback.

Cons :-

- 1] Lack of realism
- 2] Lack of user control
- 3] More work.
- 4] Requires -in person training.

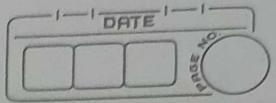
Test your prototype & Get the feedback :-

Once you have built your prototypes, it's time to get feedback from your users. It's essential to not only optimize how you gather feedback, because you can only save time & resources but also learn more from your prototypes & test sessions. So to help you maximize what you can learn from your tests, we'll share six best practices to how to get feedback:

- ① Think of how to solicit feedback.
- ② Test your prototype on the right people.
- ③ Ask the right questions.
- ④ Be neutral when you present your ideas.
- ⑤ Adapt while you test.
- ⑥ Let your participants contribute ideas.

Creating pitch for prototype:-

After creating a prototype we need to pitch our ideas to the end users. Presenting or pitching our ideas needs a lot of marketing



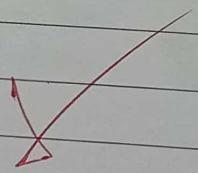
values & we need to understand stake holders & have a proper communication.

Steps / Tips to create a good pitch for our prototype.

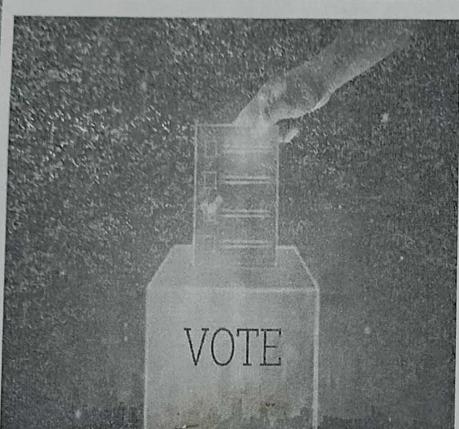
1. Grab the investor attention.
2. Do your research!
3. Practice, Practice, Practice.
4. Keep it brief, precise & to the point.
5. Start & use an elevator sentence.
6. Conclude.

Conclusion:

The most important advantage of prototype is that it simulates the real & future product. It helps attract the customers to invest in the product before allocating any resource needed for investment.



INTRODUCTION:



Online Voting System is an online voting technique.

In this system people who have citizenship of a country and whose age is above 18 years of any sex can give his/her vote online without going to any polling booth.

There is a database which is maintained by the Electoral Commission in which all the names of voter with complete information is stored.

NEED OF PROJECT :



Vote at any time
from anywhere



Boost
participation



Less physical
infrastructure



More
rich ballots

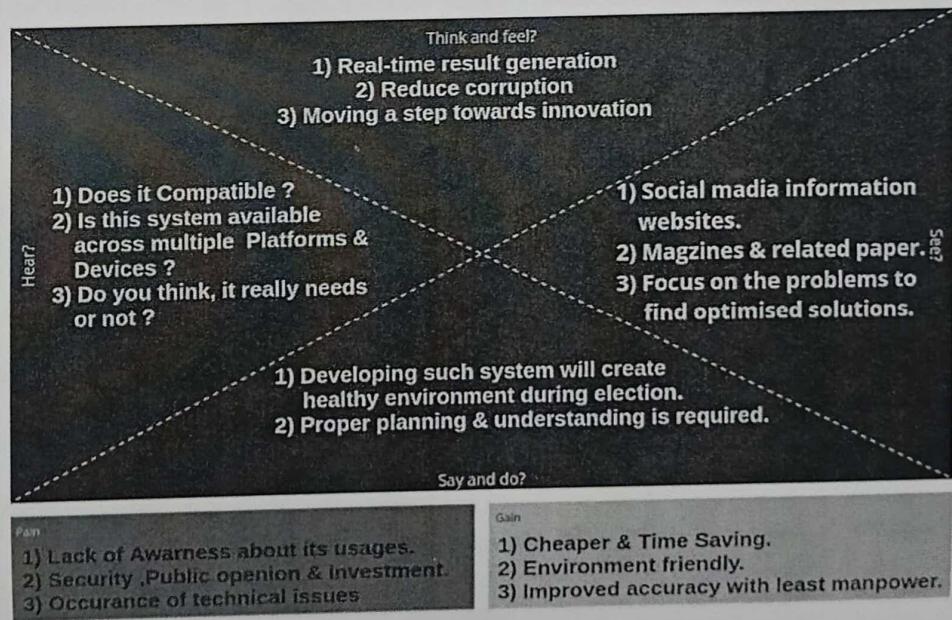


Fast and easy
votes tally

STEEP ANALYSIS

Social	Technological	Environment	Economical	Political
<ul style="list-style-type: none"> 1. provide improved accessibility for disabled voters. 2. easy for voters to feel disconnected from the process of traditional voting. 3. Voting should be simple, location-independent and accessible. 4. Higher response rates from voters 	<ul style="list-style-type: none"> 1. This technology intends to speed the counting of ballots. 2. Results can be reported and published faster. 3. Real-time Result Generation 4. avoid result-distorting mistakes like loss of voting documents and miscounted votes. 	<ul style="list-style-type: none"> 1. environmentally friendly and resource-efficient 2. no paper ballots, no postage and no printing 3. they don't require many resources: compared to postal elections, 4. online votings reduce CO2 emissions 	<ul style="list-style-type: none"> 1. reduce the cost of paying staff to count votes manually 2. cheaper voting and polling 3. eliminate the need of cost of the Printing materials 4. Multiple online elections can be conducted throughout the year without any additional fees 	<ul style="list-style-type: none"> 1. Reduces Corruption 2. Public trust is built 3. Avoids illegal political activities during election 4. Trust in election administration and confidence with the broader electoral framework

EMPATHY MAP:



Smart Voting System

❑ Members:

- 22 Utkarsh Khandare
- 24 Rohit Dhotre
- 25 Vaibhav Barawkar
- 31 Yashraj Devrat
- 38 Shreyas Kulkarni

Guidance By:

DR. Arvind Jagtap

CONTENTS:

Objectives

Problem Statement

Introduction

Need of Project

Steeper Analysis

Empathy Map

Customer Journey Map

WH Questions

Conclusion

OBJECTIVES

TO BOOST THE VOTING SPEED USING
ONLINE SECURE WEBSITE

MINIMIZES VOTE COUNTING MISTAKES

TO REDUCES FAKE VOTING

MAXIMIZES PARTICIPATION FOR VOTING

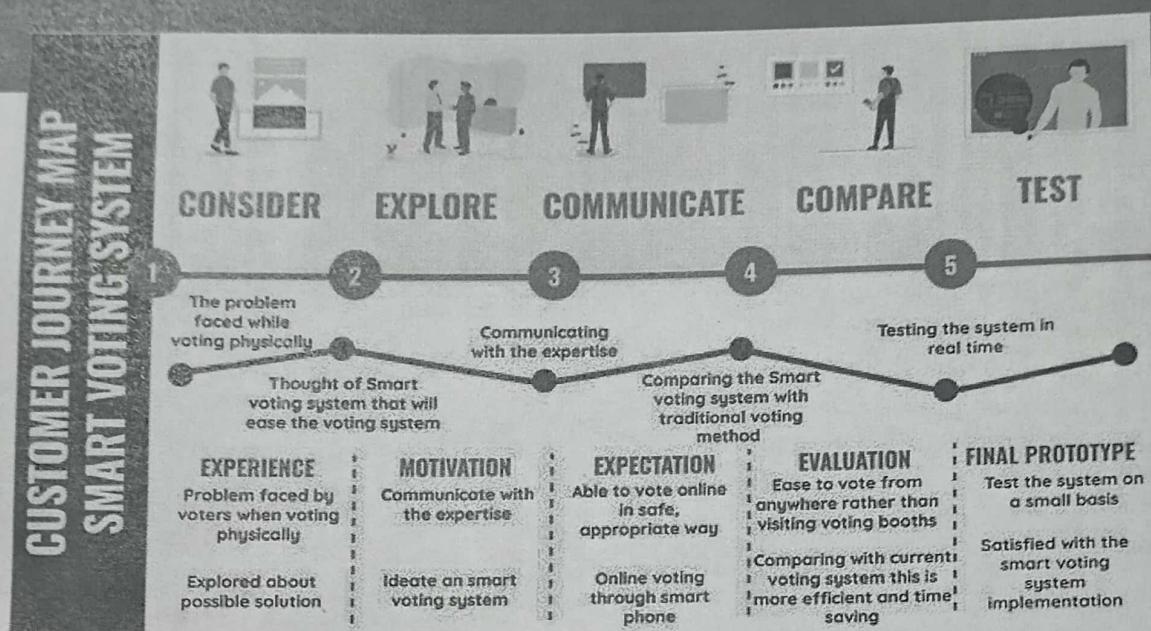
PROBLEM STATEMENT

❖ Many problems are faced by the people in voting manually :-

- Much time is required.
- As it has been observed that in some cases booth capturing has been reported.
- Reduces the chances of conflicts.
- Reduces the time for ballot counting and many others.



CUSTOMER JOURNEY MAP



5 WH QUESTIONS:



What is the need for this system?



Does the software offer great customer support?



How many people will be using the system?



When did you realise the issue with existing system?



Is the software easy to use?

CONCLUSION

- This Online Voting system will manage the Voter's information by which voter can login and use his voting rights.
- The system will incorporate all features of Voting system.
- It's provide the tools for maintaining voter's vote to every party and it count total number of votes of every party.
- There is a DATABASE which is maintained by the electoral commission in which all the names of voter with complete information is stored.

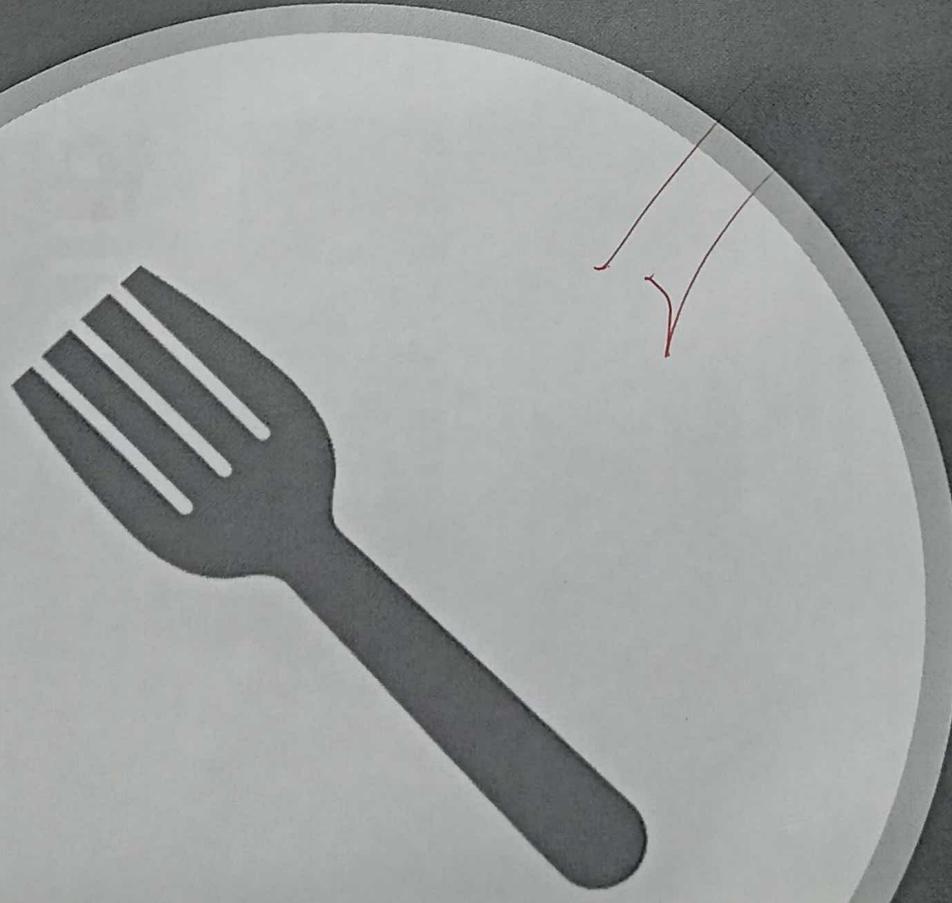
THANK YOU

UBER EATS

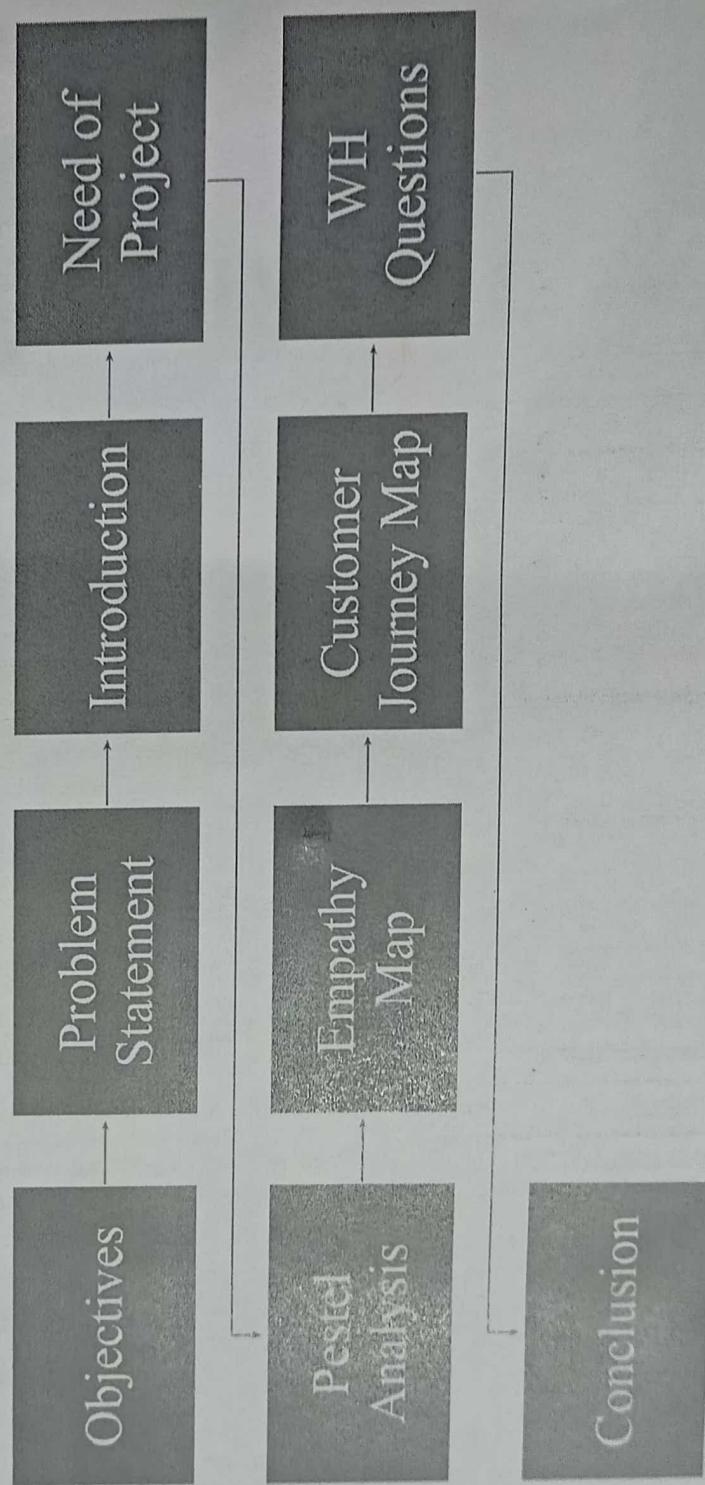
- Members:

- 22 Utkarsh Khandare
- 24 Rohit Dhotre
- 25 Vaibhav Barawkar
- 31 Yashraj Devrat
- 38 Shreyas Kulkarni

Guidance By:
DR. Arvind Jagtap



CONTENTS:

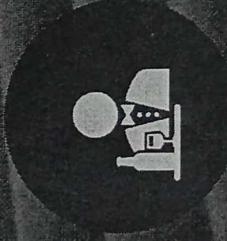


OBJECTIVES

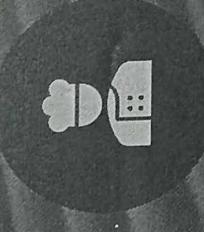
Objectives Uber Eats has both short term and long-term goals for our future marketing strategies, we hope to achieve our short-term goals within the next 12 months.



Supplier satisfaction is our first priority. If the restaurant is invested they will be more positive towards the drivers and therefore customers will be happier with how local businesses are being treated.



Our overall objective is to predominately increase both or customer and supplier satisfaction and over time we expect this to change the public image and reputation of Uber Eats.



Restaurant managers must ensure their staff are providing high quality food to be delivered and therefore Uber drivers need to deliver the food with care.

To have a super app
where users can order
almost anything, from
a car ride to a meal to
groceries

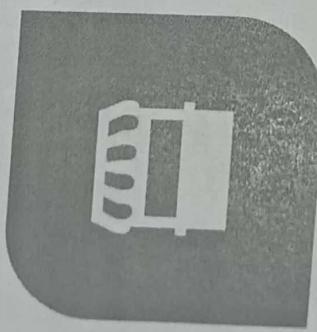
PROBLEM STATEMENT

INTRODUCTION:

Uber Eats is our food delivery platform that makes getting great food from your favorite local restaurants as easy as requesting a ride.

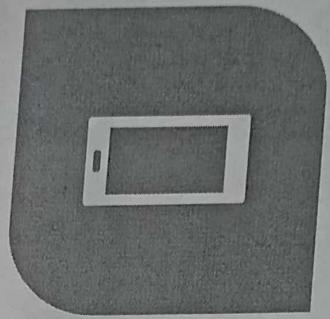
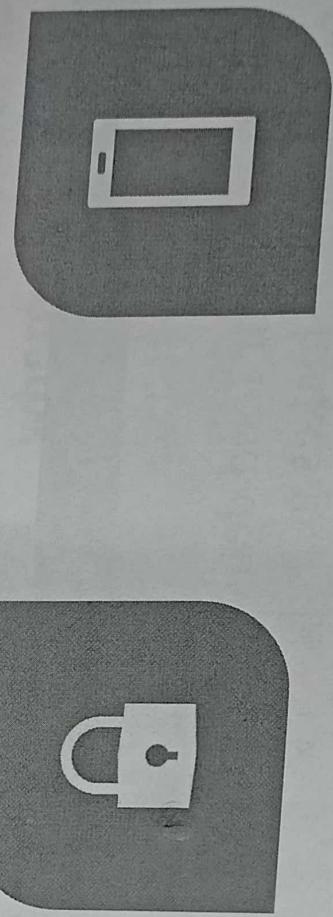
The Uber Eats app connects you with a broad range of local restaurants and food, so you can order from the full menus of your local favorites whenever you want.

NEED OF PROJECT :



CUSTOMERS PREFER ORDERING FROM RESTAURANT WEBSITES & APPS THAN THROUGH FOOD PORTALS.

USING A RESPONSIVE ONLINE ORDERING SYSTEM IS KEY TO UNLOCKING HIGHER SALES.



ONLINE ORDERS ARE HIGHER IN VALUE THAN PHONE ORDERS. ...
IT'S FAST AND EASY.

PESTEL ANALYSIS

Political

Economic

Social

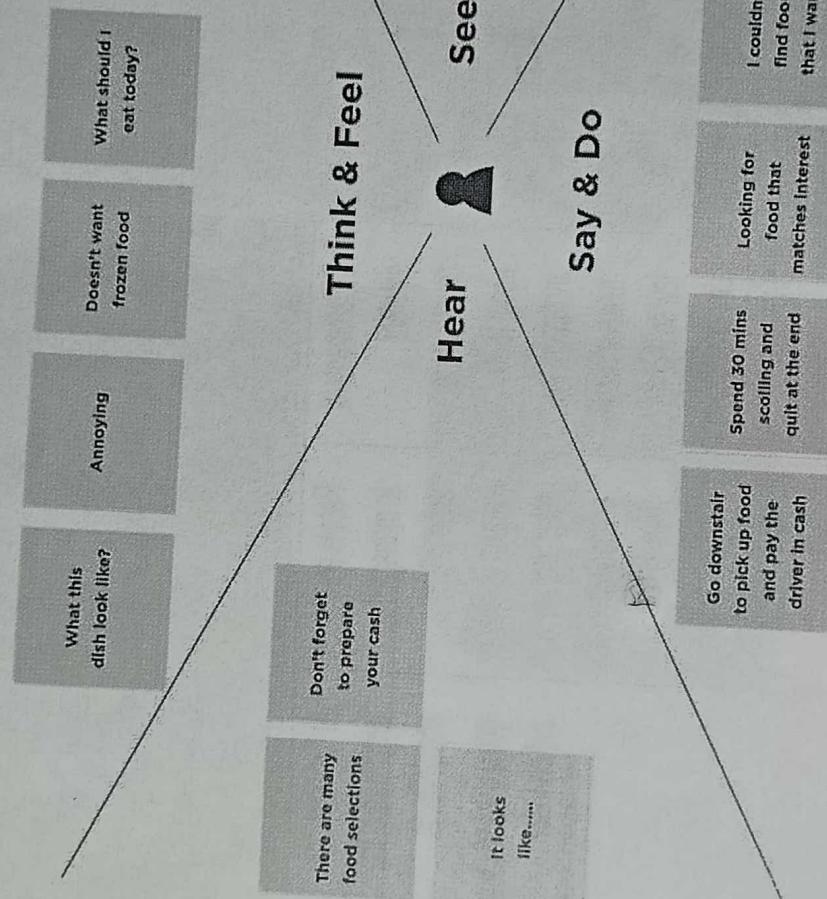
Technology

Environment

P E S T E L

Government of different countries are about to implement the minimum wage law so that no employee faces this issue.	At this point, the larger part of the population is going towards its elderly years. economy because there is an increase in living costs.	Tech companies have given the option of self-driving technologies.	As the demand for Uber rides increases, Uber has increased the number of vehicles running on the road.	Uber went through many legal battles to ensure that the company treats its drivers like permanent employees.
People are trying to manage their expenditure caused by sharing rides and the economy because there is an increase in living costs.	The bigger the city, the more the prices for Uber rides compared to the conventional taxi service resulted in Uber's popularity.	There are many new and advanced features available in cars now.	Uber has launched something new to save our environment.	Uber has a cost of not taking care of their customer database. So, they need to work harder to provide security to their customers.
Uber has faced many charges in different countries based on its absence of legal permits for taxi cabs.	Uber has a cost of not taking care of their customer database. So, they need to work harder to provide security to their customers.			

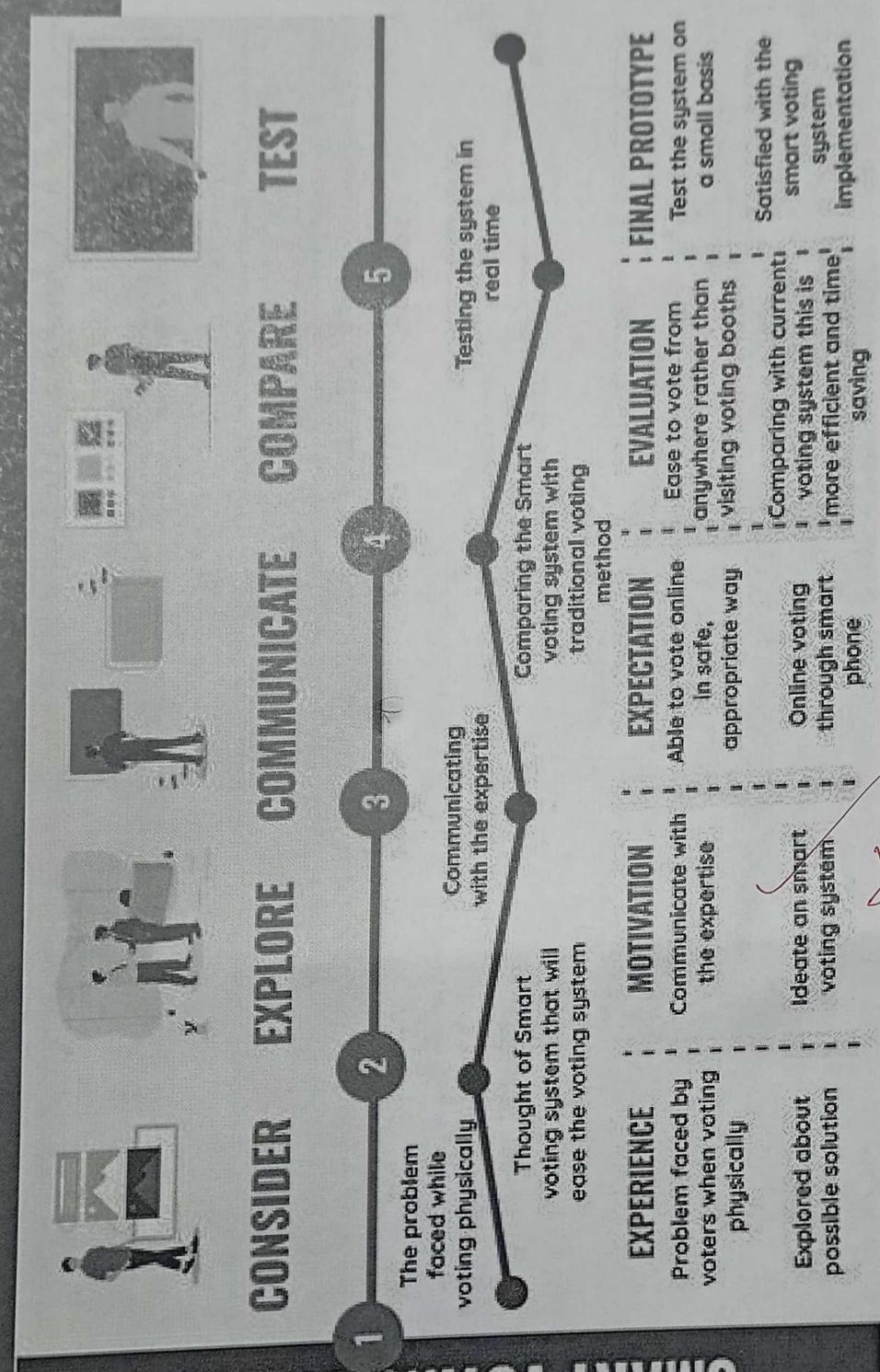
EMPATHY MAP:



CUSTOMER JOURNEY MAP

SMART VOTING SYSTEM

CUSTOMER JOURNEY MAP



5 WH QUESTIONS:

Should UberX be a different app
from Uber Rides?

What would Uber do if you most
objects of said entity?

What does Uber want to do with
Uber?

How would you describe and answer how
the Uber Marketplace (the matching
platform) is doing for UberX?

CONCLUSION

- The mission of Uber Eats is to “make eating well effortless at anytime, for anyone.”
- Taking advantage of machine learning, UberEats enables taste preferences by suggesting cuisines according to past histories and existing contextual information. Therefore, users get customized choices of food from different restaurants at the push of a button.