


IdeationPhase

Brainstorm & Idea Prioritization Template

Date	25 June 2025
Team ID	LTVIP2025TMID33875
Project Name	Traffictelligence
Maximum Marks	4Marks

Brainstorm & Idea Prioritization Template: Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions. Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room. Reference: <https://www.mural.co/templates/brainstorm-and-idea-prioritization>

Step-1: Team Gathering, Collaboration and Select the Problem Statement



Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

🕒 10 minutes to prepare
🕒 1 hour to collaborate
👥 2-8 people recommended

Before you collaborate
A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

🕒 10 minutes

- A Team gathering**
Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.
- B Set the goal**
Think about the problem you'll be focusing on solving in the brainstorming session.
- C Learn how to use the facilitation tools**
Use the Facilitation Superpowers to run a happy and productive session.

[Open article](#) →

1 Define your problem statement
What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

🕒 5 minutes

problem

How might we [your problem statement]?

Key rules of brainstorming
To run an smooth and productive session

- Stay in topic.
- Encourage wild ideas.
- Defer judgment.
- Listen to others.
- Go for volume.
- If possible, be visual.

Step-2: Brainstorm, Idea Listing and Grouping

2

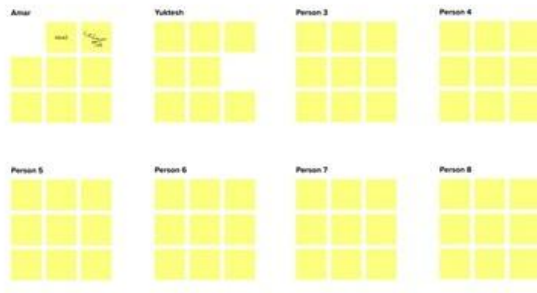
Brainstorm

Write down any ideas that come to mind that address your problem statement.

⌚ 10 minutes

TIP

You can select a sticky note and hit the [print] button to select, print to start drawing!



3

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. In the last 10 minutes, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you can break it up into smaller sub-groups.

⌚ 20 minutes

TIP

Add customizable tags to sticky notes to make it easier to find, browse, organize, and categorize important ideas as they arise within your board.

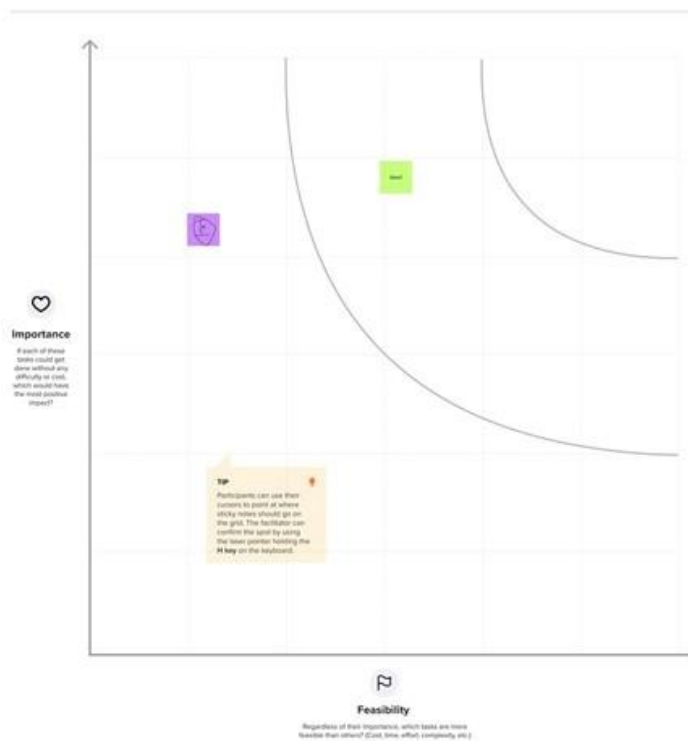
Step-3: Idea Prioritization

4

Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

⌚ 20 minutes



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C Learn how to use the facilitation tools
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[Open article](#) ➔

1 Define your problem statement
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🕒 5 minutes

PROBLEM
How might we [your problem statement]?

Key rules of brainstorming
To run a smooth and productive session

- 🗣️ Stay in topic.
- 💡 Encourage wild ideas.
- ⏸️ Defer judgment.
- 👂 Listen to others.
- 🗣️ Go for volume.
- 👁️ If possible, be visual.

Step-2: Brainstorm, Idea Listing and Grouping

2

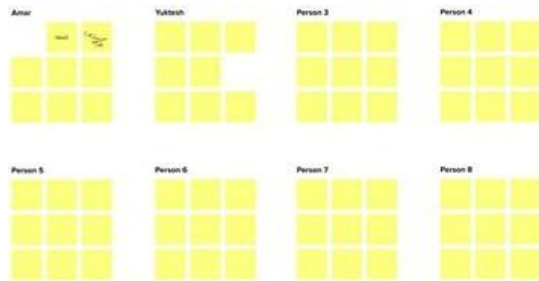
Brainstorm

Write down any ideas that come to mind that address your problem statement.

⌚ 10 minutes

TIP

You can select a sticky note and hit the pencil icon to switch over to free drawing!

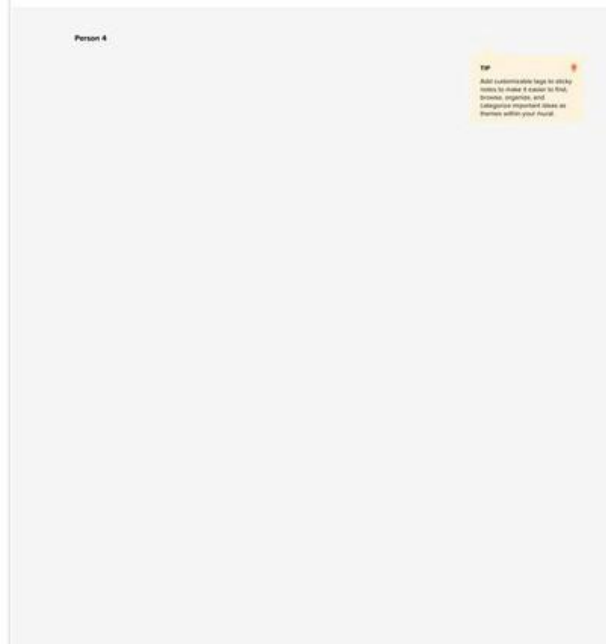


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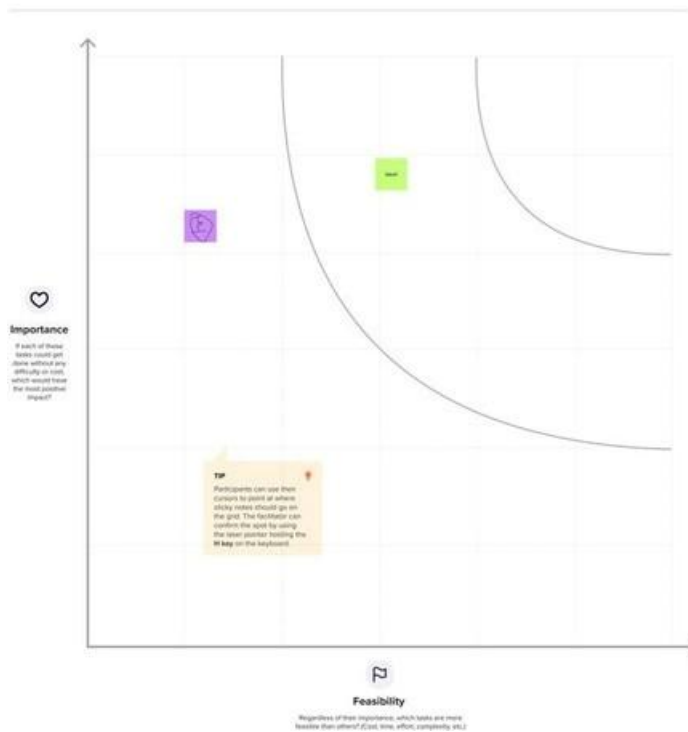
**Step-3: Idea Prioritization**

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Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

⌚ 20 minutes



IdeationPhase

Define the Problem Statements

Date	25 June 2025
Team ID	LTVIP2025TMID33875
Project Name	Traffictelligence
Maximum Marks	2Marks

Customer Problem Statement Template: Create a problem statement to understand your customer's point of view. The Customer

Problem Statement template helps you focus on what matters to create experiences people will love. A well-articulated customer problem statement allows you and your team to find the ideal solution for the challenges your customers face. Throughout the process, you'll also be able to empathize with your customers, which helps you better understand how they perceive your product or service.

I am	Describe customer with 3-4 key characteristics - who are they?	Describe the customer and their attributes here
I'm trying to	List their outcome or "job" the care about - what are they trying to achieve?	List the thing they are trying to achieve here
but	Describe what problems or barriers stand in the way - what bothers them most?	Describe the problems or barriers that get in the way here
because	Enter the "root cause" of why the problem or barrier exists - what needs to be solved?	Describe the reason the problems or barriers exist
which makes me feel	Describe the emotions from the customer's point of view - how does it impact them emotionally?	Describe the emotions the result from experiencing the problems or barriers

Reference: <https://miro.com/templates/customer-problem-statement/>

Example:

I am	I'm trying to	But	Because	Which makes me feel
a traveler	book flights on my phone	it takes a long time	The website is not responsive and doesn't have a mobile version	Frustrated

Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1 PS-2					

Ideation Phase

Define the Problem Statements

Date	25 June 2025
Team ID	LTVIP2025TMID33875
Project Name	Trafficintelligence
Maximum Marks	2 Marks

Customer Problem Statement Template:

Create a problem statement to understand your customer's point of view. The Customer Problem Statement template helps you focus on what matters to create experiences people will love.

A well-articulated customer problem statement allows you and your team to find the ideal solution for the challenges your customers face. Throughout the process, you'll also be able to empathize with your customers, which helps you better understand how they perceive your product or service.

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Reference: <https://miro.com/templates/customer-problem-statement/> Example:

I am a traveler	I'm trying to book flights on my phone	But it takes a long time	Because The website is not responsive and doesn't have a mobile version	Which makes me feel Frustrated
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Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1					
PS-2					

IdeationPhase

Empathize&Discover

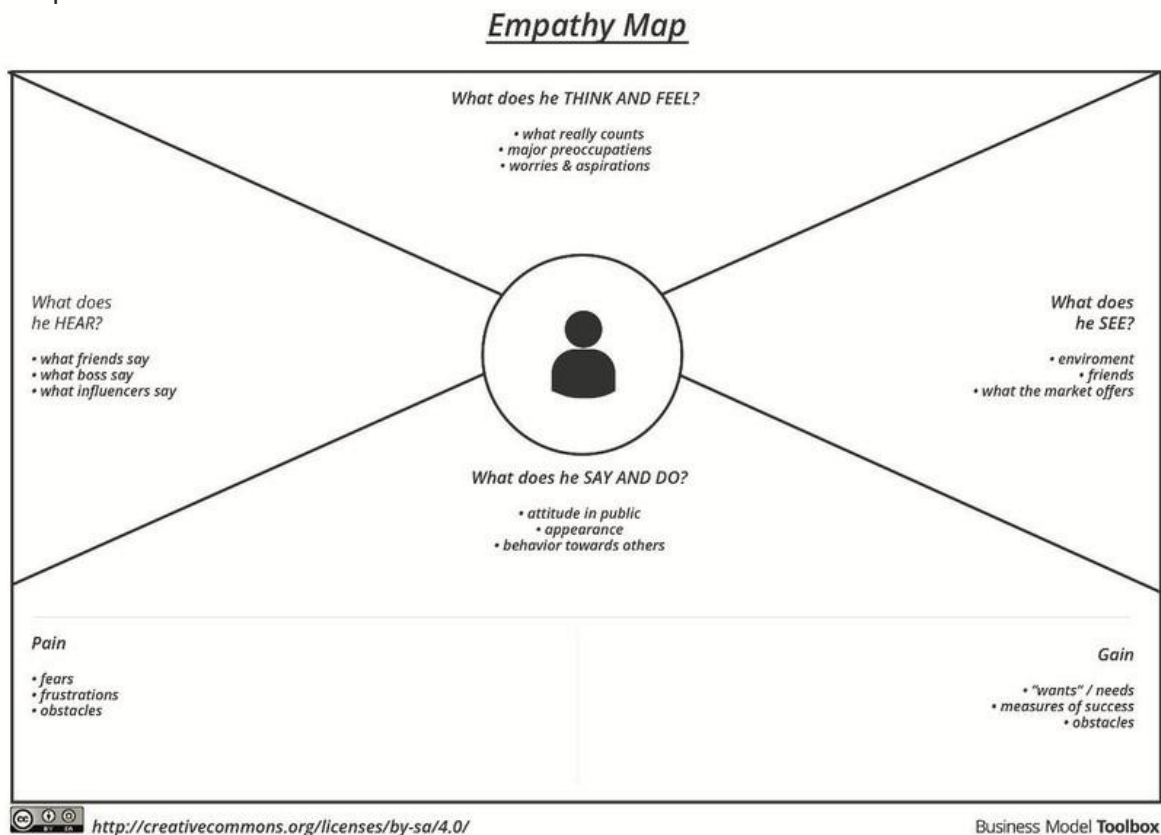
Date	25 June 2025
Team ID	LTVIP2025TMID33875
Project Name	Traffictelligence
Maximum Marks	4Marks

Empathy Map Canvas: An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviours and attitudes.

It is a useful tool to helps teams better understand their users.

Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.

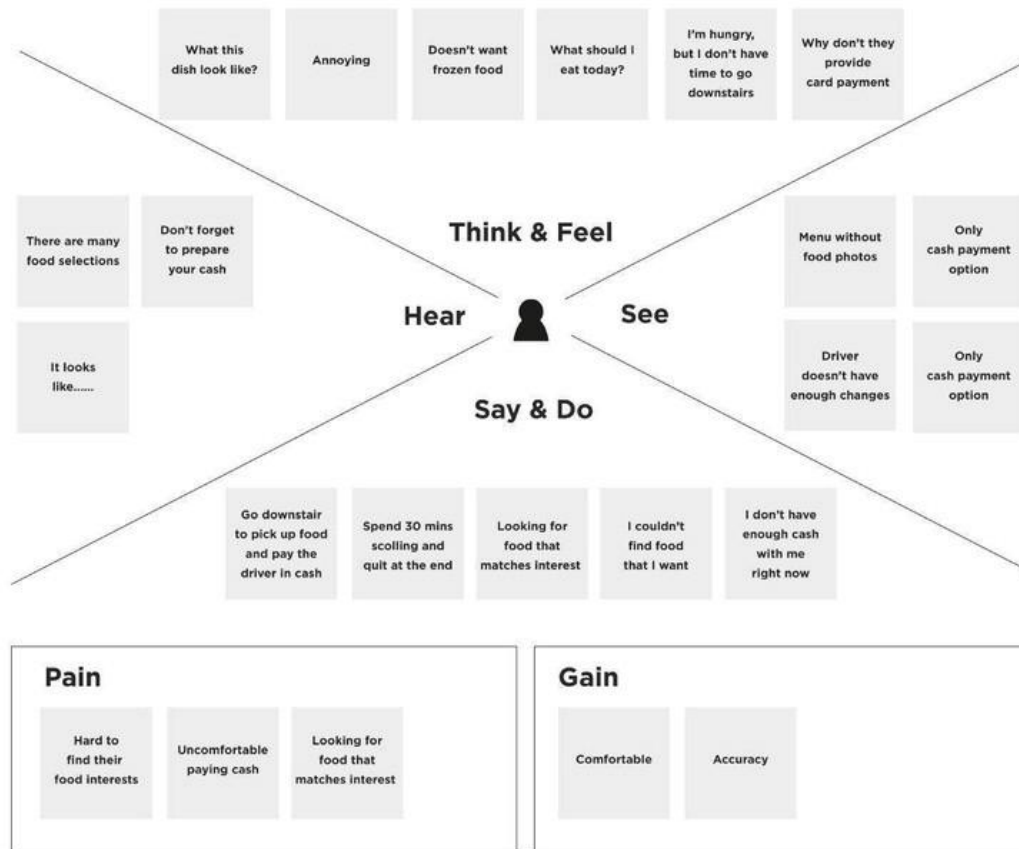
Example:



<https://www.mural.co/templates/empathy-map-canvas>

Reference:

Example: Food Ordering & Delivery Application



IdeationPhase

Empathize&Discover

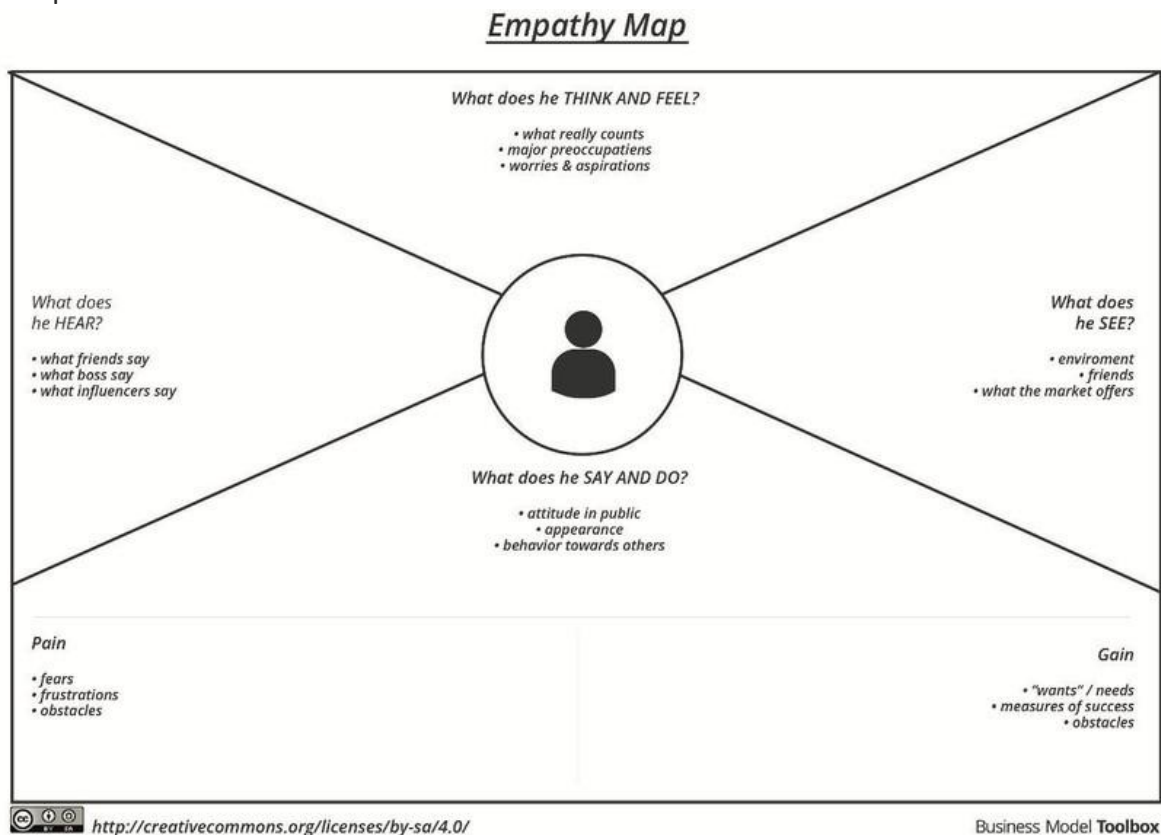
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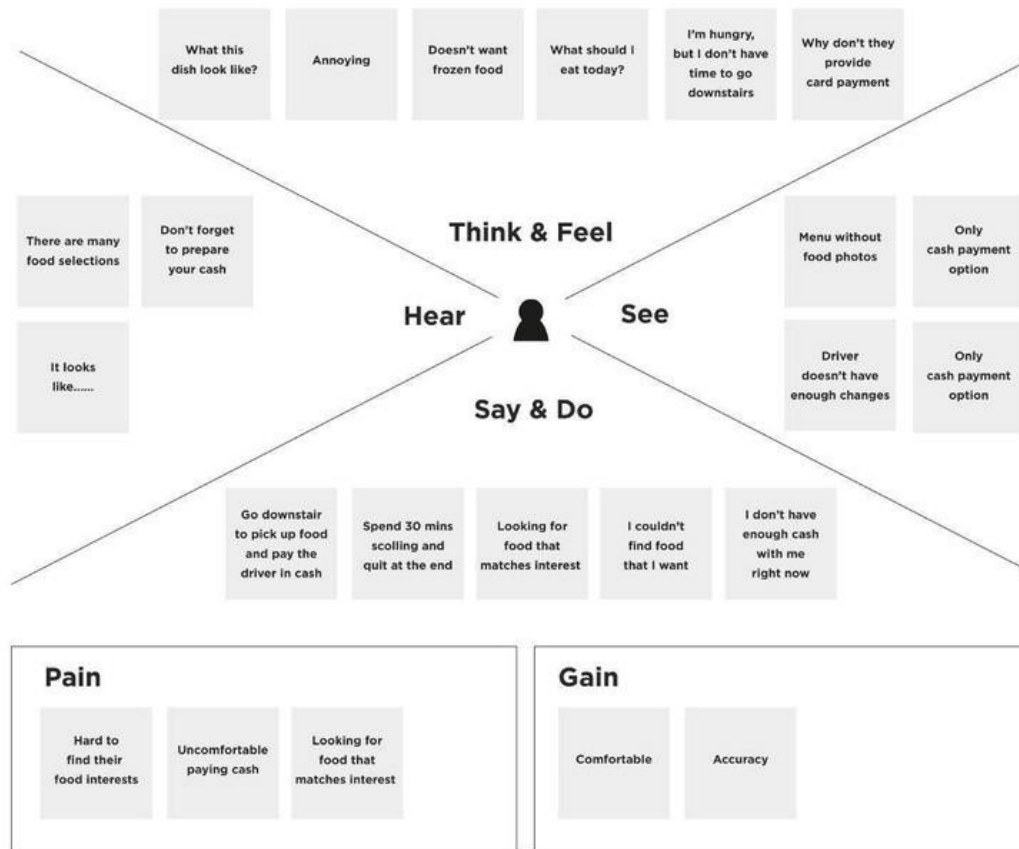
Example:



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Reference:

Example: Food Ordering & Delivery Application



Ideation Phase

Empathize & Discover

Date	25 June 2025
Team ID	LTVIP2025TMID33875
Project Name	Trafficintelligence
Maximum Marks	4 Marks

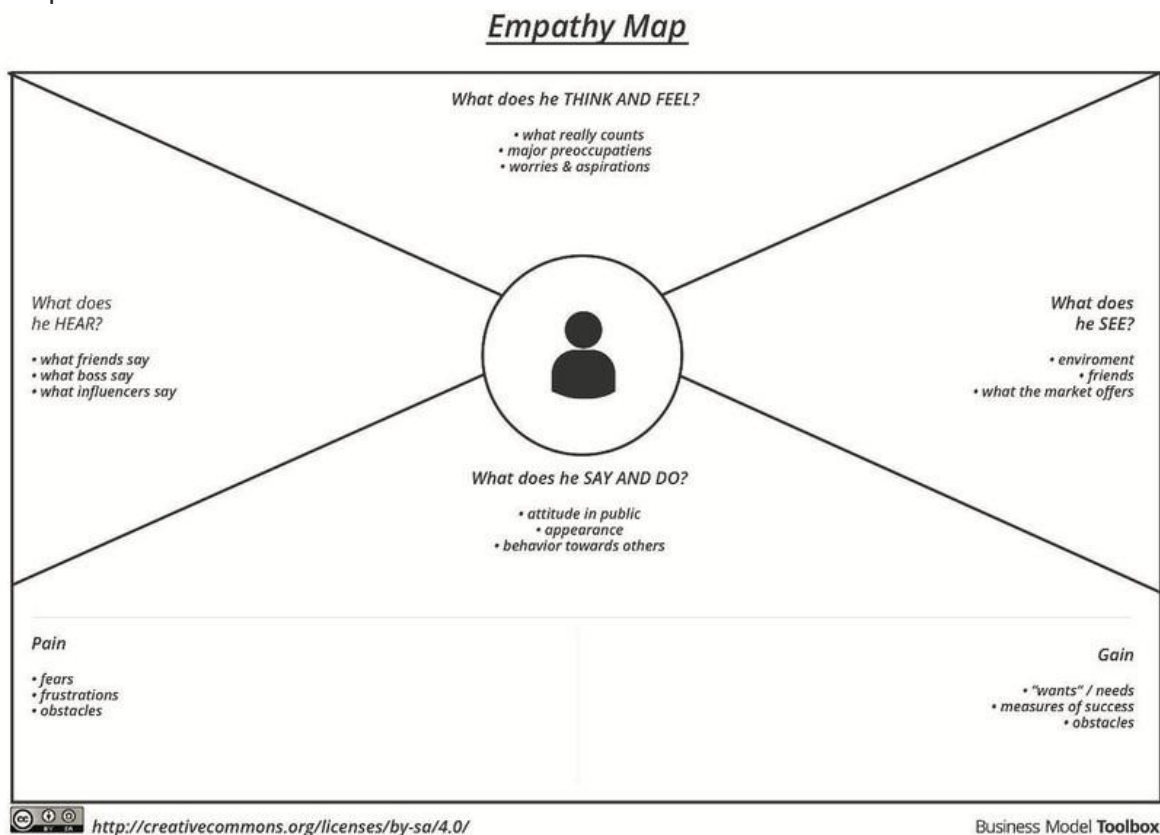
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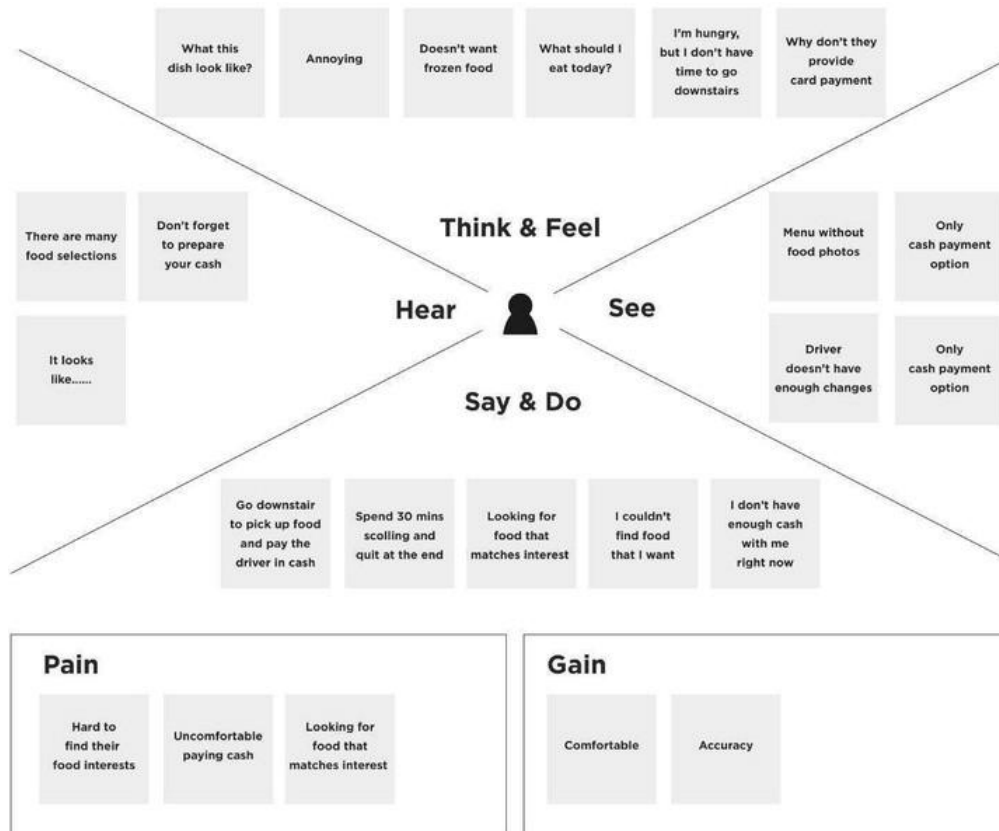
Example:



Reference:

Example: Food Ordering & Delivery Application

<https://www.mural.co/templates/empathy-map-canvas>



Project Development Phase
Model Performance Test

Date	25 June 2025
Team ID	LTVIP2025TMID33875
Project Name	Traffictelligence
Maximum Marks	

Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Values	Screenshot
1.	Model Summary	-	
2.	Accuracy	Training Accuracy - Validation Accuracy -	
3.	Fine Tunning Result(if Done)	Validation Accuracy -	

Functional & Performance Testing Template

Model Performance Test

Date	25 June 2025
Team ID	LTVIP2025TMID33875
Project Name	Traffictelligence
Maximum Marks	

Test Scenarios & Results

Test Case ID	Scenario (What to test)	Test Steps (How to test)	Expected Result	Actual Result	Pass/Fail
FT-01	Text Input Validation (e.g., topic, job title)	Enter valid and invalid text in input fields	Valid inputs accepted, errors for invalid inputs		
FT-02	Number Input Validation (e.g., word count, size, rooms)	Enter numbers within and outside the valid range	Accepts valid values, shows error for out-of-range		
FT-03	Content Generation (e.g., blog, resume, design idea)	Provide complete inputs and click "Generate"	Correct content is generated based on input		
FT-04	API Connection Check	Check if API key is correct and model responds	API responds successfully		
PT-01	Response Time Test	Use a timer to check content generation time	Should be under 3 seconds		
PT-02	API Speed Test	Send multiple API calls at the same time	API should not slow down		

PT-03	File Upload Load Test (e.g., PDFs)	Upload multiple PDFs and check processing	Should work smoothly without crashing		
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Project Development Phase
Model Performance Test

Date	25 June 2025
Team ID	LTVIP2025TMID33875
Project Name	Traffictelligence
Maximum Marks	10 Marks

Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Values	Screenshot
1.	Metrics	Regression Model: MAE - , MSE - , RMSE - , R2 score - Classification Model: Confusion Matrix - , Accuray Score- & Classification Report -	
2.	Tune the Model	Hyperparameter Tuning - Validation Method -	

Project Development Phase
Model Performance Test

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Maximum Marks	

Model Performance Testing:

Project team shall fill the following information in model performance testing template.



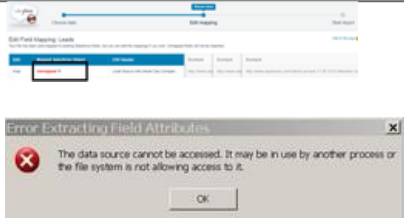
S.No.	Parameter	Screenshot / Values
1.	Data Rendered	
2.	Data Preprocessing	
3.	Utilization of Data Filters	
4.	DAX Queries Used	
5.	Dashboard design	No of Visualizations / Graphs-
6	Report Design	No of Visualizations / Graphs -

Project Development Phase
Model Performance Test

Date	25 June 2025
Team ID	LTVIP2025TMID33875
Project Name	Traffictelligence
Maximum Marks	

Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Values	Screenshot
1.	Model Summary	<p>Salesforce automation setup for Data management using Object, Fields and Reports.</p> <p>Note : Import Records if data Match Correctly then Records will Created or Else it will Show Error</p>	
2.	Accuracy	<p>Training Accuracy - 98%</p> <p>Validation Accuracy - 98%</p>	<p>Congratulations, your import has started! Click OK to view your import status on the Bulk Data Load Job page.</p> 
3.	Confidence Score (Only Yolo Projects)	<p>Class Detected - If detecting Object and fields name if wrong and other activity</p> <p>Confidence Score - If the model is 92% sure the object is correctly detected</p>	

User Acceptance Testing (UAT) Template

Date	25June 2025
Team ID	LTVIP2025TMID33875
Project Name	Traffictelligence
Maximum Marks	Health

Project Overview:

Project Name: [Enter Project Name]

Project Description: [Brief Description of the Project]

Project Version: [Version Number] Testing

Period: [Start Date] to [End Date] Testing

Scope:

[List of Features and Functionalities to be Tested] [List of User Stories or Requirements to be Tested] Testing

Environment:

URL/Location: [Web URL or Application Location]

Credentials (if required): [Username/Password] Test

Cases:

Test Case ID	Test Scenario	Test Steps	Expected Result	Actual Result	Pass/Fail
TC-001	[Describe the scenario to be tested]	[Step 1] [Step 2] [Step 3]	[Describe the expected outcome]	[Record the actual outcome]	[Pass/Fail]
...

Bug Tracking:

Bug ID	Bug Description	Steps to reproduce	Severity	Status	Additional feedback
BG-001	[Describe the issue or	[Step 1] [Step 2]	[Low/Medi	[Open/In Progress/	[Any additional

	bug encountered]	[Step 3]	um/High]	Closed]	comments or feedback]
...

Sign-off:

Tester Name: [Name of Tester]

Date: [Date of Test Completion]

Signature: [Tester's Signature]

Notes:

Ensure that all test cases cover both positive and negative scenarios.

Encourage testers to provide detailed feedback, including any suggestions for improvement.

Bug tracking should include details such as severity, status, and steps to reproduce.

Obtain sign-off from both the project manager and product owner before proceeding with deployment.

Project Design Phase Problem – Solution Fit Template

Date	25 June 2025
Team ID	LTVIP2025TMID33875
Project Name	Traffictelligence
Maximum Marks	2 Marks

Problem – Solution Fit Template:

The Problem-Solution Fit simply means that you have found a problem with your customer and that the solution you have realized for it actually solves the customer's problem. It helps entrepreneurs, marketers and corporate innovators identify behavioral patterns and recognize what would work and why

Purpose:

- ☐ Solve complex problems in a way that fits the state of your customers.
- ☐ Succeed faster and increase your solution adoption by tapping into existing mediums and channels of behavior.
- ☐ Sharpen your communication and marketing strategy with the right triggers and messaging.
- ☐ Increase touch-points with your company by finding the right problem-behavior fit and building trust by solving frequent annoyances, or urgent or costly problems.
- ☐ Understand the existing situation in order to improve it for your target group.

Template:

1. CUSTOMER SEGMENT(S) Who is your customer? I.e. working parents of 0-5 y.o. kids	6. CUSTOMER CONSTRAINTS What constraints prevent your customers from taking action or limit their choices of solutions? I.e. spending power, budget, no cash, network connection, available devices.	5. AVAILABLE SOLUTIONS Which solutions are available to the customers when they face the problem or need to get the job done? What have they tried in the past? What pros & cons do these solutions have? I.e. pen and paper is an alternative to digital notetaking	Explore AS, differentiate
2. JOBS-TO-BE-DONE / PROBLEMS Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides.	9. PROBLEM ROOT CAUSE What is the real reason that this problem exists? What is the back story behind the need to do this job? I.e. customers have to do it because of the change in regulations.	7. BEHAVIOUR What does your customer do to address the problem and get the job done? I.e. directly related: find the right solar panel installer, calculate usage and benefits; Indirectly associated: customers spend free time on volunteering work (i.e. Greenpeace)	Focus on J&P, tap into BE, understand RC
3. TRIGGERS What triggers customers to act? I.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news.	10. YOUR SOLUTION If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality. If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour.	8. CHANNELS of BEHAVIOUR 8.1 ONLINE What kind of actions do customers take online? Extract online channels from #7 8.2 OFFLINE What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.	Extract online & offline CH for BE
4. EMOTIONS: BEFORE / AFTER How do customers feel when they face a problem or a job and afterwards? I.e. lost, insecure → confident, in control → use it in your communication strategy & design.			

References:

1. <https://www.ideahackers.network/problem-solution-fit-canvas/>
2. <https://medium.com/@epicantus/problem-solution-fit-canvas-aa3dd59cb4fe>

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) Who is your customer? CS	6. CUSTOMER What constraints prevent your customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices. CC	5. AVAILABLE SOLUTIONS Which solutions are available to the customers when they face the problem or need to get the job done? What have they tried in the past? What pros & cons do these solutions have? i.e. pen and paper is an alternative to digital notetaking AS	Explore AS, differentiate
Focus on J&P, tap into BE, understand RC	2. JOBS-TO-BE-DONE / PROBLEMS Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides. J&P	9. PROBLEM ROOT CAUSE What is the real reason that this problem exists? What is the back story behind the need to do this job? i.e. customers have to do it because of the change in regulations. RC	7. BEHAVIOUR What does your customer do to address the problem and get the job done? i.e. directly related: find the right solar panel installer, calculate usage and benefits; indirectly associated: customers spend free time on volunteering work (i.e. Greenpeace) BE	Focus on J&P, tap into BE, understand RC
Identify strong TR & EM	3. TRIGGERS What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news. TR	10. YOUR SOLUTION If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality. If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour. SL	8. CHANNELS of BEHAVIOUR 8.1 ONLINE What kind of actions do customers take online? Extract online channels from #7 CH	Extract online & offline CH or BE
	4. EMOTIONS: BEFORE / AFTER How do customers feel when they face a problem or a job and afterwards? i.e. lost, insecure > confident, in control - use it in your communication strategy & design. EM		8.2 OFFLINE What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development. CH	

A Sprint fixed period or duration in which a team works to complete a set of tasks

An Epic is a big task or project that is too large to complete in one sprint. It is broken down into smaller tasks (stories) that can be completed over multiple sprints.

A Story is a small task . It is part of an Epic.

A Story Point is a number that represents how much effort a story takes to complete.
(usually in form of Fibonacci series)

1- Very Easy task

2- Easy task

3- Moderate task 5- Difficult task

Sprint1: (5 Days)

Data Collection

Collection of Data 2

Loading Data 1

Data Preprocessing

Handling Missing Values 3

Handling Categorical values 2

Sprint 2 (5 Days)

Model Building

Model Building 5

Testing Model 3

Deployment

Working HTML Pages 3

Flask deployment 5

Total Story Points

Sprint 1 = 8

Sprint 2 = 16

Velocity= Total Story Points Completed/ Number of Sprints

Total story Points= 16+8 =24

No of Sprints= 2

Velocity = (16+8)/2= 24/2

12 (Story Points per Sprint)

Your team's velocity is 12 Story Points per Sprint.

Project Planning Phase

Project Planning Template(ProductBacklog,SprintPlanning, Stories, Story points)

Date	25 June 2025
Team ID	LTVIP2025TMID33875
Project Name	Traffictelligence
Maximum Marks	5 Marks

Product Backlog, Sprint Schedule, and Estimation (4 Marks)

Use the below template to create product backlog and sprint schedule

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	2	High	
Sprint-1		USN-2	As a user, I will receive confirmation email once I have registered for the application	1	High	
Sprint-2		USN-3	As a user, I can register for the application through Facebook	2	Low	
Sprint-1		USN-4	As a user, I can register for the application through Gmail	2	Medium	
Sprint-1	Login	USN-5	As a user, I can log into the application by entering email & password	1	High	
	Dashboard					

Project Tracker, Velocity & Burndown Chart: (4 Marks)

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	6Days	24 Oct 2022	29 Oct 2022	20	29 Oct 2022
Sprint-2	20	6Days	31 Oct 2022	05 Nov 2022		
Sprint-3	20	6Days	07 Nov 2022	12 Nov 2022		
Sprint-4	20	6Days	14 Nov 2022	19 Nov 2022		

Velocity:

Imagine we have a 10-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

$$AV = \frac{\text{sprint duration}}{\text{velocity}} = \frac{20}{10} = 2$$

Burndown Chart:

A burn down chart is a graphical representation of work left to do versus time. It is often used in agile software development methodologies such as Scrum. However, burn down charts can be applied to any project containing measurable progress over time.

<https://www.visual-paradigm.com/scrum/scrum-burndown-chart/>

<https://www.atlassian.com/agile/tutorials/burndown-charts>

Reference:

<https://www.atlassian.com/agile/project-management>

<https://www.atlassian.com/agile/tutorials/how-to-do-scrum-with-jira-software>

<https://www.atlassian.com/agile/tutorials/epics>

<https://www.atlassian.com/agile/tutorials/sprints>

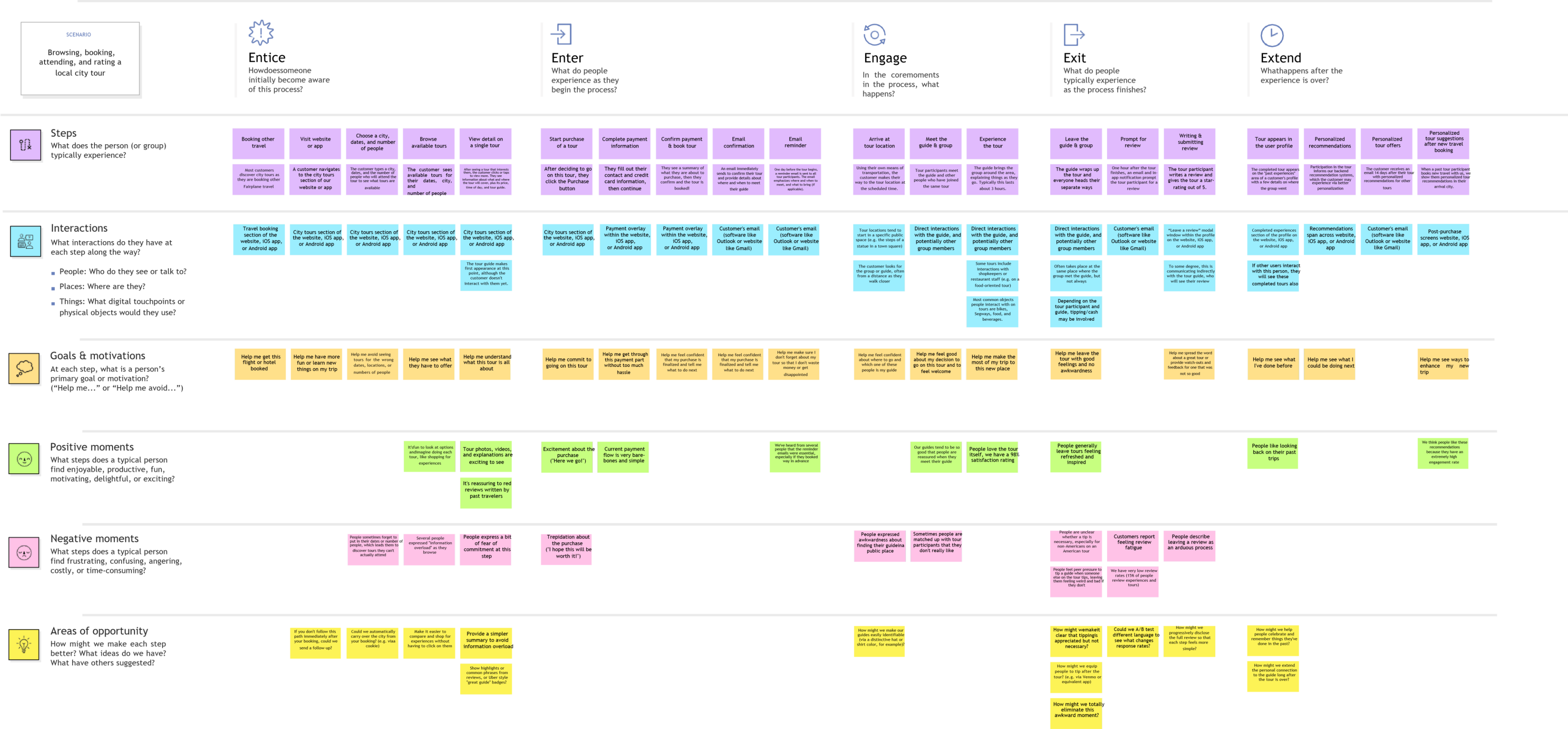
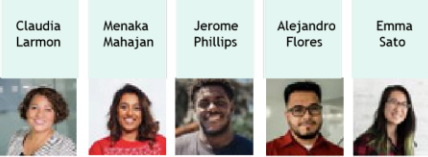
<https://www.atlassian.com/agile/project-management/estimation>

<https://www.atlassian.com/agile/tutorials/burndown-charts>

FAIRPLANE ➤

Guided city tours

Based on ten customer interviews and observations from the Fairplane Guided City Tours team

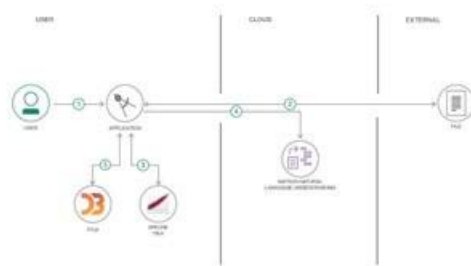


Project Design Phase-II Data Flow Diagram & User Stories

Date	25 June 2025
Team ID	LTVIP2025TMID33875
Project Name	Traffictelligence
Maximum Marks	4 Marks

Data Flow Diagrams: A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right

Flow



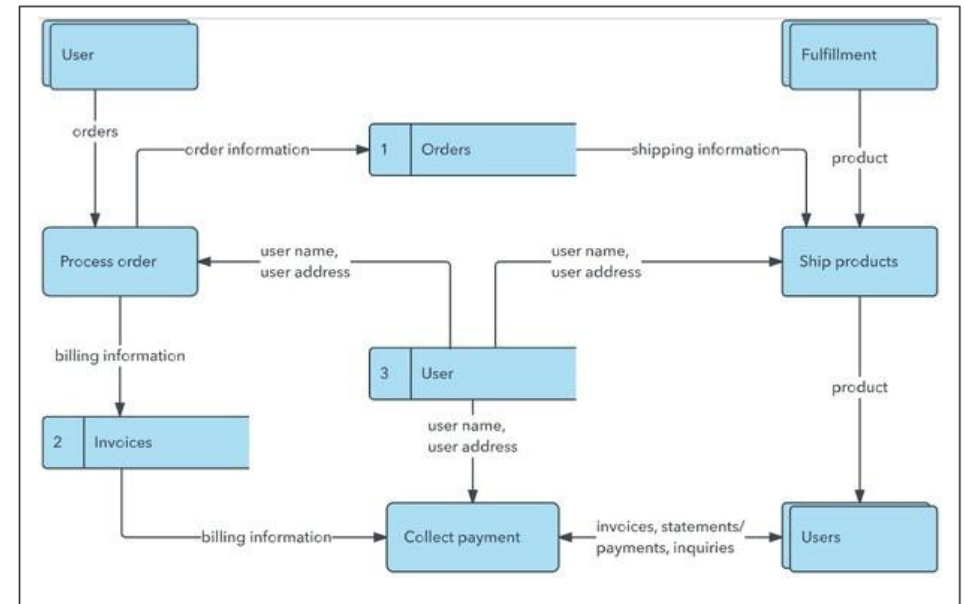
1. User configures credentials for the Watson Natural Language Understanding service and starts the app.
2. User selects data file to process and load.
3. Apache Tika extracts text from the data file.
4. Extracted text is passed to Watson NLU for enrichment.
5. Enriched data is visualized in the UI using the D3.js library.

amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored. DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

Example: (Simplified) User Stories

Use the below template to list all the user stories for the product.

Example: DFD Level 0 (Industry Standard)



User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Mobile user)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Sprint-1
		USN-3	As a user, I can register for the application through Facebook	I can register & access the dashboard with Facebook Login	Low	Sprint-2
		USN-4	As a user, I can register for the application through Gmail		Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by entering email & password		High	Sprint-1
	Dashboard					
Customer (Web user)						
Customer Care Executive						
Administrator						

Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	25 June 2025
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Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail Registration through LinkedIn
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3		
FR-4		

Non-functional Requirements:

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	
NFR-2	Security	
NFR-3	Reliability	
NFR-4	Performance	
NFR-5	Availability	
NFR-6	Scalability	

Following are the non-functional requirements of the proposed solution.

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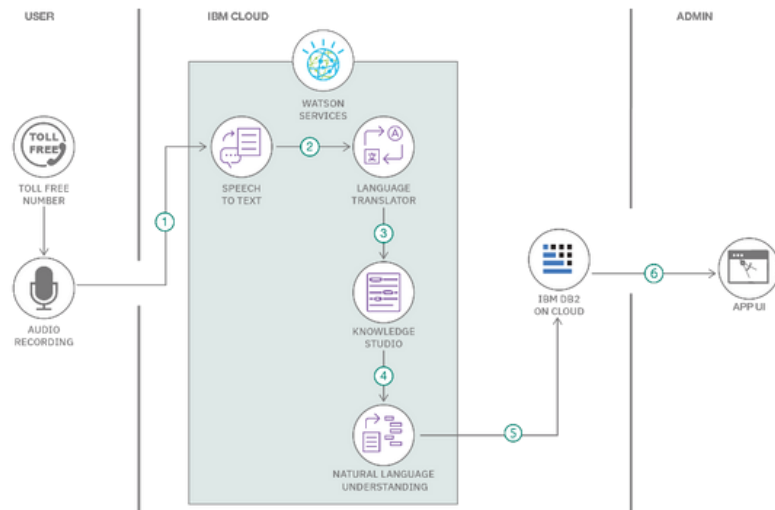
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Project Design Phase-II Technology Stack (Architecture & Stack)

Date	25 June 2025
Team ID	LTVIP2025TMID33875
Project Name	Traffictelligence
Maximum Marks	4 Marks

Technical Architecture: The Deliverable shall include the architectural diagram as below and the information as per the table 1 & table 2 **Example: Order processing during pandemics for offline mode Reference:**

<https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/>



Guidelines:

- Include all the processes (As an application logic / Technology Block)
- Provide infrastructural demarcation (Local / Cloud)
- Indicate external interfaces (third party API's etc.)
- Indicate DataStorage components / services
- Indicate interface to machine learning models (if applicable)

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
------	-----------	-------------	------------

1.	User Interface Application	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc. Logic for a process in the application	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Logic-1		Java / Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
9.	External API-2	Purpose of External API used in the application	Aadhar API, etc.
10.	Machine Learning Model	Purpose of Machine Learning Model Application	Object Recognition Model, etc.
11.	Infrastructure (Server / Cloud)	Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Technology of Opensource framework
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Technology used
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Technology used

S.No	Characteristics	Description	Technology
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Technology used

References:

<https://c4model.com/>

<https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/>

<https://www.ibm.com/cloud/architecture>

<https://aws.amazon.com/architecture>

<https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d>

Project Design Phase-II Technology Stack (Architecture & Stack)

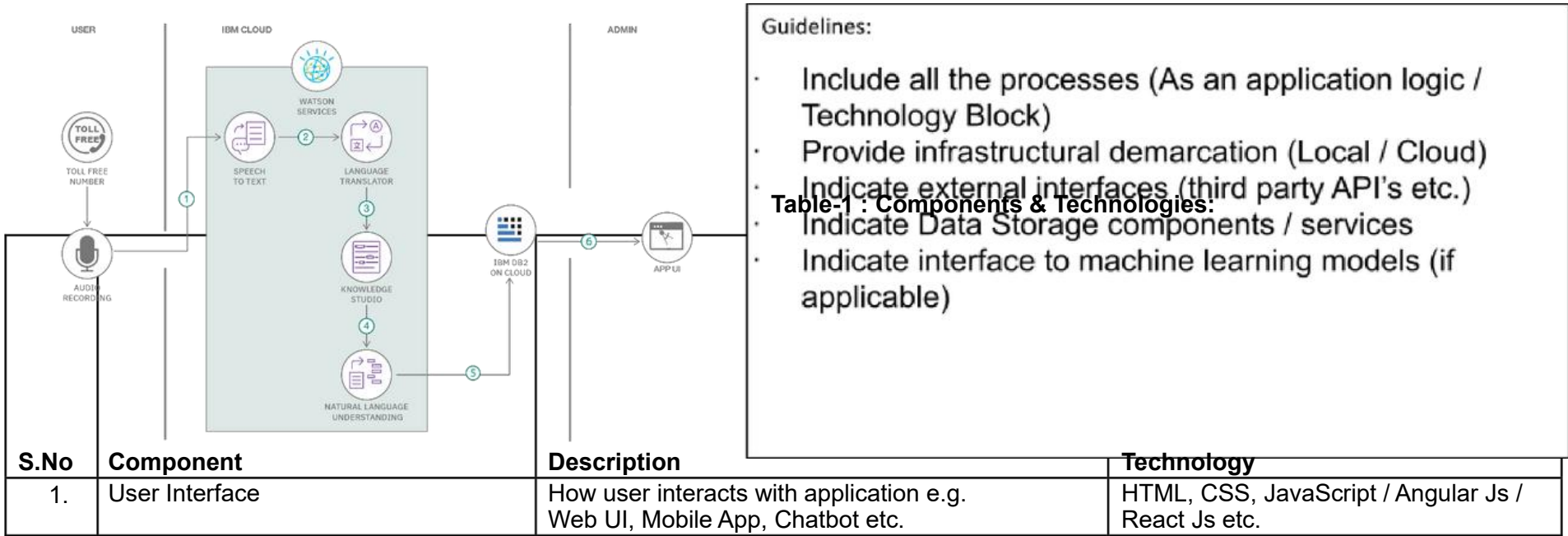
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Example: Order processing during pandemics for offline mode

Reference: <https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/>



2.	Application Logic-1	Logic for a process in the application	Java / Python
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S.No	Characteristics	Description Design consideration for the	Technology
5.	Performance	performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Technology used

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Project Report Format

1. INTRODUCTION

1.1 Project Overview

1.2 Purpose

2. IDEATION PHASE

2.1 Problem Statement

2.2 Empathy Map Canvas

2.3 Brainstorming

3. REQUIREMENT ANALYSIS

3.1 Customer Journey map

3.2 Solution Requirement

3.3 Data Flow Diagram

3.4 Technology Stack

4. PROJECT DESIGN

4.1 Problem Solution Fit

4.2 Proposed Solution

4.3 Solution Architecture

5. PROJECT PLANNING & SCHEDULING

5.1 Project Planning

6. FUNCTIONAL AND PERFORMANCE TESTING

6.1 Performance Testing

7. RESULTS

7.1 Output Screenshots

8. ADVANTAGES & DISADVANTAGES

9. CONCLUSION

10. FUTURE SCOPE 11. APPENDIX

Source Code(if any)

Dataset Link

GitHub & Project Demo Link

Full Stack Development with MERN

Project Documentation format

1. Introduction

Project Title: [Your Project Title]

Team Members: List team members and their roles.

2. Project Overview

Purpose: Briefly describe the purpose and goals of the project.

Features: Highlight key features and functionalities.

3. Architecture

Frontend: Describe the frontend architecture using React.

Backend: Outline the backend architecture using Node.js and Express.js. Database: Detail the database schema and interactions with MongoDB.

4. Setup Instructions

Prerequisites: List software dependencies (e.g., Node.js, MongoDB).

Installation: Step-by-step guide to clone, install dependencies, and set up the environment variables.

5. Folder Structure

Client: Describe the structure of the React frontend.

Server: Explain the organization of the Node.js backend.

6. Running the Application

Provide commands to start the frontend and backend servers locally.

- o Frontend: npm start in the client directory.
- o Backend: npm start in the server directory.

7. API Documentation

Document all endpoints exposed by the backend.

Include request methods, parameters, and example responses.

8. Authentication

Explain how authentication and authorization are handled in the project. Include details about tokens, sessions, or any other methods used.

9. User Interface

Provide screenshots or GIFs showcasing different UI features.

10. Testing

Describe the testing strategy and tools used.

11. Screenshots or Demo

Provide screenshots or a link to a demo to showcase the application.

12. Known Issues

Document any known bugs or issues that users or developers should be aware of.

13. Future Enhancements

Outline potential future features or improvements that could be made to the project.