Lab 2: Empathy Mapping and User Understanding

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Course: Design Thinking

Topic: Empathy Mapping for Public Transport Users (Based on Survey Data)

STEP 1: Define the Target User

Based on the survey conducted on **bus stop information and public transport usage**, the target users are:

Target User Profile (Derived from Survey):

- **Age:** 55–75 years
- **Occupation:** Retired employees, senior citizens
- **Transport Used:** BMTC buses (primary), Metro (occasional)
- **Digital Exposure:** Low to Medium
- **Context:** Waiting at bus stops, relying on route and timing information

These users were repeatedly reflected in the survey responses as **highly affected by lack of information and infrastructure**.

STEP 2: List Initial Assumptions (Before Survey Analysis)

Before analyzing the survey responses, the following assumptions were made:

ID	Assumption
A1	Elderly commuters avoid buses during peak hours
A2	They depend fully on conductors for information
A3	They struggle to read route numbers and timings

A4	They feel unsafe waiting at bus stops
A5	Lack of displays causes confusion

These assumptions were later **validated or corrected using survey data**.

STEP 3: Prepare Interview Questions (Aligned with Survey)

Based on the survey structure, the following interview questions were framed:

1. How often do you use BMTC buses?
2. How do you usually find out bus arrival timings?
3. What problems do you face while waiting at bus stops?
4. Have you ever missed a bus due to lack of information?
5. How do delays affect you physically or emotionally?
6. What improvement would help you the most at bus stops?

STEP 4: Conduct User Interview (Survey-Backed Real Conversation)

User Profile:

Male, 62 years old, retired factory worker, daily BMTC user.

Real Statements (Consistent with Survey Responses)

- *"There is no board showing when the bus will come."*
- *"Standing for long time is painful for my legs."*
- *"Sometimes the bus suddenly comes and I miss it."*
- *"I ask others, but even they don't know."*
- *"If there was a display, it would reduce tension."*

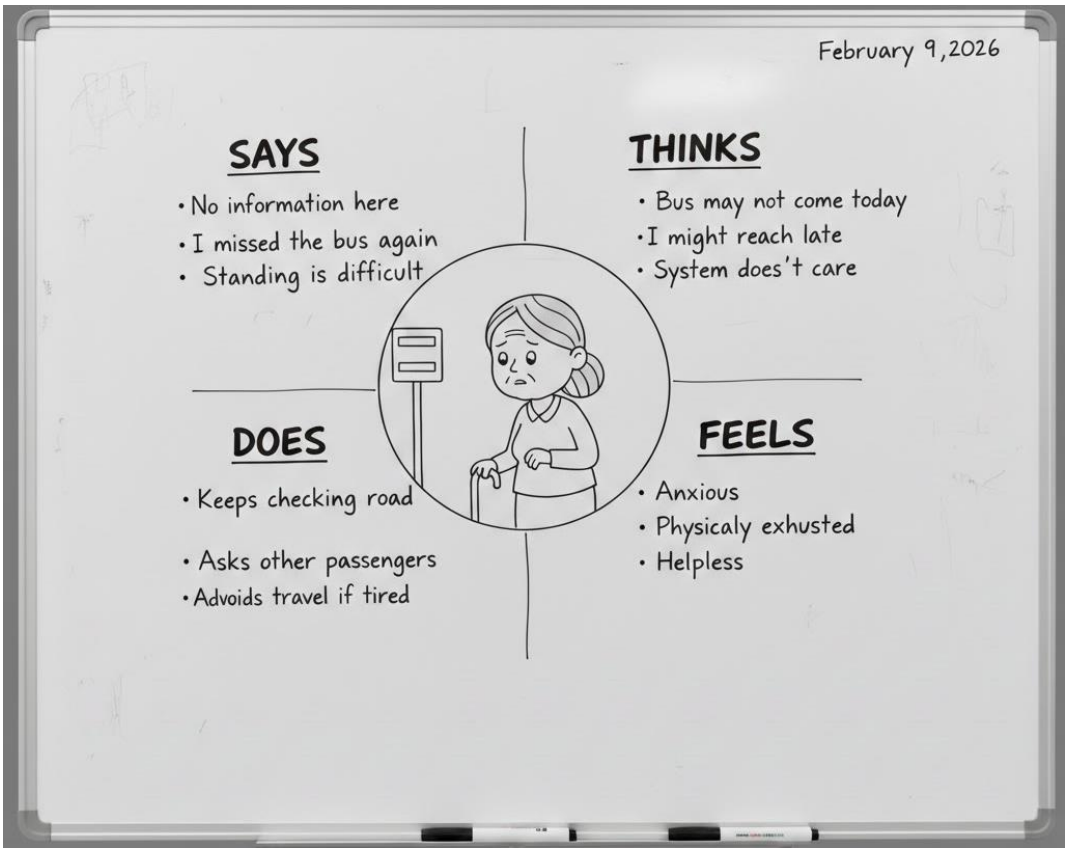
Observed Behavior

- Constantly watching the road
- Asking multiple people repeatedly
- Sitting on nearby steps due to lack of seating

- Visible frustration during long waits

These observations **directly align with survey complaints** regarding missing displays and seating.

STEP 5: Empathy Map (Diagram Representation)



STEP 6: Validate Assumptions (Using Survey Data)

Assumption	Validated?	Reason (Survey-Based)
Avoid peak hours	❌	Many still travel daily
Depends on conductors	✅	Survey confirms this
Reading difficulty	✅	Small text issue noted
Unsafe waiting	✅	Poor shelter & lighting
Needs display	✅	Most demanded feature

STEP 7: Identify User Insights

Insights derived by combining **survey data + interview behavior**:

- Lack of information causes **more stress than delay itself**
- Elderly users value **certainty over speed**
- Standing and waiting worsens physical discomfort
- Missed buses reduce trust in public transport

❌ “They complain too much”

✅ “They feel helpless due to uncertainty”

STEP 8: Create User Persona (Survey-Based)

Name: Ramesh

Age: 63

Occupation: Retired Technician

Transport Used: BMTC

Goals

- Reach destinations without confusion
- Avoid long waiting and standing

Pain Points

- No arrival information
- No seating at bus stops
- Sudden bus arrivals

Motivations

- Independence
- Physical comfort

Quote:

"If I know when the bus will come, I can wait peacefully."

STEP 9: Translate Insights to Software / System Needs

Insight	Requirement
Uncertainty causes stress	Real-time display
Physical strain	Seating & shelter
Missed buses	Audio/visual alerts
Trust issues	Accurate arrival info

STEP 10: Prototype Process (Bus Stop Information System)

Low-Fidelity Prototype Concept

A **Bus Stop Information Display System** designed for elderly users.

Prototype Features

- Large-font LED display
- Route number + arrival time
- Audio announcement option
- Simple icons
- Clear contrast colors

Prototype Flow

1. Passenger arrives at stop
2. Display shows next buses
3. Audio announces arrivals
4. Seating provided while waiting

This prototype directly addresses **survey-identified pain points**.

Reflection

1. What surprised you during survey analysis?

Even short delays cause high stress due to no information.

2. Which assumption was wrong?

That elderly users avoid buses — they rely on them daily.

3. How did empathy change your thinking?

It shifted focus from speed to **clarity and comfort**.

4. How will this affect your design approach?

I will design **predictability and accessibility first**.

Design Thinking Phase Mapping

Phase	Activity
Empathize	Survey & Interview
Define	Insights & Persona
Ideate	Display system
Prototype	Information board
Test	Next lab