

## **LAB – 3 REPORT**

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### **TOPIC:**

**Bus Stop Information Displays Fail to Provide Clear and Reliable Information to Commuters**

### **Aim of the Experiment**

The aim of this experiment is to apply the Design Sprint methodology (Empathize, Define, Ideate, Prototype, and Test) to design a user-centered solution that improves the clarity and reliability of bus stop information. The experiment focuses on understanding real commuter problems and validating a practical solution that provides accurate bus arrival information through digital displays.

### **Problem Context**

Public bus transport is widely used by commuters of different age groups. However, many bus stops lack proper information displays or provide outdated and unclear information. The absence of real-time bus arrival timings makes commuters anxious, confused, and dependent on guessing or mobile applications. This problem is more severe for elderly commuters and occasional users, making bus stop information design a critical issue.

### **STEP 1: Empathize (Revisit & Deepen User Understanding)**

#### **Objective**

To understand commuters' emotions, frustrations, behaviors, and needs while waiting at bus stops.

## Activities Performed

- Studied survey responses from bus commuters
- Created personas based on real user data
- Developed empathy maps (Says, Thinks, Does, Feels)
- Identified common frustrations caused by missing bus timing information

## User Personas Considered

### **Persona 1: Harshith (20, Male)**

Rare bus user who finds route information clear but struggles with not knowing when the bus will arrive and depends on phone apps.

# Harshith



## Quotes

*"I rarely take the bus but it's frustrating not knowing when it will arrive at the stop. I always have to check my phone."*

## BIO

Harshith is a 20-year-old male college student who rarely takes the bus, choosing other modes of transport. When he does need to take the bus, he finds it inconvenient when he doesn't know the exact arrival time. He dislikes waiting uncertainly and always resorts to checking his phone apps or Google to figure out when the bus is supposed to come, finding the lack of clear, real-time arrival information frustrating.

## BEHAVIORS

- Takes the bus only occasionally
- Prefers other modes of transport
- Checks phone apps or Google for real-time bus arr-

## GOALS

- Accurate, real-time bus arrival information displayed at the bus stop

## PAIN POINTS

- Unclear bus arrival information leaves him guessing
- Has to check apps for live bus timings every time

## PERSONALITY

Judging	███████	High
Analytical	███████	High
Extrovert	█████	High

## MOTIVATIONS

Transparency	███████	High
Control	███████	High
Efficiency	███████	High

## MOTIVATIONS

- Transparency
- Control
- Efficiency

Preferred Solution (from Survey)  
Digital board showing live timings

### **Persona 2: Mohan Lal (52, Male)**

Daily bus commuter who faces major difficulty due to no information available at the bus stop and does not know bus numbers or routes.

# Mohan Lal



## BIO

Mohan Lal is a 52-year-old man who uses city buses daily for travel.

## BEHAVIORS

- Takes the bus daily for consistent commuting
- Waits without additional sources

## Quotes

*"It's stressful waiting for a bus when I don't know which bus number to look for and there's no information available at the bus stop."*

## BIO

Mohan Lal is a 52-year-old man who uses city buses daily for travel. He often has no information available at the bus stop regarding arriving buses. Without any display showing relevant details, he doesn't know the correct route or upcoming bus numbers, leading him to wait and guess which bus to take. This lack of information makes his commute uncertain and frustrating.

## GOALS

- Clear bus stop displays that provide live updates of bus numbers and routes.

## PAIN POINTS

- Don't know which bus to take
- No route and bus number information available at the stop.

## PERSONALITY

Judging ■■■■■■ High

Analytical ■■■■■■ High

Extrovert ■■■■■■ High

## MOTIVATIONS

Transparency ■■■■■■ High

Control ■■■■■ Low

Efficiency ■■■■■■ High

## MOTIVATIONS

• Transparency ■■■■■■ High

• Control ■■■■■ Low

• Efficiency ■■■■■■ High

## Preferred Solution (from Survey)

Digital board showing live timings

## Key Observations

- Most commuters do not know bus arrival timings
- Elderly users struggle more without digital information
- Younger users depend heavily on mobile apps
- Waiting without information causes stress and frustration

## Refined User Insights

- Real-time bus timing information is the most critical need
- Static boards or guesswork reduce trust in public transport
- Clear digital displays can reduce anxiety and confusion

## **STEP 2: Define (Problem Statement & Design Challenge)**

### **Problem Statement**

Bus commuters need accurate and real-time bus arrival information because the absence of clear timing displays leads to confusion, stress, and unreliable travel.

### **How Might We (HMW) Question**

How might we design a bus stop information system that clearly shows real-time bus arrival timings for commuters of all age groups?

## **STEP 3: Ideate (Idea Generation)**

### **Brainstormed Ideas**

- Digital boards showing real-time bus arrival timings
- Large-font displays for easy readability
- Simple and minimal layout
- Audio alerts for arrivals

### **Idea Selection**

#### **Selected Idea:**

#### **Digital Boards Showing Real-Time Bus Timings**

### **Justification**

- Directly solves the main problem identified in the survey
- Helps both young and elderly commuters
- Reduces dependence on mobile phones
- Easy to understand and practical to implement

## **STEP 4: Prototype**

### **Objective**

To create a low-fidelity prototype of a digital bus stop display.

### **Prototype Description**

The prototype is a **digital board installed at bus stops** that shows:

- Bus number
- Destination
- Live arrival time (minutes remaining)

### **Design Rationale**

- Live timings reduce uncertainty
- Clear display improves commuter confidence
- Simple design supports all age groups

### **Prototype Type**

Low-fidelity prototype (conceptual digital display)

## **STEP 5: Test (User Feedback & Validation)**

### **Testing Method**

- Explained the digital board concept to both personas
- Asked them to imagine using it during regular travel
- Collected feedback on usefulness and clarity

### **User Feedback Summary**

User	What Worked	What Confused	Suggestions
Harshith (20)	Live bus timings	None	Improve accuracy
Mohan Lal (52)	Knowing which bus is coming	Language	Use simple text

## **Observations**

- Reduced stress while waiting
- No need to guess or ask others
- Increased trust in bus service

## **STEP 6: Iterate & Reflect**

### **Improvements Suggested**

- Multilingual display options
- Audio announcements for elderly users
- High brightness for night visibility

### **Reflection**

This experiment showed that the biggest problem at bus stops is not the availability of buses, but the lack of real-time information. Empathy mapping helped identify this issue clearly and guided the design of an effective solution.

## **Conclusion**

The Design Sprint process successfully identified commuter problems and led to a practical solution. **Digital boards showing real-time bus timings** can significantly improve the public transport experience by reducing confusion, stress, and uncertainty. This experiment highlights the importance of user-centered design in improving everyday public services.