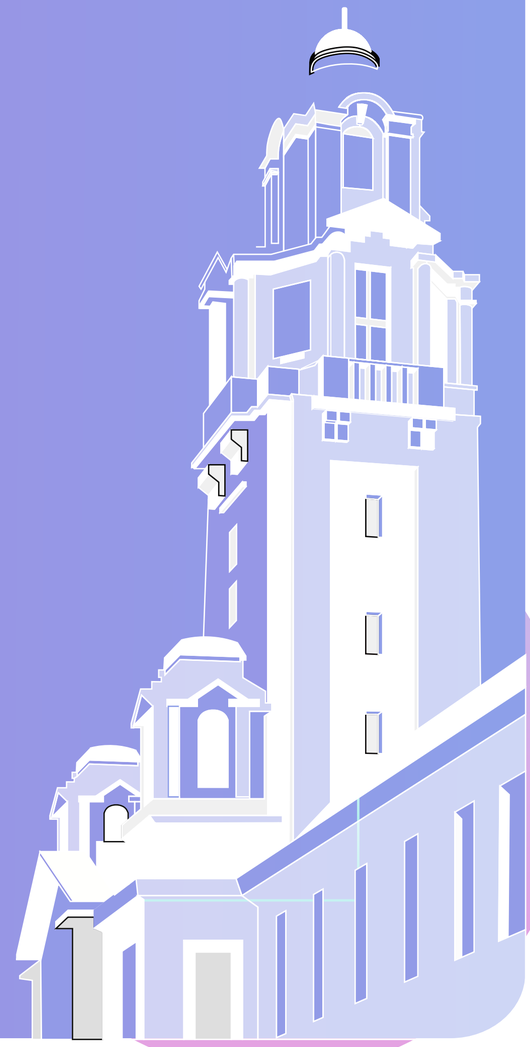
INTERACTIVE NAVIGATION SIGNAGE



Team

Hemanth | Himangi | Naveen

M Des Course Project 2024
Ergonomics

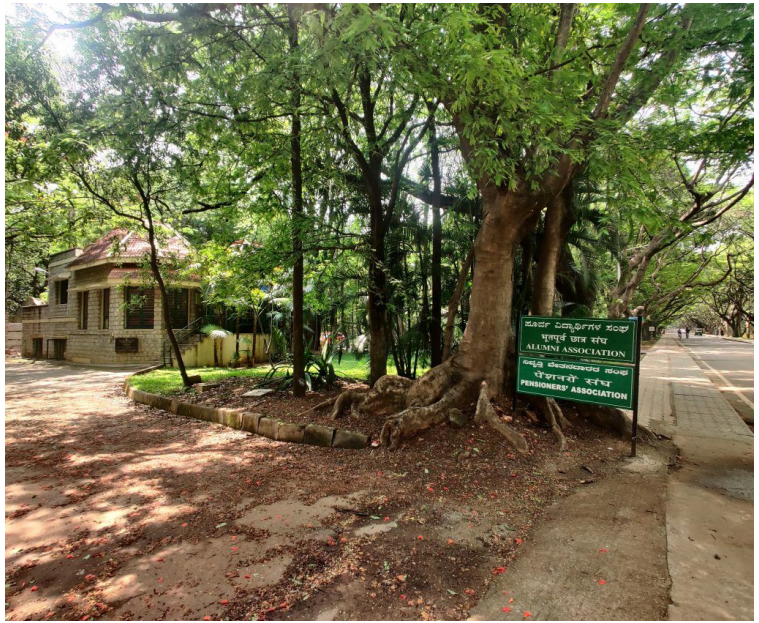
BRIEF

The aim of this project is to design and implement **interactive navigation signage** for the Indian Institute of Science (IISc) campus in order to **enhance user experience** and **improve wayfinding** within the campus. The project focuses on ergonomics principles to ensure that the signage is **user-friendly, accessible, and effective** in providing clear and concise information to visitors and residents of the campus.

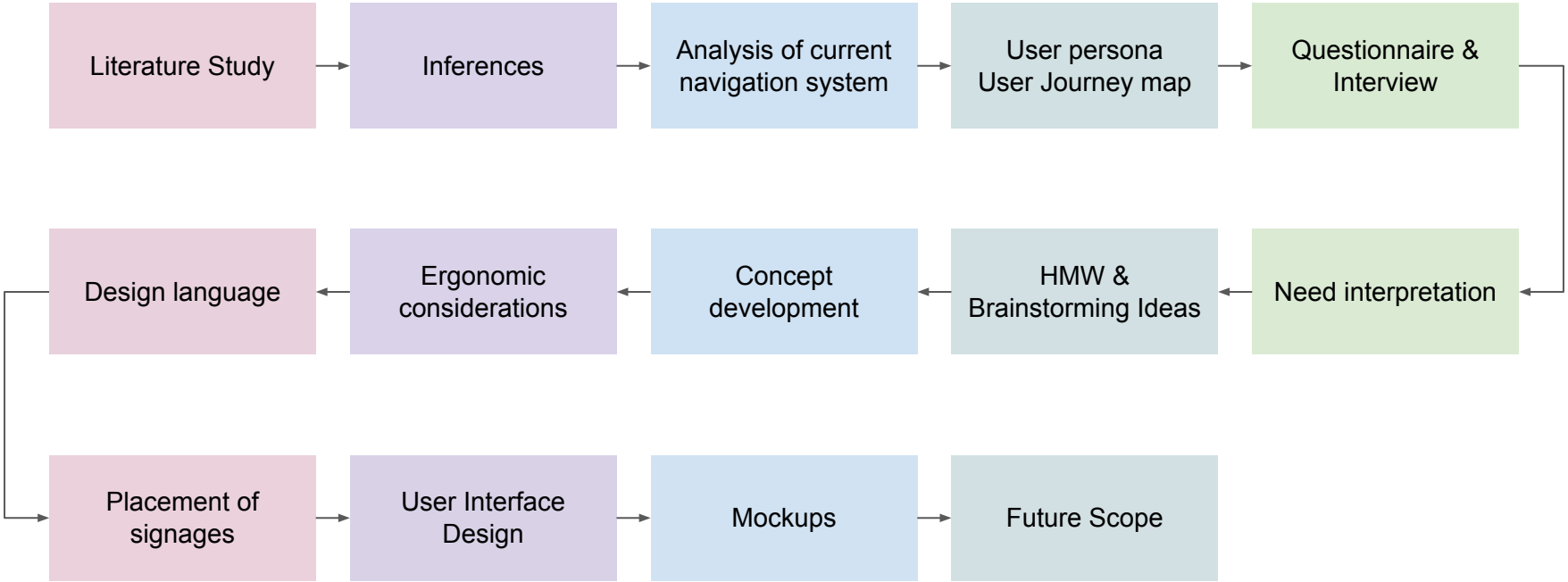
Scope

The project encompasses the following aspects:

- Analysis of current navigation challenges and signage system at IISc.
- Research on ways for ergonomic signage design.
- Design and development of interactive navigation signage prototype



PROCESS


Literature Study
Inferences
Analysis of current navigation system
User persona
User Journey map
Questionnaire & Interview
Need interpretation
HMW & Brainstorming Ideas
Concept development
Ergonomic considerations
Design language
Placement of signages
User Interface Design
Mockups
Future Scope

LITERATURE STUDY

S.No	TITLE	Inferences
1	Wayfinding Design Principles	<u>Principles of Wayfinding :</u> Consistency Conspicuity Continuity Accessible
2	Wayfinding Signage design in University Campus territories	<u>Four types of wayfinding signs (Wayfinding 2019):</u> - Information signs (road signs) - Directional signs (location of the destination) - Identification signs (info about individual buildings, public spaces) - Warning signs (safety measures, such as fire escape routes)
3	Approaches to design of navigation systems in public institutions	<u>Considerations</u> - Purpose-Driven Design - Universal Language - Flexibility and Adaptability - Stylistic Consistency - Visibility and Readability - Integration with the Environment

LITERATURE STUDY

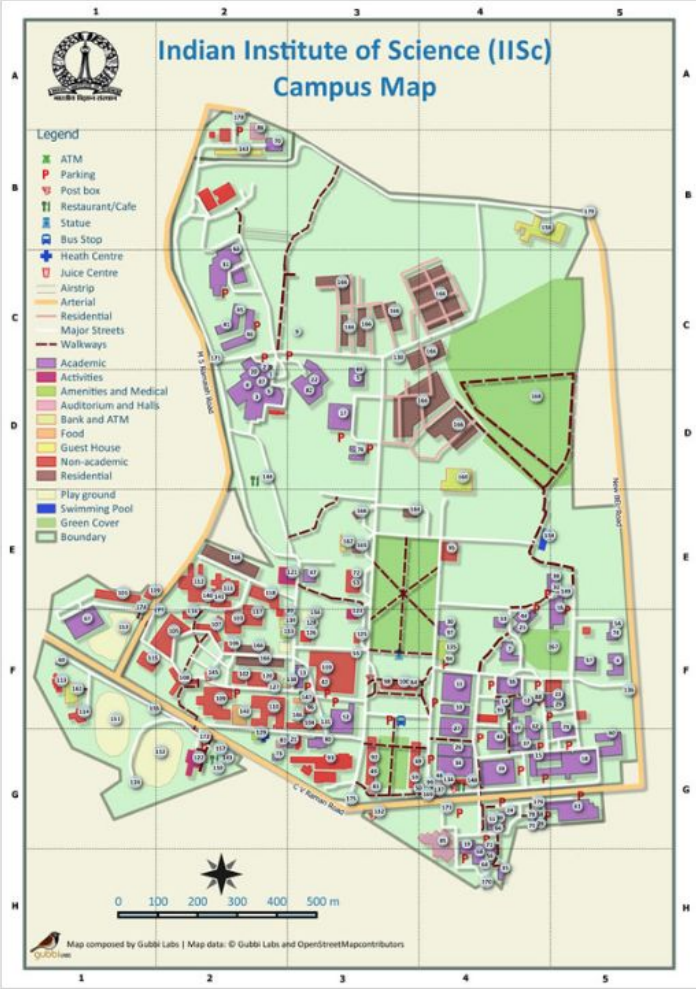
S.No	TITLE	Inferences
4	Interactive Digital Signage - An Innovative Service and Its Future Strategies	- Static images - display one message to the consumer digital signs -change content within milliseconds - Drawbacks: - Implementation of a digital signage system - high initial investment costs
5	Designing Digital Signage for Better Wayfinding Performance (University of Seoul)	- Participants focused on the landmark buildings - not only destination itself but also neighbored landmarks. - Personalized & interactive way of displaying landmark information - major difference between print and digital signage.
6	Wayfinding	- Place hierarchy - Progressive disclosure - Landmarks

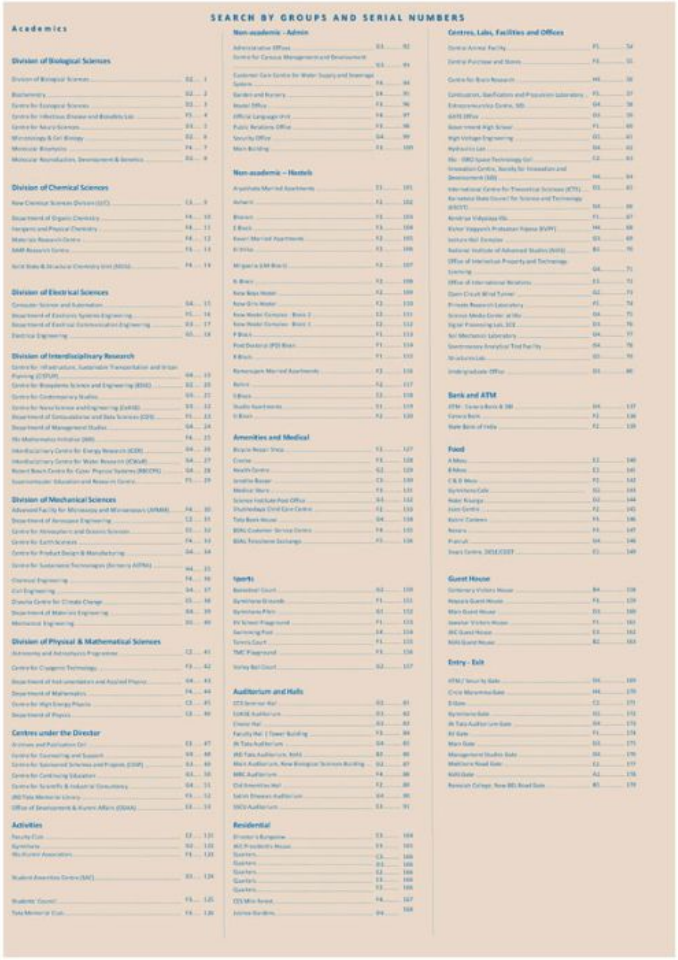
EXISTING SYSTEM

LAYOUT PLAN with color coding based on functionality of destination

- Academic Divisions (6)
- Centres under Director
- Activities
- Non Academics : Hostel
- Non Academics : Admin
- Amenities & Medical
- Sports
- Auditorium & Halls
- Residential
- Centres, Labs, Offices
- Bank & ATM
- Food & Restaurant
- Guest House
- Entry Exit

Elements used : Grid(A1), Numbering, Colour codes, Symbols





Source: https://iisc.ac.in/about/general-information/campus-map/

CURRENT SYSTEM

DRAWBACKS OF CURRENT SIGNAGE SYSTEM IN IISc CAMPUS

- **Low Visibility & Legibility**
- **Navigation** aspect not considered (no direction indicated)
- Improper **placement** at existing locations
- Map not up-to-date

USER EXPERIENCE - READING THE CURRENT MAP

TASK : To locate Cryogenic Centre in the existing IISc Map

USER 1

NAME : ANIKET
M.Tech, Smart Manufacturing

- Took time to understand what to search first.
- Can't figure out how to search using numbers on map.
- Legend was not so legible.
- Was searching for the process to read the map.
- Couldn't figure out the significance of grids in map.

USER 2

NAME : SHREYA

- Took time to search for the department in the pool of divisions.
- Names of the departments are with low readability and legibility.
- Couldn't figure out the grid name in the list of locations/divisions and it's numbers.
- Less aware about color coding used.

DESIGN APPROACH - 1

Grouping on the basis of Academic Departments

Biological Sciences
(5/8) | 3 diff. loc.

Chemical Sciences
(4/6) | 2 diff. loc.

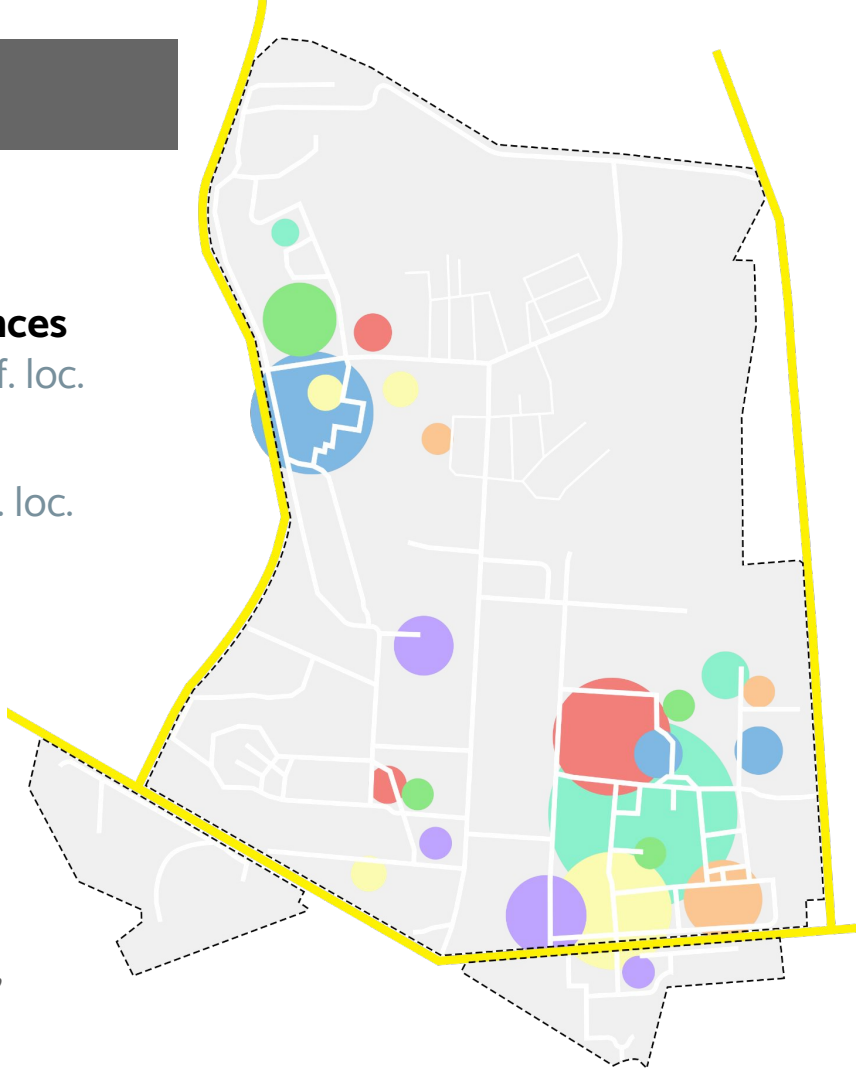
Electrical Sciences
(2/4) | 2 diff. loc.

Interdisciplinary Research
(8/11) | 3 diff. loc.

Mechanical Sciences
(8/11) | (2/11) | 1 diff. loc.

Under Director
(3/7) | (2/7) | 2 diff. loc.

Physical & Math. Sciences
(3/6) | 3 diff. loc.



Many more groups to consider :

Residential areas, Food corners, Shops, Emergency, Restaurants, Activities, etc.

DESIGN APPROACH - 2

Zoning based on regions

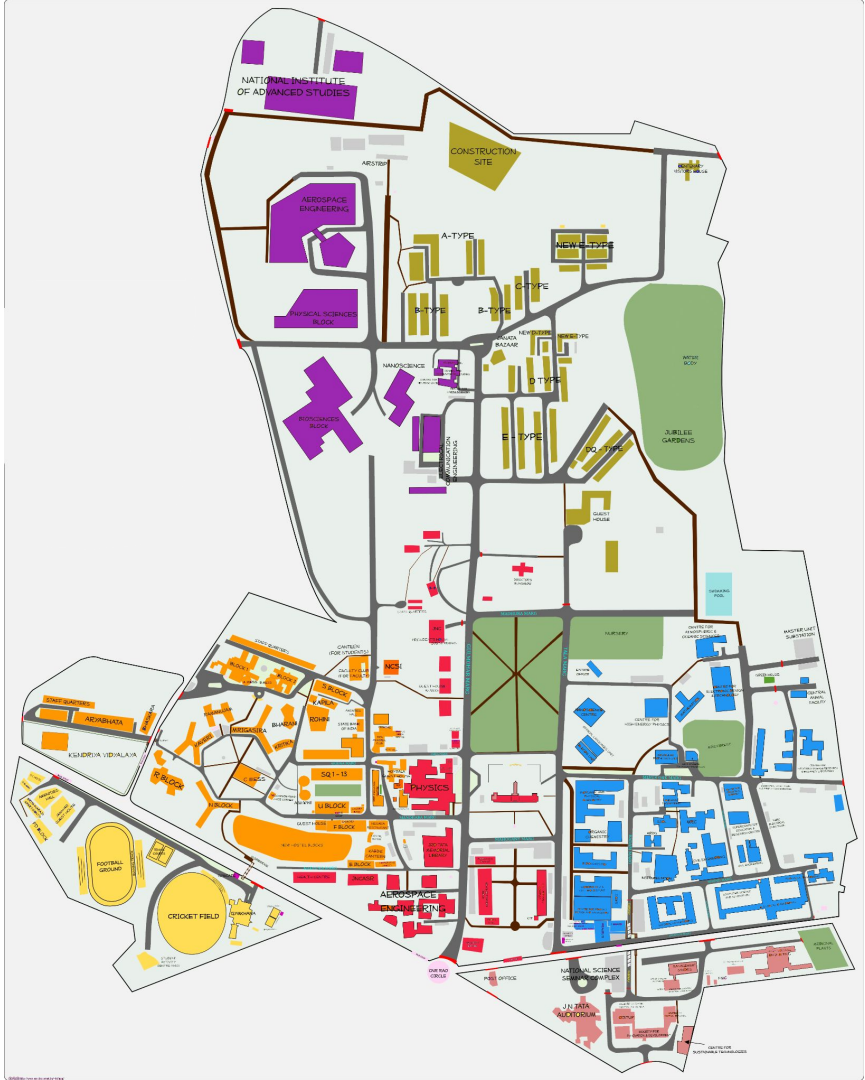
Pros :

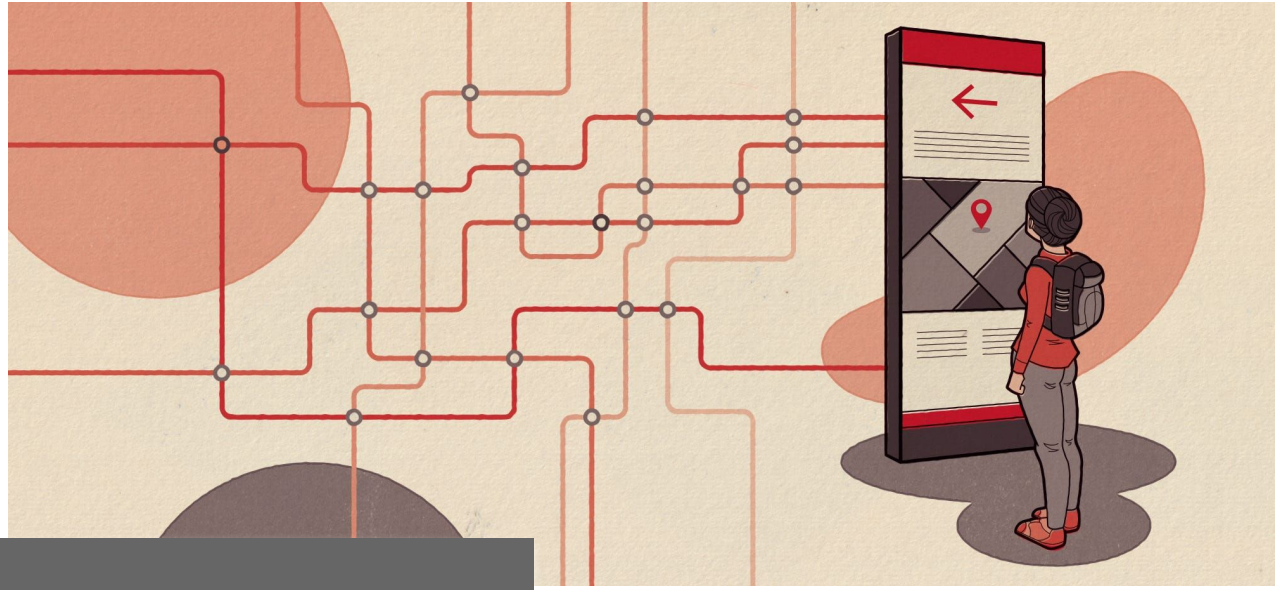
- Improved Navigation: Reducing confusion and saving time.
- Efficient Space Utilization
- Eliminates information overload

Cons :

- Time taking in initial step - figuring out which zone desired destination lies in

Zone 1
Zone 2
Zone 3
Zone 4
Zone 5
Zone A
Zone B





TASK CLARIFICATION

USER PERSONA (Delivery Person)

I have been working as a delivery boy for the past 2 years. I was earlier in a different locality and now recently shifted to Devasandra Layout. I joined as a delivery boy in Pizza Hut recently by showing the good opinion I've received from customers (while working with my previous organisation). This one is challenging as my new organisation is very strict on delivery on time (If I delay the delivery, it affects my salary proportionally).

Needs

- Maintain the good reputation I have built (that I am always punctual)
- Get to the delivery location as soon as possible
- Don't mix job and personal time

Frustrations

- Holding the mobile phone on one hand while driving (difficult to shift gears in my bike)
- Reaching the wrong destination after following maps

Current Feeling

- **Confused** (in the process of learning new routes)
- **Fear** (of getting negative feedback from customers as I am just getting adjusted to this new locality)

Personality

- Determined / Passionate
- Hard Working
- Curious (Explorative)
- Quick Learner

Name : Jagadish
Age : 28
Occupation : Delivery boy (Full time)
Interests : Driving, Explore new places and food, Playing carrom
Marital Status : Married (No kids)
Working Hours : 9:00 to 18:00 (weekdays); occasionally extra paid working hours till 23:00. (Weekends off)
Organisation : PizzaHut
Location (Org.) : New Bel road, Devasandra Layout, Bengaluru.

USER PERSONA (Student - Intern)

I am studying in final year of my UG degree. I like the opportunity to work as an intern under the prestigious mentorship of one of the IISc professors.As I am working on a project which requires research in various fields I have to visit various facilities inside the campus to earn more knowledge like library, various labs and lecture halls for attending lectures of distinguished speakers and I want to make sure to reach the intended facility on time and not ready to miss minimal information also.

Needs

- To reach the intended location in time to show the punctuality and obedience.
- Go to the facility without wasting time navigating it.
- To get less anxious about finding the location on time.

Frustrations

- Worrying about which way should I take or am I going in right way.
- Reaching the wrong destination and missing important lectures.

Current Feeling

- **Confused** (about whom to ask .
- **Fear** of wrong navigation by wrong guidance.

Personality

- Punctual
- Obedient.
- Curious (Explorative).
- Anxious.

Name : Kavya
Age : 22
Occupation : Student-Intern
Interests : exploring the campus and its facility
Marital Status : Unmarried.
Working Hours : 9:00 to 16:00 (weekdays);
Organisation : M S Ramaiah Institute of technology
Location (Org.) : New Bel road, Devasandra Layout, Bengaluru.

USER PERSONA (Vendor)

With a background in business administration, Rohan has spent the last 15 years building strong relationships with academic institutions and offices. He understands the unique needs and challenges of research laboratories and is committed to providing top-notch products and services. He has gained stability in his profession by obtaining repeating clients. He is calm and collected and seeks joy in fulfilling needs of others.

Needs

- Maintain the customer relationships he has built over time by getting the desired equipments/ products on time
- Clear assistance to navigate department easily
- Parking spots info for a hassle-free visit

Frustrations

- Unexpected delays due to navigating the department
- Limited information about the specific location he wants to reach

Current Feeling

- **Excitement & Anticipation** (To get new orders)
- **Slight Frustration** (As he wants to reach on time)

Personality

- Organized
- Customer-focused
- Punctual
- Proactive

Name : Rohan Patel
Age : 36
Occupation : Salesperson of Lab Equipment Supply Company
Interests : Watching news & sports, Spend time with family
Marital Status : Married (2 Kids)
Working Hours : 9:00 to 17:00
6 Days a week
Organisation :
Location (Org.) :

USER JOURNEY MAP

USER INFO

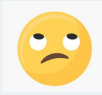
"Hi! I'm Anjali"

SCENARIO

I am a Physics student. Open Day is happening at IISc and I really want to explore what happens in the institute.

EXPECTATIONS

- To explore the works of the Instrumentation Department on Open Day at IISc

STAGES	STAGE 1	STAGE 2	STAGE 3	STAGE 4	STAGE 5
PHASES	PLANNING	ARRIVAL	SEARCH	ASKING FOR HELP	REACH DESTINATION
ACTIONS	1. Research Instrumentation Department online: location, contact information, research areas. 2. Plan travel route: public transportation options, parking availability.	1. Find parking or disembark from public transportation. 2. Locate the main entrance of IISc. 3. Ask for directions to the Instrumentation Department.	1. Navigate through buildings and corridors. 2. Look for department signs and landmarks.	1. Approach individuals and clearly explain the search for the Instrumentation Department. 2. Ask people if I'm going in the right direction	1. Finally locate the Instrumentation Department office. 2. Observe the department environment and activities.
MOTIVATION	1. Excited to visit IISc and learn more about Instrumentation Department. 2. Intrigued by research opportunities.	1. Eager to explore the campus. 2. Looking forward to meeting department staff.	1. Determined to find the department.	1. Seeking assistance and hoping for accurate directions. 2. Slightly apprehensive of bothering others.	1. Excited to learn more about the department and its research. 2. Ready to interact with staff and inquire about opportunities.
PAIN POINTS	1. Difficulty finding accurate and updated information online. 2. Unfamiliar with IISc campus layout & parking info	1. Unclear signage and directions. 2. Large and unfamiliar campus environment. 3. Difficulty finding specific department within the complex.	1. Lack of directional signage inside buildings. 2. Inconsistent or outdated information on maps	1. Difficulty finding someone approachable or knowledgeable. 2. Receiving vague or inaccurate directions. 3. Feeling frustrated and losing time.	1. Conforming if this is the right destination
EMOTIONS					

QUESTIONNAIRE

Knowing the user better

1. What is your current purpose of visit to the Campus?
2. What is the data that you have with you at this moment that would help you reach your destination? *(For example, someone could have shared you the location, and you just simply follow that; or, they would have just told you to come to some particular department and you might plan to use Google maps after entering the campus, etc.)*
3. If this is your first time, how frequently are you to visit the campus?
4. Will the destination that you would be going to remain the same or keeps changing every time you pay your visit?

Navigation Specific Q's

1. Where do you want to head to? (Or, Where did you head to during your visit to the campus?)
2. Did you have any expectations when you entered into the campus? (for guidance in Navigation)
3. How are you planning to navigate yourself to the destination? (Or, How did you navigate yourself ?)
4. Did you face any difficulties while navigating? If yes, what were they?
5. Implementation of what do you think could have made your experience of Navigation better?
6. Any difficulties that you face with the current solution that you use for navigation?

Interpreted Needs

New User | Familiar User

SNo	Qn/Prompt	Stakeholder Statement	Interpreted Need
1	Initial expectations for wayfinding	Boards at regular intervals showing directions and current location.	Keep the user informed about where they are and how to head to different locations.
2	How do you navigate yourself	I am here for a couple of months, but still don't know many departments (location). I have to rely upon major landmarks (like mainbuilding, Janta Bazar, underpass, etc.) and ask for direction from there.	Navigation guidance along with well known landmarks (nearby)
		I stop at every road junction and look for name boards or landmarks, then talk to customer and ask further directions from there	Need guidance at road junctions.
3	Opinion on Existing Signage	I use Google maps that gives me live updates, but having directional signage would give me assurance that I am heading the right way.	Not only guidance that shows the current place, but also directions to nearby places needed.
		Even when I am right in front of my destination, it is difficult for me to understand which building I'll have to head to. The signage is hardly noticeable.	Navigation guidance to be easily noticeable (placement, orientation, location, etc.)
		I barely use them. They are different for different departments. Rather than spending time on understanding these, I prefer guidance from friends.	Consistency in the way of delivery of navigation guidance to users.

Interpreted Needs

New User

Familiar User

SNo	Qn/Prompt	Stakeholder Statement	Interpreted Need
4	Difficulties faced with Existing Signage	While delivering at Night, I'll have to ask securities for directions and sometimes hostel Wardens. Even when I am right in front of the hostel, I ask people nearby for the location name. I am unable to read the boards at Night.	Enhanced visibility even in poor lighting conditions.
		The font size is too small. I need to get closer to the boards to read what is written on them.	If guidance given in form of text, fonts and size to be chosen in such a way that they are easily readable (including colour contrast).
5	Difficulties faced with Existing Solutions	My map at times doesn't get calibrated. In spite of heading the right direction, the map points me in the wrong direction, and shows a longer route that I'll have to take.	Reduce the confusions arising due to orientation (of the user) while navigating.

How Might We (HMW)

How might we navigate user to intended location?	How might we decrease confusion arising with names of departments?	How might we reduce time of the user to navigate?	How might we make it an interactive experience?	How might we reduce steps in navigation?
How might we increase visibility of signage?	How might we ease the experience of navigating at any given time (Day/night)?	How might we simplify the way information is being conveyed?	How might we enhance visibility, legibility, readability?	How might we code information so that it is easily interpreted?

Brainstorming Ideas

- Use focus lights in front of signage boards (Night visibility)
- QR codes @ various locations
- Standees with Digital search bars
- AR glasses that virtually shows direction to guide users
- Audio guidance that gives live updates and directions (in convenient language)
- Digital interface to search destined location
- Using placards
- Bluetooth lights - when user approach close to a road junction, lights guide them
- Colour coded lines on road to guide users to nearby zone
- Robo guide given to every person entering campus
- Send SMS to users to guide them (for navigation)
- Zoomed in view of the present location with respect to nearby locations
- Light up pathway for the user (like airport runway).
- Customised map for IISc
- Using ergonomically feasible colour palettes
- Using same design language
- AR navigation integrated with mobile phone camera
- Reduced overload information by only providing instructions (w/o actual map)
- Immediately connect the user with students (or any person familiar with campus roads)
- AI bot (Geofence within campus) to answer user's queries while navigating
- Come up with new app dedicated for IISc navigation
- Recognisable names for locations (to easily find in the map)
- Dedicated guides or helpdesk for navigation guidance
- Using backlight for signages
- Location flyers
- Signage boards at multiple location
- Mobile application with directory of departments
- Autonomous vehicles that take people to their desired location
- Hierarchy of signage to avoid information overload
- Colour coded maps at multiple location

Ideas by Chat GPT

- Interactive touchscreen Kiosk
- AR Navigation map
- QR Code Navigation
- Interactive LED pathway lighting
- Voice Activated navigation
- Gamified Navigation App
- Environment sustainability integration
- Inclusive navigation features
- Integration with transport services
- Beacon technology (Bluetooth)
- Historical & Cultural Information
- Multilingual Support
- Orientation tours
- Smart signage with dynamic information
- Intuitive iconography & symbols
- Clear hierarchy & information architecture

PROMPT:

You

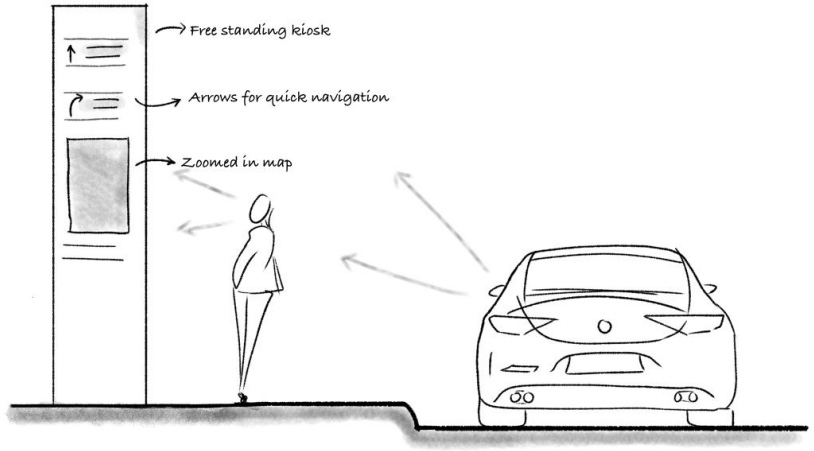
Assume I am a product designer at Department of design & manufacturing at IISc Bangalore. I have to develop designs to create interactive navigation signage for the campus and ease the wayfinding experience for users. Give suggestions that also eliminate current problems in the navigation system.

ChatGPT

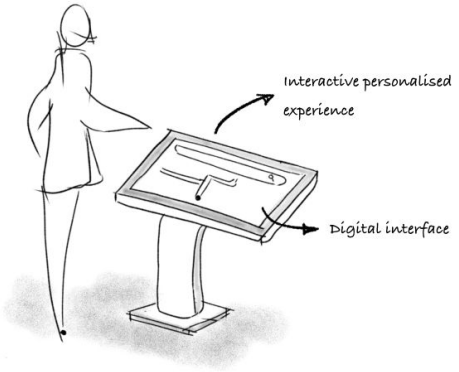
As a product designer tasked with improving the interactive navigation signage for the Department of Design & Manufacturing at IISc Bangalore, consider the following suggestions to enhance the wayfinding experience and address current navigation system problems:

SHORTLISTED IDEAS & CONCEPT SKETCHES

- **Interactive information kiosk**
- **Hierarchy** of signage to avoid information overload
- **Colour coded lines** on road to guide users to nearby zone
- Standees with **Digital** search bars
- **Zoomed in view** of the present location with respect to nearby locations
- **Reduced overload** information by only providing instructions (w/o actual map)
- **Recognisable names** for locations (to easily find in the map)
- **Using same** design language
- Using **backlight** for signages
- **Signage boards** at multiple location



Static Information kiosk



Digital interface

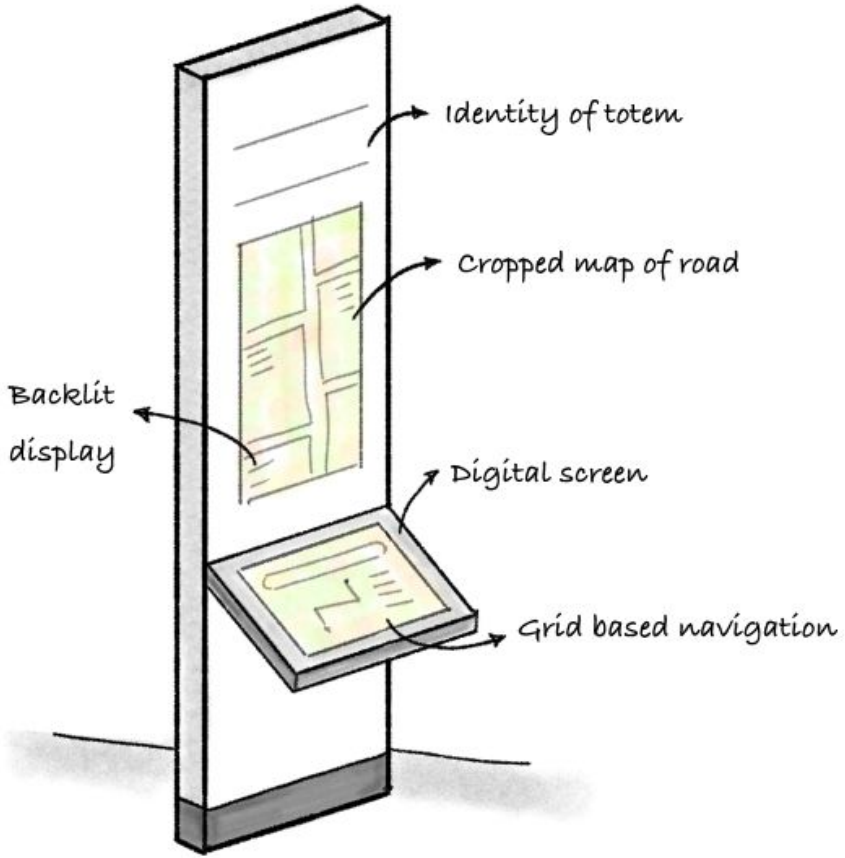
PROPOSED CONCEPT

A system of totems placed at strategic locations in IISc campus of 3 hierarchies
Signage objectives : Clarity, Flexible, Integrated, Interactive, Innovative

- Interconnectivity of totems at various locations
- Information on hierarchy of totems

- **Primary totem** : entry points, central hubs, major decision points
- **Secondary totem** : Distributed strategically along pathways and other high-traffic zones.
- **Tertiary totem** : Placed in proximity to specific buildings, entrances, and specialized zones within the campus

Primary totem	**Secondary totem**	**Tertiary totem**
Static display with cropped map Digital interactive display	Static display with arrows Digital interactive display	Static display with arrows



TECHNICAL REQUIREMENTS

User comfort, accessibility, and optimal information visibility

SNo	Requirement	Considerations	Values	Justification
1.	**USER VISIBILITY**			
	STATIC DISPLAY	Viewing distance	3-6 meters	Ensures clear information readability without straining eyes
		Text size (Minimum)	20mm for headlines, 16mm for body text	Complies with WCAG 2.1 guidelines for accessibility
		Symbol size	Minimum diameter of 20mm	clear identification of symbols
		Field of view	Horizontal: +/- 30 degrees, Vertical: +/- 15 degrees Average reading height 1550mm	Aligns with natural human vision range UNSW Wayfinding signages
		Contrast ratio (Text/background)	7:1	Guarantees optimal text visibility

CONSIDERATIONS FOR DIMENSIONS

Sight Line Legibility

Letter Height	Reading Distances
50mm	15m
40mm	12m
30mm	9m
20mm	6m
10mm	3m

Total comfortable viewing zone
As determined by AS1428.2

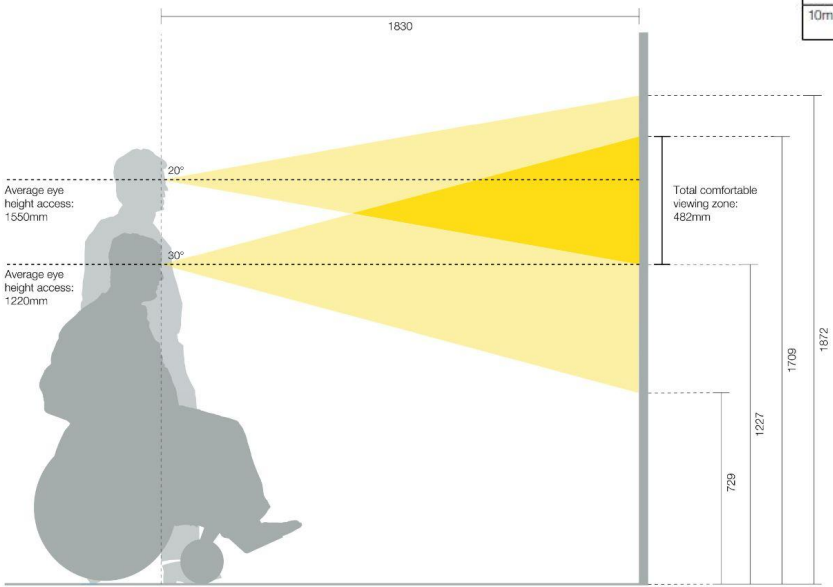


Fig. Total comfortable viewing zone

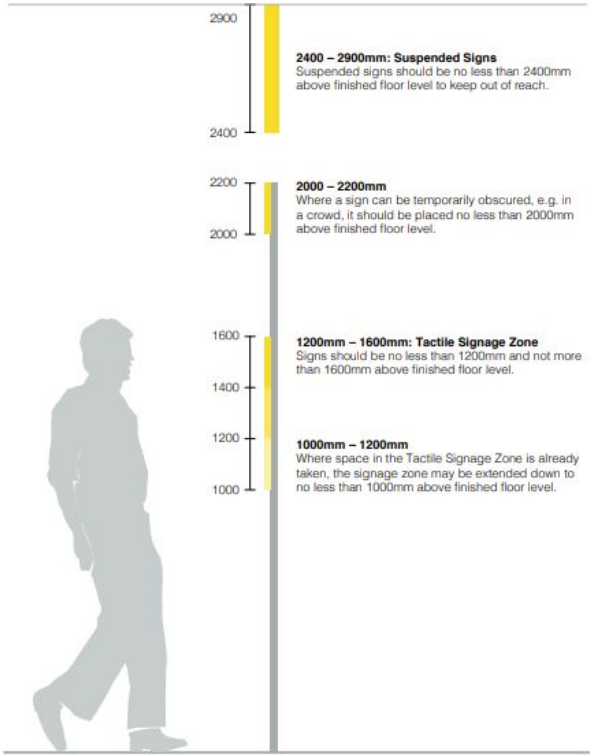


Fig. Placement of display

Source: UNSW_Wayfinding%20&%20Signage%20Standards_Revision%207_Chapter%20G.1_Sections%2001-10

TECHNICAL REQUIREMENTS

SNo	Requirement	Considerations	Values	Justification
1.	**USER VISIBILITY**			
	DIGITAL DISPLAY	**Viewing distance**	0.8 meters for 55" Screen	for comfortable viewing of digital content
		Text size (Minimum)	18 points for headlines	Maintains readability on a screen
		Field of view	Horizontal: +/- 20 degrees, Vertical: +/- 10 degrees Average reading height 1550mm	Optimizes content visibility within natural viewing angle
		Contrast ratio (Text/background)	4.5:1	Ensures sufficient text visibility on a digital display
		Brightness (adjustable)	200-500 Cd/sq.m	
		Slant angle	15-30 degrees	improves visibility, especially for standing users (15 for 2.5 percentile female operator, 30 for 97.5 percentile male operator)

SUPPORTING DATA

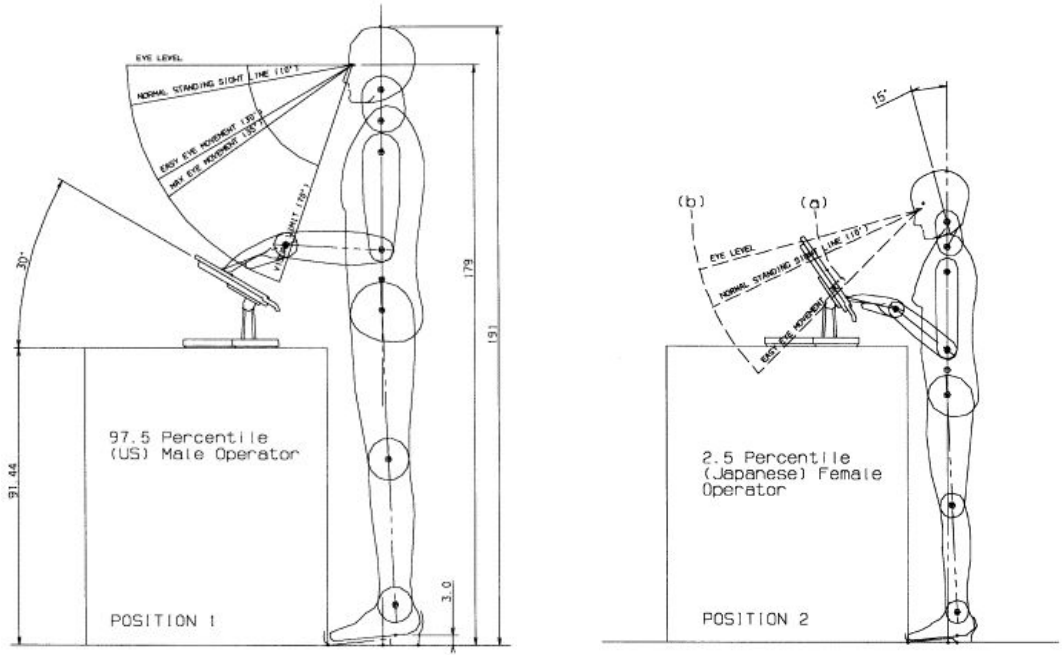


Fig. Optimal viewing angle for touch-screen displays :
a) 97.5 percentile male operator
b) 2.5 percentile female operator

Source: https://www.sciencedirect.com/science/article/pii/S0169814197000875#FIG1

3.4. Dimension of alphanumerical characters and symbols (source: US DoD, MIL-1472G, 2012)

View distance (mm)	Minimum character height (mm)
<500	2.3
500 - 1000	4.7
1000 - 2000	9.4
2000 - 4000	19
4000 - 8000	38

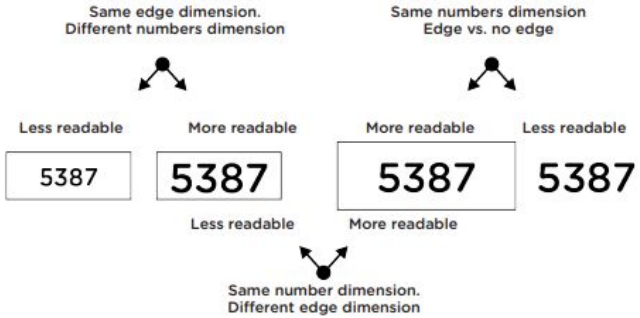


Fig. Guidelines for designing touch screen user interfaces

Source:
https://www.esa-automation.com/wp-content/uploads/2017/10/04_Guidelines-for-designing-touch-screen-user-interfaces-.pdf

ERGONOMIC CONSIDERATIONS

user comfort, accessibility, and optimal information visibility

SNo	Requirement	Considerations	Values	Justification
1.	**OVERALL DIMENSIONS**			
		Totem height	3.5m	Optimizes visibility and minimizes visual impact
		Totem width	1m	
		Totem Depth	10-40 cm	
		Height of digital display	Minimum height: 80cm from the ground Optimal height: 100-120cm from the ground Maximum height: 140cm from the ground	- accessible for wheelchair users - comfortable for touchscreen interaction - ensures visibility for standing users
		Top of the edge of slanted screen	Approx 120 cm	
		Static Display	Minimum 10 cm above digital display top or consider top of human height?	leaving a gap above the screen can provide additional white space, accommodate lighting

DESIGN LANGUAGE (Secondary Totem)

FONT CHOSEN: FRANKLIN GOTHIC BOOK

Lorem ipsum dolo
Utinam habemus assueverit et est. Elit
Ex eam nusquam commune. Vis eu per
Lorem ipsum dolor sit amet, te quaesti
Utinam habemus assueverit et est. Elit pertinacia mea no. A
Ex eam nusquam commune. Vis eu perpetua interesset. Utrc
Lorem ipsum dolor sit amet, te quaestio dignissim repudianc
Sed ut perspiciatis unde omnis iste natus error sit voluptate

WIDTH TO HT. RATIO : 3:5

COLOR PALETTE

C1A36B F4F3F0 C1B49A A1835B FBFBFA

IDENTITY

SIGNAGE

INTERACTION

HIERARCHIES OF TOTEM (Primary Totem)

CONTRAST RATIO

Text color #5D4E24

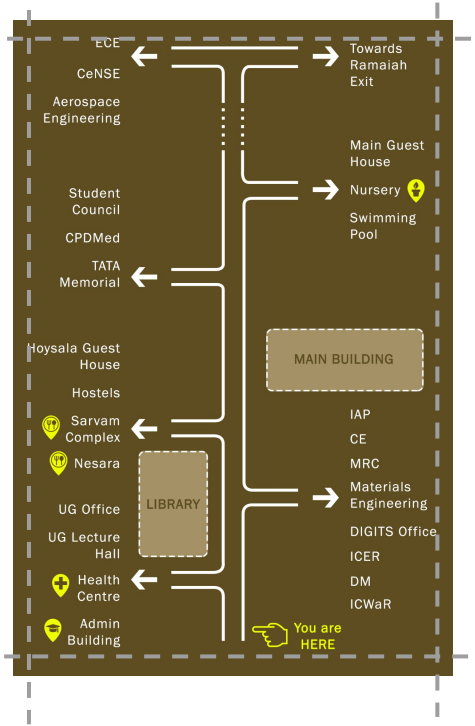
Background color #FFFFFF

Contrast

8.14 Very good ★★★★☆

Small text ★★★ Large text ★★★

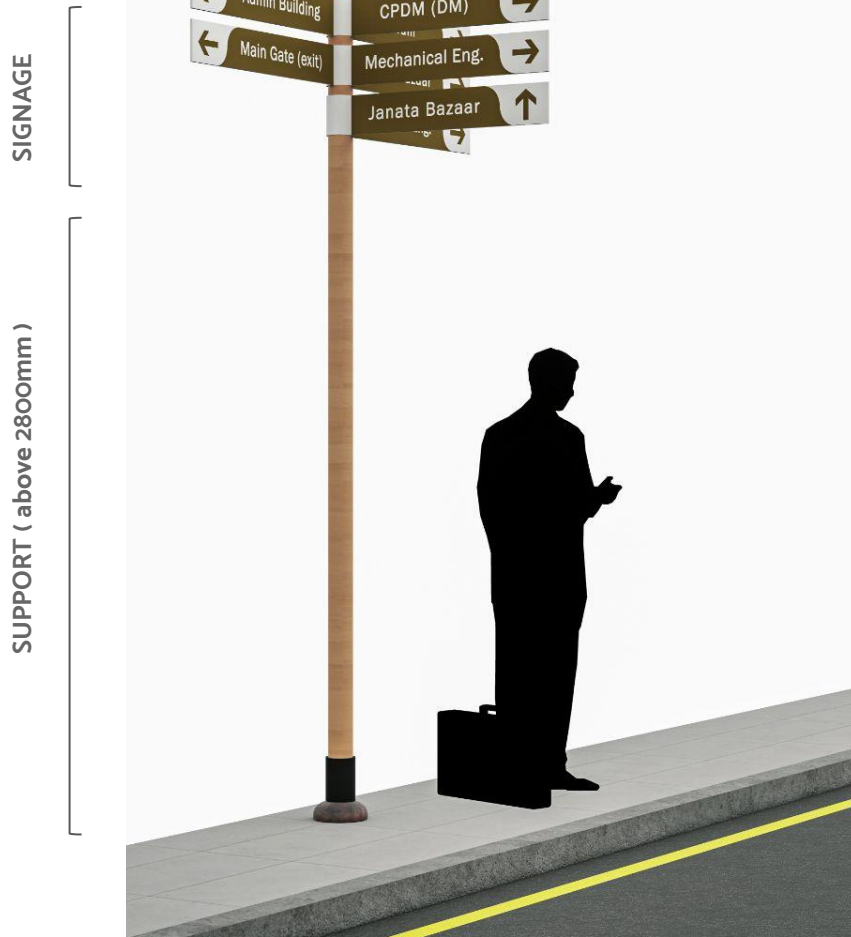
Text Height	30mm
Padding	50mm



Colour Contrast Source : https://coolors.co/contrast-checker/112a46-acc8e5

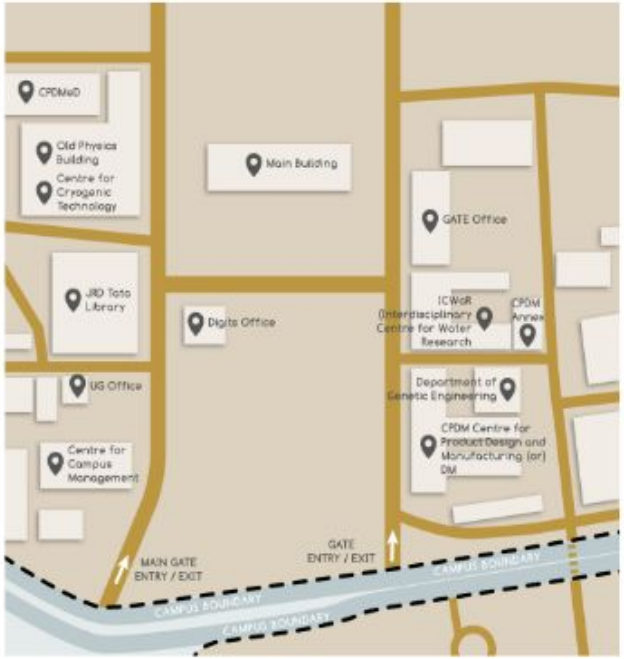
HIERARCHIES OF TOTEM (Tertiary Totem)

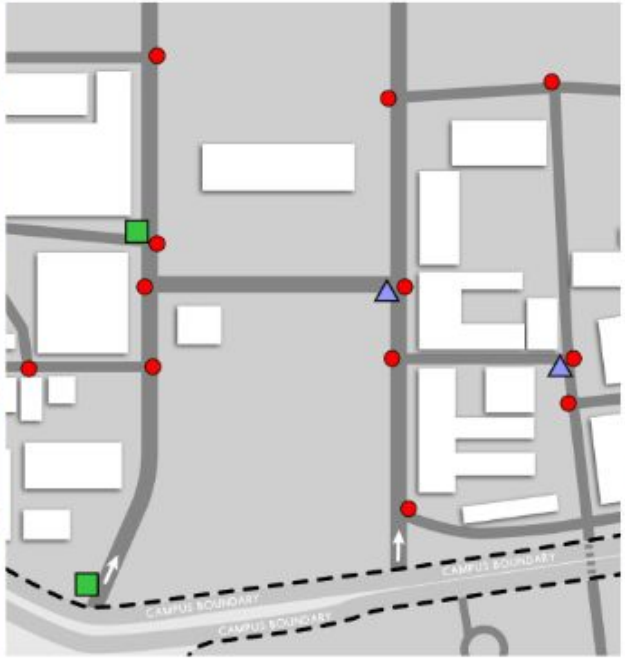
Text Height	76 mm (216 pt)
Padding	50 mm
Board Length	900 mm
Board Height	160 mm
Distance at which text is visible	100 feet (30 m)

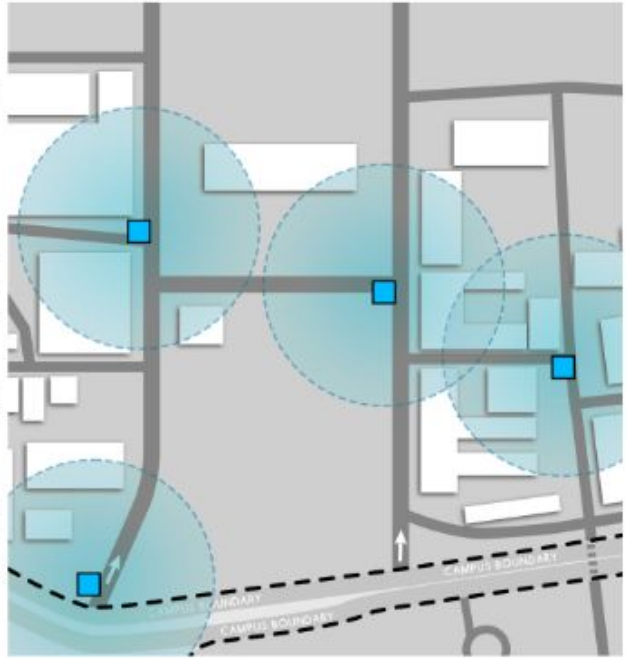


Placement of Interactive Totems

Tertiary Totem
Secondary Totem
Interactive Totem
Primary Totem







This image shows the **region** (within the campus of IISc) which has been focused for the study.

This image shows the **placement of** Interactive **Totems** in the region chosen (all the three types of Totems used in the Navigation design)

This image shows the placement of **Interactive displays** and their **proximity** with other interactive displays (circles with radius of 100 meters).

Reduced Information Overload (1 step at a time)

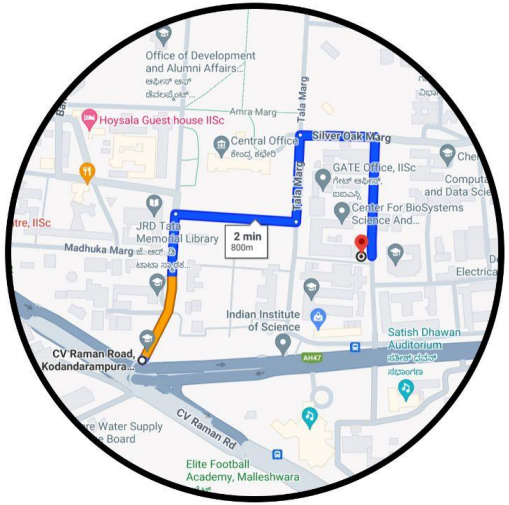
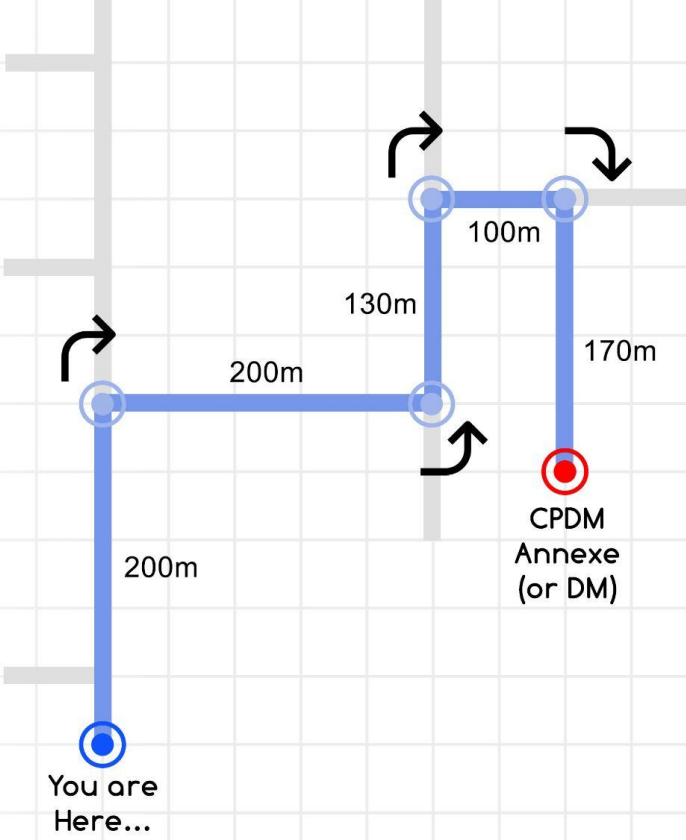


Image Source : https://www.google.com/maps/

Actual maps have **overload of information** (like other buildings, other roads, unmarked locations, wrong locations, routes without updates, etc.) when considering the scenario of **navigating** to the desired location **within IISc**.

Irrespective of bends in roads, the simplified navigation consists **only the direction** of travel with distance. Only the points at which **change** in navigation is required are **shown as steps**.

- Head straight for 200m
- Take Right Turn
- Head straight for 200m
- Take Left Turn
- Head straight for 130m



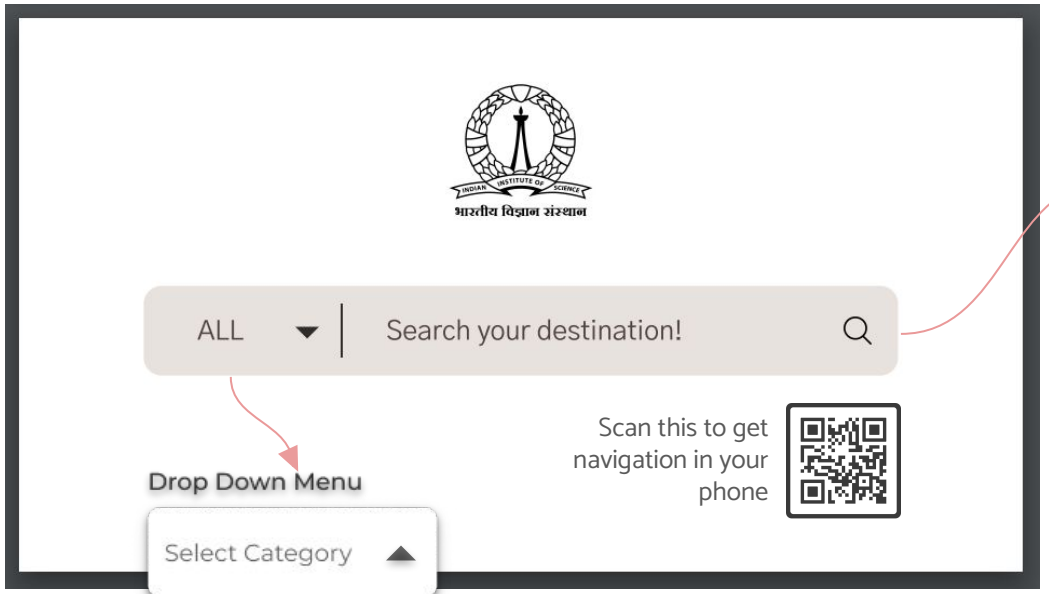
The Lines used **proportionally** shows the **distance** to be walked / travelled. **Other roads are faded out** which only gives an idea about turns in them.

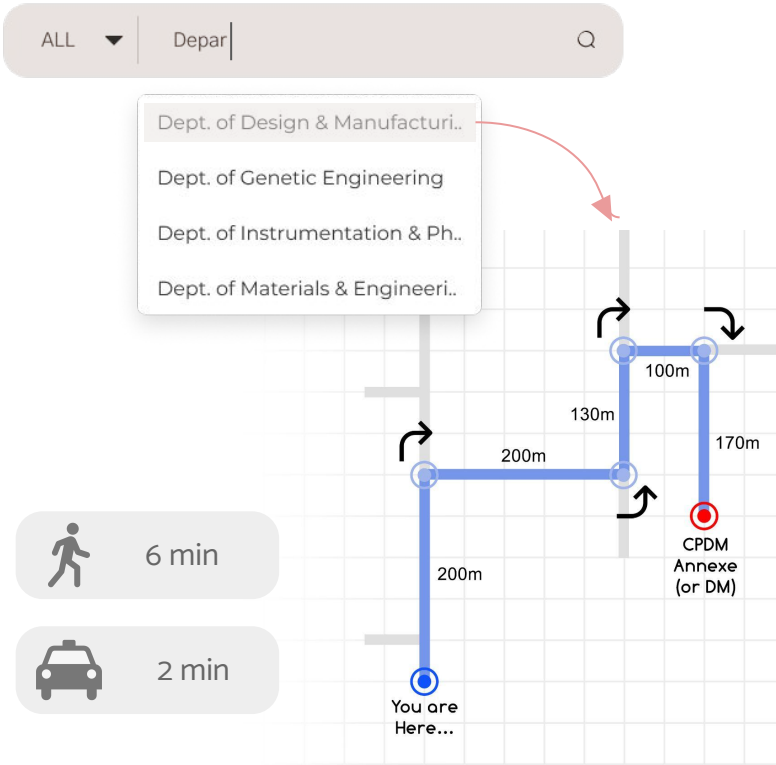
Information display on UI of Interactive screen

For new visitors : Search bar to input destination

For occasional visitors : To explore campus, search facilities

- Select category & make decision





MOCKUPS


Admin Building
IISc
Finance and
Accounts
Main Building
Hostels
Janata Bazaar
Aerospace
Department


CPDM (DM)
Mechanical Eng.
Main Gate (exit)
Sarvam
Janata Bazaar
Aerospace Eng.

FUTURE SCOPE

- Having a **mascot** in the digital display to enhance approachability
- IISc **Navigation App**
- **AR** Integrated application
- **Zones** map for regular students
- Orientation **tours**
- **GPT** integration

Thank You

IDENTIFYING TYPES OF USERS

Based on Newness	Occupation of visitors	Existing method of navigation
Extremely New	new students, new faculty or staff, visitors for meetings, delivery services,	Rely on google maps, ask guards or people walking by
Occasional Visitors	Guest faculty, Visitors for events, Volunteers, etc.	Try to recall, ask people for directions
Frequent Visitors	Faculty, Students, Staff, etc.	Try to recall, ask people for directions

PAIN POINTS

MAP

- Less VISIBILITY,LEGIBILITY and READABILITY.
- Process to read the map was less aware among the users and not intuitive.
- No current system to specify the zones where we can find the intended departments.
- No way to locate one department inside a department

SIGNAGE BOARDS

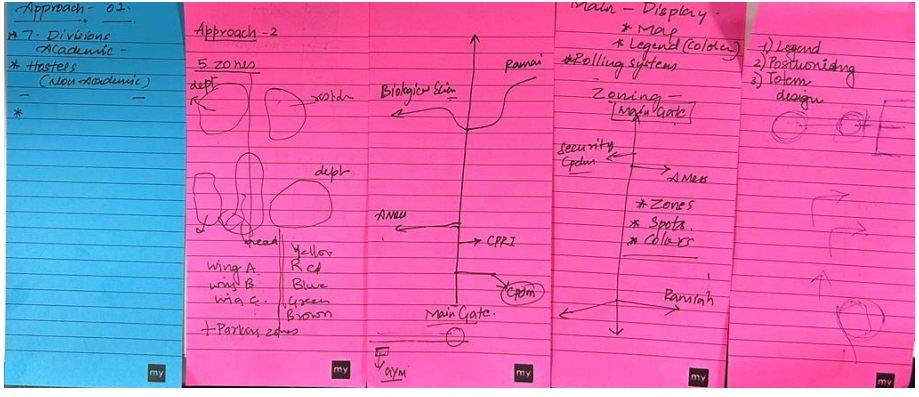
- Based on the color palette of new logo.
- Placed in less visible area.
- There are no uniform locations where it can be found.
- Not noticeable in low light.
- Not suitable for night navigation.

IDEATION

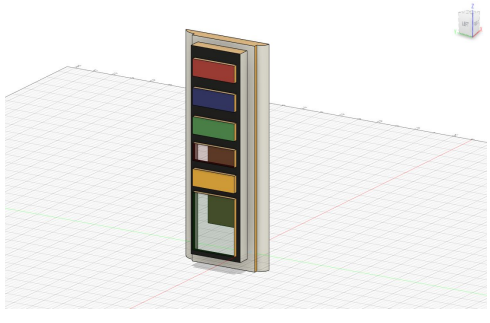
Interactive Navigation Signage

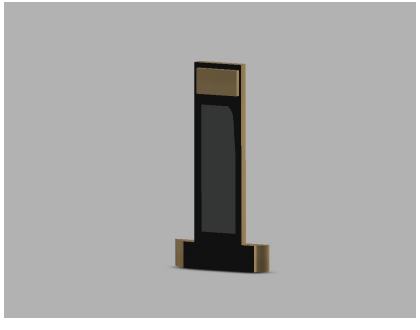
3 ASPECTS :

1. Information System
2. Placement of Signage
3. Totem design



Approach for Information System :
- Color coding based on different Divisions
- Zoning based on area





Wayfinding

Consistency

Kiosks

Landmarks

Sustainability

Campus Zones

Compatibility

Readability

Responsive

Information System

Legibility

Symbols

Design Language

Digital

QR Code Scanning

Touch based

User-friendly Navigation

4 W's and 1 H

Who?

User who comes to campus on some work, internship or on to delivery

What?

Problem faced while navigating to the intended location.

Where?

Inside the campus of IISc, Bangalore- Navigating to various facilities inside the campus.

Why?

For easy navigation to the various locations.

How?

By designing an interactive signage system placed within campus.

WAYFINDING POSITIONING PRINCIPLES

To provide intuitive navigation the following rules should be applied when positioning signage throughout the campus:

- **Consistency** in wayfinding signage placement
- Placement of wayfinding signage elements at **major decision points**
- Consider the **users' navigational needs** when choosing what sign type is required
- Do **not overburden** the user by providing too much information
- Provide information that is **clear and concise**
- Provide clear **indicators of accessible routes** where necessary

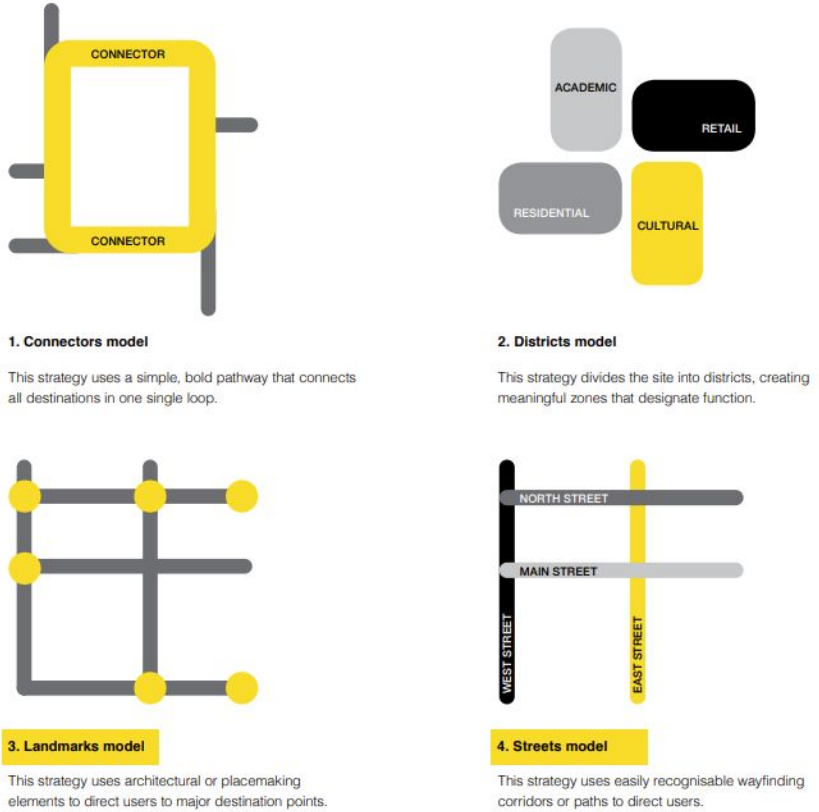


Fig. Fundamental methods of wayfinding

What did Navin add to the team ?

- Actively participated in the discussions and brainstorming ideas
- Write Role play (delivery person) and develop interview questionnaire
- Literature study - Standard dimensions of displays
- Design approach 1 - along with required graphical illustrations and zones
- Interpreted Needs of users
- Actively participated in discussions to develop the form and function of Totems
- 3D modelling and rendering
    - Sketchup
    - Lumion
    - Adobe Photoshop

QUESTIONNAIRE

Knowing the user better

1. What is your current purpose of visit to the Campus?
2. What is the data that you have with you at this moment that would help you reach your destination? *(For example, someone could have shared you the location, and you just simply follow that; or, they would have just told you to come to some particular department and you might plan to use Google maps after entering the campus, etc.)*
3. If this is your first time, how frequently are you to visit the campus?
4. Will the destination that you would be going to remain the same or keeps changing every time you pay your visit?

Navigation Specific Q's

1. Where do you want to head to? (Or, Where did you head to during your visit to the campus?)
2. Did you have any expectations when you entered into the campus? (for guidance in Navigation)
3. How are you planning to navigate yourself to the destination? (Or, How did you navigate yourself ?)
4. Did you face any difficulties while navigating? If yes, what were they?
5. Implementation of what do you think could have made your experience of Navigation better?
6. Any difficulties that you face with the current solution that you use for navigation?

On a scale of 0-10

1. How was your experience during the process of navigating yourself to your destination after entering the campus premises?
2. How helpful was the existing signages for you to navigate in the campus?