



Do not scroll Instagram when **bored**

An interactive installation

Rajdeep | 22M2251

Guided by Prof. Girish Dalvi

Acknowledgement

First, I would like to extend my heart felt gratitude to IDC for providing me the opportunity to be here and interact with all the valuable people it has.

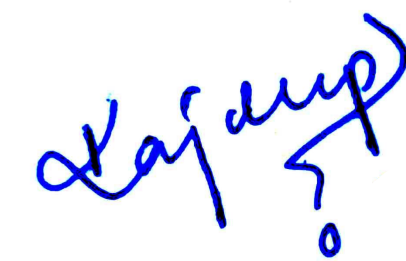
I am extremely grateful to my guide, Prof. Girish Dalvi for taking interest in the study and guiding me for these two months, through their valuable discussions. I have received deep insights not only for the project but on the holistic development of my thought processes. I would like to thank the PhD scholars, Shruti Agarwal, Malay Dhamelia and Tanaya Vyas for their continuous guidance.

I would like to thank all the university students and mess staff members who actively participated in the study and cooperated by providing rich descriptions about their experiences.

Finally, I am always grateful to my friends, family members without whose support this would not have been possible.

Declaration

Hereby I declare that this report is my own work and none of the content of the report is plagiarized in any form, neither copied from any illegal sources. Any content discussed or reference from existing literature or excerpts taken has been cited herein.



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Approval Sheet

Approval Sheet

Interaction Design Project 2 titled "Don't Scroll Instagram When Bored"
By Rajdeep Sutradhar (Roll Number 22M2251) is approved for partial fulfillment
of the requirement for the degree of 'Master in Design' in
Interaction Design at the Industrial Design Centre, Indian
Institute of Technology, Bombay.

Guide: 

Chairperson: 

Internal Examiner: 

External Examiner: 

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Abstract

A number of reports indicate that people are shifting their social life from real life to reel life. Reels are increasingly used as a prop for conversations. Due to which, they often end up in doom scrolling. They not only experience paralysis but also have physical effects like bad posture.

Existing efforts to engage with such problems are mostly screen based. Such approaches often exacerbate the issues rather than mitigate them. We designed an interactive installation to instigate people to converse with each other / socialize in real life instead of reel life by providing them with virtual cues.

Around 120 students interacted with the installation and 15 of them were interviewed for post engagement feedback, which was analyzed using relational content analysis method. We observed high engagement with the installation, following up questions enquiring about the artifact.

The nature of provocation was effective due to two factors, firstly we brought a very private interaction (of scrolling) into a social space. Secondly, we transformed an oculo-centric and digital activity into a multi sensorial and physical experience.

Keywords: Interactive installation, Instagram, Mindless scrolling

Introduction

How do you feel when you are bored of something? Boredom is one of the most commonly experienced states among healthy individuals and almost all the times it is evaluated negatively (unpleasant and undesirable) [Seel & Kreutzer, 2003, Wendell, 2014]. Eastwood (2012) articulates the universal understanding of boredom as “the aversive experience of wanting, but being unable, to engage in satisfying activity.” He further reconstructed the definition in terms of one’s ability to engage attention and the aversive state is attributed to the environment. What is it that makes it so undesirable? What makes it so inconvenient?

When one experiences a state of boredom, they look for satisfaction from external stimulation. And one of the most popular sources of stimulation is social media. Although we cannot straight away state a causal relationship between boredom and using social media, we can always speak for the scenarios where it's plausible. We have taken up Instagram for this study simply because Instagram is becoming more and more popular each day. India tops the list of most number of monthly active users, which is 230.25 million, and 59% of Instagram’s users are from the age 18 to 29 years [Omnicores, 2023]. A numerous study can be found regarding the consequences of addiction to the platform but lesser has been known about the mechanics used by Instagram and their effects on an individual. There has been a lot of debate around how boredom is related to creativity. Some studies have shown that boredom has detrimental effect on creativity [Haager, Kuhbänder, Pekrun, 2016] but a few studies have also suggested that the state of boredom, sparks creativity [Gasper and Middlewood, 2014, Harris, 2000, Mann and Cadman, 2014]. In this context, another study has studied boredom as a ‘trait’ which was earlier studied as a transient ‘state’, hence taking subjectivity into account. People who are less prone to boredom can capitalize on it and produce more creative results, and vice versa [Hunter, Eileenor, Abraham, Goldberg, Eastwood, 2016].



Another comprehensive definition of boredom is suggested as a mental state of weariness, restlessness and lack of interest in something to which one is subjected, its unpleasant or undesirable, and its weariness and restlessness are causally related to lack of interest [Wendell, 2014]. Although lack of interest is primarily held responsible, it can be very well due to lack of vision in the work or task they are indulging in. So, when there is some vision behind the actions, even if their task is doing something on Instagram, they might not be distracted or say waste time. When there is a vision, there are goals to be met, and there comes the matter of interest. So, it is not directly based on interest, the construction of a vision also takes up a web of thoughts altogether. Since this is a qualitative study, we are interested in subjective experiences, and we agree that boredom is important to experience for designers, to tap into the most creative areas in the head.

Motivation

I observed many such kind of incidents around me and in myself as well like in the mess, in the auto, in a lecture, etc. I was becoming restless due to a sense of lack of control over things that I want to control like my screen time. And that had a great impact on my other academic and personal relationships with people in ways not very explicit. Hence, This project is an exploration, dwelling and confrontation with that issue of mine. I look at what people think about it and try to design an intervention that can act as a provocation and stir up people's mind in this area.

I will be personally satisfied with the project if this can contribute or provide a boost to the discourse of the usage and effects of mindless social media usage. Hence, any discussion started due to this project aimed at gaining higher consciousness of the underlying forces and mechanics used by these big tech company product, will be a satisfactory contribution from my part, even if the installation doesn't roll out fully finished at the end of the semester.

Objective

The objective is to evoke self reflection on mindless scrolling through Instagram reels. The experience of the interaction with the installation would probably trigger self reflection upon two things: the mechanics designed for usage of Instagram. In essence how the features of the application is shaping how we live outside it. Reflect upon the consumption of content. Also people might think of the type of the content one is consuming and the way they are consuming it.

Scope

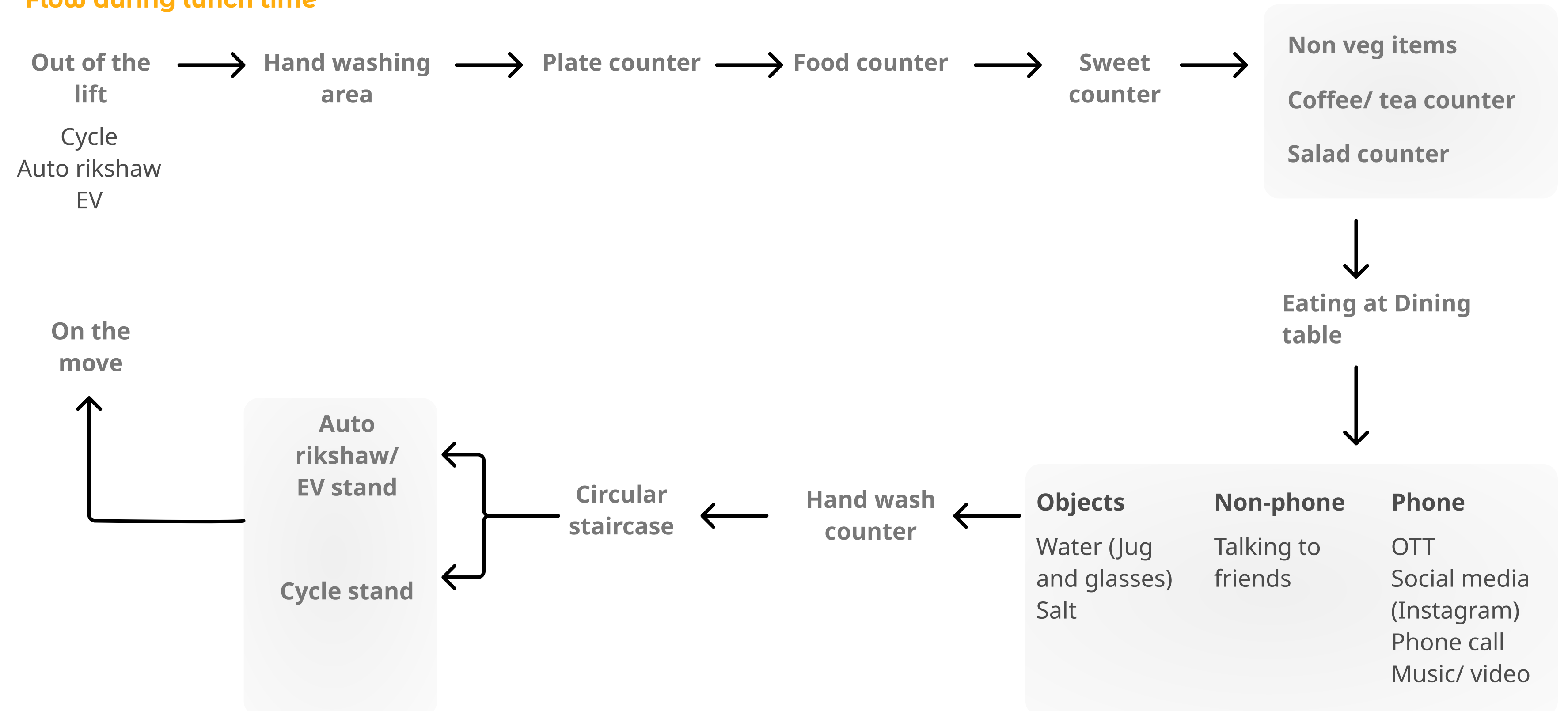
This project and its usability is limited to IIT Bombay University students of age group 18-29 years. Due to feasibility of conducting primary research and evaluation tests with the participants.

The project and its approaches are focused on psycho-social aspects of social media usage and does not enter into complex conditions like addiction. The intervention is based on basic interaction design features within Instagram (like, comment, share, scrolling through feed, etc).

Possible areas of intervention

When we talk about installation, the context plays a major role in design considerations in many aspects like aesthetic appeal, nature of intervention, and the extent of intervention (how intrusive / obtrusive it is). Hence, keeping in mind the parameters of feasibility, we choose the hostel premises as our context. With the hostel also, the mess area is a junction between the lobbies of three hostel through the basement floor. Here's a rough typical flow of how students use the space:

Flow during lunch time



If we look at it as a digital problem space, a digital solution is the first thing that comes to mind, and its been explored the most. Physical artifacts like Public installations can be designed in a way to interact with people in an engaging, Yet non-intrusive manner. But at the same time I don't want it to be completely alienated from the digital context. So the intervention has to be somewhere in the middle.

Existing approaches include interventions around :

Social norms: For example this is a vending machine for like and followers in Instagram. Hence targeting insatiable apatite for gratification from gaining like and followers.

In Another approach is the affect of aversion:

People are shown something which is not pleasant, or something which is associated with a feeling of shame:

When people face the poster, the bruised face of the lad starts healing

Fun theory is another effective approach, for example, a funny audio feedback for putting something in the dustbin. And we all know about the piano tiled staircase.

Talking of installations, one can manipulate the spatial configuration to induce change in behavior.

Another application of social influence, where a dustbin posts an image of the trash thrown into the bin , into a Facebook page tagging the owner.

Some installations act as trigger for discussion, in on university entrance a short story was projected, of 2-4 lines, which explored socialization through storytelling

Amplification and physicalization of features that are mostly taken for granted, such as like box, one just presses to register a like.



Social norms: Quick fix

Quick Fix Is an Interactive Art Exhibit That Feeds Your Social Media Addiction

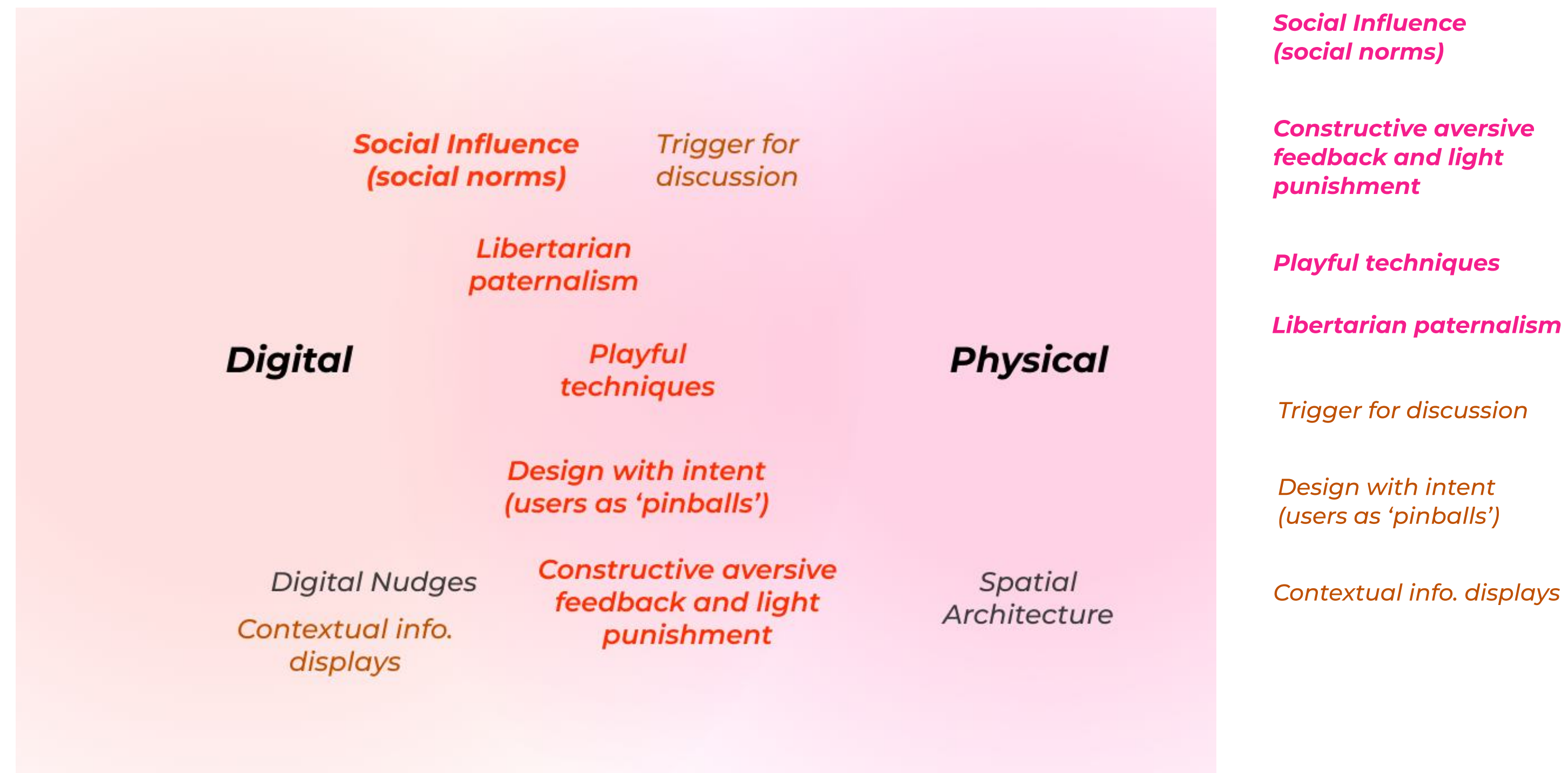


Social Media Addiction- 9 Signs that you are a Social Media Addict (myblogadda.com)



'A feeling of shame': Social+ aversion affect

Bruised Woman On Billboard Heals When People Look At Her, Reminds Passersby Of Dangers Of Ignoring Abuse | HuffPost Impact

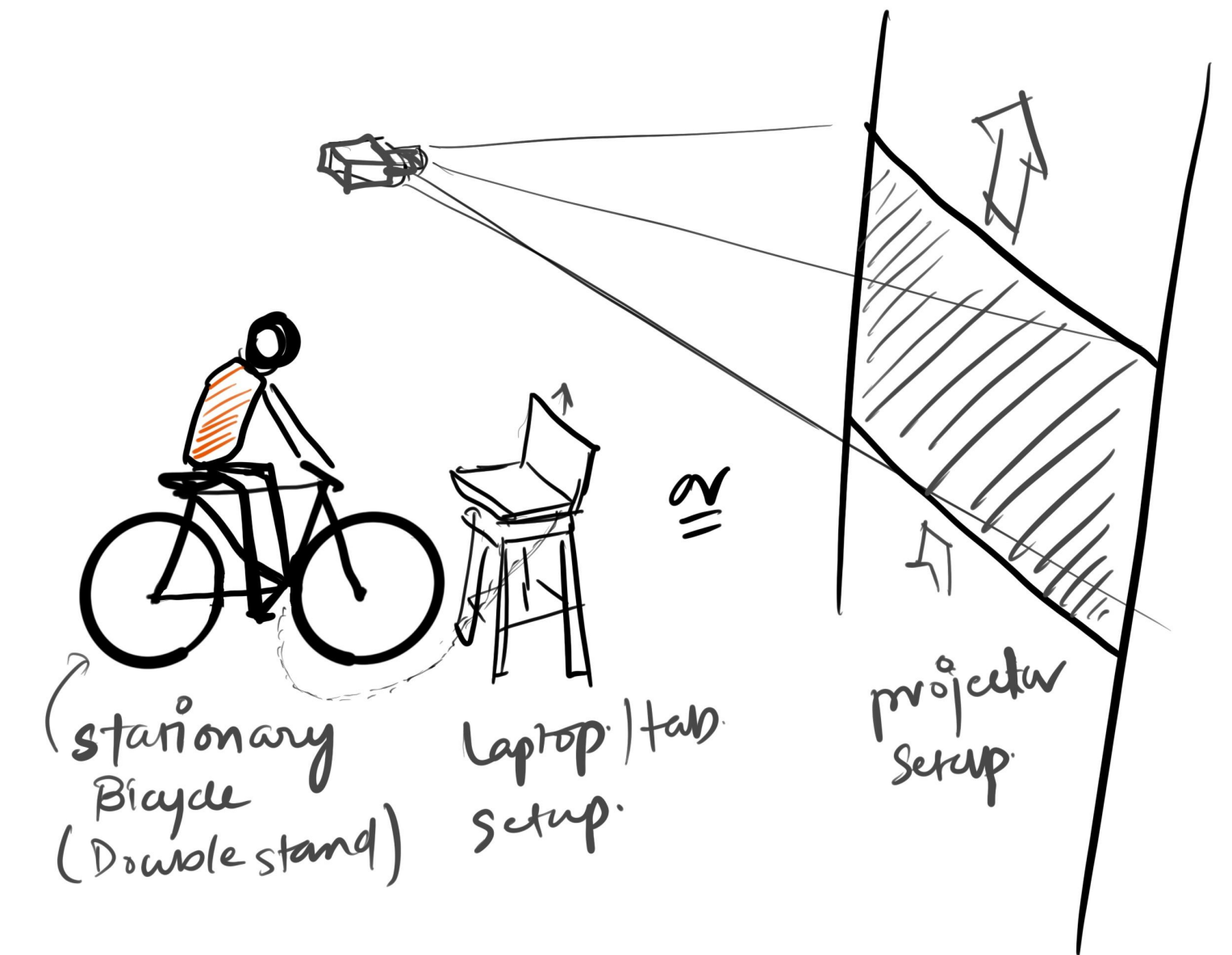


I roughly mapped them between the nature of intervention being digital or physical. Through literature review, I found that parameters like coerciveness, Intrusive or Obtrusiveness, aversiveness, or fun. Based on the previous diagram and these parameters, some 4 approaches are shortlisted. However, these are not concrete categories there can be overlapping and manipulation as per the demand of the context.

Approaches and Explorations

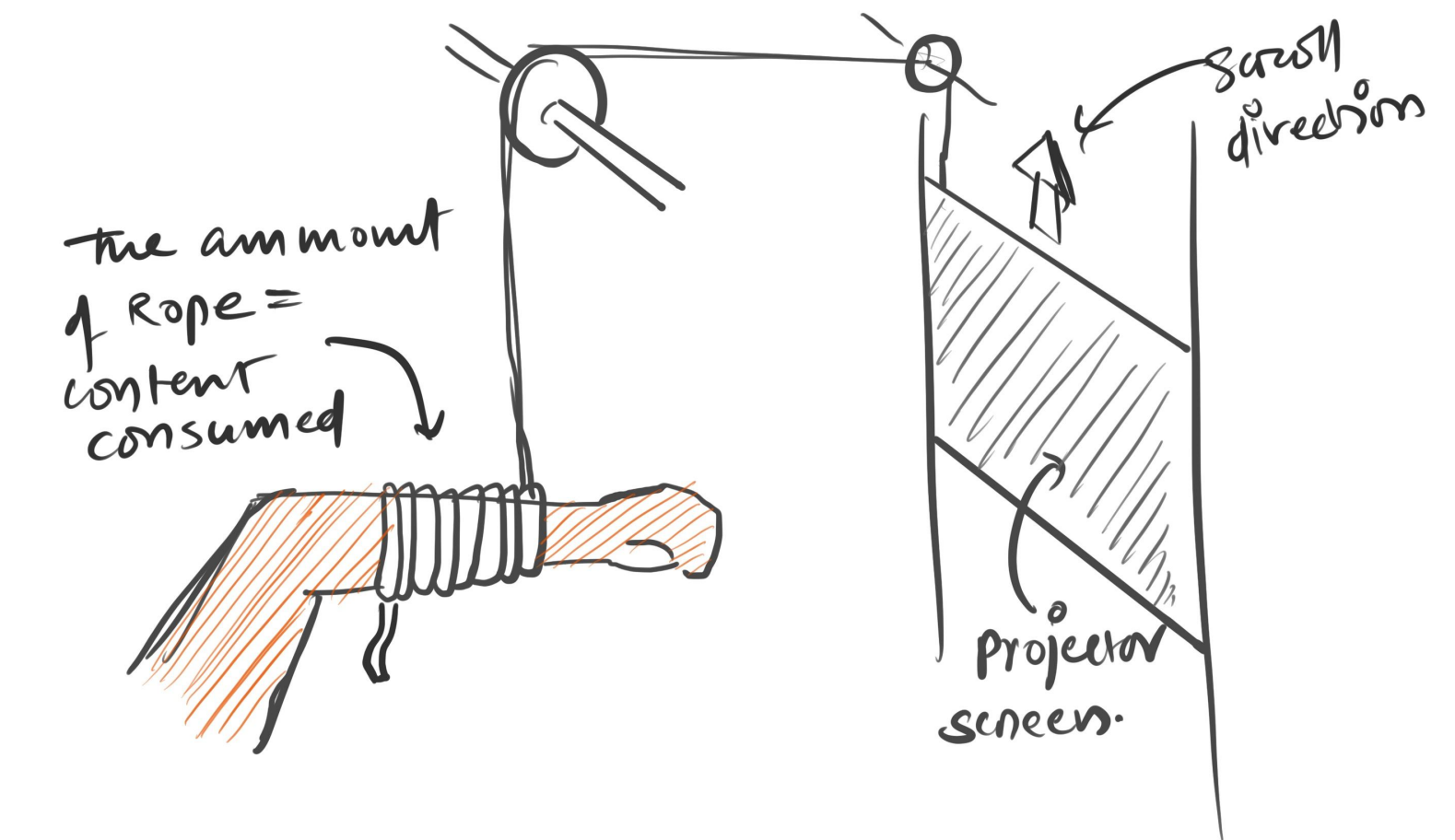
1 Reel Track

A stationary bicycle is kept in front of a projector showing the reels interface of the Instagram. And as the person peddles, the reels scroll, and this keeps on getting difficult as the person get deeper into the activity. This installation aims at making the act of effortless scrolling more effortful, so that people cannot be mindless about it.



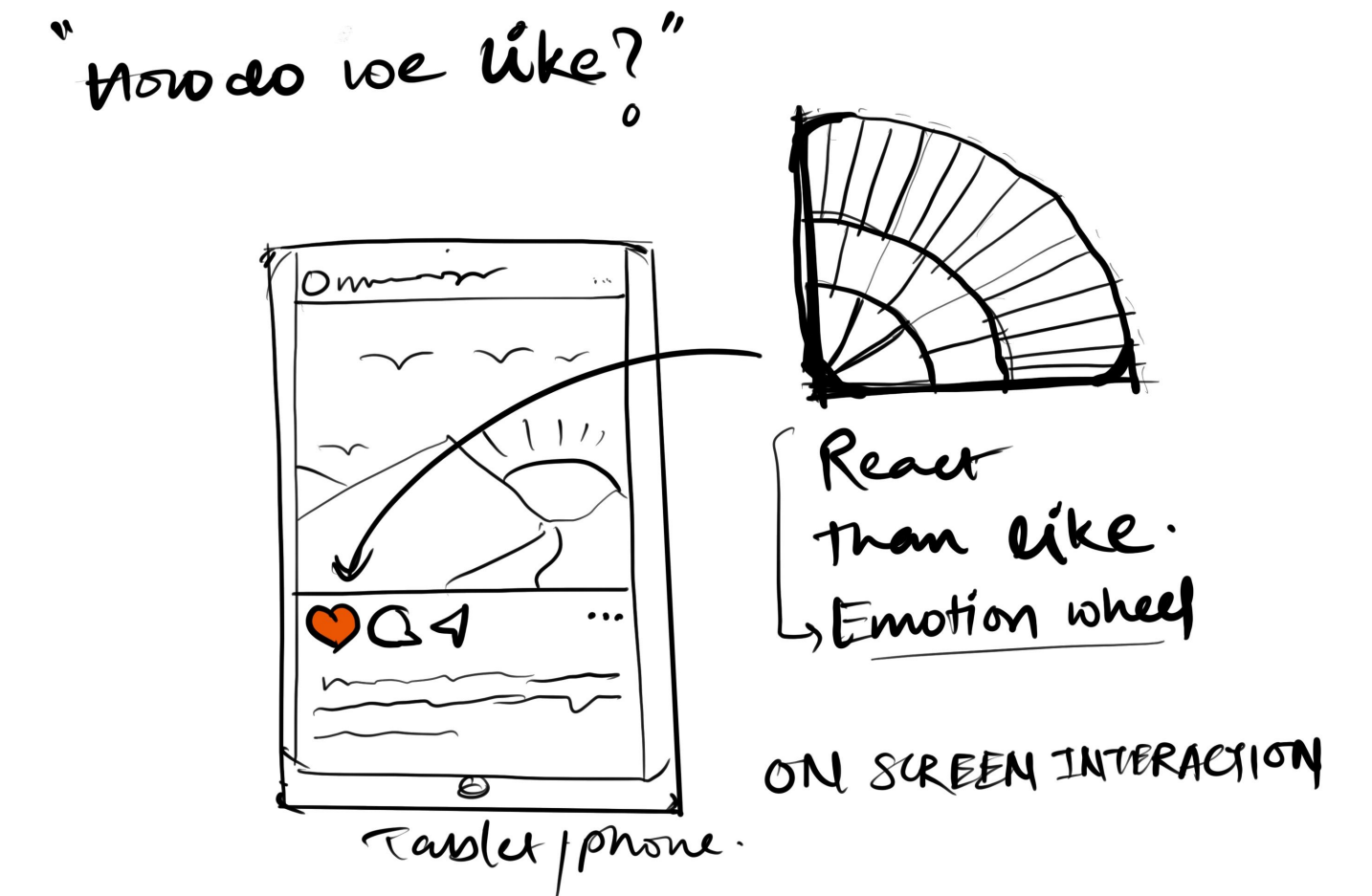
2 Reel Lapeto

Similar to the bicycle idea, here scrolling happens with pulling a rope towards oneself and winding it in their forearm, and it keeps on getting difficult with number of scrolls. This aims at providing a abstract quantification of how much content has been consumed by the participant.



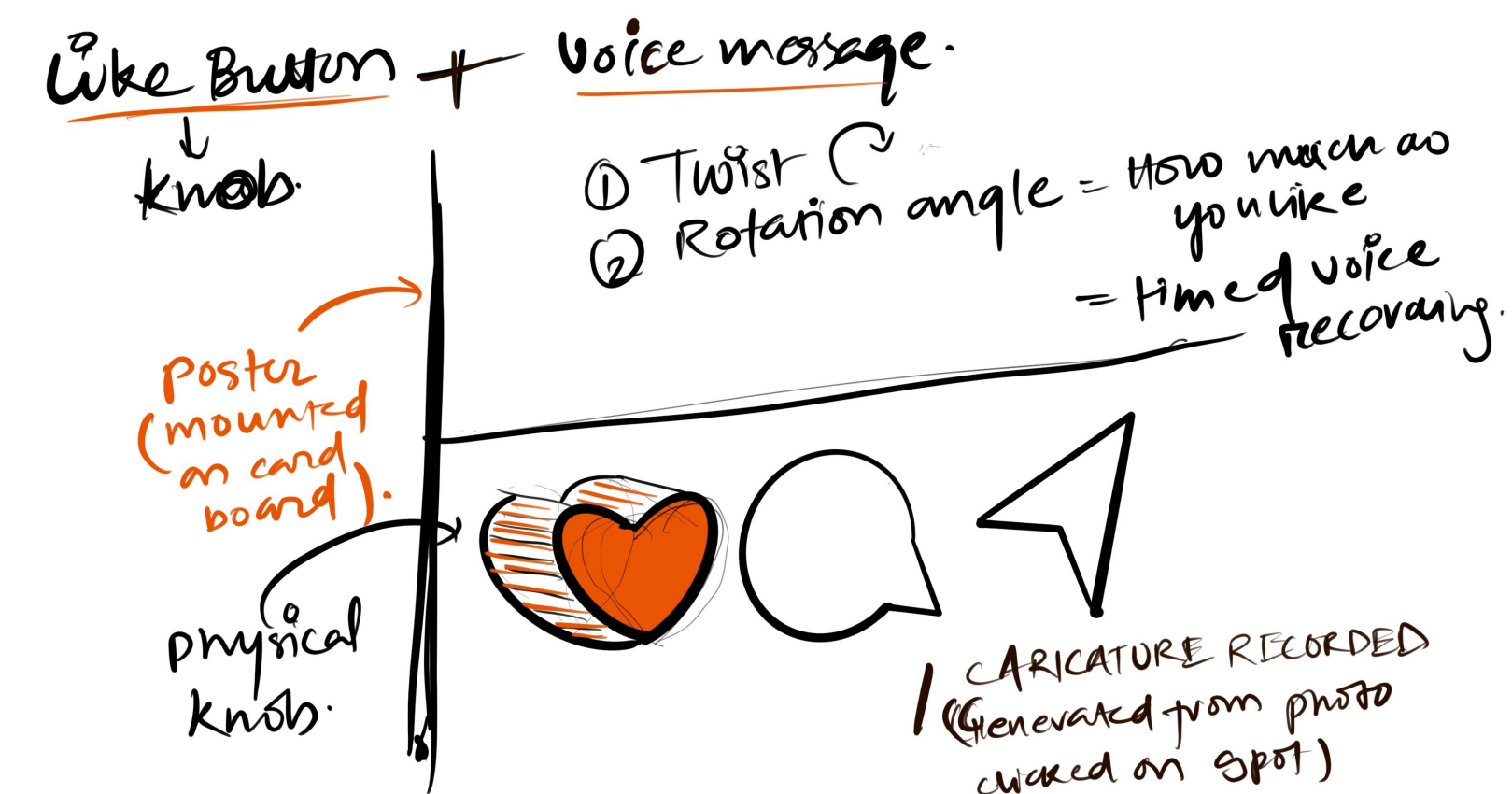
3 Wheel of emotions

This is an on-screen interaction installation which emphasizes and amplifies the 'like' feature. One of the primary research findings were that Instagram like feature is an example of how it reduces complexities of real life into mere binaries. Hence, in this installation you 'react' than like. And when one clicks on the react button, an emotion wheel opens up to select the accurate reaction.



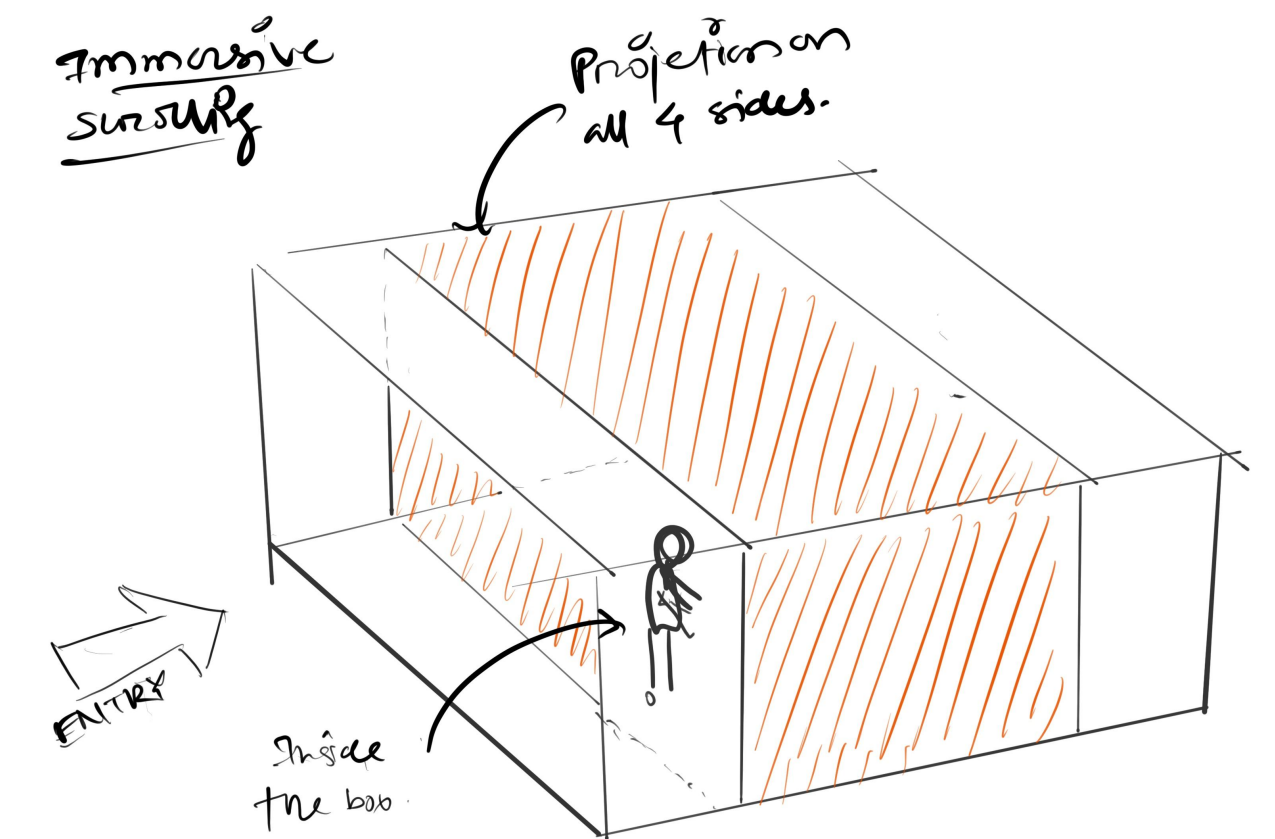
4 Twist the 'like'

This is a variant where the like button is extruded out in the form as a heart shaped knob. One has to rotate the recoiling knob to express how much they liked the particular post and while the knob is recoiling, the participant can say something to further elaborate on how did they exactly feel. Or what are the exact thing which they liked.



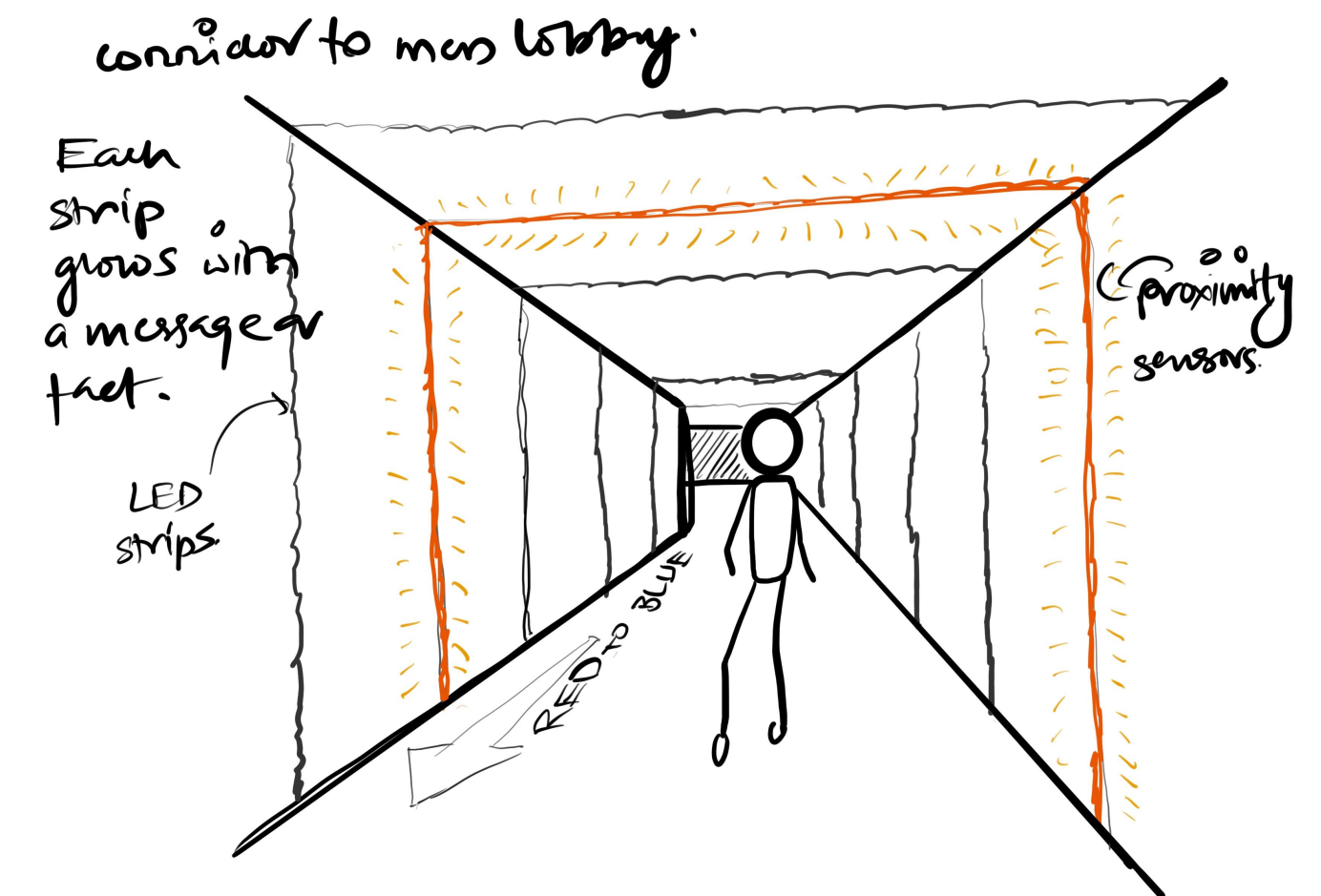
5 Wheel of emotions

This is spatio-dynamic installation where all the four sides of the wall is projected with photos or random posts, and when the person does anything or any physical movement, the posts and reels start scrolling or moving in a haphazard manner. This is community level interaction where a lot of people have to coordinate and make sure that there is no movement from anyone in the crowd.



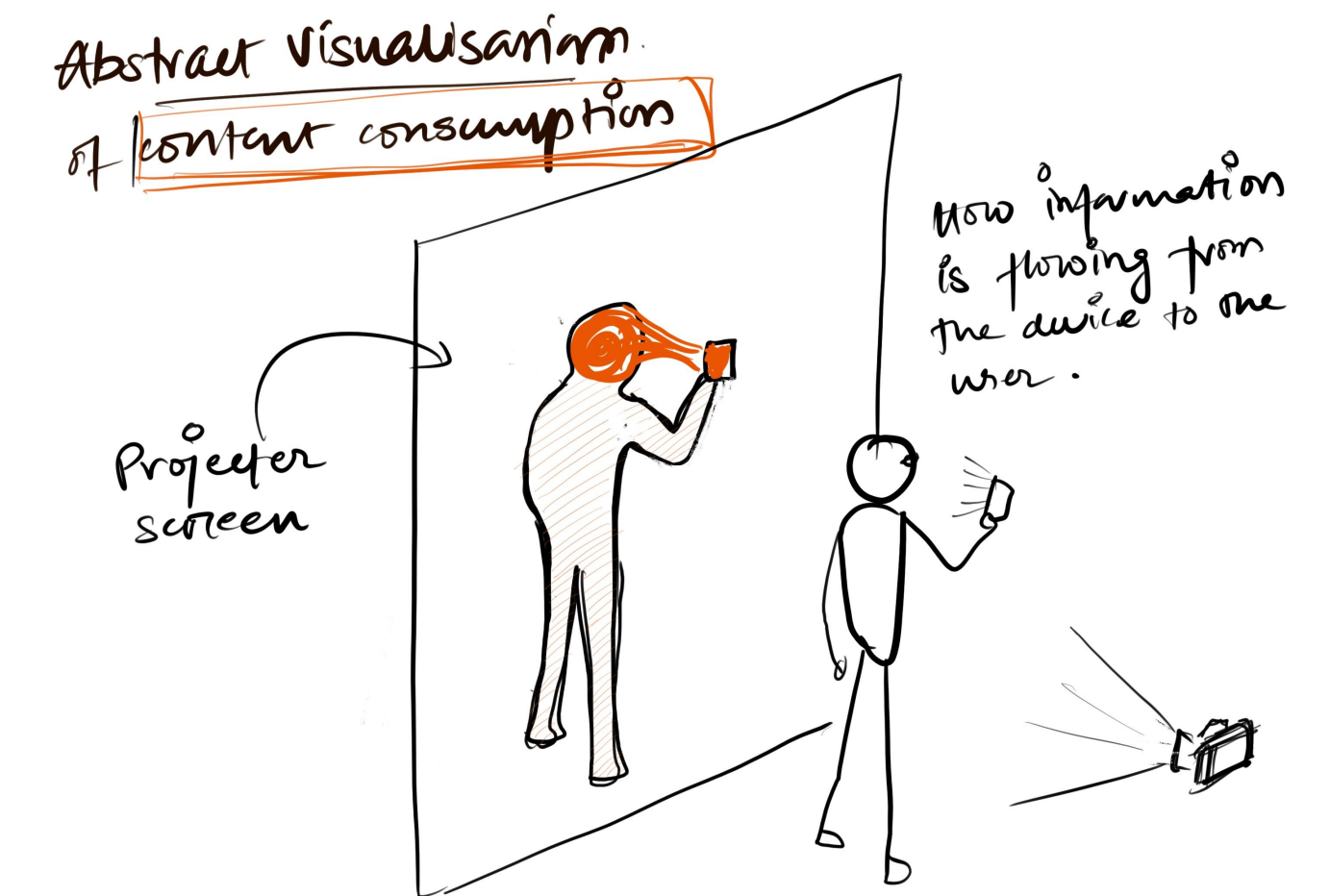
6 Wheel of emotions

These are thin LED strips with a message along each strip written on paper. And as a person moves through the corridor, the closest light strip glows and the message is readable. The message is usually a provocative question like “how many hours did you waste today on Instagram?” This is a classic aversion affective state installation, where the participant feels unpleasant about the trigger.



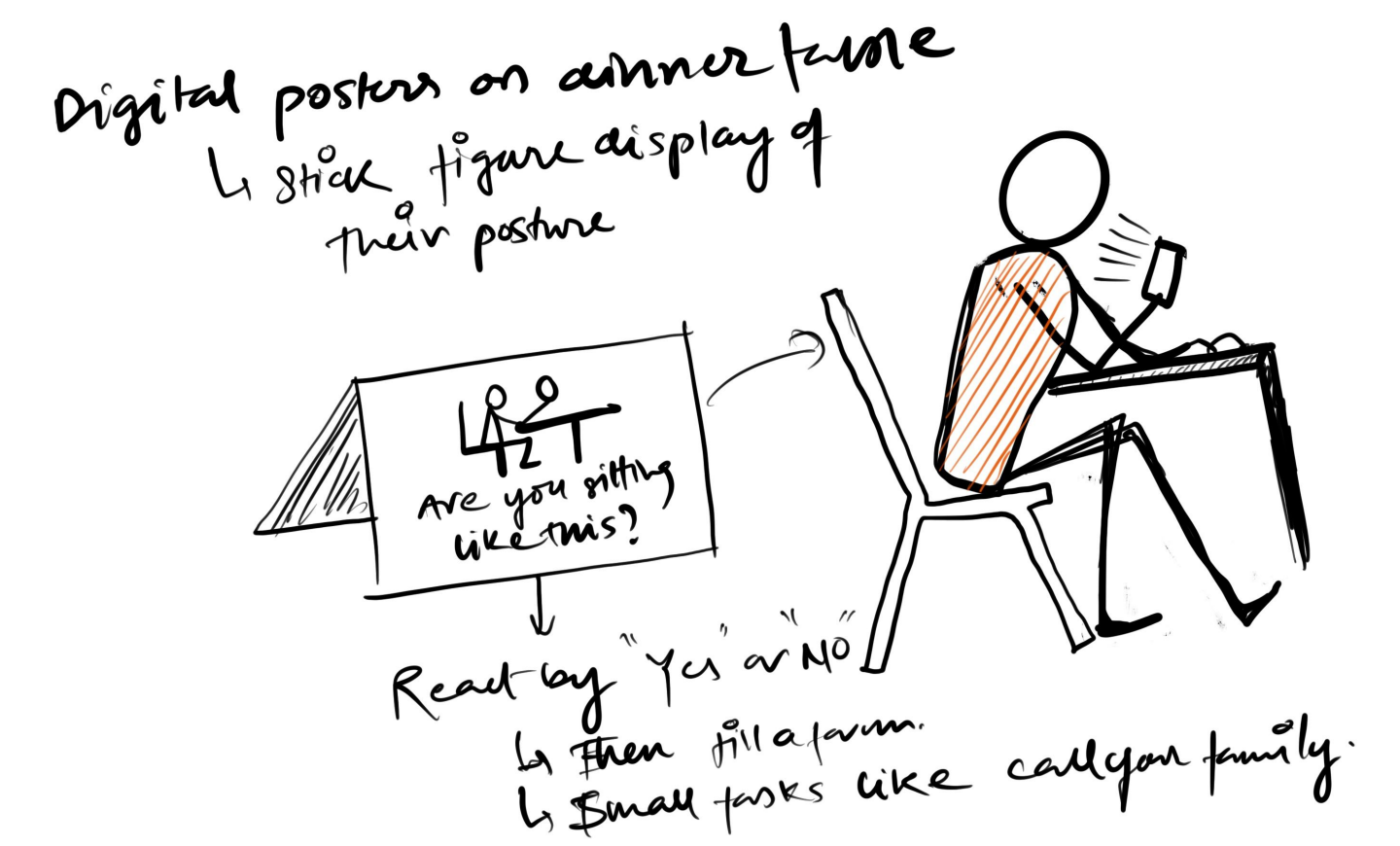
7 Mental reflection

This is a screen projection where it visualizes the person looking at phone in an abstract manner.



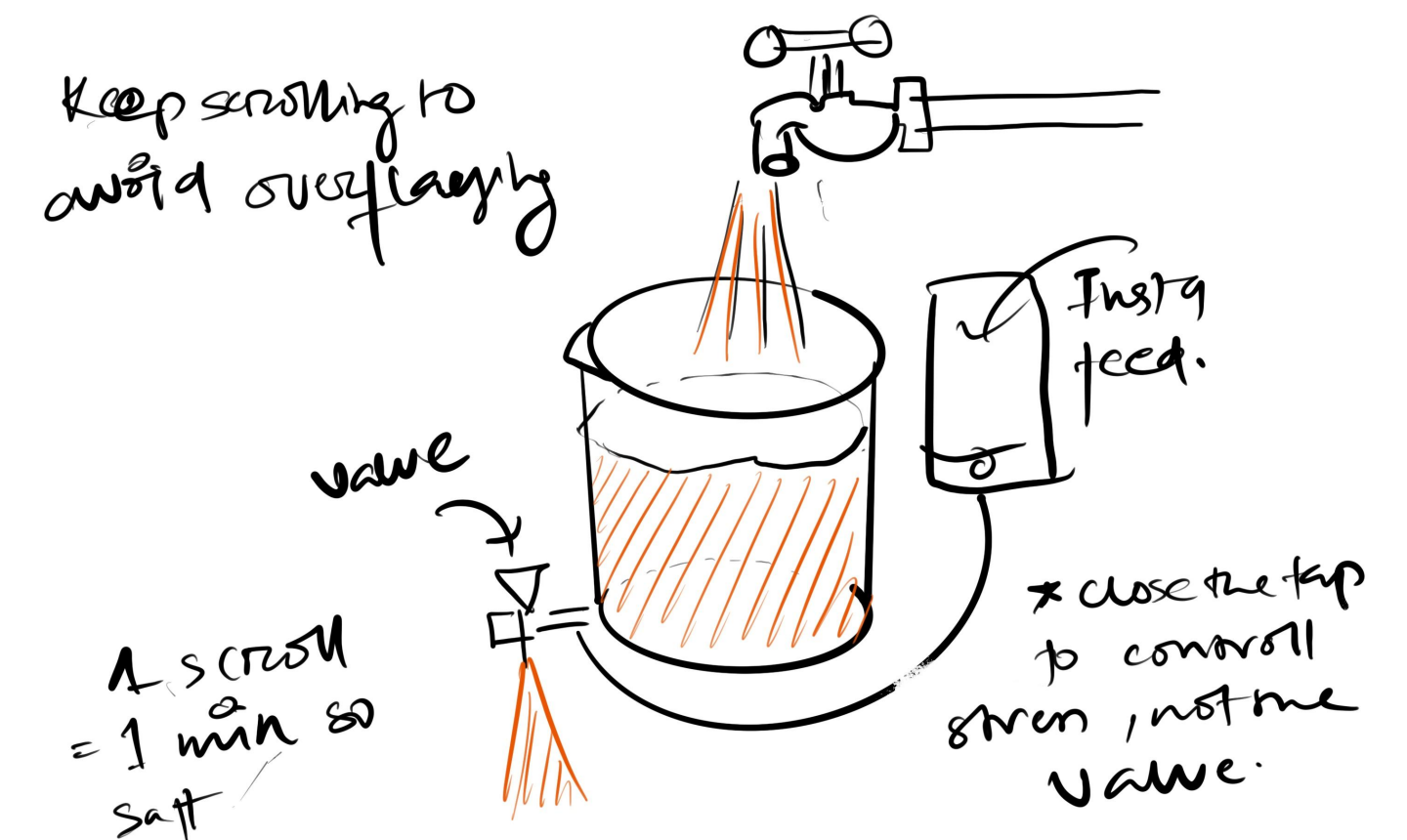
8 Caught on sight

It is a digital poster where it responds to a person who sits with a phone scrolling while eating. Showing messages like “is this your posture?” do you want this?



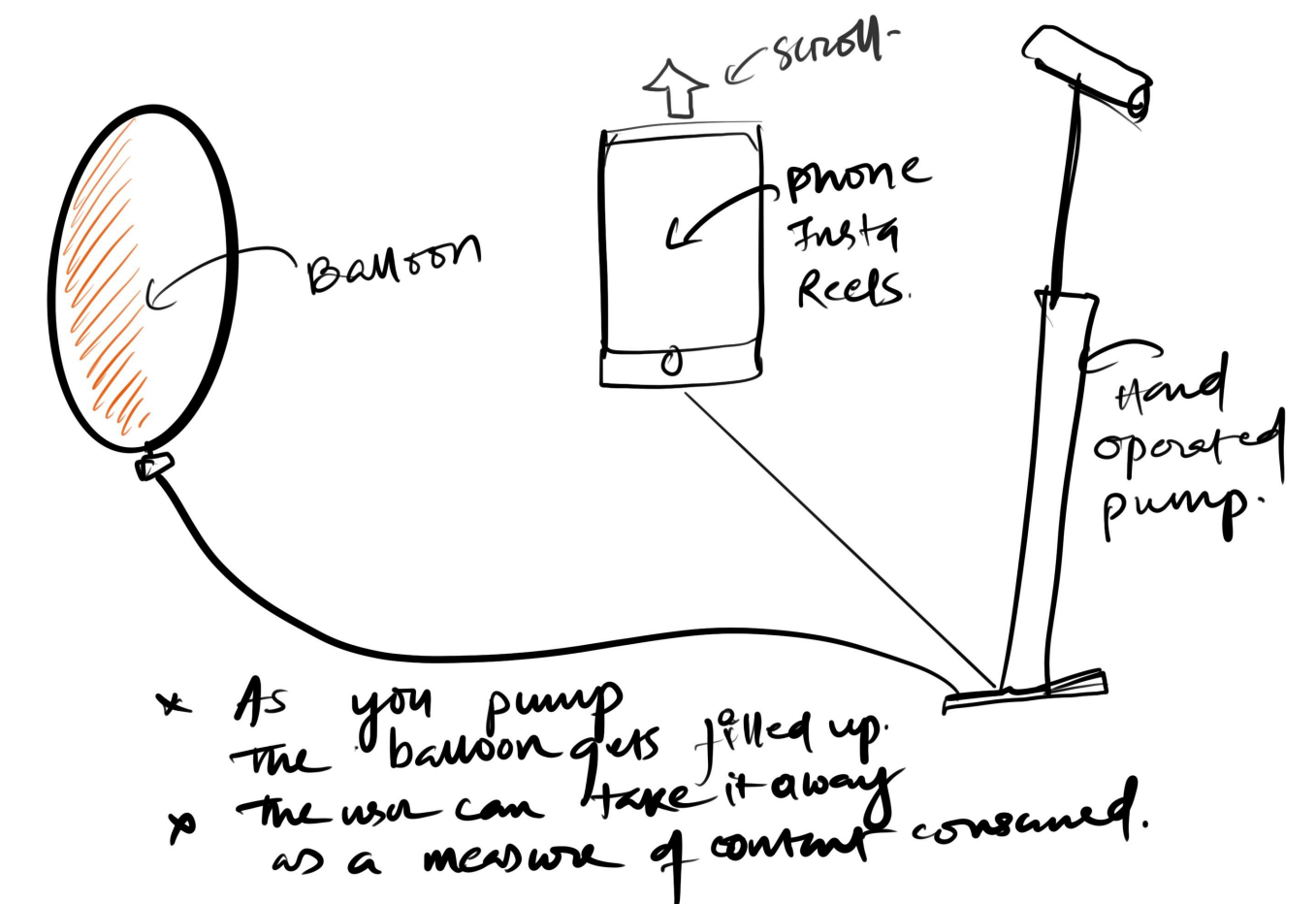
9 Stress bucket

One needs to keep scrolling to release water from the valve below, to stop the mug from overflowing.



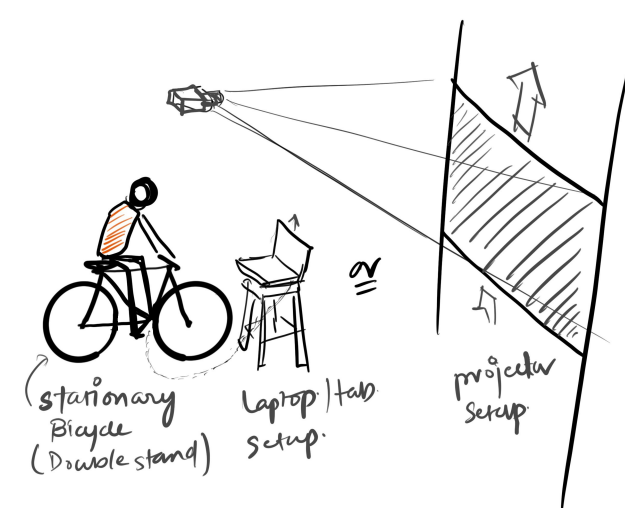
10 Gift of content

When someone pumps air into the balloon the connected tablet with reels interface scrolls through the reels. And at the end they can take the balloon with them as a symbol of the amount of content they have consumed.

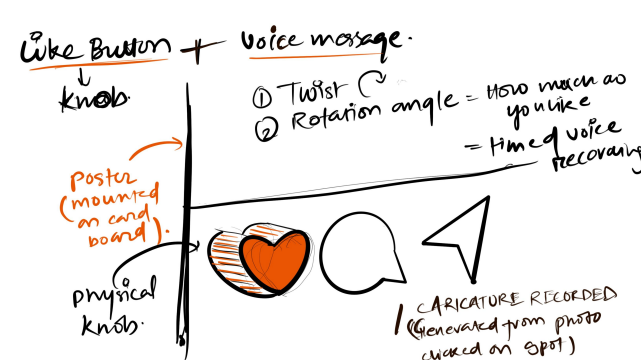


Evaluating approaches

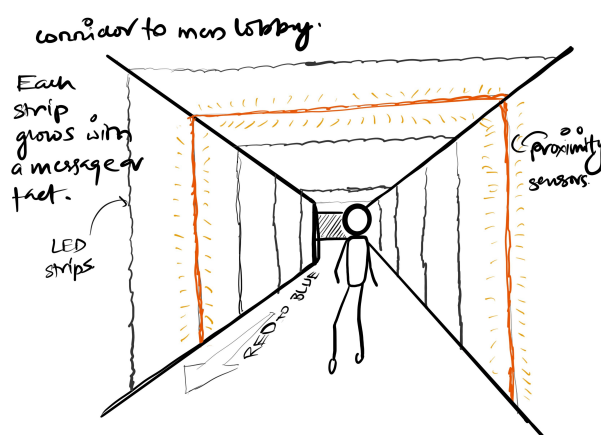
Based on feasibility (in terms of time, cost and effort), affect we want to aim for and the grammar of the context the ideas were mapped into a matrices. After which I decided to take the reel track and Magic mirror idea forward.



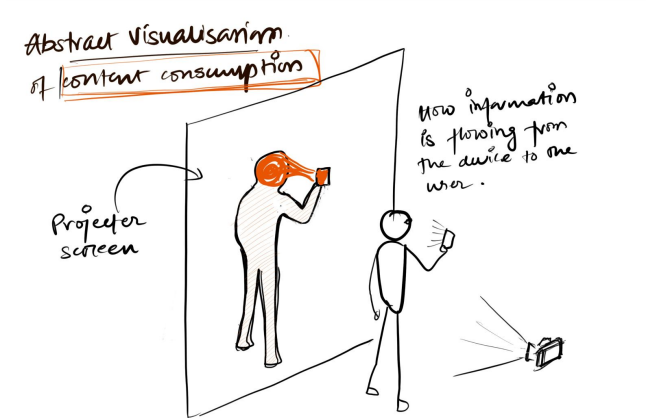
Reel track



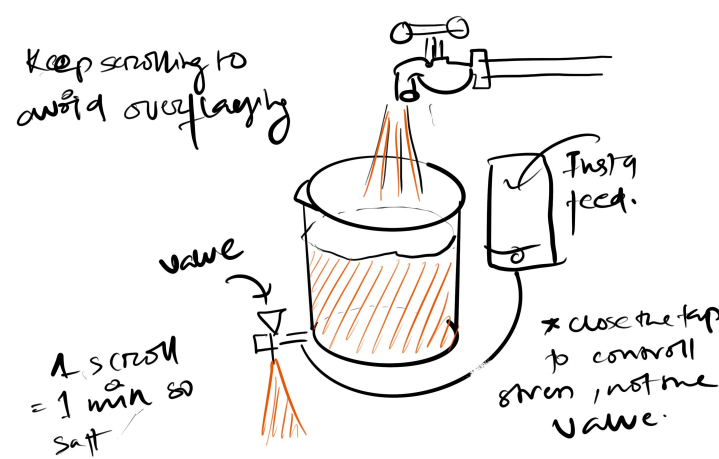
Twist the 'like'



The dystopian walk



Magic mirror



Stress bucket

Feasibility
(Cost, time effort)

High

High

Low

High

Moderate

Affect

Fun

Fun

Aversion,
Shame

Fun, Realization

Overwhelm

Ness
(Grammar of the context)

Everydayness
Technology

Digital tech.

Special
dinner

Everydayness of
Hostel Mess

Scientific,
Intrusive

Prototype Development

Prototype 1: Mischievous Reel Track

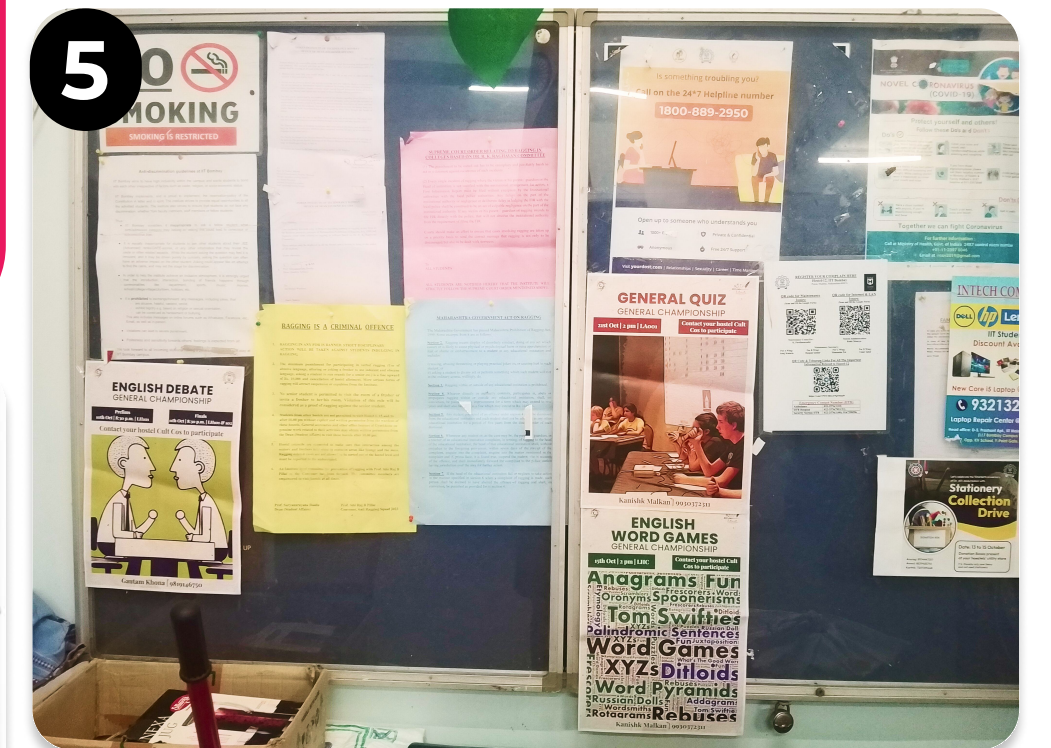
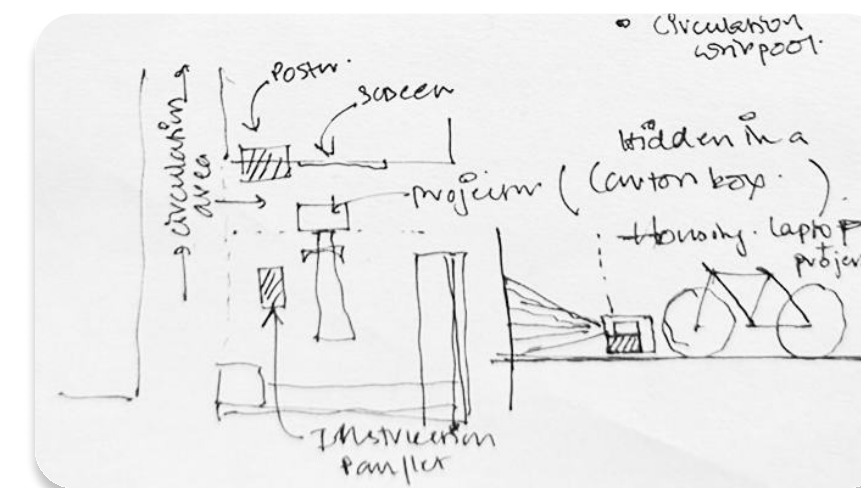
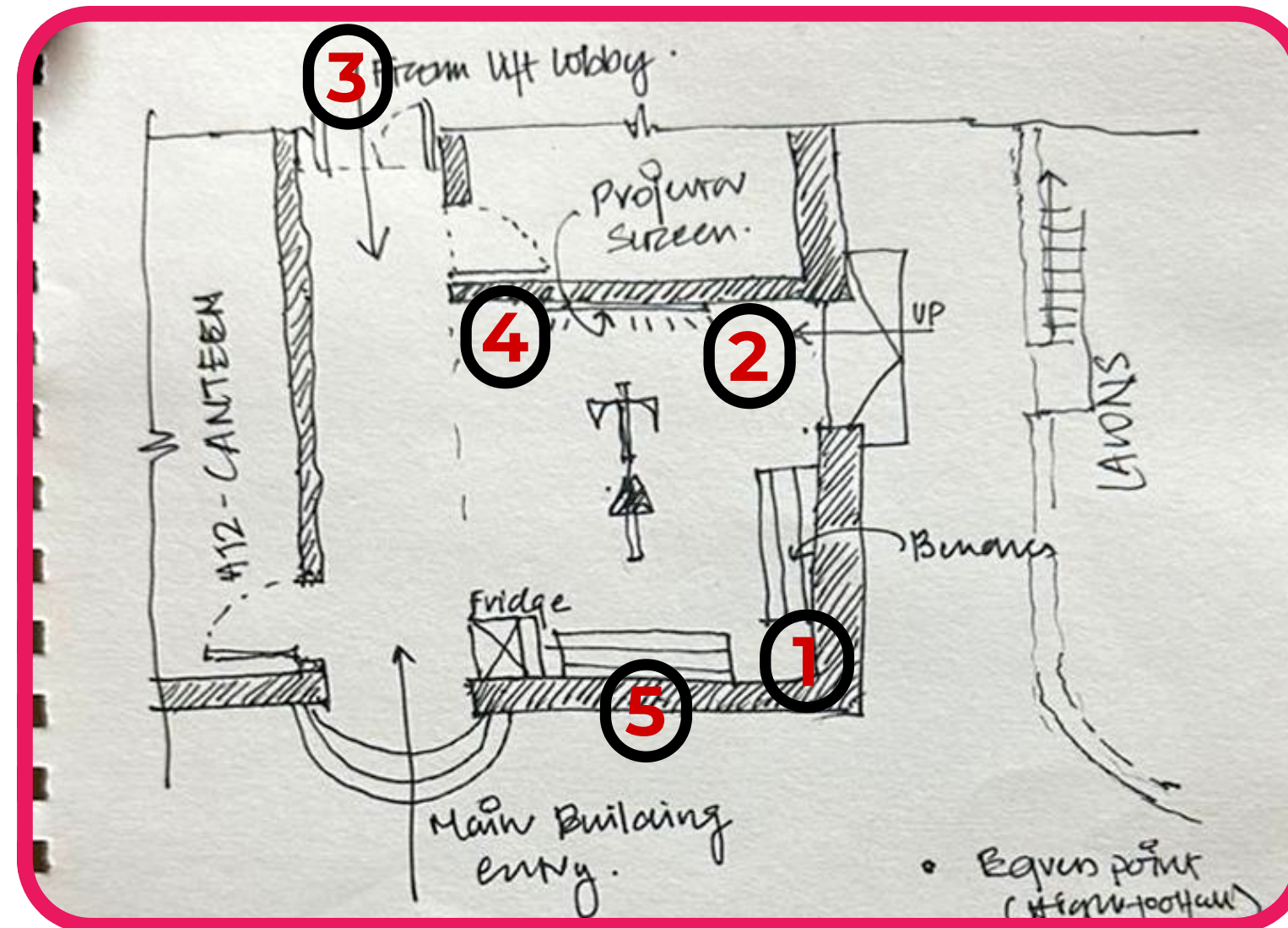
Context:

We selected Hostel 12, B wing entrance lobby, in front of the ground floor hostel stationery.



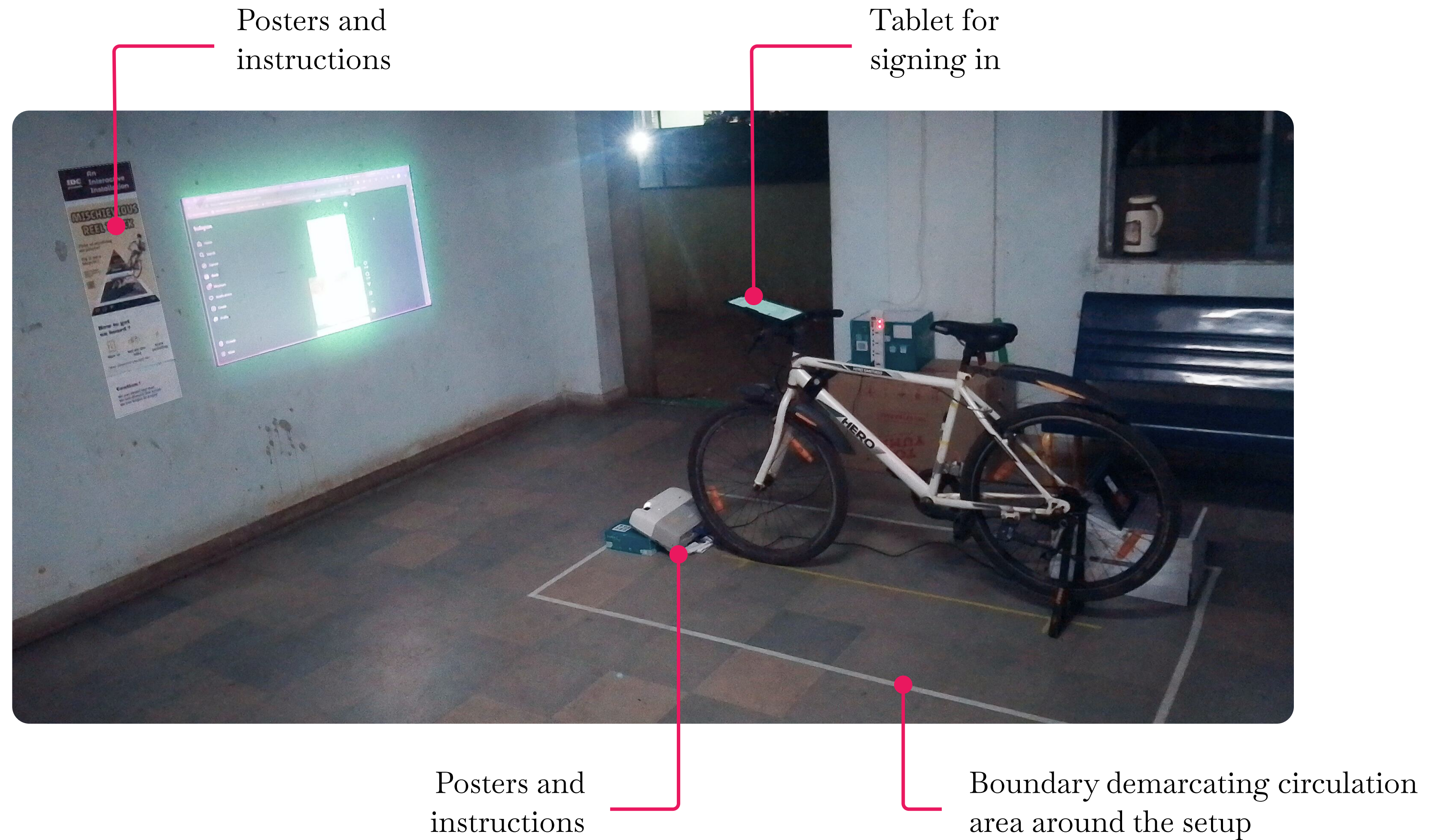
Circulation:

We selected Hostel 12, B wing entrance lobby, in front of the ground floor hostel stationery because there is a pause in the circulation due to the shop, and location of the fridge.



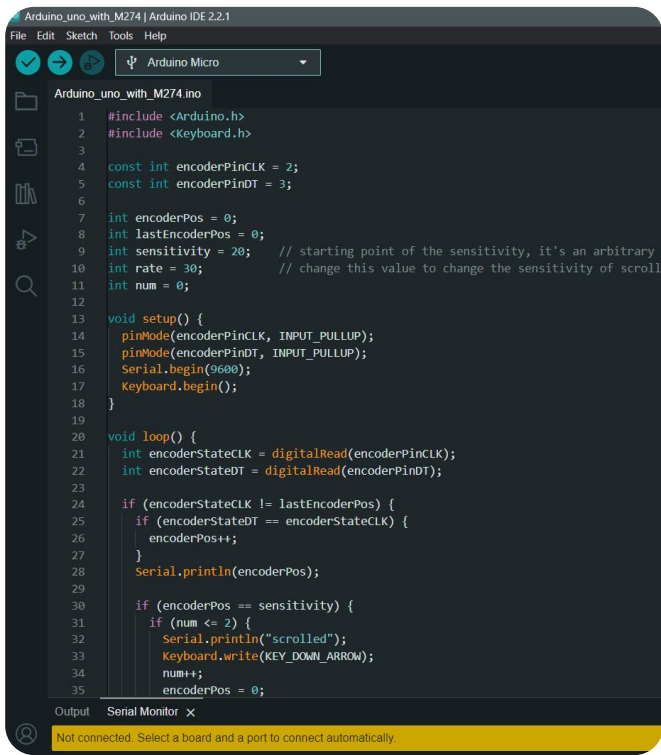
The setup

The cycle was mounted on a double stand with a tab with google form (for signing in) on the handle bar, lights were turned off so that projector is visible. Poster and instruction messages were stuck beside the projection area, so that it's the first thing visible when a person enters the area.

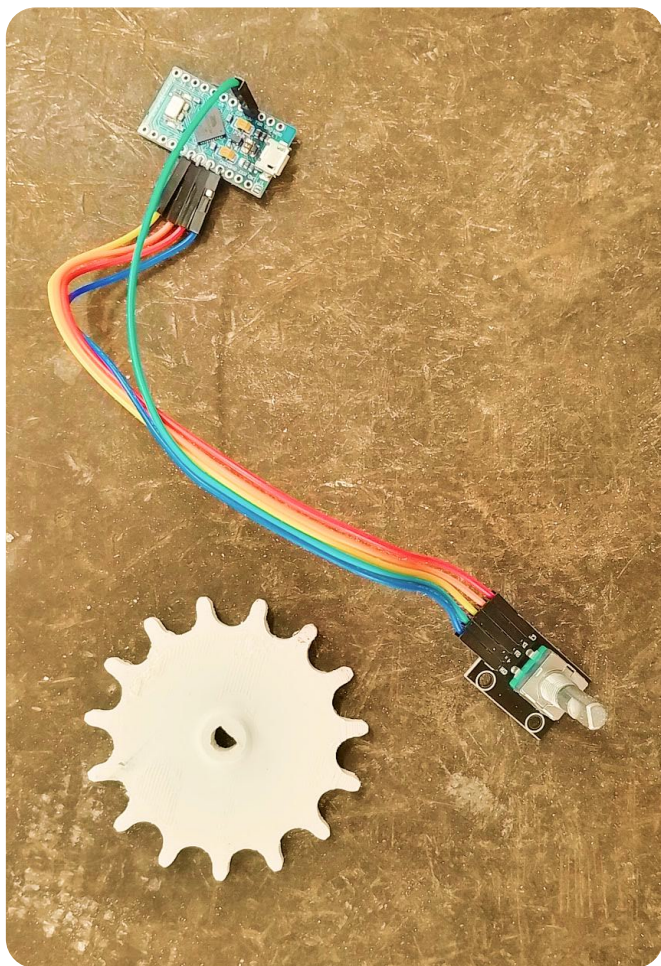


How does it work?

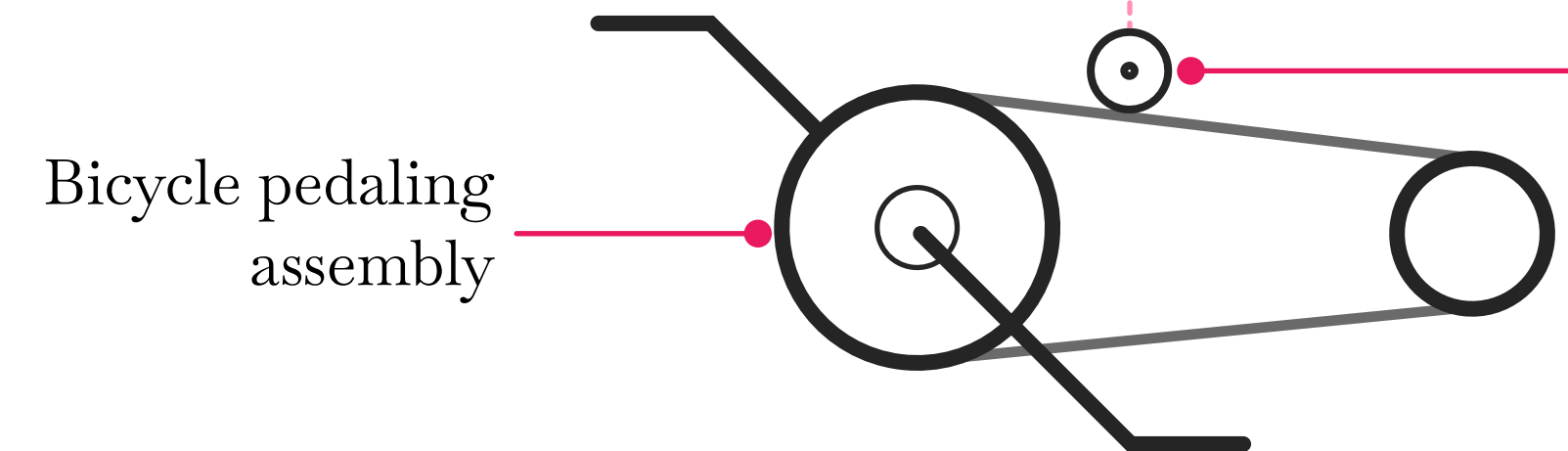
The code in IDE was calibrated in such a way, that no. of rotations needed to scroll one time increased in a progression



Micro chip



Rotary encoder and a gear to engage with chain



Bicycle pedaling assembly

4 Projector

The laptop interface is projected in the front

3 Computer

Instagram reels page is opened on a laptop
Scrolls one time when down arrow key is pressed

2 Arduino micro pro

This chip has inbuilt keyboard input
It presses a down arrow key in the computer based on values from rotary encoder

1 Rotary Encoder

It measures the angle by which a pedal shaft is rotated

Testing results for Reel track

People were intrigued to see the setup, some delighted to figure out how it worked, some asked a lot and others stood and observed

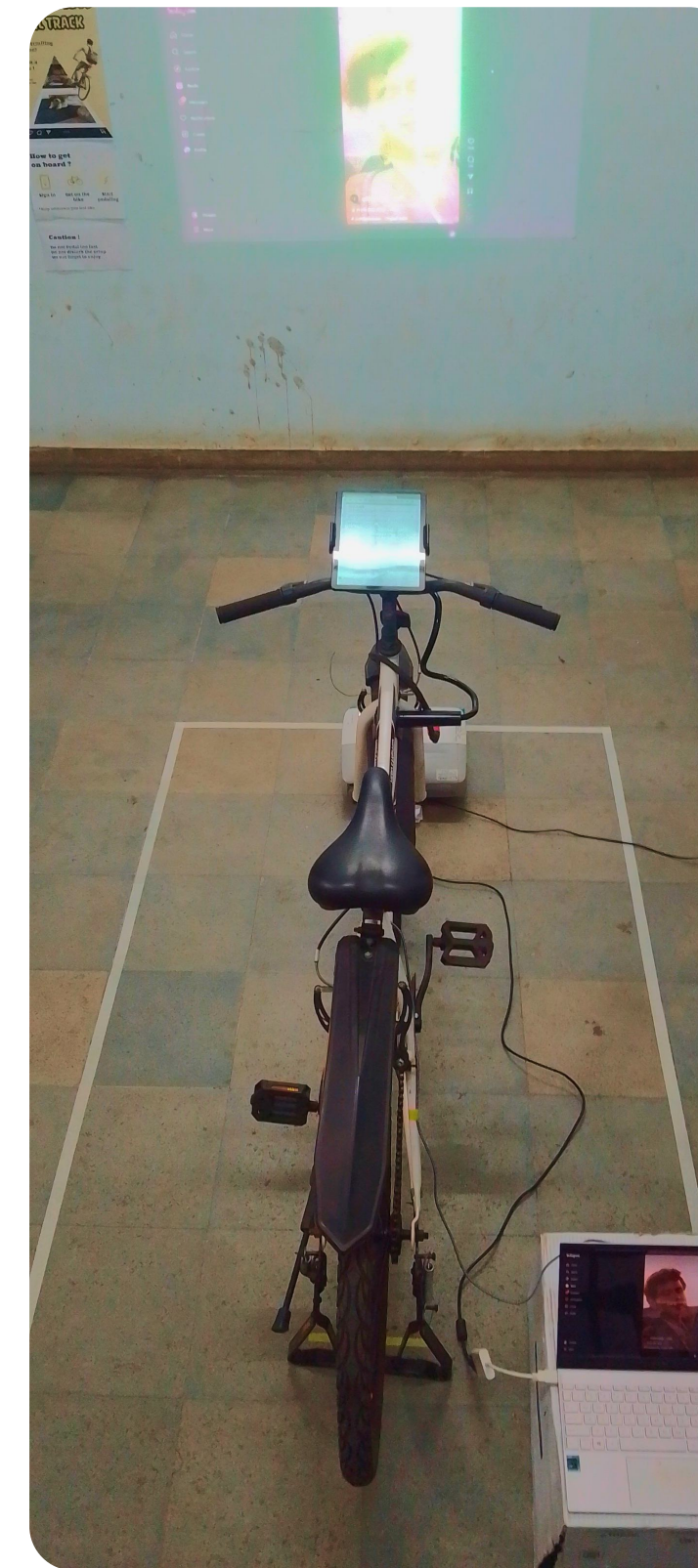
It was overtly social, if one person rode the bike, 3-4 people stood there to watch and discuss amongst themselves

Although I wanted the installation to be stand alone, but my presence made some people ask me to explain

People who came with friends stayed longer than people who came alone

Although the step difficulty in pedaling (scrolling) increased in terms of number of revolutions required for one scroll, it was not perceived as something effortful.

Rather people were having fun because the 'action' required to scroll is increasing arithmetically and the action is fun to do.



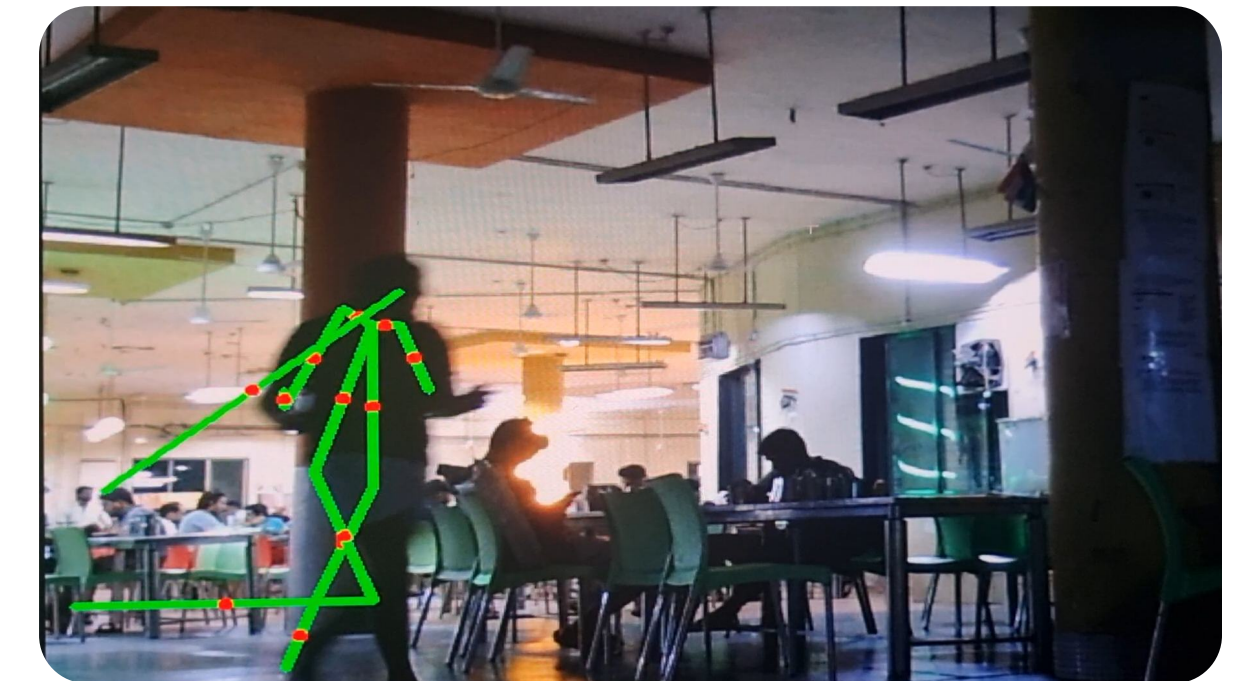
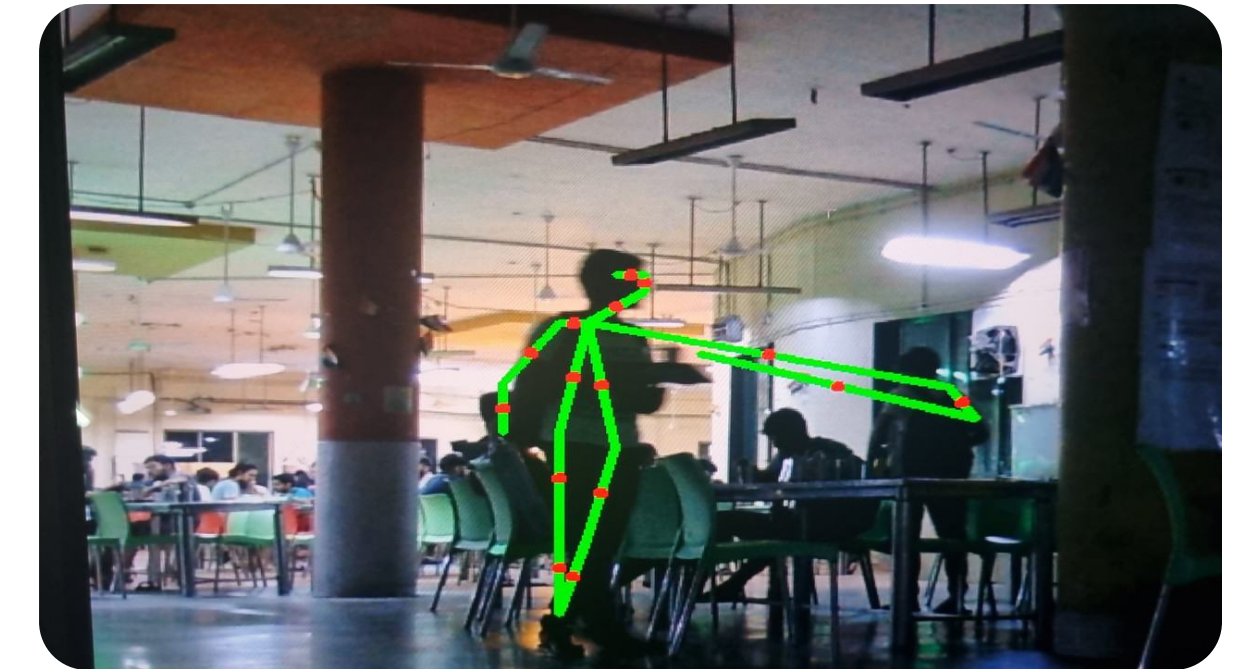
Prototype 2: Motion capture

Idea:

Almost 8 out of 10 students seem to slouch over the dining table, eating food with one hand and phone on the other scrolling through reels.

This installation takes their live posture as a motif, draws a stick figure and does some fun distortions like connecting the nodes of one person to someone closer to that person.

Initializing interactions and conversations with fellow students in real life, instead of limiting the act of socializing only to digital mediums like Instagram.



Whoever comes in the field of view of the camera, notices an illustration of stick figures on the projector in the front

The site:

This installation was deployed in the hostel 12 mess beside the check-in counter. Students enter the dining area from the lift lobby to a lobby space with a display board for notices. The notice board was covered with white paper to convert it into a screen. It was set up in such a way that apart from the screen, the background setup is invisible to the users

Working of the setup:

Input : Camera

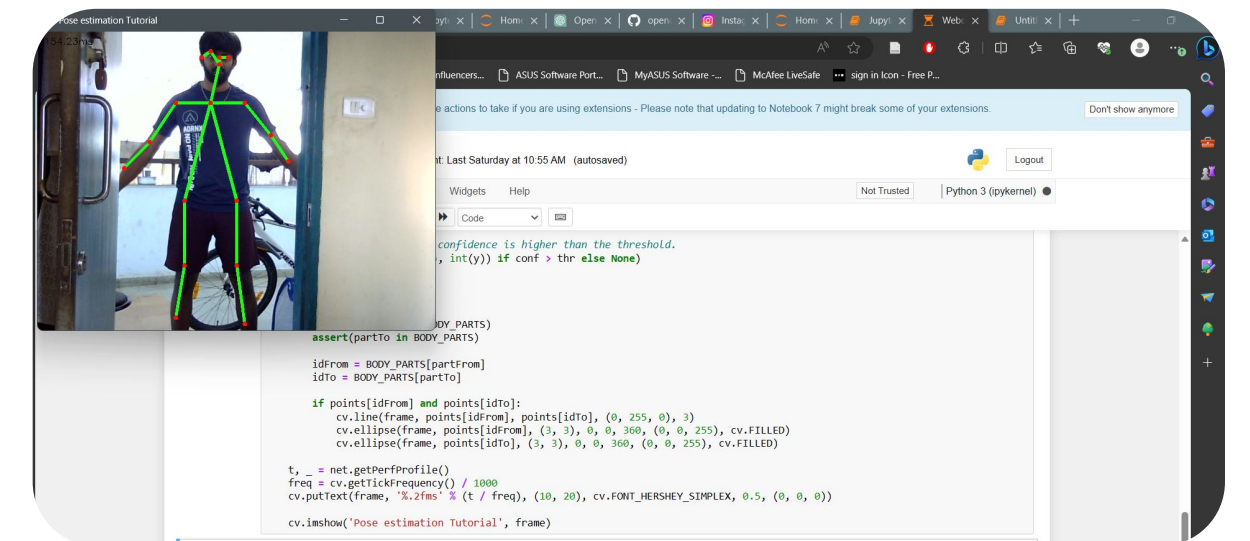
The setup captures live video feed from a camera placed directing towards the lobby space at waist height such that, mostly the full body of passerby lies within the field of view.

Processing : Image

The captured feed is then processed by a pre trained model called 'OpenCV' which is computed by a PC connected to the camera. This library is trained with more than a thousand human body pictures. It detects key nodes of a human body and denotes them with dots, starting from eyes, nose neck and rest other joints to the feet. And then connects the dots with a line to draw a stick figure over the live video.

Output : Projector

The output is then displayed on a screen roughly of 100 inches in size with a suitable viewing distance of 5-10 meters. The visible part of the setup is the screen and the invisible part of the setup consists of the projector, the laptop, the camera and the necessary wired connections.



Perception : First time encounter

Non discretionary

The setup is situated in such a place that (entrance lobby of the mess) looking towards the dining area, one cannot not notice or not participate in the interaction with the installation. Students do not have to 'do' anything in order to participate in the installation, hence it is more non discretionary.

The affect of Fun

The element of fun is added through random connection of nodes to people standing too close to one another. First deployment showed that, people actually stopped by and interacted with the nearby person simultaneously observing what is happening in the screen (how connections are formed).

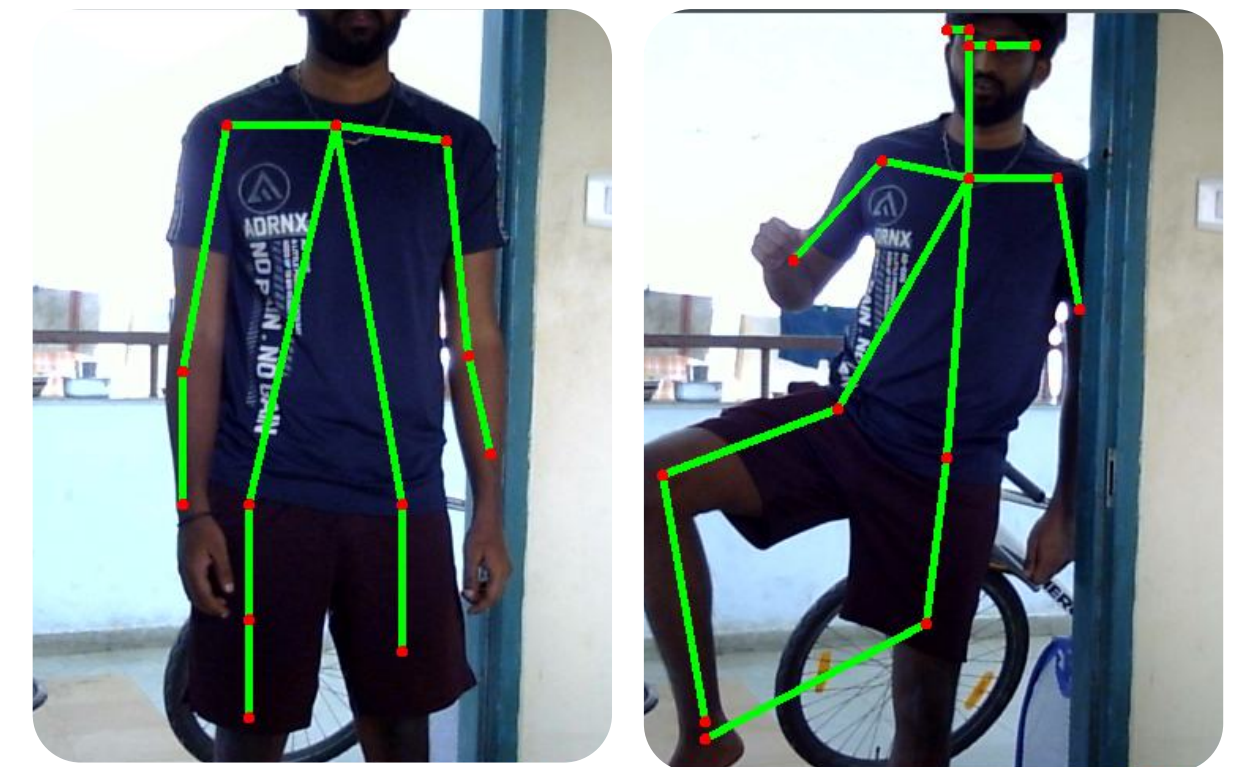
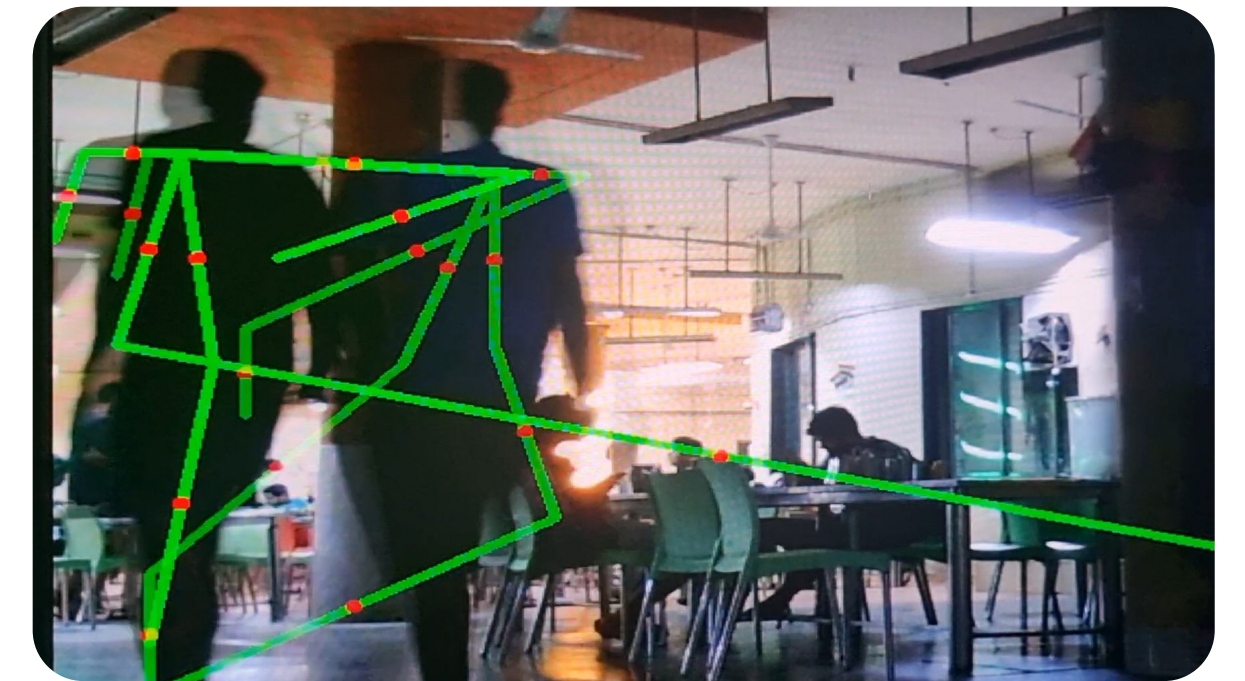
'Timeless' ness

Since there is always something changing within the video frame, and the computer analyzes it frame by frame, it is always changing the results so it very dynamic in the way it draws stick figures or lines over human bodies. There is a pretty amount of random ness as students don't know how will the overall geometry is gonna look like. So exertive one makes a movement there's something new happening in the screen.

Trigger for thought

Periodically after every two and half minutes a message is displayed as a trigger for the thoughts such as:

- Bringing things about Socialization process
- This is how you eat and this is how a old person walks (your posture vs 90 yr old's posture is the same)



Observation : Prototype deployment (Pilot 1)



Impact of Message conveyed

Although people did not use phone in the dining table or within the field of view of the camera, the message was too abstract to be conveyed, that it was about social media awareness.

Level of engagement

People Stood with their plates to interact with the camera observing how it connected the dots with other people around them. They moved their limbs and bent their body to see how, it drew the stick figure.

Limitations

My presence made the setting a little disturbed due to constant photo clicking for documentation

The Resolution of the displayed video was very less because one, the place could not be fully dark because it was dining area and second, the projector was a little old.

Final Prototype

Final Deployment **

Idea to go ahead

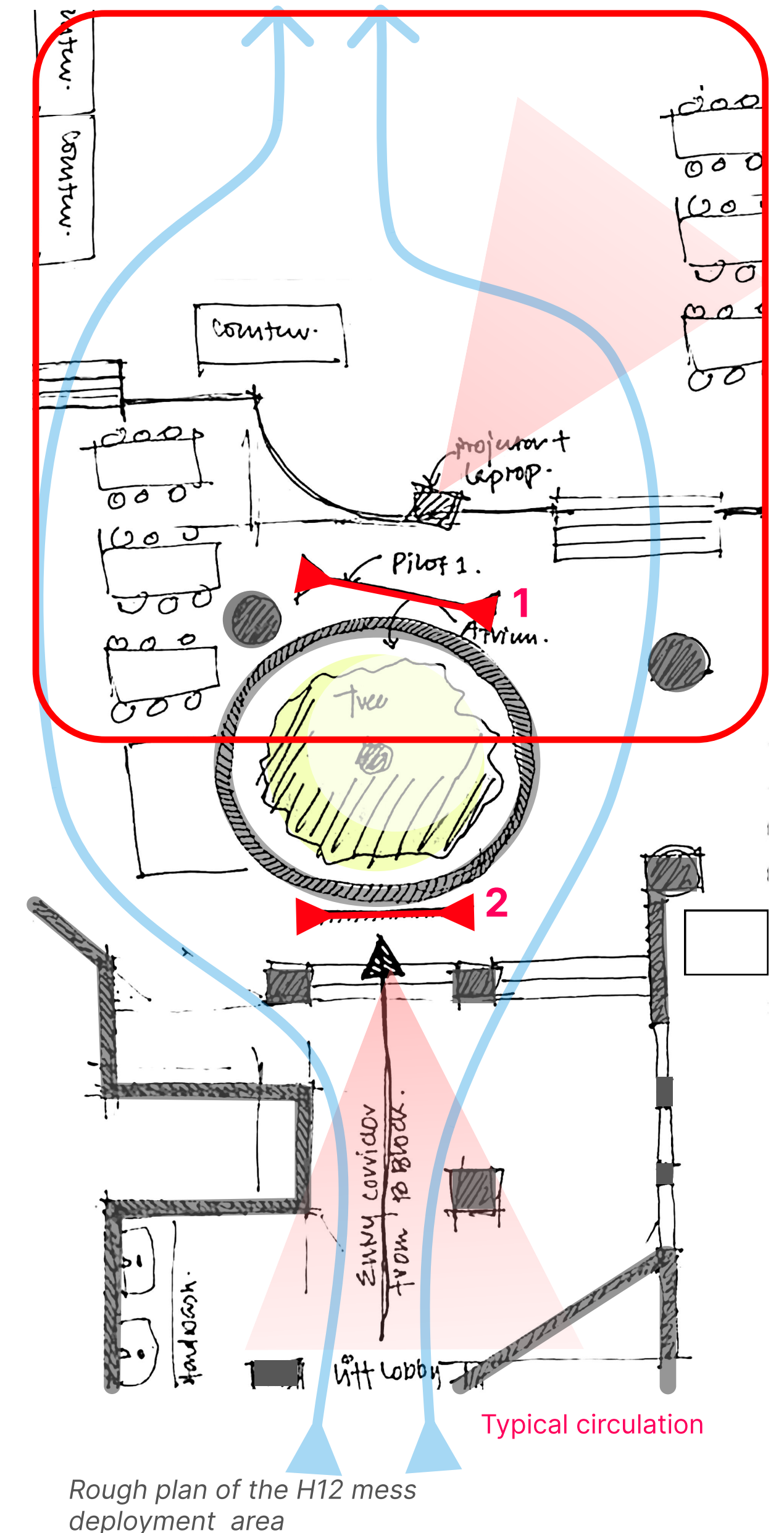
The posture reflection idea was taken forward due to following reasons:

1. It was more engaging as per observations from the first round of pilot results. More no. of people were able to participate at a time. So there was room for more interactions among people who walked by in a group.
2. An important aspect of the projector idea was that it was more non-discretionary because it did not need any deliberate effort from the students to participate and interact with the installation.
3. Whoever passes by or comes in the field of view has to see the screen without any discretion from me or any instructions were needed for it.

Site of deployment

Pilot 1 was deployed at position 1 (the red line with kinks represent the projector screen and the red triangular gradient show the direction and rough extent of the field of view of the camera mounted). It had following issues:

1. The projector screen was not / could not be aligned to any circulation paths, hence people had to turn into weird angles in order to notice the installation and hence it was not full non-discretionary.
2. It was just a live video feedback with stick figures over the human body, hence people could not relate to the message it wanted to convey.
3. The lights could not be turned off due to placement of the dining tables and so the projector content was not visible at its full capacity, images were seemingly blurred out.



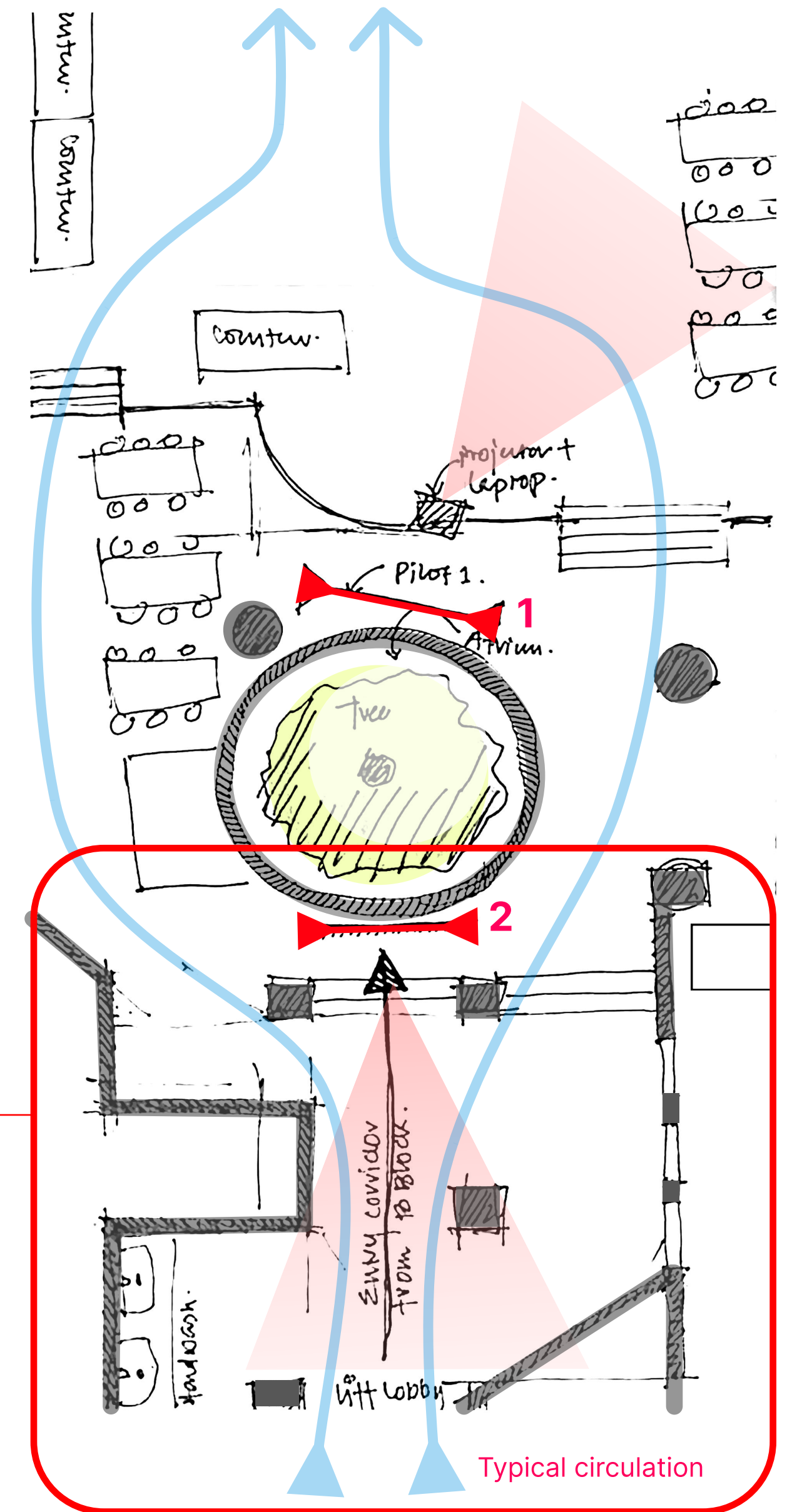
Final Deployment site

The next deployment was done at the backside of the atrium because of the following reasons:

1. The area was dimly lit, so the projector image had better resolution and quality.
2. The area faced a long passage from the lift lobby, perpendicularly. SO that when the projector is placed there, people coming out of the lift had a direct vision to the projector screen.
3. The circulation is well directed which makes it easier for the camera to detect and process the code.
4. Since it needed no effort from the students to participate, it became an object which was set into the flow of everyday life.



View while entering the mess lobby from lift lobby



The setup

The projector was hanged from the ceiling, matching to the human height drawing from the furniture setup similar to dressing mirror where the full body is visible in the reflection.

Ideally the projector setup with the laptop and camera should not be visible, to make the setup more seamless into the flow of the context, which could not be done here due to feasibility due to technical viability and time constraints. The laptop was also a question about where to place it, because it should not be visible before they notice their video feed on the projector screen.

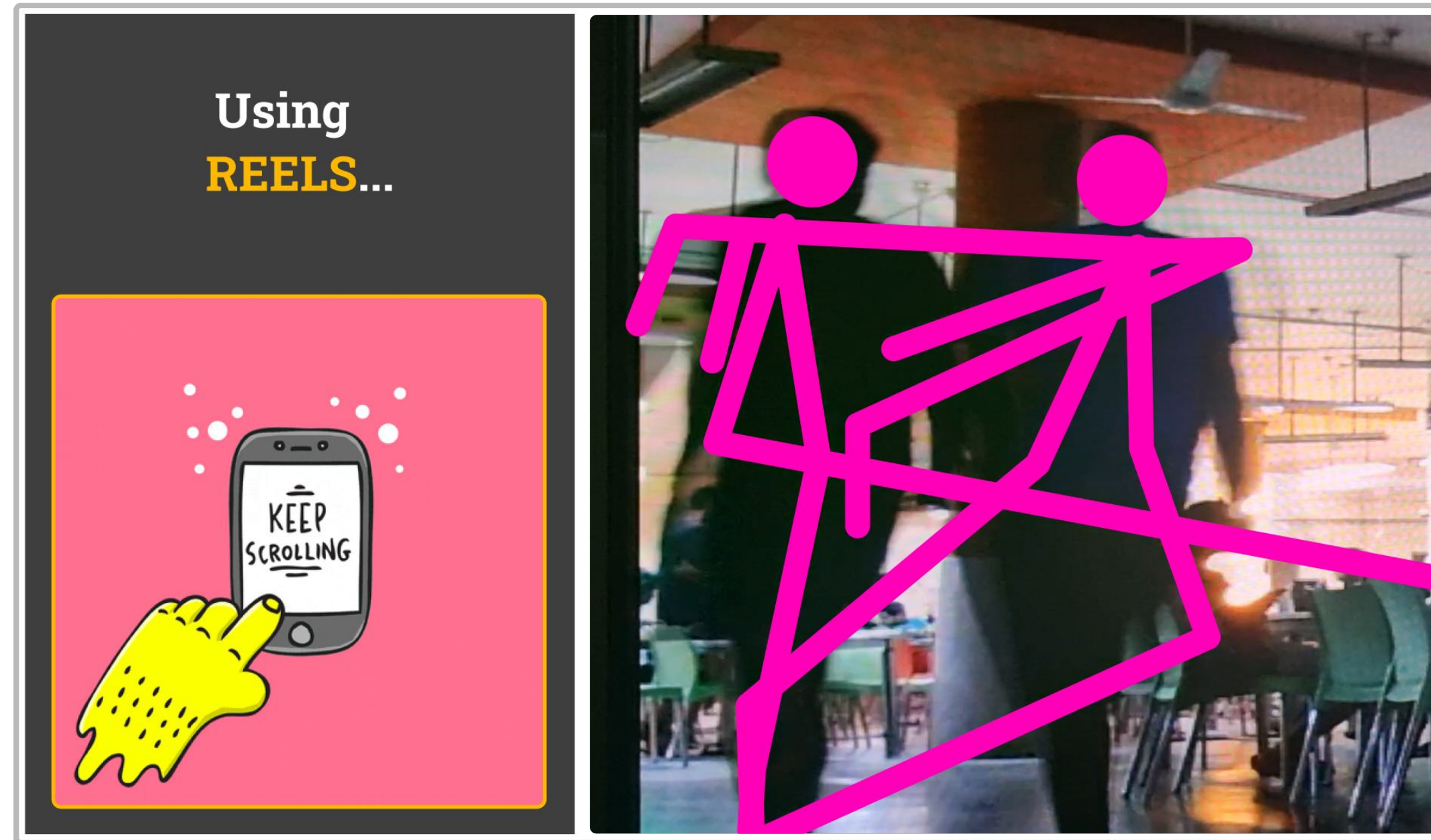
There were some other negotiations risen from constraints like access to power and sourcing necessary equipment from different people. In order to set it up and use the area for installation the project was explained to a number of people from mess managers to serving staff and mess student council from different department, and throughout this whole process of justification and explanation my articulation got better.



People discussing with their fellow



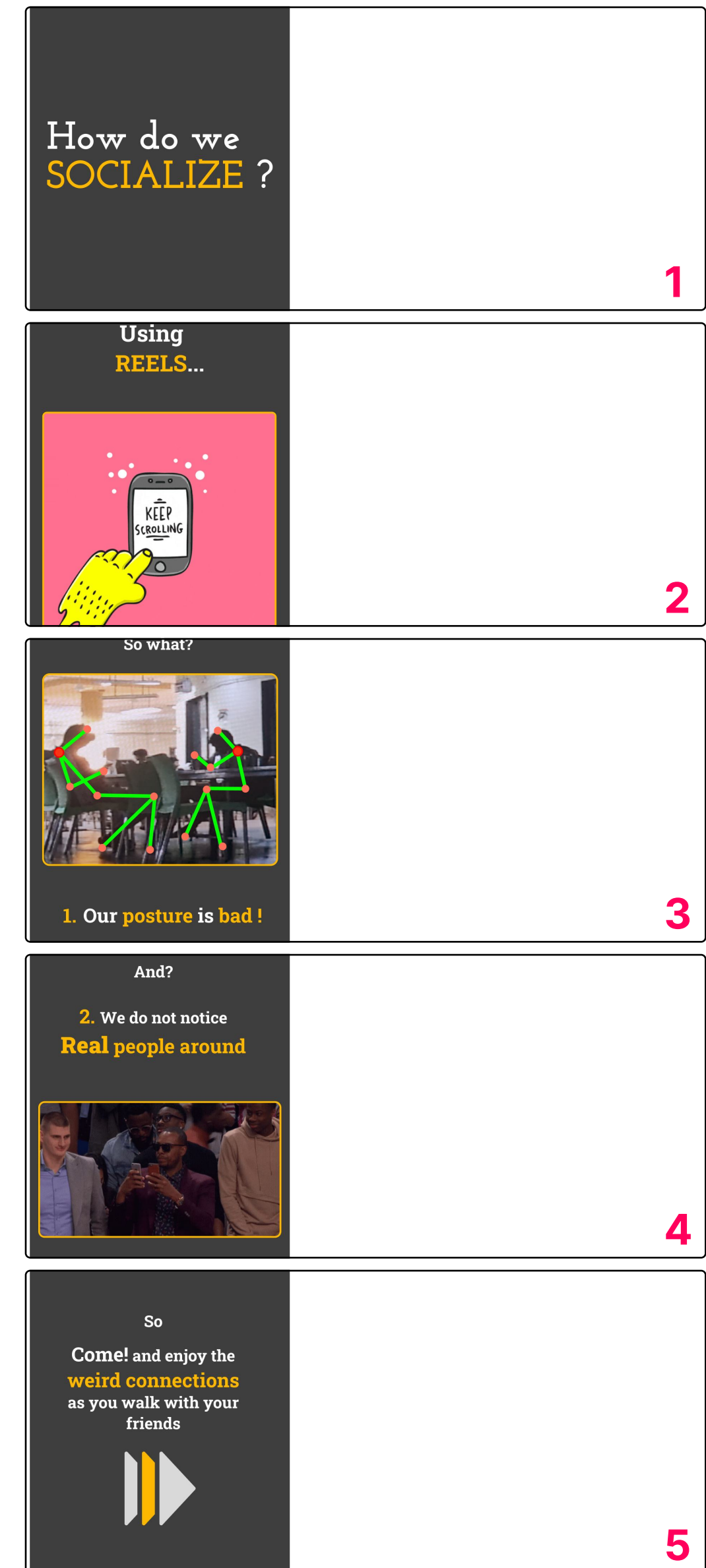
The projector content



Only displaying the stick figures on top of live video capture feed was not enough to convey the intended message so for this iteration the whole screen space was divided into two parts, one the right it was the live video with stick figures and on the left it displayed a small video on loop trying to show the connection or the purpose of the installation to the viewers.

The slideshow on the left contained 5 slides, showing :

1. Asking the question “How do we socialize?”
2. Providing premises, “We use reels”
3. One of the side effects is Bad posture (taking from context of mess)
4. And that we do not interact with people around
5. Last slide directed viewers towards the right window



Observations

First hand Perception

Students were intrigued by the application of technology in such a mundane setting like mess hand wash area, which is usually dingy and quiet, suddenly had this fine projector setup displaying a live feed of any person walks by it.

A lot of people asked me as I was there when it was deployed.

Although, there was some conditioning in terms of excitement and hype about upcoming world cup which was scheduled the next day, a lot of people asked if this about screening the world cup or not while the installation was setting up.

The area chosen seemed to perfectly address the context and the objectives of the project, as the wall is otherwise left blank and people would stare at their phones.

Interaction with the artefact

Interaction was dominantly occulocentric and it started as soon as students started walking towards the artefact from the end of the corridor. There was a halt and pause in the circulation due to the hand wash area and plates disposal area, due to which the interaction was amplified. The connections between people actually made them pause and discuss with their friends about the installation.

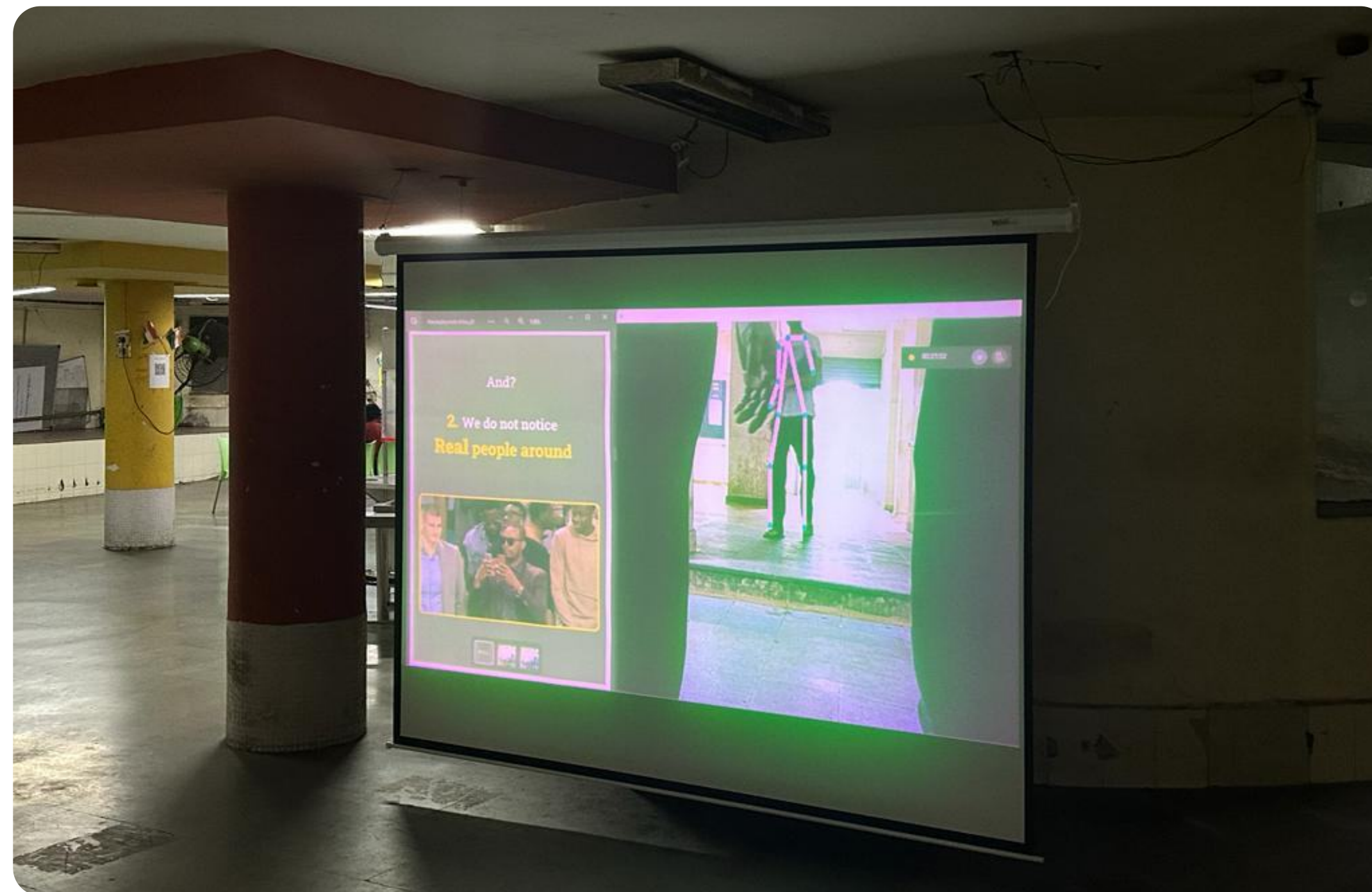
Students who came in a group had more engaging conversations about the subject trying out different postures and observing how it changed the posture. But also people who saw groups having discussions stopped by to listen to them talking about what is going and asked what this is about.



End of the interaction

Since it was a spontaneous one shot experience fit into the flow of coming to the mess, to some students it was important to look at the installation and enquire about what was going on, some observed others asking questions and some were just too hungry to stop by it.

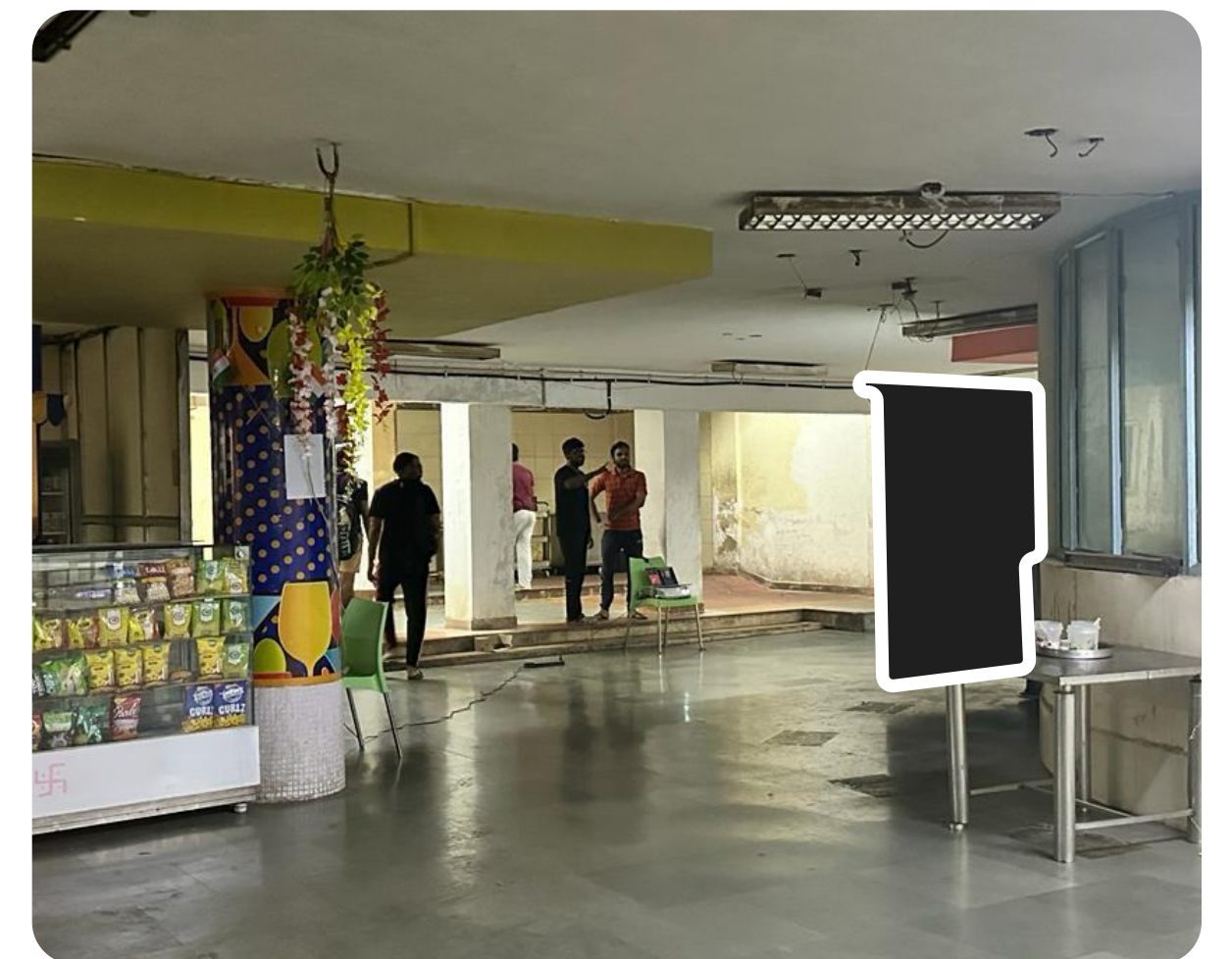
People who enquired about it got some sense of closure in terms of either agreement or disagreement about what the installation was trying to convey. Students were open enough to share their contacts for further discussions and post interaction feedbacks.



View of the screen from the front passerby's



View from the left of the atrium



View from the right side of the atrium

Test results Evaluation

Results and discussion

Re-articulation

One of the students who interacted with my installation re articulated my installation objective as “Through your installation, you are trying to instigate people to talk to each other by providing them with Virtual cues to make them communicate with each other in real life”

Interaction in real life

Students were worried as they observed that real life interactions with people around them is decreasing day by day. Usually conversations around dinner table has changed drastically after the advent of the reel era.

Confrontation and social dynamics

People were bothered by this scrolling behavior's almost everywhere around them, and they want to speak to people doing like that but there were multiple social dynamics at play due to which they could not or cannot confront. Hence this installation as an attempt to target that is a good effort.

Problem solving?

It was difficult for students to understand that this installation was conceptualized as a trigger for conversation about certain phenomena. They were puzzled about how will these stick figures connecting across different people will solve addictive scrolling of reels.

Communication skills

Conversation with students also revealed that they felt, since we are using reels as a prop for conversations increasingly nowadays, our ability to express and communicate is also going down. Hence the real life conversations are becoming more shallow and empty.

Linguistic group setting

Further discussions revealed that, students find it saddening that certain groups formed due to linguistic commonality, are not open to conversation with others unless there is a dire need. Hence lingo-independent solutions are an important contribution.

Linking faces instead of the whole body

It was pointed out, that if I wanted to instigate conversations between two people who came close in the field of view, won't it make more sense to just connect their heads or faces, rather than connecting the whole body.

Lines as a visual representation of language

The post engagement feedback session provided possible alternating imagination of meanings as one of the participants expressed that, language is a pattern of communication, and the installation lines felt like visual representation of language.

Evaluation framework

Contact details

Participating students shared their contact details when they interacted with the installation in the mess lobby.

Data collection

Then they were interviewed a week later over a voice call, asking about what they remembered about the installation, or did they talk about it to other people or did they think about it in a certain way.

And then a google form was circulated with a short questionnaire asking about their after thoughts on the subject matter.

Mischievous reel track

This form is to know your experience following your interaction with the "Reel track" installation.

rajdeeparch@gmail.com [Switch account](#)

Not shared

The Installation setup:



What message do you think the installation was trying to convey?

Your answer

Did you talk to someone else about it, who had not seen the installation?

☐ Yes

☐ No

☐ Don't remember

If yes, what did they think about it?

Your answer

Did you reflect upon your own behavior towards how you use social media?

Your answer

Submit

Clear form

Conclusion

Conversations with participants revealed that, the execution of the installation did not serve as a trigger for conversations for most of the participants, although some users did get provoked. Further discussion with them helped me re-articulate my objectives better than I did. And discovered some semantically different interpretations of the intent.

We envisioned that we could get more organic and genuine insights from participants if we derive our design out of the context which it resides, and our results seem to somehow support it, as we triggered some interesting conversations, not only within university students but also outside of it through various discursive movements.