

P2 : Report

Designing cultural probes to create a space for dialogue around home chores

Artefacts that allow people to engage with their own domesticity, possibly spark dialogue around home chores and experience alternate ways of looking at and performing them

Urban Indian households with working partners

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Declaration

I declare that this written document represents my ideas in my own words and the places where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea, data, fact or source in my submission. I understand that any violation of the above will be a cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.



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Approval sheet

The M.Des Design Project 2 titled “Designing cultural probes to create a space for dialogue around home chores” by Ketaki Kshirsagar (Roll No. 22M2245) is approved in fulfilment of the M.Des degree at IDC School of Design, Indian Institute of Technology, Bombay.



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Internal examiner



Chairperson



External examiner

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Abstract

A considerable amount of emotional, physical and mental labour is expensed at work and at home by members of a household. Though the effort spent at work is comparable, cultural studies and the National survey office data show a contrast in the time and effort spent on house chores and caregiving by working men and women. Even in households with both partners work, the domestic responsibilities, involvement in chores, expectations and roles associated with each of them seem imbalanced. Participation patterns in home chores haven't been able to keep up and evolve with the changing participation in work.

Scoped to urban Indian families with working partners, this work explores the role of design in creating a discursive space to dwell on the dynamics of a household. The project is a set of experimental artefacts or cultural probes designed to engage with a specific socio-cultural space (which is an urban Indian household with working partners between 45-55 yrs of age) and allow members of the household to engage with their own domesticity through different mediums. The objective is to possibly seed thought, spark dialogue around domestic chores and through the artefacts experience alternate ways of looking at and performing them.

We discuss the design of each artefact, the nature of interactions and dialogue emerging from them. We further evaluate the probes by comparing the outcomes with our key objectives.

Objectives

To elicit and engage with the nuances, complexities and a specific facet (home chores) of a socio-cultural space - which is, an the urban Indian household with working partners (45-55 yrs)

To design artefacts that allow the participants to engage with their domesticity, encourage dialogue around it and experience alternate ways of looking at home chores

Explore and adapt the research method of cultural probes to the specified socio-cultural context and evaluate the nature of discussion / dialogue emerging off of the process

Possible claims

The designed cultural probes would allow uncovering nuances that conventional interviewing, surveys, focus groups might not

1. Introduction

Our work is based on the following understanding of a household chore : A routine personal/ communal task that is essentially performed to run a household. Chores can be categorised as daily, weekly, monthly responsibilities. Based on the nature of a chore, a person invests a mix of mental/ emotional/physical labour. In an Urban Indian household, some chores might be outsourced to house help. Household chores ideally are not owned by one particular member of the group.

Examples of chores :

Daily

Laundry
Brooming / sweeping
Cleaning kitchen tops
Dusting / vacuuming
Disposing the garbage
Wash dishes after meal
Cooking meals
Washing clothes
Folding clothes

Weekly

Cleaning bathrooms
Clean windows
Bathing and grooming pets
Replacing towels, drapes, sheets
Ironing clothes

Monthly

Paying bills
Groceries
Repairs (if any)
Washing cars

According to National Statistical Office’s 2019 Report, only 22.5% of urban males participate in domestic chores (which is lower than in the rural areas). Close to 89 % of females participate in unpaid domestic chores

Area	Gender	Employment & related activities	Unpaid domestic work
Rural	Female	69.7	29.2
	Male	22.5	93.2
Urban	Female	73	22.5
	Male	19.9	88.8
Total	Female	70.7	27
	Male	21.7	91.8

fig.1 Participation % - employment vs domestic work across genders

	Rural		Urban		Total	
	Male	Female	Male	Female	Male	Female
Employment and related activities	434	317	514	375	459	333
Unpaid domestic services for household members	98	301	94	293	97	299
Unpaid caregiving services for household members	77	132	75	138	76	134

fig.2 Average time spent (in min) daily on an activity

1.1 What are cultural probes :

“ Cultural probes (or design probes) is a technique used to inspire ideas in a design process. It serves as a means of gathering inspirational data about people's lives, values and thoughts. The probes are small packages that can include any sort of artefact along with evocative tasks, which are given to participants to allow them to record specific events, feelings or interactions. The aim is to elicit inspirational responses from people, in order to understand their culture, thoughts and values better, and thus stimulate designer's imaginations. Probes is one of the prominent approaches in the practice of co-designing ”

[wikipedia.org](https://en.wikipedia.org/wiki/Cultural_probe)



fig 3. Image from article : Designing Cultural Probes :
by Catherine Legros

1.2 Ethics through probes

Probes support following ethical objectives we aim to maintain throughout the study :

1. Privacy - As we are dealing with families and homes, it'll be ideal to collect qualitative evidence - photos, audio recordings, emotional responses through personal self-reported probes

2. Voluntary participation - Probes are designed to evoke a feeling of engagement and motivation in the participant. The information they choose to share takes the form of a small daily activity, rather than committing to long interviews which might make them feel overwhelmed, conscious.

3. Minimising researcher bias - The tone of research questions coming from a particular age, gender, cultural background might influence the participants' responses and comfort. Probes neutralise this effect by giving participants the space and time to reflect and respond to emotional, cultural, personal experiences.

1.2 Design for research - related work

1.2.1 Photobox

The increase in easy ways to create, share and store digital content, people have lost the sense of just how big / meaningful their data is. Due to the virtual (invisible) nature of this data, people have no motivation to clean up, curate and arrange their information.

In this context, Photobox is an object designed designed for “reminiscence”, “self reflection” and “slowness”. These experiences are created by leveraging on speed, randomness, material and utility of the object. Photobox prints 4-5 random photos from a person’s Flickr account

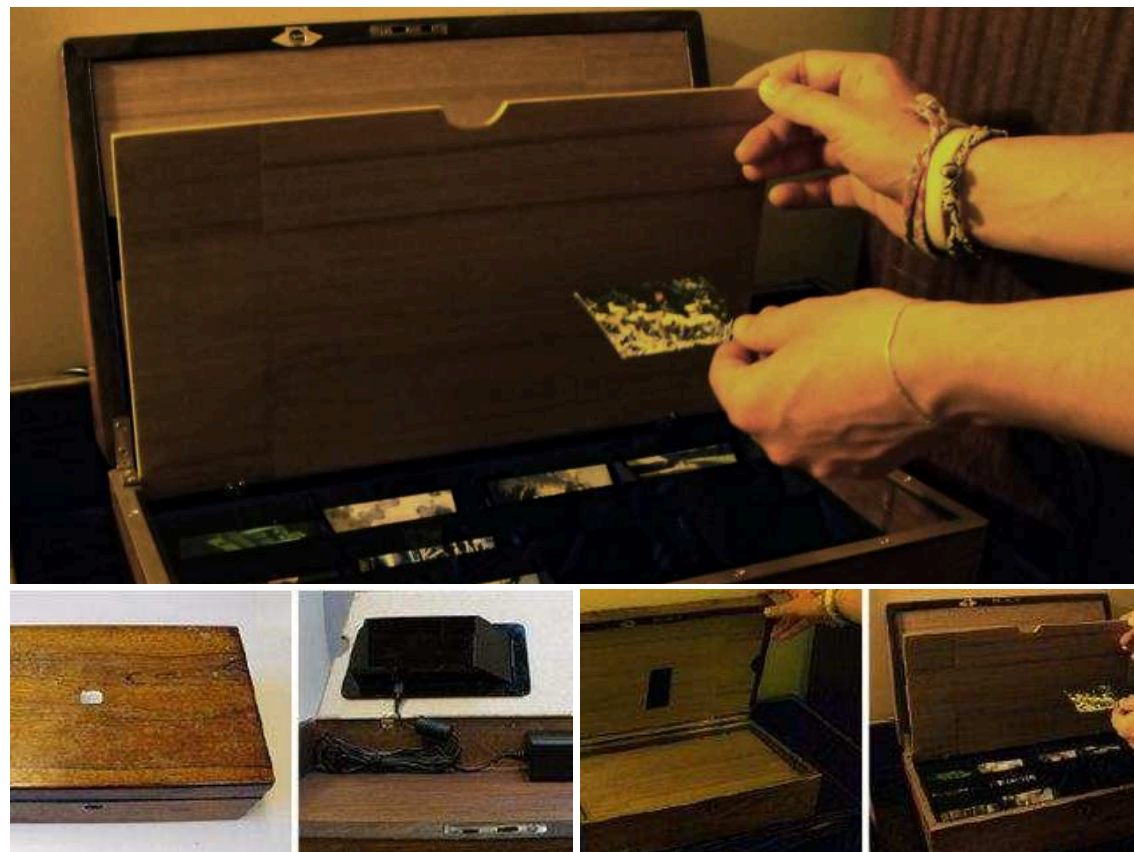


fig. 4 Photo box installed in different households

Photobox incorporates well-thought design choices to generate affects like anticipation, self-reflection. Having said this, it fits well only in some contexts - where people are comfortable with disclosing a part of their personal archives. The sense of privacy differs across gender, culture and age. The population that generates and consumes most personal digital data approximately lies between 18-35 - the age group where people might have a considerable amount of private data, for them to comfortably participate in the research.

1.2.3 Field trials with probes



fig.5 Field trials of tech prototype with kids

This research project lead by Anu Mäkelä (in 2000), from the Helsinki University of Technology, aimed at understanding “how would people communicate through digital images in leisure related activities. This was done in a time when mobile phones did not have effective cameras and people used images only for documenting important things. They conducted field trials using primitively assembled prototypes, even the process of designing and developing devices. The team used the prototypes not to test ideas but to allow participants the flexibility to use the products in a way the can imagine and then speculate future opportunities the generation, edition and sharing of photos.

Though the end goal of this project was to formulate recommendations in the design of devices related to communication through digital images, which isn't our goal, we found that we have some takeaways from this project. What interested us is the approach of treating prototypes not to test pre-designed ideas but to elicit ideas from the user around an unknown/ nuanced space and understand their perceptions about a particular concept/ function/ social phenomena

1.2.3 Analog innovation

SoftBank , a Japanese telecommunications company, partnered with a Tokyo-based digital marketing agency, Tashizan, to deliver a campaign designed to capture the brand's 'Analog Innovation' project. The aim of the campaign was to create connections across generations- differing in familiarity with technology. It focused on a set of technologies that prove to be a convenience to younger generation and a cause of marginalisation for the elder. A total of 6 prototype products are installed in a real household. The aim is to create a perception change that rather than people having keep up/ mould themselves around the tech, innovations in technology can be drawn from to a person's everyday life.



fig.6 Analog innovations - Remote height pole, SNS Newsletter, Smart dial phone

2. Initial themes for ideation

Enabling visibility

We could see that the amount of labour put into household chores is often hidden/ unquantified and unacknowledged. Making factors like - time spent, smaller invisible tasks and perceptions of a household chore visible would possibly initiate thought and conversation around participation

Interactions with tech

The socio-materiality of a technology shapes the way people and spaces function around it. Most home technology used by women have a tendency to mask the peripheral labour associated with the main task - making the chores look "easy" / "quick".

The task of cleaning clothes is perceived to be completely taken care by a washing machine - however, the allied tasks of collecting, sorting, loading/unloading, drying, ironing, folding, storing them - go unacknowledged

"While development does certainly facilitate women's emancipation, it must come the hard way through the changing of norms and broadening of perspectives, rather than in the painless form of the store-bought appliance"

(Gautam B, Tajun J, Sarah W - Ideas for India)

Design for affect

Though partners are aware of the participation patterns, it doesn't result in reflection. Objects inducing a feeling of "imbalance" / "burnout" to create a sense of discomfort/ realisation

Note :

These ideation themes were based on the initial objectives of the project which were later scoped down and refined.

Initial ideas and their deployment was done in order to get a sense of the field and are not the final artefacts

3. Plan for deployment

3.1 Participants :

We focused on urban nuclear families in India with working partners - in order to be able to compare household work put in by the two as against their fixed employment related work. The first pilot was conducted with the initial set of ideas to understand the effectiveness of a chosen approach, which would inform the next set of ideas. The pilot also aimed at uncovering technical challenges and possible limitations/ motivations among the participants.

3.2 Data collection :

The completed probes acted as a set of data, which was further enriched as information and insights through the followup interviews.

3.3 Analysis method :

Post the final (within-subjects) probe deployment, the returns will be analysed qualitatively by creating case reports of individual households - describing the family and findings as related entities, followed by a thematic analysis of observations across the households to arrive at common insights/ patterns (if any)

3.4 Qualitative case studies :

As tech, cultural probe kits will have challenges in feasibility and production, we chose to focus on 4 households for our study. This makes it difficult to generalise the results and make conclusions about a larger population. We acknowledge this and move forward with a specific aim to initially focus on a smaller selection of households to gain a richer elaborative understanding of the space and social ecology.

3.5 Evaluation :

We evaluate the probes based on the quality of discussions and interactions elicited by them :

1. Do the interactions aided by the probes and people have an emergent quality ?
2. Point of intersecting intents - Do the participants get the intent of your probe and does it interest them ?
3. Do the probes enable participants to reimagine alternate ways of looking at the household, chores and relations

4. Ideation I

We followed a non-linear, emergent design process, where the probe ideas too, are drawn from the field. The aim of the first pilot was to have a sense of a domestic space - the behaviours, materials and language through interactions and understand limitations and affordances and of a probe given to a household.

4.1 Pilot ideations - quick paper probes

4.1.1 "How was your day?"

In a household with working partners, both spend an average of 7-8 hours in employment related activities. We wanted to understand how do they respond to a visualisation of the nature of their time at home - encoding different types of activities as colours. From the Time Use Survey of India, 2019, urban women spend about 4-5 hours in domestic activities and men spend about 1-1.5 hours. The idea was to make the partners manually perform the act of logging each other's day and engage with their partner's time use nature.

The conversation/ discussion/ debate/ indifference that follows this probe will form our insights.

"The Time Use Survey technique is a tool for measuring paid and unpaid work of men and women in a society. It provides detailed information on how individuals spend their time, on a daily or weekly basis.

Report of The Time Use Survey - MoSPI

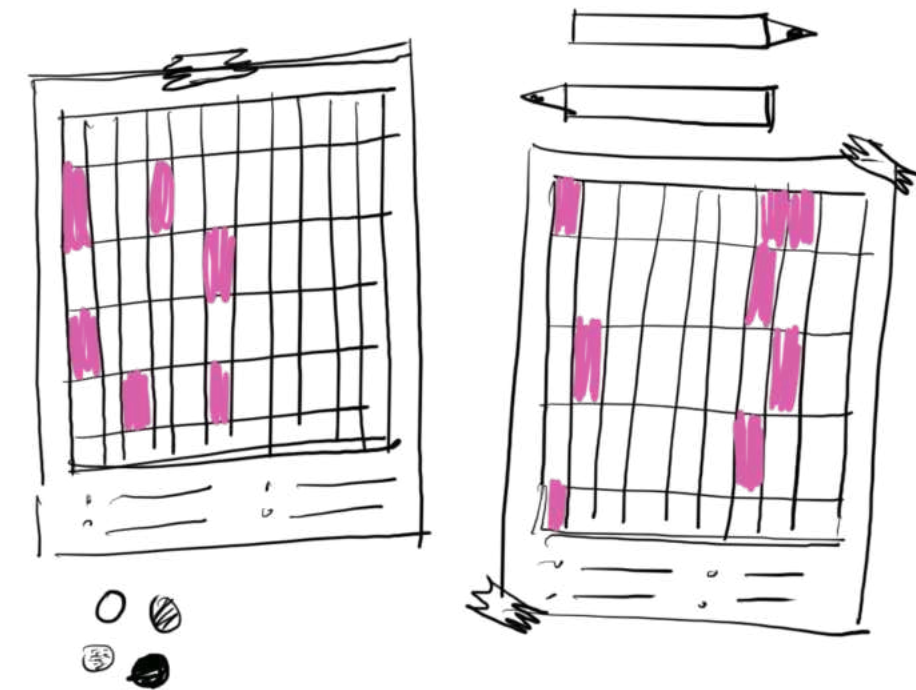


fig.7 Probe : Time log sheets for working partners

4.1.2 "Leave a mark"

It's believed that home appliances make it convenient to perform chores with reduced effort. With balanced participation in employment activities and use of work gadgets, we wanted to highlight usage patterns of the

most common home appliances in an urban Indian household - to visualise the “gender” of a particular house appliance has become.

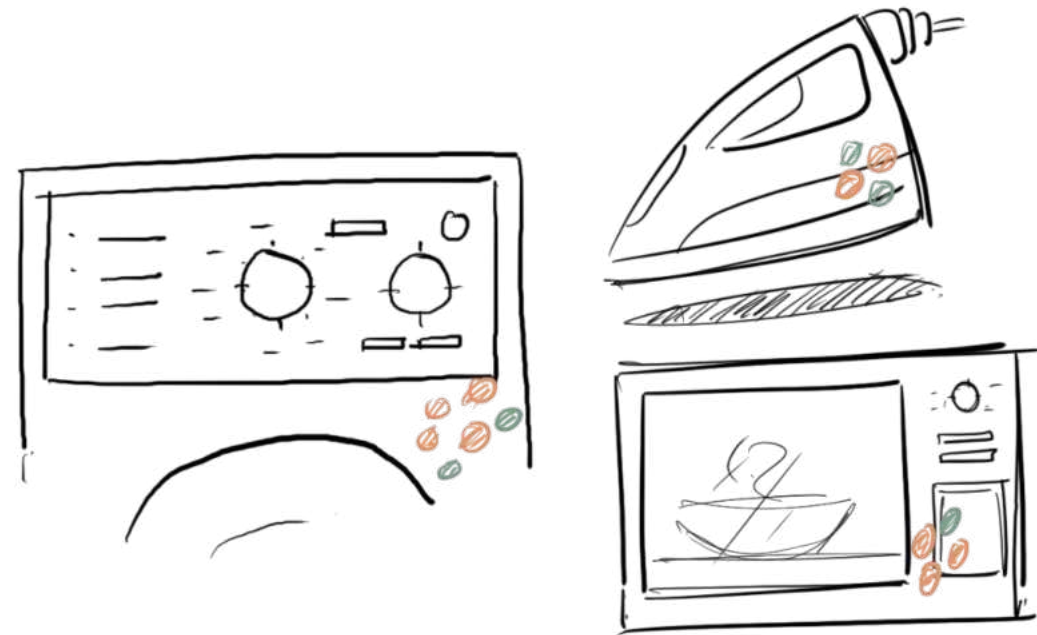


fig. 8 Use of data visualisation (colour encoding) to enable visibility of household technology use.

4.1.3 “Tasks that run the household”

There are numerous tasks in a household that aren’t explicitly acknowledged and accounted for. Smaller tasks that build up to complete a full chore cycle - For eg : the act of cleaning clothes includes a chain of smaller tasks - like collection, segregation, hand wash (in some cases), loading, unloading, drying, folding, sorting, storing.

The idea was for them to know how aware are they about the smaller (invisible) tasks and on identifying them, how well are these tasks distributed among them. and understand their own perceptions about home chores.

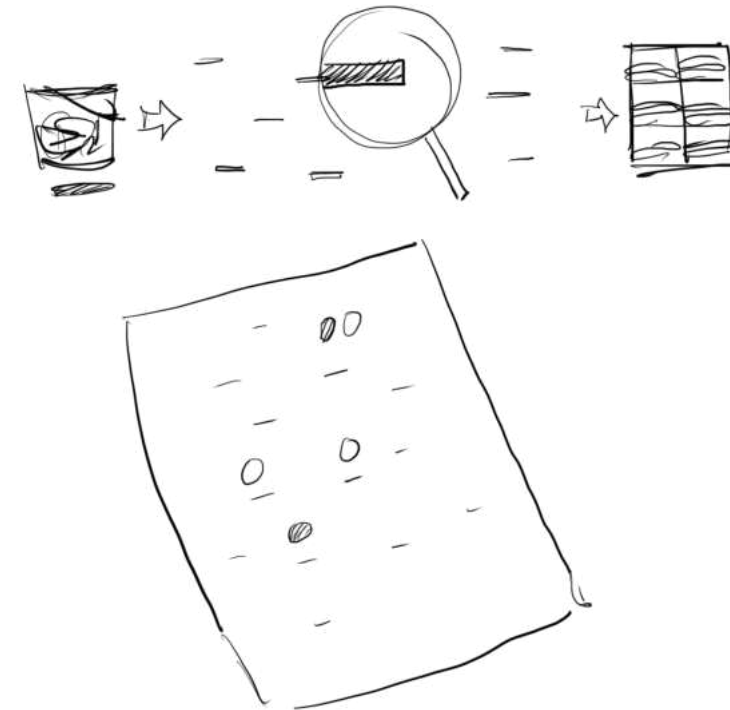


fig. 9 Engagement through metaphors - “invisible tasks”, “closer look”

4.2 Probes deployment and analysis

The probe kit consisted of a set of activities (to be carried out individually/ with partner). The kit was delivered to the participants in person. They were given 2 week's time to complete the activities and interact with this kit in the space and time convenient to them. The kits were collected back. Kits consisted of paper probes, stickers, a magnifying glass, magnets, instructions to perform the tasks. Probe deployment (pilot) was followed by an interview with the participants.

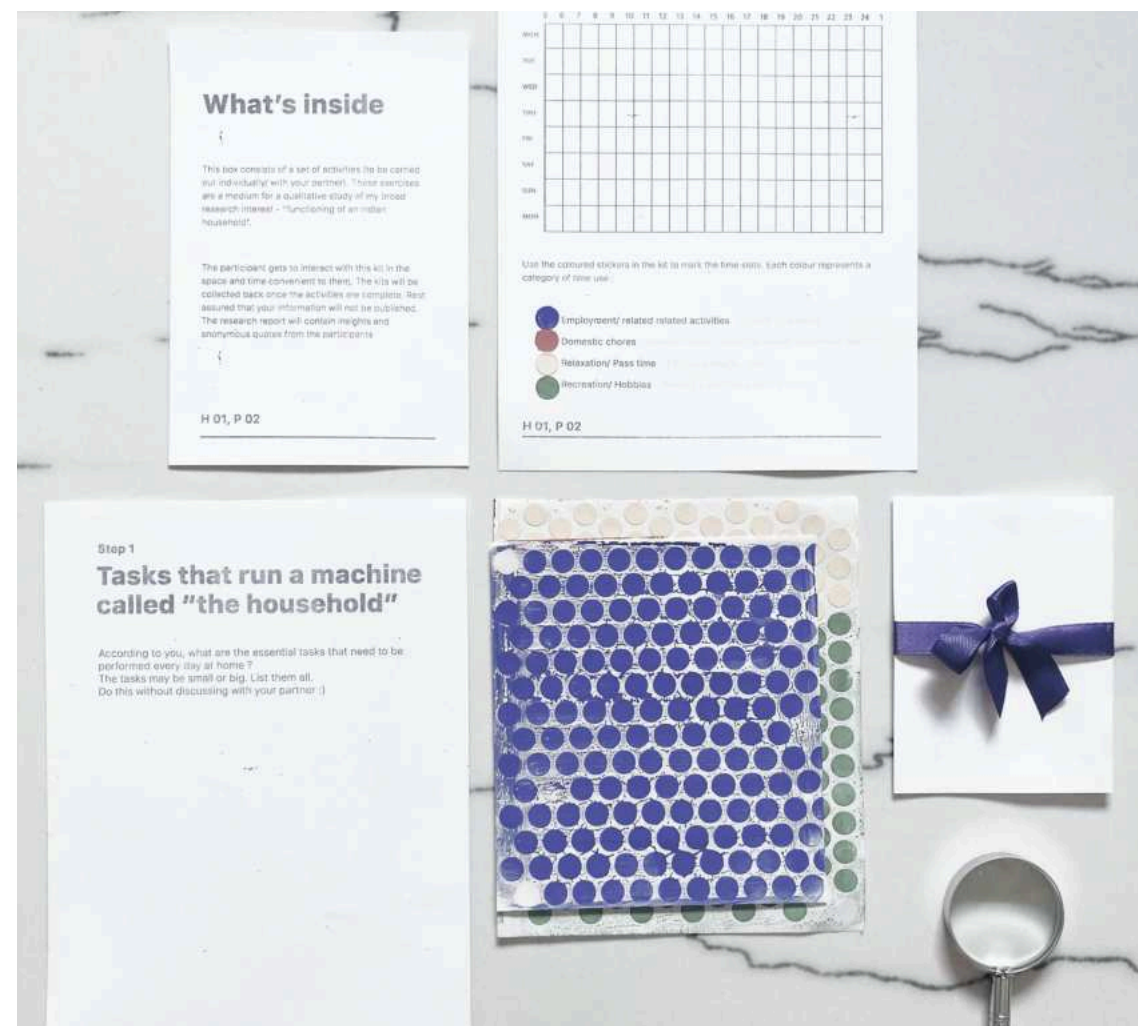


fig. 10 Pilot for probe kit 1 | Returns from Household 01

Household 1 :

Household 1 (H1) consisted of H1P1 (F, aged 52, manager at a software product startup) and H1P2 (M, aged 55, manager at a fin-tech corporation), a married couple who have been living in their current home (3 bhk, Pune) for twelve years. They have 2 kids - a son and a daughter (aged 24,21 respectively). Post COVID, H1P1 has been working from home 3-4 days a week, however, H1P2 works from office.

Returns :

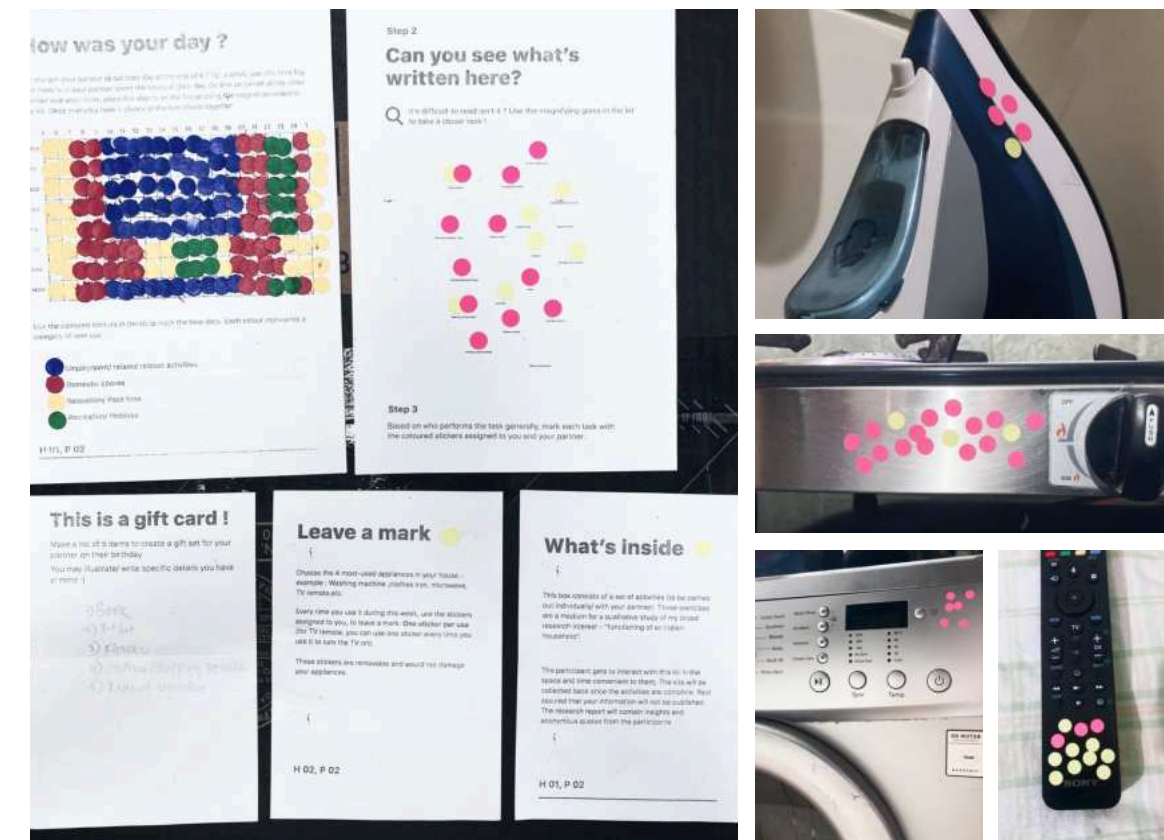


fig. 11 Pilot for probe kit 1 | Returns from Household 01

4.2.1 “How was your day?”

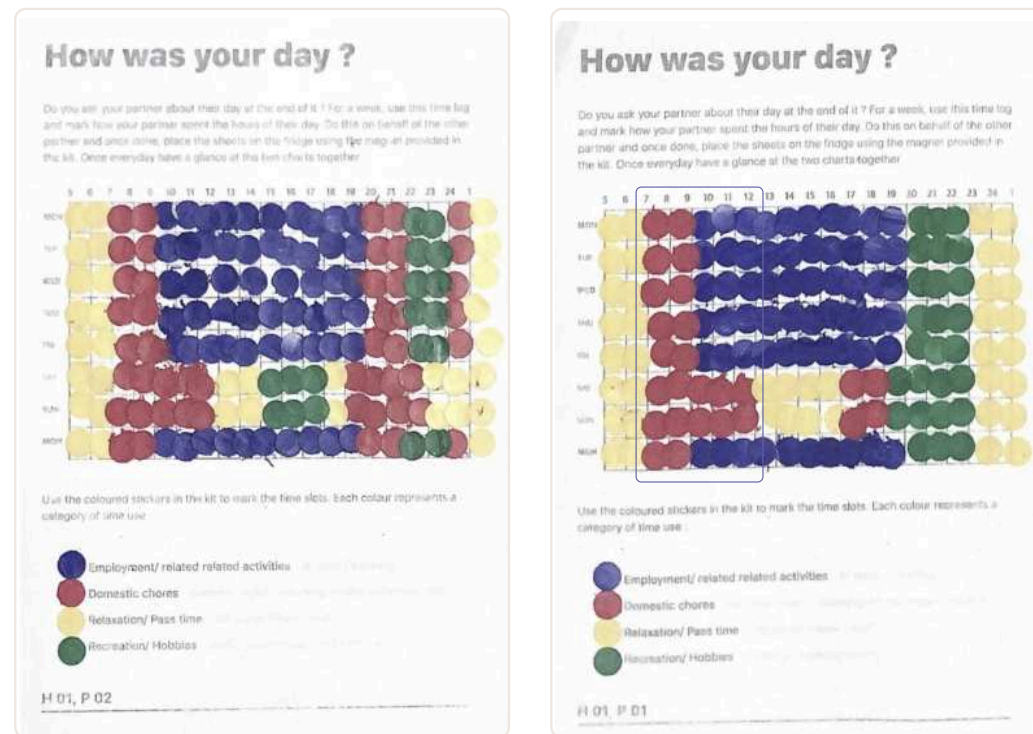


fig. 12 Pilot for probe kit 1 | Returns from Household 01

The intention was to make the participants to consciously take a closer look at each other's day

- what activities take their partner's time
- how is it compared to your own
- how do they feel about it

The time logs were put up on their fridge (in the living room) where they are easily visible and accessible.

Purple : Employment related activities

Red : Domestic chores

Yellow : Relaxation / Rest

Green : Recreation / Hobbies

Red markers (Domestic chores) were used for different activities. The male participant perceived “reading a news paper”, “preparing for office” as a domestic chore.

4.2.2 “Leave a mark”



fig. 13 Pilot for probe kit 1 | Returns from Household 01

The objective of this probe was to make visible the nature of the tech-usage in the household. The appliances chosen by the participants - iron, microwave, washing machine, TV remote, gas stove saw highly gendered records. The participants reported that “they hadn’t thought of seeing it this way. The high contrast in colour patterns in the TV remote and a washing machine/ microwave triggered informal, mocking conversations and debates about “how unfair the distribution is.

4.2.2 “Tasks that run the household”

Step 1
Tasks that run a machine called “the household”

According to you, what are the essential tasks that need to be performed every day at home?
The tasks may be small or big. List them all.
Do this without discussing with your partner :)

1) Cooking
2) Washing. Utensils; put back to place
3) Washing clothes; fold dry clothes
4) Puja; Deighar cleaning; shopping
5) Watering plants
6) Kitchen cleaning
7) Monthly Tirana
8) Weekly Bhaji, fruits, snacks etc.
9) Shopping kitchen items like Dahi, etc.
10) Hall cleanliness; furniture cleaning
11) Bedroom cleanliness; Bedsheet change
12) Bathroom cleaning
13) Terrace cleaning
14) Shoe rack cleaning
15) Extra cleaning / preparation when guests coming
16) Hanging Bills

H 01, P 01

Step 1
Tasks that run a machine called “the household”

According to you, what are the essential tasks that need to be performed every day at home?
The tasks may be small or big. List them all.
Do this without discussing with your partner :)

Bill payments (monthly/quarterly) watching TV
1) internet
2) salary
3) food
4) misc
5) laundry
6) housework
7) etc.

Monthly dry cleaning
Wash clothes
Washing walls/furniture
New bed sheet/curtains
after washing place it in its place
Housekeeping
dry/dry cleaning
Groceries
Vegetables

H 01, P 02

Step 2
Can you see what's written here?

It's difficult to read isn't it? Use the magnifying glass in the kit to take a closer look!

Step 3
Based on who performs the task generally, mark each task with the coloured stickers assigned to you and your partner.

Step 2
Can you see what's written here?

It's difficult to read isn't it? Use the magnifying glass in the kit to take a closer look!

Step 3
Based on who performs the task generally, mark each task with the coloured stickers assigned to you and your partner.

fig. 14 Pilot for probe kit 1 | Returns from Household 01

The participants were asked to make a list of tasks that according to them run the household. The other side of the probe has an assorted set of tasks printed in a font that is not legible.

To read each word, one must use the magnifying glass provided in the probe kit. The intent was to make them think about the various everyday tasks that usually go unnoticed but take mental and physical effort in performing.

On marking the tasks with the colour assigned to each participant, we could create a visual of how most of these are performed by one participant (H1P1, F)

We could see a difference in the colour distribution in the visualisations (as both of them had different notions about doing a chore)

The followup interview and probe discussion, we realised H1P1 (F) marked tasks that she frequently does/ is solely responsible for. However, some tasks marked by H1P2 (M) were tasks rarely performed by them, yet, were perceived as “my tasks” by the participant.

4.3 Learning and Observations

1. Partners maintained each other's logs , but in isolation.
There was hardly any discussion/ comparison or nuanced elaboration on what they reported
2. The participants had no emotional attachment with the visual elements that highlighted the participation patterns. The direct translation of data into visually encoded information isn't enough to cause realisation
3. Participants found probes with metaphorical/ implicit activities memorable.
4. Technology mediation , enabling visibility and design for affect - these approaches should rather be used in integration instead of separate approaches

4.3.1 Revising ideation process

The initial ideation of probes were driven by readings, discussions with peers and guide and personal observations. Quick ideation and early deployment of these initial probes enabled us to get a better sense of the space and our research group. Post the first deployment and interviews, we let the field drive the ideation process. Ideas emerging from this approach are illustrated in the following section

Insights from the pilot

Notion of
"doing" differs
between the
two partners

Only graphical
visualisation of
data isn't effective
in initiating
dialogue

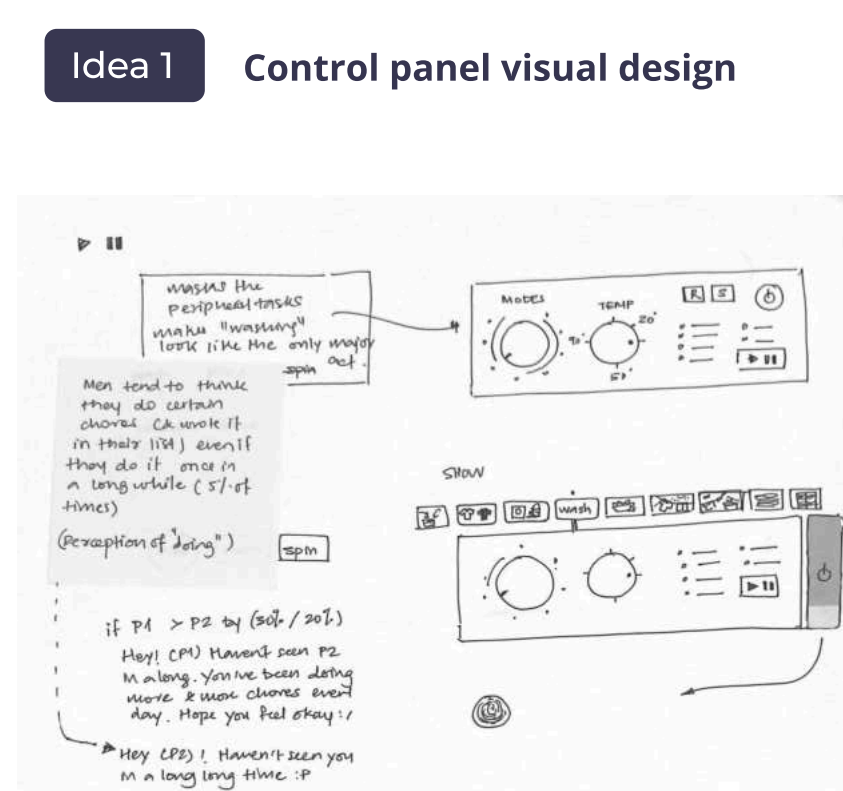
Using stickers/
external elements
and doing
unfamiliar activities
felt like a burden/
task

The person
burdened with
chores reflected
more

Early deployment also helped us understand the limitations and challenges on the field and people's attitudes towards the activities.

5. Ideation (post pilot) - Drawing from the field

Idea 1 Control panel visual design



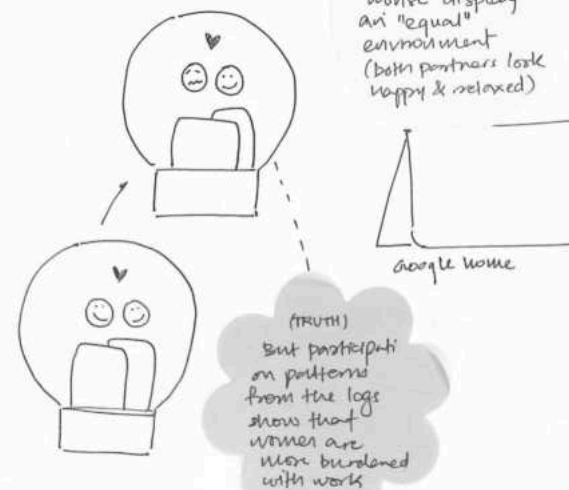
Visual design of appliance control panel to enable visibility of peripheral tasks around tasks perceived as major chores

The appliances highlight a particular task as the ultimate chore, masking the the labour around the task

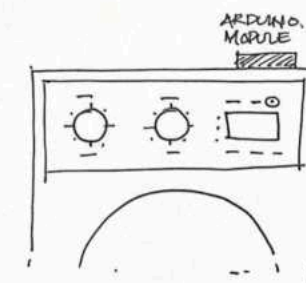
Icons that make the whole process visible, marking the act of washing clothes in the washing machine as "one of" the ten other tasks

For a person who performs a task very rarely :

(Affective objects ideas)
(vize + tech + reflection)



Interactive technology features to generate desired affect (reflect)



$|P_2 - P_1| < 10\%$ No audio

$(P_2 > P_1) > 10\%$

$(P_2 > P_1) > 30\%$

$(P_2 > P_1) > 60\%$ AUDIO

$(P_2 > P_1) > 90\%$ looks like you are taking up this chore most chores. Hope you are feeling okay

AUDIO

Hey! Haven't seen you in a while! long while

Differed interaction feedback (language of tech) based on participation

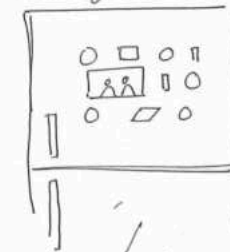
(Better word)

For a person who performs a task too often :

OBSERVED: slow globes/water globes frames - couple photos google home bridge magnets with photos

(TRUTH?) Photos & artifacts in the house display an "equal" environment (both partners look happy & relaxed)

'Analog innovation'



Conversation design in appliances based on the usage of the appliance - reflecting the participation patterns.

The appliance greets the user with different messages based on who undertakes a particular chore more /less often

Idea 2 Conversation design

Fig. 15 Ideation sketches (1)

5. Ideation (post pilot)

5.1 Idea descriptions - 1 & 2

Idea 1 Control panel visual design

Here we treated the word “visible” quite literally and explored how appliances can maintain an awareness about the whole list of peripheral tasks that still exist and have to be done before and after it’s use

Control panels make the current task look as the only and the ultimate task - and by saying that the task is now automated/mechanised - the entire chore is taken care of

Idea 2 Conversation design

In the second direction, I explored the use of conversation design between an appliance and the user, based on their usage frequency.

This emerged through an insight from our first pilot, where we could see that the notion of doing a task/ being responsible for a task differed within the participants - participant 1 - (F) included activities that she does regularly and participant 2 (M) included even those tasks that he rarely performs

Here in this design intervention, the appliance will show concern and care to the first type of user - by saying things like “ looks like you’ve been taking up this chore more often, hope you feel alright ” and to other it’ll say “hey! haven’t seen in you in a long while” (making them aware that they use appliances very rarely)

The conversation yet to be designed

5. Ideation (post pilot)

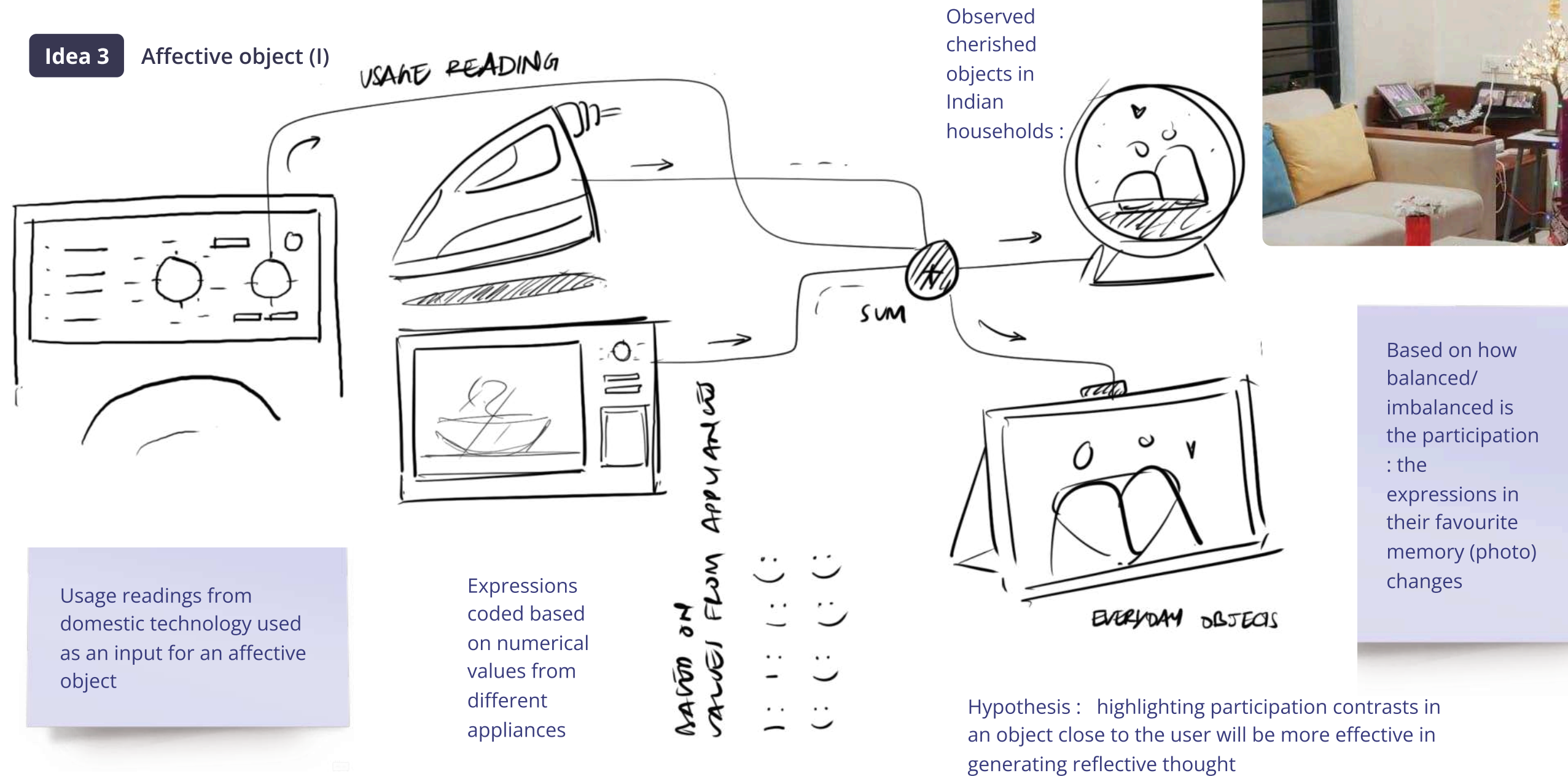


Fig. 16 Ideation sketches (2), snippets from a household

5. Ideation (post pilot)

5.2 Idea descriptions - 3 & 4

Idea 3 “ Effort landscape ”

From the field, we got to know that the abstract graphical visualisation of participation data wasn't effective in generating emotions/ reflective thought.

Here in this idea, we have explored the use of objects that they cherish and use them to reflect the home technology usage patterns

Here, based on the readings from different appliances, the system calculates the chore burden levels and accordingly processes the image in a photo frame “the effort landscape”
- altering a photo which otherwise always shows same (balanced) emotions

Idea 4 Balancing efforts

This exploration is similar to the previous idea in terms of its working. Here the change is the output object. In the earlier design, there is a chance that because of the familiarity with the object (photo frame) the household might stop noticing it.

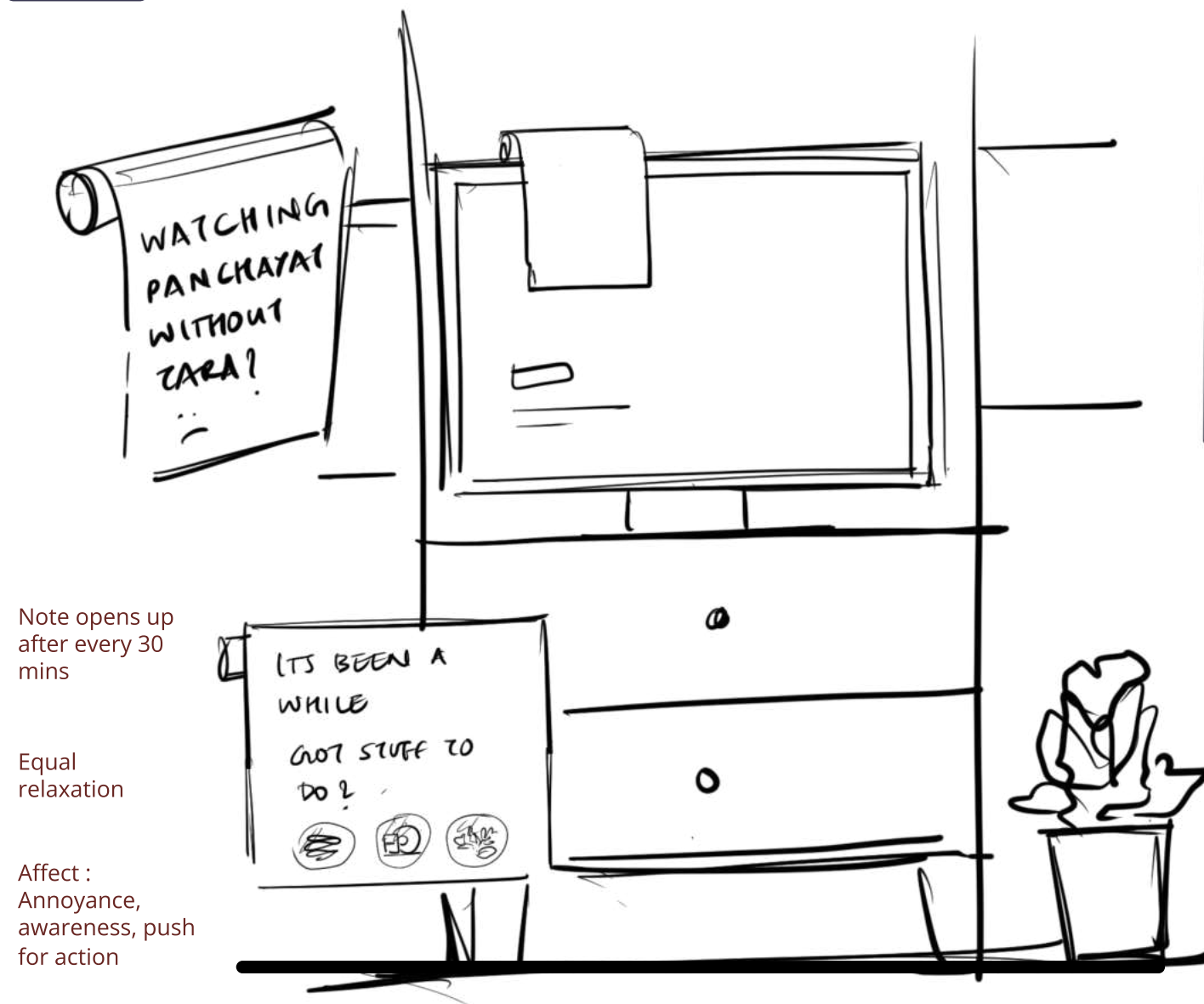
Here, ive tried to include “unfamiliarity”, “motion” and intentional placement to grab and hold attention
It uses words like “weight” of a chore / burden of work and translates them into an object.

For every task done,
a pebble is dropped in the box assigned for the person who performed the task
As the weight increases, the expressions change

5. Ideation (post pilot)

Idea 5

Intrusive tech



From the probe returns and interviews, we could see that most relaxation post-work was achieved by watching TV

Though it's true for one, the other partner (here, F) is busy undertaking chores

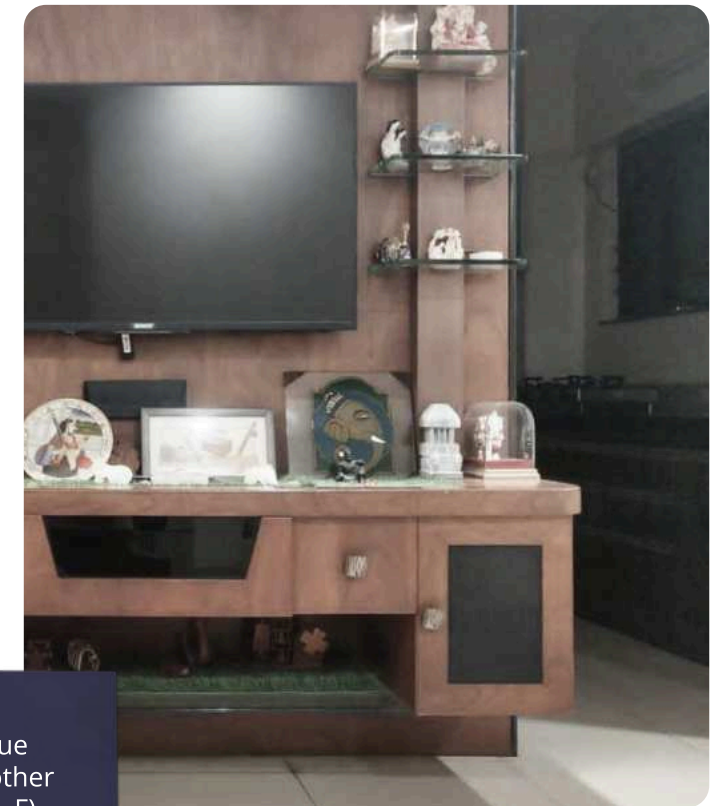


Fig. 17 Ideation sketches (3), snippets from a household

5. Ideation (post pilot)

5.3 Idea descriptions - 5 & 6

Idea 5 Intrusive reminders

This one is an example of intrusive objects that generate reflection / garb attention by obstructing the current activity. here, the activity being binge watching shows on TV alone, while your partner puts up a meal for the family, folds and sorts clothes, preps for the next day.

Idea 6 Design for entirety

Most domestic events in an Indian household are broken down into parts. Not everyone is a participant in all parts. They are divided spatially and participation - some parts of an the event are invisible/ performed in hidden spaces, while some are celebrated.

The ideas was : "How might we make "cleaning the wheel" also an important part of the making a pot ? - Which means : how can we experience parts of a chore and treat them as an integral part of the whole.

Here is a tea table - that includes all activities that come with the experience of an "evening tea"

Idea 7 "Reflective" mirror

From the field, it was understood that chores are looked at as extra "tasks" by men. Whereas, women naturally include them in their day to day / personal routine activities as "essentials"

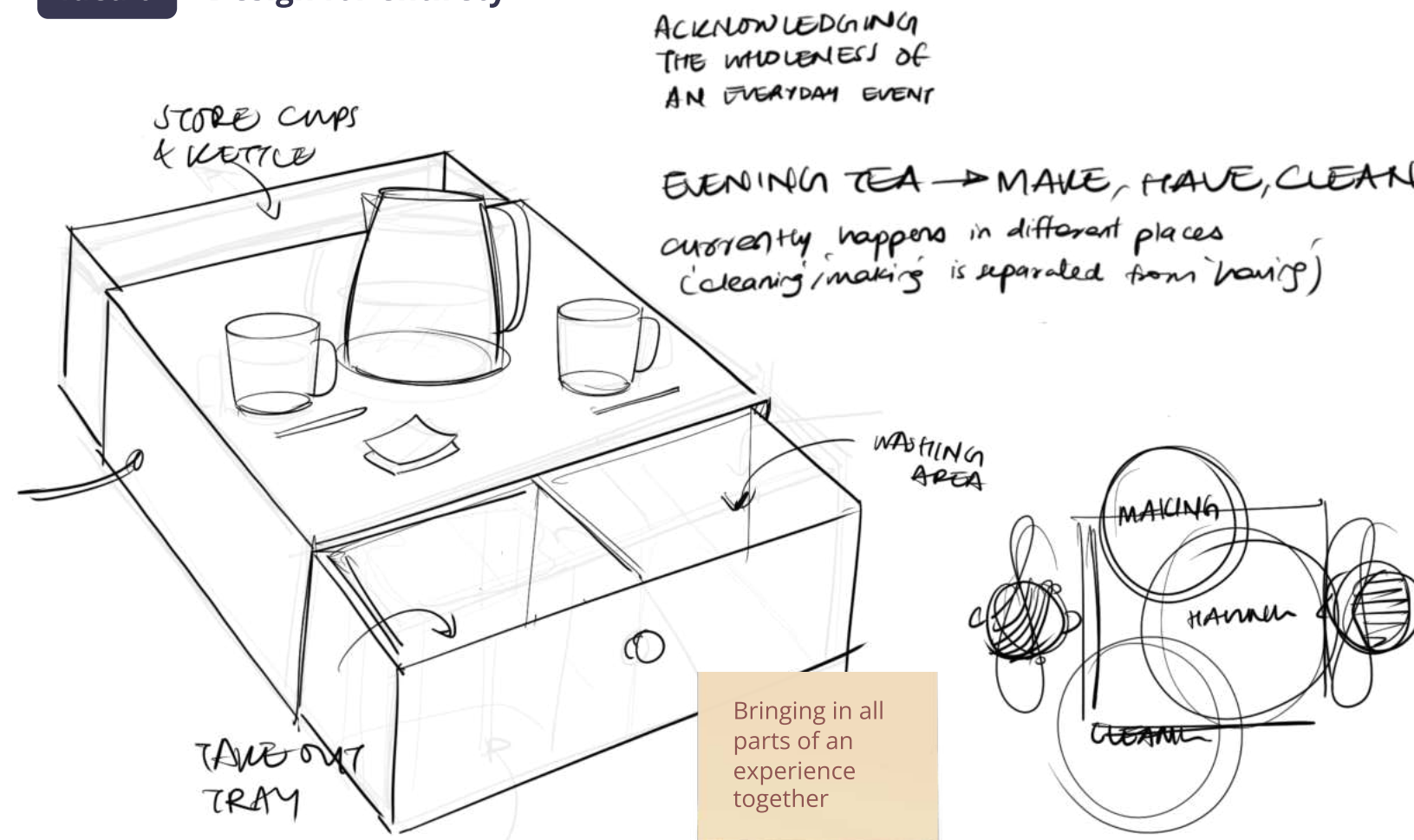
This mirror displays the general chores in the house that need to be performed that day.

It displays basic personal activities (like brushing teeth, taking a bath, reading a newspaper, morning tea) along with the chores of an urban household. The intent is to convey that chores too can be treated as actions and thoughts that come "naturally" to you.

It would make the person looking in it, to momentarily associate themselves with the chores displayed

5. Ideation (post pilot)

Idea 6 Design for entirety



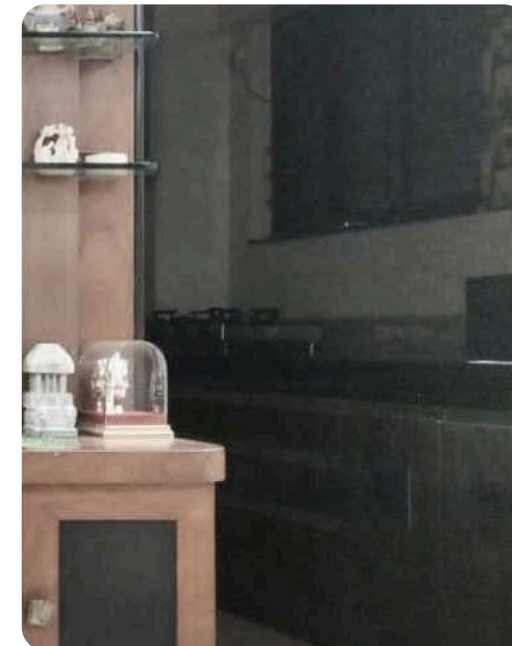
Bringing in all parts of an experience together

Most domestic events in an Indian household are broken down into parts

Not everyone is a part of each part

Some parts are visible, some stay invisible

How might we make "cleaning the wheel" a part of the making the pot?



Washing, making are separated from the experience of an "evening tea"



Tea Table

Fig. 18 Ideation sketches (4), snippets from a household

5. Ideation (post pilot)

5.4 Idea descriptions - 7

Idea 7 "Reflective" mirror

This mirror displays the general chores in the house that need to be performed that day.

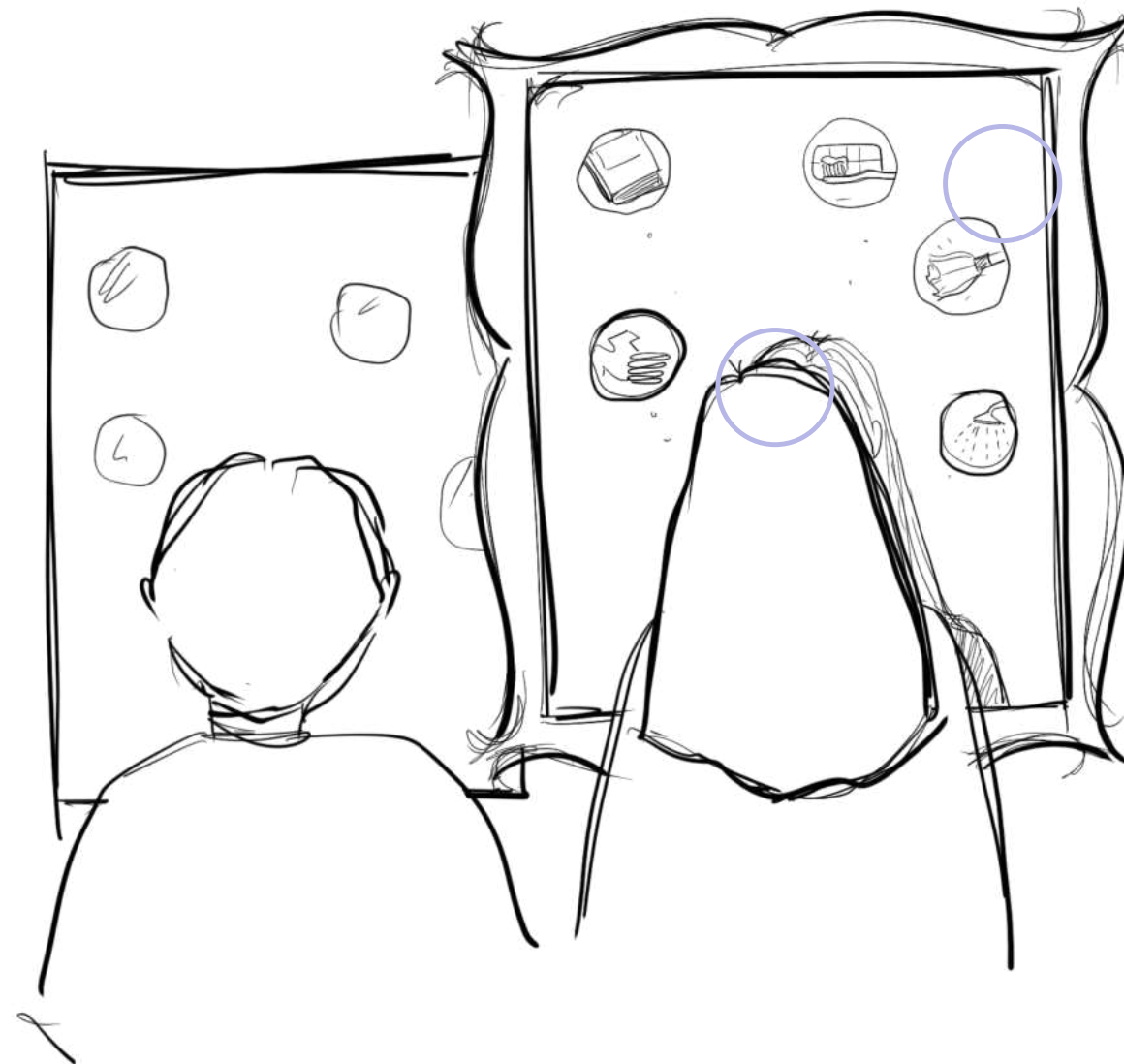
It displays basic personal activities along with the chores of an urban household.

Chores too, can be treated as actions and thoughts that come "naturally" to you.

Association with the chores

Equating
chores to
daily
essential
activities

"I help my
partner in
chores" >
"i do these
chores"



CHOSES EQUATED
WITH ESSENTIAL
ACTIVITIES

THE MIRROR ASSOCIATES
THE TASKS WITH
THE PERSON
LOOKING AT IT

Fig. 19 Ideation sketches (5) : Reflective mirror

5. Ideation (post pilot)

5.5 Idea descriptions - 8

Idea 8 Hive

This board activity is a one-time probe that uses play to bring out conversations, emotions, negotiations around home chores.

Intent :

To collect “effort-points” through alternate round in the game and strive to lead

Scoring:

Every “task” carries points based on the 7 things parameters
Nature of labour involved - Emotional (1), Physical (1), Mental (1)

Frequency of task : Daily (3), Weekly (2), Monthly (1)

Nature of task : Communal (depending on number of members - 2/3/4), Individual (1)

Scoring is subjective to the player - depending on the nature of their involvement in the task

If a person raises a task card for the current round, the other player too, can collect their points for the task.

The game gets over in 8 rounds (total 16 plays)

The final scoring highlights the participation levels from each player

Elements :

Effort scale : Collect effort points per round and move up the scale to compete with the other players

Activity blocks (in game) : Stand for an domestic chore/ activity

Local blocks : Players can write/illustrate chores missed out in the existing blocks
Players can add/ remove blocks based on the relevance to their household

Effort markers : Based on the frequency, choose a Large/ Medium/ Small peg to place on a task that you think you perform

5. Ideation (post pilot)

5.5 Idea descriptions - 8

Idea 8

Hive

Point categories:

Base points :

Base points is a function of type of efforts and the general duration of a task and is printed on the activity blocks

Frequency points :

A player can collect frequency points for an activity based on how often do they perform it

Appreciation points :

The players can collect appreciation points if they consider an activity to be shared responsibility

A task can carry different points for different players based on their involvement in it. The players can negotiate their views with each other for collecting their points

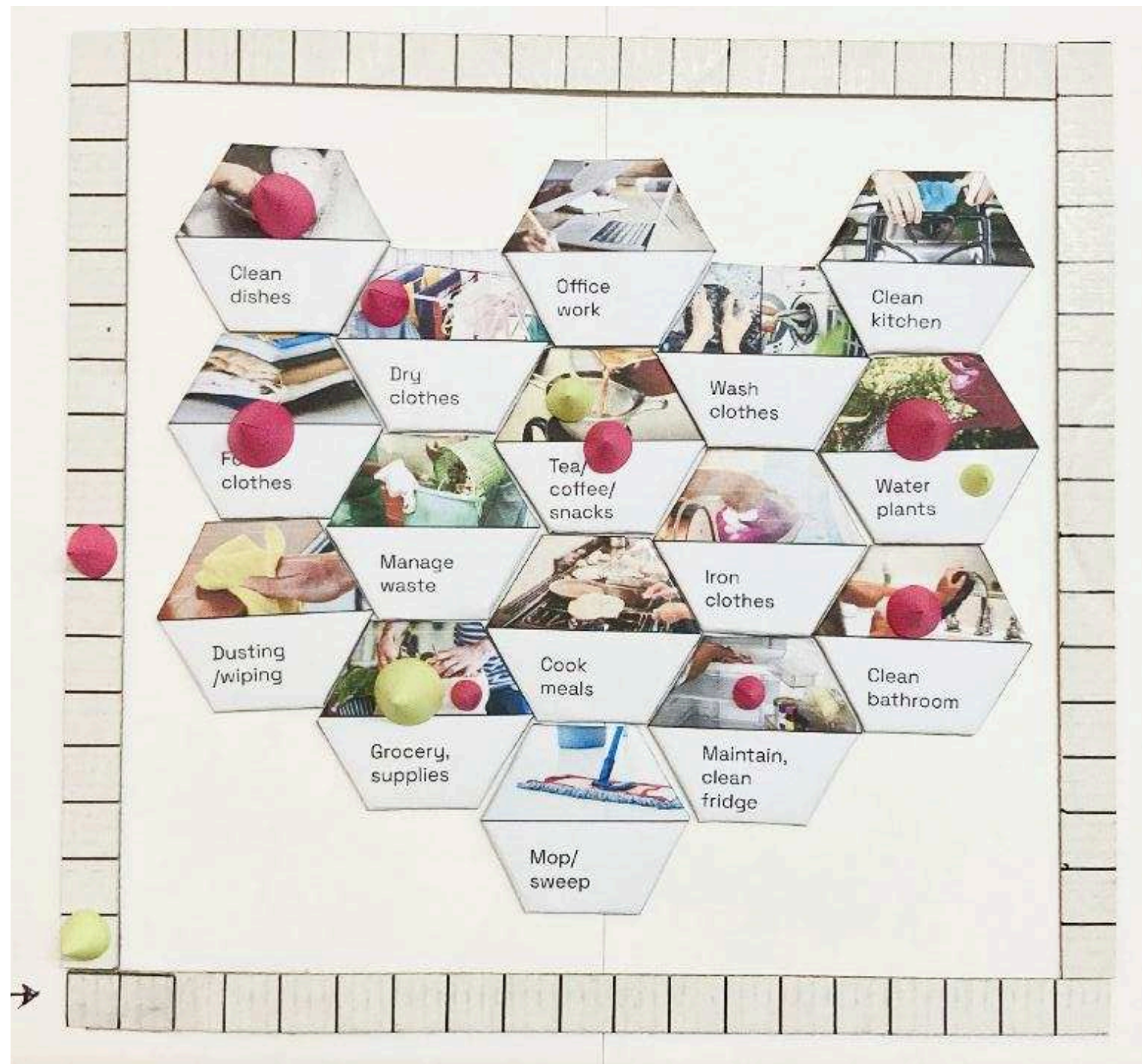
Scoring :

A players round score is calculated as

Base points + Frequency points + Appreciation points		
1/2/3/4 (check block)	Daily : 3 Weekly : 2 Monthly : 1	Shared : 2 Individual : 1

6. Prototyping selected concepts

6.1 Hive



Getting to know the nature of one's domestic dynamics - knowing oneself and the "other" (their partner) - through play, discussions and negotiations



Fig. 20 Initial prototyping

6. Prototyping selected concepts

6.2 Tea table

Creating a space for play and discussion - showing alternate possibilities - reimagining domestic activities



Fig. 21 Initial prototyping

As this artefact will be used as a probe in my research activities, and isn't proposed to be a marketable product, we used cardboard to build the prototype

7. Revised plan for deployment

All pilots and refined deployment sessions (that ran for 1.5 hours on an average) were audio recorded, producing 6+ hours of content. Relevant segments of recordings were transcribed. The researcher also took field notes during the interview and documentary photographs before and after deployment.

Field notes were reviewed immediately following each interview, and tentative insights were noted. Analysis of the data was an ongoing process. After each visit, we conducted preliminary analysis, searching for emergent patterns across different households and draw out underlying themes. We coded the transcripts and insights with the themes and created conceptual models and affinity diagrams to reveal unexpected connections and differences among households.

In what follows, we present several descriptions around how the cultural probes were interacted with and the nuanced stories, notions uncovered through those.

7.1 Participants :

We focused on working partners in urban nuclear families in Pune, India. We used convenience sampling to recruit participants. The pilot was deployed in a household within

the researcher's extended family. The feedback we received was instrumental in identifying some missing elements, links and understandability factors of the probes

7.2 Introducing probes :

The participants were invited to have a semi-structured discussion about "how they function as a working couple". The researcher introduced them to the project as an exploratory research activity - of which the probes were experimental artefacts that they would engage with.

7.3 Probes :

"Add colour to the day" is a paper based probe that was used to initiate conversations around their typical weekdays (work and home) and weekends (home and recreation). "Hive" was introduced as a game and "in-tea-grate" - the integrated tea table, was used as the central artefact around which all activities and discussions happened.

7. Revised plan for deployment

7.4 Evaluation :

We focused on working partners in urban nuclear families in Pune, India. We used convenience sampling to recruit participants. The pilot was deployed in a household within

8. Probe kit - Details & design choices

8.1 Add colour to your day :

This paper probe was used to initiate a conversation about the participants' typical weekday and a weekend. It looks like a tool which would collect quantitative, factual data. However, qualitative insights emerged from the way the materials were used and the activity was conducted.

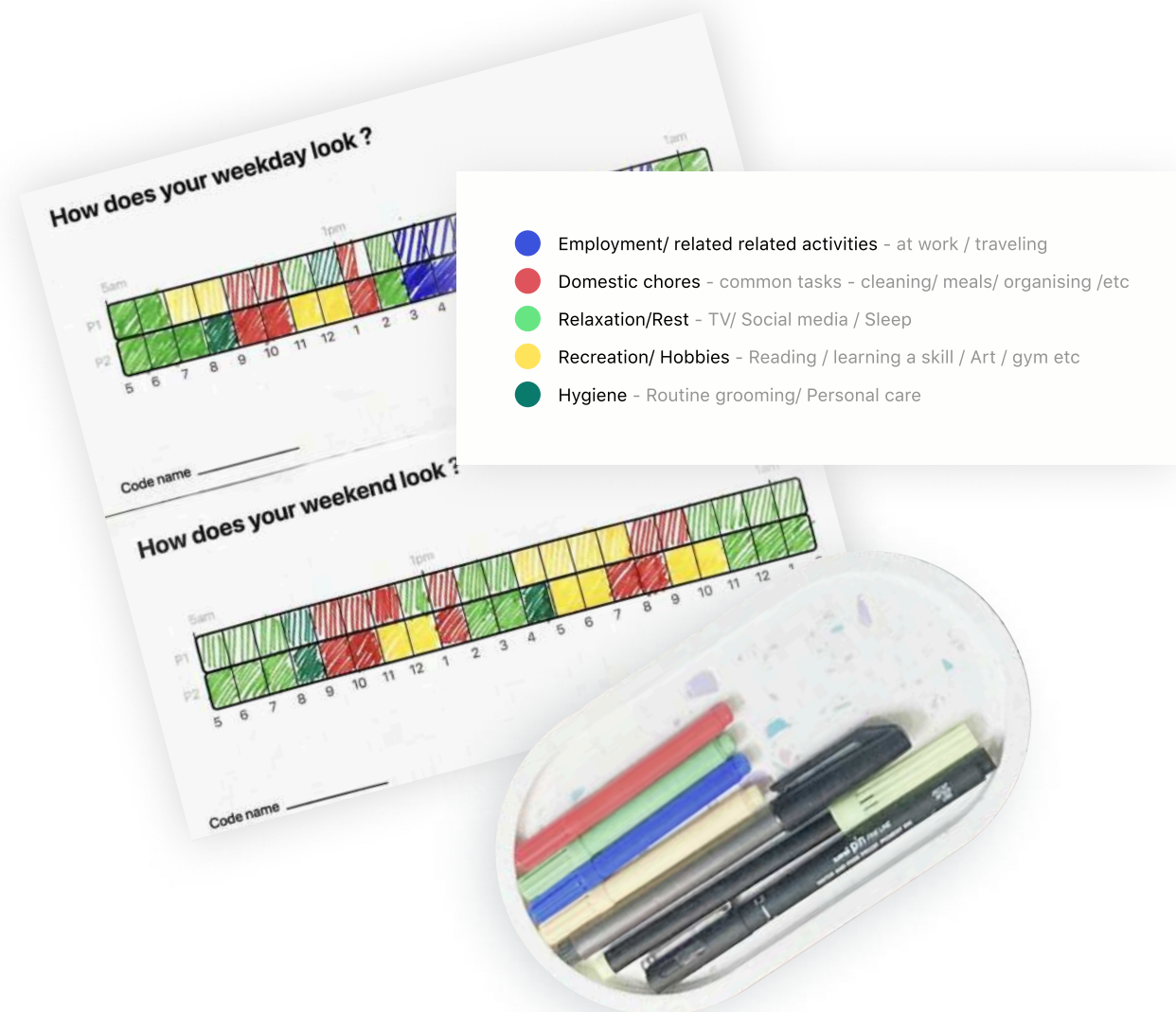


Fig. 22 Sheets filled by a couple, stationery used

8.1.1 Observations in pilot deployment :

- The activity is not something that occurs naturally in the participants' routine and felt like a conscious effort.
- The participants were provided with separate stickers for colour blocking their day and did this activity in isolation - not allowing them to compare and interact over the colour patterns

8.1.2 Changes after pilot deployment :

- The participants shared a set of colour pens which (intention was to maximise interaction between them)
- Participants shared a sheet to colour block a typical weekday/ weekend. Both timelines are placed right next to each other for comparison to be spontaneous

8.1.3 Design choices

- The sheet looked like a small slip - so that it does not appear like a data collection form and can be compared with other sheets easily.
- The idea was to keep the visual language informal and simple to avoid overwhelming the participants
- The participant is made to mark each block. In cases of long stretches of work/chores/relaxation, the participant is to go through the manual effort of colouring each block- hence engaging with their reality for a little longer

8. Probe kit - Details & design choices

8.2 In-tea-grate - tea table

Most domestic events in an Indian household are broken down into parts. Not everyone is a participant in all parts. They are divided spatially and participation - some parts of an event are invisible/ performed in hidden spaces, while some are celebrated.

The idea was : "How might we make "cleaning the wheel" also an important part of the making a pot ? - Which means : how can we experience parts of a chore and treat them as an integral part of the whole.

8.2.1 Probe details

In-tea-grate is a tea table - that makes it possible to perform all activities involved in an "evening tea" in one place, by everyone.

Usually where making, having and cleaning happens in different spaces and with selective participation from members, this table involves everyone in everything. This probe is a way to present household members with possible alternate ways to engage with daily events and chores and create a space for discussion around the current nature of chores in one's household and reimagine them.



Fig.23 Colours, materials and structural details of the tea table

8.2.2 Structure and working

The table serves 4 people. All four sides of the table are assigned for different parts of the tea experience. People sitting around the table participate through the materials placed on their side.

The table is to look like a closed case before and after the event.

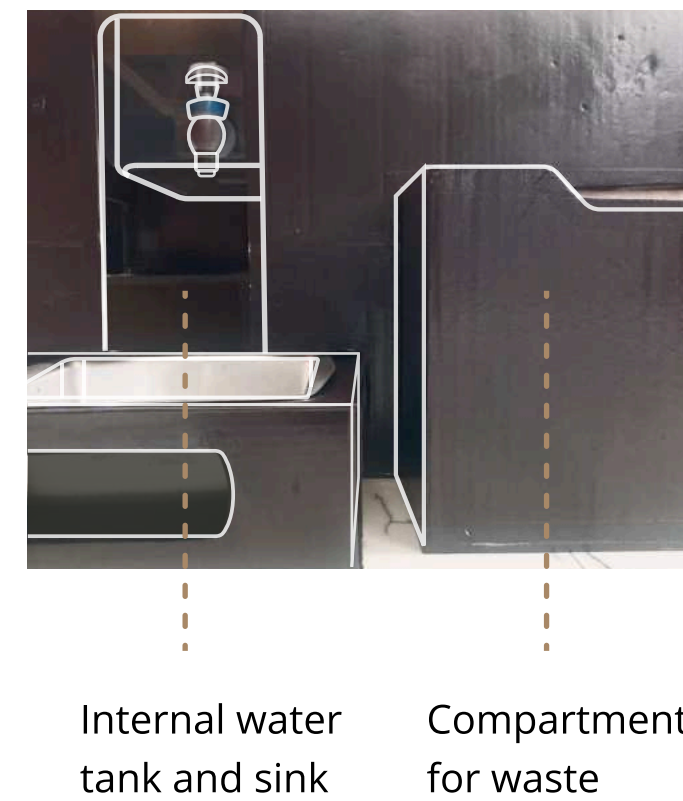


Fig.24 Structural details of the tea table

8.2.3 Contents

The table contains 4 cups, one electric kettle with base, stirrers, tea, sugar, lemon extract, scissors, spoons, tea bags, cleaning cloth, water tank, cleaning sink, small garbage bin and soap water.

These materials cover the acts of making, having and cleaning

8.2.1 Deployment plan

Researcher initiates the event by requesting the person sitting on the kettle side to take it out.

While others can take out ingredients, cups, pour water, etc. The researcher sits on the “cleaning” as they are hosting the guests. The event is documented through sketches and photos (before and after) and audio recordings conversations around the table



Fig.24 In-tea-grate set up in a domestic space. Picture taken before deployment

8. Probe kit - Details & design choices

8.3 Hive - board game

This board activity is a one-time-play that aims at bringing out conversations, emotions, negotiations around home chores in a household, which otherwise would not be naturally discussed.

The game has a scoring framework. However the game points are driven/controlled/decided by both the players - and in this process, the intent of the probe is to spark conversations/ argument/ revelations around domestic chores in their own household.



Fig. 25 "Hive" - Set up (before a starting a game)

8.3.1 Gameplay

Each player selects a colour. One of them picks a closed chit to decide who starts first. The players get to play 8 rounds each - which they should utilise to earn maximum points

It consists of activity blocks which add up to make a "hive" (representing a household). The players are to claim chores that they perform and that they think will earn them maximum points in 8 rounds.

The active player claims a block which carries base points (based on the duration and labour), frequency points (based on how often does one performs a chore) and appreciation points (based on their perception of a task-shared/ individual). They do this by placing an effort marker (of the correct size - based on how frequently they carry out the task).

The second player can also join in on the same activity block, however, the points they collect will have to be negotiated/ agreed by the player who claims the block first.

Players collect points in each round and move up the effort scale

8.3.2 Game elements

Effort scale : Collect effort points per round and move up the scale to compete with the other players

Activity blocks : Stand for an domestic chore/ activity

Local blocks : Players can write/illustrate chores missed out in the existing blocks. Players can add/ remove blocks based on the relevance to their household

Effort markers : Based on the frequency, choose a Large/ Medium/ Small peg to place on a task that you think you perform



Fig. 26 Hive - Elements : Paper pegs, Effort scale and activity blocks

8.3.3 Scoring guide

Round total calculated as :

Base pts	+	Frequency pts	+	Appreciation pts
1/2/3/4 (check block)		Daily : 3 Weekly : 2 Monthly : 1		Shared : 2 Individual : 1

8.3.2 Point categories

Base points :

Base points is a function of type of efforts and the general duration of a task and is printed on the activity blocks

Frequency points :

A player can collect frequency points for an activity based on how often do they perform it

Appreciation points :

The players can collect appreciation points if they consider an activity to be shared responsibility

A task can carry different points for different players based on their involvement in it. The players can negotiate their views with each other for collecting their points

9. Deploying probes



Fig. 27,28 Context and set up for final probe deployment

9.1 Context

Participants were invited over for tea, to have a semi-structured discussion about their domestic and work life. All three probes were deployed as a part of this discussion

9.1 Participants

9.1.1 Household 1

(H1) consisted of Anandita (aged 46, software coder in a Corp) and Suraj (49, Manager in a Corp), a married couple who lived in the US for about 8 years before shifting to India, where they've been living for 5 years. They have 2 children - 12yrs and 16 yrs. They both work from home. Most of their daily home chores are taken care by their domestic help

They work in an US based corporation and hence have a different work schedule - 14:00 to 23:00 IST.

9. Deploying probes

9.2.2 Household 2

(H2) consisted of Tanu (aged 48, Manager, IT firm) and Rahul (50, manager in a finance team), married for 25 years. They have 1 child - 15 years old. The nature of their work is similar, only in different departments.

They both work from home 3 days a week. They have appointed house help for major tasks like house cleaning and washing utensils.

9.2.3 Household 3

Household 3 consisted of Shraddha (F, aged 52, manager at a software product startup) and Ved (M, aged 55, manager at a fin-tech corporation), a married couple who have been living in their current home (3 bhk, Pune) for twelve years. They have 2 kids - a son and a daughter (aged 24,21 respectively). Post COVID, Shraddha has been working from home 3-4 days a week, however, Ved works from office.

9.2.2 Household 4 (Pilot)

(H4) consisted of Anuradha (aged 50, a dentist) and Jay (52, CA in a global tech company). Both of them have a 16 year old daughter. Both of them work from office and have longer work days than most others.

9. Deploying probes

9.3 Emergent interactions

The game and the tea-making activity blurred the between the participants and the researcher. The nature of dialogue that happened around the probes is elaborated in the following section

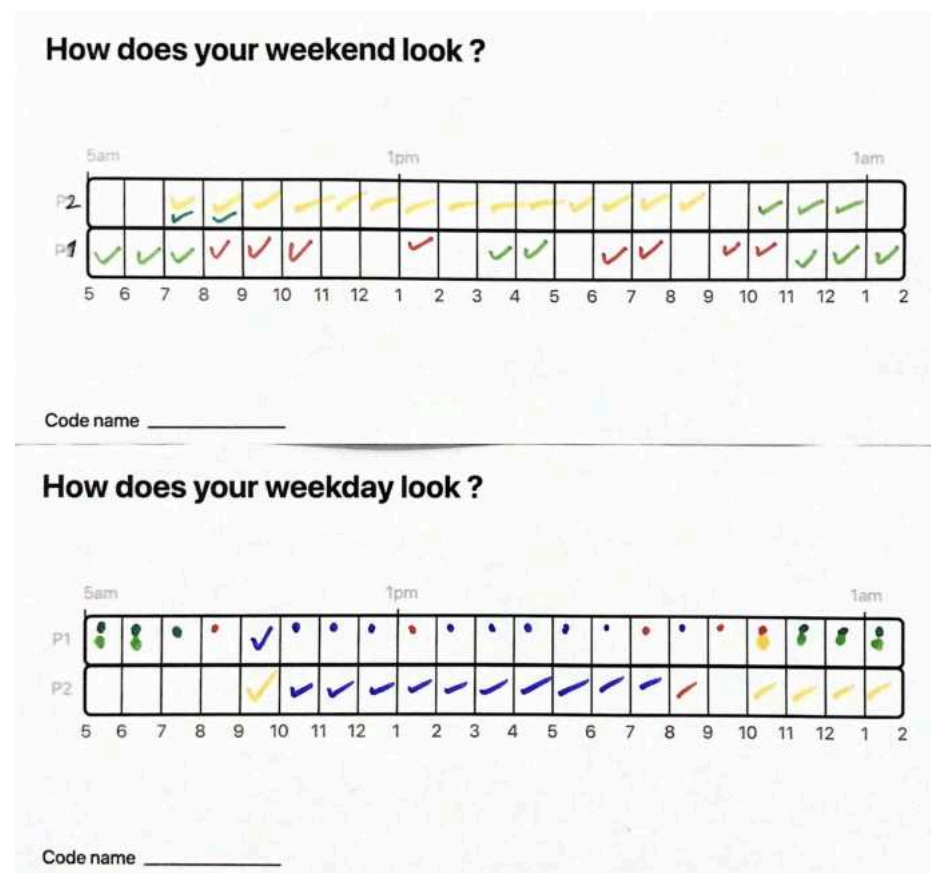


Fig. 29 In action : Participants playing "Hive"

9. Deploying probes

9.3 Emerging dialogue



Fig. 30 Dialogue emerging around "Add colour to your day"

9. Deploying probes

9.3 Emerging dialogue

"This is so nice...Everything is so neatly arranged, all in one place..no need to get up at all ?"

"We made tea in just 5 mins, we all had something to do and I'm surprised that it wasn't chaotic"

"Does it have a heating system within it? The water is pretty hot... If all this fits here in this, it's great to make tea everyday also"

"Rahul, I was wondering it'll be so great to have something like this when we have your friends over for chaat"

" Chaat has a lot of things to be put together. She hardly gets to be with us or play cards. It'll be interesting to use our centre table like this"

"I think, if we sit like this, throw away our phones and put something to do in the middle, a lot can be done, pretty quick and stress-free"



" Best part is that once it was done, it's all packed back in, and then there is no much work left "

" So why did we switch places ? I would've liked to explore that side (cleaning) as well..."

" I'm interested to know what was the philosophy behind this ? because this is very far from how we do it everyday? "

"Oh there is cleaning as well....so sleek.. Can i come that side? I would like to see how it's done .."

"Oh, I dint know that we shouldn't boil the tea while making lemon tea...okay so this is why it tasted bitter the other day when I made it"

Fig. 31 Dialogue emerging around
"In-tea-grate"

9. Deploying probes

9.3 Emerging dialogue

"Excuse me? Daily ? why are you picking up the bigger peg, you hardly do it once a month.."

" You can't discard that block. Managing waste is my daily task. And I feel it should carry more points "

"Okay....let me see...what do i do from here...Why is it so difficult to find a thing that I do"

"Okay fine...ill give it you.... you can take 1 point for doing it monthly and just for yourself"

"See, what all you need to do to reach here, alongside me .."

"Hey ! I can claim bills as well"

-" Oh please!, What bills do you pay ?

-"School fees? Maids? Driver?"



"Its really hard to claim anything beyond this..Mostly everything is done by the maid only"

-"Oh hello ? Cleaning the fridge ? I do, managing waste - done by me

"There is a lot, you hardly do it so you might not know- I have to transfer the food remaining, store, clean the veges"

"I have hardly used in any big pegs.."

"That means you should pitch in a little more in daily tasks"

"3? Daily you go ?Why do you have to go out for vegetables everyday ? You aren't managing it well"

"I claim cooking and you can't claim that. So only I get the points! "

"Clean fridge? daily ?what's there to be done everyday?"

"Watering plants is for yourself, why would you collect 2 points at the end? It's a thing done for the self"

Fig. 32 Dialogue emerging around a game of "Hive"

10. Key interactions

10.1 Findings

The artefacts allowed partners to

Engage and dwell on the current participation patterns in their household, and independently make meaning of their own information

Use humour and other implicit ways to express differences, expectations and to debate

Uncover and break each others' notions (and understand realities) around chores, work and relaxation

Suspend feelings of offence, hesitance, being questioned/doubted. The game possibly brought out everyday negotiations / debates through nuanced narrations and debates without intrusive inquiry

Spend time with and react to the information visualised by the probes and self-analyse, and reflect on the contracts in colours on the sheets OR why one didn't and did win the game

Uncovering notions of home chores/breaks/hobbies/work

Engaging with one's domesticity through different mediums



Interpreting some observations

Partners internalised explanations and understanding of other's notions of chores, hobbies, relaxation, work

Comfort in co-dependence. Knowingly not knowing how to perform some activities.

The convenience of conventions Being aware of the imbalances but yet, mutually agree to function as per conventions as it's easy and doesn't require anyone to change

10. Key interactions

10.2 Results

The colour codes provided by the designer for different activities were questioned and the participants explained their subjective notions of work, relaxations, hobbies and chores. As the colour codes were then kept open for interpretation, the participants elaborated on the sheet entries in order to clarify the underlying information. This behaviour was not expected and emerged out of the deployment process, and proved to be positive in instigating nuanced stories

The participants engaged with the game independently and candidly without the intervention of the deployer. The participants steered the dialogue/ discussion, giving control over to the participant as to what and how much do they want to tell

The tea table, designed to re-imagine tea making, sparked conversations about other scenarios / events that could use the same idea of encouraging balance, everyone's involvement and looking at chores differently - not as tasks/ chores/responsibilities , but just another part of some broader experience)

11. Discussion

We started with an interest in understanding a certain socio-cultural space, on realising the sensitivity, complexity and nuanced nature of the space, we extended our objectives to designing and making artefacts which we then can use as a medium of inquiry in our study.

Along with this, broader goal was also to bring into light the existing imbalances in time and effort expended for home chores across members of the family, and an important intent of the artefacts we designed was (along with us) to allow participants to engage with and dwell on the nature of their domesticity, create a space for dialogue around chores and also through the artefacts, experience alternate ways of performing or participating in domestic chores.

From the discussions emerging out of the interaction between the participants and the cultural probes, we can say that the artefacts allowed the participants to steer the discussions (without much diverging from the area of our interest), minimising the back and forth, monotonous questioning around a delicate topic.

The artefacts - "in-tea-grate" and "hive" helped in temporarily suspending hesitance around discussing domestic matters in a conserved culture like ours.

We learnt from various design projects where objects were used to elicit/ inspire/ make people reflect on certain behaviours/ patterns and personal/social phenomenon. These cultural probes were designed for engaging with the western cultures. We aimed at adapting the method of using probes for qualitative discussions around home chores, in urban Indian families with working partners.

The interaction between the artefacts and the couples allowed us (the participants and the researcher) to :

1. Engage and dwell on the current participation patterns in their household, and independently make meaning of their own information
2. Use humour and other implicit ways to express differences, expectations and to debate
3. Uncover and burst each others' notions (and understand realities) - around chores, work and relaxation
4. Suspend feelings of offence, hesitance, being questioned/ doubted. The game possibly brought out everyday negotiations / debates through nuanced narrations and debates without intrusive inquiry
5. Spend time with and react to the information visualised by the probes and self-analyse, and reflect on the contracts in colours on the sheets OR why one didn't and did win the game

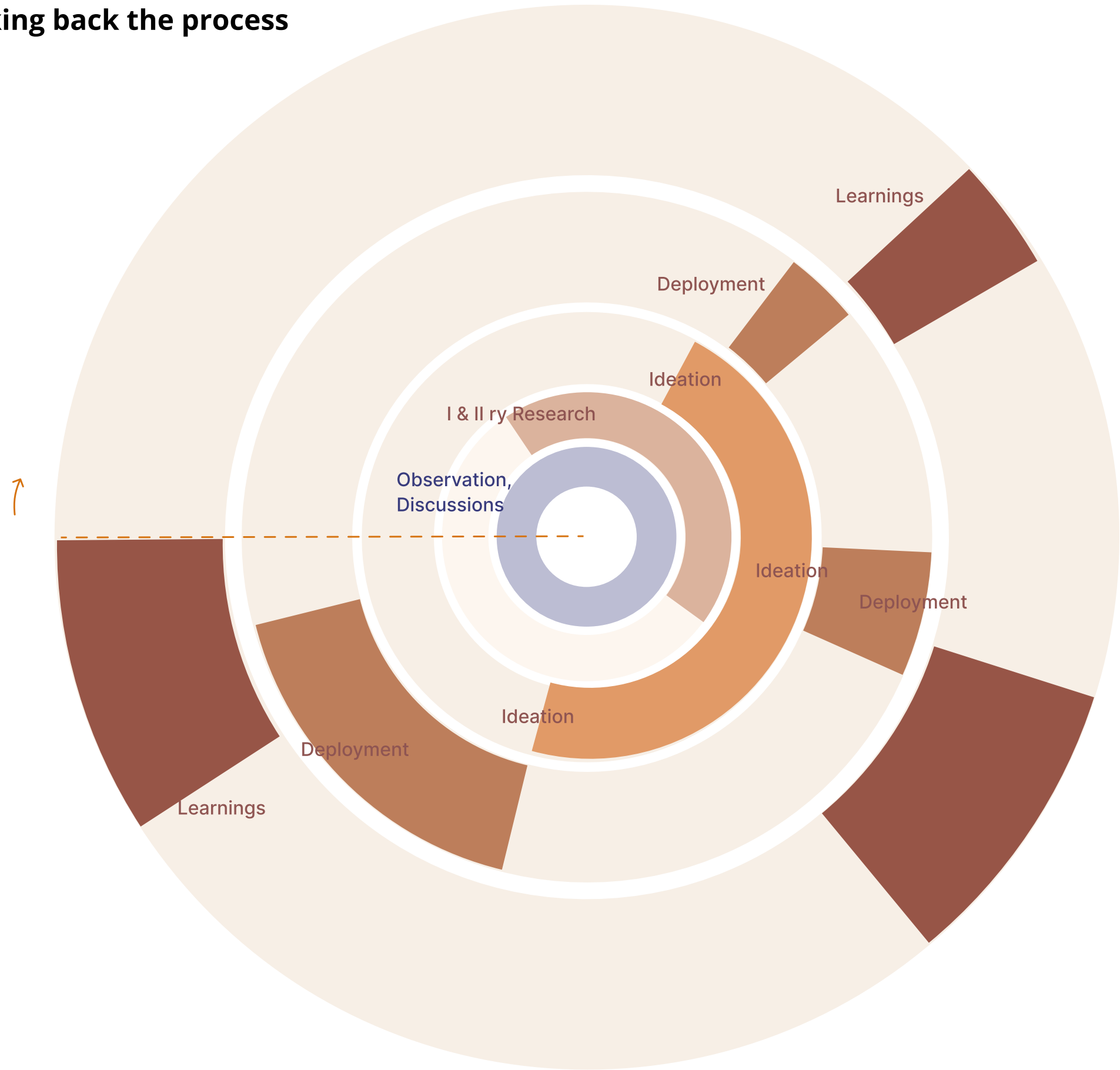
On comparing the results emerging from the deployment with our key objectives, we can broadly say that the artefacts (to varying levels) were instrumental in creating a participant-driven space for dialogue around chores through fun, play and reimagined experiences.

10.1 Limitations

Apart from some clear associations, for most other interactions, we cannot claim that the probes were solely responsible for a certain nature of response

The effectiveness of probes can differ from one household to the other depending on the personal nature of the participants invited by the researcher.

10.2 Looking back the process



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