

PRIVACY DESIGN TOOLKIT FOR SHARED SMART SPACES



ABOUT

This toolkit is to aid in ideation for:

...Engineers,

...Technologists,

...Architects,

...Designers,

...& anyone working on shared Smart Workspaces,

to embed privacy considerations from the start using value-based prompts.

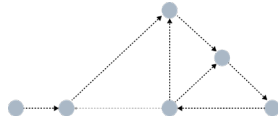
This toolkit is designed to help creators like yourself practice a preventative approach to privacy while creating shared smart workspaces. It facilitates ideation based on people-centered and place-centered privacy values. It is ideal to use the toolkit in an interdisciplinary capacity with other professionals on the project to bring a rich diversity of ideas from different disciplinary perspectives concerned with buildings.

This toolkit is developed based on research conducted for privacy for smart workspaces as part of Master of Design thesis at Carnegie Mellon University. There are 14 value-based prompts grouped under 7 principles which should be used throughout the design and development process of your project. The value and principles are relevant other shared contexts in the non-domestic realm too and may even be useful for the domestic context with critical reflection and adaptation.

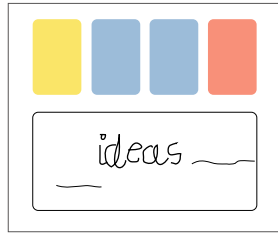


TOOLKIT CONTENTS

Recommended use
Instructions



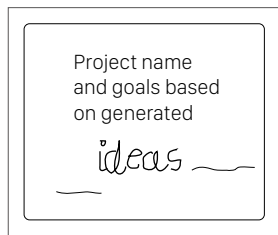
Principles and Prompts
in a workbook format



Printable prompt cards



Design Brief



Link to Resources

<https://ishahans.com/project/penumbra-of-privacy>

BEFORE STARTING

When to use:

1. At the beginning when all details are at a conceptual stage.
2. Return to it periodically as the project progresses, or at crucial decision making junctures.

Who should participate: It is ideal to use the toolkit in an interdisciplinary capacity by bringing together all different professionals on the project, like engineers, architects, designers, building managers etc. The way the project shapes is a cumulative outcome of the big and small decisions made by all of these professionals, including the ones that impact privacy. Bringing everyone together for ideation early on can help to brainstorm ideas from a rich diversity of perspectives and make accommodations as the project progresses.

In the absence of an interdisciplinary team, this toolkit can also be used by an individual independently.

How to prepare:

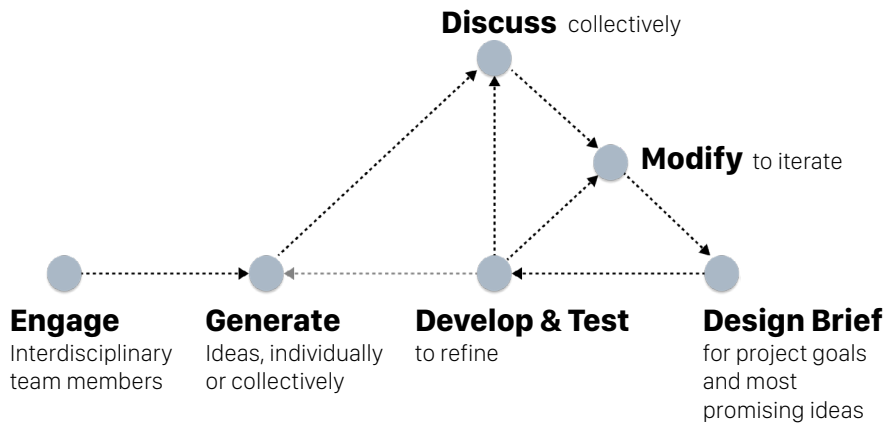
If done individually, fill out pages 7-12 as a workbook.

If done collectively as a team, the facilitator should:

- Print the prompt cards and facilitate the whole activity.
- Print the design brief to be filled by the team at the end.
- Create and distribute copies of the design brief to participating members.



INSTRUCTIONS



SOME TIPS!

Simplify and think critically!

Wherever possible, question why should something be done.

Keep an open mind!

There may be multiple ways to address a prompt based, list all in the beginning.

Commitment over right answer!

This is not a one time activity in a linear process but something to keep returning to.

Trust other collaborators!

Each perspective could differ based on disciplinary knowledges and it is important to be respectful to all.

SCOPE THE PROJECT

Think about the people for whom you are designing, how many people, what are their needs, how do they occupy a similar non-smart space, what do they care about, can you engage them in them in your process?

Also reflect on who you are going to be working with.

Describe here.

What are you designing?

For whom are you designing?

Who are your collaborators?



PRINCIPLES AND PROMPTS

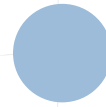
There are 7 core principles and 14 value-based ideation prompts.

These are divided into three categories:



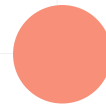
Conceptualizing

These values will help to ground your project no matter the stage you or your team are at.



Detailing

These values will aid in articulating specific details for your IoT system.



Refining

These values will serve as guardrails for your project to ensure ethical innovation.

Three key values that must be responded to irrespective of the stage of your project are 'Purpose and Practice', 'Contextual' and 'Participation'. Together, these three values will help to ensure a people-centered and place-centered point of view.



S. No.	Principle	Value	Prompt
01.	Bring in the voice of occupants/end users	Empathy	Be sensitive to the needs and perspectives of those implicated by the system
		Participation	Engage multiple stakeholder groups throughout the decision making process
02.	Create IoT interventions that are specific to building use and place	Contextual	Design details based on the needs of users of this environment
		Culturally Situated	Account for the appropriate cultural values and norms
03.	Distinguish between Public and Private areas of the building based on occupant behavior	Differentiate	Distinguish between data practices for public v/s private areas of the building
04.	Enable Transparency for the occupants/ end users	Purpose and Practice	Clearly specify the purpose of data collection and data use practices
		Comprehension	Explain purpose, practices and choices in a manner that users understand
		Perceptibility	Bring awareness to the hidden or less obvious presence of data sensing
05.	Give Agency to the occupants/ End users	Barriers	Allow users to temporarily disconnect themselves from the IoT system
		Adaptation	Enable users to adapt the IoT system to reflect their preferences
		Accessible	Provide access to resources (person or other) for help and/or questions
06.	Assess and evaluate to find the right balance between intent and impact	Equilibrium	List the benefits and potential/ likely risks to find the right balance
		Foresight	Consider the impact of IoT system on users and/or society over time
07.	Take responsibility for outcomes and comply with measures to address concerns.	Accountability	Create mechanisms for ensuring compliance and addressing user concern




01. Bring in the voice of occupants/ end-users.

EMPATHY



Be sensitive to the needs and perspectives of those implicated by the system

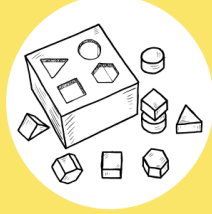
PARTICIPATION



Engage stakeholder groups throughout the decision making process


02. Create IoT interventions that are specific to building use and place.

CONTEXTUAL



Design details based on the needs of users of this environment

CULTURALLY SITUATED



Account for the appropriate cultural values and norms

Draw / Write / Describe your ideas here.



03. Differentiate data practices for public v/s private areas.


DIFFERENTIATE



Distinguish between data practices for private v/s public areas of the building


04. Enable Transparency for the occupants/ end users.

PURPOSE & PRACTICE




Clearly specify purpose of data collection and data use practices

COMPREHENSION



Explain purpose, practices and choices in a manner that users understand

PERCEPTIBILITY



Bring awareness to the hidden or less obvious presence of data sensing

Draw / Write / Describe your ideas here.



05. Give Agency to the occupants/end users.

BARRIERS



Allow users the ability to temporarily disconnect from the IoT system

ADAPTATION



Enable users to adapt the IoT system to reflect their preferences

ACCESSIBLE



Provide access to resources (person or other) for help and/or questions

Draw / Write / Describe your ideas here.



06. Assess and evaluate to find the right balance between intent and impact.

EQUILIBRIUM



List the benefits and potential/ likely risks to find the right balance

FORESIGHT



Consider the impact of IoT system on users and/or society over time

07. Take responsibility for outcomes and comply with measures to address concerns.

ACCOUNTABILITY



Create mechanisms to ensure compliance and addressing user concern

Draw / Write / Describe your ideas here.

A large, empty rectangular box with rounded corners, intended for drawing, writing, or describing ideas.



DESIGN BRIEF

Prioritize ideas from the ideation and make a design brief.

Whether made individually or collectively, the brief will help the entire team work towards privacy through a collective vision.





PROJECT NAME:

I/we are designing _____ for _____
_____ keeping in mind _____
_____.

The overarching goals for the project are to _____ and in order to make it
privacy-preserving, the project would be made contextual by incorporating ideas like _____

_____, the purpose and data practices would be clearly specified by _____

_____ and participation of end occupants would be invited _____

_____.

In addition, the IoT system tries to include privacy considerations through specific details like _____

_____.

Date:

PRINTABLE PROMPT CARDS



EMPATHY



Be sensitive to the needs and perspectives of those implicated by the system

PARTICIPATION



Engage stakeholder groups throughout the decision making process

DIFFERENTIATE



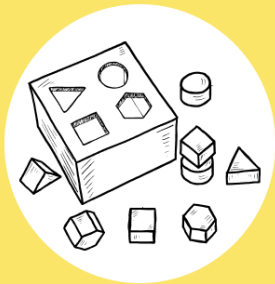
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PURPOSE & PRACTICE



Clearly specify purpose of data collection and data use practices

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