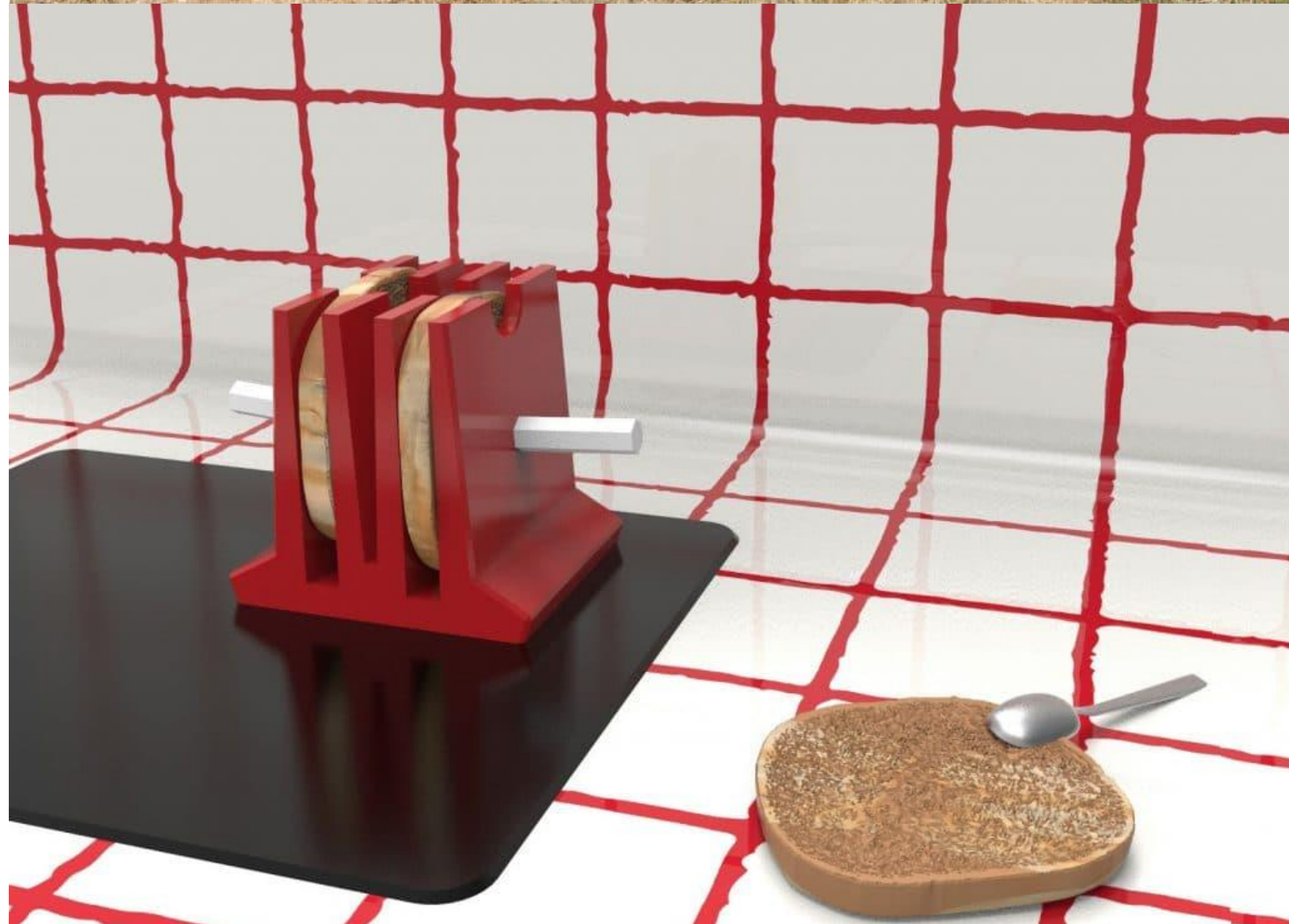


User Experience (UX) design and evaluation for the low-tech approach

Facilitating sustainable innovation: development of user-centered methods to encourage the low-tech approach.

Context

The **low-tech approach** proposes to rethink our relationship with technology by designing simple, sustainable objects, challenging lifestyles through a reflection on **frugality** and **autonomy**. The concept has gained momentum in France but remains a small part of the industrial landscape and is struggling to appeal to mainstream audiences. This doctoral thesis aim to find ways to **facilitate the spread of low-tech** products and practices through better experience design.



Objectives

Challenges methods and theories from the field of user experience in order to support the design of frugal and appropriable technologies:

- Contribute to the characterization of **low-tech related user experience**
- Identify **leverages** points that can be addressed through design to disseminate LT solutions more widely and improve adoption and acceptance
- Propose **methods** to include users in low-tech innovation processes

Roadmap

1. Understand low-tech design approaches through :

- interviews with low-tech designers
- observation of low-tech design workshops & sprints

2. Evaluate the user experience and acceptability factors of low-tech systems

3. Propose and test low-tech design tools through project accompaniment and laboratory study

Focus: Urban Biosphere participatory experiment

How can the low-tech approach be applied in an urban environment?

To answer this question, we conduct a **participatory science program** that will involve **1467** participants in building and using eight low-tech systems. We aim to investigate the specificity of low-tech products' UX and how it evolves through time. The goal is to identify leverage points that can be addressed through design to disseminate low-tech solutions more widely.

Data will be collected via an online weekly user diary, comprising quantitative data collection (hedonic & pragmatic dimensions, emotions, psychological needs,...) and qualitative (motivations, problems, positive and negative moments, suggestions). Asynchronous focus groups and online interviews will also be conducted with few a participant to gain deeper insight on their relationship with the low-tech systems.