Improving Patients' Privacy

Design For Health

Collaborative Research Project 2020 - 2021

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Current Hospital Usability Issues

Hospital curtains are a very common object used in inpatient wards and outpatient consultation rooms. The aim of the curtains is that of providing visual privacy when consultations or personal care are ongoing. They also create a private space when family and friends visit patients.

Hospital curtains are generally made of some form of plastic, and they usually kept folded against the wall to enable clinical staff to monitor all patients. When curtains are drawn, they create a perimeter around the patient's bed, however curtains are not provided with any closing/locking mechanism. The bed space that curtains create is often very limited and clinical staff attending to the patient must continuously close the curtains to limit the visual exposure of the patient. This is often done when staff are wearing gloves that could be soiled, resulting in curtains that are dirty, potentially infectious, and that must be replaced earlier than 6 or 3 months depending on the type of area in which they are used (critical vs non-critical).

If extra equipment is required by the bed side or the clinical team attending the patient is larger than usual, the curtains stretch to accommodate for the extra space requirements, but this inevitably leads to the curtains separating and exposing the patient.

Moreover, the privacy sign that is printed at the end of the panel is often ignored, and the patient's bed space is entered by staff who should ask for permission first or should wait outside as not relevant to the care of the patient.

Fig. 1: Current Hospital curtains in Hillingdon Hospital

Our design approach

Fig. 2: Current Hospital curtains in Hillingdon Hospital

Through a 4 stages design approach the team embarked to understand and solve the problem.

Discover:

We understand the problem in its context by doing field work, including observations and interviews. We consider who is affected by the problem and how. We analyse previous research on patients' privacy and infection control. We evaluate what are the options available on the market and how current products perform. We define the product specifications to respond to the user requirements.

Design and Develop:

Through iterative user-centred-design we develop concepts and prototypes that incrementally get closer to the final product. We investigate materials and manufacturing options.

Evaluate and Deliver:

We evaluate at each stage of the design process using different techniques based on what aspect of the user experience we wish to understand. We perform a final summative evaluation to understand whether our design intervention enhance the user experience.

Communicate and Influence:

We compile all the data and information in a final report. We present the project to the stakeholders' group and we decide what is important to do next

Design - Develop - Evaluate

Over the course of the project (15 months), we engaged with 60 members of staff including nurses, doctors, physiotherapists, housekeeping staff, healthcare assistants and operational staff at Essentia.

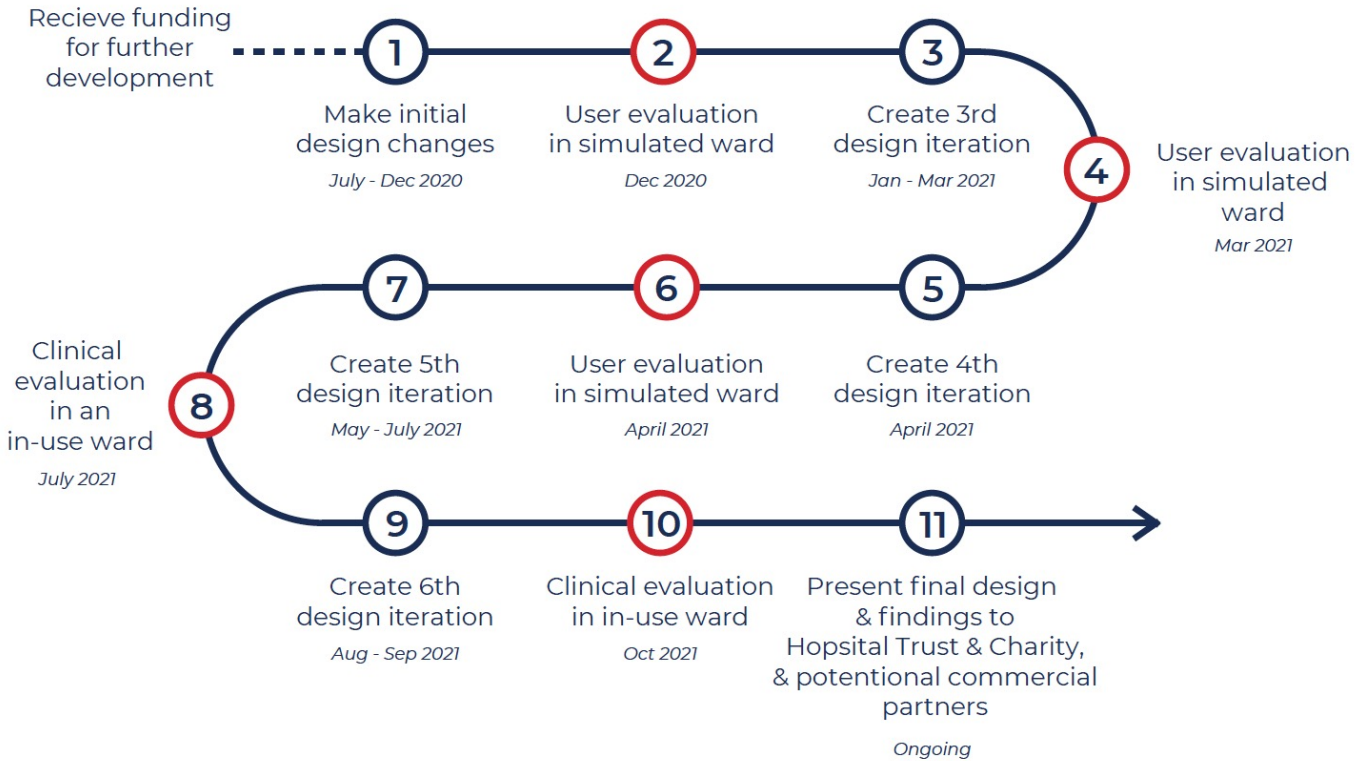


Fig. 3: A timeline of the Design Iterations and User Evaluation studies

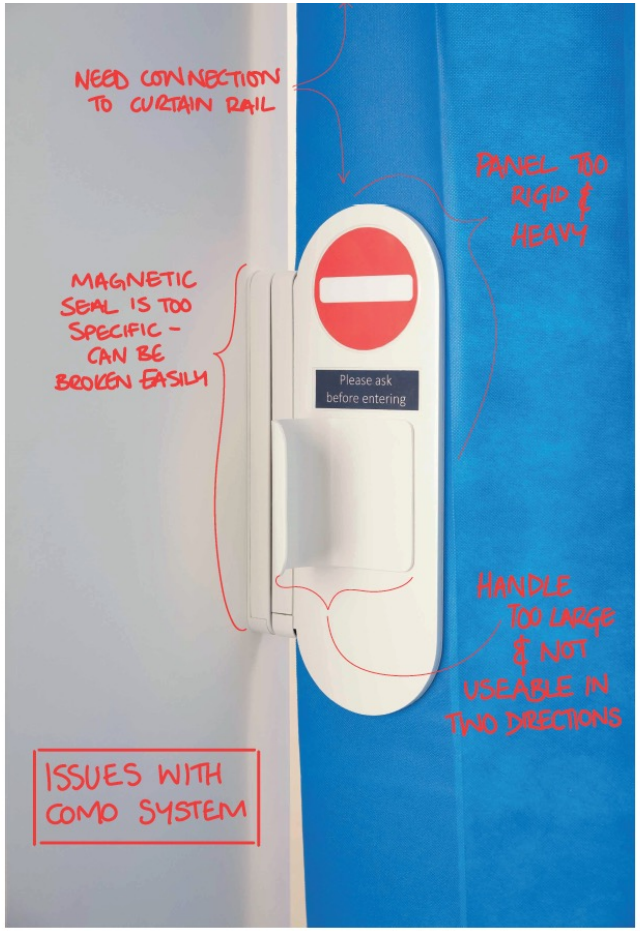


Fig 4. An early prototype

Design - Develop - Evaluate

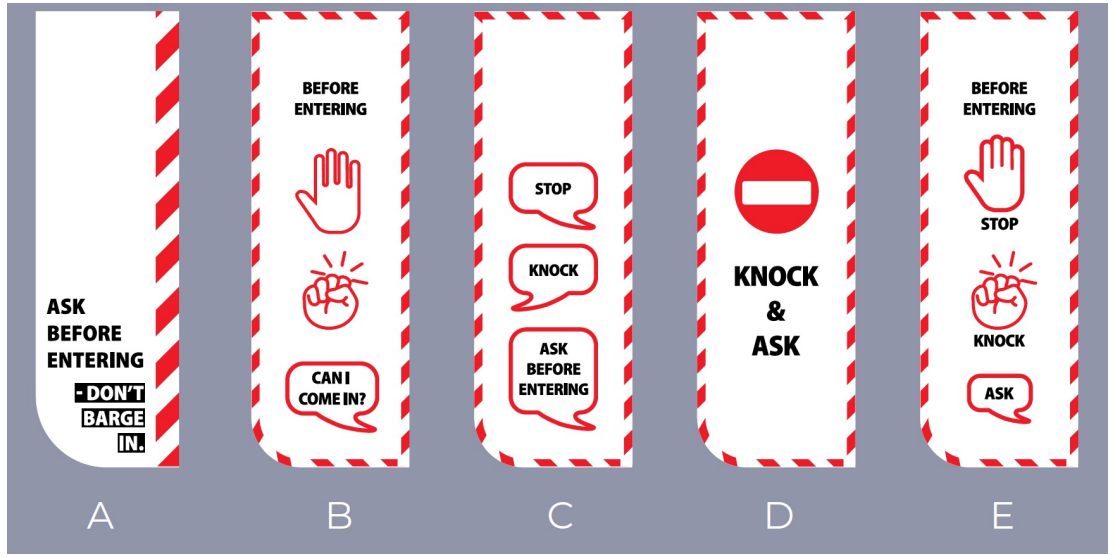
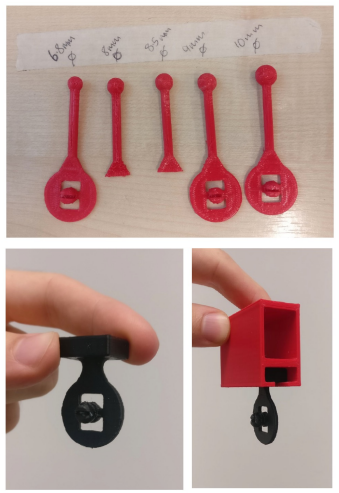


Fig.5 Graphic options evaluated with the users



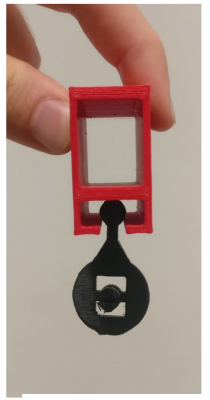


Fig.6: Early prototypes of rail's hocks and sliding mechanism

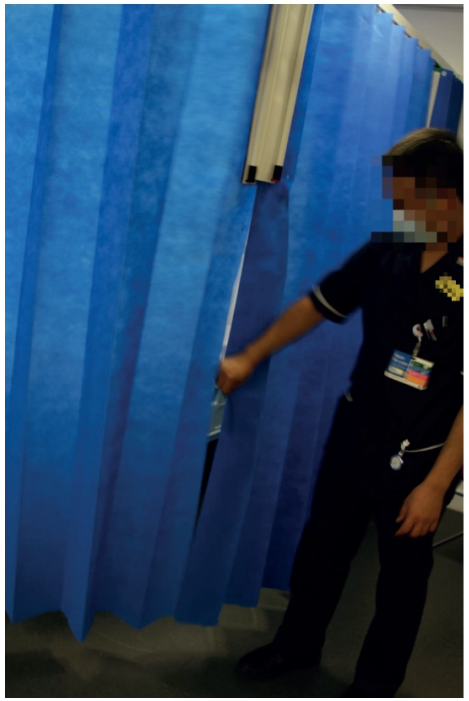


Fig. 7: Second iteration prototype

Feedback & Scoring

	Current system	Amelio system
Overall score	3.86	5.43
Level of privacy	3.57	6.43
Level of hygiene	3.57	5.71
Effectiveness of closure	3.57	6.14

Table 1: Overall scores comparing current curtains and our final design intervention (Amelio)

Due to commercial sensitivity, we are unable to share the final prototype.