Terna Engineering College
Computer Engineering Department
Program: Sem VIII

Course: Human-Machine Interaction Lab (CSL801)

Experiment No. 5

A.1 Aim: Design an interface for any machine which you find troublesome to use and want to change its interface like automatic washing machine, microwave oven etc.

PART B
(PART B: TO BE COMPLETED BY STUDENTS)

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Date of Experiment: 12-03-2022	**Date of Submission:** 12-03-2022
Grade:	

B.1 Machine selected for the interface design:

Microwave:

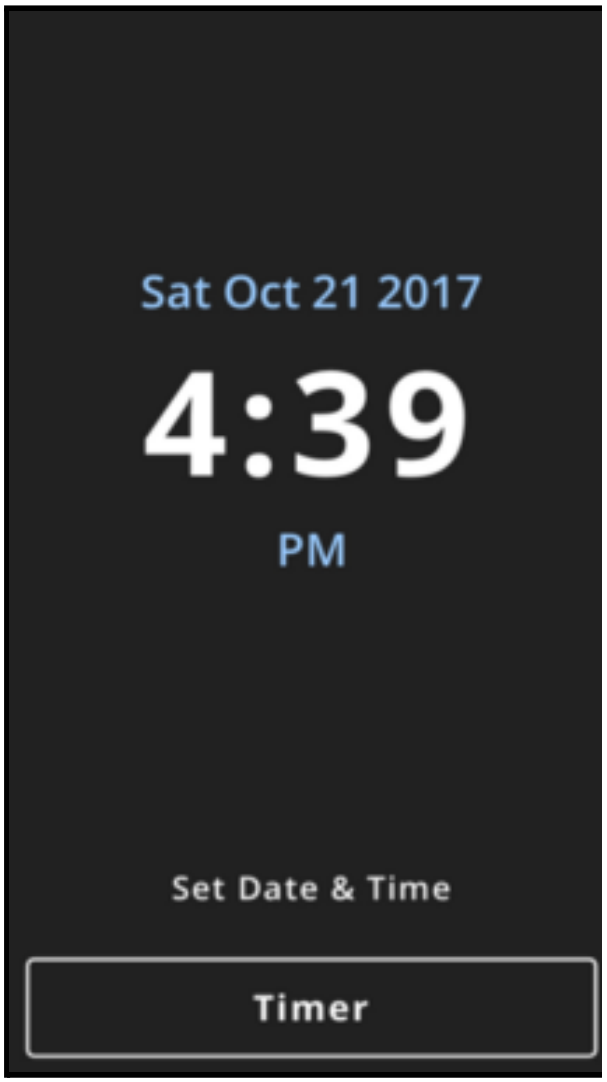
- Microwave ovens use microwaves, a kind of electromagnetic energy akin to radio waves, to heat food. Microwaves have three properties that enable them to be employed in cooking: they are reflected by metal, they travel through glass, paper, plastic, and other similar materials, and they are absorbed by meals.

B.2 Choice of User Interface Elements:

- I targeted interface issues related to *button prioritisation and feedback*.
- Microwave display with the bare minimum of information.
- Buttons and their positioning for ease of use.
- Microwave functions and their uses.
- The user interface is simple and clear.
- For improved readability and comprehension, choose basic fonts.
- Minimal colours so that the interface is pleasant to the eyes.

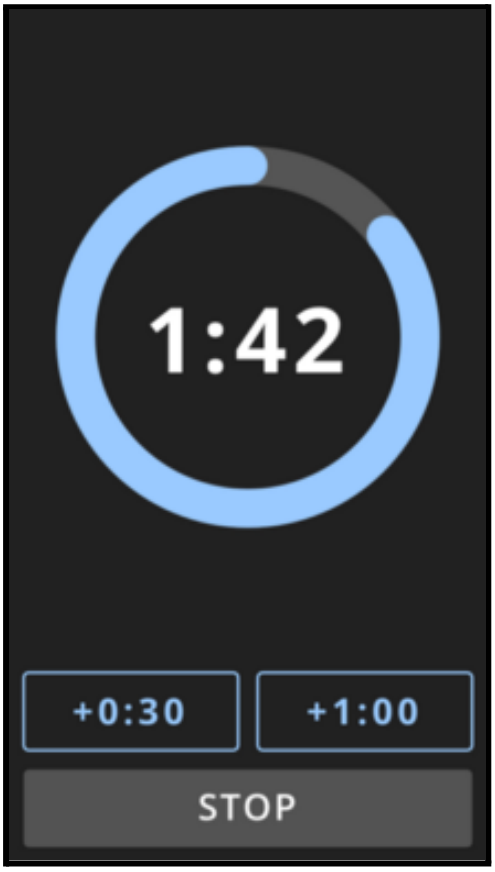
B.3 User Interface Designs:

Resting-State:

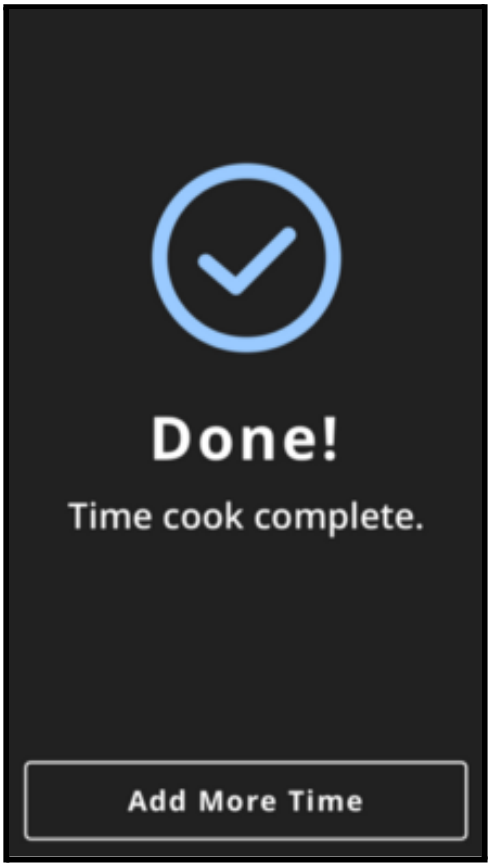


Time Entry:

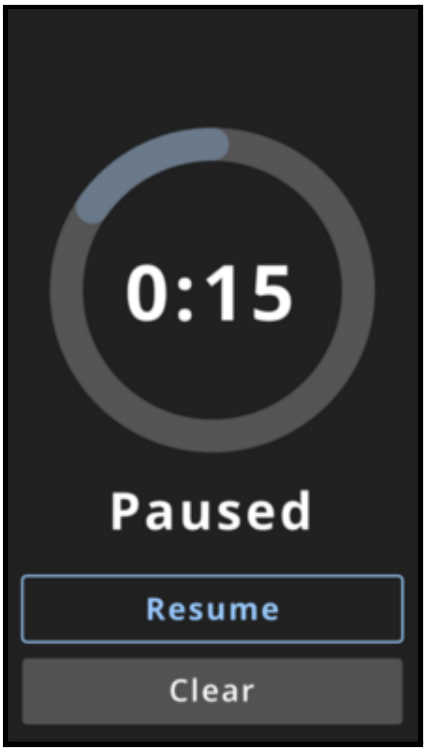
In Progress:



Completion:



Pause:



B.4 Comparison:
ANS:

My Microwave UI	Proposed Microwave UI
Overwhelming interface	Minimal interface
Annoying beeping noise for feedback	Engaging feedback
Unnecessary over the top functionality	Clear core functionality

B.5 Explain the importance of human-centred Design:
ANS:

- The human perspective is essential for successful design, and that perspective is evolving rapidly. Human-centred design lets you better understand people's needs, motivations, and concerns, but it also makes for a more efficient, more flexible design process. By engaging early with users and seeking their input and feedback, you gain valuable insights while still working with paper prototypes and sketches rather than fully built products. So, you can pivot early and avoid steering resources in the wrong direction.

B.6 Conclusion:

- We have successfully analysed existing complex interface designs of my microwave and suggested modifications based on user-centric interfaces.
- We have applied HMI Principles to design a good GUI.