



East West University

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Course Title: Human-Computer Interaction

Course Code: CSE428 **Sec:** 01

Class Task 1

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fingerprint lock cap.

1.1: Purpose: Only the owner of the cup (Whose fingerprint is saved) can drink from the cup. Unauthorized fingerprint won't open the cup.

1.2: Trade-offs: Safety Vs Usability

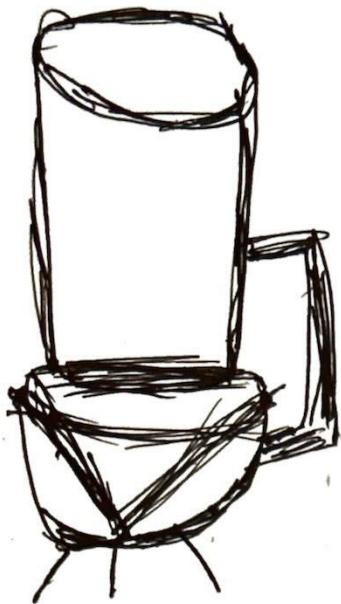
The fingerprint lock increases safety but makes the basic act of drinking more complicated.

1.3: Strengths of the design

~~No one~~ The lid + fingerprint sensor combo is easy to understand: only the owner can drink.

1.4: Weakness of the design:

There is no fail-safe plan: What if the battery dies then the cup won't open.



Gyro Cup

1.1: Purpose: It improves safety by preventing spills even when the cup is tilted.

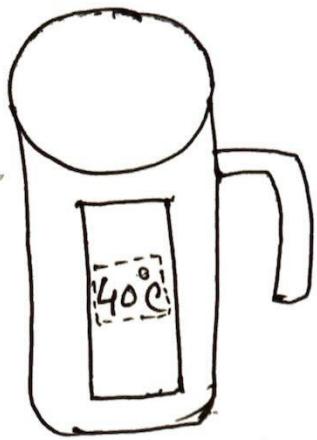
1.2 Trade-offs: Safety vs ~~complexity~~ Minimalism
Gyro base improves safety by reducing spill risk but adds mechanical complexity to the cup which can confuse the user.

1.3: Strengths of the design:

The gyro mechanism keeps the drink stable even when bumped or tilted.

1.4: Weaknesses of the design:

The base area may trap dirt. It will increase maintainability cost.



Temperature cup

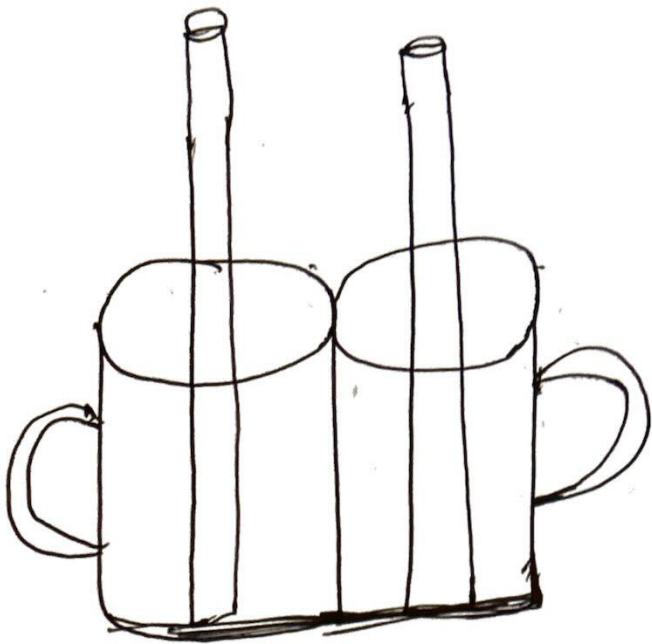
1.1: Purpose: display the current temperature of the drink. It will help users to know whether the drink is too hot, warm or cold.

1.2: Trade-offs: Aesthetics vs Functionality
Digital display make it look modern but it reduces simplicity of the cup.

1.3: Strengths of the design:
It improves safety it prevents from burning tongue because user can see the temperature before drinking it.

1.4: Weaknesses of the design:

It has lower durability because screen can scratch or break.



Two in one cup

1.1: Purpose: mixing two different beverages while drinking separately through each straw.

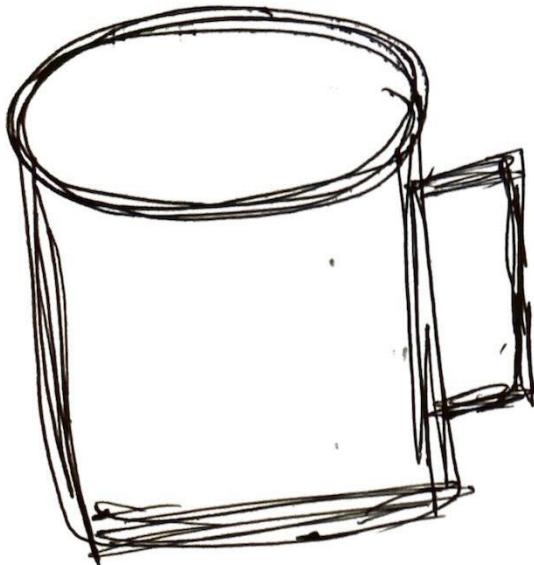
1.2: Trade-offs: Ergonomics vs Usability.
One person with the wide structure is less ergonomics and harder to grip comfortably.

1.3: Strengths of the design:

- 1) Efficient for carrying: Two cup held together make it easier for serving two drinks at once.
- 2) Unique and eye-catching.

1.4: Weaknesses of the design:

- 1) Hard to clean
- 2) Imbalanced weight issue



Giant Cup

1.1 Purpose:
It will hold large quantity of drink at once (for heavy coffee drinkers).

1.2 Trade-offs: Ergonomics VS Usability
Bigger the cup the heavier it is so user might find it harder to lift.

1.3 Strengths of the design:
It can hold more drinks perfect for long sessions.

1.4 Weaknesses of the design:
It is hard to lift so it will be uncomfortable for small hands.