

COMP4461 Group 3 Project 1

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**"If using payable facilities
on campus were more
user-friendly..."**



01.



Needfinding



Targets

target scenario

The usage process/journey of payable facilities on campus, e.g. printing, laundry, and air-conditioning

target users

HKUST students that use payable facilities on campus

Interview:

What do you find inconvenient with facilities in HKUST?



“I often go down to my hall’s 2nd floor or LG5 to reach the printer only to find it does not work.”


-Year 3 SBM Cindy

“The charging of the air-conditioner is really too complex, is there any way to cut a few steps?”


-Year 4 SHSS Yvette

“I wish there were a way to check the balance of my student card conveniently so I would not need to return to the card reader after plugging in the card in the laundry machine and find the balance insufficient.”

- Year 4 SSCI Louis



**HKUST students need to
access and pay for campus facilities
quickly and easily
because they have
time-sensitive needs for them**

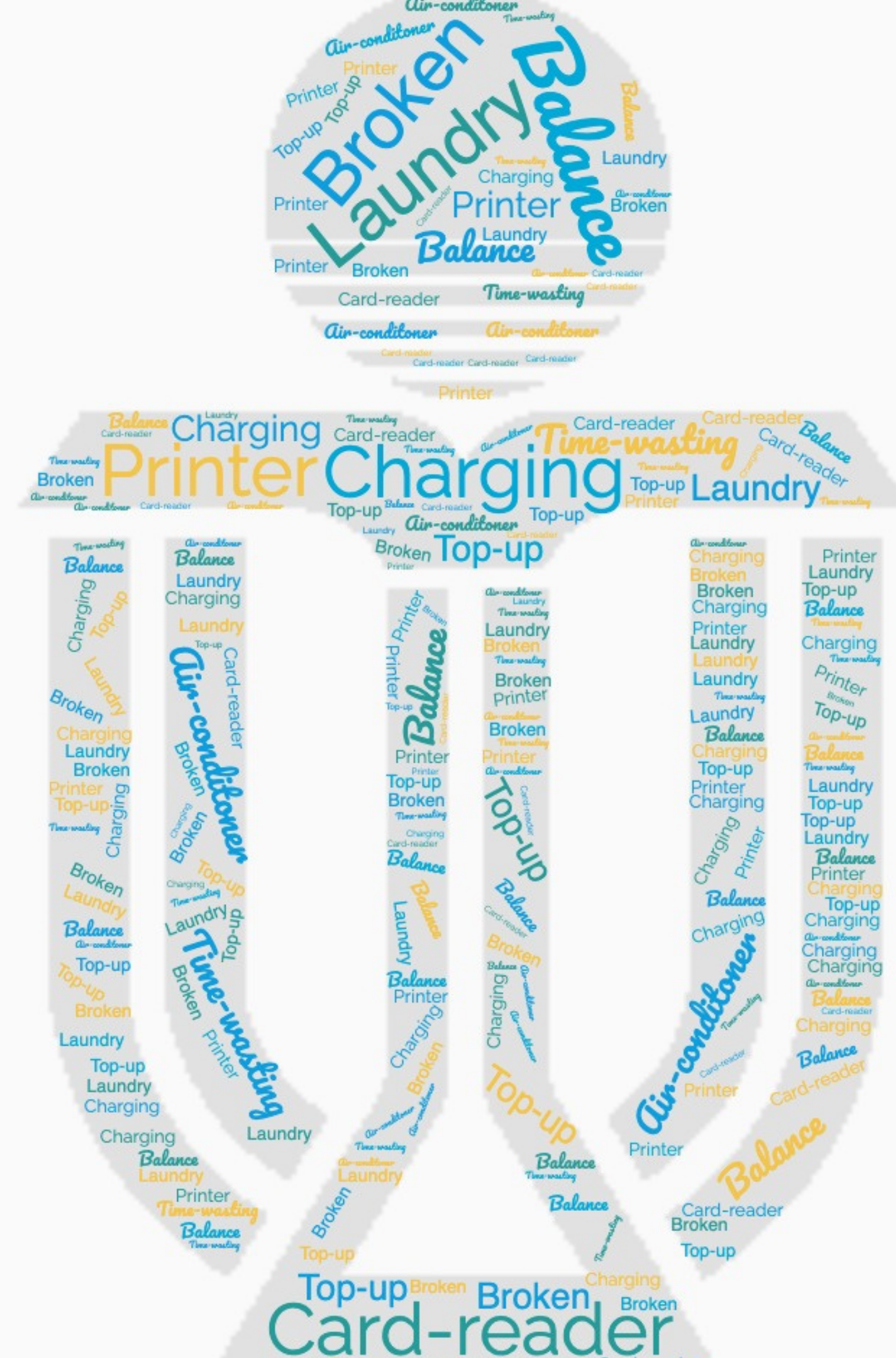


PoV = User + Need + Insight

Results

The most frequent words that appeared in the interview:

Charging **Broken** machine **Air-conditioner** **Printer** **Laundry**



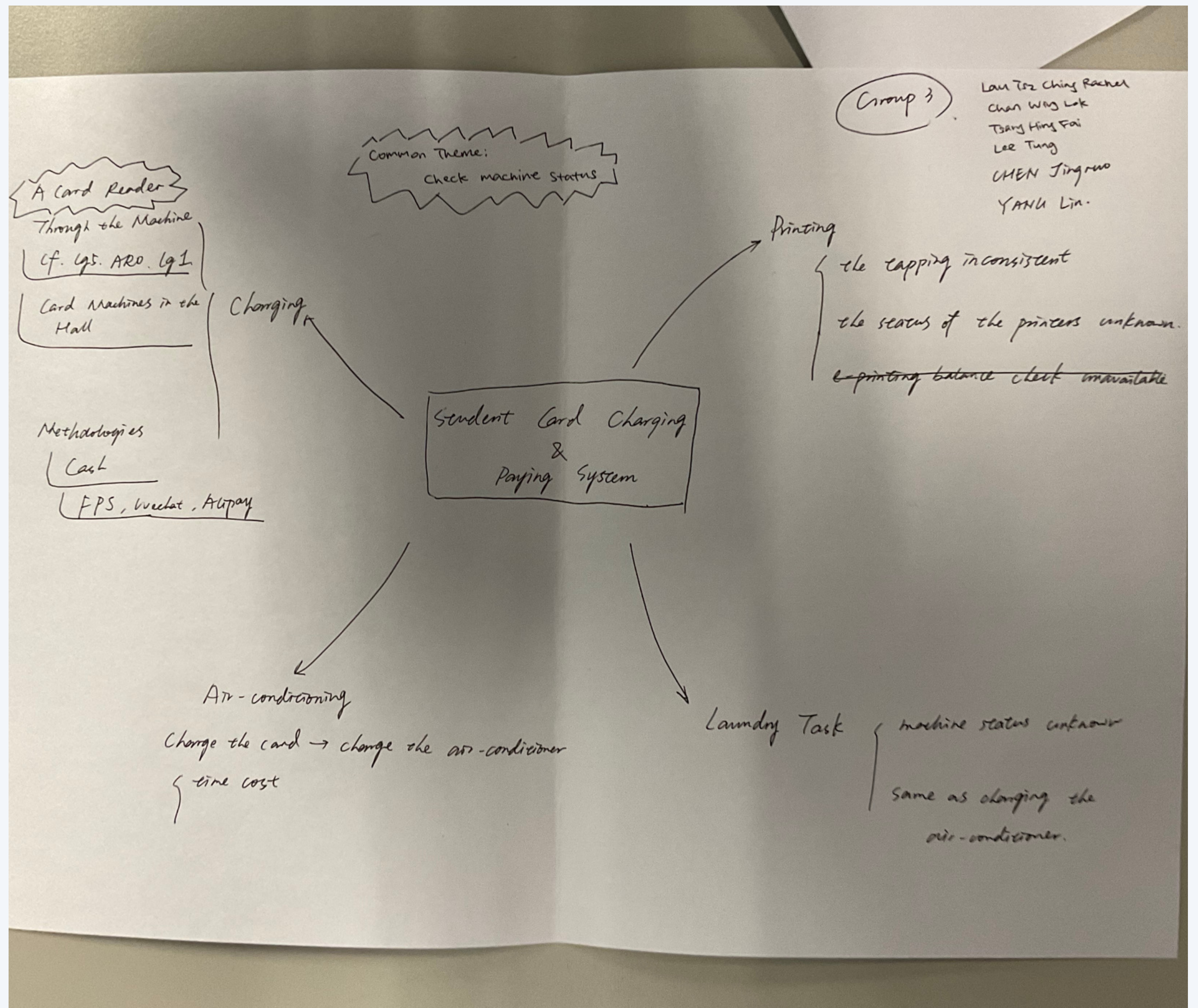
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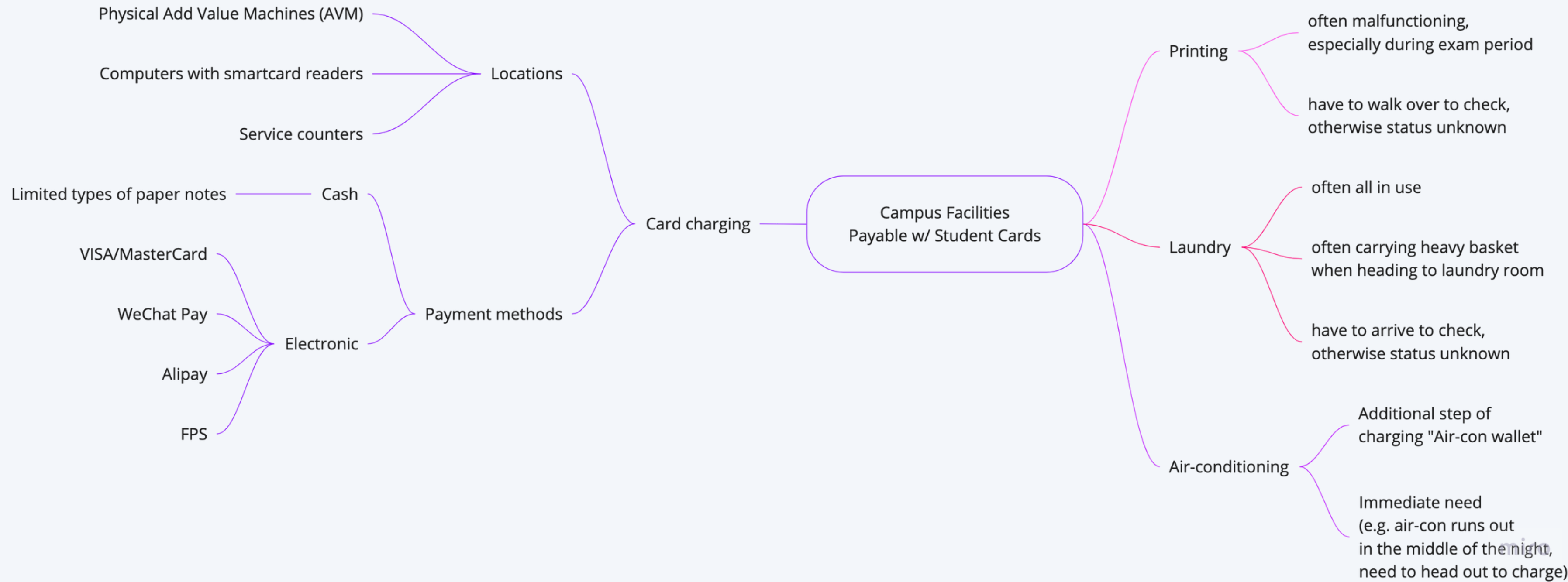


Ideation

Mindmap

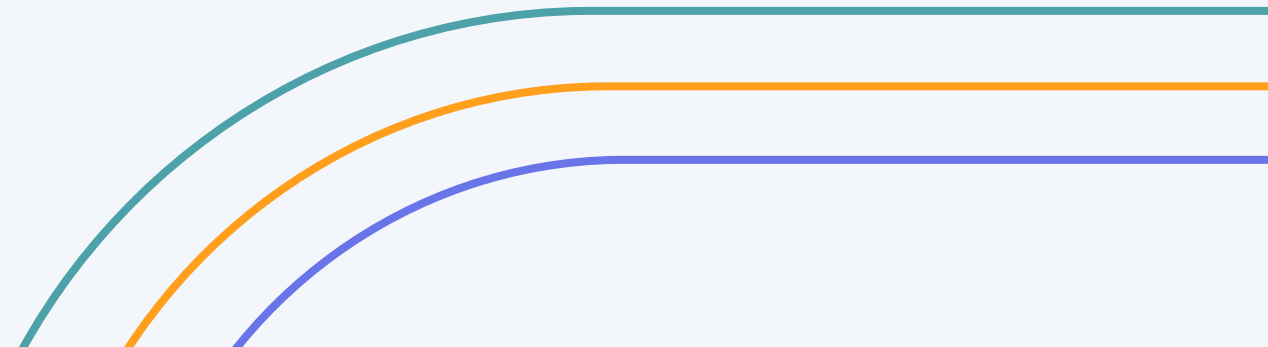
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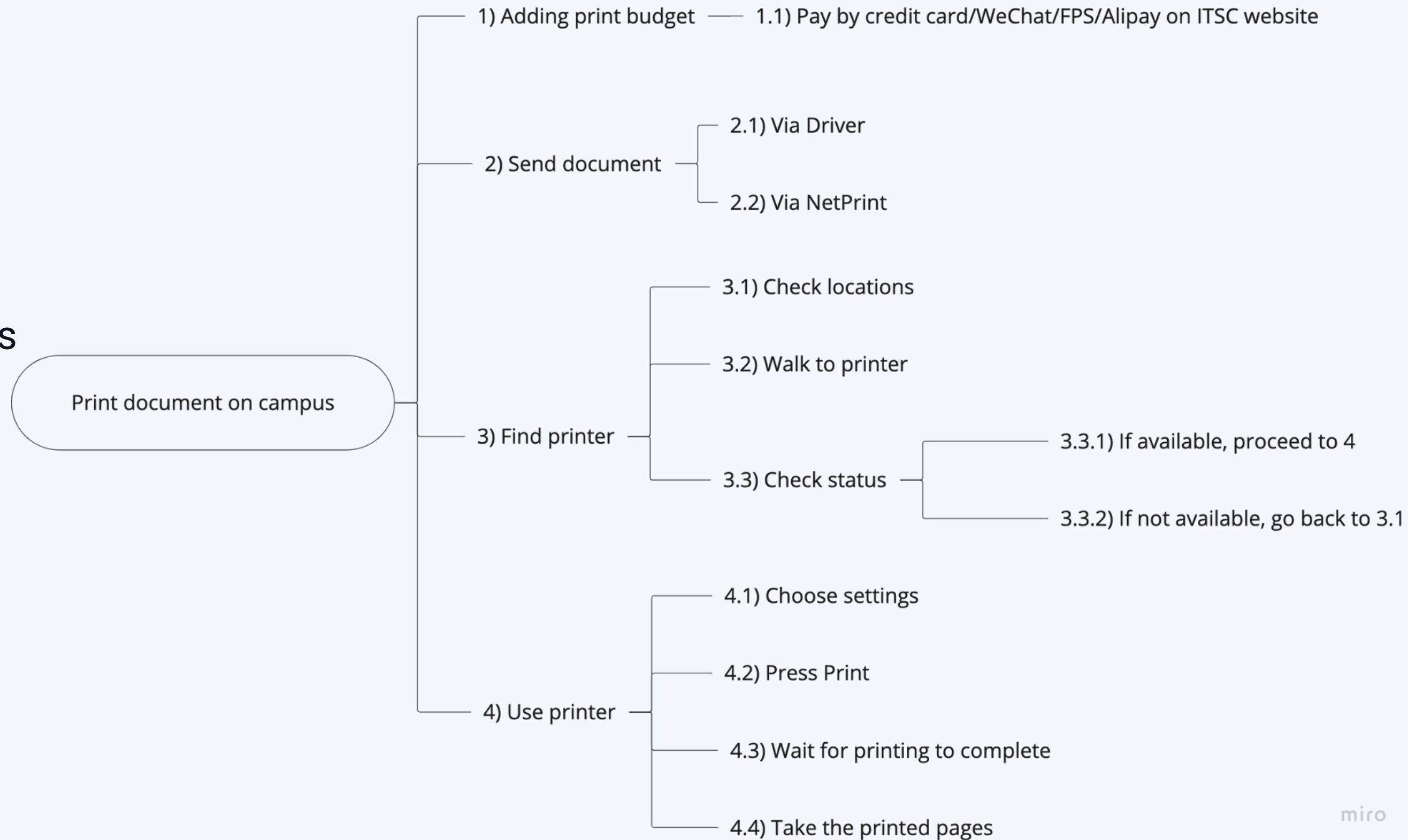
Mindmap

Digitalized



HTA - Printer

- Hierarchical Task Analysis
- Main **pain point**
 - ***Find printer***



HTA - Laundry

- Hierarchical Task Analysis
- Main **pain points**
 - ***Carry clothes***
 - ***Find available machine***

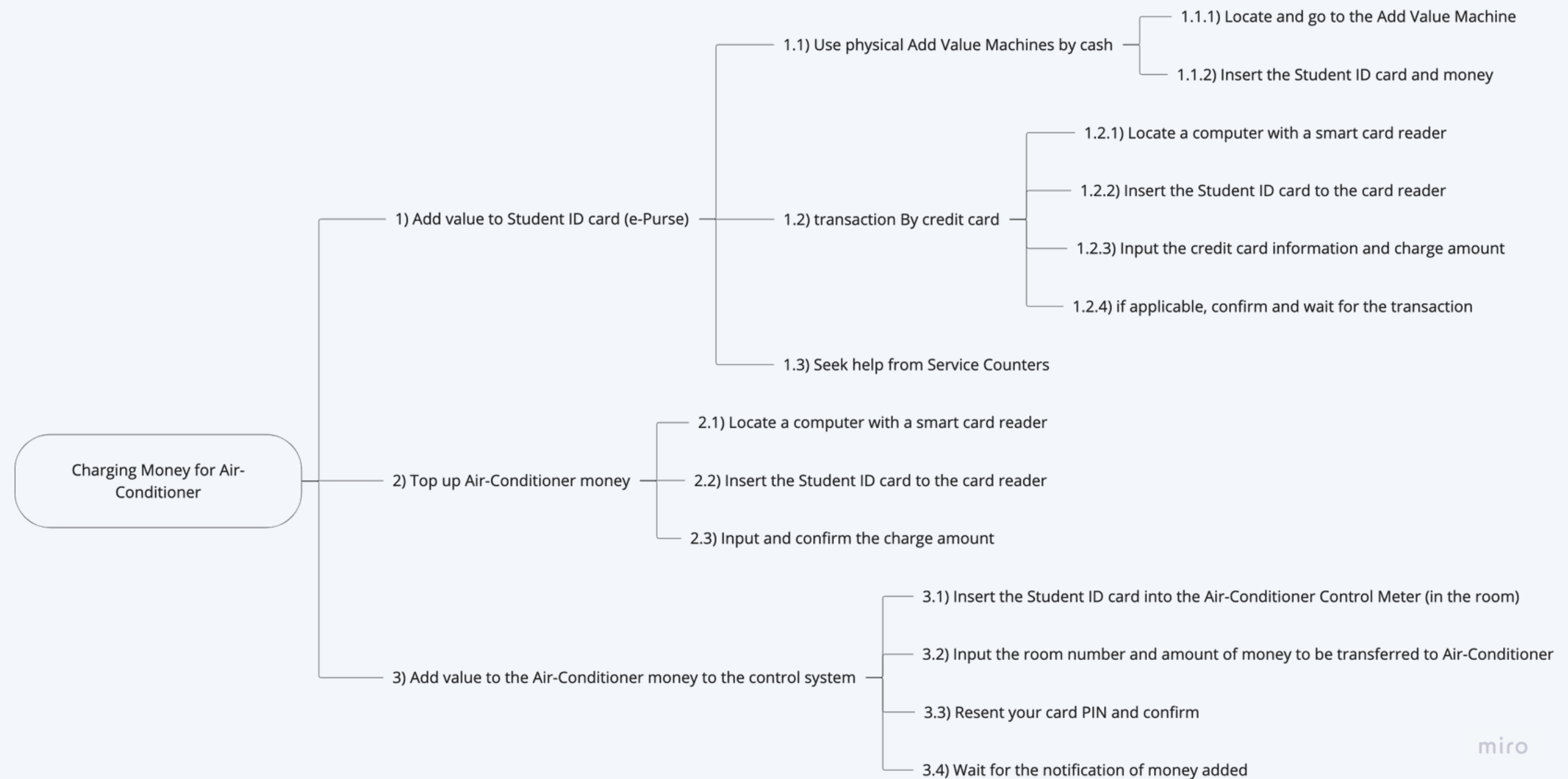
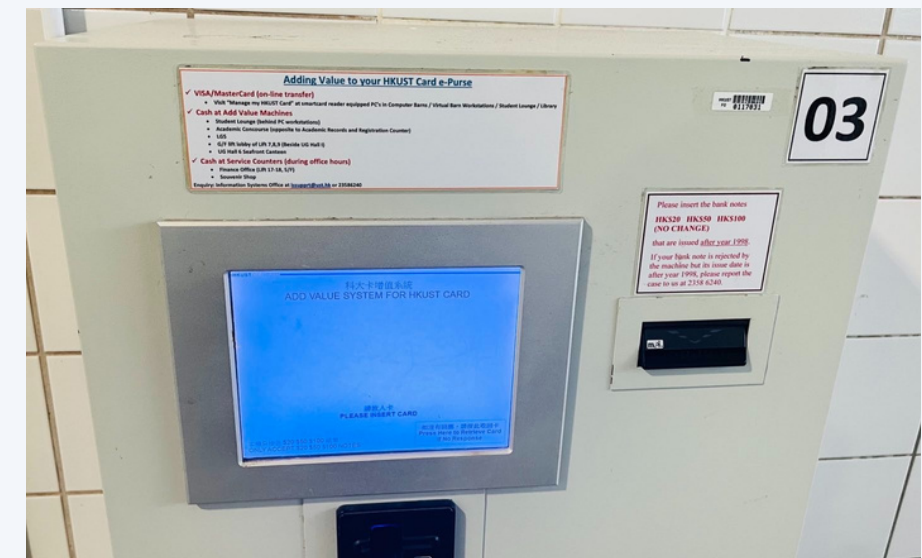


Con

Task Analysis

It

money on computer with
er is not convenient



03.



The Problem

Identify problem

A questionnaire to clarify
real user need

- Printing issue
- Laundry issue
- Air-con issue

Questionnaire on the payable facilities in HKUST campus

How often do you use the **printing facilities** at HKUST?

- ☐ One or more times per month
- ☐ One or more times per semester
- ☐ Less often than the above
- ☐ Never

How often do you use the **laundry facilities** in HKUST halls?

- ☐ One or more times per month
- ☐ One or more times per semester
- ☐ Less often than the above
- ☐ Never

Have you experienced any **difficulties** when using the **printing facilities** at HKUST? (Select all that apply)

- ☐ Long wait times
- ☐ Technical issues with the printer
- ☐ Difficulty locating a printer
- ☐ Difficulties uploading documents to the printer

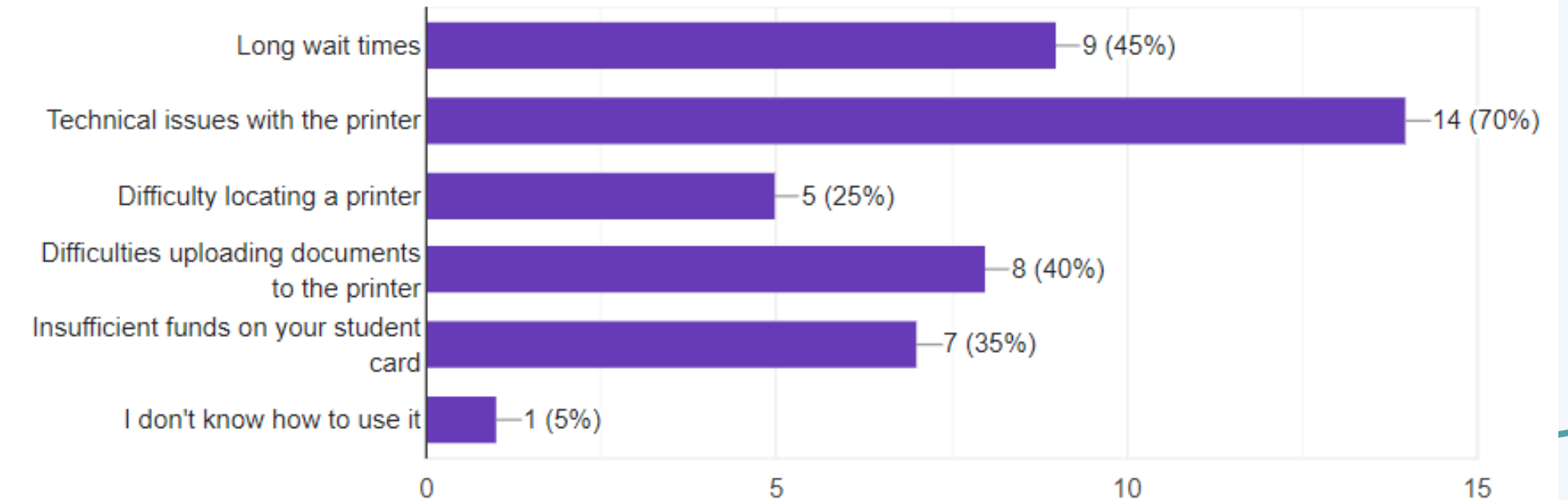
Real User Need

Difficulties for printing

- **Technical issues with the printer (70%)**
- Long wait times (45%)

Have you experienced any **difficulties** when using the **printing facilities** at HKUST?
(Select all that apply)

20 則回應



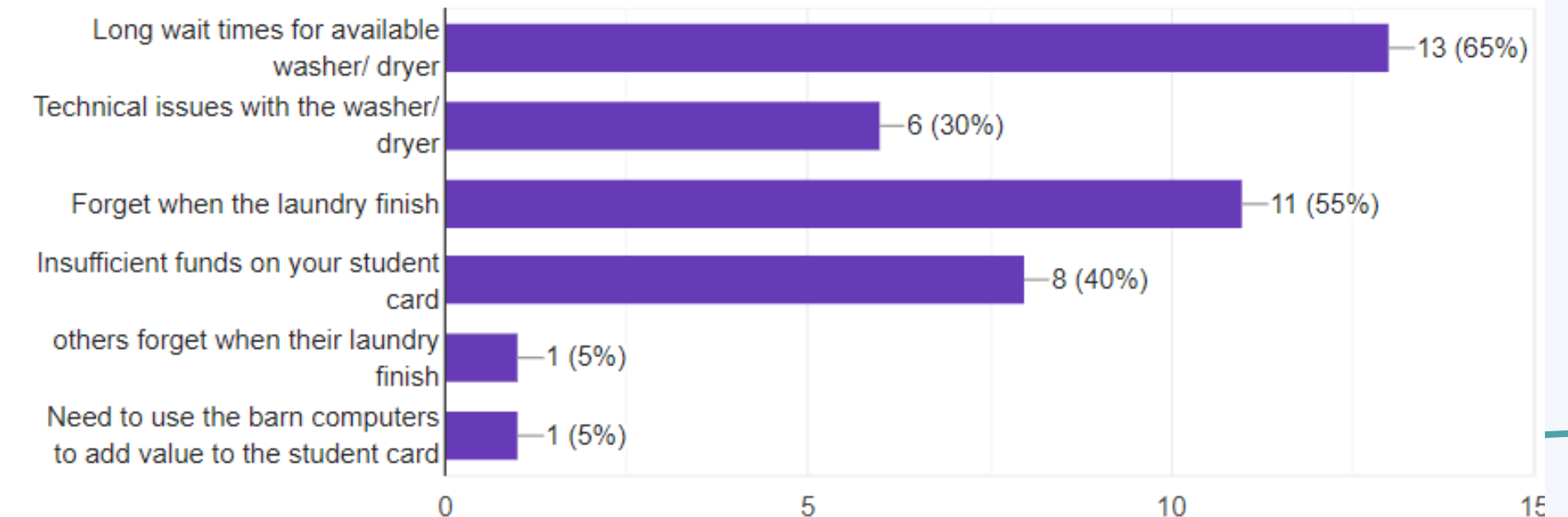
Real User Need

Difficulties for laundry

- **Long wait times for available washer/dryer (65%)**
- Forget when the laundry finish (55%)
- Insufficient fund in student card (40%)

Have you experienced any **difficulties** when using the **laundry facilities** in HKUST halls?
(Select all that apply)

20 則回應



Real User Need

Difficulties for **air-conditioning**

- **Inconvenient to charge air-con money from student card (83%)**
- **Insufficient funds in student card (50%)**

Have you experienced any **difficulties** when using the **air-conditioning facilities** in HKUST halls? (Select all that apply)

複製

18 則回應



Real User Need

Add value to student card via the mobile app

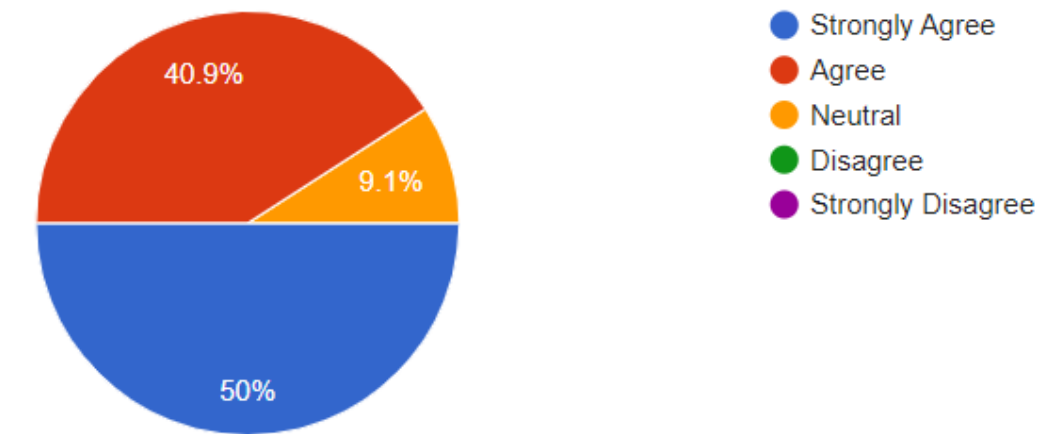
- Strongly agree / Agree (91%)

Charge air-con balance via the mobile app

- Strongly agree / Agree (86%)

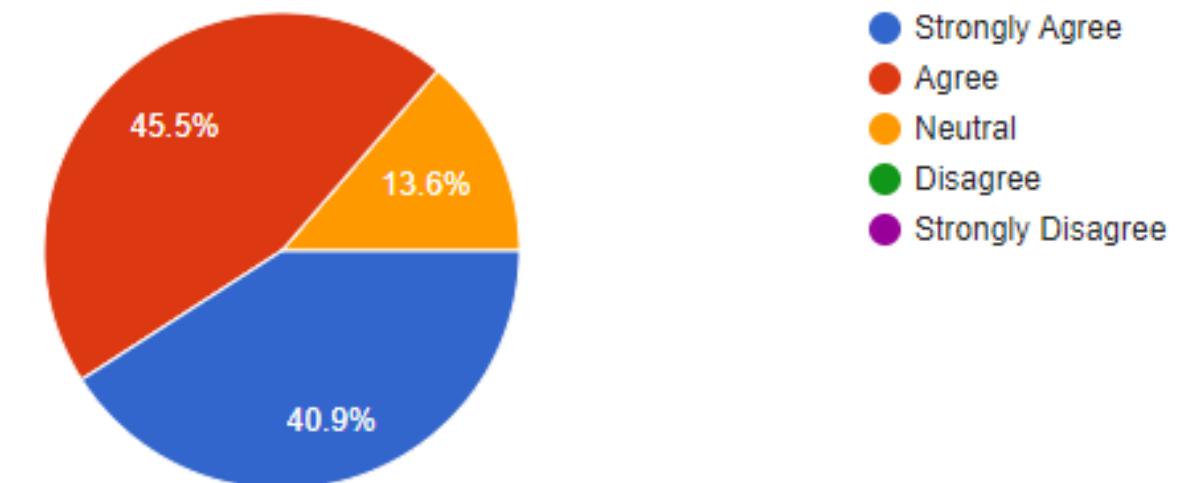
"Being able to **add value to your student card** via a **mobile app** would be useful." To what extent do you agree with this statement?

22 則回應



"Being able to see **charge my air-con balance** via a **mobile app** would be useful." To what extent do you agree with this statement?

22 則回應



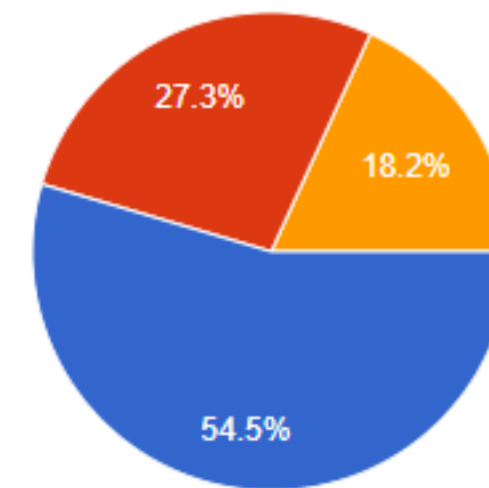
Real User Need

Check **availability of washing/drying machines** via the mobile app

- Strongly agree / Agree (82%)

"Being able to see the **availability of washing/drying machines** in halls via a **mobile app** would be useful." To what extent do you agree with this statement?

22 則回應



● Strongly Agree
● Agree
● Neutral
● Disagree
● Strongly Disagree

04.



The Solutions



Display boards

Extraction of printer status
from current system

Check machine status on
boards around campus,
no installation needed

Printers near you



SENG Center

1 min

✓ 1 Color



Outside LT-J

3 min

✓ 1 Color



Outside LT-E

1 min

✓ 1 Color



CYT UG/F

5 min

✓ 1 Color



Outside LT-D

2 min

✗ 1 Color ✓ 2 B&W

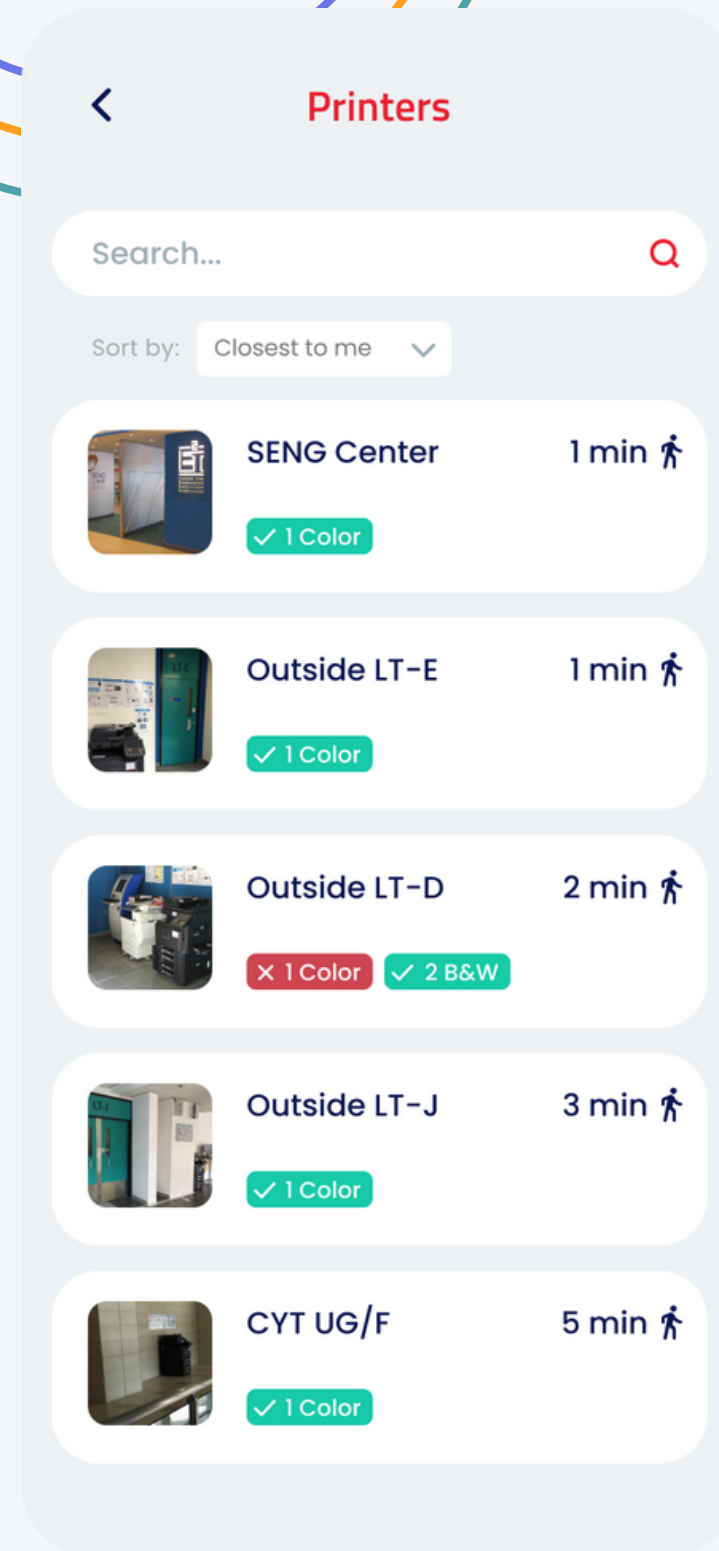
Download our app to
print faster & easier at HKUST





App

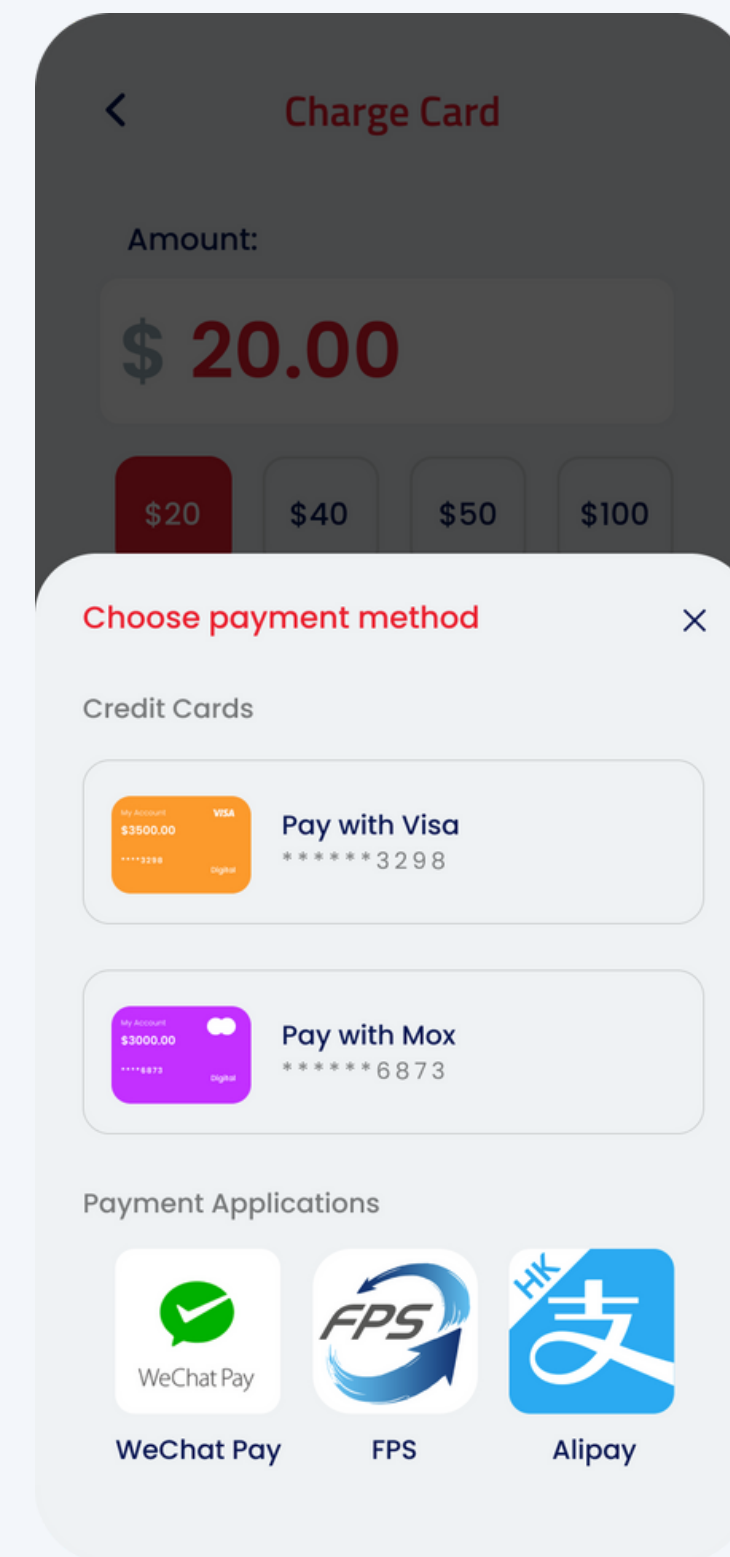
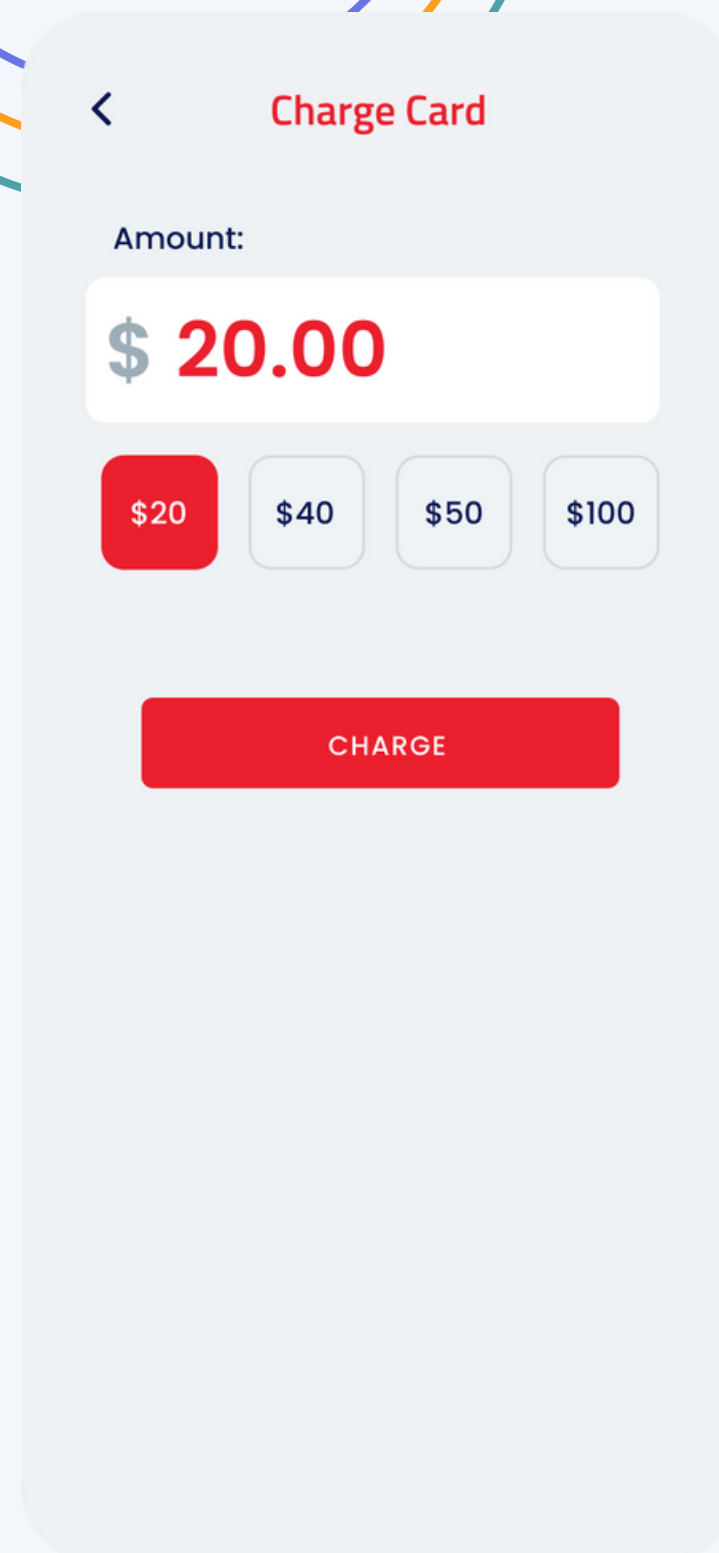
Check machine status
anywhere

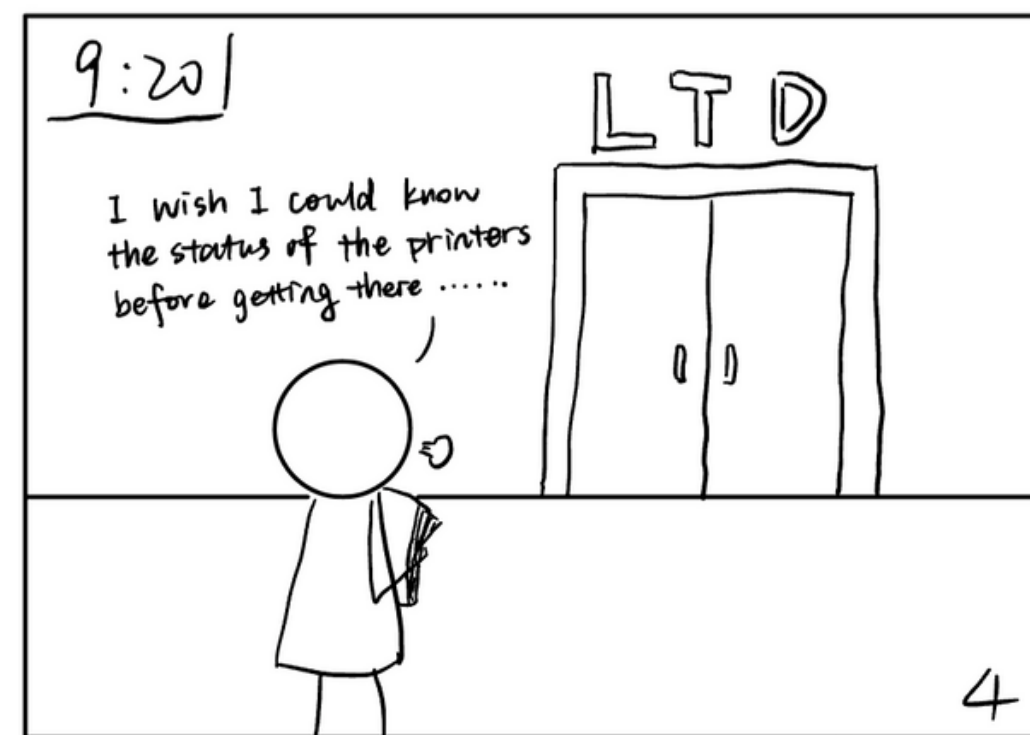
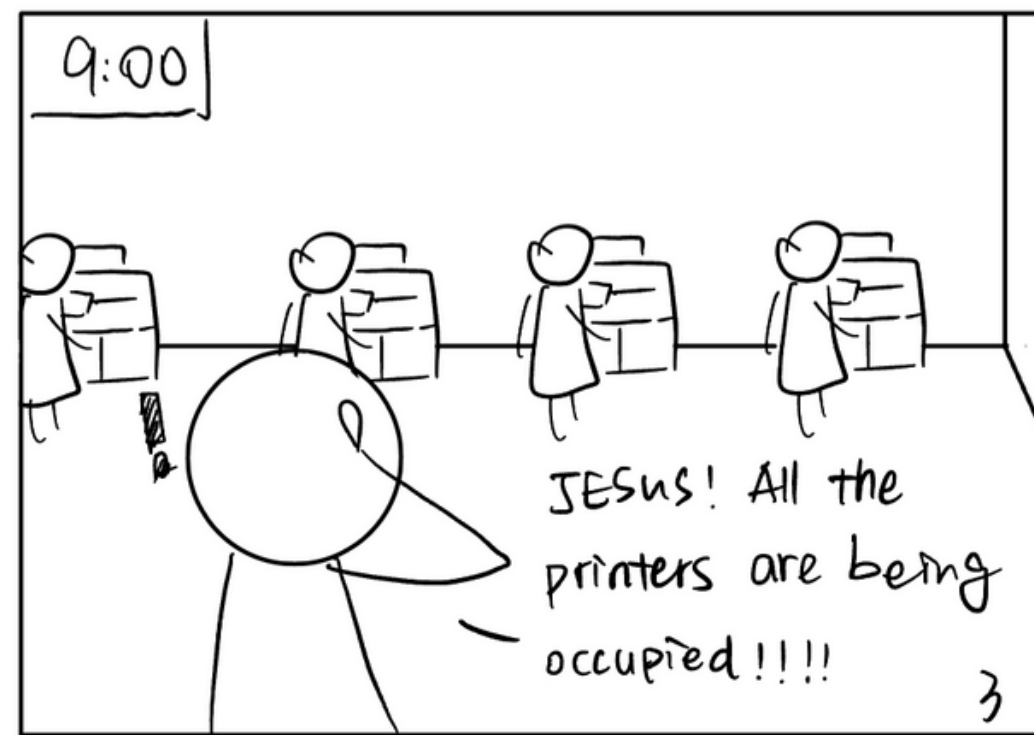
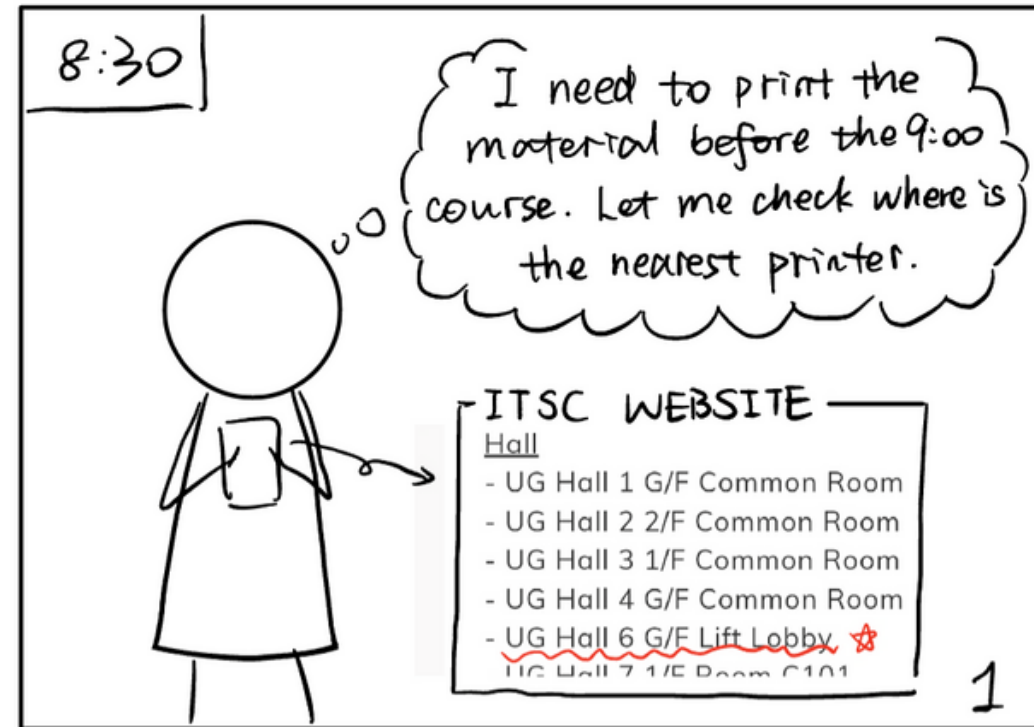




NFC chip + App

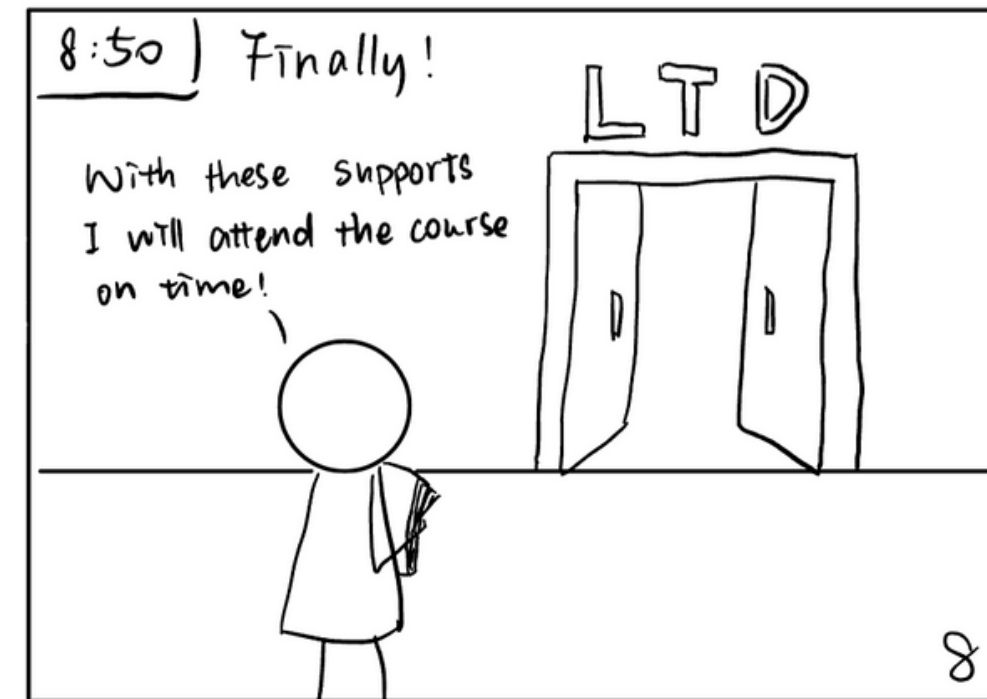
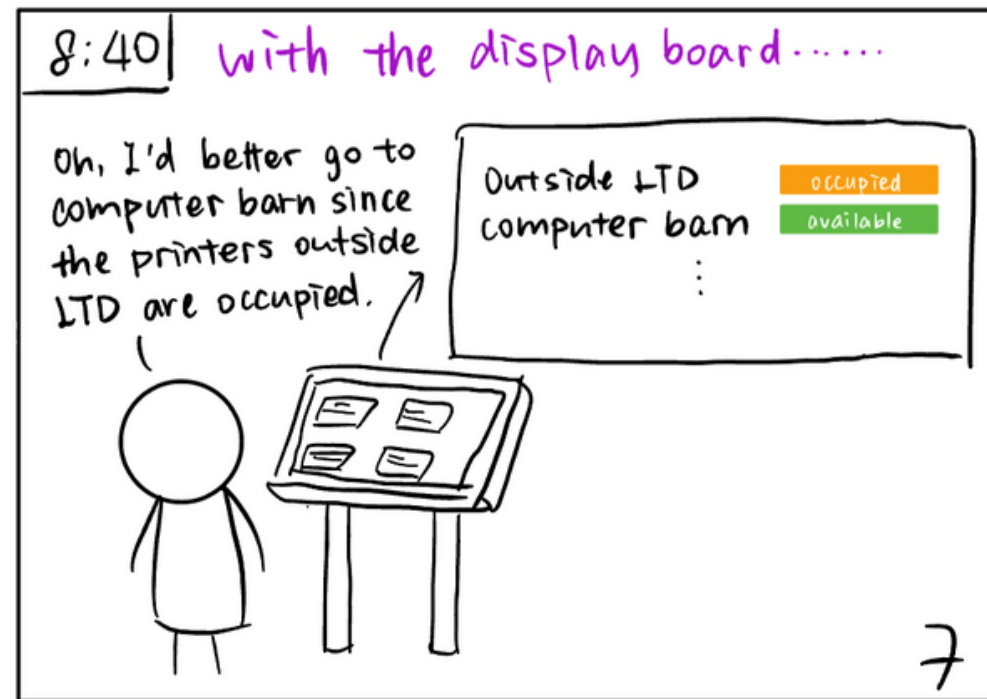
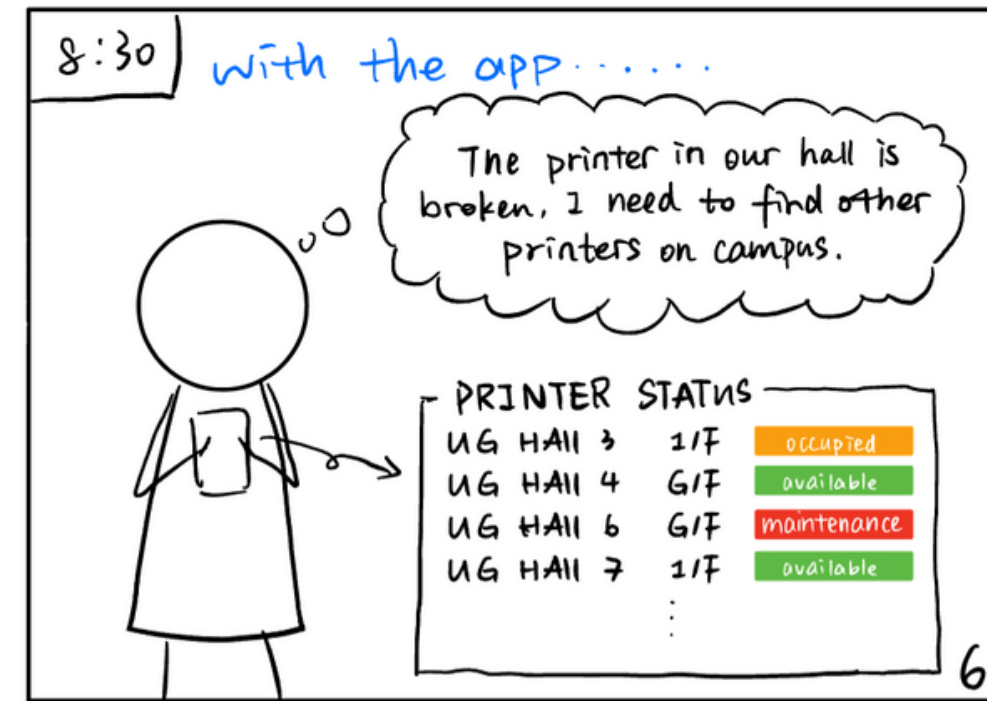
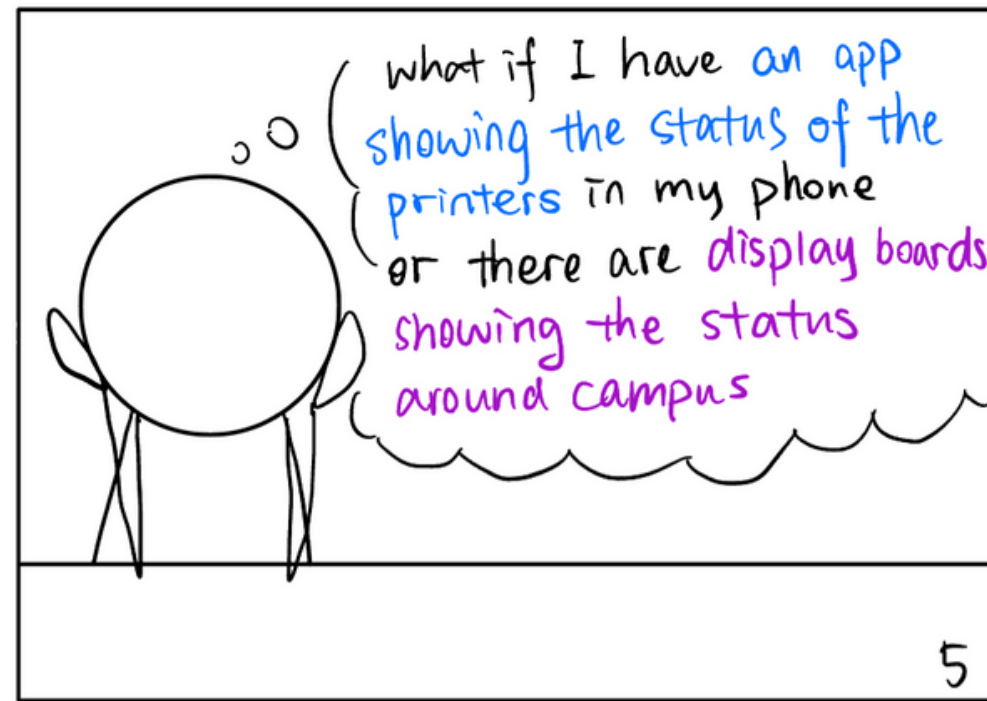
Online charging options to
SID and Air-conditioning
money





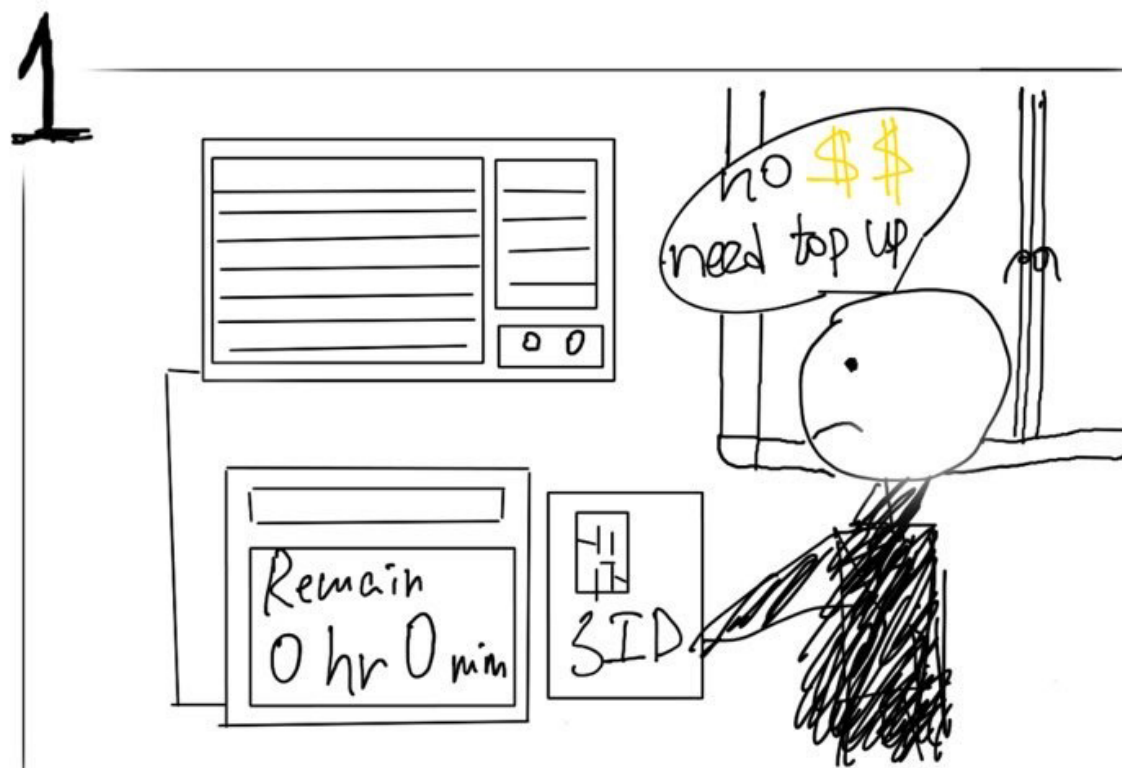
Storyboard

Status checking

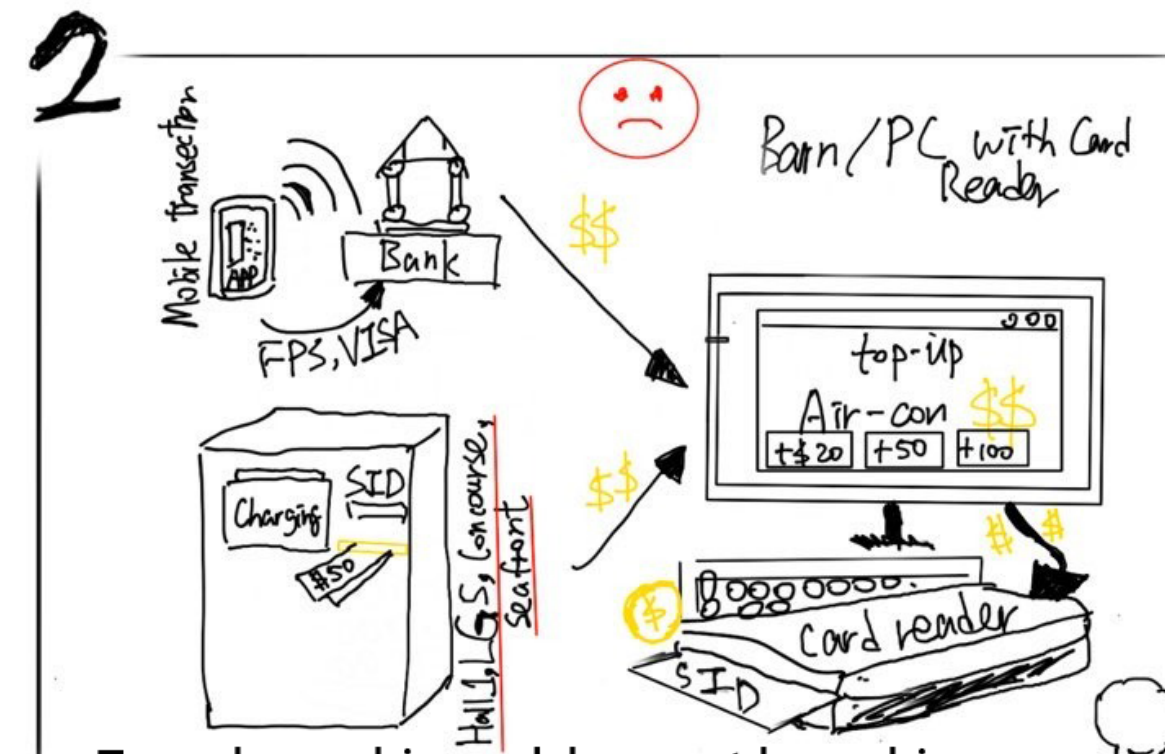


Storyboard

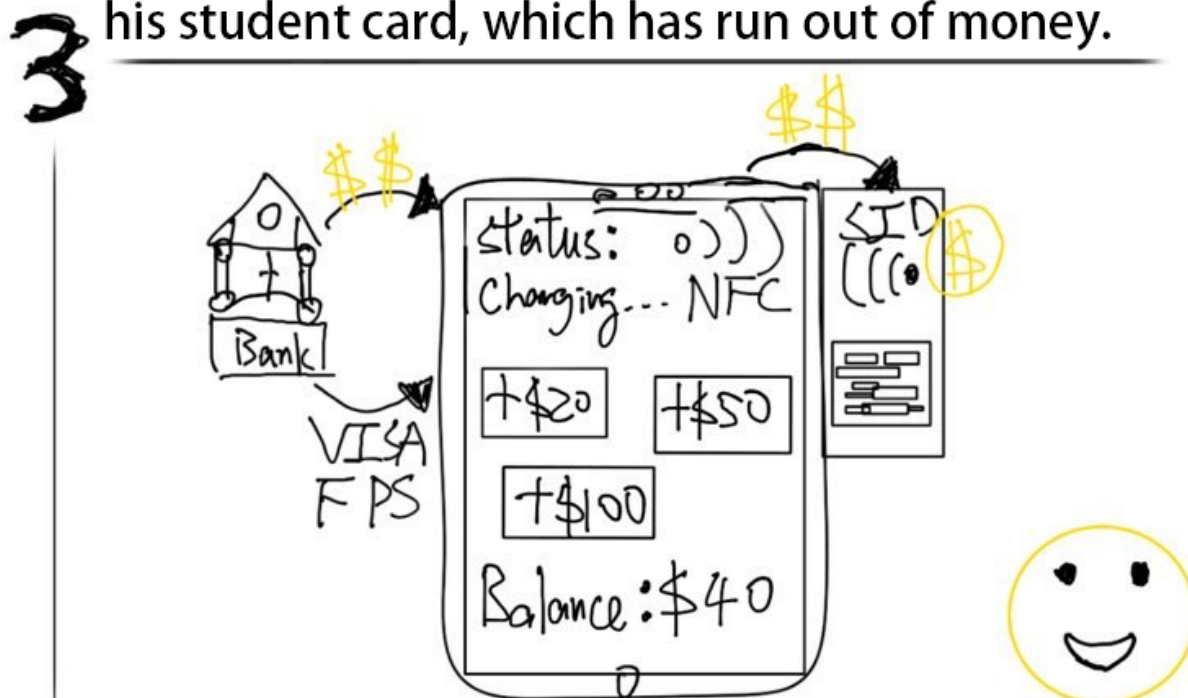
Status checking



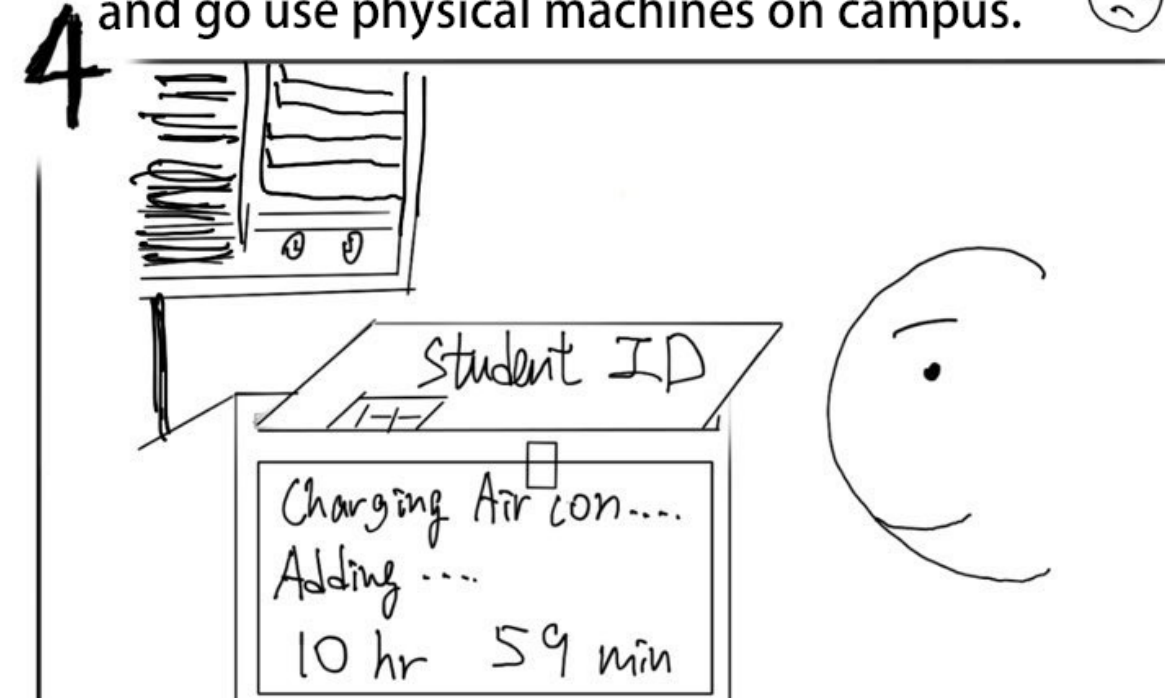
John needs to recharge his air-conditioning with his student card, which has run out of money.



To recharge his card, he must leave his room and go use physical machines on campus.



With our app, John tops up his student card with online payment methods from the comfort of his room.



His air-conditioning is successfully recharged, and John is cool and happy.

Storyboard

Card charging

05.



Evaluation

Design Goals

Quick



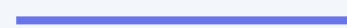
Decreases time taken to complete the task.

Convenient



Removes obstacles in completing the task.

Easy



Intuitive and easy to learn and use.

Sustainable



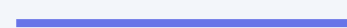
Maintainable and useful in the long term.

Extensible



Further improvements can be added.

Widespread



Useful for and used by many target users.

Our Solutions

Quick

Saves time cost of physical travel/action originally needed for status checks and card charges

Convenient

Removes chance of obstacles, i.e. encountering broken printer, no money in account

Easy

Simple intuitive interface that follows conventions, minimal setup for users

Sustainable


Stable facility/service supply and user demand, unlikely to change in short term

Extensible

Status checking for more facilities, e.g. lifts
More features & actions with student card

Widespread

Using payable campus facilities is a real need for many



**HKUST students need to
access and pay for campus facilities
quickly and easily
because they have
time-sensitive needs for them**

PoV = User + Need + Insight





Thank you!

Q&A

