# H2T Electronic Store

## Sketching, Low-Fi Prototyping & Pilot Usability Testing

Group 8

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# 1. Introduction

# 1. Introduction

## H2T

Combination of members' names

## "Highly Higher Tech"

We don't just bring you technology; we bring you higher, better technology.

## Value Proposition

We tend to highlight smarter choices and advanced tech for users' perfect purchase.

# Team Members

Researcher

Nguyen Thi Thanh Hang

Mercury is the smallest planet in the Solar System

Presenter

Bui Hanh Trang

Earth is the third planet from the Sun and it harbors life

Analyser

Nguyen Thu Huong

It’s the biggest planet in the entire Solar System

# 1.1 Target users

## Students

Offer gadgets tailored to their fields of study: providing a powerful laptop for programming, a tablet for original design or tools for efficient research,...

## Office Workers

They often need reliable and advanced tech devices to increase productivity and improve work efficiency—and they want to stay connected in their busy lives.

and more...

# 1.2. Problems

**We are addressing the challenge of choosing the right electronic devices for your needs.**

- The overwhelming variety of options can be confusing; meanwhile features budgets and personal preferences must be balanced.
- We objective to simplify this decision-making process by using a clever chatbot that gives personalized advice and makes technology shopping easy, informed and enjoyable.

# 1.3. Solutions

**We recognize that within our audience, there is a wide variety of preferences and levels of technological knowledge.**

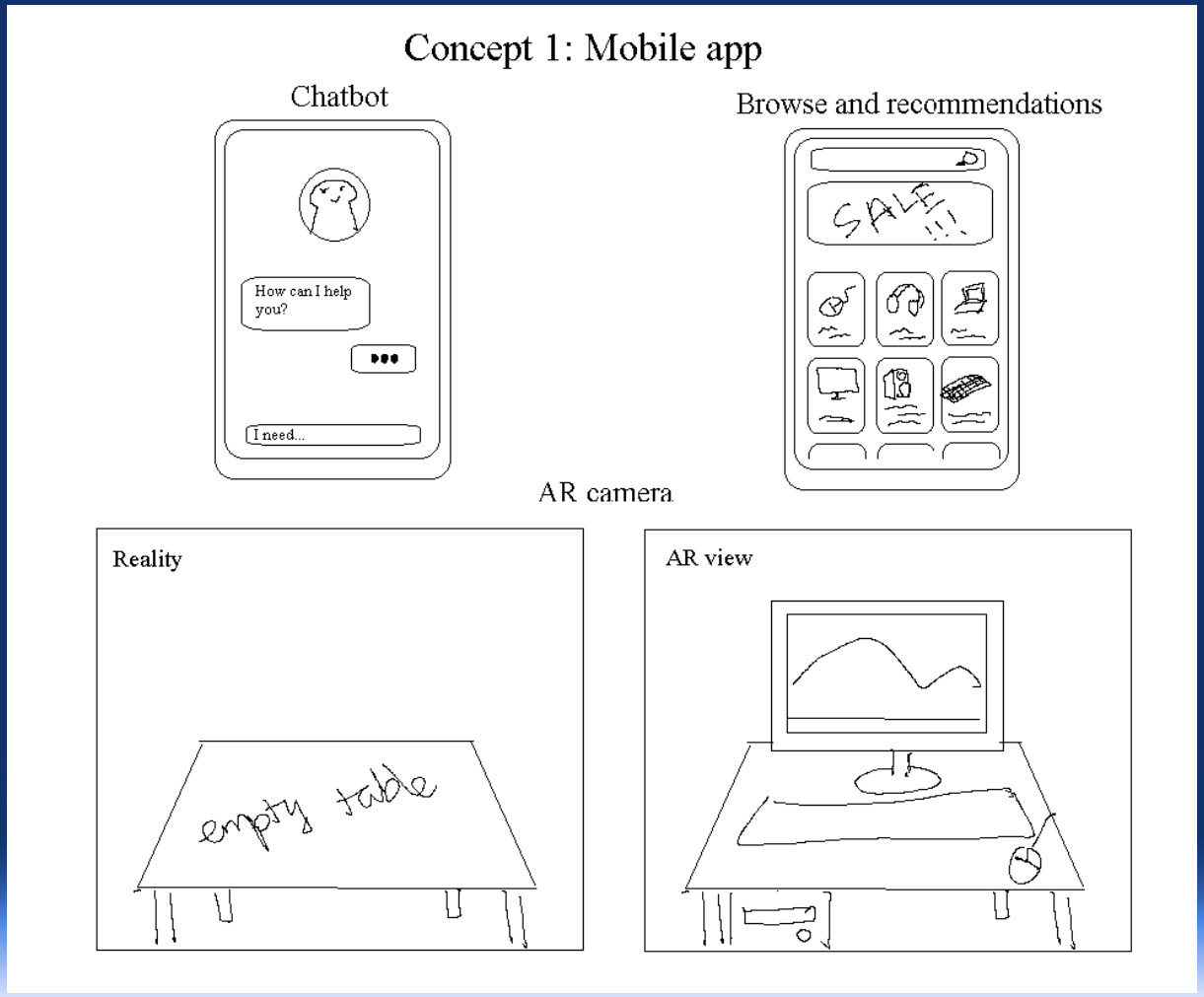
- Some users want quick and simple suggestions, while others prefer in-depth advice tailored to specific needs.
- Our chatbot aim to simplify electronics selection for all users, offering:

+ Personalized recommendations based on preferences, budget, and lifestyle.
+ Suggestions for work, gaming, studying, or entertainment.
+ Consultations for quick advice or detailed comparisons.
+ Community reviews and expert insights.
+ Wishlist and alerts for price drops or new arrivals.

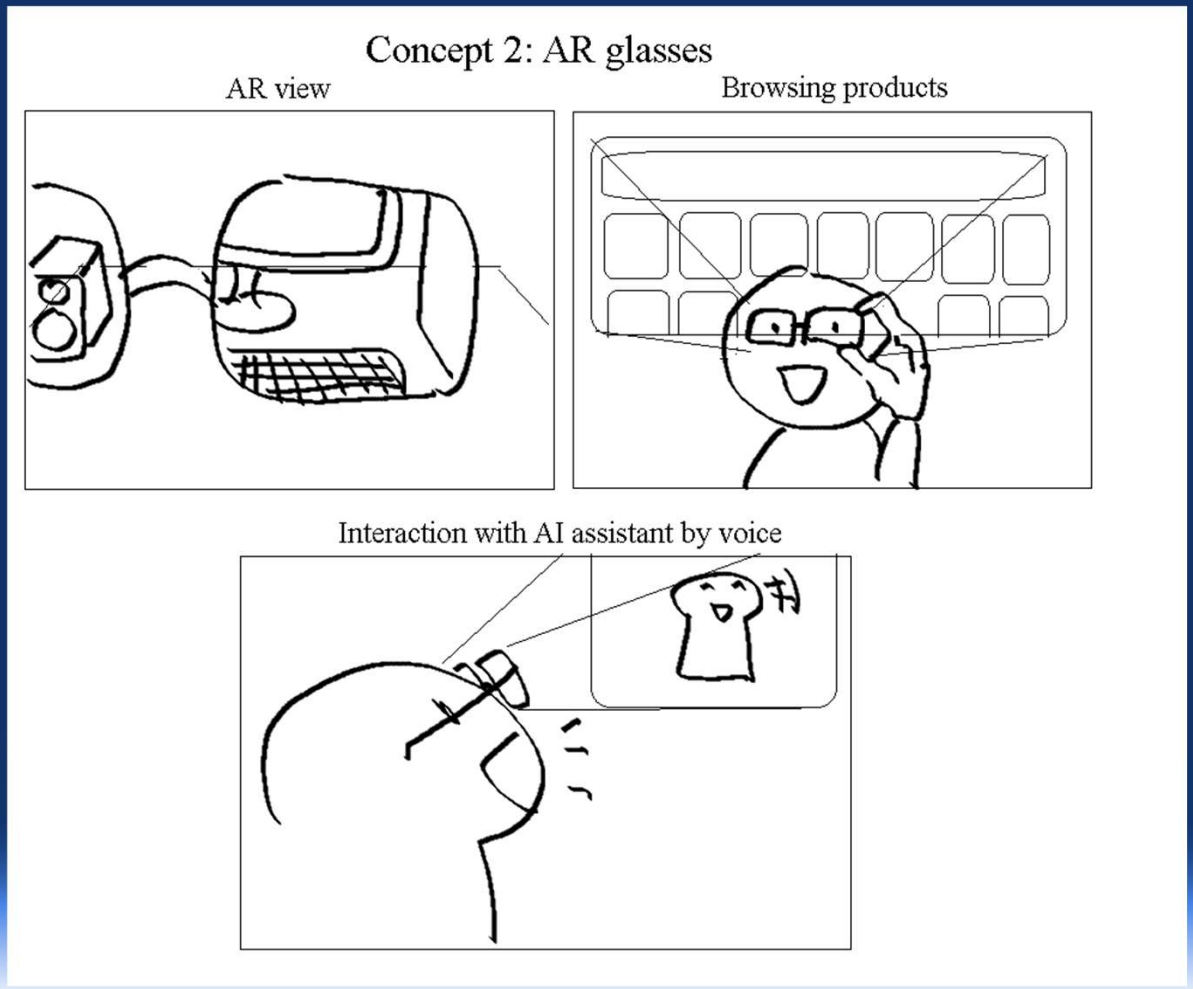
# 02

# Sketching Explorations

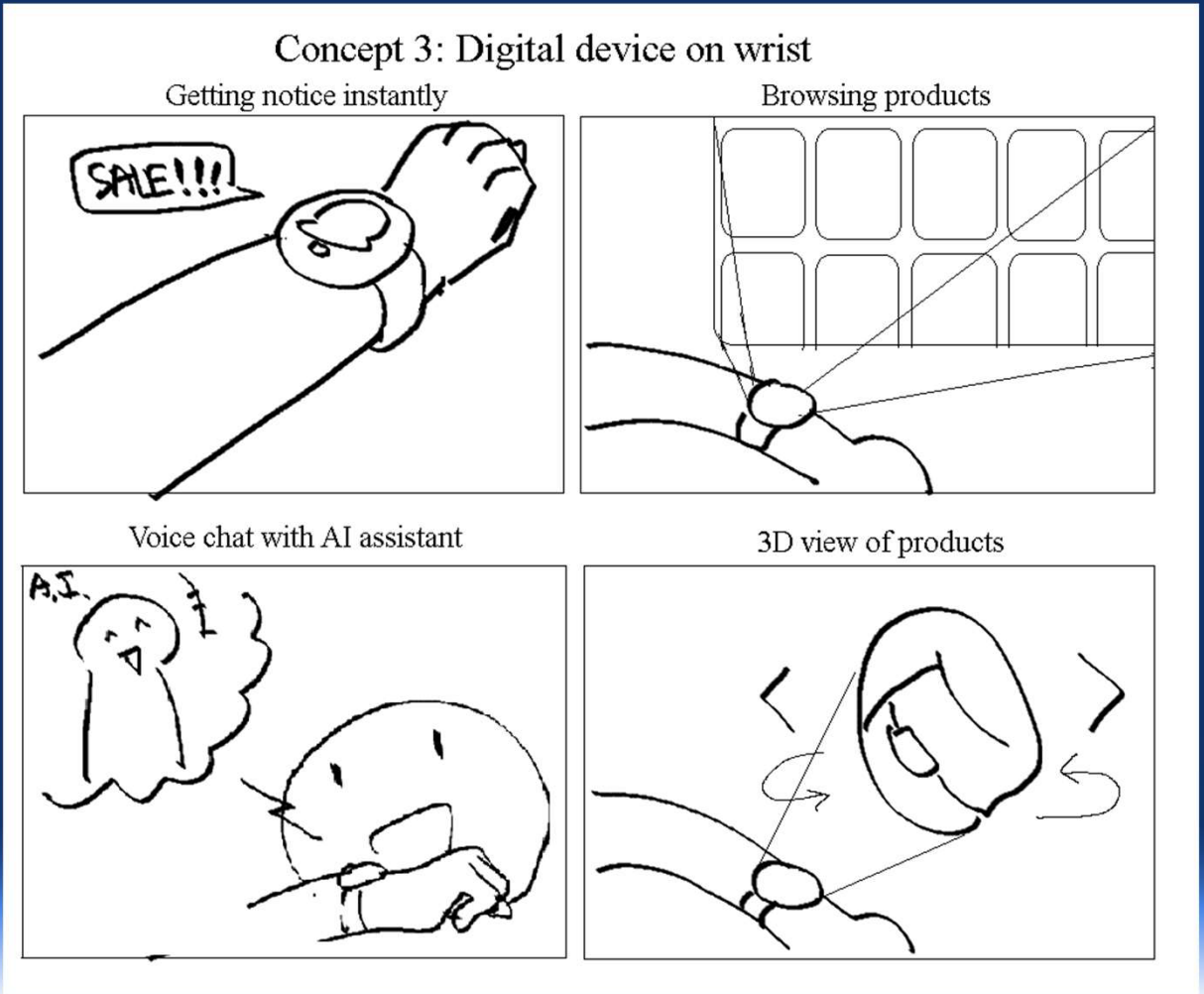
# 2.1. Mobile App



# 2.2. Smart/AR Glasses



# 2.3. Smart Watch



# 03

# Selected interface & Rationale

# Mobile Apps Pros/Cons

## Pros

High accessibility — 9/10

Familiarity — 9/10

Portability — 9/10

Cost-Effective — 8/10

Battery Life — 8/10

## Cons


Limit Immersion


Distraction


Ergonomics

# VR/Smart Glasses Pros/Cons

## Pros

Immersive Experience — 9/10

Enhanced Interactivity — 9/10

Hands-Free Usage — 9/10

Innovative Applications — 8/10

## Cons


Hardware Dependency


Performance Limitations


Limited Adoptions

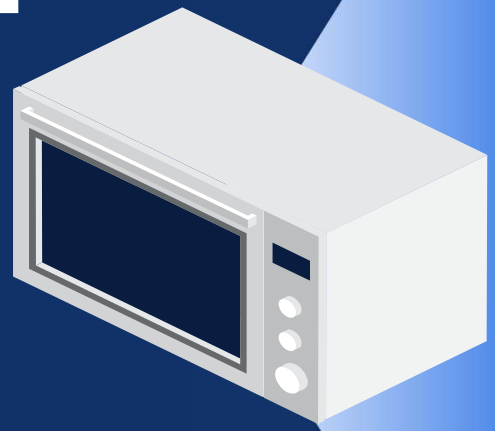

Learning Curve


Comfort and Usability

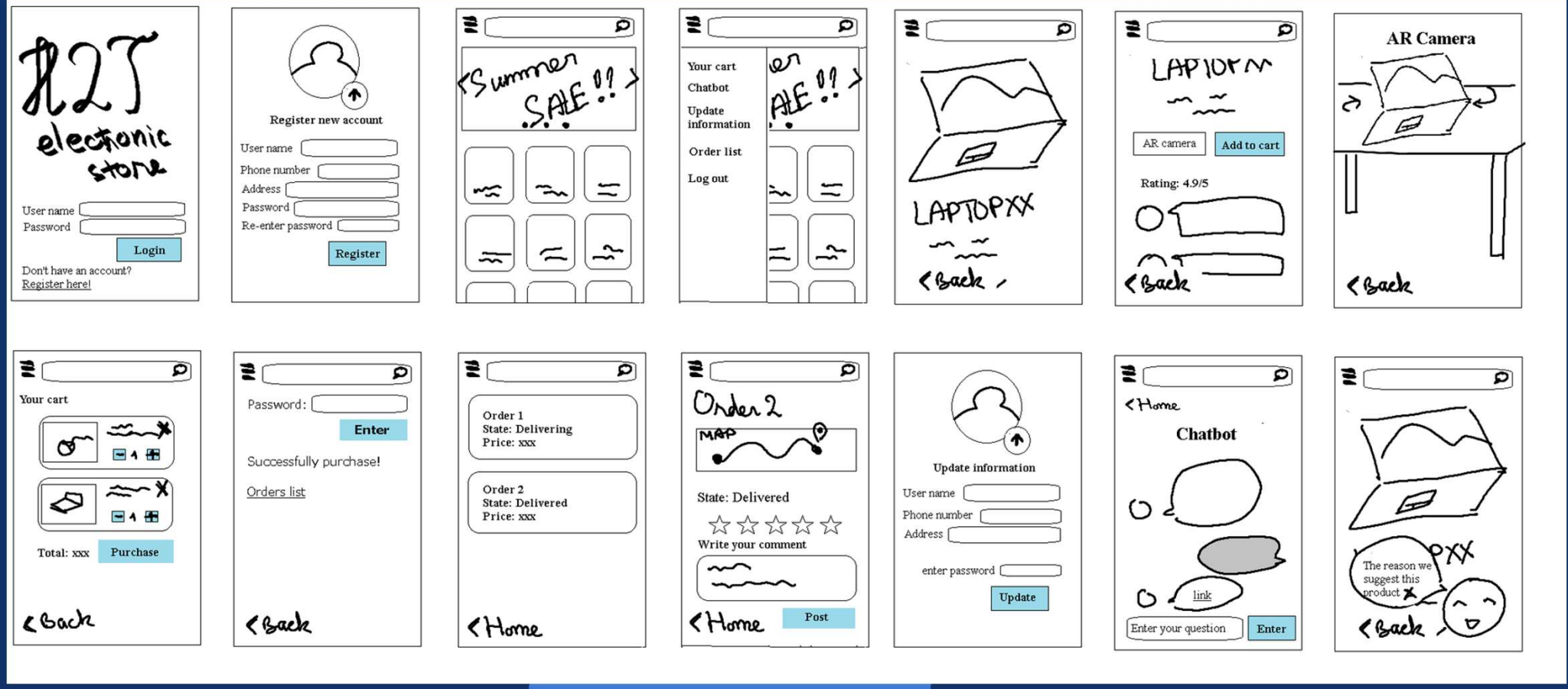
# FINAL SELECTIONS

04

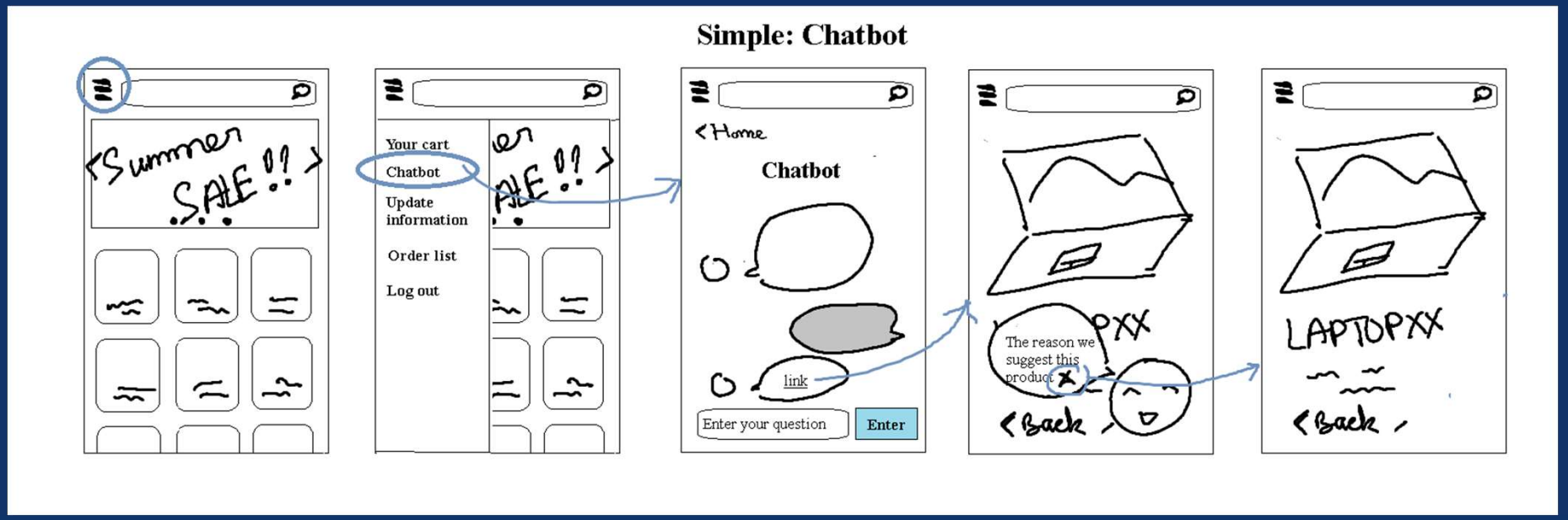
# Low-fi prototypes



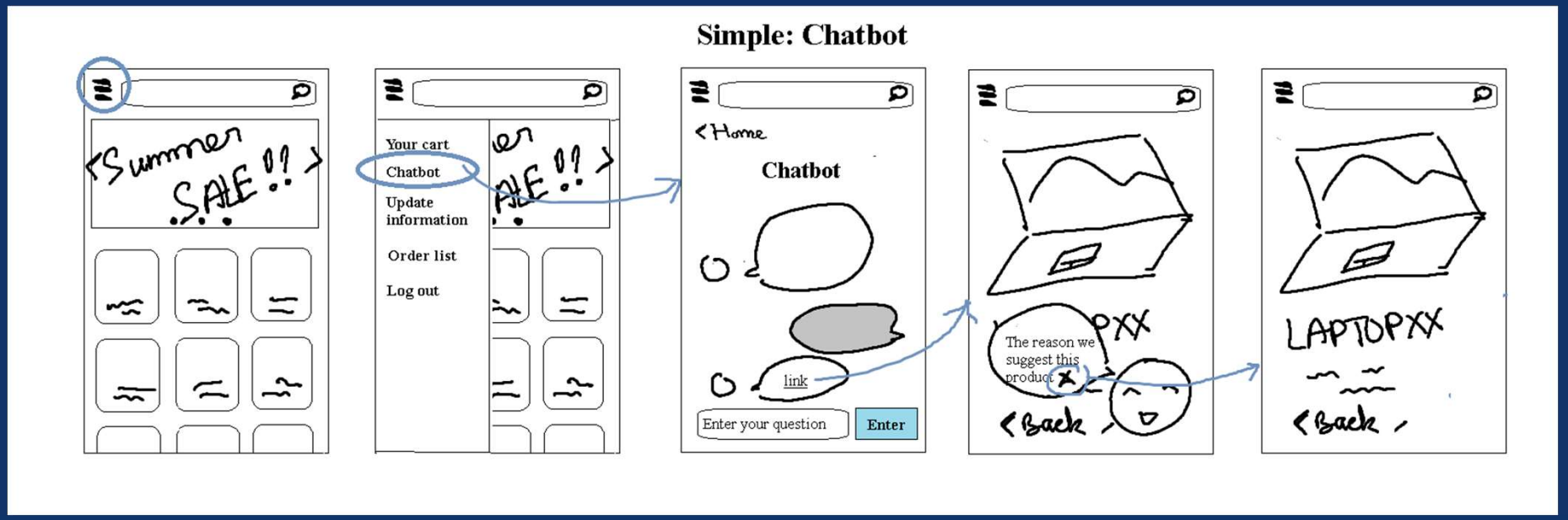
# Low-Fi prototype constructions



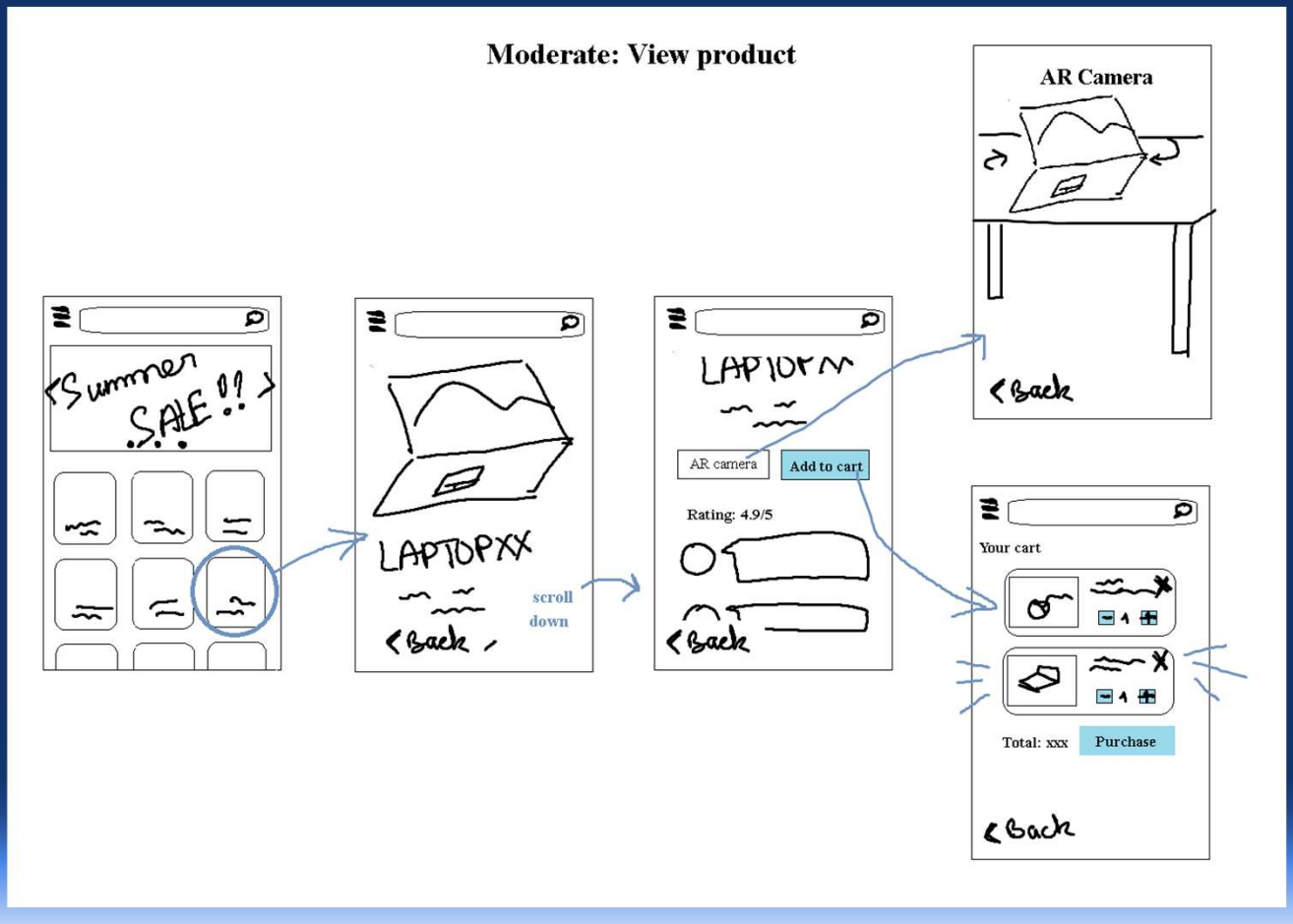
# Simple: Chatbot



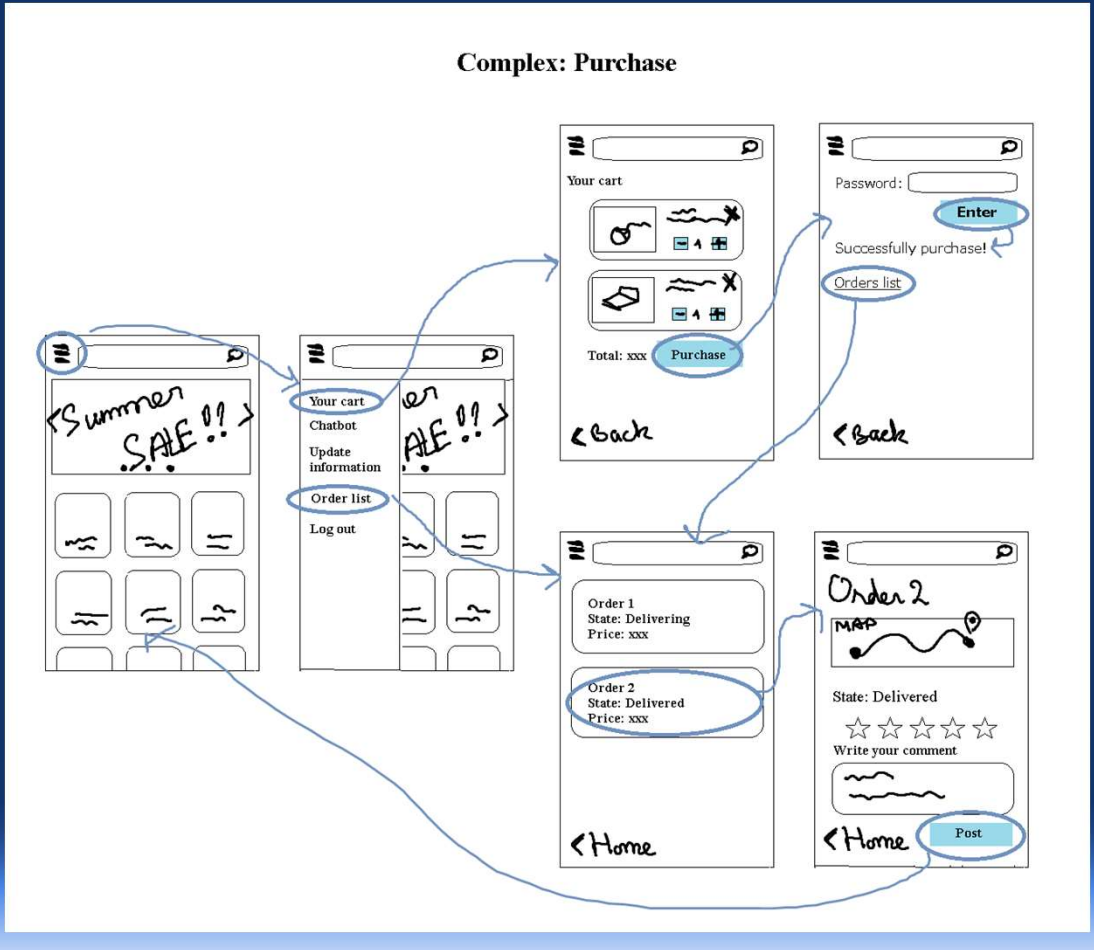
# Simple: Chatbot



# Moderate: View product



# Complex: Purchase product



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# Testing

# Testing Procedure

Process

1. Provide context
   - Give tester the information
   - Explain purpose, goals & consent forms
2. Do 03 tasks
   - Testers is assigned 03 tasks
   - Need to complete 03 tasks
3. Ask question
   - specific questions to gather thoughts
   - identify issues, usability concerns, or areas for improvement.
4. Ask for feedback
   - open-ended feedback to gain insights
   - opinions and suggestions for improving
5. Synthesize finding
   - analyzing all the feedback and observations
   - trends, strengths, weaknesses, and actionable recommendations

# Usability Goals

Effective

Efficient

Error tolerant

# Key Measurements

User reaction

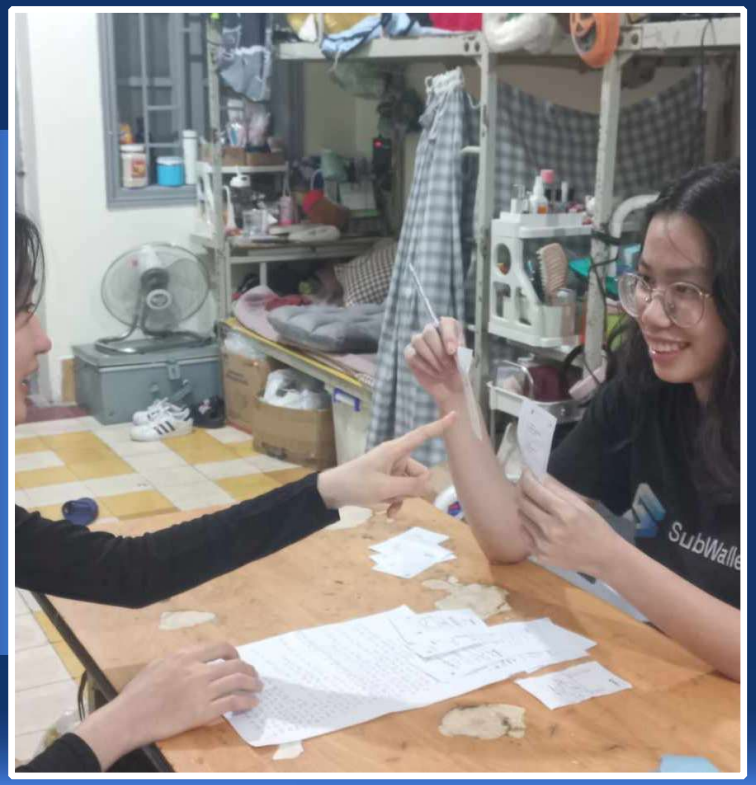
Time to complete tasks

User error rate

# Prototype Participants

- Name: Dinh Trong Minh
- Year: 21 years old
- Doctoral student at Department of Computer Science, Dartmouth University

# Prototype Participants



- Name: Ngan Pham Hoai Phuong
- Year: 22 years old
- Student at FAMI Department, HUST

# Prototype Participants

- Name: Nguyen Quoc Sy
- Year: 58 years old
- Engineer

# Testing results

## What worked:

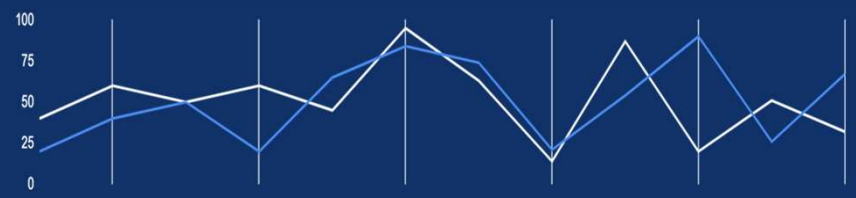
1. Seamless Navigation
2. Clear Product Details
3. Smooth Checkout Process

## Concerns:

1. Chatbot Limitations & Privacy
2. Visual Clarity
3. Loading Speed

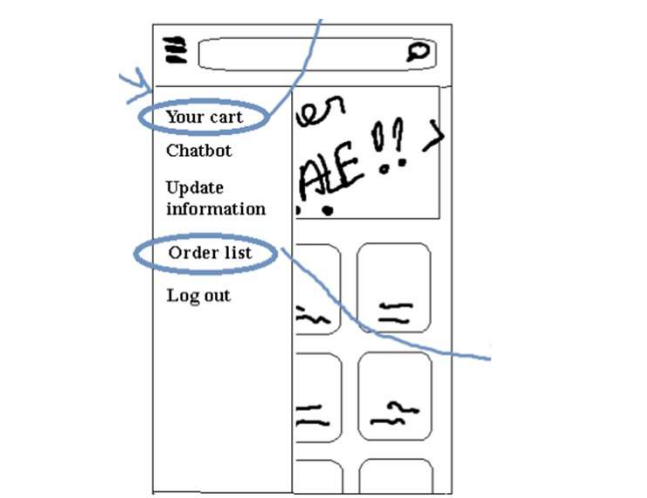
## Key Measurement Results:

1. Response Time: average of 30s,
Moderate < Simple < Complex
2. Complex tasks have a high error rate
3. The duties' thought process was well stated



# Possible UI Change

## Navigation Bars



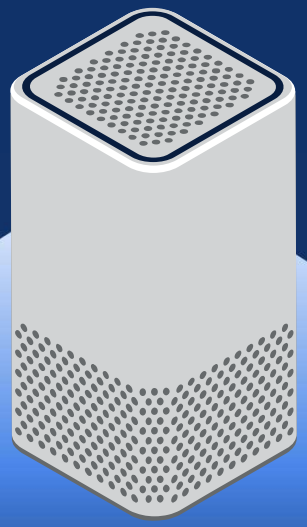

- Clarify icons
- Add option to sort product by category

## Navigation Bars


- Tutorial for AR camera
- Multi languages

# 06

# Disscussion



# Guiding principles

## Mercury

Mercury is the closest planet to the Sun and the smallest one in the Solar System—it's only a bit larger than the Moon

## Venus

Venus has a very beautiful name and is the second planet from the Sun. Venus is hot and has a poisonous atmosphere

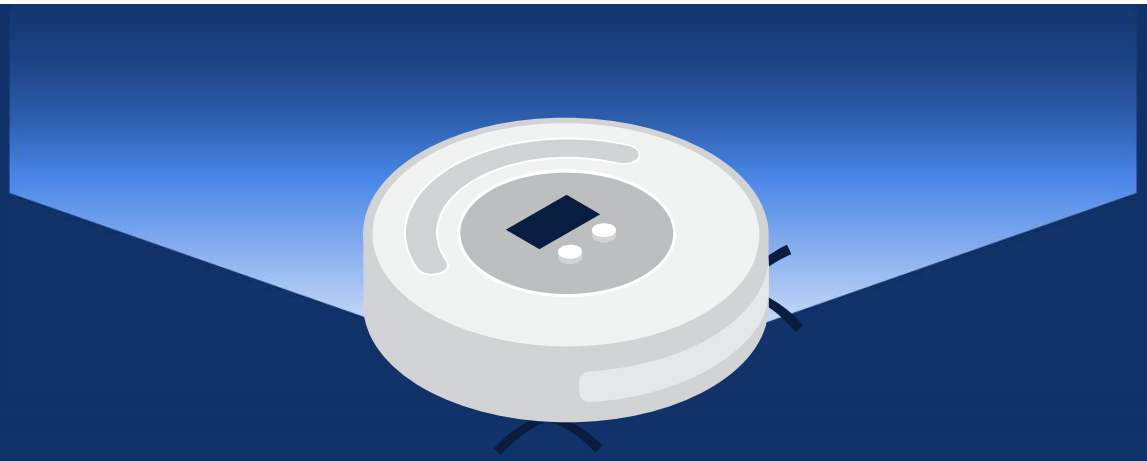
# Summary

## Shortcomings of usability test:

- Beautiful theme
- Manual test
- Only English -> hard to understand
- Not have many icons, only texts

## Revising usability goals:

- Make experience more intuitive
- Add more languages and images for the webs



# Appendix

# Mobile Apps Pros/Cons

## Pros

1. Accessibility:
- Widespread adoption; most people already own a smartphone.
- Easy to download and update apps via app stores.
2. Familiarity:
- Well-established user interface paradigms.
- Minimal learning curve.
3. Portability:
- Convenient to carry and use on the go.
- Works in almost any setting without specialized equipment.
4. Cost-Effective:
- Does not require additional hardware.
- Development costs are typically lower than VR apps.
5. Battery Life:
- Phones are optimized for efficiency; longer usability without quick depletion.

## Cons

1. Limited Immersion:
- Interaction is restricted to a 2D screen.
- Doesn't provide spatial awareness or immersive experiences.
2. Distraction:
- Multitasking can interrupt the experience (e.g., notifications).
3. Ergonomics:
- Prolonged use can lead to hand strain or posture issues.

# VR/Smart Glasses Pros/Cons

## Pros

1. Immersive Experience:
- Fully engaging; users are placed directly into the virtual environment.
- Augmented reality (AR) features enhance real-world interaction.
2. Enhanced Interactivity:
- Enables 3D, gesture-based, or voice-controlled interactions.
- Provides spatial computing for more intuitive usability.
3. Hands-Free Usage:
- Ideal for scenarios where users need both hands free (e.g., fieldwork, training).
4. Innovative Applications:
- Better suited for fields like gaming, training simulations, or industrial applications.
- AR features allow for contextual overlays (e.g., navigation, repair guides).

## Cons

1. Hardware Dependency:
- Requires owning compatible VR/smart glasses, which can be expensive.
- Devices can be bulky and less portable than a phone.
2. Battery and Performance Limitations:
- Shorter battery life than smartphones.
- Processing power may not yet match that of a smartphone.
3. Learning Curve:
- New hardware and interface styles require users to adapt.
4. Comfort and Usability:
- Wearing glasses for long periods can be uncomfortable.
- Possible motion sickness in VR environments.
5. Limited Adoption:
- Fewer users have access to VR/smart glasses compared to mobile phones.
- Smaller ecosystem of apps and developers.

# Interview scripts

- Hi! Thank you for taking the time to meet with us. Today, you will be testing our prototype for an electronic store website with a chatbox feature. You'll walk through a series of tasks on your own, and as you do so, please share your thoughts out loud—what you're doing, what you notice, and any concerns or ideas that come to mind. Feel free to ask questions at any point during the process.
  - Tasks:

1. Search and View a Product:
- Find a specific electronic product (e.g., "Wireless Earbuds").
- View its details, such as specifications and price.
2. Interact with the Chatbox:
- Use the chatbox to ask for product recommendations or assistance.
- Test a specific question, like "What's the warranty on this product?"
3. Complete a Purchase:
- Add a product to your cart and proceed to the checkout page.

# Interview questions

1. Interview Questions (after each task):
- What was confusing about this task?
- How engaging was this task for you?
- Did the chatbox meet your expectations for assistance?

2. Interview Questions (after all tasks):

2.1. Overall Experience:

- What did you like the most and least about the website?

2.2. Chatbox Feedback:

- How would you rate the chatbox functionality?
- Was there anything missing in its responses?

2.3. General Feedback:

- Is there anything else you would like to see or not see on the website?
- Any additional suggestions for improvement?

1. Dinh Trong Minh

| Problems | Severity (on scale 5) |
|---|---|
| Confuse about the purchase procedure | 3 |
| Hard to describe his need to the chatbot | 0 |
| Poor multilingual support | 1 |
| Didn't know how to rate a product using the stars | 2 |

2. Ngan Pham Hoai Phuong

| Problems | Severity (on scale 5) |
|---|---|
| Confuse about where to find the chatbot function | 1 |
| Overwhelmed by too many choices | 0 |
| Cannot finding related products | 2 |
| At first didn't understand the use of AR camera | 0 |

3. Nguyen Quoc Sy

| Problems | Severity (on scale 5) |
|---|---|
| Confusion about payment methods | 2 |
| Lacks feedback after purchase | 1 |
| Uncertainty about discounts | 0 |
| There are no sorting options | 2 |

# Thanks