# YAXI PENG

PORTFOLIO

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EDUCATION SOFTWARE


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MOBILE NAVIGATION APP

instrument

ETHNIC MUSICAL INSTRUMENT EDUCATION SOFTWARE

## PROJECT SUMMARY

This is an educational music software designed for children aged 3-7, categorized as an enlightenment and intelligence development tool for children. It focuses on learning about the structure, timbre, and famous pieces of Chinese traditional instruments. Through personalized game-based learning methods, it enhances children's musical sense, strengthens their memory, promotes intellectual development, and satisfies learners' emotional needs beyond acquiring knowledge.

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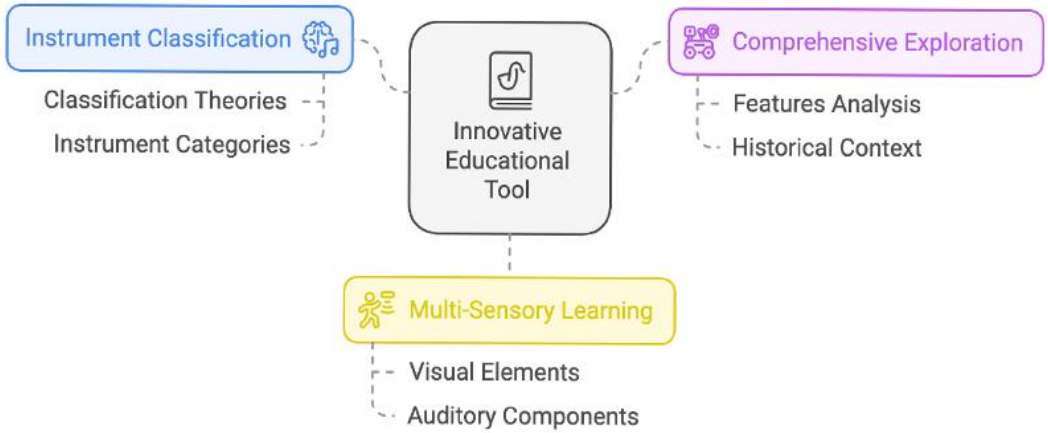
ROAL:

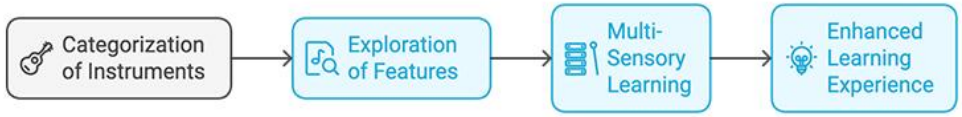
- Research and Analysis
- Game Design
- UX Design
- UI Design
- Music Design

instrument
ETHNIC MUSICAL INSTRUMENT EDUCATION SOFTWARE

# RESEARCH AND ANALYSIS

## Enhancing Music Education

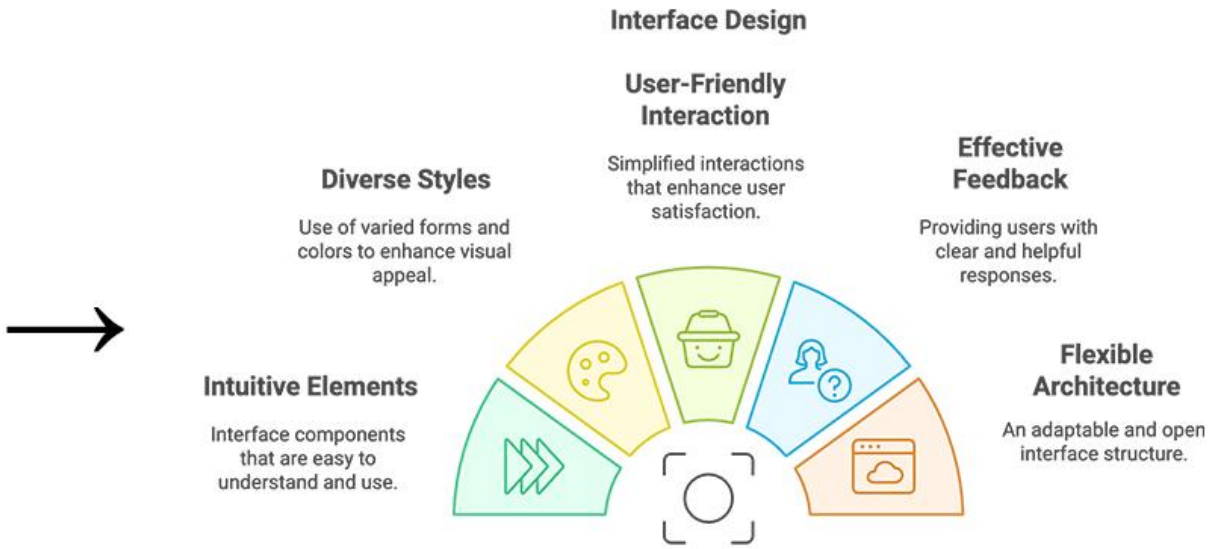



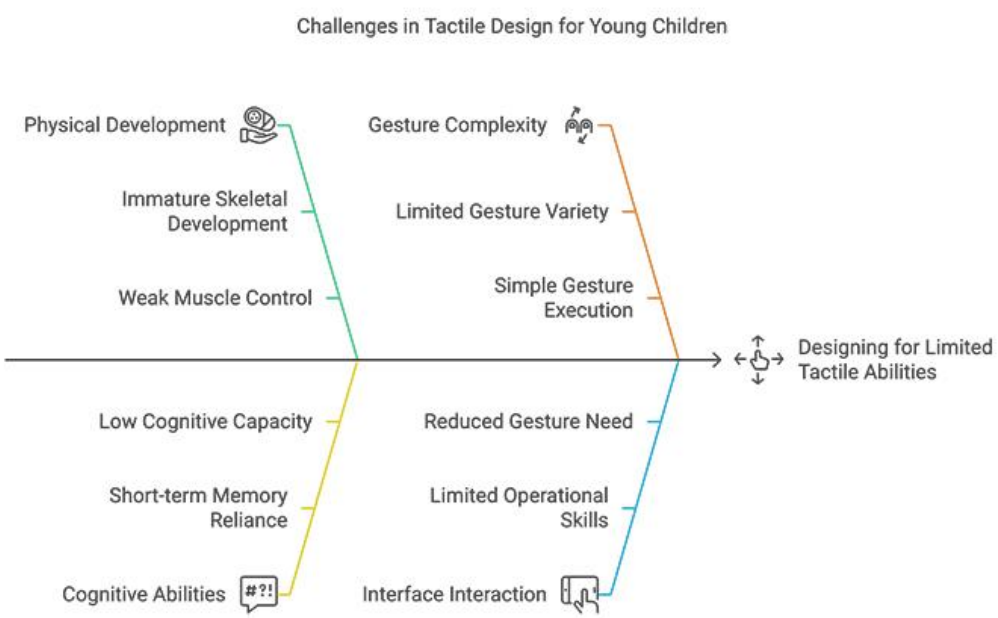
instrument
ETHNIC MUSICAL INSTRUMENT EDUCATION SOFTWARE

# UX/UI DESIGN

- Target Audience: Children aged 3-7
- Interface Design:

From a psychological perspective, interface design primarily involves two levels: sensory (visual, tactile, auditory) and emotional. From the perspective of product design and development, interface design should adhere to three key principles: user-controlled interfaces, reducing the user's memory load, and maintaining interface consistency.

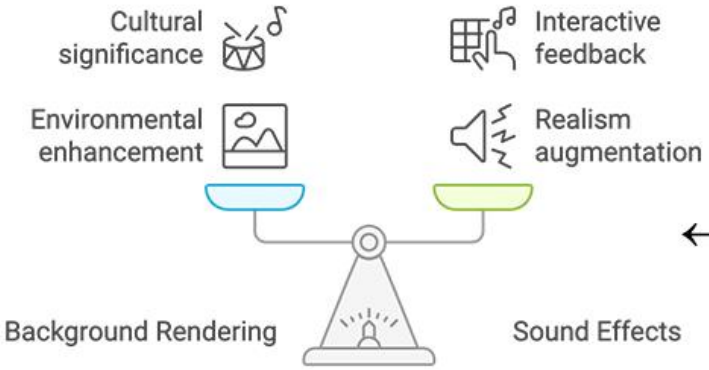



| 手势名 | 手势图 | Apple iPhone | Microsoft windows 7 | Gestureworks |
|---|---|---|---|---|
| 单击手势 | | 模拟鼠标单击 | 停住列表框 | 模拟鼠标单击 |
| 拖动手势 | | 移动对象、视角 | 模拟鼠标拖拽 | 移动对象 |
| 滑过手势 | | 快速缩放或者翻页 | 移动内容对象 | 快速移动对象或翻页 |
| 捏手势 | | 缩小对象、关闭程序（ipad） | 缩小对象 | 缩小对象 |
| 伸展手势 | | 放大对象 | 放大对象 | 放大对象 |
| 按住手势 | | 模拟鼠标右键 | 模拟鼠标右键 | 模拟鼠标右键 |
| 三指挤压手势 | | | 缩小或者关闭程序 | |
| 两指单击手势 | | | 缩放或者返回到默认大小及超链接 | 打开文件 |
| 双击手势 | | 用于放大图片或者打开文件 | 对象缩放或者打开文件和文件夹 | 打开文件 |
| 按住并单击手势 | | 模拟鼠标右键的功能 | 模拟鼠标右键的功能 | 模拟鼠标右键的功能 |
| 按住并拖动手势 | | 缩放对象 | 定点转动 | 移动滑块， |
| 旋转手势 | | 旋转对象 | 图片或者对象旋转 | 选择对象 |

instrument
ETHNIC MUSICAL INSTRUMENT EDUCATION SOFTWARE

# MUSIC DESIGN



Balancing Atmospheric and Interactive Sound Design

- The Role of Sound:

Background rendering and event prompts not only enhance the atmosphere but also provide auditory feedback for information. Through sound, learners can receive implicit cues about the correctness or errors in their operations, allowing their actions to be promptly affirmed or corrected

- The Function of Sound:

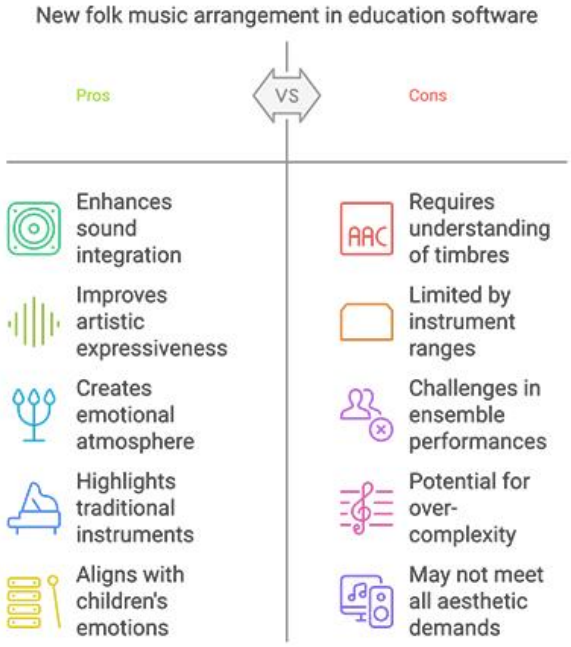
Sound is categorized into sound effects and music. Sound effects enhance the realism and atmosphere of the interface by augmenting visual information with auditory elements. Music amplifies the emotions conveyed by the visuals, providing learners with an immersive and engaging experience.

- Challenge

The music education software for Chinese traditional instruments needs to cover ten types of instruments: guzheng, dizi, erhu, pipa, suona, yangqin, hulusi, matouqin, and sheng. However, Chinese traditional instruments have strong individual characteristics, and ethnic ensembles often lack breadth in sound expression, particularly in the low frequencies, leading to poor overall sound integration. Due to the limitations of the instruments' ranges and playing techniques, it is often challenging to meet listeners' aesthetic demands in various aspects during ensemble performances.

- Solution

The background music composition utilizes the new folk music arrangement approach, combining ethnic instrumental music, MIDI music, and electronic band elements with modern orchestration techniques. This method allows for complementing strengths and addressing weaknesses, enhancing the musical personality of traditional instruments and significantly improving the artistic expressiveness of ethnic music.Thus, the five original pieces of music integrate traditional instruments, musical styles, rhythms, and Western music influences.



instrument

ETHNIC MUSICAL INSTRUMENT EDUCATION SOFTWARE

# PROTOTYPE PRESENTATION

Interface 1-- loading animation

## Game levels include:

- Single instrument puzzle
- Instrument matching
- Real instrument matching
- Identify the instrument by listening to famous tunes
- Instrument and sound match-3 game


### Interface 2 – Main Interface

Click the button to enter the level interface.


### Interface 3 – Level Interface

There are 5 levels in total.
Swipe left or right to choose a level.


Interfaces 1, 2, and 3 will loop the original background music titled "Joyful Journey."

### First Learning Level – Instrument Puzzle.

Select the First Level
Enter the Instrument Puzzle interface, which contains a total of ten different instruments.Tap on any instrument to proceed to the next screen.

### Single Instrument Puzzle Interface

Drag the instrument pieces from the left to the corresponding shadow area on the right.The background music plays a famous piece corresponding to that particular instrument. After you finish puzzles for all ten instruments, the level is complete.

### Second Learning Level – Instrument Shape Matching

Enter the Instrument Shape Matching interface. Drag the chibi-style instrument icons to the corresponding shadow positions to match them. When matched correctly, the corresponding instrument sound effect will play.Upon entering the matching interface, the original background music "Joyful Match" will loop.


### Third Learning Level – Matching Real Instruments with Chibi-Style Instruments

The real instrument appears for three seconds and then disappears.A chibi-style version of the instrument then appears, and you must select the matching instrument.Once you choose correctly, the level is cleared.The original background music "Joyful Choice" loops during this stage.

### Fourth Learning Level – Identify the Instrument by Listening to Famous Music Excerpts

The music player in the bottom-right corner can randomly play ten different famous instrument piece excerpts. Listen to each excerpt and select the correct instrument. Once you make the correct choice, the instrument changes from a virtual image to a real one. After correctly identifying all ten instruments, the level is completed.

### Fifth Learning Level – Instrument and Sound Matching

Because this stage involves pairing instruments with their sounds, no background music is provided to avoid interfering with the learner's auditory focus.

Styling

AN APP FOR MATCHING OUTFITS

## PROJECT SUMMARY

The mobile application "Beautiful stying" is a lifestyle service tool designed to meet users' needs for outfit coordination. It primarily includes eight main functional modules: User Information, Wardrobe, Styling, Recommendations, Store, Styling Guide, Rewards, and User Feedback. This app serves as a one-stop solution for fashion and style needs, ensuring users have a seamless and enjoyable experience in managing and enhancing their personal style.

## TARGET AUDIENCE

- Customers served by Fengdi Clothing Company.
- The company aims to leverage innovative technology to enhance user engagement, improve customer retention, and expand private domain traffic.

### ROAL:

- Research and Analysis
- UX Designer

Styling

AN APP FOR MATCHING OUTFITS

# RESEARCH AND ANALYSIS

### From life

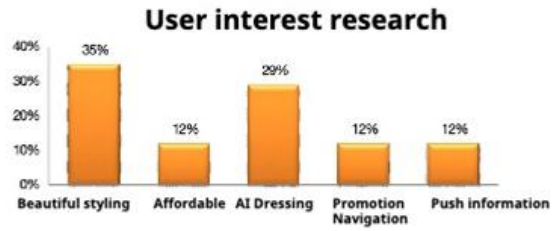
**The personal feelings of team members, there are many clothes, but still don't know what to wear, don't know how to match their own clothes**

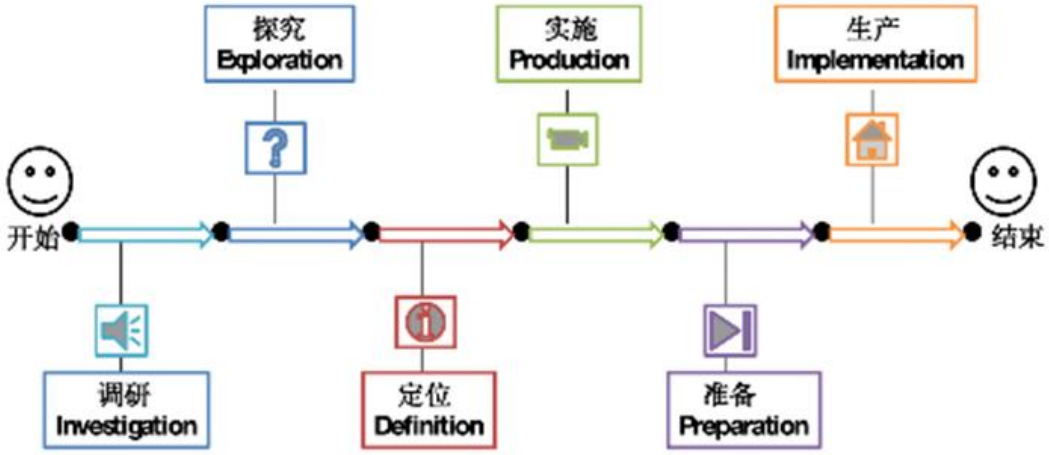
**Friends around me don't know how to wear clothes with them, and they are eager to know how to match them.**

### From research

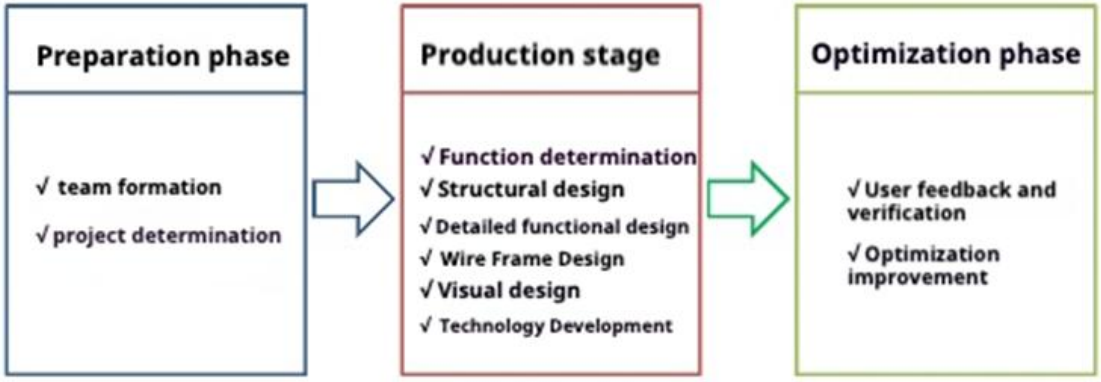
**Research company customers, feedback does not know how to wear, such as someone to guide how to match clothes, will increase the desire to buy. We brainstormed a lot of ideas and finally thought that five of them were good. After that, we did user interest research on these five topics.**

**A total of 200 people were surveyed, with a male-to-female ratio of 47%:53%. The interest in five topics is as shown in the figure.**



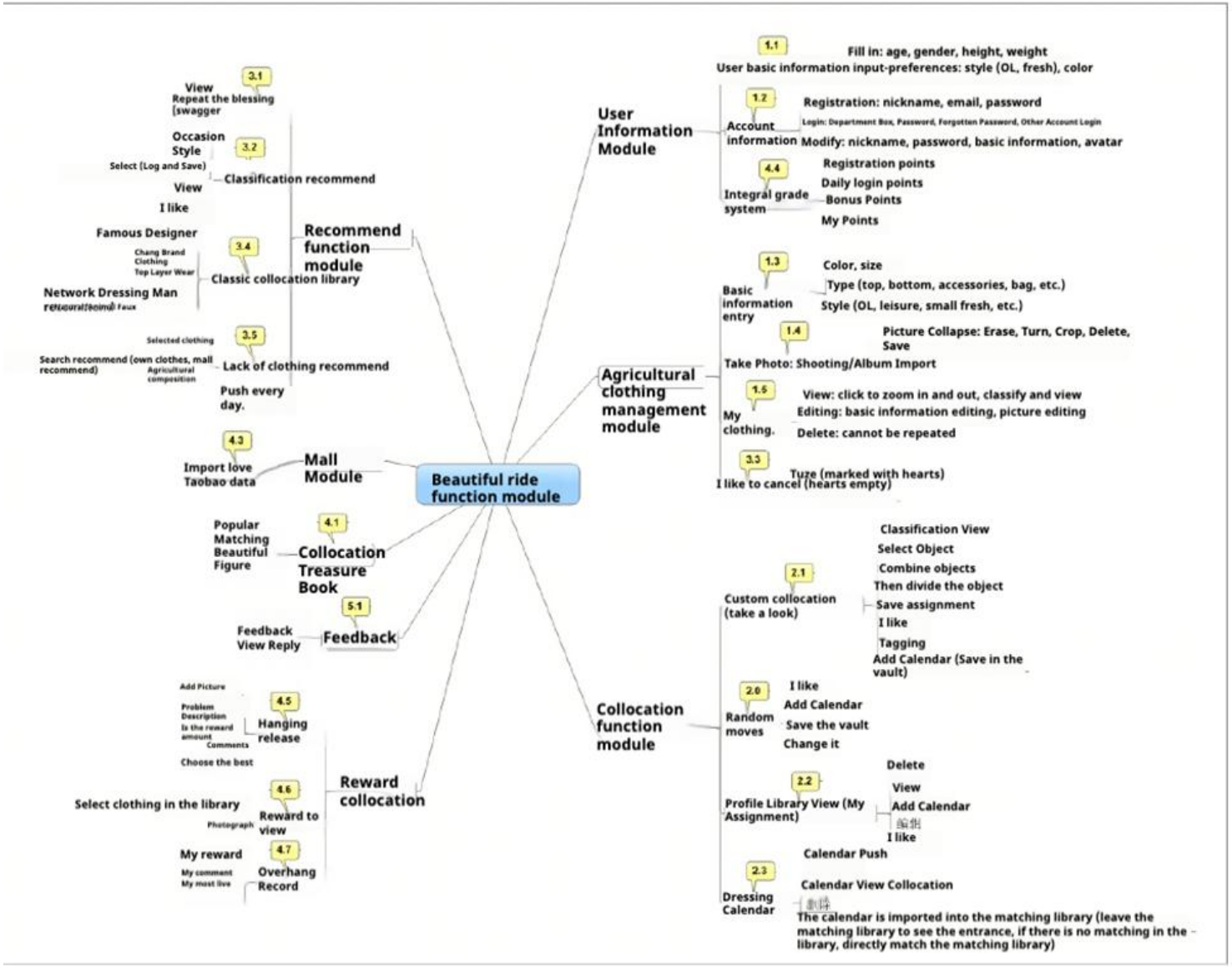

FLOWCHART



Styling

AN APP FOR MATCHING OUTFITS

# INFORMATION ARCHITECTURE




## CORE OF THE PRODUCT

By analyzing user interests, item data, and behavior data, and combining this with research on clothing matching methods, the product establishes accurate recommendation rules based on key dimensions such as season, occasion, color, and style. When users are unsure how to match their outfits, product provides the most suitable outfit recommendations.

## PRODUCT INNOVATION

Intelligent Recommendation (Core Feature)

## MAIN FEATURES
## (see the diagram on the left)

- User Information
- Wardrobe
- Outfit Matching
- Recommendations
- Marketplace
- Matching Guide
- Rewards
- User Feedback

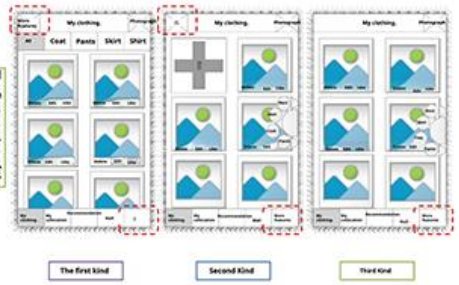
# Styling

AN APP FOR MATCHING OUTFITS

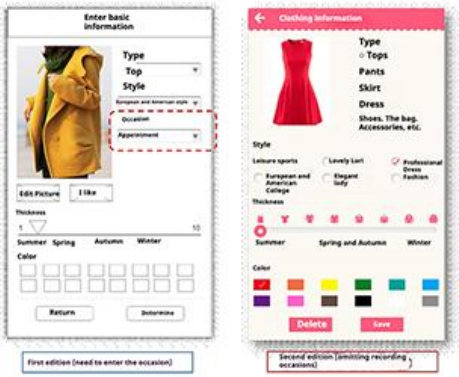
## The "Simplicity First" approach to user experience and interaction design:

- Elimination: Replace text with icons.
- Organization and Concealment:
Optimize the placement and categorization of user information.
- Delegation: Shift the input of occasion-related information from the user to the system.

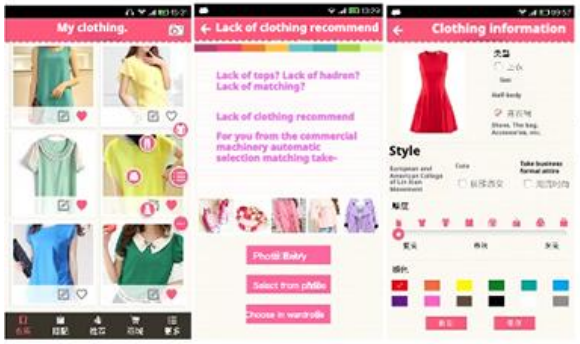

• Elimination

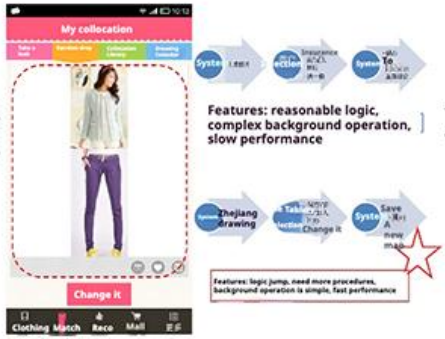



• Organization and Concealment



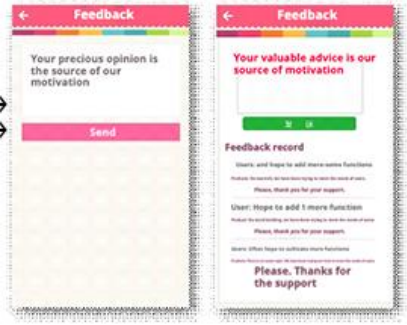

• Delegation







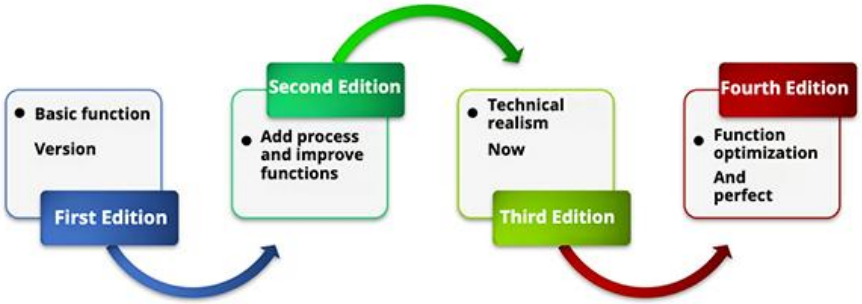



## Application of "Emotional" Design Methods in the Project

- instinctive Level:Stimulate users with visually appealing color tones that resonate with their preferences.
- Behavioral Level:Optimize the process of generating random outfit combinations to enhance software performance.
- Reflective Level: Design each feature with user feedback in mind, fostering an approachable and friendly brand image.

## Optimization Phase

- Reflective User Feedback and Validation:
Conduct user surveys on the launched version to gather insigh
- Reflective Refinement and Improvements:
Fix bugs and optimize existing features based on user feedbac and data analysis.



# Styling

AN APP FOR MATCHING OUTFITS

## User Information Module

## Wardrobe Management Module

## Outfit Matching Module

## Recommendation Module

## Matching Guide Module

## Marketplace Module

## Rewards

## User Feedbaack Module

## OUTCOMES

Enable virtual outfit matching, Analyzed post-launch user data and conducteda usability test to refine the user flow resulting in a 25% increase in user retention after launching the optimized version. achieving 150% of the target for new user registrations post-launch.

# C-EASY

INTERACTIVE TV APPLICATION


## PROJECT SUMMARY

A simple TV remote control can no longer meet the operational needs of smart TVs. People require more natural and convenient human-computer interaction methods, such as voice control, gesturedesigned, achieving three-screen integration (TV screen, PC, and mobile terminal) and three-networkintegration(telecommunicationnetwork, broadcast television network, and the Internet) within a social grid.

## MAIN FEATURE

Its main feature is enabling bidirectional interaction while watching TV, with the core being that everyone watching the same program can participate in discussions remotely,enhancing the emotional value of the viewing experience.

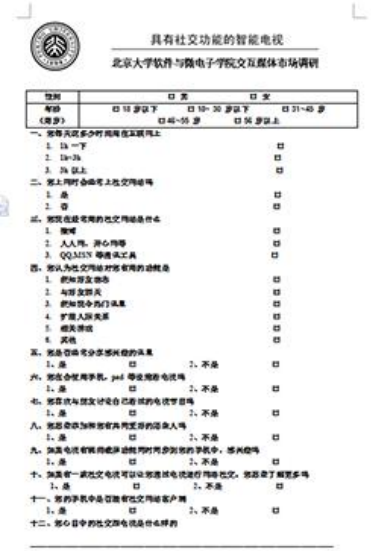
## ROLE

- Research and Analysis
- UX Design

# C-EASY

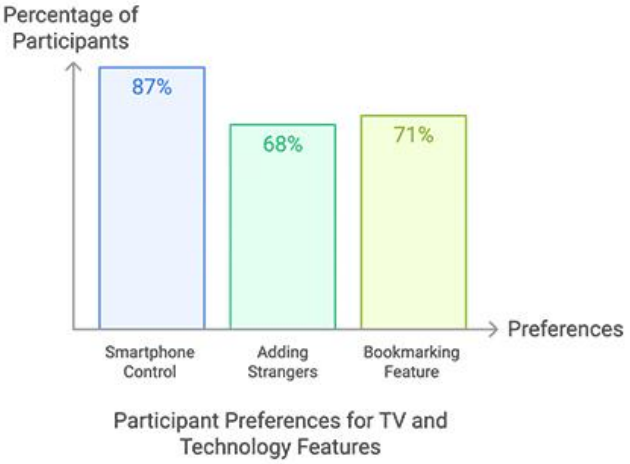
INTERACTIVE TV APPLICATION

## RESEARCH AND ANALYSIS



具有社交功能的智能电视

北京大学软件与微电子学院交互媒体市场调研

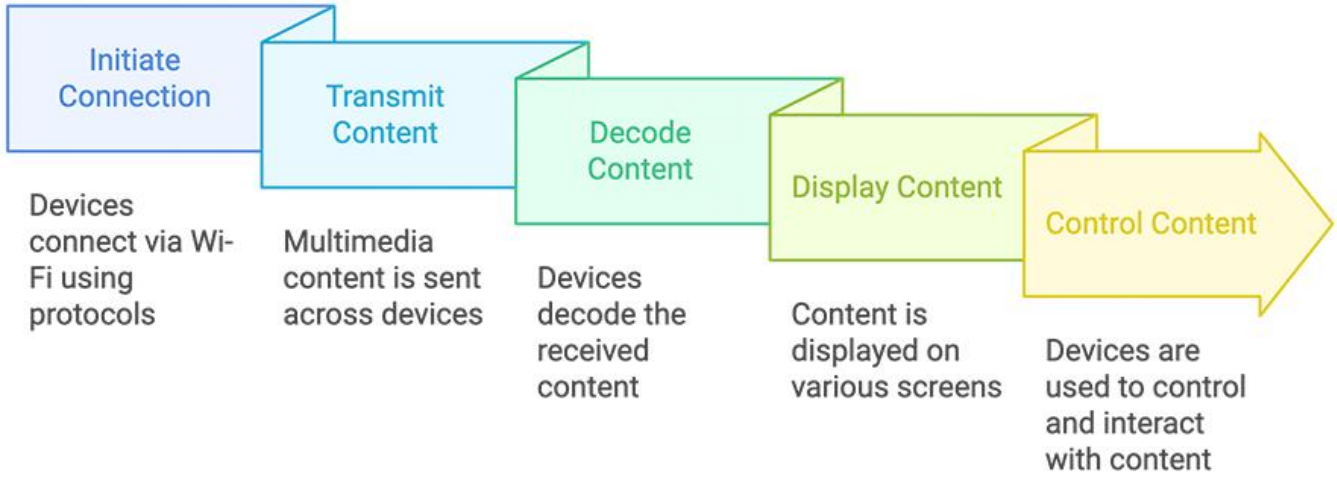



Participant Preferences for TV and Technology Features

Based on the design of the interactive TV application software, a survey of 100 participants was conducted.87% showed strong interest in using their smartphones to control TV.68% were willing to add strangers with shared interests in TV and movies as friends.

Therefore, when considering how TVs interact with users, we realized the interaction should not be limited to the TV as a medium. Instead, the medium can be expanded to include tablets, smartphones, and computer platforms.

### Multi-Screen Interaction Process

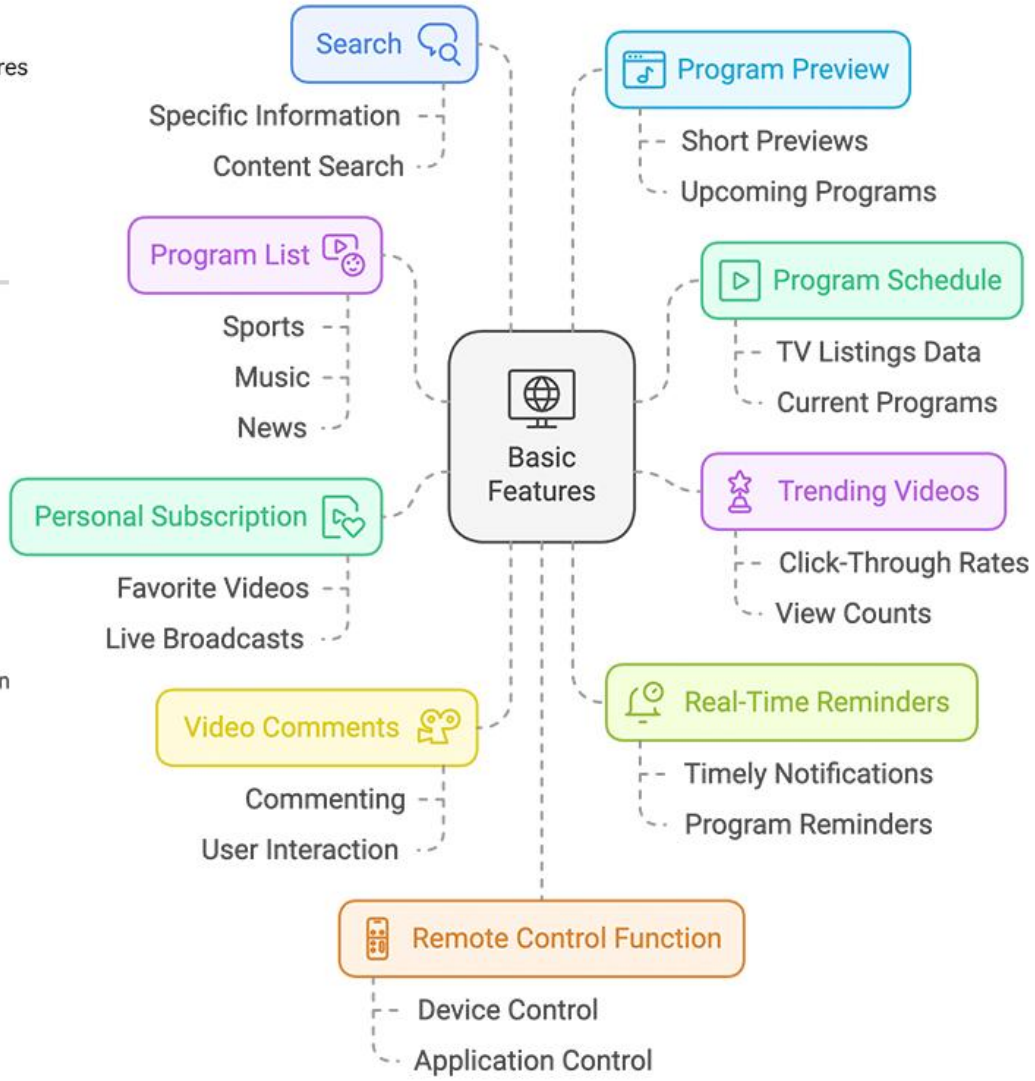


C-EASY
INTERACTIVE TV APPLICATION

# CORE FEATURES AND INNOVATIONS

- 10 Basic Features: Program Schedule、 Trending Videos、 Personal Subscriptions
  Program Categories、 Video Comments、 Real-Time Reminders
  Information Search、 Program Preview、 Remote Control Functionality、 Social Features

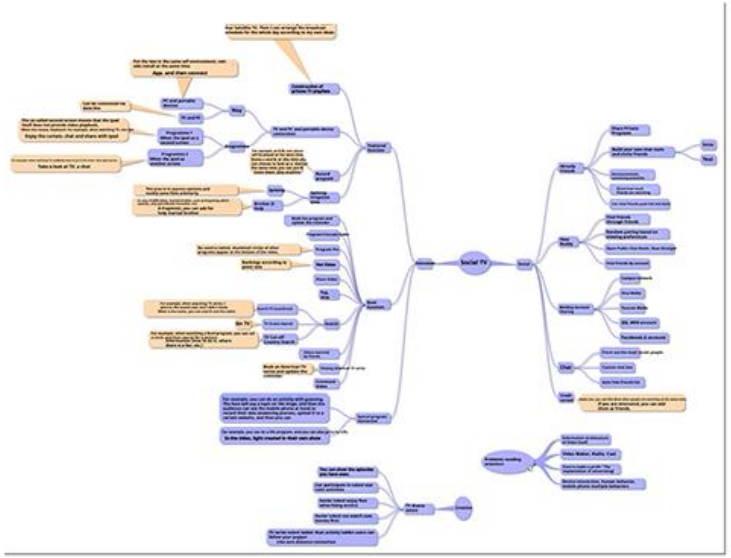
- 8 Special Features: Create Personal Lists、 Camera-Based Social Interaction
  Sidebar、 Multi-Screen Interaction、 Voice Control、 Information Search
  Friend Community、 Gesture Recognition

# C-EASY

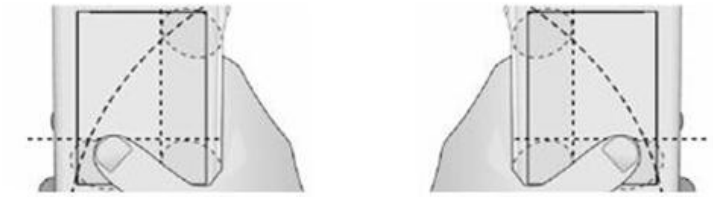
INTERACTIVE TV APPLICATION

## WIREFRAME



INFORMATION ARCHITECTURE


## FINGER GESTURES



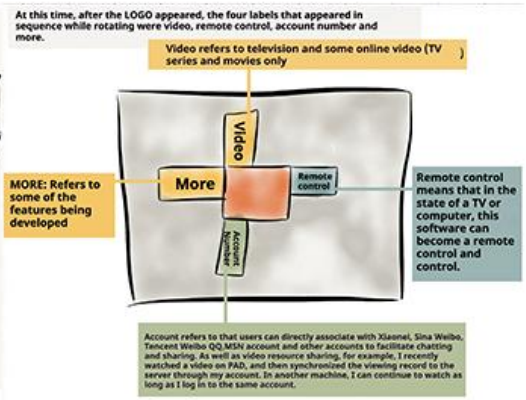
【大屏幕触摸屏】单手（左右手）操作的覆盖区域范围

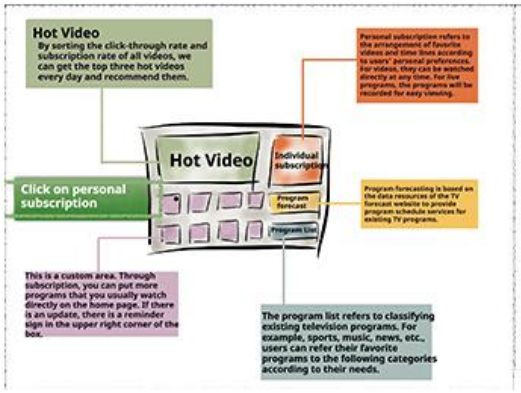
## CAMERA-BASED GESTURES

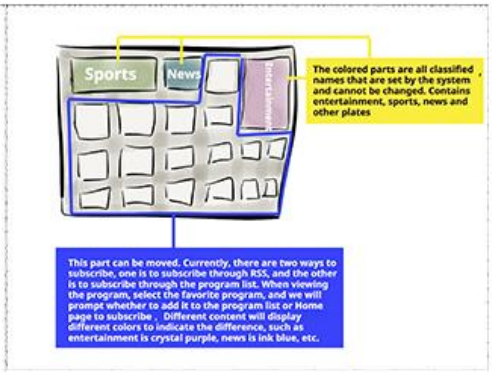
C-EASY

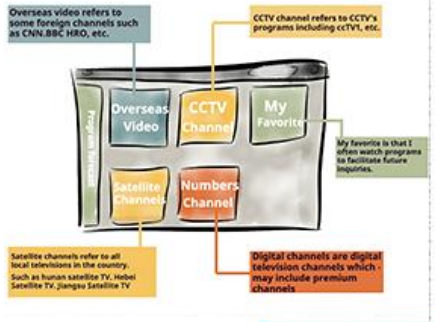
INTERACTIVE TV APPLICATION

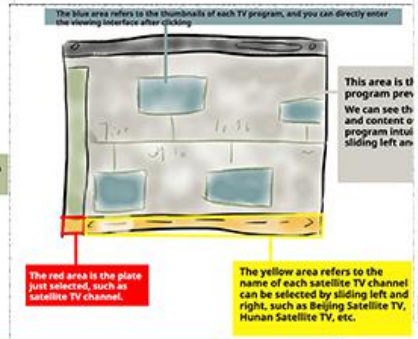
# SKETCH PROTOTYPE

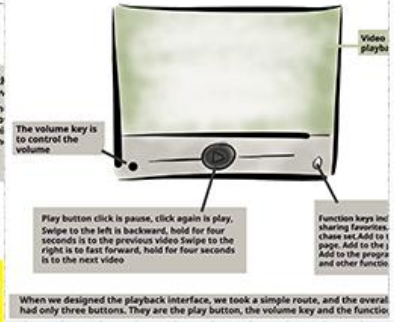



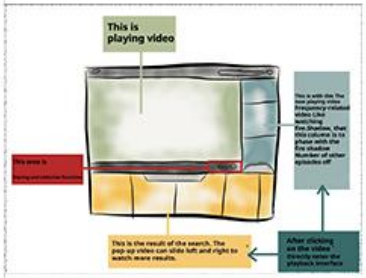



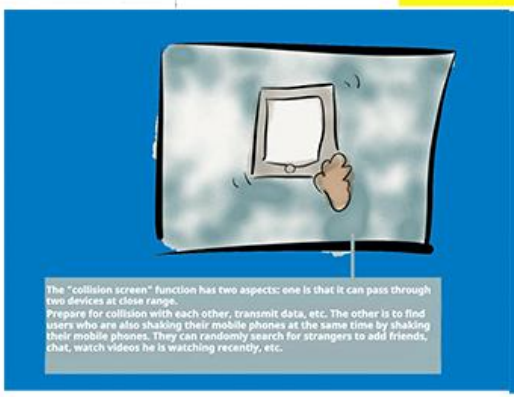



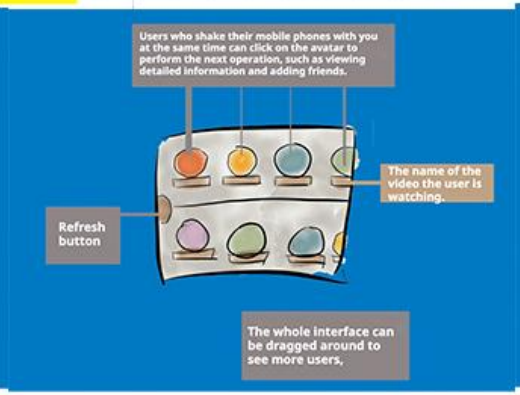



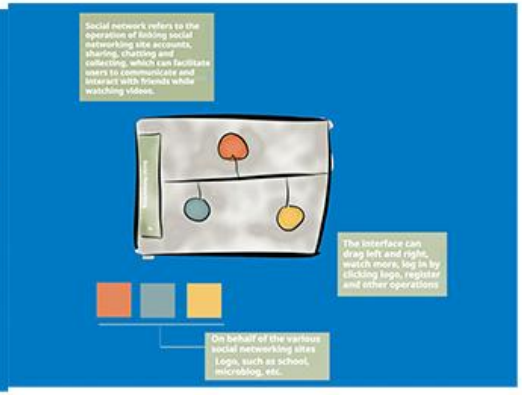







C-EASY

INTERACTIVE TV APPLICATION

# PROTOTYPE


System Startup Screen


Homepage Cover


Program List


Program Schedule


Program Schedule


Search Interface

Search Results Interface

Right Side - Video Playback Control Buttons


Personal Customization


Account Login


Social Media Login


Shut Down

# T-EASY

SELF-SERVICE TRAVELMOBILE NAVIGATION APP


## PROJECT SUMMARY

"T-EASY" is a practical mobile application specially tailored for self-guided and self-driving travelers. The app is compatible with Android and iOS systems, featuring a fresh interface and simple operations.With just your phone, you can gain comprehensive and in-depth insights into the area you're in, including dining, entertainment, leisure accommodations, transportation, local specialties, industry information, and cultural attractions. Additionally, the app provides essential features like maps and guided navigation to enhance your travel experience.

---

## ROLE

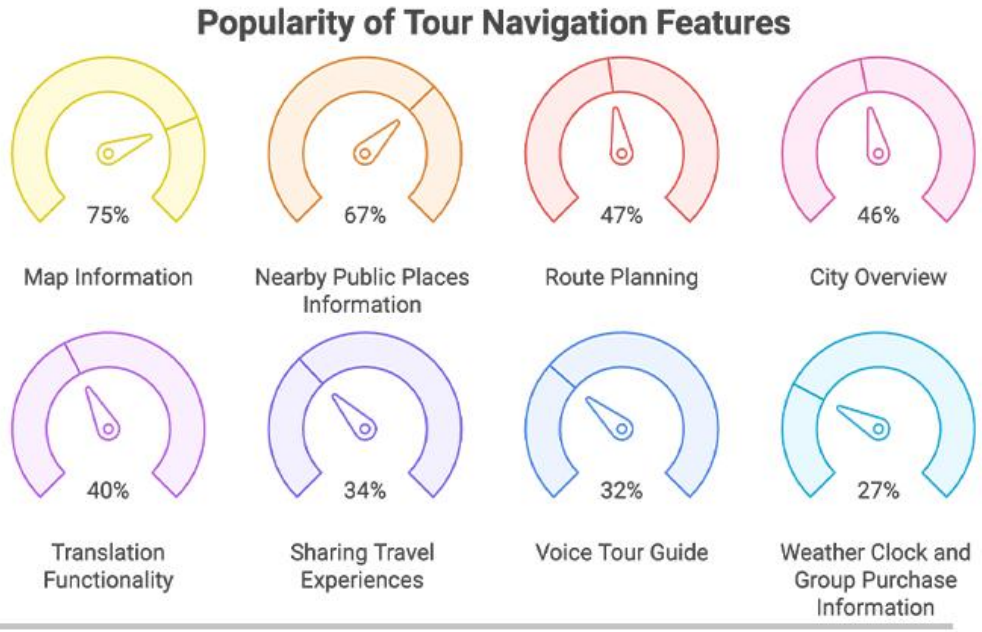
- Research and Analysis
- UX Design

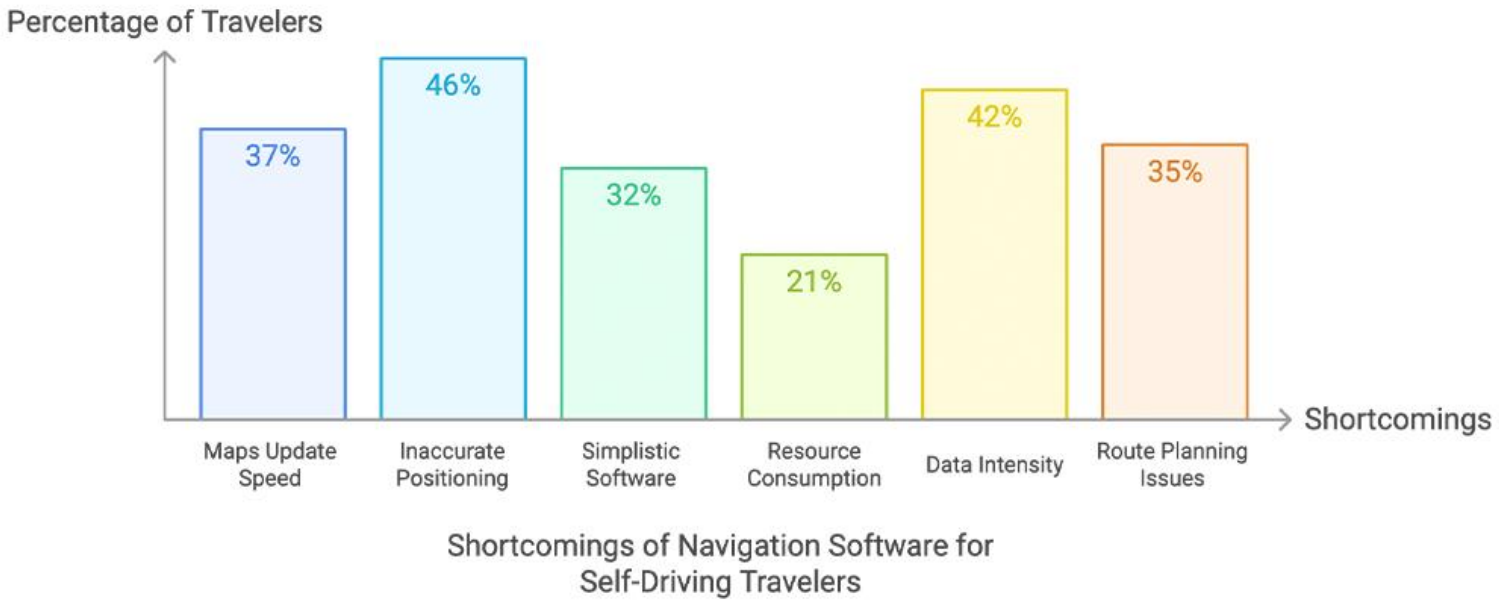
T-EASY

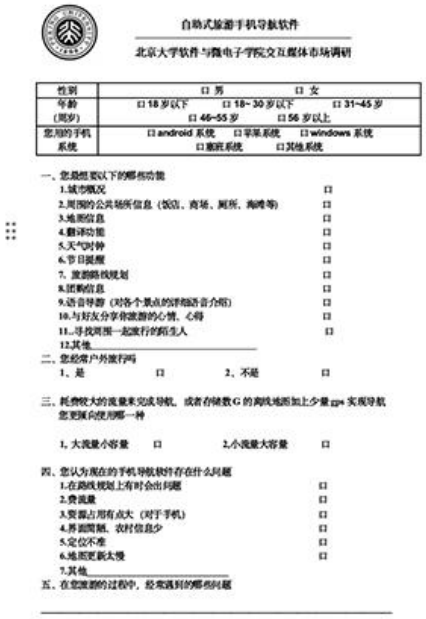
SELF-SERVICE TRAVELMOBILE NAVIGATION APP

# RESEARCH AND ANALYSIS

By analyzing the results of a hundred samples collected from different tourist attractions, we summarized the general opinionsof most travelers about travel applications, including the shortcomings of current travel software.



自助式旅游手机导航软件

北京大学软件与微电子学院交互媒体市场调研

| | |
|---|---|
| 性别 | □ 男 □ 女 |
| 年龄（周岁） | □ 18 岁以下 □ 18~30 岁以下 □ 31~45 岁 □ 46~55 岁 □ 56 岁以上 |
| 您用的手机系统 | □ android 系统 □ 苹果系统 □ windows 系统 □ 塞班系统 □ 其他系统 |

一、您最想要以下的哪些功能

1.城市概况 □
2.周围的公共场所信息（饭店、商场、厕所、海滩等） □
3.地图信息 □
4.翻译功能 □
5.天气时钟 □
6.节日提醒 □
7.旅游路线规划 □
8.团购信息 □
9.语音导游（对各个景点的详细语音介绍） □
10.与好友分享你旅游的心情、心得 □
11.寻找同图一起旅行的陌生人 □
12.其他_____

二、您经常户外旅行吗

1、是 □ 2、不是 □

三、耗费较大的流量来完成导航，或者存储数 G 的离线地图加上少量 gps 实现导航您更倾向使用哪一种

1、大流量小容量 □ 2.小流量大容量 □

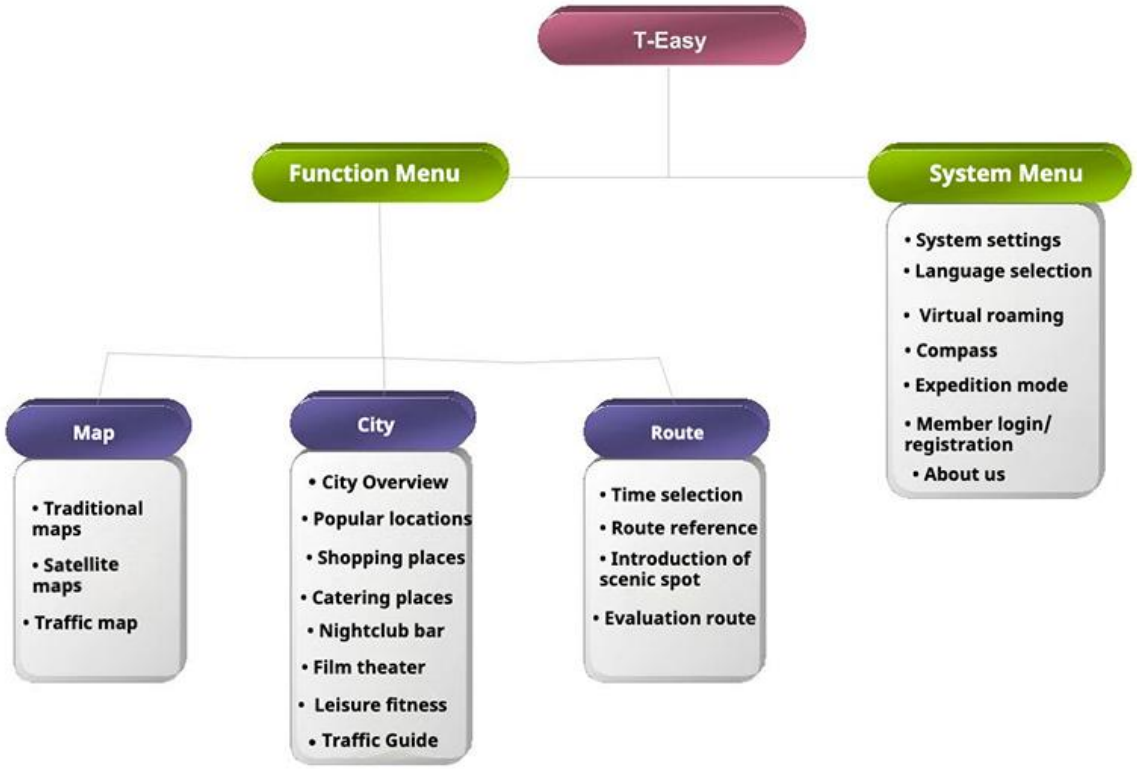
四、您认为现在的手机导航软件存在什么问题

1.在路线规划上有时会出问题 □
2.费流量 □
3.资源占用有点大（对于手机） □
4.界面简陋、农村信息少 □
5.定位不准 □
6.地图更新太慢 □
7.其他_____

五、在您旅游的过程中，经常遇到的哪些问题

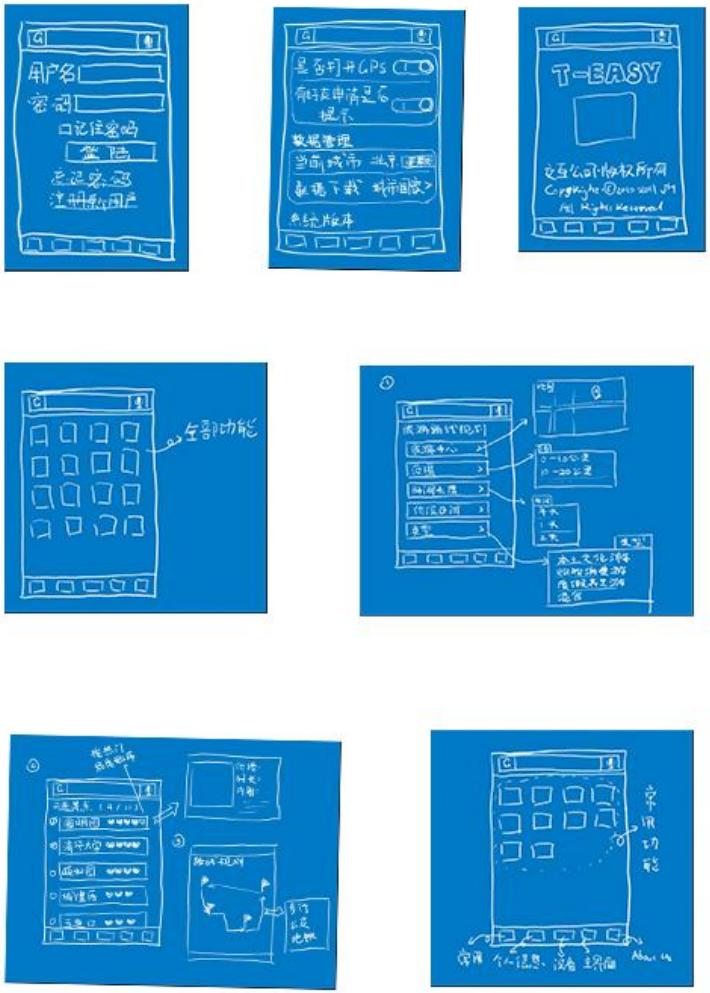
# T-EASY

SELF-SERVICE TRAVELMOBILE NAVIGATION APP




## INFORMATION ARCHITECTURE

## WIREFRAME



T-EASY

SELF-SERVICE TRAVELMOBILE NAVIGATION APP

# STORYBOARD









# T-EASY

SELF-SERVICE TRAVELMOBILE NAVIGATION APP

## PROTOTYPE

Initial interface


Map interface


Map interface


Urban interface


Search interface


A place to shop


Dining place


Dining place


Route interface


Route interface


Compass function interface

# THANK YOU