Case1: Forbidden City Ceramics Museum (故宫陶瓷馆)
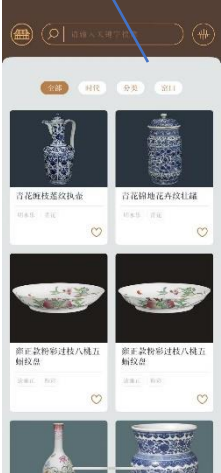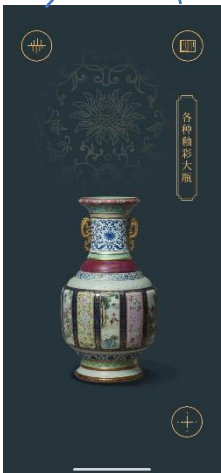
Led by	Hao-Hsiang Yu(1927488) (C15)
Participants	Yueran Cao (C11), Yetong Wang (C12), Lincheng Shi (C13), Qinchuan Zhu (C14)

1. Overview:

Features	Description
Device	Mobile
System	iOS and Android
Target User	People interested and researches in this area
Function	Show style and history about ceramics
Aim and Content	Learn knowledge about ceramic
Usability	1. Legibility: clear design of main user interface 2. Learnability and usability: many categorization features such as era and style 3. Comprehensive: organizing ceramics unearthed from various cultures
Main Issues	Ambiguous operation buttons and complex classification

2. Heuristic evaluations

1) different bottoms without description, need to memorize

2) Complicated classification

3. Observations and interviews

3.1 Observations

Finding:
1) can be familiar with the operation in a short time.
2) function is not complete enough

3.2 Interviews

Brief Content	Participants who mentioned
Main user interface is clear and direct.	P1, P2
Typography of operating bottom is confusing.	P1
Unsigned bottom is hard to memorize.	P2
Classification mode is useful to look for samples.	P1, P2

Design Principle

Principle	Unfriendly design	Expert
consistency	The position of the buttons in each screen is not the same, which makes users need to spend time judging the position of the buttons they need to use.	C11,C12,C15
memory load	User needs to use the buttons multiple times to remember the function of each button since the buttons on the interface have no text labels at all	C11,C13,C15
usability	The various classification functions of the application are too complicated, and it is difficult for users to find the required information in a short period of time.	C12,C14

Case 2 – Wood joints （榫卯）

Led by	Qinchuan Zhu(A) ID: 1930549
Participants	Yueran Cao(B), Yetong Wang(C), Lincheng Shi(D), Hao-Hsiang Yu(E)

1.Overview

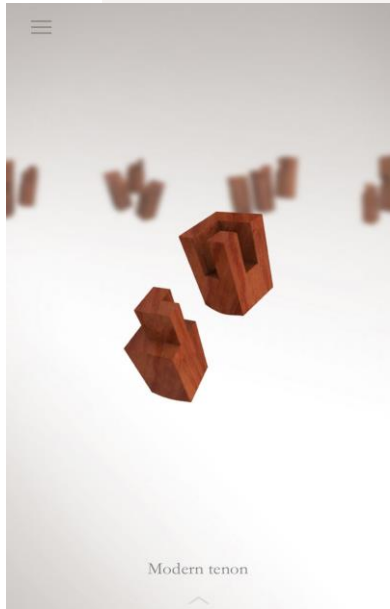| 1.1 Cases 1.2 The relevance with the topic	Wood Joints Wood joints structure is the essence of traditional Chinese architectural culture.
1.3 Environment	Mobile devices with iOS or Android system.
1.4 Usability 1.5 User experience goals 1.6 Two issues	Effective, and Learnability. In an intuitive way for those who love nature and design to learn about the construction and history of mortise and tenon. The lack of interactivity and The inconvenience of certain operations.

2. Heuristic evaluations.

Goal: Evaluate the Wood joints application.

Tasks: Divide the group and then evaluate the app according to different principles.

Findings: The design of this app satisfies most of the principals. However, the following table shows violated principles.
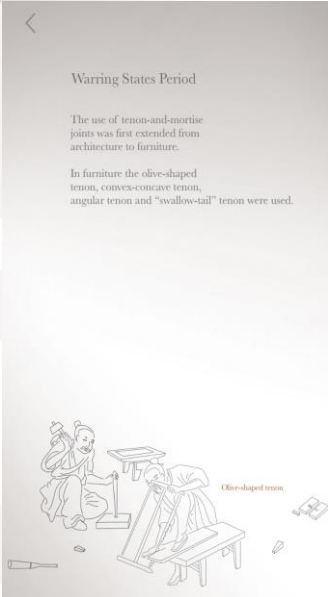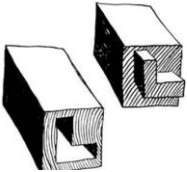
Principle	Explanation	Experts	Problem	Improvement
Feedback	Users receive prompts from the product after performing actions	A, B, C	The app does not respond after users performs a quick pull-up of structure interface.	Optimize the operation of the upper slide in the technology.
Affordance	The connection between how things look and the way they are used. (Benita & Haki).	D, E	Users cannot observe its 3d display by clicking on any wood when different woods appear in one interface.	Have only one object appearing in an interface.

3. Observations and interviews.

3.1 Observations.

Total: 39 users.

32: Viewing 3D models .

7: Read introduction of the wood.

4: Want to change the background music.

3.2 Interviews

Total: 2 people.

One user: The interactive experience was poor.
He would like to be able to participate in the process of making the building.

Another person: She hopes that the app could provide audio explanations of the tenon.

4. Summary.

Case 3: Rhyme (搜韵)

| Led by | Yueran Cao (E1)   Student ID: 1930115 |
| Participants | Yetong Wang (E2), Lincheng Shi (E3), Hao-Hsiang Yu (E4), Qinchuan Zhu (E5) |

- Heuristic evaluations
- Aims: unfriendly designs of App
- Principles: based on Nielsen's 10 usability heuristics

Principles	Unfriendly design	Expert
Visibility of system status	Whether the system settings are successful or not will not give feedback.	E1 E2
Match between system and the real world	Operation is different from the logic in reality when writing poetries.	E1
Consistency and standards	Higher learning cost, unfriendly to non-professional users.	E3
Recognition rather than recall	No search recommendations when searching	E4
Flexibility and efficiency of use	Operations are rigid and inflexible.	E1
Help users recognize, diagnose, and recover from errors	No error information when an error occurs	E1 E3
Help and documentation	No help and documentation.	E5

Table 3.1. Unfriendly design of Rhyme

- Target group:
- Global poetry lovers
- professional researchers
- Potential target group (unfriendly):
- people of all ages who want to learn about Chinese poetry
- Interviewers and their feels:
- The elderly: prefer books rather than App (unfriendly)
- The poetry lover: helpful and satisfied
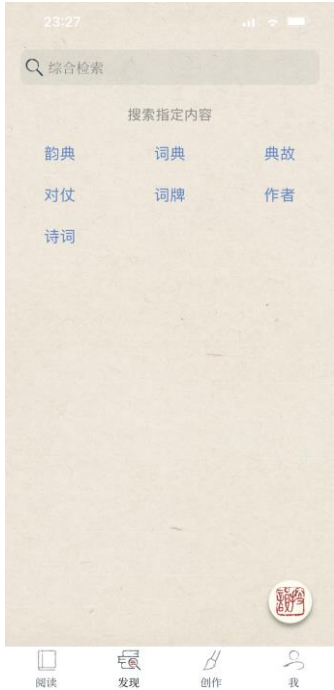- The amateur: boring (unfriendly)

Figure 3.1. Basic information of Rhyme

Figure 3.2   Figure 3.3

- Typical unfriendly design cases:
- Classification provided by search: too professional (see Figure 3.2)
- System settings: no error information when an error occurs (see Figure 3.3)

- Possible solutions:
- Simplify the classification difficulty in the search function
- Add more interesting content
- optimize the settings part of the system to reduce errors and provide more help

Case 4:XiChuangZhu (西窗烛)

Led by	Yetong Wang(C40) ID:1930253
Participants	Yueran Cao(C41), Lincheng Shi(C42), Hao-Hsiang Yu(C43), Qinchuan Zhu(C44)

1.App Overview:

Features	Description
Device	Mobile
System	iOS and Android
Target User	Students, teachers and people interested in this area
Function	Ideas sharing, quiz ranking and learning courses and etc.
Context of Use	Home, Classroom and conditions related to use mobile device.
Aim and Content	Share and Learn Chinese ancient poetry
Usability	Effective and Efficient: clear guide of design and the support of the system Learnability and Memorability: user interface and button are direct and clean for people to understand and use.
User Experience	Achieve most of the desire aspects like: fun, helpful and etc.
Main Issues	Some items related quiz has problems which influenced learning effect.

2. Heuristic evaluations:

- Based on Jakob Nielsen's 10 general design principles.

- Focus on interactive and learning function.

- Assign into two sub-groups .

Principles	Explanation	Expert	Improvement
User control and freedom	Quiz start, users can not leave or close	C40, C41, C42	Set some button for operation.
Error prevention	If product closed accidentally, user cannot restart quiz again and system only provide partial result.	C40, C41, C42	Improve related design and set error protection
Aesthetic and minimalist design	Advertisement appears when learn detail information.	C42, C43	Delete or limit appearance.

3. Observations and Interview

3.1 Observations

- Data:
  24 aim users of 69 people (acquired by questionnaire)Then select two for next part.

- Findings:
  Do not use voice and music function in create page

  Useless and not so appropriate to participate quiz function

  Accept advertisements.

3.2 Interview(Brief content table)

| Brief Content	Participants who mentioned
Overall interface is clean and direct	P1, P2
Not use of voice and music function- other learn function are enough	P1, P2
Use function leaning books-used	P1
Use function learning books -not used- because daily recommend is enough	P2
Use function Flying flower order and poetry Solitaire- think it is good and help practice	P1
Use function Flying flower order and poetry Solitaire- think it is not good enough and need to set more functions for interactive	P2
Use quiz function- think attractive of picture but not offer detail information	P1
Use quiz function- not enough quiz, cannot leave once stated, only can answer once.	P2
Advertisement- can accept it and think it can support the money issue of developers	P1, P2
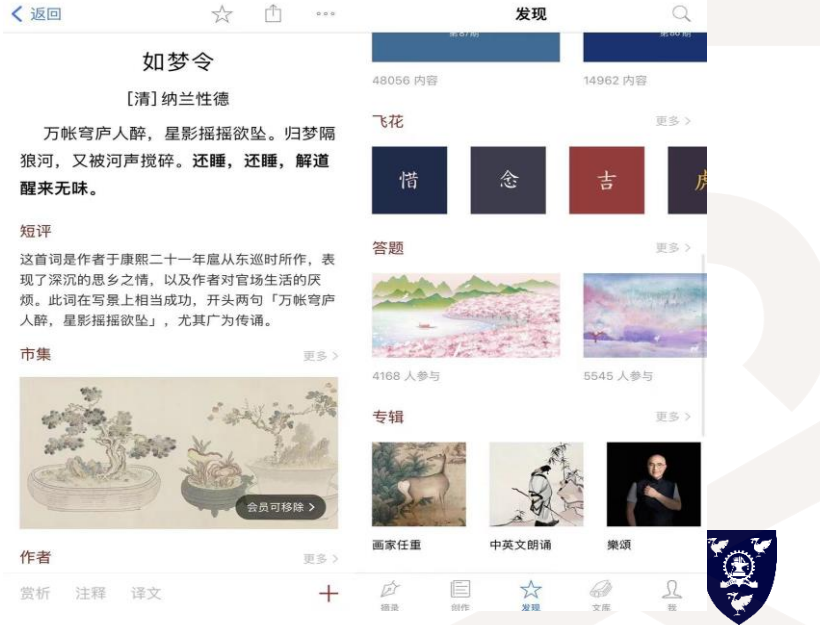
Fig1. App content and Interface

Case 5: Allhistory (全历史)

Led by	Lincheng Shi(C5) ID：1927978
Participants	Hao-Hsiang Yu(C1), Qinchuan Zhu(C2), Yueran Cao(C3), Yetong Wang(C4)

4.6 ★★★★½   #52   12+
6187个评分   教育   年龄

1. Overview

Context: When people go out, like on the bus.

2. Heuristic evaluations

- Norman's design principles(Edpresso Team, n.d.)[5]
- Assign into three groups, use some functions in the front page and then evaluate.

Expert	Principles violated	Description	Solution
C1, C2	Affordance	This button is often mistaken for just an icon showing the progress of audio. (Figure 5.1)	Automatically switch articles while switching audio.
C3, C4	Consistency	Some lists have six topics while others have only three topics with pictures. (Figure 5.2)	Unify the list format.
C5	Constraints	Everything can be entered in the end entry after entering the start entry. (Figure 5.3, 5.4)	After entering either entry, the other entry automatically displays the optional entry.

3. Observations and interviews

- invited three additional ordinary users to experience the product.

User ID	Observation	Interview	Answer	Analysis
P1	Play 3D museum for a long time.	Why do you like using 3D museum?	These novel functions are interesting, but why the content of 3D museum is about foreigners, which goes against the product theme.	Novel functions can meet the requirements of P1.
P2	Use some functions at the top of the home page.	Why don't you use functions like Allmusic?	There are too many functions on the home page. I ignored those in the back.	P2 wants to put important functions on the home page
P3	Tried most functions of the product.	What do you think this product needs to be improved?	I feel there is still a lot to be improved. For example, after the page is drawn to the bottom, it lacks a back to top operation, which is very tired.	P3 wants the software to be practical.

Figure 5.1

Figure 5.2

Figure 5.3

Figure 5.4

4. Summary

Usability goals: effectiveness and learnability

User experience goals: fun and surprising (Desirable), frustrating (Undesirable)

Main issues: content deviation from the theme, insufficient content accuracy, different interface styles and the lack of practical functions.

References

[5] Edpresso Team (n.d.). What are Norman's design principles? From https://creativecommons.org/licenses/by-sa/4.0/