Behavioral Guidance on Intra-Generational Cultural Communication: Taking Tea Time Application Design as a Case

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Abstract

This study investigates the integration of user experience (UX) and user interface (UI) design principles into a digital platform to enhance emotional engagement with traditional Chinese tea culture. Centered on three objectives: (1) examines how visual/interactive design fosters cultural connectivity among Generation Z; (2) develops functionalities blending productivity tools with immersive tea culture modules (e.g., virtual ceremonies, tea-color appreciation); and (3) evaluates behavioral outcomes through user testing to assess improvements in time management, focus, and cultural literacy. Adopting a user-centered approach, the study iteratively refines UX/UI frameworks to balance utility and cultural authenticity. Preliminary results show that intuitive design and gamified cultural experiences significantly boost engagement, particularly among younger users. The findings demonstrate that strategically designed platforms can bridge generational gaps in cultural heritage preservation while addressing modern productivity demands. By prioritizing UX/UI-driven cultural immersion, this work advances a paradigm for culturally enriched utility design, merging technological innovation with traditional revitalization.

Introduction

Chinese tea culture, as a treasure of traditional Chinese culture, not only carries a rich historical heritage but also embodies profound philosophical thoughts (Liu & Song, 2024). It represents a unique lifestyle and cultural symbol. In the rapidly advancing technological era and fast-paced modern society, mental relaxation has become a topic of growing interest among Generation Z (Lai et al., 2022).

In ancient times, "the time of a cup of tea" was a time measurement, typically referring to about 15 minutes. Based on this concept, the author designed a time management application called "Tea Time." (Zhao, 2021).

This study aims to explore the design concepts of the "Tea Time" application in depth from multiple dimensions. Through the implementation process of interface design, user experience design, and user social interaction, it seeks to spread tea culture. At the same time, it helps users manage their time, enhance their focus, and achieve mental and physical relaxation, providing new thoughts and insights for modern lifestyles. By facilitating intra-generational communication, this approach enables Generation Z to gain a deeper understanding of the spiritual essence of traditional Chinese culture embodied in tea culture, thereby enhancing cultural identity and national confidence.

Research Objectives

1. Investigate the role of user experience (UX) design and User interface design (UI) design in the "Tea Time" application: Explore how visual elements and interactive design can enhance users' emotional experience and cultural resonance.

2. Design core functions: time management, schedule planning, focus training, meditation, and tea culture features like tea color appreciation and event sharing.

3. Evaluate "Tea Time" 's impact on user behavior: Improve time management, focus, and understanding of tea culture through user testing and surveys.

Literature Review

This study employs a mixed research methodology combining quantitative and qualitative approaches to explore the connection between Chinese tea culture and modern life and to disseminate tea culture among Generation Z through an application.

1. The Content of Chinese Tea Culture and its Current Communication among Generation Z.

The Essence of Tea Culture:

The connotation of tea culture Chinese tea culture has a long history, covering many aspects such as tea planting, production, tasting, etiquette, and philosophy (Dong, 2012). Tea is not only a drink, but also a lifestyle and cultural symbol, representing the Chinese people's view of nature, health and interpersonal communication (Ding, 2006; Chen & Guo, 2021). The core concepts of tea culture include harmony, etiquette, tranquility, and beauty. These concepts permeate the entire life cycle of tea, from planting to tasting, all of which reflect the love of nature and life (Liu, 2015).

2. The current status of tea culture among Generation Z:

Generation Z is the generation born between 1995 and 2010, and grew up in a globalized and digitalized environment (Gentina, 2020). Their acceptance and attitude towards traditional culture are different from those of previous generations (Euajarusphan, 2021).

Digital communication: Generation Z prefers to obtain information through social media and mobile applications (Ajmain, 2020). Therefore, in the process of cultural communication, mobile application platforms can be used.

Health and wellness: Generation Z pays more attention to health and wellness (Sun, 2022). This is consistent with the concept of nature, health, and harmony advocated by tea culture. Therefore, tea culture has a strong appeal to this generation.

Tea culture teaching: Taking China's online MOOC (Massive Open Online Course) platforms as an example, during the COVID-19 pandemic (such as the first semester of 2020), online tea culture courses like "Chinese Tea Ceremony," "Chinese Tea Culture," and "Chinese Tea Culture and Tea Health" saw a temporary surge in enrollment due to students studying from home. However, this did not translate into sustained interest and motivation for inheritance. On the contrary, as the impact of the pandemic waned and online teaching gradually returned to normal, the number of students enrolling in tea culture-related courses began to decline (as shown in Figure 1, data source: https://www.icourse163.org).
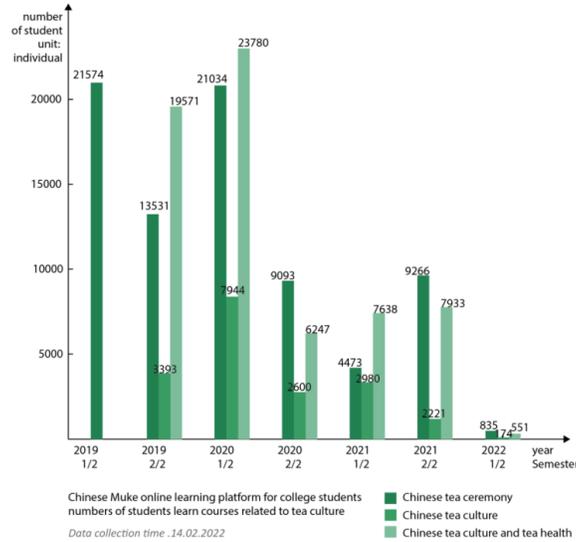
Figure 1 Number of college students choosing courses related to Chinese tea culture

(Source: icourse163, Made by researcher, 2022)

From the above research, we can conclude that tea culture includes both spiritual and material aspects. Therefore, in the process of tea culture dissemination, researchers should pay attention to the dissemination of these two aspects, as shown in Figure 2.
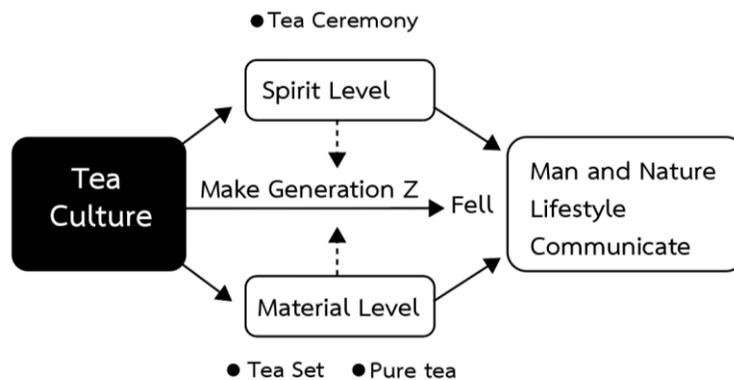
Figure 2 Chinese Tea Culture Content Communication to Generation Z

(Source: Made by researcher, 2023)

The dissemination of tea culture among Generation Z is currently mostly external, such as learning in the classroom and on the Internet. Although Generation Z has a certain interest in tea culture, the traditional way of learning makes it difficult to inspire Generation Z to actively learn and spread it, and there is a lack of mutual influence among peers and intra-generational learning.(Wang,2023)

3. Intra-generational communication

Mannheim proposed the concept of "generational unit", pointing out that people of the same generation have formed a unique generational consciousness due to the social and historical events they have experienced together. This consciousness affects the way people of the same generation communicate and interact with each other, causing them to have common reactions and behavior patterns in cultural and social changes (Mannheim, 2005).

4. The impact of incentive mechanisms on user behavior

Reward mechanisms can significantly enhance user motivation. By providing extrinsic rewards, such as money, points, discounts, or honors, users can be motivated to complete specific tasks or behaviors. For example, on an e-commerce platform, users may increase their purchase frequency because of reward points (Deci,1999). Reward mechanisms can help cultivate user habits. Continuous rewards can enable users to maintain a certain behavior over a while and eventually internalize it into a habit (Fogg, 2009).

5. User Experience Design

User Experience Design is a user-centered design method that aims to improve user satisfaction and loyalty by deeply studying user needs and behaviors and optimizing the interaction process of products or services. The five elements of user experience are Strategy, Scope, Structure, Skeleton, and Surface. As shown in figure 3.
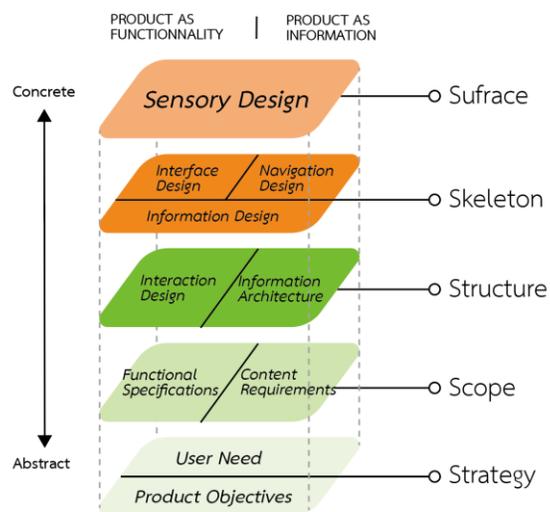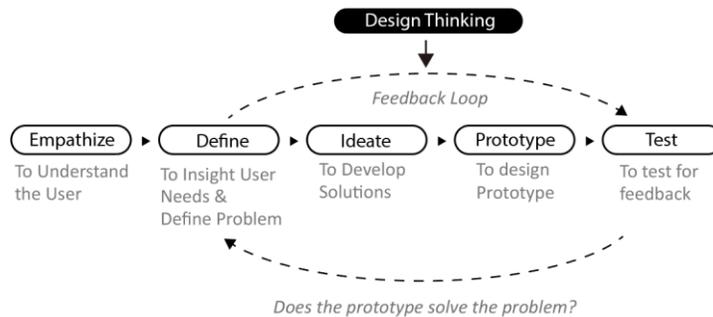

Figure 3 User experience 5 elements (Source: Made by researcher, 2023)

6. Design Thinking Theory

Design thinking is a user-centered innovation method that solves problems through five steps: empathy, definition, conception, prototype, and testing (Liedtka, 2018). As shown in figure 4.

Figure 4 Design Thinking (Source: Made by researchers, 2023)

Conceptual Framework

By integrating the design thinking model with the five elements of user experience, the author aims to design the "Tea Time" app. To achieve the research objectives, the study is divided into three phases. As shown in figure 5.

The first phase is quantitative research, aimed at understanding the essence of tea culture and the challenges it faces in being transmitted among Generation Z (corresponding to empathy and defining stages in design thinking).

The second phase is the design practice phase (corresponding to the ideate and prototype stages in design thinking). In this phase, materials and results collected from the first phase are utilized to design and develop the prototype of the "Tea Time" application.

The third phase is the testing phase. In this phase, user experience tests are conducted using the design outcomes from the second phase. Through user testing and surveys, the study analyzes the effectiveness of the "Tea Time" app in promoting tea culture among Generation Z.

Through these three research phases, the study aims to enhance Generation Z's understanding and recognition of tea culture, providing a new approach to the communication and inheritance of traditional culture among this generation.
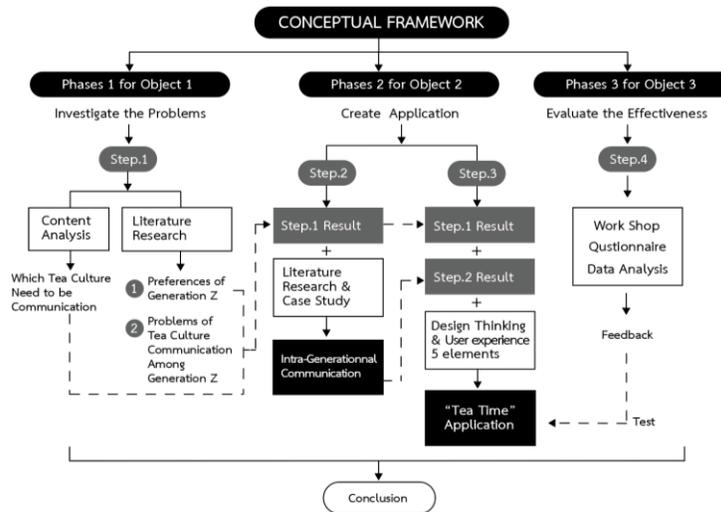
Figure 5 Conceptual Framework (Source: Made by researchers, 2023)

Research Methodology

1. Content Analysis:

Before studying which tea culture needs to be communicated, first define what Chinese tea culture includes. This study uses content analysis to interpret Chinese tea culture from the perspectives of ancient tea books, ancient tea paintings, and Tang poetry.

Ancient tea books: Ancient tea books record the origin, production, tea drinking methods, and the relationship between tea and people, which help modern people understand the background of tea culture and the essence of traditional tea ceremonies.

To confirm the sample size, as shown in Table 1. This study follows three principles:

(1) Tea law, tea politics, tea production, and tea horses are not included in this study.

(2) Excerpts from tea books of previous generations are not within the scope of this study.

(3) Combining tea book collection authors and recommended bibliographic factors in tea culture–related papers.

Table 1 Tea ancient book sample size (Made by researcher)

Tea ancient book sample size			
Tea book name	Author	Dynasty	NO.
Tea Classic	Lu Yu	Tang Dynasty	OB.1
Sencha Shuilu	Zhang Youxin	Tang Dynasty	OB.2

Tea ancient book sample size			
Tea Picking Notes	authorn Tingyun	Tang Dynasty	OB.3
Daguan tea theory	Zhao Ji	Song Dynasty	OB.4
tea record	Tao Guo	Song Dynasty	OB.5
tea record	Cai Xiang	Song Dynasty	OB.6
Tea roll	Yu Zheng	Ming Dynasty	OB.7
tea talk	Huang Longde	Ming Dynasty	OB.8
History of tea	Liu Yuanchang	Qing Dynasty	OB.9
Continuation of the Tea Classic	Lu Tingcan	Qing Dynasty	OB.10

According to the analysis of the content of tea culture in ancient tea books, as shown in Table 2, it mainly covers 7 aspects, including the origin of tea, Production of tea, Categories of tea, Drinking and Tasting, Function of tea, Tea Language, and Tea lifestyle.

Table 2 Coding Analysis of Chinese Tea Books of Past Dynasties (Made by researcher)

Coding Analysis of Chinese Tea Books of Past Dynasties		OB.1	OB.2	OB.3	OB.4	OB.5	OB.6	OB.7	OB.8	OB.9	OB.10	%
Origin		1								1	1	30%
Production	planting	1								1	1	30%
	picking	1				1		1	1	1	1	60%
	processing	1				1		1	1	1	1	60%
	producing	1			1	1	1	1	1	1	1	80%
Categories	Pure tea	1		1	1	1	1	1	1	1	1	90%
	processed tea							1	1	1	1	40%
Drinking & Tasting	choose water	1	1	1	1	1	1	1	1	1	1	100%
	making tea	1	1	1	1	1	1	1	1	1	1	100%
	tea set	1			1	1	1	1	1	1	1	80%
	tea art	1			1	1	1	1	1	1	1	80%

Coding Analysis of Chinese Tea Books of Past Dynasties												
	tea space	1		1	1		1	1	1	1	1	80%
Function	quench thirst	1		1				1	1	1		50%
	promote digestion	1					1	1	1	1		50%
	delay aging (Modern literature covers its content, of interest to young people)											0%
	caim mind	1		1	1	1		1	1	1	1	80%
	relac	1		1	1	1		1	1	1	1	30%
Tea Language	tea ceremony	1		1	1	1	1	1	1	1	1	90%
	tea etiquette	1			1	1	1	1	1	1	1	80%
	tea poems	1			1	1				1	1	50%
Lifestyle		1		1		1		1	1	1	1	70%

Tang poems: As outstanding representatives of ancient Chinese literature, Tang poetry and Song lyrics have far-reaching significance for modern people. It is an important way for modern people to understand Chinese traditional culture, values and philosophy of life. Tea poems often contain profound life philosophy. They express the pursuit of tranquility, indifference and nature through the process of tea tasting, and provide modern people with a positive attitude towards life. Through the poet's language art, tea poems artistically express the process of tea tasting, the characteristics of tea, and artistic concepts related to tea, thereby enhancing the aesthetic value of tea culture. Tea poems contain rich cultural symbols, depicting the style of tea culture in ancient society, which helps modern people better understand and inherit traditional tea culture. The visual elements analyzed from Tang poetry are shown in Table 3-4.

Table 3 Tang poetry containing tea related content mentions colors (Made by researcher)

Color	Number of mentions	%
Green (绿,翠,青,碧)	156	26.80%
Red (红,朱,丹)	72	12.37%
pink	11	1.89%
White, Silver	92	15.81%
Purple	40	6.87%
Black	13	2.23%
Yellow, Gold	61	10.48%
Total Numbers	445	

Table 4 Tea ceremony related elements (Made by researcher)

Tea-related elements	Number of mentions	%
Stove (炉,红泥,灶)	40	6.87%
Tea sets (壶,鼎,杯,瓯,臼)	100	16.83%
Brewing tea water source	68	11.68%
Grinding, pounding, grinding	27	4.64%
Cook, fry, and brew tea	114	19.59%
Fan	15	2.58%
Tea state, tea flavor, tea color, tea soup state	57	9.79%
Total Numbers	421	

At the same time, the visual elements of tea product design can be summarized from the above three parts, such as colors, scenery, and teaware shapes that express artistic conception.

2. Case Study: The Intra-Generational Communication of Hanfu Culture in Chinese Generation

The concept of Hanfu first emerged in 2001, coinciding with the rise of China's second internet wave and the advent of online forums and social media. Discussions on these forums about "what constitutes traditional Chinese clothing" led to the clear definition of Hanfu as traditional attire of the Han ethnic group, rather than clothing specific to the Han Dynasty. Hanfu is considered to have evolved

from the time of the Yellow Emperor to the late Ming and early Qing dynasties in regions predominantly inhabited by Han people, and it is distinctly different from the clothing styles of other ethnic groups. Typical features of Hanfu include cross-collared garments, wide sleeves, and hidden fastenings with ties. Early Hanfu enthusiasts designed, made, and wore their own Hanfu based on ancient texts, forming a community through online postings and offline gatherings. This series of cultural promotion activities, aimed at the "revival of Hanfu", is known as the "Hanfu Movement" (Yang et al. 2022).

The author summarizes the following success rules:

Multi-channel linkage: Hanfu successfully utilizes multiple communication channels such as social media and short video platforms to make its cultural content widely disseminated and accepted by Generation Z.

Interactive experience activities: Hanfu has greatly enhanced the participation and interactivity of Generation Z and promoted cultural inheritance by holding interactive experience activities such as exhibitions and cultural festivals.

Cultural stories and sense of identity: By telling the historical stories behind Hanfu, the sense of identity and pride of Generation Z in Hanfu is enhanced, forming a positive cultural identity.

In addition, the audience of Hanfu spontaneously designs and wears Hanfu, and through online and offline display activities, Hanfu has been widely disseminated among Generation Z. These spontaneous behaviors not only show the beauty and cultural heritage of Hanfu but also inspire more young people's interest and love for Hanfu, thereby further promoting the inheritance and development of Hanfu culture. The author can apply the successful approach of this case to the communication of tea culture.

3. Work Shop

After defining the problem, brainstorm and think creatively to come up with multiple possible solutions.

Use workshops to invite user audiences to participate in the design process, collect their ideas and suggestions for brainstorming and collaborative creation, and interview experts. Propose divergent solution ideas from a diversified perspective and jointly explore the direction of solving user problems. Then, from the two dimensions of "importance to users" and "feasibility", the specific content of the product and the design ideas of the corresponding functions are derived.

Workshop Content:

The researcher shared the preliminary analysis with undergraduate students majoring in Visual Communication Design and held a workshop to create the following projects.

The researchers divided all participants into 6 groups, with 4 people in each group. The specific allocation is as follows:

Discuss the design of the time management application "Tea Time"

Develop time management applications: Design an app based on the lifestyle, relaxation, leisure, meditation, and other daily activities brought by tea culture to people, and design an app with time management as the main function to help users better manage time and understand tea culture, feel tea culture by themselves, and share tea culture with peers.

Group Discussion:

The group discussion after the workshop should include the following:

Project review: Review the creative process and results of each group and show their respective design prototypes. Share the challenges and solutions encountered during the creative process.

Feedback and improvement: Collect feedback from each group member and discuss which parts can be further optimized. Propose improvement suggestions for the specific details of each project.

User experience testing: Make a plan for user experience testing, invite potential users to participate in the test, and collect real user feedback. Based on user feedback, further adjust and improve the design prototype.

Feedback Data Analysis:

According to the analysis of participants' questionnaires, the application of "Tea Time" performs well in terms of functionality, practicality, logical clarity, guiding users to meditate and relax, and social content. Therefore, the project does have the potential for further design and optimization, as shown in Table 5.

Table 5 Questionnaire Data of Tea Time App Project Team (Made by the researcher)

NO.	Subject	Very Good	Good	Generally	Bad	Very Bad
1	What is your evaluation of the functionality and practicality of the "Tea Time" application?	22	2	0	0	0

NO.	Subject	Very Good	Good	Generally	Bad	Very Bad
2	What do you think of the logical clarity of tea time for a time management-focused functional app?	22	2	0	0	0
3	What do you think is the role of tea time setting in guiding users to meditate and relax?	21	2	1	0	0
4	What do you think of the current interactive format for setting tea time?	22	2	0	0	0
5	Do you think the setting of tea time is useful for current social content?	20	3	1	0	0

Experiment and Results

1. Prototype Design:

Design a product prototype based on the previous research results and the 5 elements of user experience. As shown in figure 6.
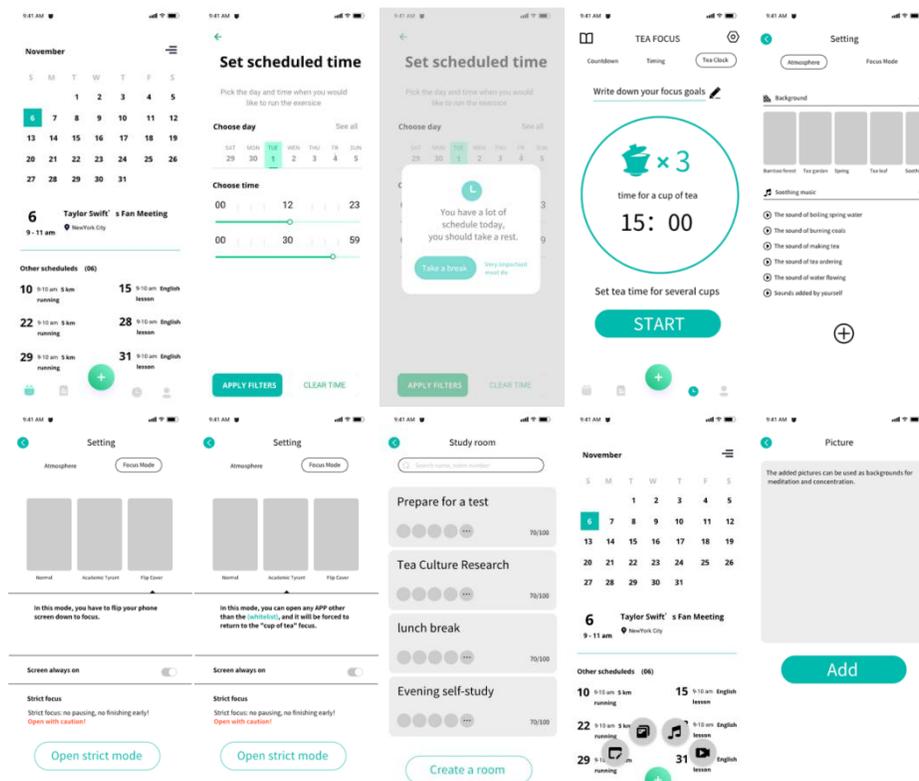
Figure 6 "Tea time" time management app (Source: Made by researcher, 2023)

2. Prototype Testing:

After the application function design was completed and a low–fidelity prototype was made, the author conducted a comprehensive test of the model. The purpose of the model test was to evaluate the feasibility of the application function, the user experience, and the actual effect of improving the user's lifestyle. Collect user feedback and suggestions to provide a basis for subsequent optimization.

3. Iterative Design:

Based on the user experience feedback from the prototype test, the author conducted design iterations. Combining the five elements of product experience as shown in Figure 3, the product was adjusted at the presentation layer, framework layer, structure layer, scope layer, and strategy layer to perform an iterative design of the Tea Time app. Figure 7 shows the main visual interface of the presentation layer.
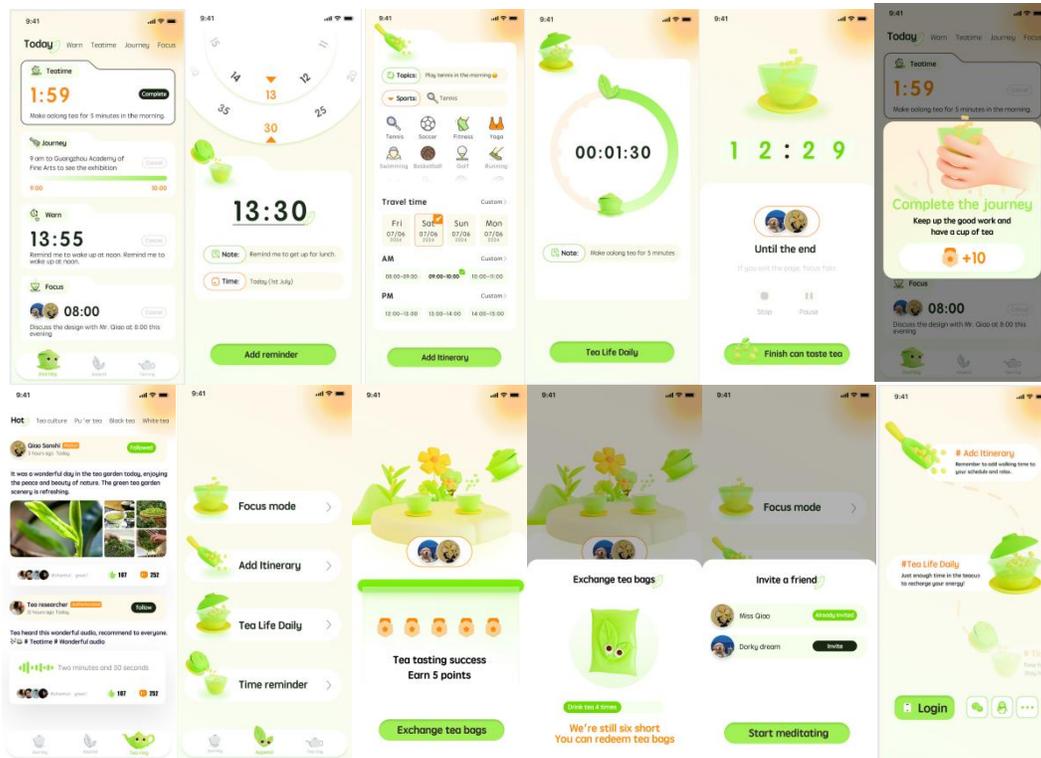

Figure 7 "Tea time" High–fidelity iterative interface design. (Source: Made by Lei Qiao, 2024)

4. Questionnaire Survey Results:

Sample Characteristics

A total of 90 valid questionnaires were collected, including college students (60%), young white-collar workers (30%), and other occupations (10%). Among the participants, 55% were female and 45% were male. The age distribution was mainly concentrated between 18 and 24 years old (70%). As shown in Figure 8. Participants were satisfied with the interface design and functions of the time management APP, believing that it can help integrate the concept of tea culture into daily life. It is recommended to add more personalized functions and tea culture-related content push, such as recommending tea art courses and activities based on user habits and interests.
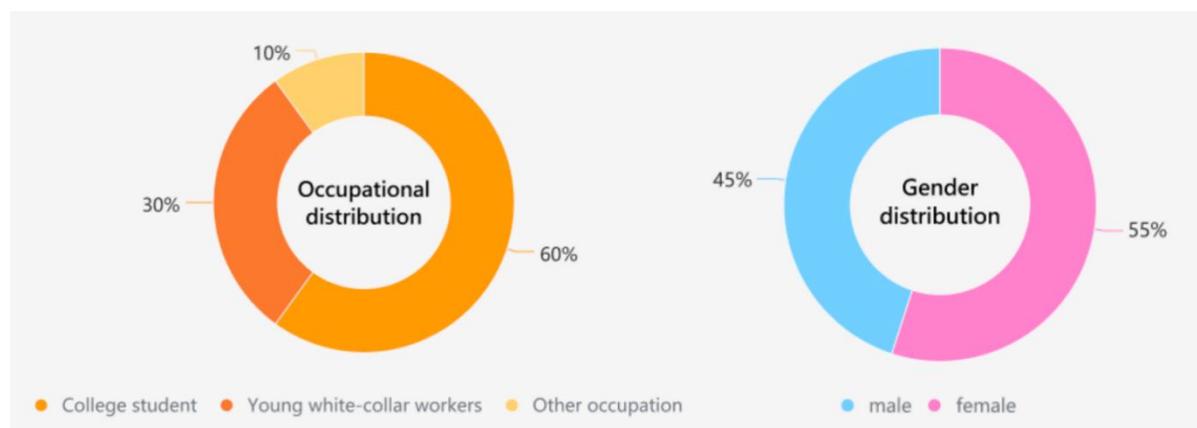
Figure 8 Occupational distribution, gender distribution (Source: Made by Lei Qiao, 2024)

Conclusion

This study explored the effects of these tools in improving Generation Z's cognition and interest in'tea culture by designing and evaluating the "Tea Time"application. The results show the application has a significant effect in improving users' cognition and interest in tea culture, verifying the application value of communication, design thinking, and user experience 5 elements theory in tea culture communication.

Although this study has certain limitations, a comprehensive analysis of user feedback and suggestions can provide valuable reference and guidance for future research and tool development. Future research can conduct in-depth exploration in sample expansion, tool innovation, long-term follow-up research, and user behavior analysis to promote the modernization of tea culture.

Suggestions

1. Suggestions for Stakeholders

For tea culture promotion organizations and brands: focus on innovation and interactivity, design more interesting and educational communication tools, and enhance users' sense of participation and identity.

For designers and developers: combine user needs and feedback, explore more innovative design and technical means, and continuously optimize and improve the user experience of communication tools.

For policymakers: support and encourage cultural innovation, provide more resources and platforms, and promote the modernization of traditional culture.

2. Limitations of the Study

Sample limitation: Although this study collected 90 valid questionnaires, the samples were mainly concentrated on college students and young white-collar workers, which may not fully represent the views and needs of all Generation Z groups.

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