



## Design of Miss Photo album APP based on Long Tail theory

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**Abstract:** As the pressure of social competition increases, more and more young people are choosing to work away from home, leaving them unable to live with their families, leading to a longing for each other. With the increasing demand for products for the elderly, more and more designers are turning to the design of niche design for the elderly. The characteristics of the long tail theory have great enlightening significance for the design of this product, and has great development space for the design of minority groups. Currently running photo album APP can not meet the needs of this group of elderly people in different aspects, so the analysis of existing competitive photo album APP, find the user pain point, design a group can ease the elderly missing their children music photo album APP. The conceptual model of the music photo album APP, i. e. the low-fidelity image and the high-fidelity image, is designed.

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**Keywords:** Long Tail Theory, elderly group photo album, Music Photo album, App Design

### 1.The status quo of photo albums of elderly groups under the "Long Tail Theory"

#### 1.1 long tail theory

The long tail theory has completely overthrown the traditional "two-eight law". In the past, people only focused on high-yield products and ignored the importance of low-income products. With the economic transition and the gradual reduction of the cost of goods processing, the huge amount of "Long Tail" goods can not be ignored. [1] In business models, today's niche markets have great potential. In the past, people tended to focus on people or things that they wanted to focus on, and in the long tail model (Figure 1) , we focused on the "head" of the curve, ignore the "tail" of the curve. For example, in an industry, the general focus of attention will be on its "VIP" customers, that as long as the good care of this group of users, its industry will be stable for a long time, thus ignoring its other group of users, that is, most consumers. The long tail helps people find more markets, and the current market needle requires analysis of minorities. Older persons are selected as a

specific group and their specific needs (Old people miss their children) are analysed, studied and designed.

#### 1.2 The application of long tail theory in the field of MISS photo album APP

With the rapid development of Computer Information Network, the content production becomes popular, the information becomes cheap, the receiver can easily receive a large amount of information, and the choice of information is more extensive; The cost of paying attention to things is greatly reduced, so that the information receiver can pay attention to some difficult-to-find products at low cost.[3] In the process of mobile application development, more and more niche apps win the favor of users. Mobile phone mobile has become an indispensable part of people's life, reflected in all aspects of life, to provide convenience, greatly improve the quality of life and efficiency. Designed for the elderly group Miss album, can let this group with the help of the APP to meet the thoughts of their loved ones.

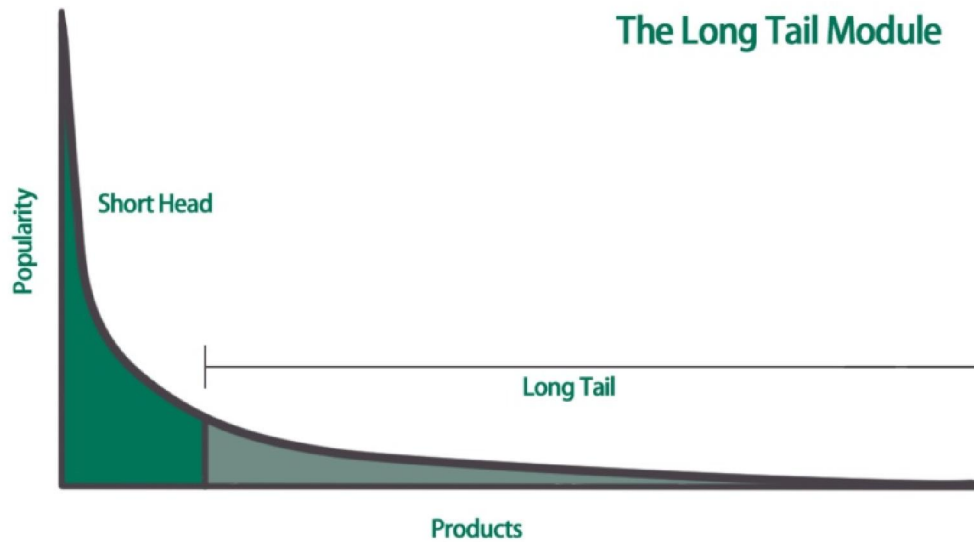


Figure 1 The Long Tail Theory

## 2. MISS Album Design Overview

With the improvement of technology and the change of human consumption concept, people's needs at different levels are different. With the advent of Mobile, photo albums are an essential feature. And we are currently using a variety of electronic devices, including the album this function, such as a mobile phone, an iPad, an android tablet, a phone watch, a computer, etc. , from this can reflect the consumer group to the album this function dependence.

2.1 traditional engineering application analysis: for personal use on mobile devices, traditional photo albums, also known as photo albums or photo albums, are used to store photos of objects, mainly used to collect and protect the use of photos. Usually made of paper shell and PVC insert bag, the surface is usually exquisite pattern design, such as landscape, star portrait and so on. At first, the function of photo album carried in mobile terminal is to store the photo by a virtual photo album, satisfy the user's expectation, and realize its own value. But with the rapid update iteration of technology and user needs change, the traditional photo album and the original mobile photo album function can not meet the simple needs.

2.2 changes in demand: with the continuous improvement of mobile phone photo pixels and the popularity of the mobile internet, people have become

accustomed to using mobile phones to take photos of their lives. However, with the increase of the types of albums in the market and the change of user's demand and traditional demand, the minority user groups have a strong desire for their own internal needs. Based on the long tail theory, the niche user demand market is not saturated yet, there is a lot of competition. To explore the needs of minority groups, design a group for the elderly (their children can not be accompanied by their side) the story of music album. Although many mobile phones now feature the ability to take pictures, native cameras do not fully meet the needs of users. There is still a huge market for multi functional photo album tools, and different product managers will design photo album apps with different levels of demand.

2.3 core issues: in the current album pre demand analysis, the main questions are: 1) can it be liked by the general public; 2) can it feel the difference between a new album APP and a traditional album APP; 3) can it be analyzed and produced for a specific group of people; 4) can it meet the needs of the small public in the long tail theory; 5) the main question is how can it be used by the user through the perception of the interface to achieve spiritual satisfaction.

2.4 limitations of the traditional solution: music albums are a projection of the user's own emotions.

Using the emotional needs and characteristics of people, we design a multi-dimensional APP that can pass the user's sense of touch, vision and hearing. The starting point is to meet the design concept of people-oriented. But at present, the application analysis of the market music album puts marketing and profit first, which makes the current situation of the existing music album mostly a hodgepodge, there is no specific user-specific requirements to design the product, seems to be a little off-track.

### 3. Project design of Miss Photo album APP

This paper analyzes and explores the current music album, and makes a comprehensive analysis of

the existing album types in the current market, drawing on the advantages of predecessors. According to the long tail theory, the product attribute is to have a specific user group, that is, the elderly.

#### 3.1 Demand analysis and goal setting

**Users:** there are a variety of album categories on the market, such as album Butler, which accounts for a large share of the user base, can be seen in the following figure (Figure 2). This photo album is the first choice of most market users, and to this extent has gained the trust and recognition of certain user groups, replacing the mobile phone in the original photo album of the strong demand.



Figure 2 User data analysis

The APP's main features include secure cloud backup, quick Photo and video production, photo caching requests, encrypted privacy, and home shared cloud space. The data shows that the album APP does not target specific people for product analysis and design, not according to the long tail theory to find specific user groups. Due to the market competitiveness of photo albums, a large number of fully functional photo albums are used in the market, but the problem is that the function is too general, resulting in high market saturation. According to the long tail theory, this paper designs a special app-photo album for the elderly.

With the advent of the 21st century intelligence age, the elderly, who are relatively nostalgic for the past, have radically changed their perceptions, such as , in the past few decades, the elderly have little idea of

using electronic devices Still, the group is keeping up with the times and will be learning and using smartphones to some extent. There are also basic needs in the process of gradual recognition, such as remembering one's life experience and the most important things in one's life through photo albums.

**Scene:** the elderly as a specific user groups, there are certain needs, for this scenario simulation, as follows:

Scene 1: Grandpa Wang, 69, is a retired Communist Party member who has worked hard for his country for the last half of his life. After his retirement, his children went out to work without their children, Without their children, they often like to take a walk in the park or go to the cinema or the opera to see Chinese red stories.

Scene Two: Liu Grandma, Female, 72 years old,

masses, the greatest happiness in life is to have five sons and more than a dozen grandchildren. During the festive season, the family gathered together, Liu Grandma especially like the atmosphere and happiness of the family reunion, she will cook some of the most delicious dishes for everyone to eat. But when the spring festival is over, the children must go to work and school, home alone, usually a person to eat, a person to do things, Liu Grandma often especially miss their children.

Requirements: For different user groups, there are different needs, a comparison of traditional photo albums, the classification is roughly as follows: users who like to take selves, users who have the habit of organizing photo albums in their lives, users who like to repeat processing photos, and users who like to share photos. Through the above analysis of user needs and the proportion of APP in the market, the market of emotional photo album for the elderly group is a vacancy. Through the above user, scene and demand analysis, the album can be designed for the specific user group of the elderly, and the music album APP is used to reminisce and meet the spiritual needs of the user group.

### 3.2 Functional Analysis and Interaction Design

#### 3.2.1 Product positioning:

With the popularity of the mobile Internet, users have gradually increased their expectations for the functions inside the mobile phone. Whether it is people who work outside or elders who stay at home, they

have strong expectations for the photo album app. In response to this specific demand, through a series of research and analysis, we finally start from the elderly group, and set their expectations for album needs. The elderly usually stay at home, and their children will go out to work hard for the future. Usually, parents miss their children, and children outside miss their parents. Missing Music Album is designed to evoke memories for the elderly. Through simple interface operation, the APP is used in a fixed time by combining pictures and texts.

#### 3.2.2 Identify competing products:

The music albums that are already running on the market (Figure 3), the main user groups are still young people. Most of the user interface is a complex and chaotic visual interface, the functions cannot be precise and concise, and the complexity is high, which cannot be used comfortably by the elderly group. Since the MISS photo album APP is aimed at the elderly group, the function settings and interface display should be relatively simple and easy to understand. Minimalism is designed to help users better focus, follow the principle of minimalism, not to reduce the amount of design content needed, but to be appropriate.[4] The function setting should not be too complicated and difficult to understand. It needs a small number of layers, and can be set according to the cognition and desire of the elderly user group. It mainly deconstructs and analyzes the four main functions of the music album.

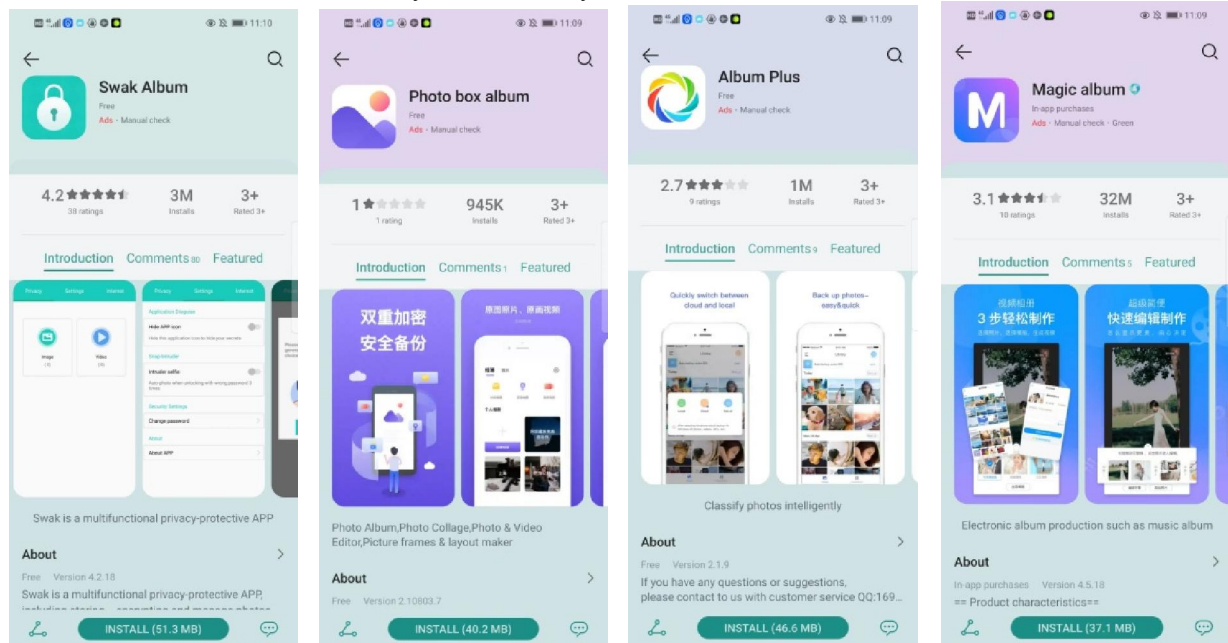


Figure3 Swak album; Photo box album; Album Plus; Magic album

After analyzing the above-mentioned related software, we use the method of "WHAT, WHY, WHERE, WHEN, HOW, WHO" to do a frame

analysis of the different situations when the user interacts with the APP (Figure 4. ):

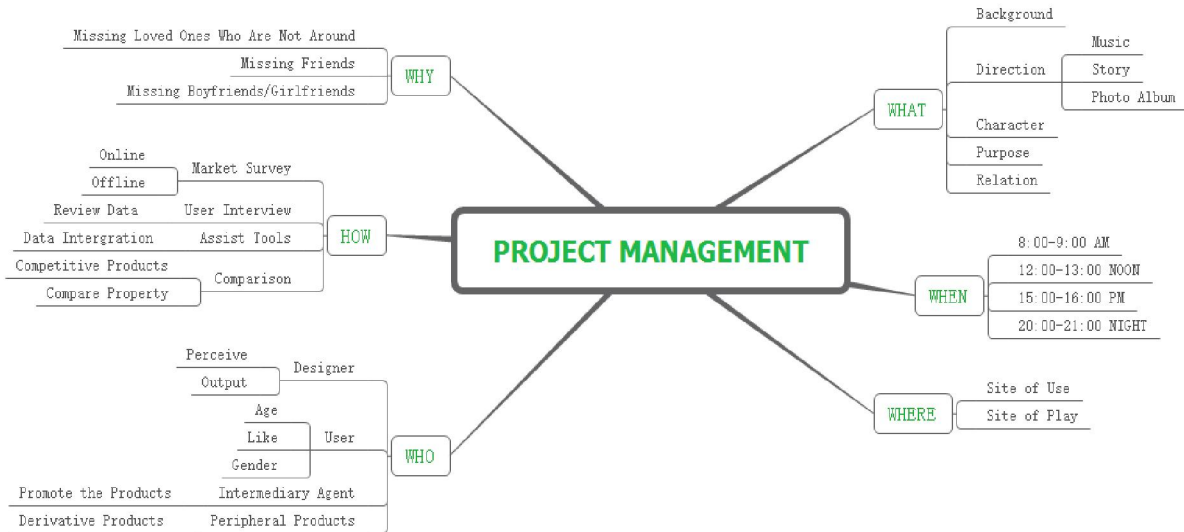


Figure 4 Project function management

Designing an APP requires a certain amount of time and initiative to structure and think. The analysis is carried out on the front, middle and back stages of the work process (Figure 5).

### 3.3 Technical requirements and structural design

After combing the basic architecture of the music album, the current thinking architecture is that there

are four main channels for this APP to enter the operating interface. Designed according to different command attributes, according to the unique behavior habits of the user, there will be multiple functional channels. In addition, the music album app is mainly aimed at the nostalgia of relatives and friends for the elderly.

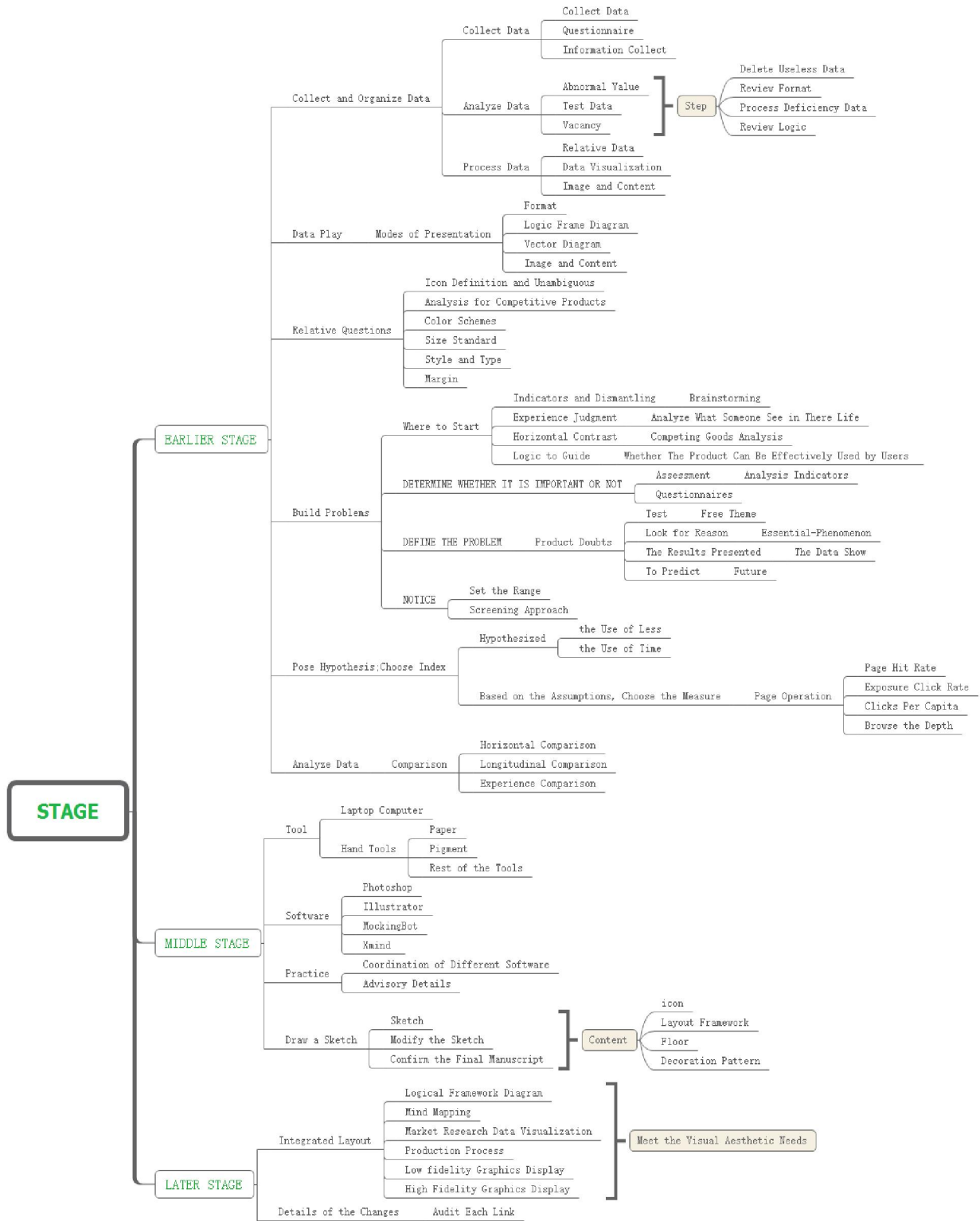


Figure 5 Design ideas and work process



In the framework pattern design, the gyration pattern is applied where the first command is initiated and the second reacts accordingly. While entering the next command, you can also return to the previous

command according to the needs and continue the operation. The following figure is the basic process operation, hierarchical flow chart (Figure 6) and functional architecture (Figure 7):

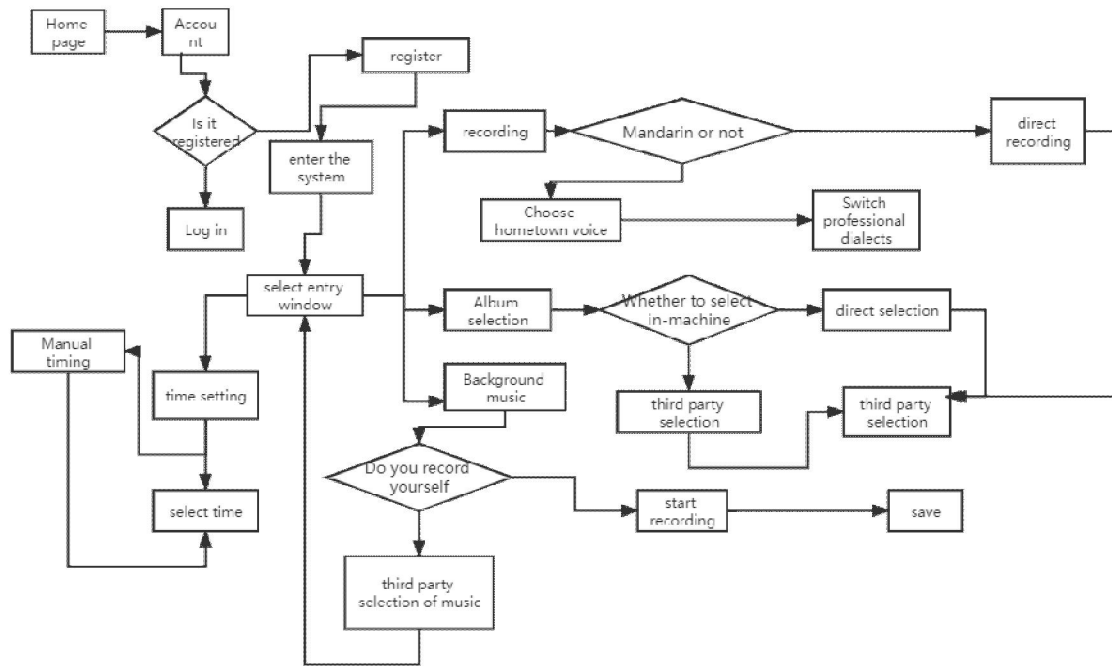


Figure 6 hierarchical flow chart

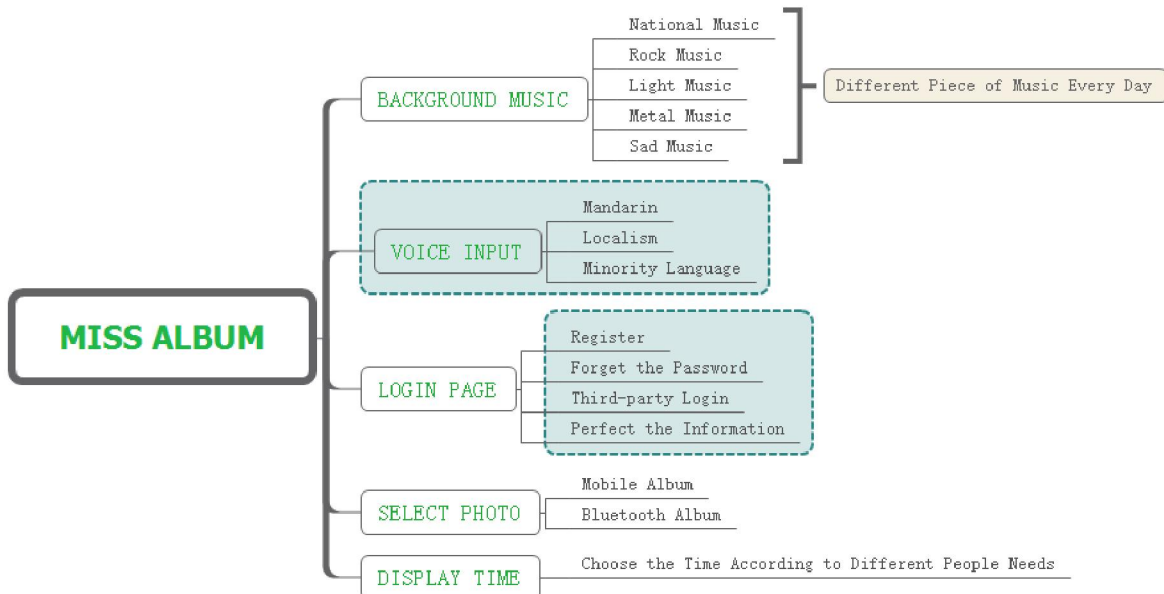


Figure 7 Functional division of MISS albums

### 3.4 User Interface and Experience Design

In the design of mobile APP interface, the application and combination of different icon visual elements can create different visual effects and bring different emotional experience to users.[5]The visual experience is the initial emotional reaction of the user when using the product, and the user interface is the overall design of the software's human-computer

interaction, operation logic, and beautiful interface. A good UI design is not only to make the software have personality and taste, but also to make the operation of the software comfortable, simple and free, and fully reflect the positioning and characteristics of the software. The following figure is the interface display envisaged for the APP (Figure 8):



Figure 8 Interface design display

### 4. Prototype effect simulation design

With the decline of physical function, the eyesight of the elderly gradually declines, and reading glasses and other equipment are needed to assist reading. At the same time, when the text is too close to the background color, it will be difficult to read the text, and bright and contrasting colors are needed to stimulate the vision to complete the reading. [6] The function is to combine "Music, Missing, Album". From the perspective of visual aspect and ease of use, it can more meet the needs of users, and make them a lifelong user of the APP. Analyzing and designing the design pain points of music albums on the market is the primary task of designers at present, and it is necessary to reach a bridge of coordination with users. The supervision of the whole process pain points of product managers is also the most important. And designing products for specific groups is a necessary

condition that needs to be considered in the current design process. According to the main four functional principles, the interface is set, and the channel is designed into three levels, so that the user group can easily jump between the levels. The first level mainly has four interfaces, namely the initial page, the account login interface, and the information. The editing interface, as well as the four functional layouts, a series of processes directly allow users to operate clearly and clearly. The second layer is to decompose these four functions. In the process of redesigning different interfaces, the design of the icon should be in line with the visual aesthetics of the elderly as much as possible, and it should not be too small, otherwise users will directly lose interest in using it. Its main interface considerations. Interface display for mobile terminal interface design (Figure 9):



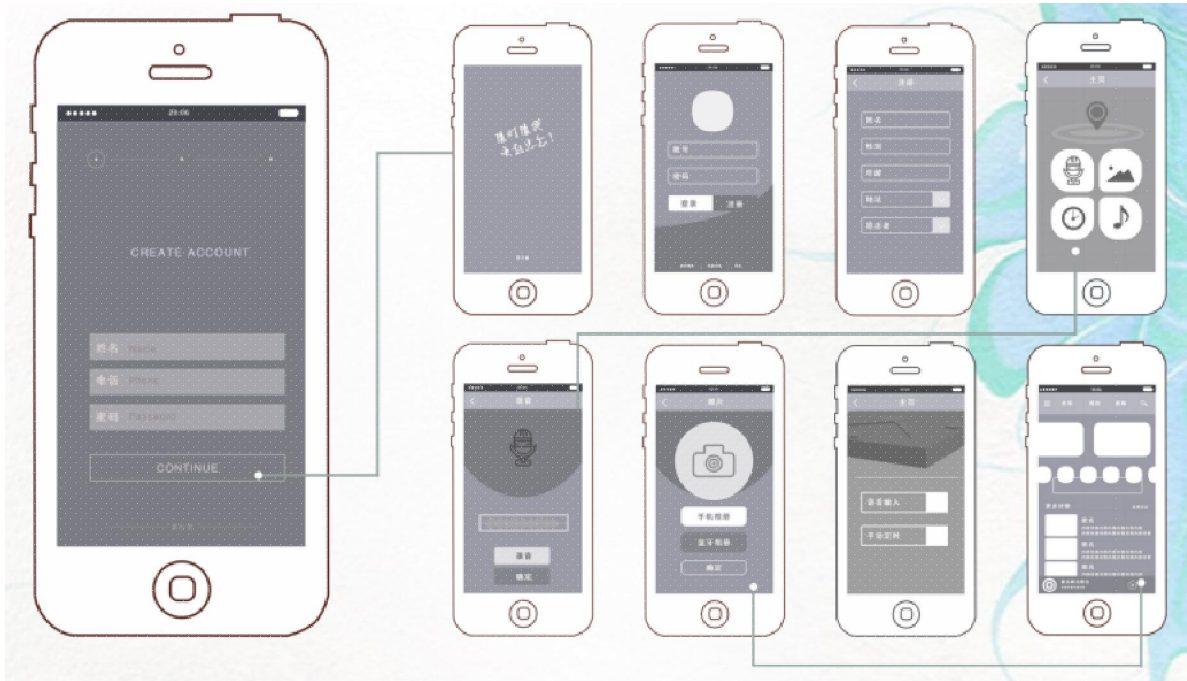


Figure 9 Low-fidelity model

The figure below is a further analysis design for low saturation charts (Figure 10). In this presentation, it is necessary to consider the principle of color matching, visual aesthetic, block decomposition, and area ratio of the icon. Comprehensive analysis is

required. In addition to the three levels involved in the low saturation, it also involves detailed internal operating channels to follow the principles of the current operation interface.

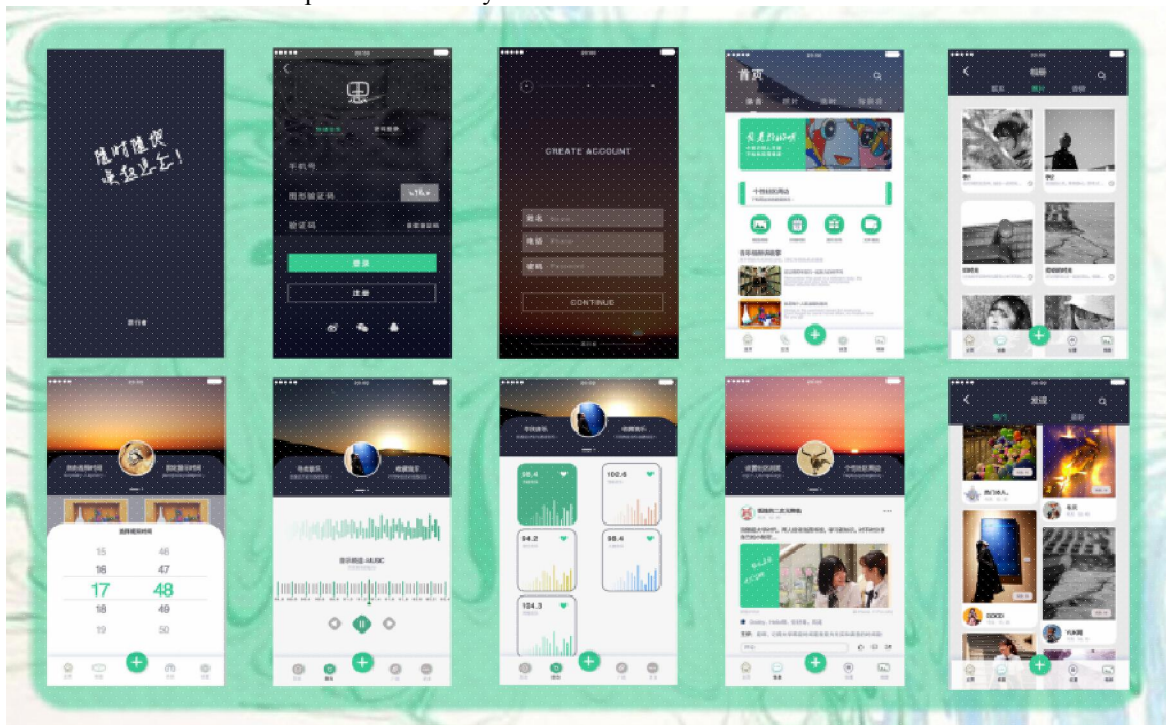


Figure 10 High -fidelity Model

## 5. Conclusion

The elderly music album APP is the deepest emotional sustenance tool when a person is alone, and people's reliance on mobile digital products makes the album function of the MISS album APP subtly make users rely on it. At present, more and more digital music products are applied, such as digital music products, earphone performance products, etc., mainly because music can directly evoke people's memories. Design an APP by combining music (hearing), photo album (visual), and product (tactile), because the current needs of users have changed, it is no longer a traditional single use, but involves users in it, making users increased interactivity. On the one hand, this app meets the needs of the elderly groups in the current market, and on the other hand, it selects user groups for niche groups according to the long tail theory, which not only satisfies the operation of the big era, but also meets the niche needs of different groups.

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