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Roll Back, a user experience design to help people recall memories

by

Haotian Sun

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Fine Arts in Visual Communication Design

School of Design
College of Art and Design

Rochester Institute of Technology
Rochester, NY
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Abstract

This article introduces a user experience design of recalling memories. People take numerous photos in their whole lives, so they need a powerful tool to help them organize and review all those pictures in an interesting way. After having interviews with target users, most of them have problems with organizing massive digital photos. This process costs them a lot of time and makes them feel boring. In this article, a mobile app named “Roll Back” is designed to solve this problem, users can review their memories randomly by solving a simplified Rubik’s Cube game, their photos will display on the surface of the Rubik’s Cube. Users can also build their own memory cube by selecting photos and placing them on the cube surfaces. They are also allowed to review their photo galleries in the memory cube mode. This essay introduces the creation process of this app in detail and proposes using a game-playing method to help users recall the past. Simultaneously, people can save their own memory cubes video in their albums and post them on social media platforms. This experience design combines various functions, such as games, social networking, and image classification. The usability test shows that the memory cubes function can be easily understood, and the social networking function can be improved.

Keywords

Recall Memories    User Experience Design    Rubik’s Cube
Introduction

Problem Statement

With the rapid development of electronic devices' storage and camera functions, people don't need to spend a lot of time taking pictures like before. More and more good memories can be left in people's phone photo gallery, which brings convenience to people's lives, meanwhile new troubles. Firstly, many interesting memories are submerged in massive image library data, so it is difficult for people to find photos taken many years ago. Secondly, the fast-paced digital life makes people no longer cherish photos as they did in the past film camera era. Some photos are lost due to the replacement of electronic equipment. Year after year, although people accumulated more and more photos, some precious memories were gradually forgotten. Many mobile phones' built-in photo galleries arranged according to time cannot solve this problem well. Nowadays, people take photos of daily life and leave numerous photos in their albums. Electronic albums classified by time are ubiquitous, making them not interesting enough to attract people's attention. People are unwilling to spend time browsing albums like that, sorting photos, and deleting unwanted photos. In this case, people need a new way to organize photos so that these precious memories will not easily disappear and be forgotten. This way needs to be different from traditional electronic photo albums and use more interesting interactive methods to provide users with a new experience of organizing photo albums. Simultaneously, it must also solve users' problems when using traditional electronic photo albums, such as quickly and effectively organizing massive photos.
Main Body Text

Section I: Context

According to the above problems, I designed a mobile application to help people recall good memories, providing an interesting and convenient user experience. Due to mobile phone camera technology and the expansion of mobile phone storage space, mobile phones are the most important tool for people to store and take photos, so it is the best device choice for this project. I bring the “box concept” into this project design, people’s memories are classified and put into boxes designed as a Rubik’s Cube Box. In more detail, it divides the photo into small pieces and places it on the surfaces of the Rubik's Cube. People can reveal a new photo by turning the Rubik's Cube then recall a past event. Such a user experience design can increase the amusement of this app. People don’t know what’s inside before opening the box. In this user experience, people can get surprises even if from memories. This app also continues the “box concept” when processing photos, and when people browse past photos, they can not only view them in chronological order but also through many other system classifications, such as people, places, and anniversaries, which means photos were taken on the same date in past several years, etc. According to Tim Minor’s Total (Memory) Recall, clear photo classifications can help users recall memories. Simultaneously, people can choose their favorite photos to make their own memory box and share it with relatives and friends. In general, this app designs a Rubik's Cube game experience to help users organize photos and add social features that traditional photo albums do not have. It satisfies people's desire to share with their families and friends when recalling the past.

Section II: Evolution

Process

When a memory is not remembered or mentioned by anyone, it disappears. We learn about interesting childhood stories from the photos and our parents' statements, and most of those stories we don't remember.

If our relatives leave and the photos are lost, then our childhood memories will most likely no longer be remembered. Darren Rowse's *How Many Photos Do We Take Each Week? [POLL]* shows that more than 71% of people in 50,142 took more than 20 pictures in a week. It is not difficult to imagine that there will be a large number of photos left in one's life, but it is difficult for people to review each one carefully. Even if the camera captures many memories, they will never have the opportunity to be mentioned by people. This design's applications and explorations are to randomly display photos that people seldom look back in front of them so that some precious memories won't be forgotten.

The main design considerations of this project are curiosity and sociality. When people get surprises from memories, this is an excellent user experience because people are curious about their past, even if they have personally experienced that before. People can also get a good user experience by sharing their memories with others, which is why people are happy to post their photos and moods on social platforms.

In the design iterations process, this project focuses on improving the experience of opening the Rubik's Cube.

The traditional Rubik's Cube game is very complicated. People need to spend a lot of time and use a lot of math knowledge to complete a Rubik's Cube. Obviously, such a game mode is difficult to combine with photo

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fragments, so I made some adjustments and improvements in Rubik's Cube gameplay. First of all, there will be a simple tutorial before opening a Rubik's Cube box to help users better understand the process. Secondly, the opening method of this Rubik's Cube is simplified. People only need to slide the screen gently according to the arrow to open the Rubik's Cube.

Some technical issues need to be considered during the entire design process. First of all, finding a way to make the entire Rubik's cube rotation process more real. Secondly, get permission to access user photos gallery and users’ social accounts. Thirdly, dividing each photo according to the Rubik's Cube grid intelligently.

After two adjustments, firstly, using the traditional Rubik's Cube to arrange and combine photo fragments was replaced, because this would make most users feel difficult. Secondly, the traditional way of arranging photos was abandoned, because this is not consistent and continuous with the theme of Rubik's Cube. Third, after interviewing multiple users, the function of printing photos was abandoned because of low demand.

Therefore, the troubleshooting results simplify the process of solving the Rubik’s Cube to reveal a photo, use Rubik’s Cube to store photos, and make a Rubik’s Cube photo gallery.

**Methodology**

The methodology for developing designs and for testing concepts is understanding the users' requirements clearly. Determining your target user group and making user personas are crucial for the positioning of product features. To understand the pain points of user needs, detailed user interviews, and research are essential. Through one-to-one online interviews, it is not difficult to find that people need a more efficient tool to organize their photos. Simply sorting pictures in chronological order cannot meet people's needs for electronic photo albums. At the same time, research on the same type of products is also significant. Based
on the analysis of some low-rated products in the market, we can avoid some common mistakes, and we can also learn from the advantages of some popular products among users. More importantly, only by understanding the existing image organizing and editing app modes can we better carry out innovative designs that are different from them. In the usability test, showing the app prototype to target users and recording their confusions and destructions. Users' comments and feedback are valuable for the improvement of this project.

Figure 1 Users' Interview Summary, Image by the Author
Figure 2 User Persona (Under 35-year-old), Image by the Author

Figure 3 User Persona (35+ years old), Image by the Author
□ Design Goals

This project's design goals are to help people organize photos and provide people with a unique and enjoyable user experience in that process. I proposed this idea because the unknown excites people, but memories are everything that happened before, so randomly displaying photos can give people a fresh experience when they recall memories. Meanwhile, playing a Rubik’s Cube game can make the process of recalling memories happy.

Figure 4 Mapping the Solutions, Image by the Author

□ Testing and Validation

According to the users' comments on the preliminary app prototype design, they are interested in the Rubik’s Cube game way to recall memories. They like the idea of creating their own memories cube. There is basically no confusion in the reveal memories and build memory cubes flow. However, they are confused about how to share memory cubes with their friends.
Further Refinement

This project needs more improvement in how to improve sociality. For example, users can share the memory cubes on other social networking platforms, such as Facebook and Instagram, because they have become the main platforms for sharing their personal lives.
Section III: Body of Work

Final Design:

This part includes the workflow, user flow and visual style design.

Figure 5 Workflow, Image by the Author

Figure 6 Userflow, Image by the Author


Figure 7 Style Guideline, Image by the Author

- **Features:**

This app has 3 main features.

1. **Reveal Memory Cubes**

   Users can reveal memories by following the arrows guide to solving the Rubik’s Cube. Photos on the Rubik’s Cube’s surfaces are selected randomly. Users can review some details, such as the date and theme of the photos. Each Rubik’s Cube can store 6 memories. Users have limited chances to open the Rubik’s Cube in a certain time period. Before users try to start the game, there is a tutorial to understand how to solve the Rubik’s Cube.
2. **Build Your Own Memory Cubes**

Users can pick photos and place them on the surfaces of the Rubik’s Cube. After they create their own memory cube, they can save it as a video in their photo album and share it with friends on other social media platforms. Users can only select 6 photos for building a memory cube. They can also edit it again after creating the cube.
3. Memory Cubes Gallery

Users can view their memories with many classifications, such as anniversary (which means photos taken at the same date as the current date in several years before), photos (sort by years, month, and date), albums (theme photos collected by users), vlogs (memory cubes created by users), categories (sort by the system automatically, such as people, places, animals and plants, etc.). Users can choose any of those
classifications and reveal the memories stored in the cube galleries. Photos on the cube’s surfaces are not broken into pieces; users can review the photos by touching each small grid on each cube's surface until all the same theme photos are revealed. There is a tutorial for users to understand how to reveal theme photos on the cube before starting the process.

Figure 10 Feature 3 Final Design Interface, Image by the Author
Benefits:

Each feature of this app gives users different benefits. Besides, Christopher Bergland³’s *Recalling Positive Memories May Reduce Risk of Depression* and Zak Stone⁴’s *The Mental Health Benefits Of Recalling Better Days*, recalling happy memories can reduce the probability that people will have depression in later life.

1. Interesting user experience of recalling memories

   This app provides users with a new interactive method to recall memories. The process of solving a Rubik’s Cube is more like playing a game instead of just looking at albums. The interaction method of this app is different from other photo collection apps. Its innovation and uniqueness can make users feel curious and excited, and at the same time can stimulate people’s desire to take and share photos.

2. Create new chat topics for friends and families

   People keep memories is to share with others and let families and friends know their stories. The development of digital media technology makes photos not uncommon. An ordinary life photo can hardly trigger discussion among friends. By creating a memory cube, several ordinary photos can become special. Compared to posting an ordinary photo on Facebook, posting a memory cube video is more able to attract people's attention and discussion. There will also be more chat topics between users and their friends.

3. Efficient and interesting way to organize massive photos

   Organizing albums is boring for most people because we have too many photos to be sorted and

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organized. The memory cubes gallery makes the classification of photos clear and simple, and completely automatic. At the same time, the new way of browsing photo albums also makes the process of reviewing photos interesting.

User Scenarios:

1. Kill Time on the Subway

When users commute on the subway and feel bored, they can open this app and solve the memory Rubik's Cube to reveal memories. They can kill time by using this app.

2. Share Party Photos on Social Media Platforms

People take some interesting photos when they go to parties, such as photos wearing costumes or making faces, and photos with friends they haven't seen for a long time. Most people beautify their photos and post them on Facebook and Instagram. However, this app users can place these photos into a memory cube video and post them to social media platforms, which will make your social account more interesting and attractive.

3. Make a Digital Wedding Anniversary Photo Album

The wedding anniversary is a very memorable day, and it will definitely leave many precious photos. When users want to share memories with their children, a wedding anniversary theme memory cube can attract the children's attention, and at the same time, increase the sense of ritual and happiness in life.
Section IV: Evaluation & Discussion

After observing people use this app, it is not difficult to find they have some confusion about solving the Rubik’s Cube, which means they cannot easily put all pieces of one image into one surface in the right place. This caused trouble for users to review photos. They also provided some comments on sharing the memory cube online. According to users' valuable feedback, tutorials are added before users solve the Rubik’s Cube and open the memory cubes galleries. Besides, the solution of Memory Rubik’s Cube is simplified. Users can also save their own memory cubes as videos into albums and share them on any social media platforms they prefer.

This experience design solved the problems users encountered in their process of recalling memories. Firstly, the photos on the Memory Rubik’s Cube are randomly displayed. This design brings the photos seldomly mentioned into users’ eyes again. In this way, even if there are massive photos in the user's photo gallery, none of the photos will be forgotten. Secondly, all photos are classified automatically in the memory cubes gallery. Users don’t need to spend time on organize numerous photos. Thirdly, users can create their own memory cubes and share them with friends. They can enjoy the process of making their own videos and the happiness of sharing stories with friends. In conclusion, this app design solves users’ problems and give them an enjoyable experience of recalling memories.

This app’s concept can be used on many social media platforms, such as Instagram, Facebook, and Tik-Tok, because these platforms' content is based on pictures and videos. This app provides a new type of picture video editing mode. Simultaneously, this app can do more explorations in game mode and picture editing, which is also the future development direction of this app. This app combines games and photo editing, and the game method is straightforward; it is not difficult to imagine that it will be hugely popular among young
people.

Research Review:

According to J. Clement\(^5\)'s *Distribution of Facebook users worldwide as of October 2020, by age and gender* shows that 61.6% of Facebook users are between 13-34 years old, and 38.4% of Facebook users’ are more than 35-year-old. Therefore, target users can be divided into 2 groups.

![Main User Groups](image)

*Figure 11 Main User Groups, Image by the Author*

According to J. Clement\(^6\)'s *Average Facebook page fan engagement with selected post types worldwide during 3rd quarter 2020*, 60.09% of Facebook users prefer video posts, and 40.42% of Facebook users prefer image posts. Therefore, users are willing to review and post video and image content on social media platforms.

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According to J. Clement’s *U.S. Facebook usage reasons 2019*, 88% of Facebook users use Facebook to keep contact with friends and family, and 33% of Facebook users use Facebook to get entertainment. Therefore, contact with others and entertainment should be considered into users’ requirements.

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Competitive Analysis is essential to research before the design process. Sarah Perez’s *Memoir, A “Google Now” For Photo Memories, Is An App That Helps You Remember The Past* introduced an app named Memoir to help users recall related memories. Steve O’Hear’s *Flashgap Is A Time-Delayed Photo-Sharing App Inspired By ‘The Hangover’ Movie* introduced an app named Flashgap designed a time-delayed photo-sharing model to improve the user experience when recalling memories. Catherine Shu’s *Journaling App LifeCrumbs Turns Your Favorite Photos Into A Visual Calendar Of Happy Memories* introduced an app to help users organize massive photos on a private social media platform.

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To understand the users’ needs, 10 users divided into 2 groups are interviewed to give their ideas about recalling memories.

Figure 15 User Interviews (under 35-year-old), Image by the Author

Figure 16 User Interviews (more than 35-year-old), Image by the Author
Conclusions

The photos and videos contents are more and more diverse, people's requirements for image storage and display products are getting higher, and traditional photo gallery makes people feel boring. Therefore, more and more products have done a lot of exploration on how to display these contents. There are many products of this type on the market, but not many are widely used. Therefore, how to attract users is the focus of image and video storage apps. A good way of displaying content can make people’s memories more interesting. This app not only helps people organize memories but also makes the process of review photos more enjoyable. The most important breakthrough of this app is the combination of picture display and Rubik's Cube game, which also reflects this project's innovation and uniqueness. A lot of interactive knowledge can be learned from the development process of this app. Allowing users to participate in the recalling memories process is the focus of this project's interaction topic. Ordinary photo gallery can only meet the user's most basic needs for viewing photos while playing Memory Rubik’s Cube, and sharing your own memory cube with others can increase user participation and bring a better user experience. While completing this project, many ideas and research directions on this topic also follow. This app provides a new display template for image content. In the future of image editing and storage products, more development and exploration can be considered in image display, thereby increasing the competitiveness and attractiveness of the product.

Website Link of the Thesis Project

https://designed.cad.rit.edu/vcdthesis/project/haotian-sun-rollback?preview_id=3623&preview=true
References


Appendix A
ROLL BACK

A powerful tool to recall memories

Haotian Sun
Dec-1-2020
Prompt

Too many photos in the gallery lead to some of them are seldom be recalled.

Problem

People are bored with organizing a lot of photos.

Solutions

Design an interactive Memory Rubik's Cube game to help users recall memories and a memory cubes gallery to classify their photos. Besides, users can select photos and create their own memory cubes.
How to help users recall memories interesting?

Reveal Memory Cubes

**Auto-play Tutorial:**
To help users understand how to solve the Rubik’s Cube.

**Game Start:**
Randomly selected photos are broken into pieces and placed on the surfaces of the Rubik’s Cube.

**Reveal a Photo:**
Photo and its information show up, reveal next photo by following the arrows guide.

**Cube Transform:**
After the animation, a new photo shows on the other surface of the cube.

**Repeat:**
6 photos display in a Memory Rubik’s Cube, repeat former behaviors several times to collect a cube.

**Collect a Cube:**
After all photos in this cube are collected, users can reply this cube again or start a new game.
Benefit

Provide interesting user experience of recalling memories

The process of solving a Rubik's Cube is more like playing a game instead of just looking at albums. The interaction method of this app is different from other photo collection apps. Its innovation and uniqueness can make users feel curious and excited, and at the same time, can stimulate people's desire to take and share photos.
1. **Energy Bar**
   - 5 original, after starting a game reduces 1 energy, recovery in limited time

2. **Mails**
   - Receive energies sent by your friends

3. **Settings**
   - Background music, Volume, Vibration, My profile, How to Play, Notifications

4. **Rank**
   - According to the number of your memory cube collections, rank among your friends

5. **Tutorial**
   - An auto-tutorial video loop play to help users understand the game mode

6. **Photos**
   - A photo divided into several pieces according to the Rubik's Cube grid
How to make users’ memories interesting?

Build Your Own Memory Cubes

Create a New Cube:
- Use your own photos to build a Memory Cube

Select Photos:
- Select 6 photos from the users' photo gallery

Original Cube:
- A cube without any photos shows up, 6 surfaces need to be filled

Place Photos:
- Place a photo on the empty surface of the cube, and the photo will be broken into pieces

Next Surface:
- Slide the photo to show next empty surface

Cube Transform:
- After the animation, an empty surface displays, and users can repeat former behaviors

Complete:
- After all photos are placed on the cube surfaces, users can share it with other or edit it again
Benefit

Create new chat topics for friends and families

Creating a memory cube, several ordinary photos can become special. Compared to posting an ordinary photo on Facebook, posting a memory cube video can attract people's attention and discussion. There will also be more chat topics between users and their friends.
Breakdown

1. **List**
   - Showing memory cubes the user created before

2. **Drag**
   - Place selected photos on the surfaces of the Rubik's Cube

3. **Video**
   - Memory Cubes save as video format in the users' gallery

4. **Share**
   - Users can share the video Memory Cube with others on other social media platforms
How to help users organize numerous photos?

**Memory Cubes Gallery**

- **Memory Cubes List:** Photos are classified into 5 different categories automatically.
- **Category List:** The detailed classification shows under this list.
- **Auto-play Tutorial:** To help users understand how to reveal more photos in this cube model.
- **Show Next Person:** Follow the arrows guide to slide the surface.
- **Cube Transform:** After the animation, photos of the next person show up on the cube surfaces.
- **Next Person Photos:** All photos of related theme show on each small surfaces of the cube, touch to reveal them all.
- **Complete:** After all theme photos are revealed in this cube, users can share the cube videos with others.
Organizing albums is boring for most people because we have too many photos to be sorted and organized. The memory cubes gallery makes the classification of photos clear and simple, and completely automatic. Simultaneously, the new way of browsing photo albums also makes the process of reviewing photos interesting.
Breakdown

1. **Anniversary**
   - Photos taken at the same date as the current date in several years before

2. **Photos**
   - Sort by years, month, and date

3. **Albums**
   - Theme photos collected by users

4. **Vlogs**
   - Memory cubes created by users

5. **Tutorial**
   - An auto-tutorial video loop play to help users understand how to reveal all theme photos
Research Review
The Age and Gender of Facebook Users Worldwide of 2020


Facebook Usage Reasons in the United States of 2019

- To keep contact with friends and family: 88%
- To get entertainment: 33%
- To get news: 23%
- To follow brands/companies: 17%
- To strengthen professional network: 11%
- Other purposes: 6%

Main User Groups

Young People

- Age Range: 13-34
- Percentage: 61.6%

Middle-Aged and Elderly

- Age Range: 35-65+
- Percentage: 38.4%
Main Usage Reasons

Entertainment: 33%
Contact others: 88%
Competitive Analysis

**COMPANY INFO**

**MEMOIR**
- Location: New York, NY, United States
- Company Size: 1-10
- Website: youremoir.com

**FLASHGAP**
- Location: Los Angeles, CA, United States
- Company Size: 11-50
- Website: www.flashgap.com/

**LIFECRUMBS**
- Location: Taipei, Taiwan, China
- Company Size: 1-10
- Website: lifecrumbs.me

**PRODUCT**

**STRENGTHS**
- Associate users’ relevant memories together, help users organize thousands of photos in the gallery.
- Based on users’ photo gallery and location data, users do not need to worry about missing anything interesting.
- Keywords search tool makes people find their memories efficiently.
- The time-delayed photo-sharing model makes interaction between people interesting.
- The interface design is colorful and full of cute illustrations that could attract young people’s attention.
- People can recall memories with others to avoid loneliness and depression.
- Privacy platforms help users express themselves freely.
- People are allowed to connect with limited people, which increases the quality of sociality.
- The timeline can help people recall memories efficiently.

**WEAKNESSES**
- Not all photos in the gallery are valuable, some of them are taken casually.
- Accessing photos stored in users’ local devices may cause privacy issues.
- Users are unmotivated to use the search tool to recall memories.
- A lot of people’s memories are private. People who don’t want to share memories with others will not use this app.
- Older people are not interested in this colorful and complicated visual style.
- Although people can connect their memory with others, it is not able to organize and collect all valuable memories for the user.
- This is an app like Facebook, but open to limited people. It could be replaced easily by Facebook.
- Only timeline is not enough for people recall specific events happened before.
- The interaction between people is not attractive, thumbs up and comments are common.

**MARKET BREAKDOWN**

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<tr>
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<th>Premium</th>
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<tr>
<td><strong>LIFECRUMBS</strong></td>
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User Interviews

User Interviews (under 35-year-old)

Aurora Female 24

GOALS
1. Improve health and fitness
2. Save for future
3. Travel more

HABITS
1. Exercise regularly
2. Eat healthy
3. Save money

FRustrationS
1. Lack of time
2. Limited funds

Summary

Jay Male 25

GOALS
1. Achieve career success
2. Build a strong network
3. Travel and explore

HABITS
1. Work hard
2. Network at events
3. Travel frequently

FRustrationS
1. Work-life balance
2. Cost of travel

Summary

Roc Male 23

GOALS
1. Save for future
2. Build a strong network
3. Travel and explore

HABITS
1. Save money
2. Network at events
3. Travel frequently

FRustrationS
1. Work-life balance
2. Cost of travel

Summary

Moggia Female 24

"There are some things I’d like to start doing, but I have the energy and want them to happen. It’s just a matter of time and doing it.

Corey Male 25

"Traveling means a lot to me. I like to travel and explore new places. It's important for me to experience different cultures and meet new people.

Summary

"Traveling means a lot to me. I like to travel and explore new places. It's important for me to experience different cultures and meet new people."
User Interviews (more than 35-year-old)

Qi Female 47

GOALS
- Manage important tasks and events
- Enhance productivity

HABITS
- Use online calendars
- Set reminders for meetings and deadlines

FRUSTRATIONS
- Difficulty accessing important information on the go
- Lack of organization and efficient task management

Summary
- Qi finds managing tasks and staying organized important.
- She uses online calendars and reminders for productivity.
- Challenges include accessing information on the go and maintaining organization.

Qian Female 42

GOALS
- Keep track of daily appointments
- Enhance time management

HABITS
- Set reminders for daily tasks
- Use digital calendars for planning

FRUSTRATIONS
- Difficulty accessing digital calendars in a timely manner
- Inconsistent digital calendar access

Summary
- Qian prioritizes track appointments and manage time efficiently.
- She uses digital calendars for planning and setting reminders.
- Challenges include timely access and ensuring consistency.

Fuli Female 48

GOALS
- Keep track of key events and deadlines
- Enhance productivity

HABITS
- Use digital calendars for organizing
- Set reminders for important dates

FRUSTRATIONS
- Difficulty accessing digital calendars
- Inconsistent access to digital calendars

Summary
- Fuli values tracking events and deadlines for productivity.
- She uses digital calendars to stay organized.
- Challenges include accessing calendars consistently.

Hui Female 50

Summary
- Hui finds it challenging to keep track of important events.
- She relies on printed calendars for organization.

Qi He Male 50

Summary
- Qi He prefers using digital calendars for convenience.
- He values having access to events at any time.

"Sometimes, I can't find an app on my phone unless I use the search function. If I come across a task or event, I want to make sure it's not forgotten."
Design Process
User Interview Summary

**Behaviors**
What would people do when they want to recall memories?
- Review Posts Online
- Chat with Friends
- Review Photo Gallery

**Goals**
Why people want to recall memories?
- Create Personal Vlogs
- Contact with Old Friends

**Frustrations**
What are the problems when they want to recall memories?
- No Keyword Research
- Loneliness and Depression
- Information Lose
- No Time to Organize Photos
Jim Semick

“Recalling memories makes me treasure my current life more!”

DEMOGRAPHICS

Age  25
Location  Boston, MA
Education  Master's Degree
Job  Electric Engineer
Family  Live alone

TECH

Internet
Social Networks
Messaging
Games
Online Shopping

FRUSTRATIONS

• No keyword research on previous posts
• Feel lonely to recall memories alone
• Tired about organize massive photos

GOALS

• Share memories with others
• Get inspirations from previous works
• Use multiple sources to produce personal vlogs

HABITS

• Review previous posts on Instagram
• Like to chat with old classmates and friends
• Like to post video on his social accounts
• Like to travel all over the world
• Prefer to use images instead of texts

FAVORITE TOOLS

Snapchat  Instagram  Tik Tok
Sarah Clinton

“Meeting with old friends is tantamount to flashback to the young days!”

DEMOGRAPHICS

Age 50
Location New York, NY
Education Bachelor's Degree
Job Accountant
Family 2 Daughters, Husband

GOALS

- Contact with old friends shared the same experience
- Record important moments in life

HABITS

- Save tickets of the places went before
- Stamp collections
- Review Photos taken 20 years ago
- Collect printed photos in albums
- Celebrate Wedding Anniversary with husband every year

FRUSTRATIONS

- Take a lot of time to organize family photos
- Photos taken many years ago are lost
- Can't adapt to apps with complex functions and too fast updates

TECH

Internet
Social Networks
Messaging
Games
Online Shopping

FAVORITE TOOLS

Album
Apple Photos
Facebook
Mapping the Solutions

How Might We

Users Quote

“Well, it is too slide down on all my posts online, totally a waste of time.”

“I cannot find the thing I want efficiently. I have to slide down until I find it.”

“When I recall memories by photos, it is really a pity that the person in that photos cannot share his feelings with me together, it is lonely.”

“I want to connect with old friends, due to the busy work and life, we are not allowed to contact frequently.”

“I want a safe, simple and convenient app to recall memories.”

“My memories are easy to lost online, such a pity.”

Problems

HMW help users to organize numerous photos?

HMW help users overcome loneliness and depression?

HMW help users to avoid information lose?

Possible Solutions

Clear Categories
Automatically divided photos into different categories, like people, place...

Keyword Search
Type in keywords to find specific memories and related contents

Anniversary
Everyday users can review photos taken by the same date in previous years

Showcase Related Memories
When users review a memory, they are allowed to review related contents

Contact with Friends
Chat online with people share the same experience

Interactive Games
Play an interesting game meanwhile reveal memories

Create Personal Vlogs
Generate previous photos, videos and songs, make vlogs and share your memories with others

Randomly Display
Users’ memories are randomly displayed in the app
Workflow

**Features**
1. Users can reveal memories by following the arrows guide to solving the Rubik's Cube. Photos on the Rubik's Cube's surfaces are selected randomly.
2. Users can pick photos and place them on the surfaces of the Rubik's Cube to create their own Memory Cubes.
3. Users can view their memories with many classifications, and their photos are stored in the Memory Rubik's Cubes.
Style Guideline

Color Palette

#CB28F3
#FC9307
#9E20CF
#1B4DEB

#292442
#5E587B
#9189B9

Typeface

Montserrat Regular 12pt 18pt
Montserrat Medium 12pt 18pt
Montserrat SemiBold 24pt 18pt
Montserrat Bold 22pt

Icons

Reveal
Build
Memories
Rank
Energy
Settings
Mails
Anniversary

Photos
Albums
Vlogs
Categories
Share
Edit
Guide Arrow
Stars

Hand
Selected
Arrow
Dark Arrow
Feature 1. Reveal Memory Cubes

Interfaces
Feature 2. Build Your Own Memory Cubes

Interfaces
Interfaces
Conclusions

The combination of picture display and Rubik’s Cube Game reflects this project's innovation and uniqueness.
Thanks for your attention!
Appendix B
Prompt: Too many photos in the gallery lead to some of them being seldom recalled.

Problem: People are bored with organizing a lot of photos.

Solutions: Design an interactive Memory Rubik's Cube game to help users recall memories and a memory cubes gallery to classify their photos. Besides, users can select photos and create their own memory cubes.

The interesting user experience of recalling memories:

- The process of solving a Rubik's Cube is more like playing a game instead of just looking at albums. The interaction method of this app is different from other photo collection apps. Its innovation and uniqueness can make users feel curious and excited, and at the same time, can stimulate people's desire to take and share photos.

Breakdown:

- Create new chat topics for friends and families: Creating a memory cube, several ordinary photos can become special. Compared to posting an ordinary photo on Facebook, posting a memory cube video can attract people's attention and discussion. There will also be more chat topics between users and their friends.

- Efficient and interesting way to organize massive photos: Organizing albums is boring for most people because we have too many photos to be sorted and organized. The memory cubes gallery makes the classification of photos clear and simple, and completely automatic. Simultaneously, the new way of browsing photo albums also makes the process of reviewing photos interesting.

Research on Facebook Users:

- User Interviews (Under 35-year-old)
- User Interviews (More than 35-year-old)

Interview Summary:
The photo and video contents are diverse, people's requirements for image storage and display products are getting higher, and the traditional photo gallery makes people feel boring. Therefore, more and more products have done a lot of exploration on how to display these contents. There are many products of this type on the market, but not many are widely used. Therefore, how to attract users is the focus of image and video storage apps. A good way of displaying content can make people's memories more interesting. This app not only helps people organize memories but also makes the process of reviewing photos more enjoyable.

The most important breakthrough of this app is the combination of picture display and Rubik's Cube game, reflecting this project's innovation and uniqueness. A lot of interactive knowledge can be learned from the development process of this app. Allowing users to participate in the recalling memories process is the focus of this project's interaction topic. Ordinary photo gallery can only meet the user's most basic needs for viewing photos while playing Memory Rubik's Cube, and sharing your own memory cube with others can increase user participation and bring a better user experience. While completing this project, many ideas and research directions on this topic also follow. This app provides a new display template for image content. In the future of image editing and storage products, more development and exploration can be considered in image display, thereby increasing the product's competitiveness and attractiveness.