

PORTFOLIO

Yiheng Du

Interaction Design
2015-2019



杜倚衡 | 23岁

交互设计/用户体验设计

13077310775

Duheng1127

472798010@qq.com

Skills

UX method

Survey · Interview

Persona · Storyboard

Wireframe · User Testing

Design

Photoshop · Illustrator · InDesign

Sketch · XD · Invision

Animation · Audition

Development

HTML/CSS · Javascript

C++ · Java · Python · SQL

Unity 3D · OpenCV · OpenGL

“
多年的绘画经历，有比较好的美术基础和审美水平，对于交互设计与互联网有很高的热情；
性格沉稳有耐心，有很强的理解能力与逻辑思考的能力，强迫症与完美主义者，极其注重设计的细节；
本科数字媒体技术专业，有扎实的编程基础，了解互联网产品的工作流程与技术实现；
研究生学习用户体验设计，锻炼用户调研与交互原型设计的能力，在小组与项目企业合作中提升了团队协作与沟通能力
”

Education

湖南大学 | 数字媒体技术

2014.9 - 2018.6

人机交互技术 · 视音频技术 · 网络动画设计
数字图像处理 · 计算机图形学 · 移动设备开发

伦敦艺术大学 | 用户体验设计

2018.9 - 2019.12 (在读)

用户调研方法与实践 · 产品概念原型设计
界面与交互设计 · 设计理论与批判

Internship

北京雪云锐创科技有限公司

原型设计实习生

2017.5 - 2017.8

参与原型模板制作，编写软件模块功能分析
报告，分析数据，深入了解同类型各种应用
程序的设计特点和功能

Experience

2015.3 - 2015.4

湖南大学易班学生工作站 · 原型设计部

易班APP中校园信息发布工具“通知板”和“就业板”的原型设计

2015.9 - 2016.11

湖南大学IBM俱乐部 · 设计部副部长

邀请公司的工程师与老师来校进行讲座并推广校园活动
与微软俱乐部共同组织湖南大学网页创新设计大赛

2015.9 - 2015.11

湖南大学易班学生工作站 · 原型设计部

易班APP中校园二手商品交易平台“跳蚤市场”的产品
设计和原型设计，上线后累计使用人数超过1.6万人

2018.3 - 2018.5

湖南餐智科技有限公司的合作毕设项目

实现了基于深度学习的大批量食材图像识别系统，完成
部分功能的开发与后台界面设计

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Oct. 2016

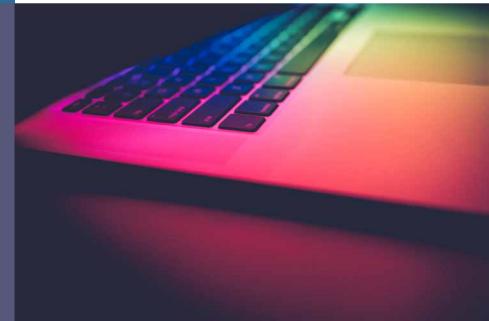
04

Flea Marcket

Team Project
Aug. 2015-Sep.2015



05



CoCamera

Personal Project
May.2015

01

Exchange



Personal Project
Sep.2017-Nov.2017

In university study or life, often involved in some professional field, we are not familiar with need other disciplines students or assist to accomplish the task time but can't find the right person.

The design of this work is to set up a bridge of communication between different specialty students and cooperation platform, let you in need other professional skills or knowledge for other disciplines students no longer panicky.

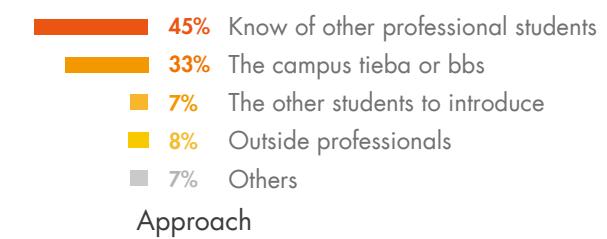
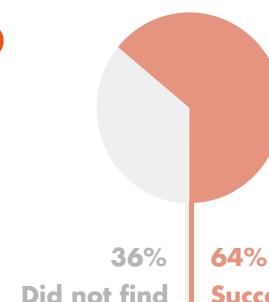
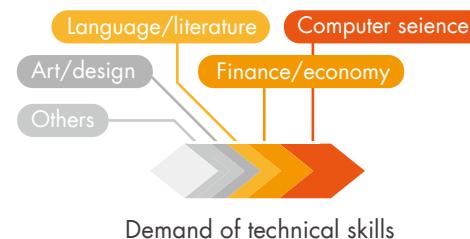
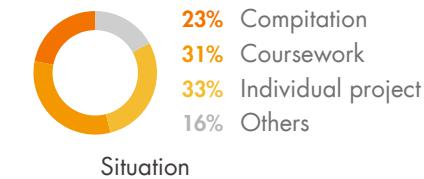
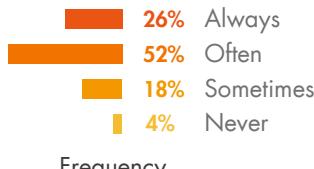
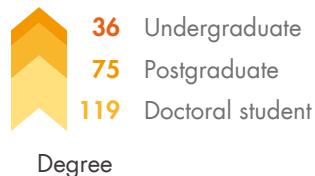
01-12

In various professional students, the university of other professional knowledge does not understand/tools use unskilled, learn don't have enough time now, go online to find a professional and very expensive

Software college students, for example, to complete a web site or APP project, but only to understand the background technology, do not understand the design of the interface to work are attractive enough

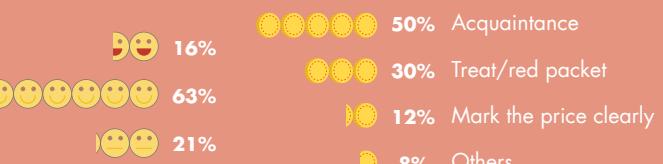
Mechanical professional students to participate in the competition, finished good mechanical design, but I don't know, video filming and post-production, plea show no longer competitive

Aiming at this problem, on 230 kinds of college students from 24 major has carried on the questionnaire survey



Why didn't find anyone

How to resolve eventually



Satisfaction

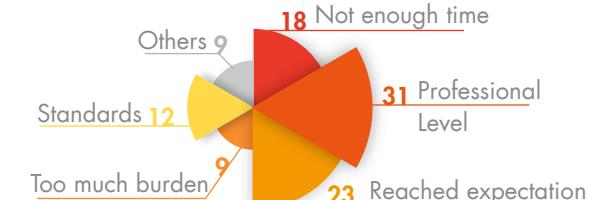
Cost



Skill levels



Willing to help



What will you be worried about



Yang Xu

chemistry
junior

Experience

Some research in the field of computational chemistry, to professionals need to write related program to simulate some special environment, to calculate the properties of matter

Concern

More concerned about the patent ownership of results and the confidentiality of the content of the project

Acceptable form

Similar to baidu knows/know of such a question and answer platform form, or similar forms like idle fish second-hand trading platform



Zhiqi Sun

clinical medicine
doctor

Experience

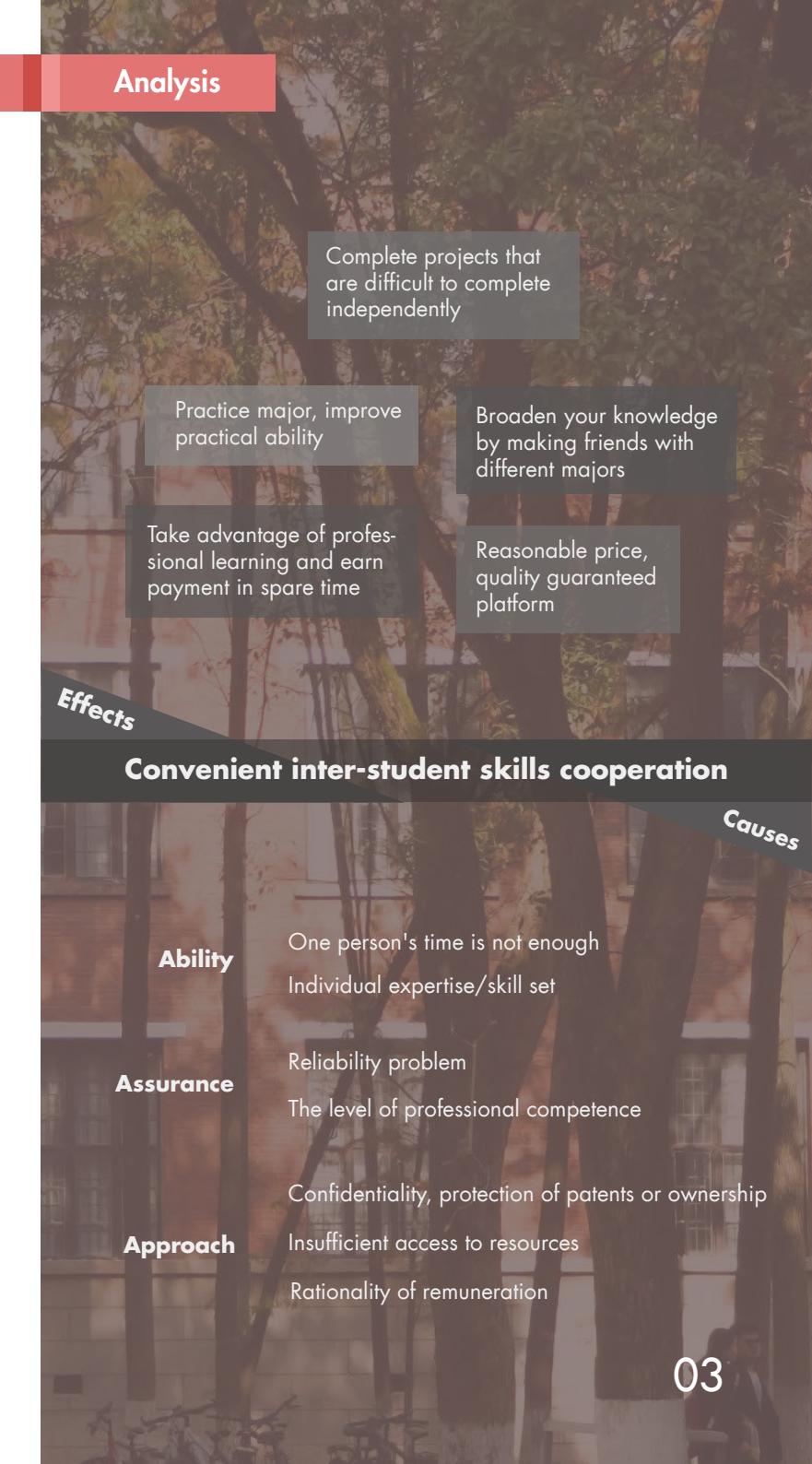
Participate in the school project, in the start-up is very need to accounting, art, members of the marketing professional, responsible for product promotion, packa-ging, and group financial problems

Concern

Itself is a medical school, discipline is relatively single, other professional students number itself is less, and the professional ability is relatively high

Hope

Hope to be able to use their own professional and technical practice what they have learned, but less contact with the other professional medical professional itself, rarely have the opportunity to use

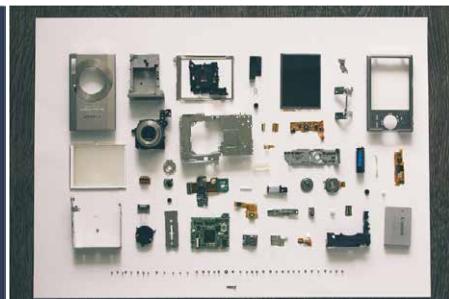
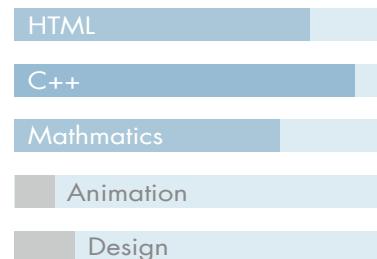




Sex Male
Age 21
Major Computer Science
Hobby Technology
Digital Products
Electronic Games

To complete the graduation design on site, to implement the function of the background design is not ideal, but the page looking for professional designers to help improve the website

Skill

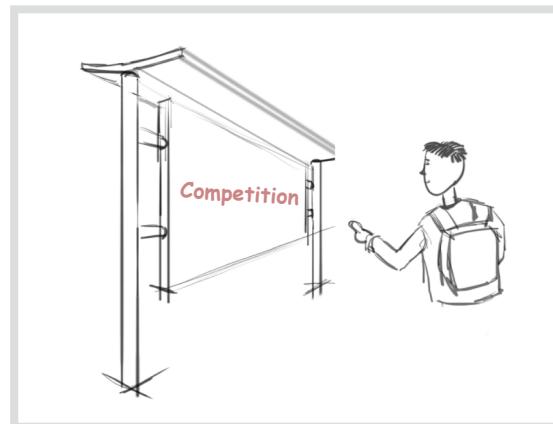


Sex Female
Age 26
Major Computer Science
Hobby Literature
History
Language

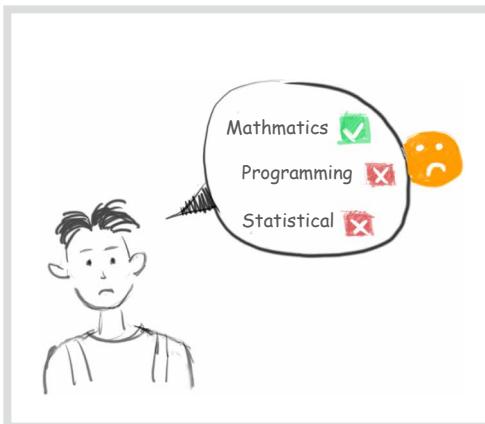
Medical project in the national college students' entrepreneurship competition, lack of marketing team, propaganda and accounting professionals, is looking for related professional students team competition,

Skill

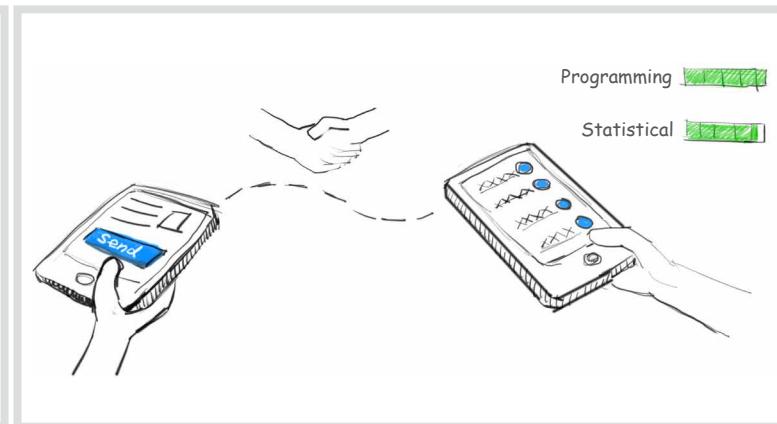




1 Mathematics A classmate see a digital modeling contest on the bulletin board of a public announcement



2 A math is very good, but I don't understand programming and data statistics, not independent



3 So he sent via Exchange information, looking for a team to compete. Just met good at programming and statistical B in the above students



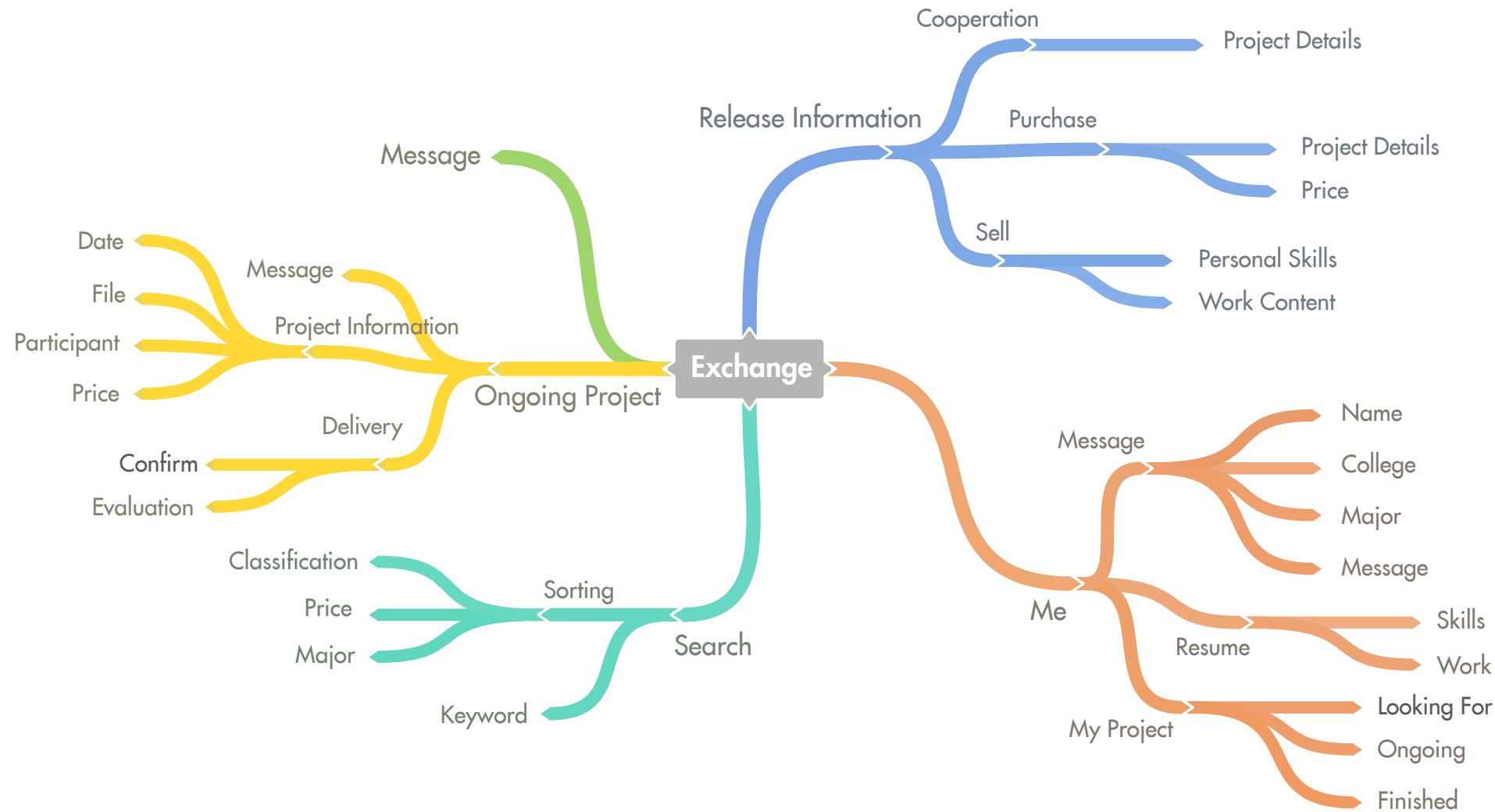
4 The two hit it off, division of labor cooperation, to complete the work ready to compete



5 Two people have a clear division of responsibilities, to complete the outstanding entries, won the outstanding performance in the game



6 After finished the project, project completion in Exchange and to evaluate each other's professional ability





You have a project to release a demand for fine arts students			
Search for a familiar with students mathematical modeling contest			
Publish a web page and website backstage construction skills			
Work with a classmate to complete the project, to upload file operations			



Join in the search filter column "all" option, according to the matching degree of each type of content



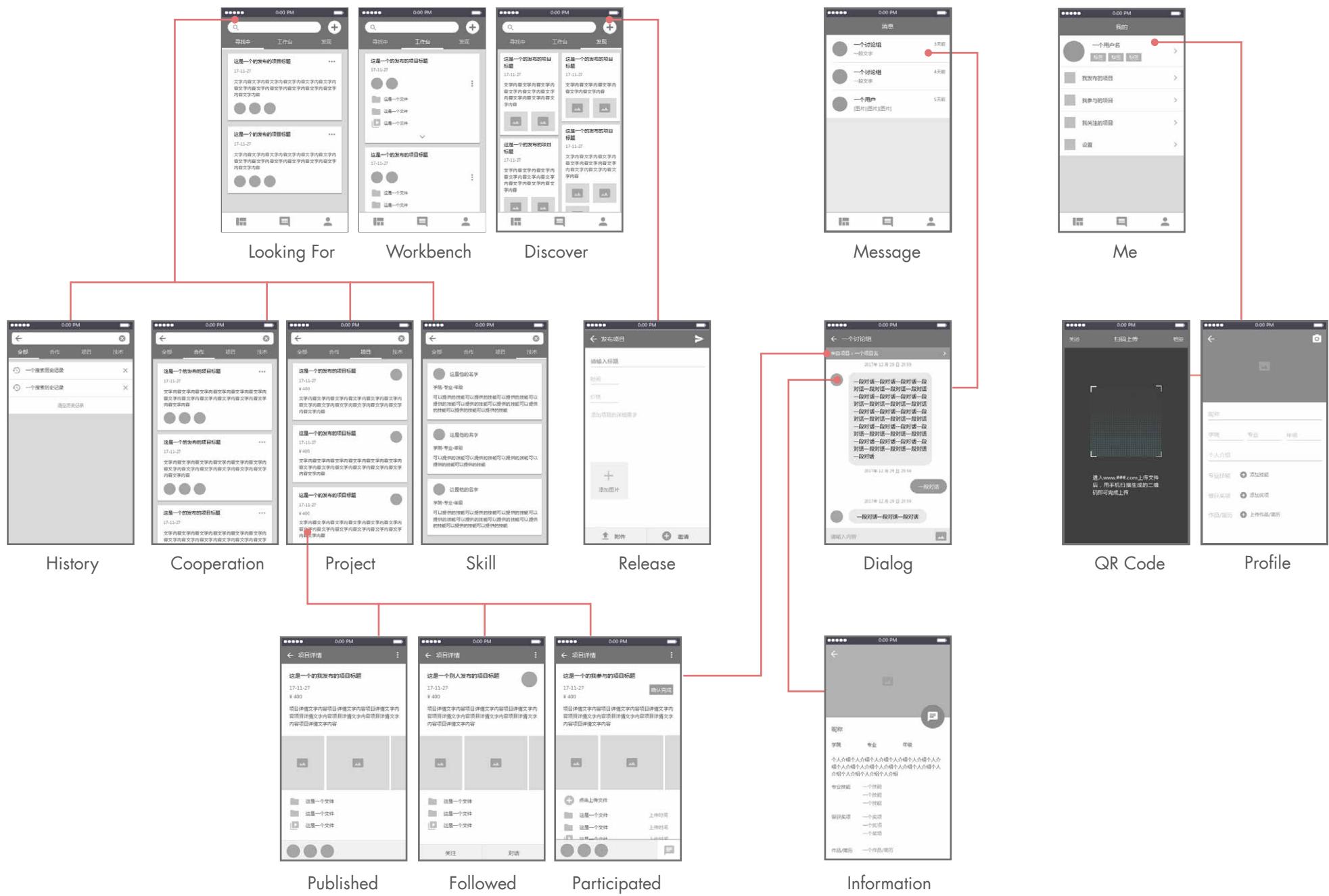
On the navigation bar at the bottom of the home button on the left is the most accord with most people use habits, need to sacrifice some symmetrical aesthetics



In has already started to work in the project, the project details page for more time to check all uploaded files, not chat

When projects involved in more than 2 person automatically create groups, chat records and files are the three people share

Wireframe



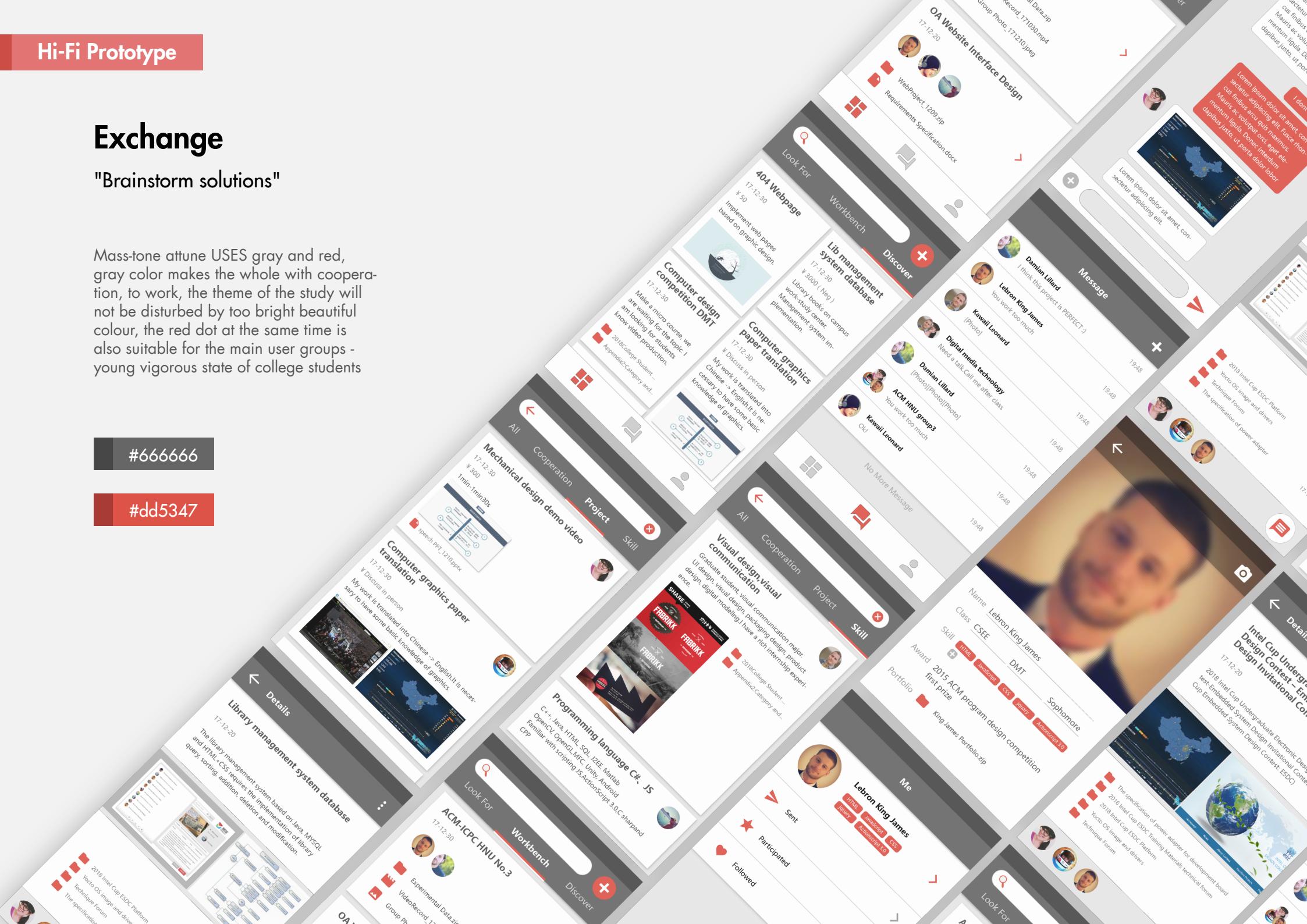
Exchange

"Brainstorm solutions"

Mass-tone attune USES gray and red, gray color makes the whole with cooperation, to work, the theme of the study will not be disturbed by too bright beautiful colour, the red dot at the same time is also suitable for the main user groups - young vigorous state of college students

#666666

#dd5347



Home Page
Ongoing projects include the published projects, and found that three parts, user-friendly quick view and related to their progress of the project.

Release
Publish your skill requirements and add pictures or attachments.

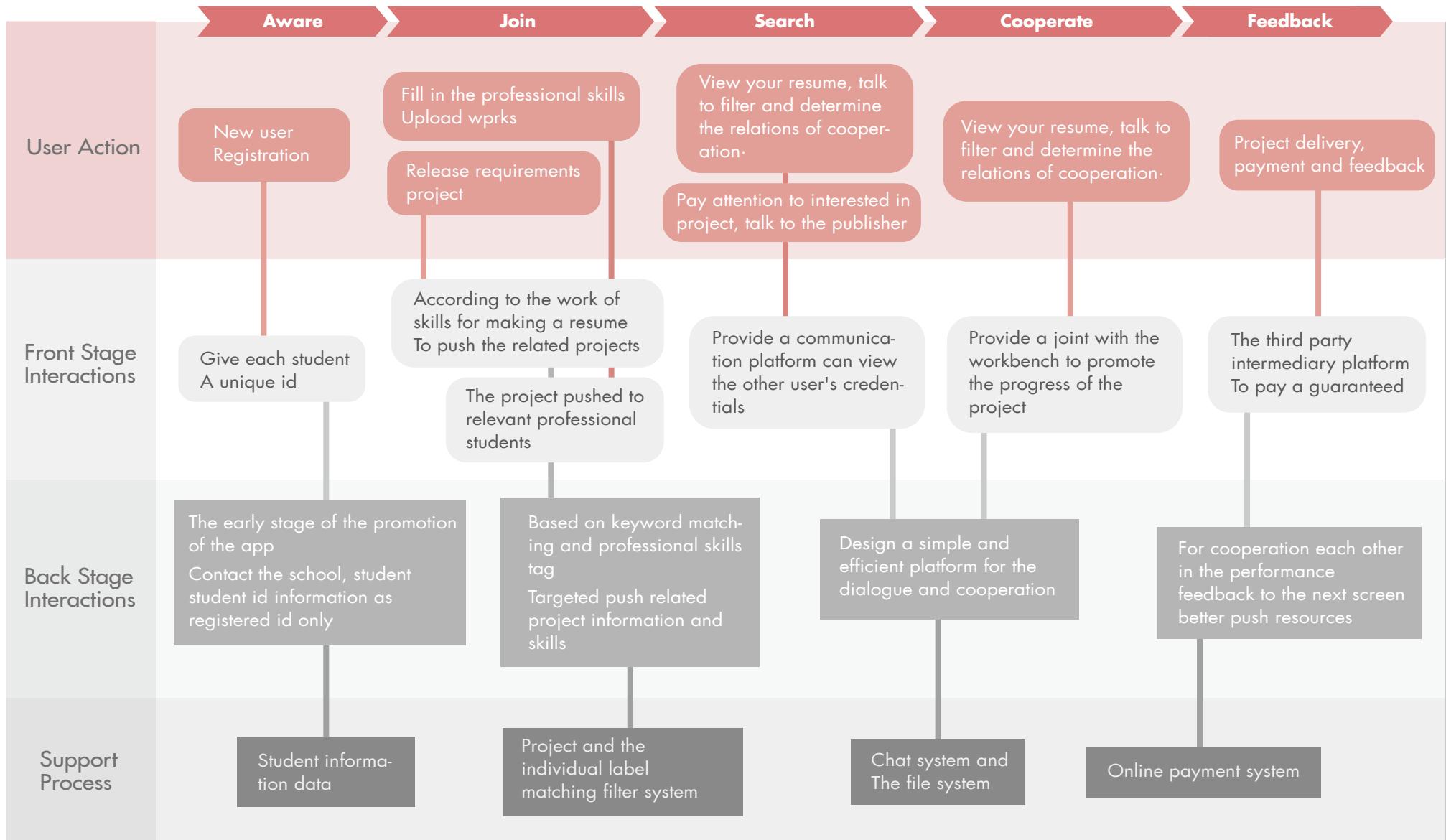
Search
Identify the project, cooperation, or skills you are looking for, based on keywords and three categories.

Message
View users who have had conversations with them and communicate quickly about the needs or progress of the project.

Project Details
Include project titles, content, pictures, and uploaded project files, and users can check the details of the project.

Me
Categorize the items I care about, the items I collect, and the projects I'm participating in, and I can change my skills and profile by entering the personal information interface.

			
Information	<p>Satya Kumar</p> <p>Grade Senior Major Software Engineering Skill Javaee, database</p>	<p>Ziou Zhang</p> <p>Grade Sophomore Major Visual Communication Skill Graphic Design</p>	<p>James White</p> <p>Grade Graduate Major Finance Skill Financial Statistics</p>
Problem	Curriculum design in order to realize web site, completed the website backstage, page design and beautiful enough	Understanding of graphic design related technologies Course easily, have free time	Want to join the college students' entrepreneurship competition but team members of a single, lack of competitiveness
Goal	Find design major students assist with website page beautification, willing to pay the corresponding remuneration	Hope to find a part-time job, you'd better able to apply their professional knowledge	Hope to find math computer professional students, the team
Behavior	<ol style="list-style-type: none"> 1. The APP in their project requirements Wait for others to contact 2. Search background related to students Take the initiative to contact the plane design professional students 	<ol style="list-style-type: none"> 1. Upload their own professional skills and work, waiting for someone else 2. Browse others published tasks have a suitable for their work 	Launch their own business competition existing personnel, recruiting marketing related accounting students team



Food Diary

Personal Project
Jul.2017-Aug.2017

This work can help you record your daily diet and turn the bland food into a vivid and interesting picture. Anywhere at any time you can use it to record what you eat, you can check your detailed calorie diet and statistical data, also can look at the table to intuitive understanding of you all day, whether to eat what. Just like a food diary, accompany you to record every footprint on your food journey.

02



A lot of people like to collect, some people will choose to write a small article every day, someone will record a short video as a diary, which is the little bit of life.

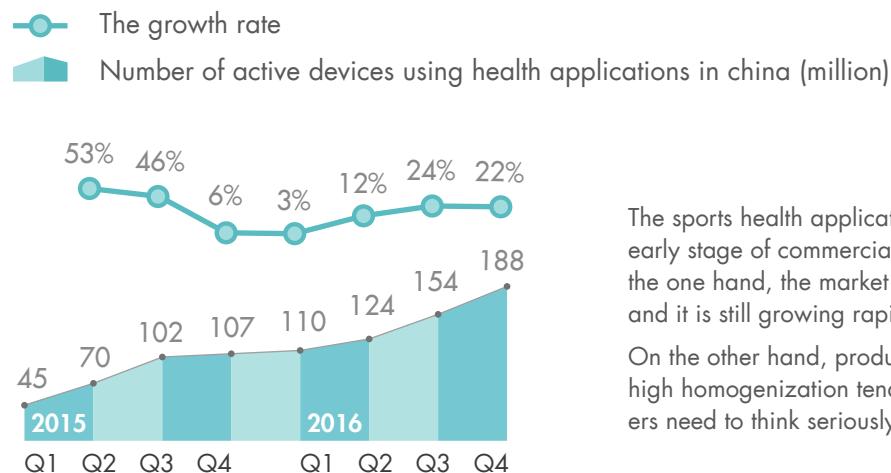
It's like three meals a day, but as long as you stick to it, you'll have a lot of things, and the mundane things will later seem like meaningful memories.

Some people, in order to lose weight or exercise, accurately record their daily intake of a variety of foods, and strictly control calories.

But control diet and record process is necessarily painful trivial, if can put such boring process with the image of the picture says, more intuitive and vivid, also make records the process of gameplay.

Many people regularly share their lives on social networks, possibly eating restaurants, possibly funny keyboards, or running fitness routines.

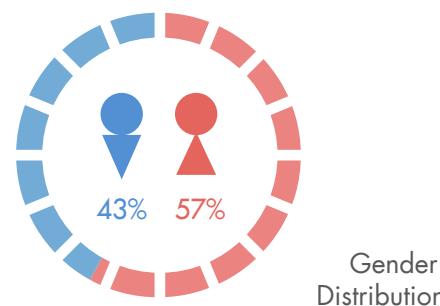
If you can put those not so delicate diet, with a nice and interesting way to present share through social networks, it is not only the communication with friends, and to urge their hold on power.



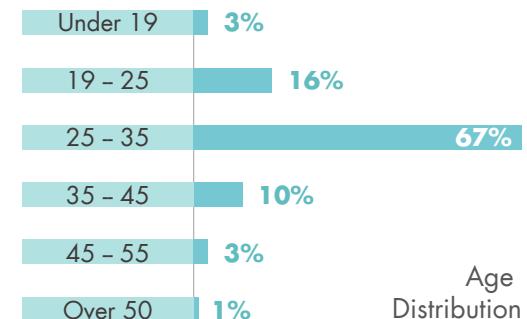
The sports health application industry is in the early stage of commercial development. On the one hand, the market pattern is undecided and it is still growing rapidly.

On the other hand, products and modes have high homogenization tendency and developers need to think seriously and improve

User Group Description



Age Distribution

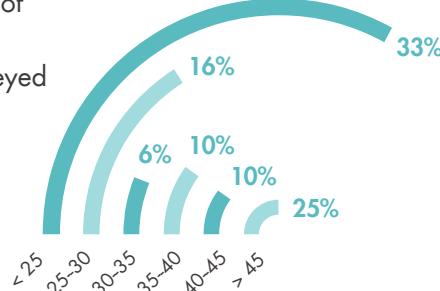


CATERING **FITNESS** **NEWS** **DRINKS**
PROTEIN **ALBUM** **MUSIC** **SHOPPING**
CARS **SOCIAL** **COMMUNICATION** **FOOD**
HOUSE **TRAVEL** **PHOTO** **PHOTOGRAPHY**
PROPERTY **CALORIE** **SELFIE**
READING

In response to people's habits of sharing food photos on social media, **212** people were surveyed

Female **75%** 

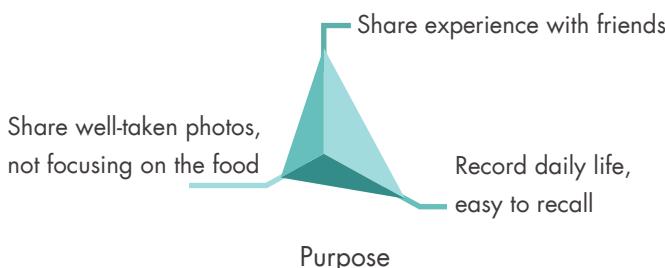
Male **25%** 



- More than 3 times a week
- 1 to 3 times a week
- 1 to 3 times a month
- Less than 1 times a month



- Fancy restaurants, eating out
- Take pictures of the delicate food
- Make own meals at home
- Snacks or specialty
- Desserts or drinks



Share well-taken photos, not focusing on the food

Record daily life, easy to recall

Purpose



Ai Teng

Hobby collection of little things, obsessive compulsive disorder, prefer cartoons and comics

I have a habit of keeping a diary, and sometimes I record my diet and things like that.

It's a hassle to write every day; But at the end of the day, a lot of mundane things can't be memorized.

As a record of the APP, I hope the process is easy and easy to use, and it can be used to summarize and summarize in the future



Dongua Ge

Social network heavy users, Love food, photography, fitness

Often the photos that will be posted on the social network, usually the more beautiful ones. About 2-3 times a week

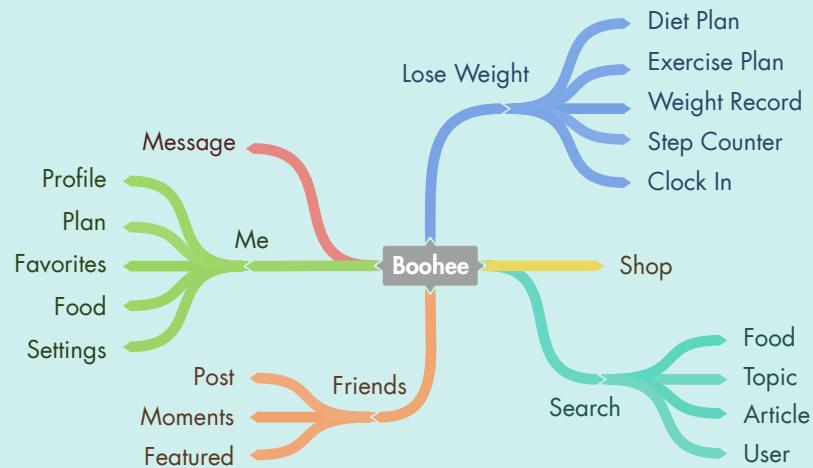
There used to be a calorie-recording APP, but it's usually recorded every night, sometimes because it's not clear how much weight you need to check

Want to pay attention to the food, do not become fitness class APP, the interface is beautiful, do not have many data record the nature.



"Weight loss, fitness and control life"

Professional online weight management platform
Enhanced food nutrition database



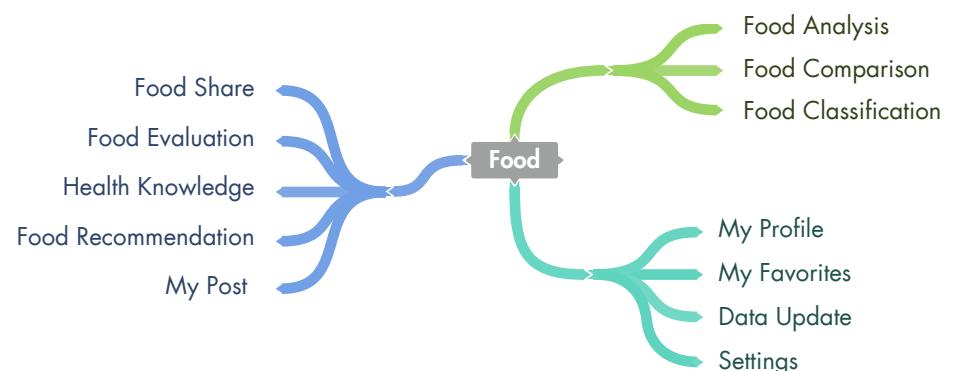
Large, content, from diet records to exercise program recommendations and friends community

Feature & Focus



"Healthy diet, fitness for weight loss"

Provide food nutrition inquiry, food photo sharing, healthy diet information recommendation, weight loss fitness for food, calorie counting and other one-stop services



Longer focus on food, including food calorie enquiries, food recommendations and assessments

Integral style is small and fresh, green white is given priority to, give person feeling relaxed positive, healthy

Interface & Color

The theme color is orange, give a person with warm and comfortable feeling, cooperate with its to eat priority to position

#64CC7A #E98A50



Social network
heavy user,
Interseted in food
photography



Have collected habits,
Like to record and summarize
their daily dribs and drabs



Pay attention to diet,
Keep your calorie
intake, and keep fit



Grace Ge

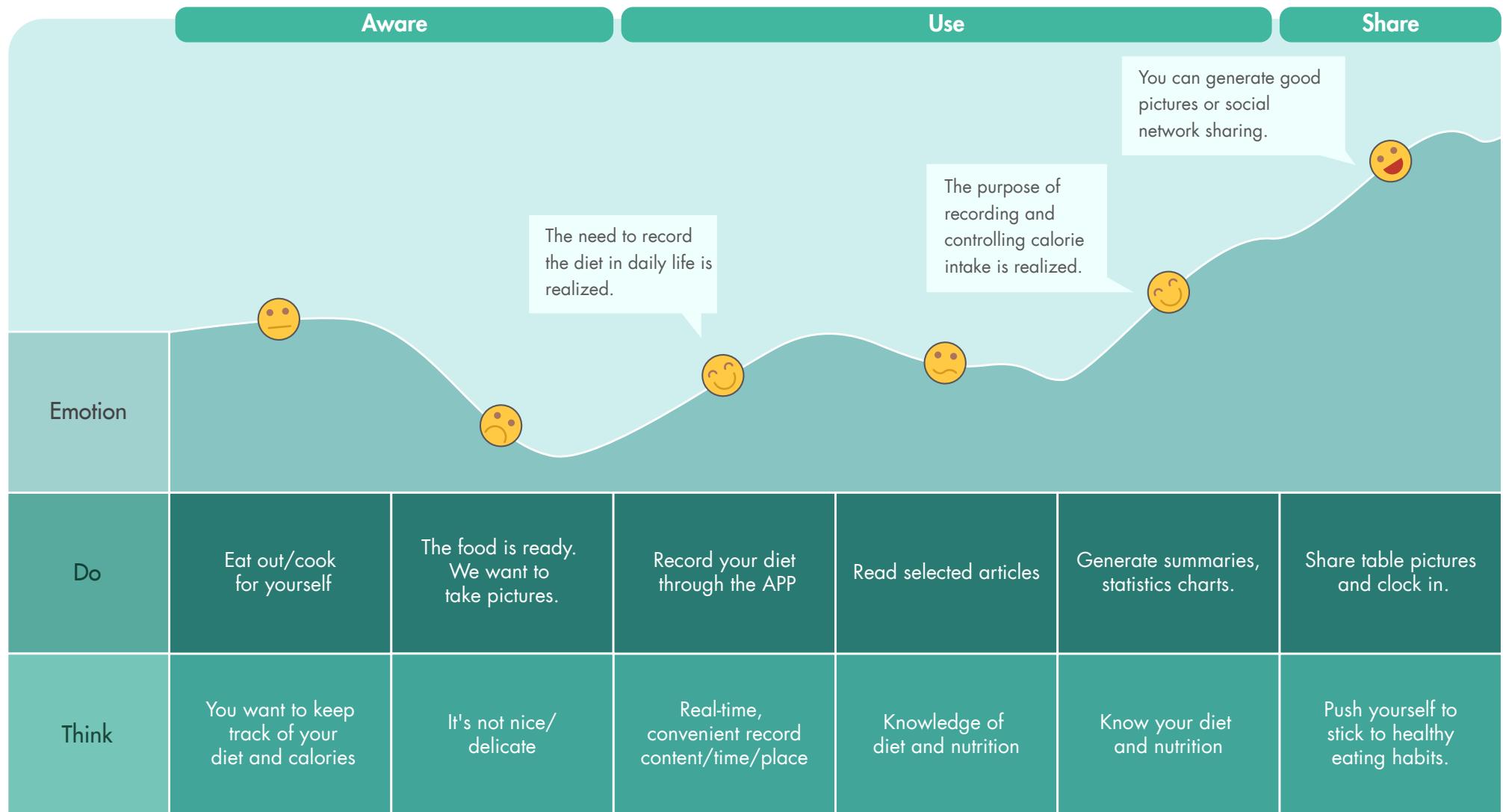
Sex Male

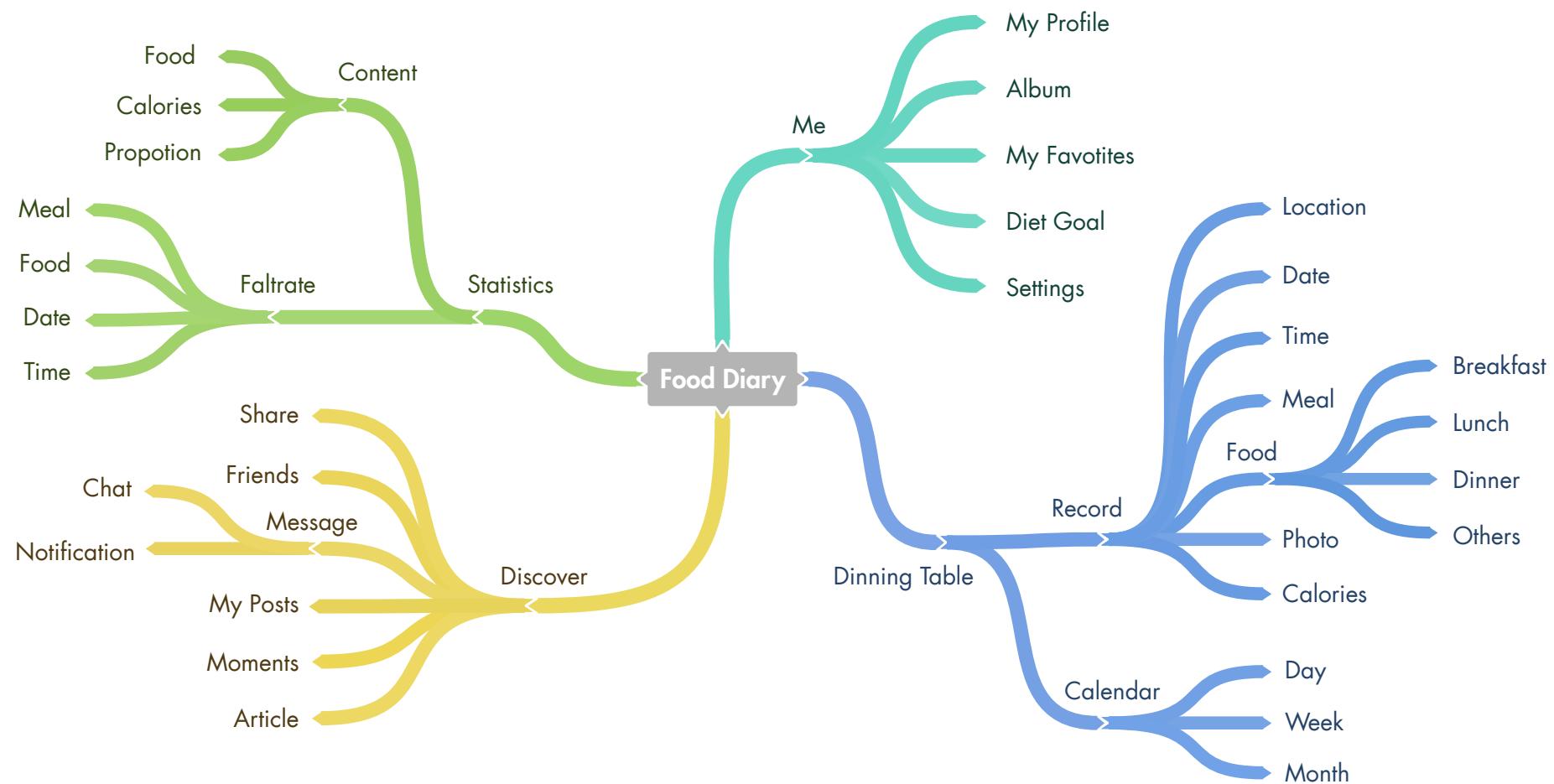
Age 26

Job Consultant

"I like to travel around the world to take pictures during my holiday. I dream of tasting the world's delicious food one day."

Every time I go to the local restaurant, I often take pictures of scenery and food on the social network, and I like to interact with my friends."





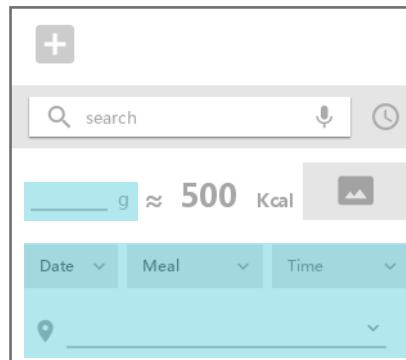
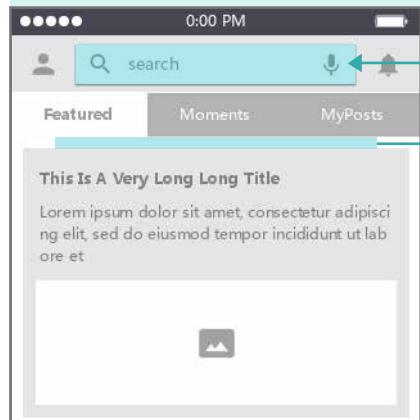
Usability Test

- Use www.xiaopiu.com online prototype website to make interactive model.
- Simulate user's actual usage scenarios, and test the use of the selected **five** progressive core functions.

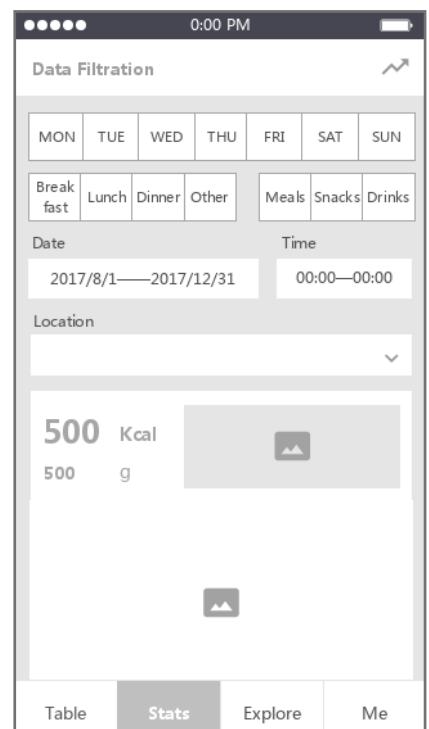


1	Record an ice cream you just ate	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	Check out the past week for what you've been eating	<input type="radio"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3	Revise the place where ice cream was eaten yesterday afternoon	<input checked="" type="checkbox"/>	<input type="radio"/>	<input checked="" type="checkbox"/>
4	Search for a post that contains "cereal"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="radio"/>
5	Change your daily calorie intake to 1,600 kcal	<input type="radio"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

The three columns in the dynamic module have their own search box, the layout is redundant, the function is repeated, so the search box is changed to the top of the classification bar, and the search is merged.



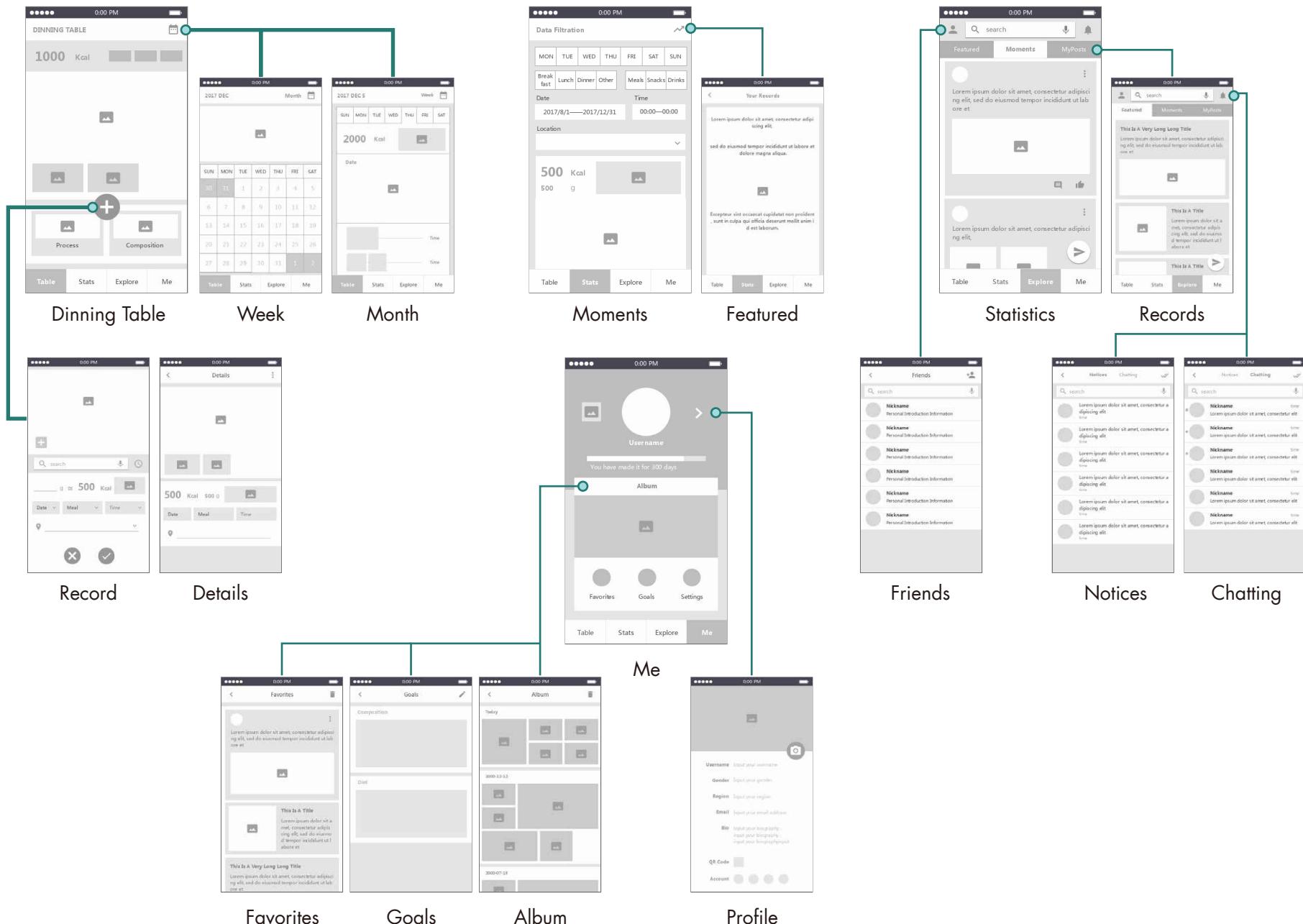
In order to record the timeliness of the diet, allow the user to skip some content or select the current default time location record, and allow the user to modify and edit it later.



Statistics function is not perfect, cannot satisfy some users than for a specific time or specific food, so choose to adopt multiple allows not to fill the check box model.

Both the implementation of the condition of multiple complex filtering requirements, at the same time, the default selection will not create too many steps to other users.

Wireframe

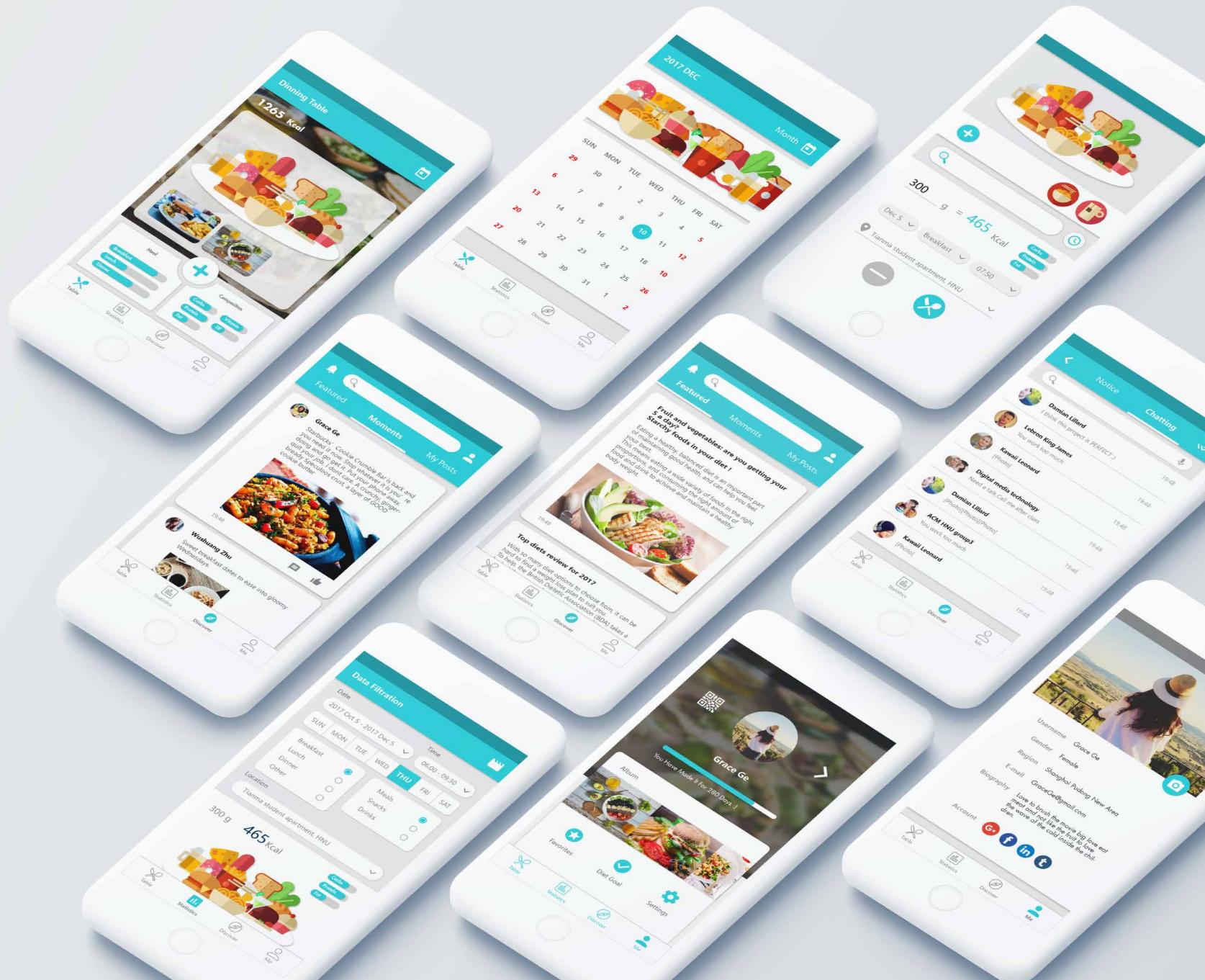


Dinning Table

"Record every meal"

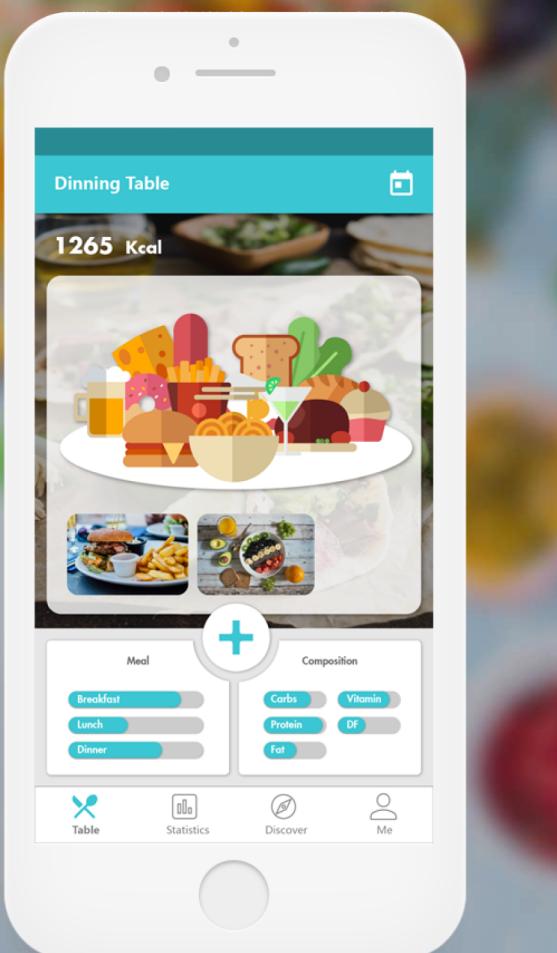
Mass-tone attune USES lighter turquoise, pure and fresh and lively, conform to the diet class APP young people give priority to the style of the user community, and can and make food is given priority to with warm color such as orange yellow and red pictures and drawing, the user interface in the process of the whole tonal and not too warm, resulting in visual fatigue

#dd5347



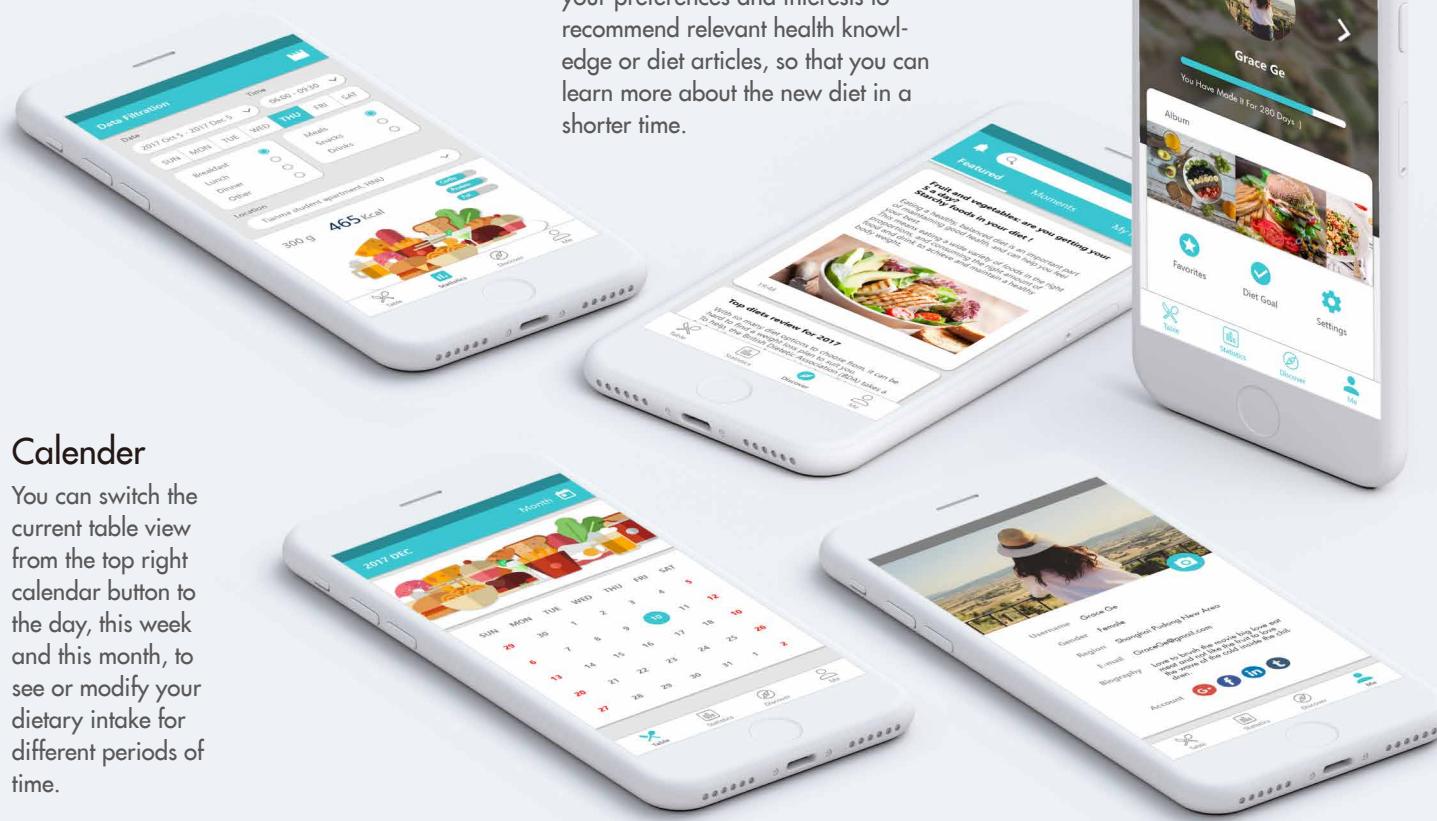
Dinning Table

The home table is full of all the food you've eaten throughout the day, and you can see the content, calories and nutrition of all the foods you eat today.



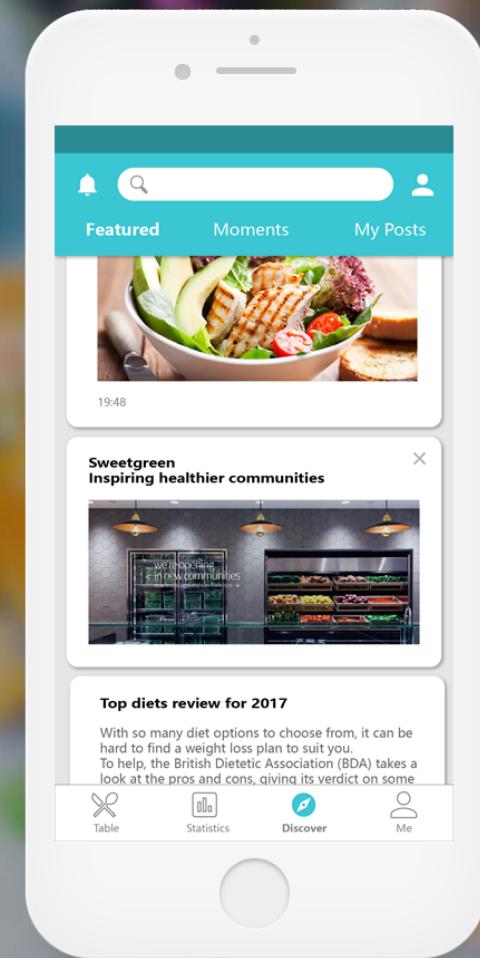
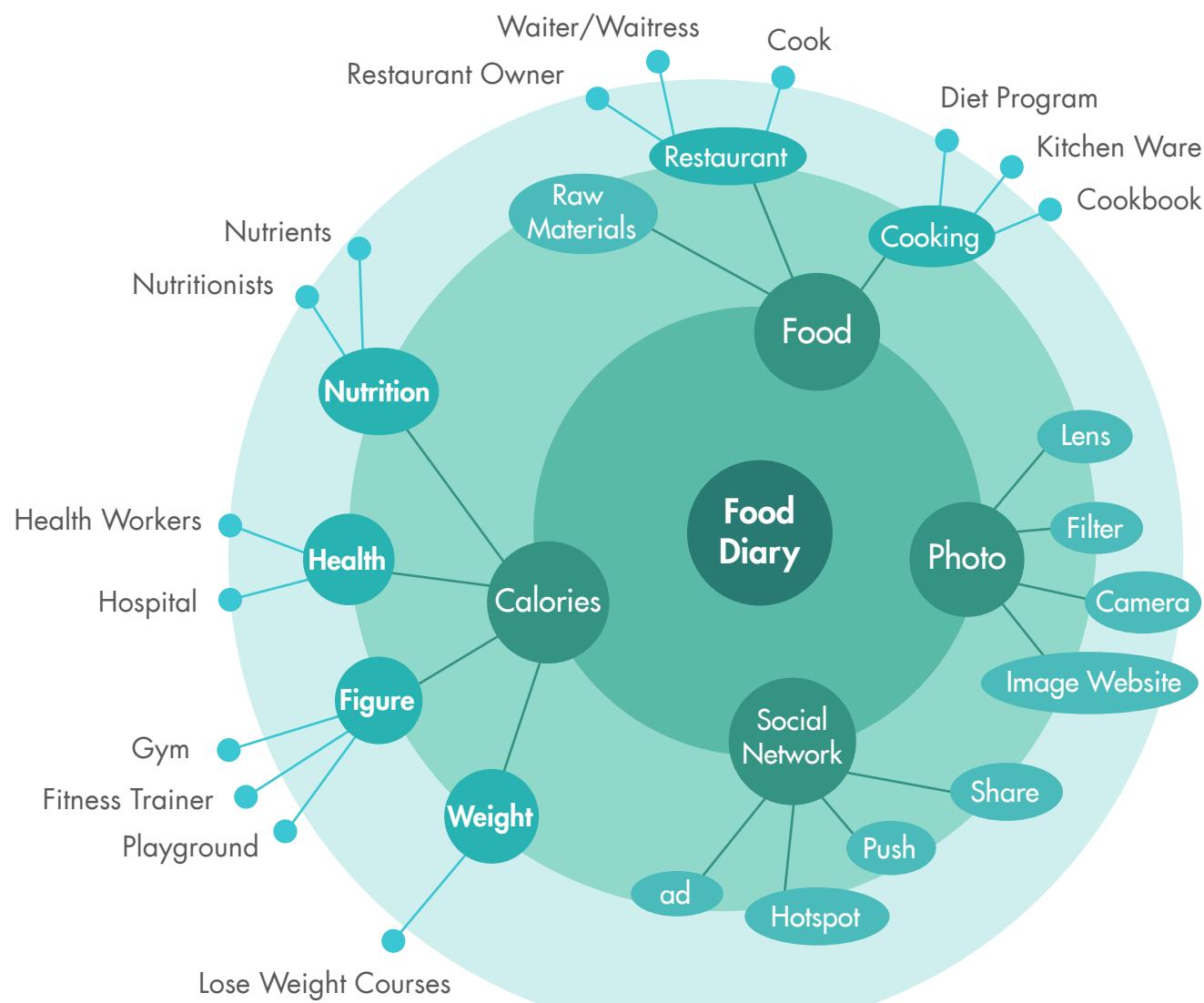
Statistics

Allow the user to quickly learn about the diet and proportion of the food in a given period of time according to the date, date, time, and food content.



Me

Find out more choices that will follow your preferences and interests to recommend relevant health knowledge or diet articles, so that you can learn more about the new diet in a shorter time.



Advertisement

Appropriate insertion of relevant ads in selected articles of system push. Examples include restaurant recommendations or recommendations for healthy foods.

Schedulamp

03



Personal Project
Oct. 2016

Faster and faster pace of life, the use of mobile phone alarm clock timing function frequency more and more is also high. Many people in study or work to themselves some plan, set the alarm clock time remind yourself to focus study adherence to schedule.

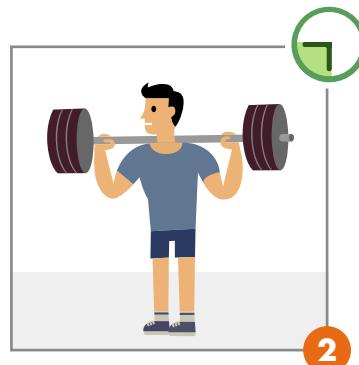
This project is a joined the desk lamp of timing function, through the lamp bulb next to the small and slow the color change of the LED lights flashing timing schedule to remind users, gentle and quiet, not sudden and sharp sound alarm, also no longer need to take mobile phone to see time, completely away from learning the lure of the phone at work, can make you more focused on the present work.

Background

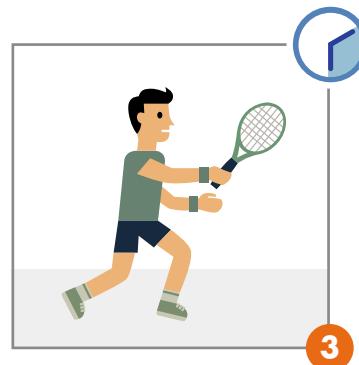
I once saw a harvard university "positive psychology" online public course, where the teacher mentioned a story of himself. The protagonist, tal, is a junior majoring in psychology at harvard university and a major player in the school's wall team.



He get up early to go running every day, and then go to school.



Over the course of the day, he'll go to the stadium and coach for regular training, play.

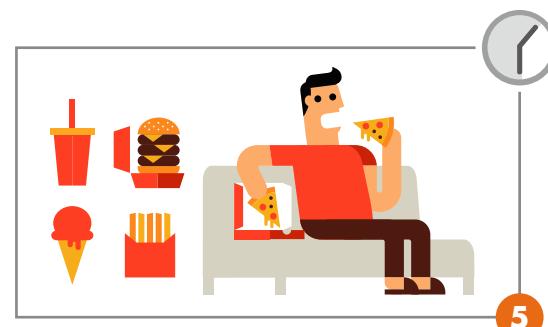


He'll go to the gym after dinner, then go home and do homework, reading and learning to sleep.



Everyone thinks tal children's shoes is a highly disciplined student with excellent results. So does tal, until the winter break comes.

Tal intends to pre-study two classes in the next semester, complete a research project, and maintain an average of more than one hour of exercise every day.



"I can't wait to have the freedom without squash and just focus on my classes. Catch up on all the readings and writings and stuff. Winter holiday came.

I stopped playing completely. And instead of becoming more productive, i became far less productive."

"We thought our self-control was strong, weakened after college, and became weaker after the holiday. —that's the illusion."

Teacher tal revealed two truths to us:

- ① People's self-control is limited.
- ② It's the habit, not the self-control, that keeps us running efficiently.

We can't improve our self-control, and only by making plans, forming habits and adding positive cues/rewards can we stay productive.

Status

Many people suffer from a lack of self-control. On the topic of "how to improve self-control and effectively make schedule time", we have received a lot of attention on the topic?

Self-control Psychology Delays Efforts Psychological

Follower 85726 | Viewed 3408926

How do you go from being an empathetic person to being a giant in action?

I am a very motivated person. But every time i work patterns are received a task, set a big ambition, think you must be very very hard in the future, will create the miracle, the one hundred and twenty percent of the good things...

Self-control Psychology Neuroscience Physiology

Follower 91872 | Viewed 3982435

How do the people with extreme self-control save themselves?

Symptoms or consequences include but not limited to: you can't do the same thing for long. Attention can easily be diverted. 3. There are problems in emotional management, which have a large emotional fluctuation when confronted...

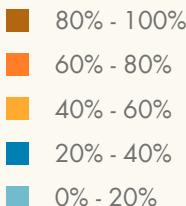
In terms of the habits of time planning and planning in the study of work, **256** people were surveyed, among whom **106** were students and **150** were already working.



Use an alarm clock or other timed function in addition to getting up



42% **58%**

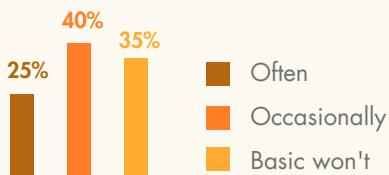


These alarm clocks and timings are used to motivate yourself to learn or to complete the work schedule.



- This often happens
- Sometimes they get distracted
- Never get distracted
- Have the urge to play cellphone but can control yourself

When you study and work, you will often be distracted by other things (such as chatting on your mobile phone)



Have you ever worked out a similar study or work plan (For example: do two hours of reading at night)



How well do you finish



Experience

Set a full day's schedule, think of the two hours for memorizing words, resolve to concentrate on your studies, and do not play with your phone until two hours ago.

Inconvenience

Often think: Is it almost time? How long is the end?

After a while, I want to touch my mobile phone to watch the time, in a very tangled state, and I can't really sink my heart to study.



Experience

After studying for a long time, I want to relax. I plan to play a dozen games first, but I still have some tasks to finish in the evening.

Inconvenience

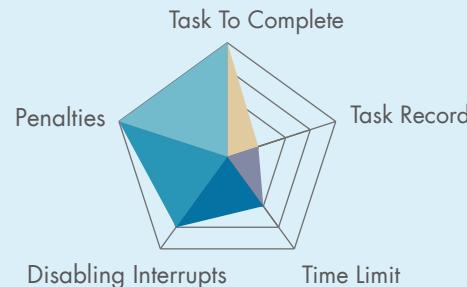
Set the alarm clock for entertainment. It looks stupid. You can't hear the sound of your alarm clock when you're not around. It's not convenient to turn off the alarm clock and it's going to go on and on, and it's going to make a lot of noise and often go back to the dorm at night.

Competitor Analysis



Forest

"Stay focused and be phubber.
Help you put your phone
down and focus on your life"



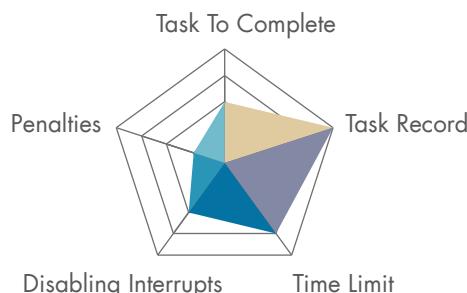
Choose different kinds of plant seeds for different duration.
If the user manages to resist the temptation of the phone, the seed will grow into a big tree.
If the software is cut during planting, the saplings will stop growing or even die.

- ① No other program can be opened during use.
- ② The need for normal cell phone use also causes tree seedlings to die. It's a bad experience.
- ③ Can only prevent mobile phone dependence, cannot help to resist other temptation.



Pomotodo

"Help you stay focused
and get more done"



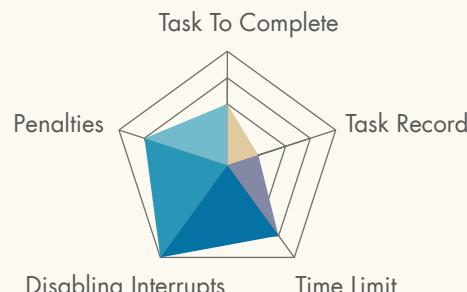
Complete workflow productivity tools.
Simple and powerful task list.
Working data statistics

- ① Prefer to record work actively.
- ② It's not a reminder of lack of motivation or self-control.
- ③ There are no punishments.



OFFTIME

"Lets you focus and find digital balance in a hyperconnected world"



Un-distractable.
Get to know yourself
Improve self-control
Tame the chaos
Invite others to a shared offtime

- ① The closure of IOS makes it impossible to force users to open prohibited applications. Users can only be alerted by high-frequency push notifications.
- ② The setup process is relatively trivial before the initial use.
- ③ Something urgent must wait a minute, and it is easy to delay.

Concept

Focus

Function

Disadvantages

Painpoint



The reminder won't be as sharp and harsh as an alarm clock, but it can be easily felt by the user.



Learn or work at a time when you don't need to provide a manual shutdown or snooze, like an alarm clock.



You can check your progress without having to turn on your phone's computer and other electronic devices. It's better to stay away from temptation and use a more natural way to present the timing.

Solution



Instead of waking up to sleep, there is no need for sound, but a combination of visual reminders and desk lamps.



After that, there will be special visual effects. When the prompt is finished, the timer will be finished automatically and no manual operation will be required.



The color change of desk lamp shows the progress of time, while studying nature can feel the gradual change of the light, while the weak change will not disturb the normal study life.



Lamp



Numeric Display

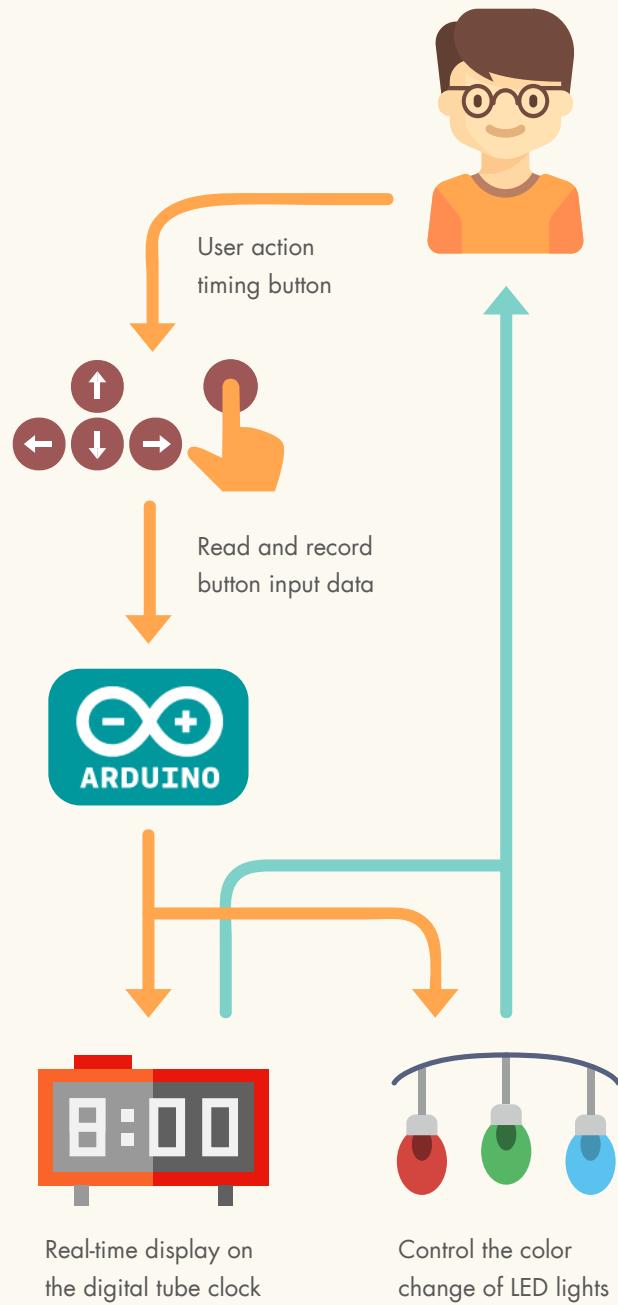
Innovation

So think of, design modification can a timer timing and the desk lamp of real time remaining, after time on the need to set the countdown timer, of the color of the small lights installed in the lamp with time changing, and users to look at the color of the lamp light faint change, can roughly know the length of time remaining.

Advantages

You don't have to turn off the alarm clock by hand when the timer is over. There's no screeching sound that just flickers on the lights, and you don't need to touch the electronic device to check your APP or your progress alarm clock.

Concept & Code



```

case KEY_UP:
    if (!Adjust)
        break;
    if (!Flag) {
        /*hour*/
        hour++;
        if (hour>hourMax) hour = 0;
        ledkeypad.display(0, hour / 10 + 48);
        ledkeypad.display(1, hour % 10 + 48);
    }else {
        /*minute*/
        minute += 5;
        if (minute>minuteMax) {
            hour++;
            if (hour>hourMax) hour = hourMax;
            minute = 0;
        }
        ledkeypad.display(0, hour / 10 + 48);
        ledkeypad.display(1, hour % 10 + 48);
        ledkeypad.display(2, minute / 10 + 48);
        ledkeypad.display(3, minute % 10 + 48);
    }
    break;

case KEY_LEFT:
case KEY_RIGHT:
    if (!Adjust)
        break;
    if (Flag) {
        /*Dot={0,1,2,3}*/
        ledkeypad.dotShow(0);
        ledkeypad.dotVanish(2);
        Flag = 0;
    }else {
        ledkeypad.dotShow(2);
        ledkeypad.dotVanish(0);
        Flag = 1;
    }
    break;

case KEY_SELECT:
    if (Adjust) {
        /*Dot={0,1,2,3}*/
        ledkeypad.dotVanish(0);
        ledkeypad.dotVanish(2);
        Adjust = 0;
        Flag = 0;
        allTime = minute + 60 * hour;
        leftTime = allTime;
        /*Timing Begins*/
        showTime();
    }else {
        hour = 0;
        minute = 0;
        Adjust = 1;
        ledkeypad.dotShow(0);
    }
}

void showTime() {
    while (hour>0 || hour == 0) {
        minute--;
        if (minute<0) {
            if (hour == 0) {
                minute = 0;
                Adjust = 1;
                break;
            }else {
                minute = 59;
                hour--;
            }
        }
    }
    /*Digital Dispaly*/
    ledkeypad.display(0, hour / 10 + 48);
    ledkeypad.display(1, hour % 10 + 48);
    ledkeypad.display(2, minute / 10 + 48);
    ledkeypad.display(3, minute % 10 + 48);

    leftTime = minute + 60 * hour;
    /*Digital Dispaly*/
    /*LED*/
    /*Float percent = 0-1*/
    percent = leftTime / allTime;

    /*RGB*/
    R = 255;

    if (percent<2 / 3) G = 255;
    else G = 255 * (1-(percent-2/3)*3);

    if (percent<1 / 3) B = 255;
    else if (percent>2 / 3) B = 0;
    else B = 255 * (1-(percent-1/3));

    setColor(R, G, B);

    /*LED*/
    delay(60000);
}

void setColor(int red, int green, int blue){
    analogWrite(redPin, red);
    analogWrite(greenPin, green);
    analogWrite(bluePin, blue);
}
  
```

Prototyping & Test



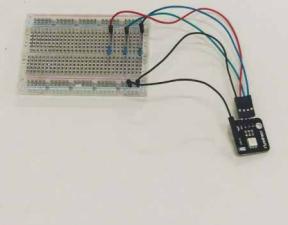
Arduino Uno R3



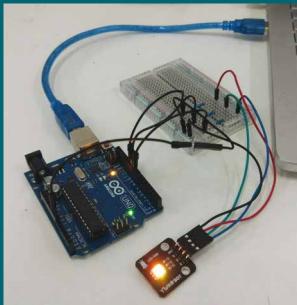
LED Keypad Shield



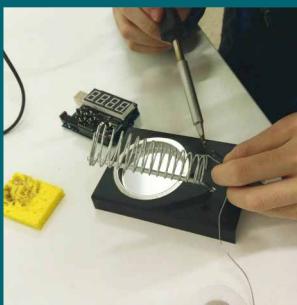
LED RGB



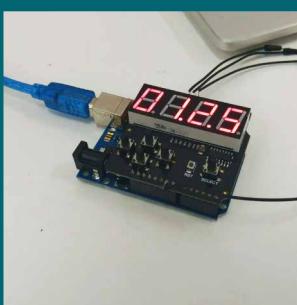
Connect the LED lamp with appropriate resistance to control the brightness



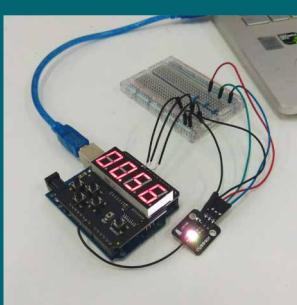
The color of LED lights is gradually changed by means of Arduino coding



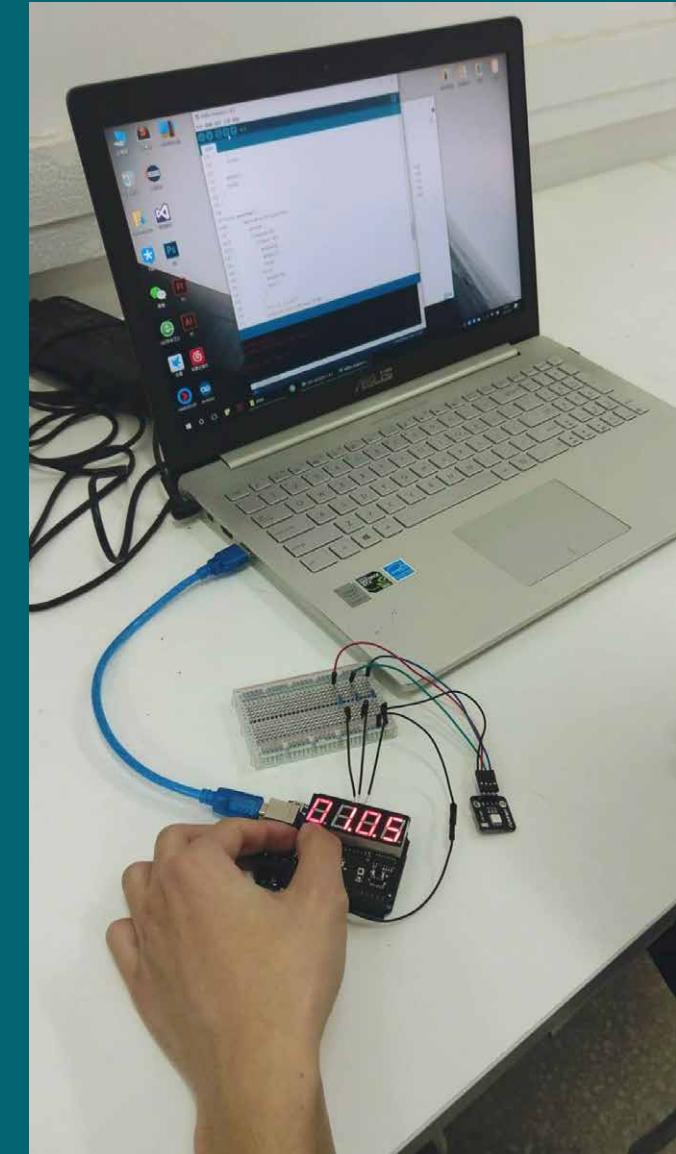
Connect the LED lamp to the digital tube welding wire



The timing and countdown functions of the digital tube are realized by coding Arduino

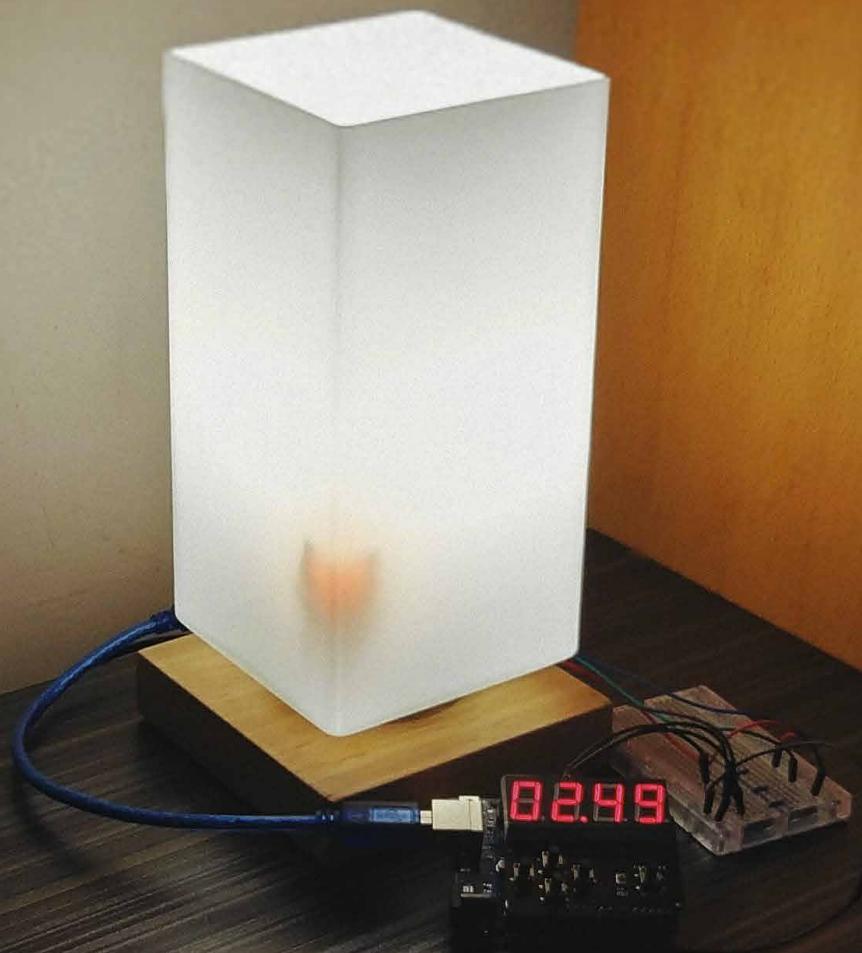


Connect the digital tube and LED lamp to realize the color change with the countdown



Before installing the LED lamp on the lamp, repeat the test to find the appropriate color change curve and critical value.

- Operate the digital tube to select timing.
- The first half of the time LED lights remain white, which does not affect work learning.
- After 1/2, the LED light will gradually change from yellow to orange, indicating more than half of the time.
- The last 1/4LED light gradually turns from orange to red, indicating that the time is coming.
- After the timer is finished, the LED lights are flashing red and flashing three times, indicating the end of the time.



Flea Market



Team Project
Sep. 2015-Nov.2015

Easy class is created by the ministry of education college students comprehensive community interaction, flea market project is my easy class students in hunan university workstation during the research and development center to do a group project, aims to designed and developed a class based on easy APP client and web administrator the campus second-hand goods trading platform, my team is responsible for product design and prototyping part of the work.

This project mainly implements the second-hand goods distribution, search, screening, navigation, communication, purchase, evaluation and the function of the administrator to modify, and delete an illegal goods, has been put into use in the school scale, the number of users reached more than 16 K.

Competitor Analysis



Xianyu



Xiaojiayi



Zhuanzhuan

Product Concept

"Idle fish alibaba group's APP, buy and sell idle, use idle fish! You don't need to open a store to enjoy the alipay guarantee transaction, only 30 seconds to release a baby"

Small transactions are "talking" friends and neighbors to exchange services, while offering carpooling, renting, housekeeping, tutoring, takeout, express delivery, etc.

"Turn around" is 58 to market the new launch of personal idle goods trading platform. In a roundabout way, we try to make it easier to buy and sell unused goods.

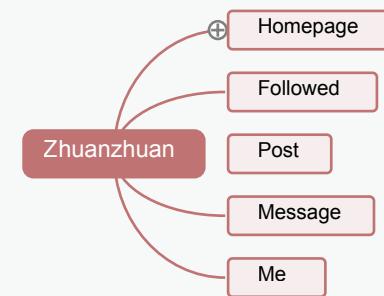
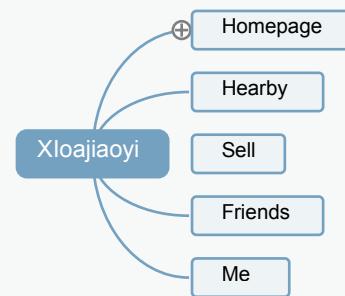
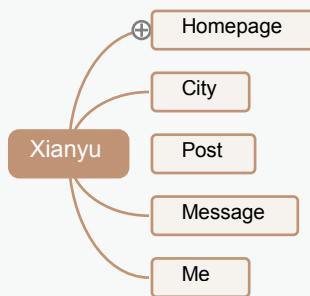
Purchase Process

- I Want
- Communicate With The Seller
- Buy Immediately
- Enter The Delivery Address
- Confirm
- Generate The Order
- Pay
- Wait For The Delivery
- Receive The Goods
- Evaluation

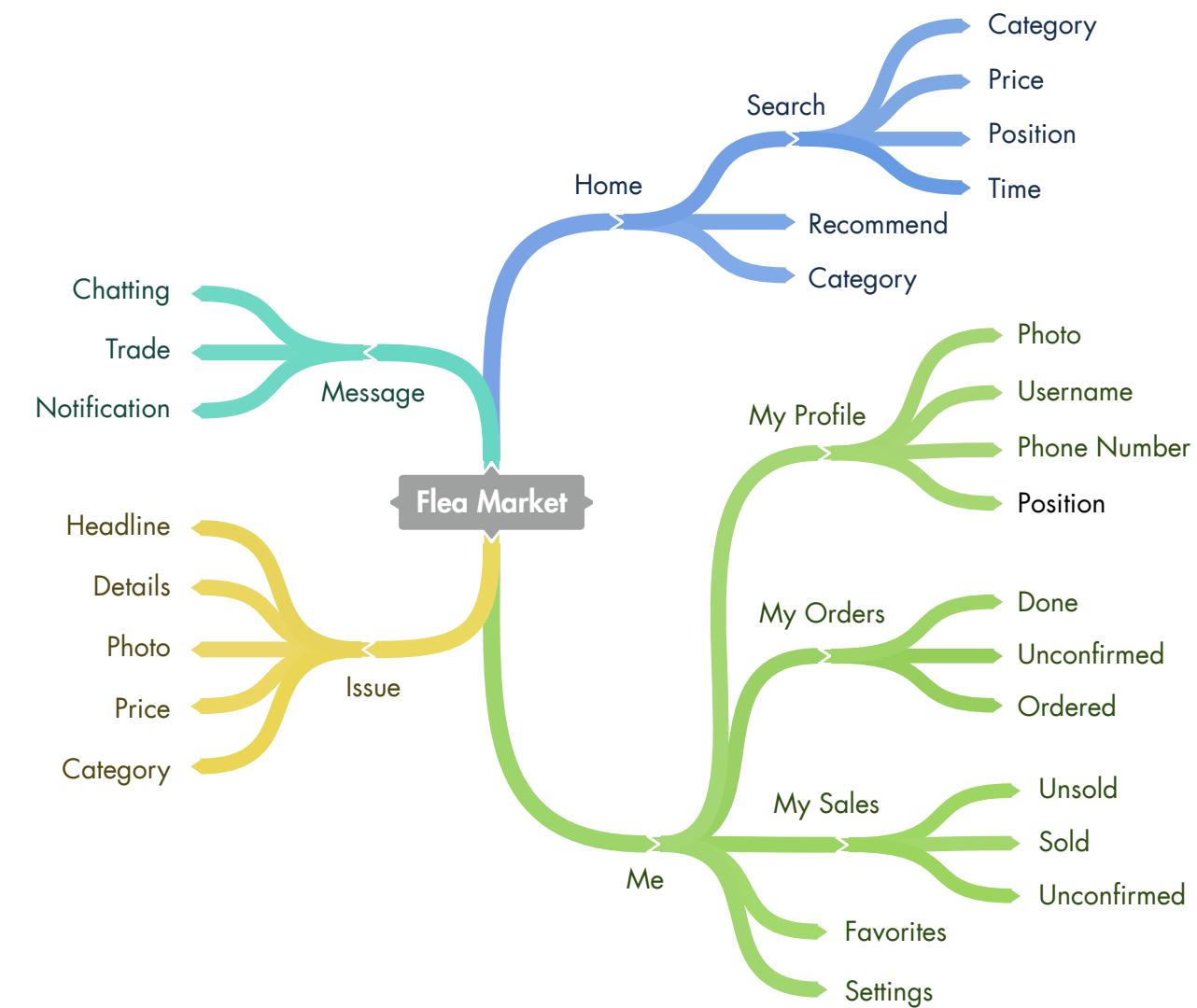
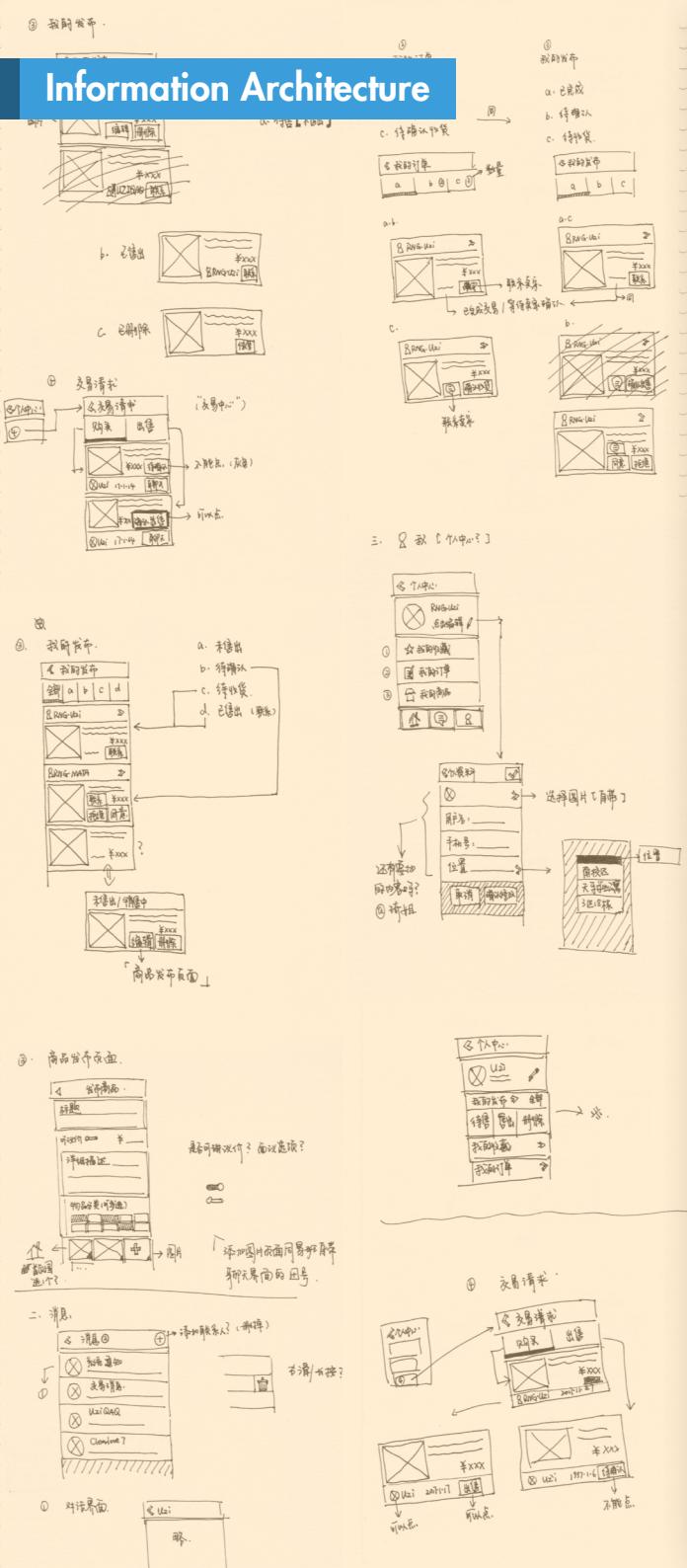
- Purchase
- Filling Address
- Order Confirmation
- Payment
- Waiting For Delivery
- Receiving
- Evaluation

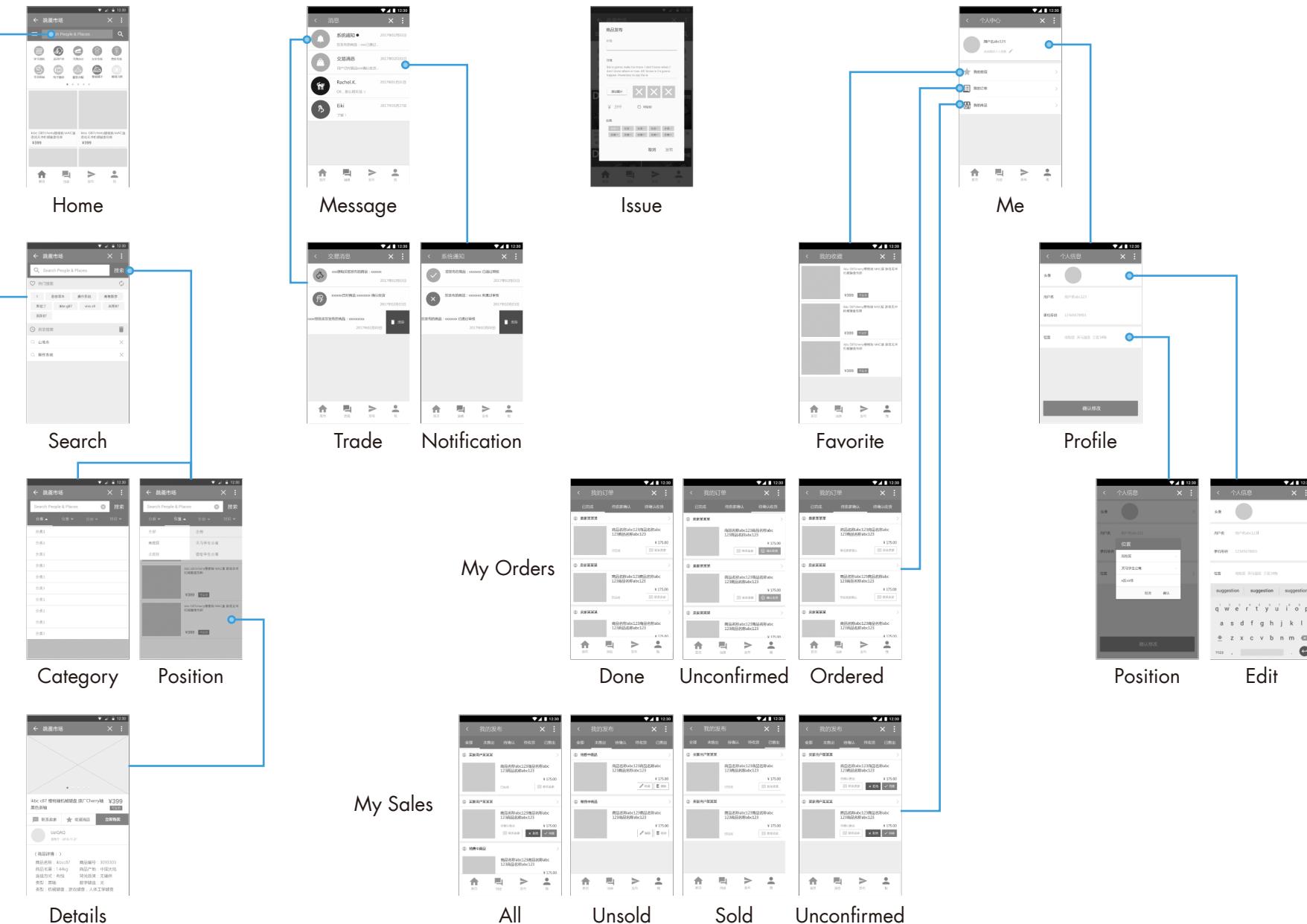
- Purchase
- Fill Out Address
- Confirm
- Confirm Payment
- Order Confirmation
- Login Alipay
- Payment
- Waiting For Delivery
- Receiving
- Evaluation

Function Module



Information Architecture







Flea Market

"Know the secondary market of students best."

Homepage

Check and search for secondhand goods posted by other students.

Message

Find your friend or seller and talk to him about what you want to buy.

Issue

Issue a second-hand product to the flea market.

Me

Check out my purchase schedule and the items I sell.

Admin

Check the information of the goods reported by the user and delete the offending goods.



The screenshots illustrate the following features of the Flea Market app:

- Profile Screen:** Shows a user profile for "UziQAQ" with a timestamp of 2016.11.27. It includes a "Report" button.
- Issue Details:** A detailed view of an item for "Cherry mx rgb brown switches" with a price of ¥399.
- Issue Creation:** A screen for creating a new issue with fields for headline, details, and category.
- Search Results:** A list of items including "KBC MF108 V.2 RGB Mechanical Keyboard with Cherry MX Red" and "Mechanical Keyboard ANNE Bluetooth 4.0 Wired/Wireless Gaming Keyboard".
- Category Selection:** A screen showing categories like Study, Sports, Boys, Girls, Clothes, Games, Books, Food, Electronics, and Others.
- Product Details:** A detailed view of an "IKBC MF108 V.2 RGB Mechanical Keyboard with Cherry MX Red" for ¥399.
- Issue List:** A list of items for sale, including "IKBC New Poker II Mechanical Keyboard with Cherry MX Red" and "Mechanical Keyboard ANNE Bluetooth 4.0 Wired/Wireless Gaming Keyboard".
- Profile Screen:** Shows a user profile for "UziQAQ" with a timestamp of 2016.11.27. It includes a "Report" button.
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CoCamera



Personal Project
May.2015

With the development of smart phones and camera, a growing number of camera software contains the function of the filter, people are also willing to before the photos released to the social networks, use different filter to beautify.

Photo software such as VSCO is also popular because of its rich quality filters.

But at present most of the filter effects can only be adjusted for brightness, contrast, saturation, or the image with a monochrome filter.

We found that the picture of the color is very like it, but it can't use filters to make similar results, so I want to use the knowledge of image processing, can take a picture color style and tone, like add filters applied to mount a picture of another function.

Procedure & Code

Input: target image A, reference image B(source of color)
Output: image C after color transfer.

- 1 Convert both images A and B to lab space, so each pixel has three components (l, A, B).
 - 2 Take each pixel of image A and B as a random variable, and calculate the mean and variance of image A and B respectively.
 - 3 The mean and standard deviation of l component of image A are `mean_lA`, `std_lA`, and the mean and variance of the l component of image B are `mean_lB` and `std_lB` respectively.

The I component of the i th pixel in C can be expressed as $C_I(i) = (A_I(i) - \text{mean}_I A) * \text{std}_I B / \text{std}_I A + \text{mean}_I B$, where $A_I(i)$ represents the I component of the i th element in image A :

For the other two components (a,b), use a similar approach.

Finally, we get the image C of lab space.

- 4 Transfer image C from lab space to RGB space and save it.



```

#include <opencv/cv.h>
#include <opencv2/opencv.hpp>
#include <opencv2/core/core.hpp>
#include <opencv2/highgui/highgui.hpp>
#include <iostream>
#include <cmath>
using namespace std;
using namespace cv;

int main(int argc, char** argv){
    Mat imgA, imgB, imgC;
    //RGB->lab
    getLabImg(imgA, imgB);
    //Color Transfer
    colorTransfer(imgA, imgB, imgC);
    imshow("Result", imgC);
    waitKey(0);
    return 0;
}

//Prevent uchar (0-255) to float transfer error
float getData(float data){
    if((int)data>255)
        return (int)data % 255;
    return data;
}

//New Image
void createNewImg(Vec3f &aveA, Vec3f &aveB, Vec3f &devA, Vec3f &devB, Mat
&imgA, Mat &imgB, Mat &imgC){
    for (int row = 0; row < imgA.rows; row++){
        uchar *data = imgA.ptr<uchar>(row);
        for (int col = 0; col < imgA.cols; col++){
            data[col * 3] = getData((data[col * 3] -
aveA[0])*devB[0] / devA[0] + aveB[0]);
            data[col * 3 + 1] = getData((data[col * 3 + 1] -
aveA[1])*devB[1] / devA[1] + aveB[1]);
            data[col * 3 + 2] = getData((data[col * 3 + 2] -
aveA[2])*devB[2] / devA[2] + aveB[2]);
        }
    }
    //Type Conversion
    cvtColor(imgA, imgC, CV_Lab2BGR); //Lab->RGB
    imwrite("result.bmp", imgC); //Save the image
}

//Color Transfer
void colorTransfer(Mat &imgA, Mat &imgB, Mat &imgC){
    Vec3f aveA, aveB; //Average
    Vec3f devA, devB; //Standard Deviation
    for (int i = 0; i < 3; i++){
        aveA[i] = 0.0;
        aveB[i] = 0.0;
        devA[i] = 0.0;
        devB[i] = 0.0;
    }
    //Get Data
    getData(aveA, aveB, devA, devB, imgA, imgB);
    //ImageA,ImageB -> ImageC
    createNewImg(aveA, aveB, devA, devB, imgA, imgB, imgC);
    //Convert image C to RGB format
}

//get Lab Image
void getLabImg(Mat &imgA, Mat &imgB){
    //Source Image
    Mat imageA = imread("pic1.jpg"); //Read the file
    if (imageA.empty()) { //Check for invalid input
        cout << "Could not open or find the imageA" << std::endl;
    }
    //Reference Image
    Mat imageB = imread("pic2.jpg"); //Read the file
    if (imageB.empty()) { //Check for invalid input
        cout << "Could not open or find the image" << std::endl;
    }
    imshow("src", imageA);
    imshow("des", imageB);
    //BGR->Lab
    cvtColor(imageA, imgA, CV_BGR2Lab);
    cvtColor(imageB, imgB, CV_BGR2Lab);
}

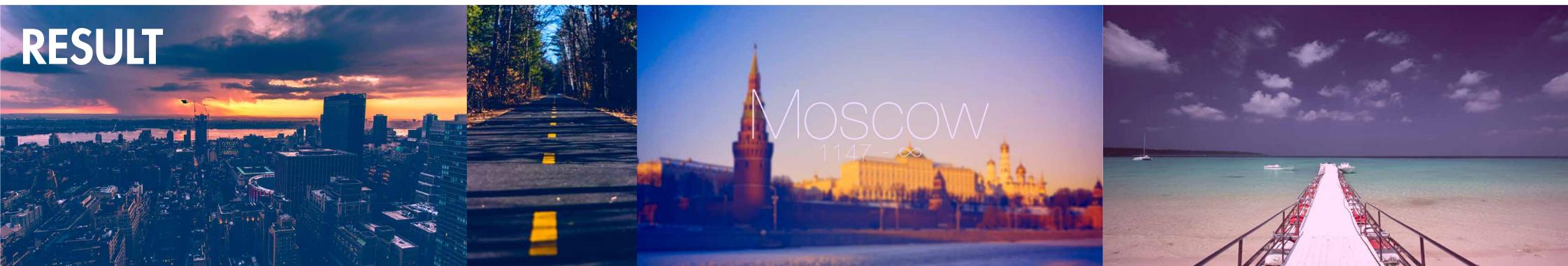
//get average and variance data
void getData(Vec3f &aveA, Vec3f &aveB, Vec3f &devA, Vec3f &devB, Mat &imgA, Mat &imgB){
    //Traverse Pixel
    for (int row = 0; row < imgA.rows; row++){
        uchar *dataA = imgA.ptr<uchar>(row);
        for (int col = 0; col < imgA.cols; col++){
            aveA[0] += dataA[col * 3];
            aveA[1] += dataA[col * 3 + 1];
            aveA[2] += dataA[col * 3 + 2];
        }
    }
    for (int row = 0; row < imgB.rows; row++){
        uchar *dataB = imgB.ptr<uchar>(row);
        for (int col = 0; col < imgB.cols; col++){
            aveB[0] += dataB[col * 3];
            aveB[1] += dataB[col * 3 + 1];
            aveB[2] += dataB[col * 3 + 2];
        }
    }
    //Calculate Average
    for (int i = 0; i < 3; i++){
        aveA[i] = aveA[i] / (imgA.rows * imgA.cols);
        aveB[i] = aveB[i] / (imgB.rows * imgB.cols);
    }
    //Calculate Variance
    for (int row = 0; row < imgA.rows; row++){
        uchar *dataA = imgA.ptr<uchar>(row);
        for (int col = 0; col < imgA.cols; col++){
            devA[0] += pow(dataA[col * 3] - aveA[0], 2);
            devA[1] += pow(dataA[col * 3 + 1] - aveA[1], 2);
            devA[2] += pow(dataA[col * 3 + 2] - aveA[2], 2);
        }
    }
    for (int row = 0; row < imgB.rows; row++){
        uchar *dataB = imgB.ptr<uchar>(row);
        for (int col = 0; col < imgB.cols; col++){
            devB[0] += pow(dataB[col * 3] - aveB[0], 2);
            devB[1] += pow(dataB[col * 3 + 1] - aveB[1], 2);
            devB[2] += pow(dataB[col * 3 + 2] - aveB[2], 2);
        }
    }
    for (int i = 0; i < 3; i++){
        aveA[i] = sqrt(devA[i] / (imgA.rows * imgA.cols));
        aveB[i] = sqrt(devB[i] / (imgB.rows * imgB.cols));
    }
}

```

SOURCE



RESULT



COLOR

