Requirement Document

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Contents

1　Requirement

1.1 Client

Normal visitors have no access to content of the application. What they can access is the function of Log in or Register.

All the functions are for members registered in the application

1.1.1 Patient

Most patients are university students:

They want to consult doctors some issues on their health online.

They want to get prompt medical aid in a more efficient and effective way.

They want to understand relevant knowledge for preventing occurrences of some common or serious diseases via a normal and authoritative channel.

They want to manage their personal information.

1.1.2 Doctor

They want to offer healthy assistances to patients as much as possible.

They want to communicate with other doctors, especially those medical experts as much as possible via multiple ways, like instant communication, video communication and shared meeting room.

They want to acquire some latest news, information and theses about medicine via an authoritative channel for making them enrich and realize the development of medical research.

They want to manage their personal information.

1.1.3 Administrator

1. They want to manage users (patient, doctor) data (account, password, gender, phone number….) in a reasonable and convenient way, such as automated monitor, automated log report, formatted table, Hierarchical file and remote access/ management.

2. They want to use some online tools to help them manage feedback from users (patient, doctor) and recommended articles, such as Excel, Quick search, template and automated storage / backup.

1.2 Mobile-App

Normal visitors fail to access anything in the system, except the function of log in/ Register

All the functions are for member registered in the application

1.2.1 Patient

The functions patients can use via the App:

Functions	Explanations
Search for symptoms	Searching medical resources according to symptoms
News feed	Health tips and hot news about health care
Self diagnosis	Searching health care for users'disease
Hot topics	Showing recent hot topics and people's comments
Latest Articles	Showing latest articles
Hot articles	Showing hot articles
Departments	Classification of hospital's departments

Personal information	setting nickname showing account number, gender, distinct, address and university
My doctor	Showing doctors users follow
My news	Showing users interested news
Setting and Help	Managing notifications Modifying password Rating for the App Updating App Help Statements of app
Feedback	Feedback
Doctor	Doctors'relevant information Communication with doctor Comments to the doctor
Articles	Articles list Rating, Comments, Complaints
Chatting	Intsantly chatting with doctor

1.2.2 Doctor

The functions doctors can use via the App:

Functions	Explanations
Latest articles	Latest articles
Hot topics	Hot topics
Communications	Recent logs of chattings with patents
Personal information	Head portiat, account number, gender,distinct, hospital, position
Setting and Help	Managing notifications Modifying password Rating for App Help Updating App Statements
Feedback	Feedback

1.2.3 Administrator

The functions administrator can use via the App:

Functions	Explanations
Article management	Articles lists with modification options
Feedback	Feedback received from users
Doctor management	Insert doctor Doctor lists
Topic aide	Issue a topic Push healthy tips
Administrator	Log off: exit current account Modify current password
Search	Search other functions

1.3 Web

1.3.1 Administrator

Functions	Explanations
Management of articles	Managers could edit, delete and search the articles.
Feedback of users	It will show the users' name and the details and release time of users' feedback. And managers could search the feedback of users by the key words.
Management of doctor	managers could add doctors to add a doctor into our database. In the bottom half part, it will show the list of added doctors with his/her name, hospital, department, the title of a technical post and phone numbers. The managers could delete the doctors and search doctors by his/her name.
Tip & Topic	There are two parts, the first part is publishing topic by entering topic, time and content. The second part is publishing tip by inputting area, time and content.
User management	The attribute of new manager are account name and initial password which should be entered at twice. In the managers' list, current user can delete existing manager. And they can also search the manager.
Modify the password	Input the right old password and new one at twice.
Log out	Log out current account

2   System

2.1 Mobile-App

2.1.1 Patient pages: (UI)

2.1.1.1 Login page

Three parts in the page:
1) Status bar
2) Navigation bar
3) content

The Status bar includes network signal, battery situation, current time......
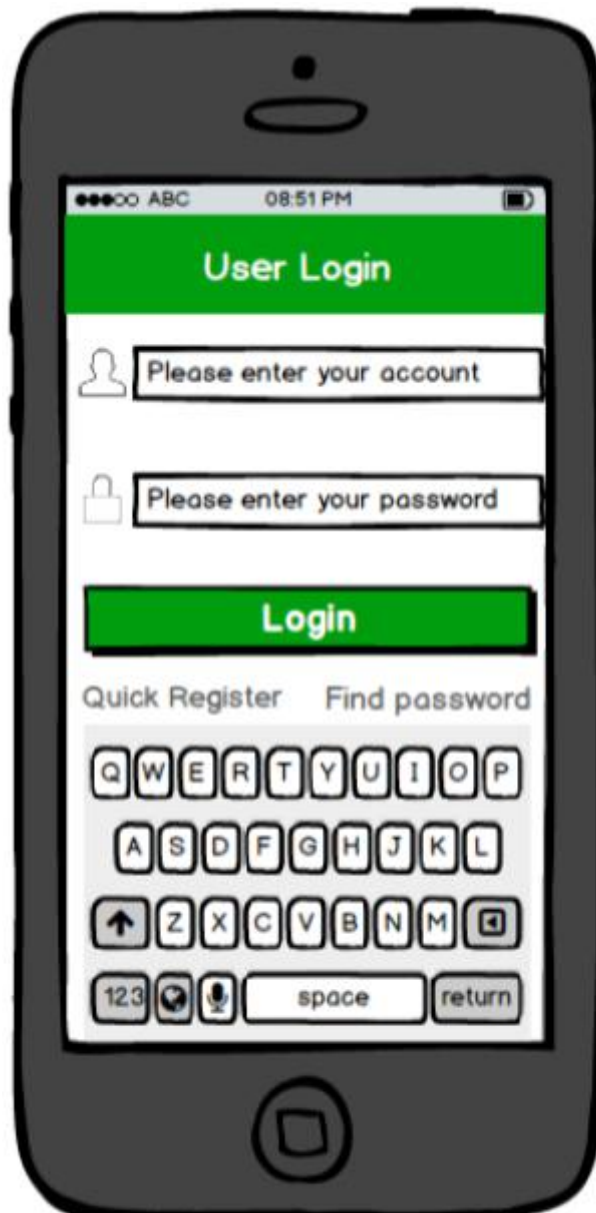
The Navigation bar has a page title called "User Login".

The content consists of four parallel content bars with different functions:
1) First row includes an image of man followed by an input field with hints "please enter account".
2) Second row has an image of lock, followed by an input field with hints "Please enter password".
3) Third row consists of a button with green of background color and text "Login".
4) Final row covers two buttons with name of "Quick registration"," Forgotten password" respectively in left and right side.

Considering almost every interviewee is sensitive to their personal information and observing some popular applications of assistance in market, the content in the input field with password shows implicitly to user. Besides, the initial main style of color is green after
discussed with teammates due to green color gives individuals a feeling of peace and comfortable that may attract more users to use our app. Our team also use green as this application's main color.

Based on above evaluations, there is an initial mockup for login interface designed by balsamiq mockup and see figure Login.

Login

2.1.1.2 Registration page

Two parts in the page:
  1) Status bar
  2) Navigation bar
  3) Content

The Status bar is as same as that in Login page.

The Navigation bar has a page title called "registration" and a return key.

The content consists of six parallel content bars with different functions:

1) a label named "phone number" followed by an input text with hints "please input correct phone number"

2) a label named "verified code" followed by an input text with hints "please input code you received". a button named "Acquire" is on the most right side

3) a label named "Password" followed by an input text with hints "please enter password"

4) a label named "Confirm" followed by an input text with hints "please enter password again"

5) a check box followed by a text "I agree with user protocol"

6) a button named "Register Now"

Considering the security of our application and efficiency of the system, my team decide to take phone number as users' account number. Besides, to better manage the system, our team also need to verify the certification of phone number that users submit to registration via sending a verified code by phone number. What is more, to inform users better understand and use our system, our team provide user protocol for them.

Based on above evaluations, there is an initial mockup for registration interface designed by balsamiq mockup and see figure Register.
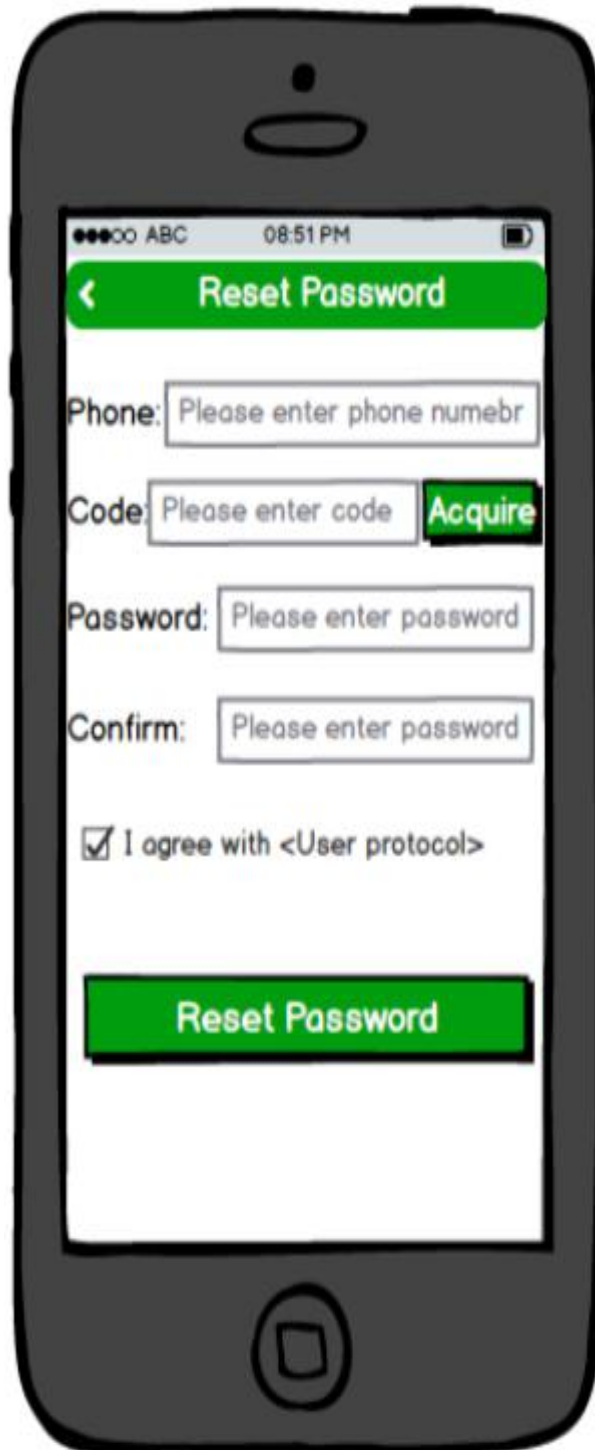
Register

2.1.1.3 Resetting password page

The layout of this page is as same as Registration interface except the bottom button named as "Reset password".

Based on above evaluations, there is an initial mockup for Resetting password interface designed by balsamiq mockup and see Reset Password.

Reset Password

2.1.1.4 Home page

Three parts in the page:
1) Status bar
2) Content
3) Main menu bar

The Status bar is as same as that in Login page.

The content consists of four parallel content bars with different functions:
1) input text as a search bar for checking articles in the left side and a button with a picture bell for notification management (system message, messages from doctor…) in another side.
2) button named "self-diagnosis" in the left side and one named "life tips" for pushing relevant healthy knowledge, hot topics and others in another side.
3) A list with title "Hot topics" for reading the latest and hottest topics and give comments to a topic.
4) A list with title "Latest articles" for showing the latest three news to users.

Main menu bar consists three parts:
1) A button with picture house and name "Home" for showing the Home page.
2) A button with picture compass and named "Department" for guiding users select corresponding department based on their own symptom.
3) A button with picture man and named "Me" for users managing their own personal information.

Based on above evaluations, there is an initial mockup for Home page designed by balsamiq mockup and see figure Home.

Home

2.1.1.5 Department page

Three parts in the page:
1) Status bar

2) Navigation bar

3) Content

4) Main menu bar

The Status bar is as same as that in Login page.

The navigation bar has a label named "Department" in the medial and a button with a picture bell for notification management in the right side.

The content consists of eleven buttons with pictures of departments of hospital and name of each department below the picture, and it shows on the screen based on order of four buttons in each row.

The main menu bar is as same as that in Home page.

Based on above evaluations, there is an initial mockup for Department page designed by balsamiq mockup and see figure Department.

Department

2.1.1.6 Me Page

Three parts in the page:
1) Status bar
2) Content
3) Maini menu bar

The Status bar is as same as that in Login page.

The content consists of six parallel content bars with different functions:
An image of user's head portrait in the left, and a label of user's nick name in the middle followed by a button with picture bell for notification management.
A label with name" My Doctors", followed by a button of next arrow.
A label with name "News Collections" followed by a button of next indicator.
A label with name "Setting and Help" followed by a button of next indicator.
A label with name "Feedback" followed by a button of next indicator.
A label with name "Software Version number".

The main menu bar is as same as that in Home page.

Based on above evaluations, there is an initial mockup for Me page designed by balsamiq mockup and see figure Me.
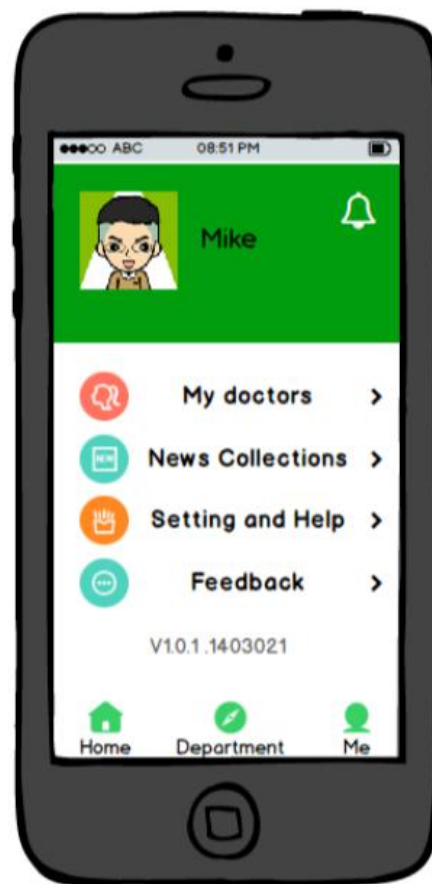
Me

2.1.1.7 Self-diagnosis page

Three parts in the page:
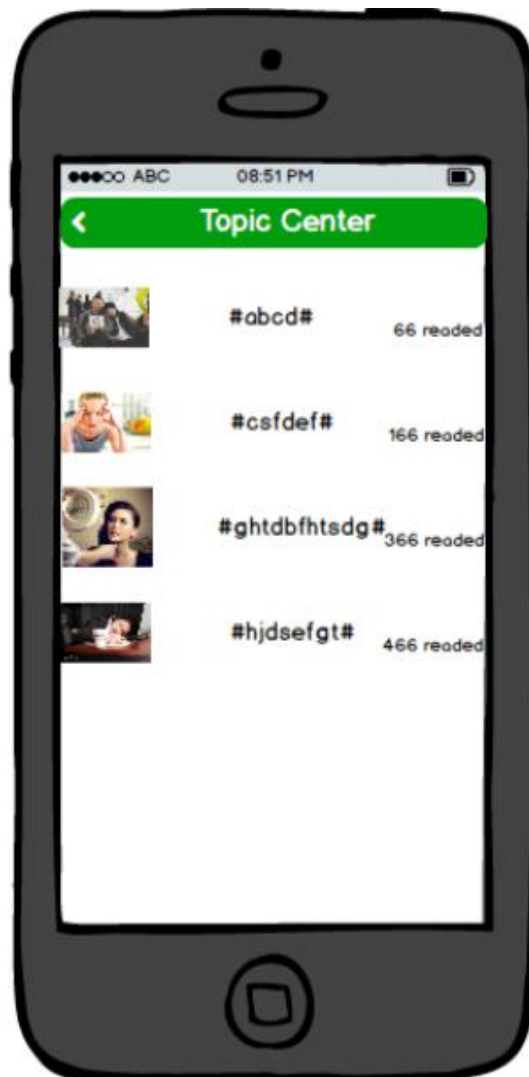   1) Status bar
    2) Navigation bar
    3) Content

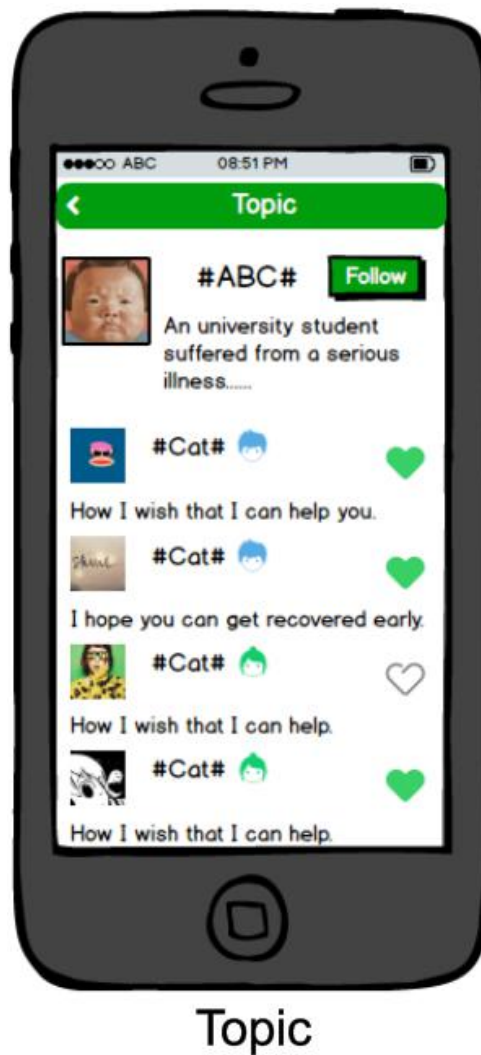The Status bar is as same as that in Login page.

The navigation bar consists of a return button followed by a page label named "Self-diagnosis" in the middle of the bar.

The Content consists of two parallel content bars with different functions:
An input field with hints "Please enter symptoms".
A label with name of "Potential causes to this symptom" followed by a list of causes that lead to this symptom.

Based on above evaluations, there is an initial mockup for Self-diagnosis page designed by balsamiq mockup and see figure self-diagnosis.

Self-diagnosis
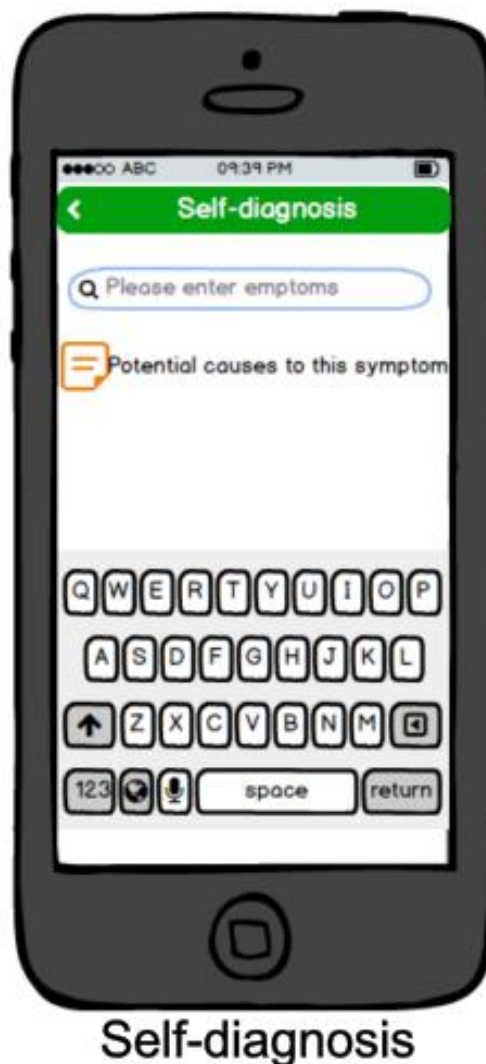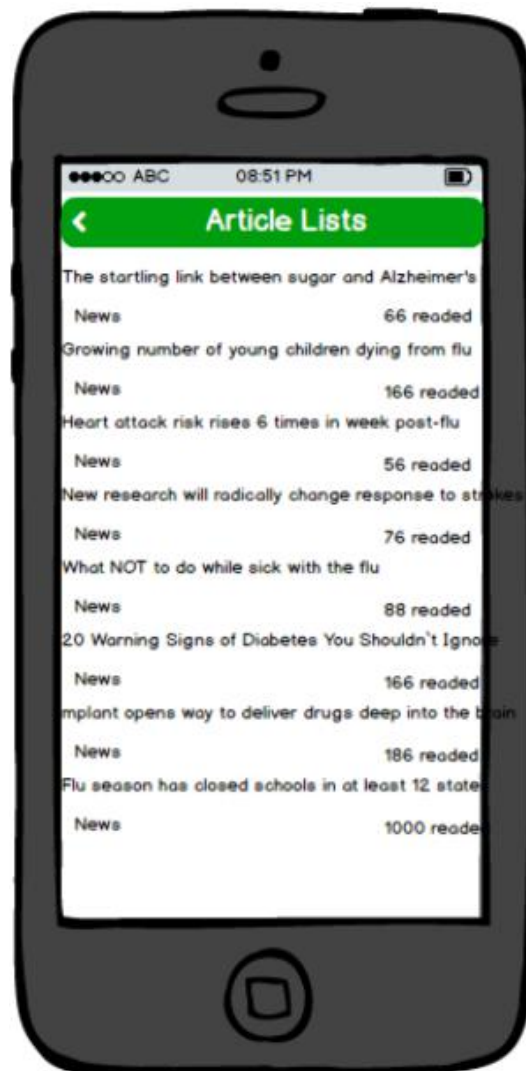
2.1.1.8 Topic center page

Three parts in the page:
1) Status bar
2) Navigation bar
3) Content

The Status bar is as same as that in Login page.

The navigation bar consists of a return button followed by a page label named "Topic center" in the middle of the bar.

The Content consists of a variable list in which each element of list includes an image of a topic in the left and a label of topic's title in the middle, followed by another label of follower number in the end.

Based on above evaluations, there is an initial mockup for Topic center page designed by balsamiq mockup and see figure topic center.

Topic Center

2.1.1.9 Topic page

Three parts in the page:
　　1) Status bar
　　2) Navigation bar
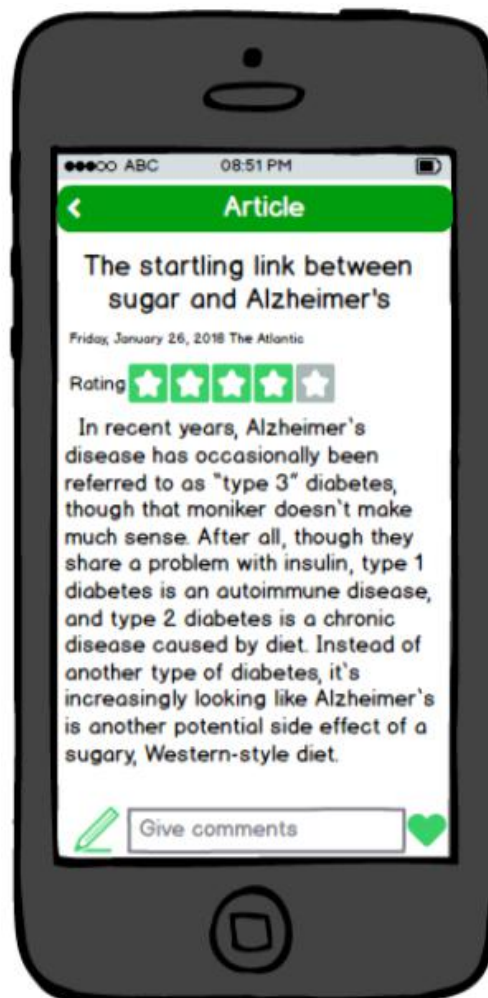　　3) Content

The Status bar is as same as that in Login page.

The navigation bar consists of a return button followed by a page label named "Topic" in the middle of the bar.

The Content consists of two parts:
　　1) An image of a topic in the left side, and a label of topic title, a button with name of "Follow", followed by a brief introduction of this topic.
　　2) A variable list of users' comments in which each element of list includes user's head portrait, users' nick name and users' university.

Based on above evaluations, there is an initial mockup for Topic page designed by balsamiq mockup and see figure topic.

Topic

2.1.1.10 Latest Articles page

Three parts in the page
   1) Status bar
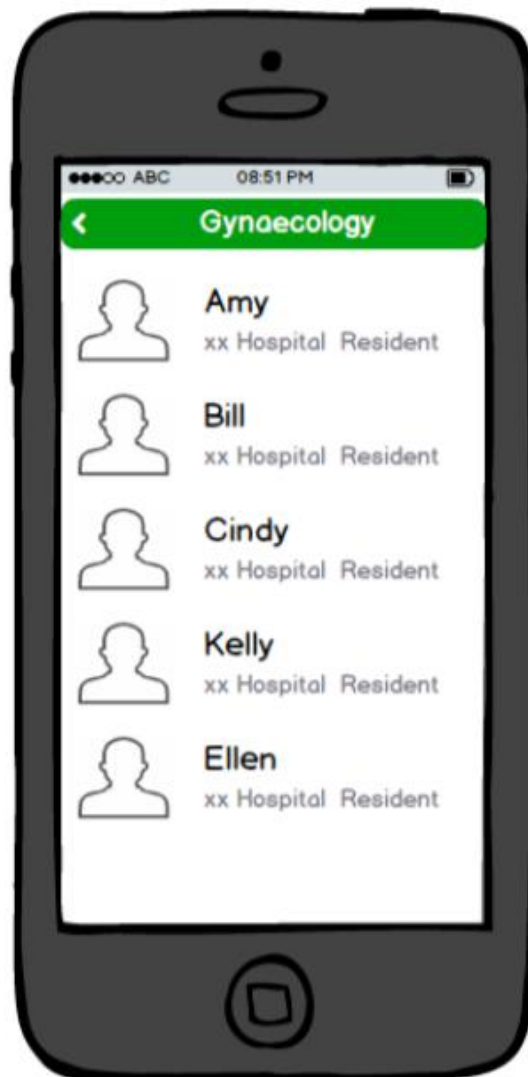   2) Navigation bar
   3) Content

The Status bar is as same as that in Login page.

The navigation bar consists of a return button followed by a page label named "Article List" in the middle of the bar

The Content consists of a variable list of all latest articles in which each element of the list includes a label of article's title, followed by another label of number of readers.

Based on above evaluations, there is an initial mockup for Article List page designed by balsamiq mockup and see figure Article List.

Article List

2.1.1.11 Article page

Three parts in the page:
1) Status bar
2) Navigation bar
3) Content

The Status bar is as same as that in Login page.

The navigation bar consists of a return button followed by a page label named "Article" in the middle of the bar

The Content consists of three parallel content bars:
1) A label of the article's title.
2) A label for displaying the time of the publication of this article, followed by another label for showing news' source location.

3) A text area for showing the content of the article.

Based on above evaluations, there is an initial mockup for Article page designed by balsamiq mockup and see figure Article.

Article

2.1.1.12 Doctor list page

Three parts in the page:
    1) Status bar
    2) Navigation bar
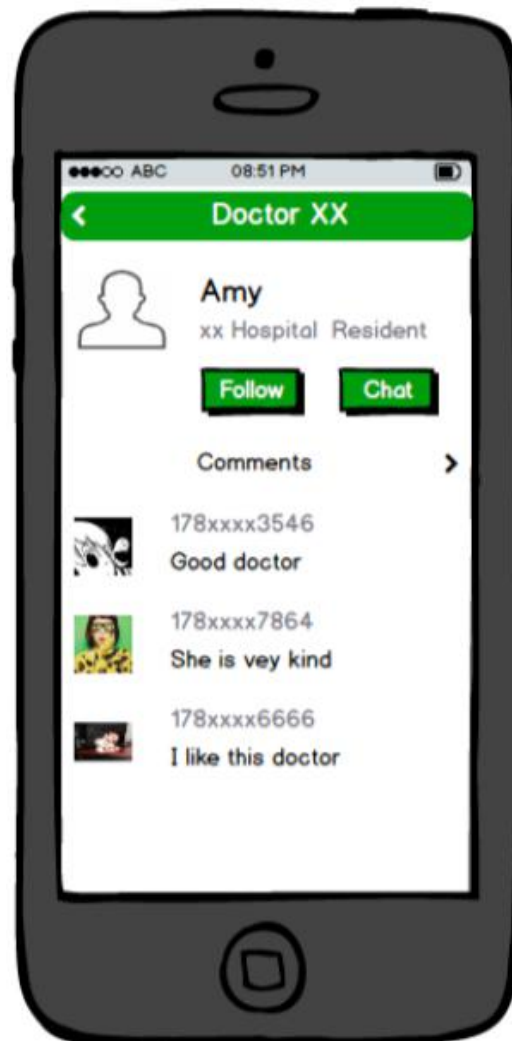   3) Content

The Status bar is as same as that in Login page.

The navigation bar consists of a return button followed by a page label named "Department" in the middle of the bar.

The Content consists of a variable list of doctors from different hospitals, in which each element of list includes the image of the doctor and his/her name, work place and

duties.

Based on above evaluations, there is an initial mockup for Doctor List page designed by balsamiq mockup and see figure Doctor List.

Doctor List

2.1.1.13 Doctor page

Three parts in the page:
1) Status bar
2) Navigation bar
3) Content

The Status bar is as same as that in Login page.

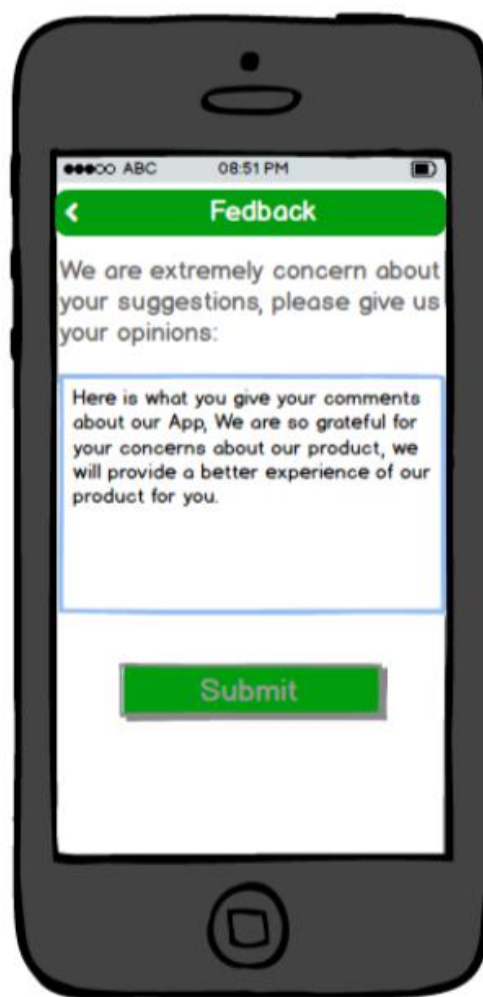The navigation bar consists of a return button followed by a page label named "Doctor" in the middle of the bar.

The Content consists of two parts:

    An image of doctor in the left, and a label of doctor's name, work place, duties, followed by two buttons named "Follow" and "Chatting".

    A variable list of all comments from patients.

Based on above evaluations, there is an initial mockup for Doctor page designed by balsamiq mockup and see figure Doctor.

Doctor

2.1.1.14 Personal information page

Three parts in the page:
1) Status bar
2) Navigation bar
3) Content

The Status bar is as same as that in Login page.

The navigation bar consists of a return button followed by a page label named

"Personal Information" in the middle of the bar.

The Content consists of Seven parallel content bars of different functions:
A label named "Head portrait", followed by an image of user's head portrait.
A label named "Nick name", followed by a text with User's nick name.
A label named "Account", followed by a label user's phone number.
A label named "Gender", followed by a text with user's gender.
A label named "Distinct", followed by a text with user's distinct.
A label named "Address", followed by a text with user's address.
A label named "School", followed by a text with user's school.

Based on above evaluations, there is an initial mockup for Personal information page designed by balsamiq mockup and see figure Personal Information.
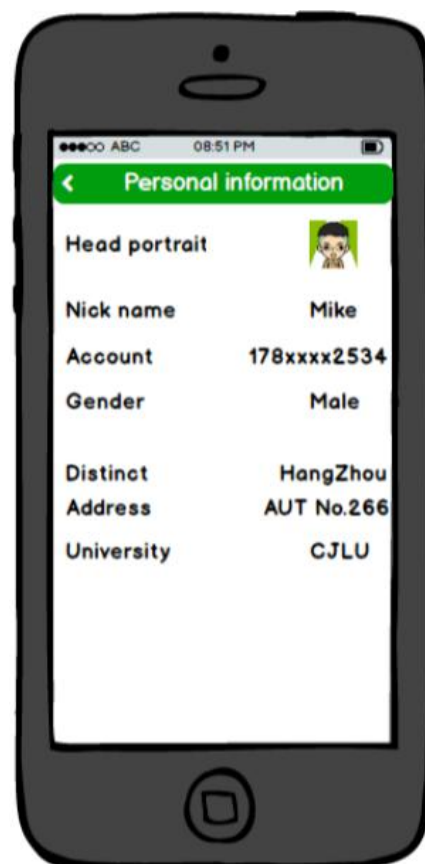
Personal Information

2.1.1.15 Feedback page

Three parts in the page:
1) Status bar
2) Navigation bar
3) Content

The Status bar is as same as that in Login page.

The navigation bar consists of a return button followed by a page label named "Feedback" in the middle of the bar.

The Content consists of three parts:

A label named "We concern about your suggestions, please give us your opinion:"

A blank text field for users to write down their opinion.

A button named "Submit".

Based on above evaluations, there is an initial mockup for Feedback page designed by balsamiq mockup and see figure Feedback.

Feedback

2.1.1.16 Setting and Help

Three parts in the page:
1)Status bar
2)Navigation bar
3)Content

The Status bar is as same as that in Login page.

The navigation bar consists of a return button followed by a page label named "Setting and Help" in the middle of the bar.

The Content consists of Seven parallel content bars of different functions:
A label named "Notification", followed by a button with next arrow.
A label named "Modify password", followed by a button with next arrow.
A label named "Rate for the App", followed by a button with next arrow.
A label named "Update", followed by a button with next arrow.
A label named "Help", followed by a button with next arrow.
A label named "Statement", followed by a button with next arrow.
A button "Log off".

Based on above evaluations, there is an initial mockup for Setting and Help page designed by balsamiq mockup and see figure Setting and Help.

Setting and Help
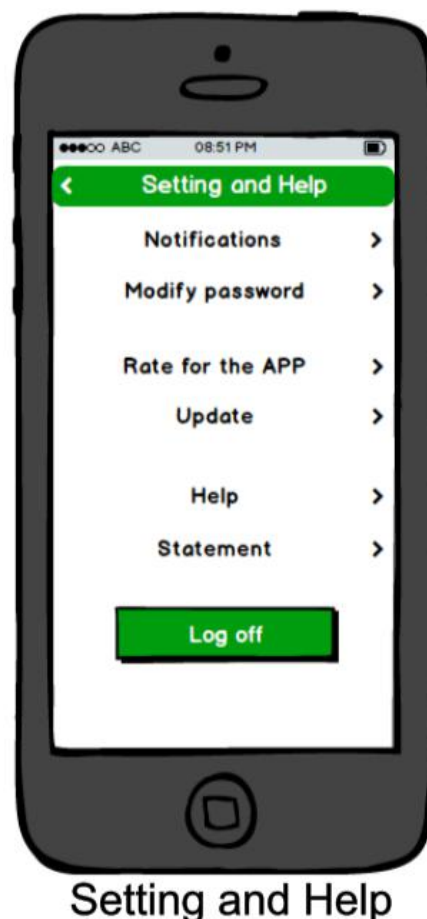
2.1.1.17 My Doctors page

The layout is as same as that in Doctor list page and see figure my doctors.

My Doctors

2.1.1.18 News Collections

The layout is as same as that in Latest Articles page and see figure news collections.

News Collections

2.1.2 Doctor page: (UI)

2.1.2.1 Login page

The layout in the page is as same as that in Login page in patient, However, to ensure the reliability and profession of medical staff served for patients, Users have no authority to register for a doctor, only administrator can add doctor's registration information and give relevant privileges to the doctor, there is no button named "Register" in the page compared with that in patient's login page.
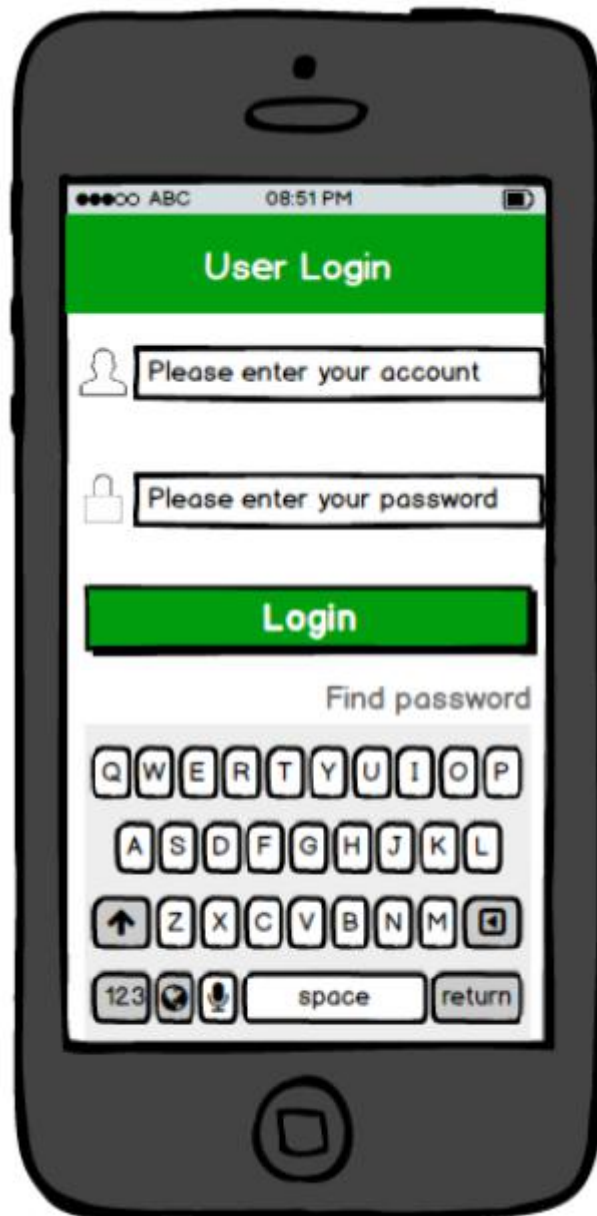
Login

2.1.2.2 Home page

Three parts in the page:
1) Status bar
2) Content
3) Main menu bar

The Status bar is as same as that in Login page.

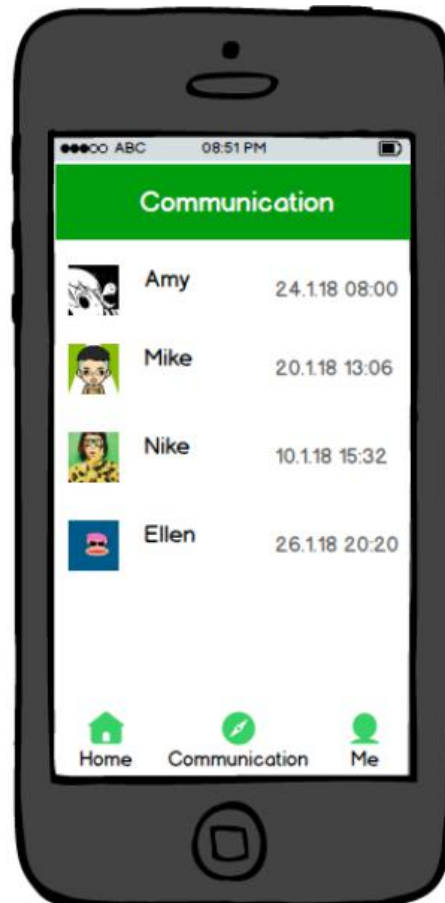The content consists of three parallel content bars with different functions:
1) An input text as a search bar for checking articles in the left side and a button with an image of bell for notification management (system message, messages

from doctor…) in another side.

2) A list with title "Hot topics" for reading the latest and hottest topics and give comments to a topic, in which each element of list includes an image of a topic in the left and a label of topic's title in the middle, followed by another label of follower number in the right end.

3) A list with title "Latest articles" for showing the latest three news to users, in which each element of the list includes a label of article's title, followed by another label of number of readers.

Main menu bar consists three parts:

1) A button with picture house and name "Home" for showing the Home page.

2) A button with picture compass and named "Communication" for guiding users select corresponding department based on their own symptom.

3) A button with picture man and named "Me" for users managing their own personal information.

Based on above evaluations, there is an initial mockup for Home page designed by balsamiq mockup and see figure Home.
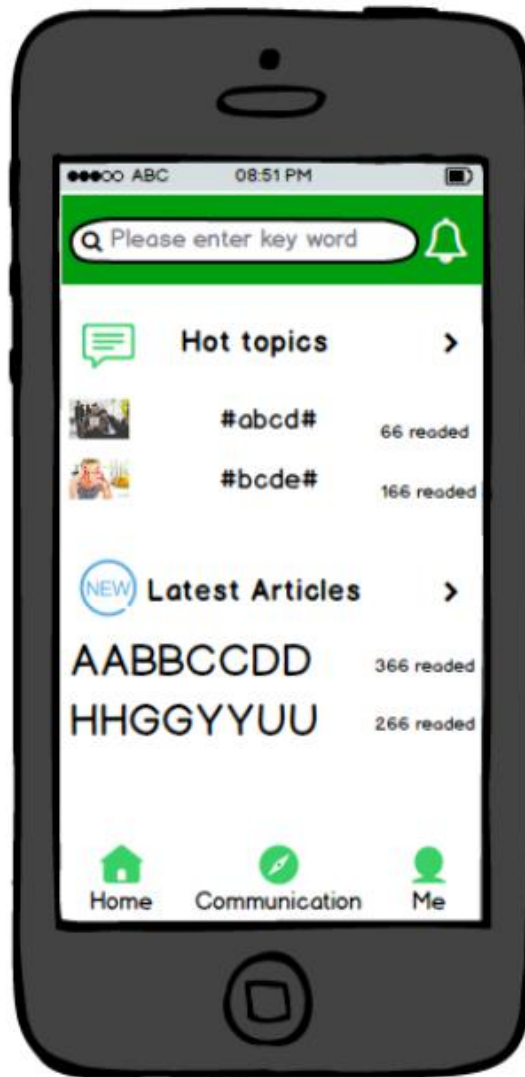
Home

2.1.2.3 Communication list

There are four parts in the page:
1) Status bar
2) Navigation bar
3) Content
4) Main menu bar

The Status bar is as same as that in Login page.

The navigation bar consists of a return button followed by a page label named "Communication list" in the middle of the bar.

The Content consists of a variable list of patients that communicate with doctors, in which each element of the list includes an image of patients' head portrait, a label with name of the patient, followed by a label for showing last date and time of

communication.

The main menu bar is as same as that in Home page.

Based on above evaluations, there is an initial mockup for Communication list page designed by balsamiq mockup and see figure Communication list.

Communication List

2.1.2.4 Me page

Three parts in the page:
1) Status bar
2) Content
3) Maini menu bar

The Status bar is as same as that in Login page.

The content consists of five parallel content bars with different functions:
An image of user's head portrait in the left, and a label of user's nick name in the middle followed by a button with picture bell for notification management.
A label with name "News Collections" followed by a button of next indicator.
A label with name "Setting and Help" followed by a button of next indicator.

A label with name "Feedback" followed by a button of next indicator.

A label with name "Software Version number".

The main menu bar is as same as that in Home page.

Based on above evaluations, there is an initial mockup for Me page designed by balsamiq mockup and see figure Me.

Me
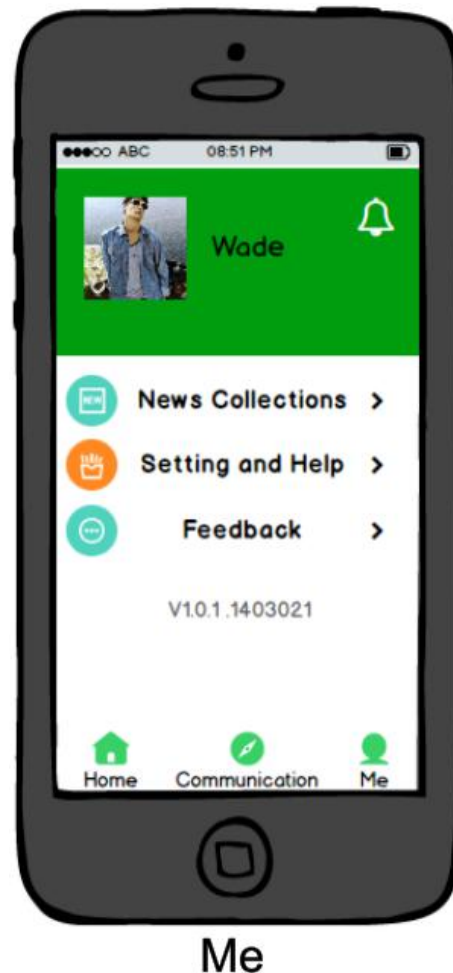
2.1.2.5 Personal Information page

The layout is as same as that in personal information page of patient.

2.1.2.6 Setting and Help

The layout is as same as that in Setting and Help page of patient.

2.1.3 Database

```
TABLE `article` (
    `id` int (5) NOT NULL auto_increment,
    `name` varchar (100) character set utf8 default NULL,
```

```
        `source` varchar (40) character set utf8 default NULL,
        `date` varchar (10) character set utf8 default NULL,
        `article` varchar (10000) character set utf8 default NULL,
        `click` int (10) default NULL,
        `kind` varchar (50) character set utf8 default NULL,
        `token` varchar (50) default NULL,
        `comment` varchar (250) character set utf8 default NULL,
        PRIMARY KEY (`id`)
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

TABLE `article_collection` (
        `title` varchar (255) character set utf8 NOT NULL,
        `date` varchar (255) character set utf8 default NULL,
        `source` varchar (255) character set utf8 default NULL,
        `kind` varchar (255) character set utf8 default NULL,
        `article` varchar (255) character set utf8 default NULL,
        `comment` varchar (255) character set utf8 default NULL,
        `token` varchar (255) character set utf8 NOT NULL,
        `id` int (11) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

TABLE `collection` (
        `token_user` varchar (50) default NULL,
        `token_article` varchar (50) NOT NULL,
        `title` varchar (50) default NULL,
        PRIMARY KEY (`token_article`)
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

TABLE `departi` (
        `s_depid` int (5) default NULL,
        `s_aid` int (5) default NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

TABLE `department` (
        `depid` int(5) NOT NULL auto_increment,
        `name` varchar (100) character set utf8 default NULL,
        PRIMARY KEY (`depid`)
)        ENGINE=InnoDB        AUTO_INCREMENT=56        DEFAULT
CHARSET=latin1;
    TABLE `depdis` (
        `s_id` int (5) default NULL,
        `s_disid` int (5) default NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

TABLE `disarti` (
    `s_disid` int (5) default NULL,
    `s_aid` int (5) default NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

TABLE `disease` (
    `id` int(11) NOT NULL auto_increment,
    `name` varchar (100) character set utf8 default NULL,
    `intro` varchar (1000) character set utf8 default NULL,
    `part` varchar (50) character set utf8 default NULL,
    `cause` varchar (5000) character set utf8 default NULL,
    `prevent` varchar (5000) character set utf8 default NULL,
    `nurse` varchar (5000) character set utf8 default NULL,
    `click` int (10) default NULL,
    PRIMARY KEY (`id`)
)

TABLE `doc_collection` (
    `head` varchar (255) character set utf8 default NULL,
    `phone` varchar (255) character set utf8 default NULL,
    `name` varchar (255) character set utf8 default NULL,
    `hospital` varchar (255) character set utf8 default NULL,
    `department` varchar (255) character set utf8 default NULL,
    `position` varchar (255) character set utf8 default NULL,
    `sex` varchar (5) character set utf8 default NULL,
    `area` varchar (255) character set utf8 default NULL,
    `token` varchar (255) character set utf8 default NULL
)

TABLE `guide` (
    `name` varchar (100) character set utf8 default NULL,
    `time` varchar (50) character set utf8 default NULL,
    `fre` varchar (50) character set utf8 default NULL,
    `pre` varchar (100) character set utf8 default NULL,
    `pro` varchar (1000) character set utf8 default NULL,
    `sta` varchar (1000) character set utf8 default NULL
)

TABLE `ofchatlogs` (
    `MESSAGEID` int (11) NOT NULL,
    `SESSIONJID` varchar (30) character set utf8 collate utf8_unicode_ci
default NULL,
    `SENDER` varchar (30) character set utf8 default NULL,
    `RECEIVER` varchar (30) character set utf8 default NULL,

```
    `CREATEDATE` varchar (30) default NULL,
    `LENGTH` int (11) default NULL,
    `CONTENT` varchar (255) character set utf8 default NULL,
    `DETAIL` varchar (255) character set utf8 default NULL,
    `STATE` int (11) default NULL
)

TABLE `ofuser` (
    `username` varchar (64) NOT NULL,
    `storedKey` varchar (32) default NULL,
    `serverKey` varchar (32) default NULL,
    `salt` varchar (32) default NULL,
    `iterations` int (11) default NULL,
    `plainPassword` varchar (32) default NULL,
    `encryptedPassword` varchar (255) default NULL,
    `name` varchar (100) default NULL,
    `email` varchar (100) default NULL,
    `creationDate` char (15) default NULL,
    `modificationDate` char (15) default NULL,
    PRIMARY KEY (`username`)
)

TABLE `symarti` (
    `s_sid` int (5) default NULL,
    `s_aid` int (5) default NULL
)

TABLE `symdis` (
    `s_id` int (5) default NULL,
    `s_disid` int (5) default NULL
)

TABLE `symptom` (
    `symid` int (5) NOT NULL auto_increment,
    `name` varchar (100) character set utf8 default NULL,
    PRIMARY KEY (`symid`)
)

TABLE `tab_comment` (
    `head` varchar (255) character set utf8 default NULL,
    `phone` varchar (255) character set utf8 default NULL,
    `content` varchar (255) character set utf8 default NULL,
    `token` varchar (255) character set utf8 NOT NULL,
    `id` int (11) NOT NULL,
```

```
    `date` varchar (50) character set utf8 default NULL
)

TABLE `tab_doc` (
    `phone` varchar (20) character set utf8 default NULL,
    `password` varchar (50) default NULL,
    `name` varchar (20) character set utf8 NOT NULL,
    `hospital` varchar (20) character set utf8 default NULL,
    `department` varchar (20) character set utf8 default NULL,
    `position` varchar (20) character set utf8 default NULL,
    `sex` varchar (50) character set utf8 default NULL,
    `area` varchar (50) character set utf8 default NULL,
    `token` varchar (255) character set utf8 NOT NULL,
    `state` int (5) default NULL,
    PRIMARY KEY (`token`)
)

TABLE `tab_judge` (
    `head` varchar (255) character set utf8 default NULL,
    `phone` varchar (255) character set utf8 default NULL,
    `content` varchar (255) character set utf8 default NULL,
    `date` varchar (255) character set utf8 default NULL,
    `token` varchar (255) character set utf8 NOT NULL,
    PRIMARY KEY (`token`)
)

TABLE `tab_list_article` (
    `title` varchar (30) character set utf8 NOT NULL,
    `kind` varchar (30) character set utf8 default NULL,
    `browse` int (30) default NULL,
    `id` int (30) default NULL,
    `date` varchar (50) character set utf8 default NULL
)

TABLE `tab_user` (
    `phone` varchar (20) character set utf8 NOT NULL,
    `password` varchar (30) character set utf8 NOT NULL,
    `nickname` varchar (12) character set utf8 NOT NULL,
    `sex` varchar (2) character set utf8 default NULL,
    `area` varchar (50) character set utf8 default NULL,
    `address` varchar (50) character set utf8 default NULL,
    `school` varchar (50) character set utf8 default NULL,
    `token` varchar (30) character set utf8 NOT NULL,
    `head` varchar (255) character set utf8 default NULL,
```

```
`content` longtext character set utf8,
`encryptedPassword` varchar (50) default NULL,
`email` varchar (50) default NULL,
`createdate` datetime default NULL,
`modificationDate` datetime default NULL,
PRIMARY KEY (`phone`)
)
```

2.2 Web

The website of Heath aide is a management platform.

The manager can add, delete and search the information of doctors and articles. Besides, the manager can also check users' feedback and search relevant advice about certain concept.

2.2.1 Home (UI)
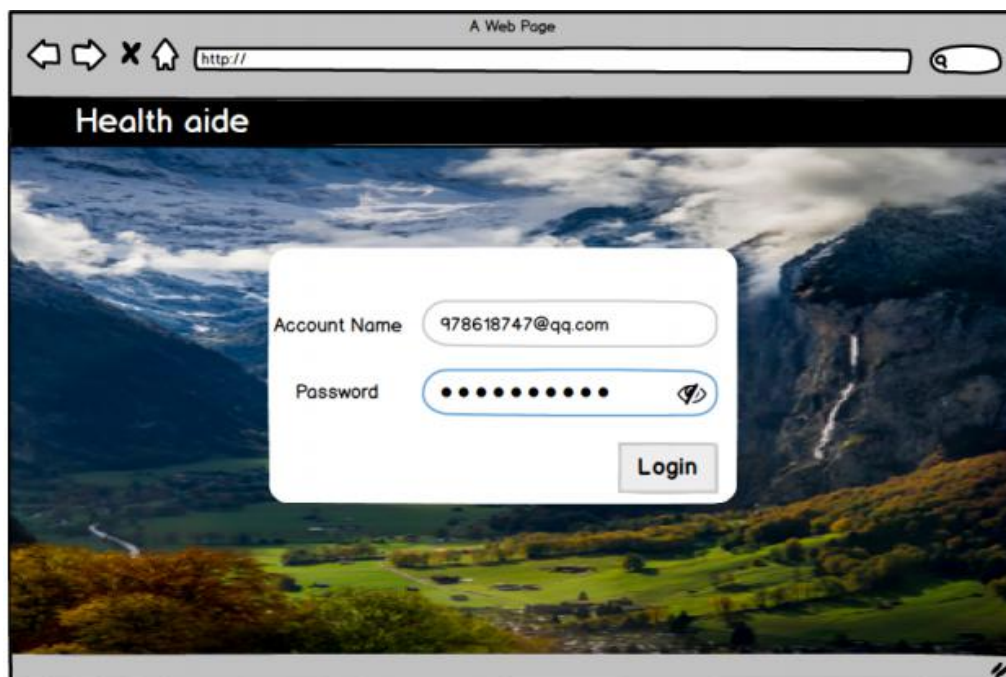
For "Login" interface of manager:

Three parts in the page:

  1) Status bar

  2) Navigation bar

  3) content

The Status bar includes website address, refresh button and correct current website button......

The Navigation bar has a page title called "Health aide".

The content area includes an input field with user name, another input field with

password and a button with Login.

The content in the input field with password shows implicitly to manage and it can also be chosen to be visible in order to help manager check the password.

we decided to choose a picture about nature as our background of the login homepage since this kind of picture can match most people's taste.

2.2.2 Main manage interface
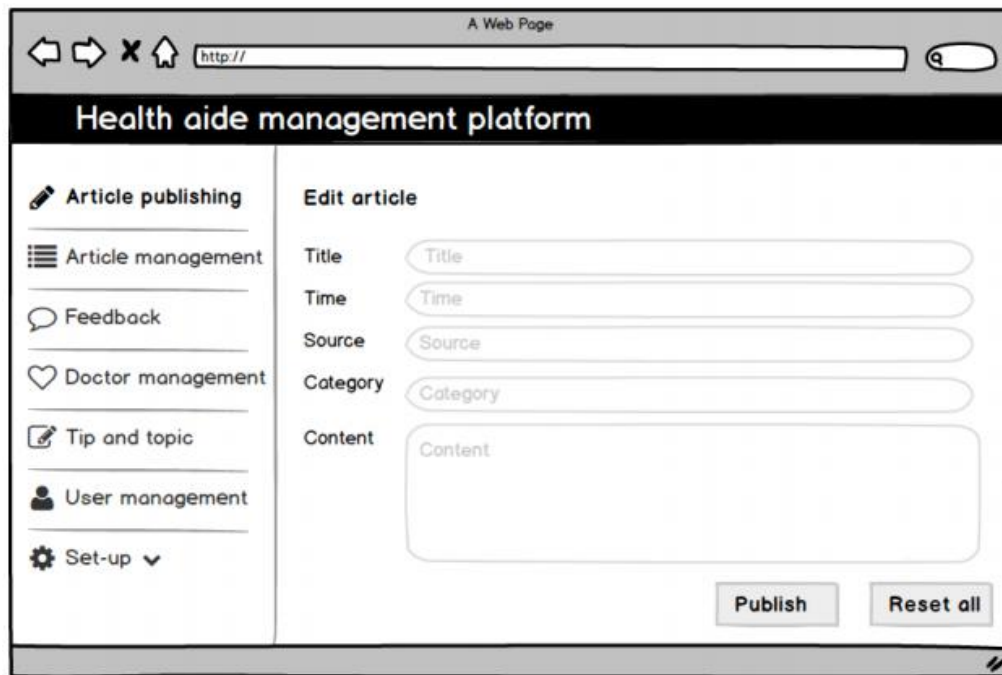
For Main manage interface:

Three parts in the page:

   1) Status bar

   2) Navigation bar

   3) content

The Status bar includes website address, refresh button and correct current website button......

Navigation bar's title will change to "Health aide management platform"

The function bar is on the left with six buttons:

   1) Article publishing

   2) Article management

   3) Feedback

   4) Doctor management

   5) Tip and topic

   6) User management

   7）Set-up

The content will change according to manager's choice.

For "Article publishing" interface:

The title is "Edit article", below it there are:

1) a label named "Title" followed by an input text.
2) a label named "Time" followed by an input text.
3) a label named "Category" followed by an input text.
4) a label named "Content" followed by an input text.
5) a button named "Publish" and another one named "Reset all"

This interface is the first one managers see after they login. The reason is that article updating is the most frequent operation for manager.

2.2.3 Article management interface
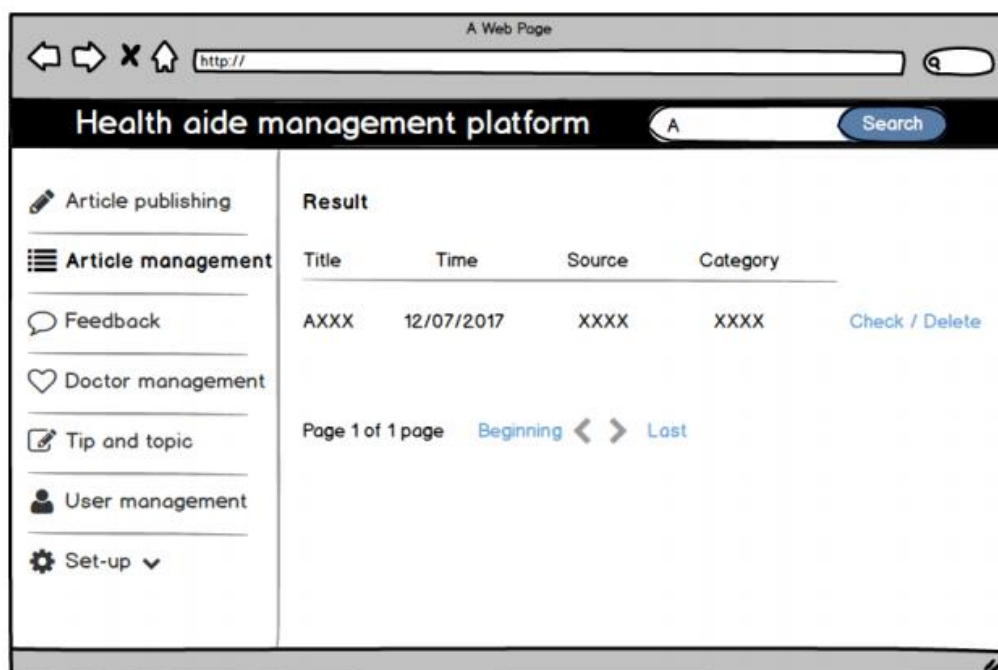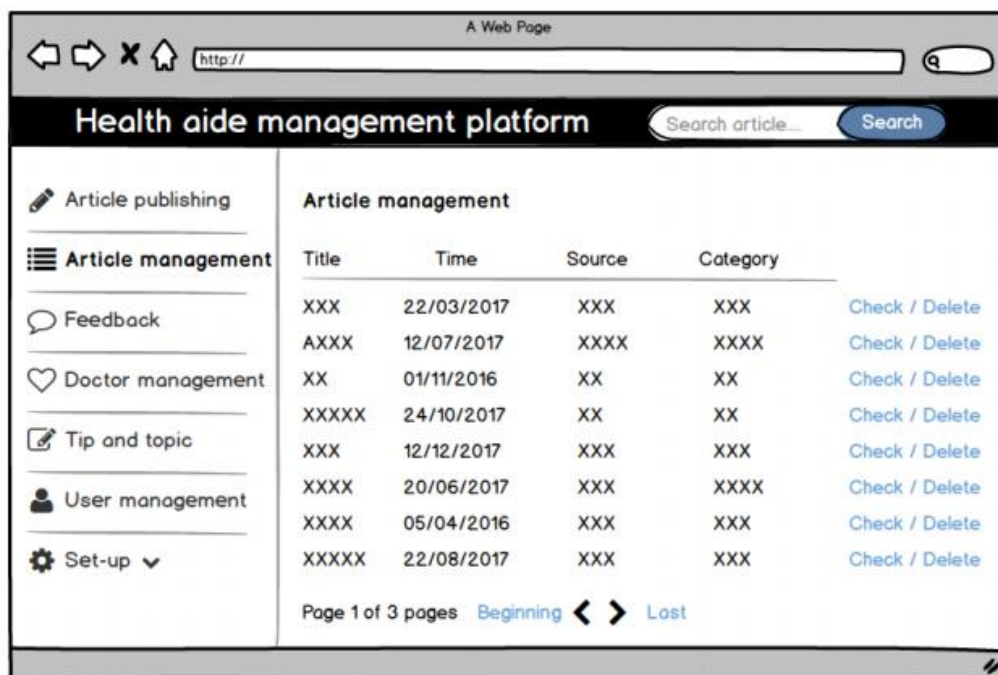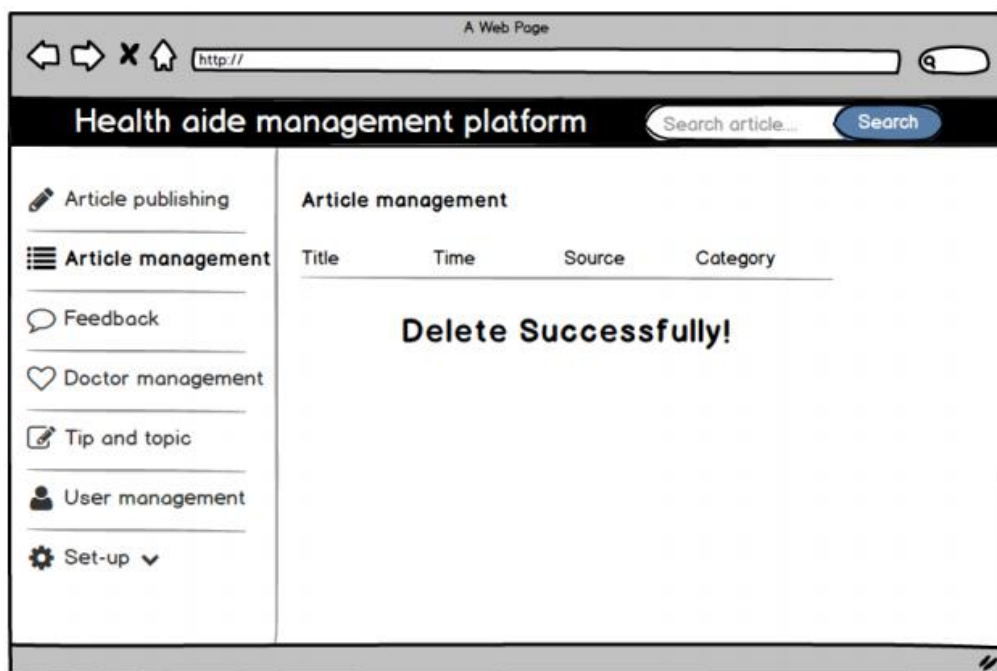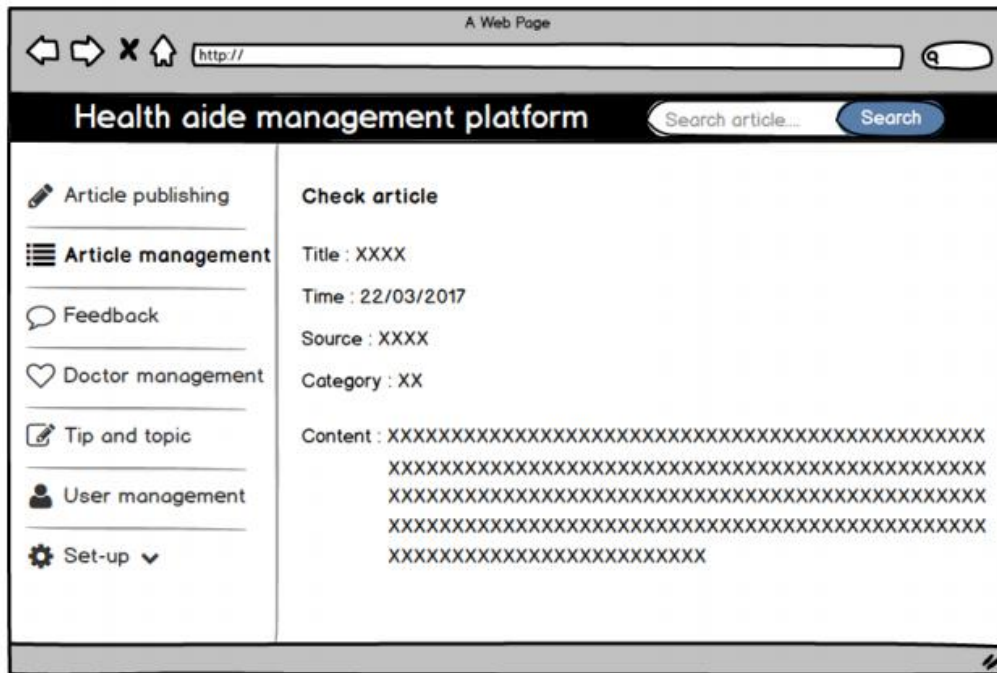
For Article management interface:

In the navigation bar, there is an extra searching bar for searching relevant article according to the key word.

As the amount of article is large, searching function is quite convenient when manager want to check or delete certain article. Manager can find the article through entering any key word about their properties.

In the content area, the title is "Article management" followed by an article list which has three properties:

   1) Title

2) Time

3) Category

At the end of each line there are two buttons called "Delete" and "Check". Managers can browse the whole list and they also can skip to the beginning page or end page.

Since the content of most article is abbreviated, manager can click "Check" to get more details.

When manager need to delete some articles, they will be informed whether the operation is successful. The messsage will be "Delete Successfully!" or "Please try again!"

2.2.4 Feedback interface
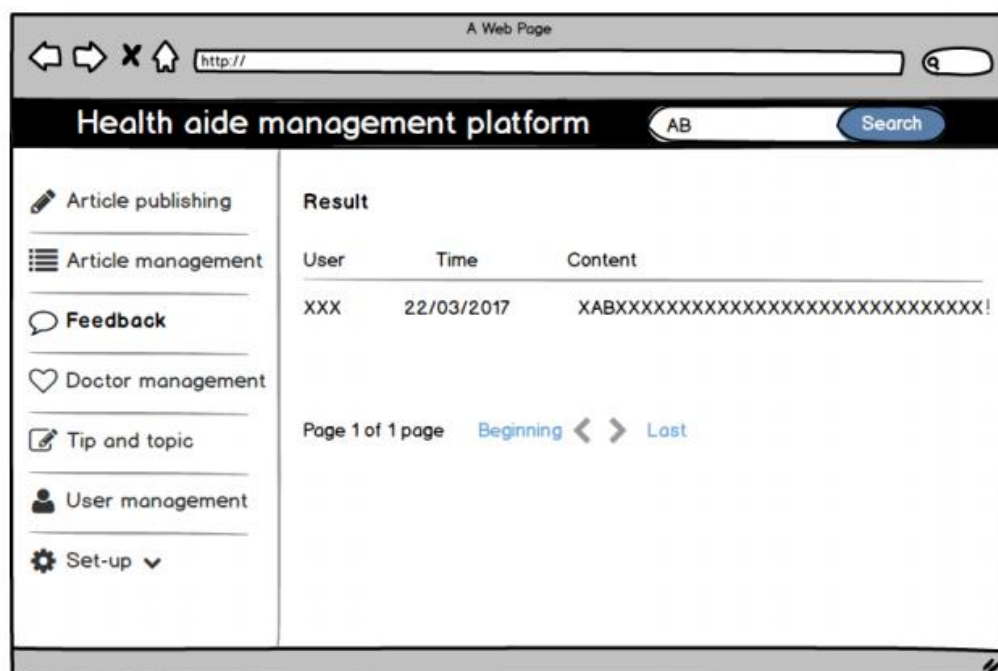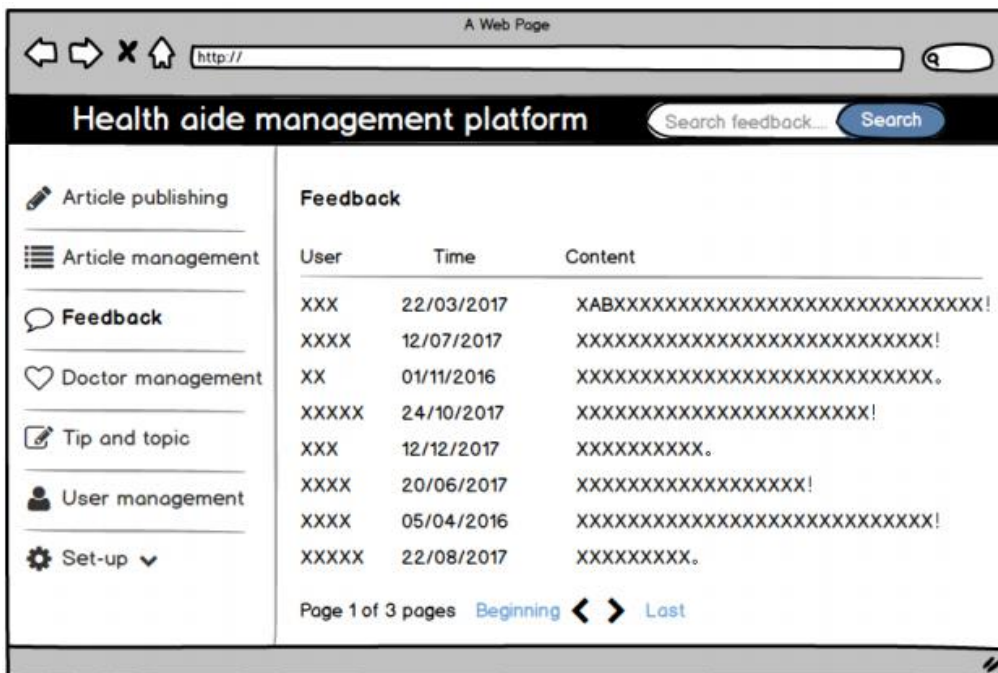
For Feedback interface:

The checking and searching function are similar with "Article management" interface while the attribute of feedback is:

1) User
2) Time
3) Content.

But manager is not allowed to delete any feedback, since it is just like a fake for our users.

2.2.5 Doctor management interface

For Doctor management interface:

Its checking, searching and deleting function are similar with "Article management" interface while the attribute of doctor are:

   1) Name

   2) Hospital

   3) Department

   4) Title

   5) Phone number.

It is worth mentioning that above the doctor list there is an area for adding new doctor, because compared with checking or finding a doctor, the website is more commonly used for adding new doctors.

2.2.6 Tip & Topic interface

For Tip & Topic interface:

We only have publishing function for tip and topic, and this interface is divided to two parts, but they are both similar with "Article publishing" interface.

For the upper section, it is topic publishing and the attribute of topic are:

   1) Topic

   2) Time

   3) Content

For the under section, it is tip publishing and the attribute of tip are:

   1) Area

   2) Time

   3) Content

## 2.2.7 User management interface

For User management interface:

The adding and searching function are similar with "Doctor management" interface while the attribute of manager are:

   1) Account name

   2) Initial password

   3) Confirm password

We request user to enter the Initial password at twice, because if they make a mistake

and enter the wrong new password, they will fail to login next time. Current account cannot see other managers' password.

2.2.8 Set-up interface
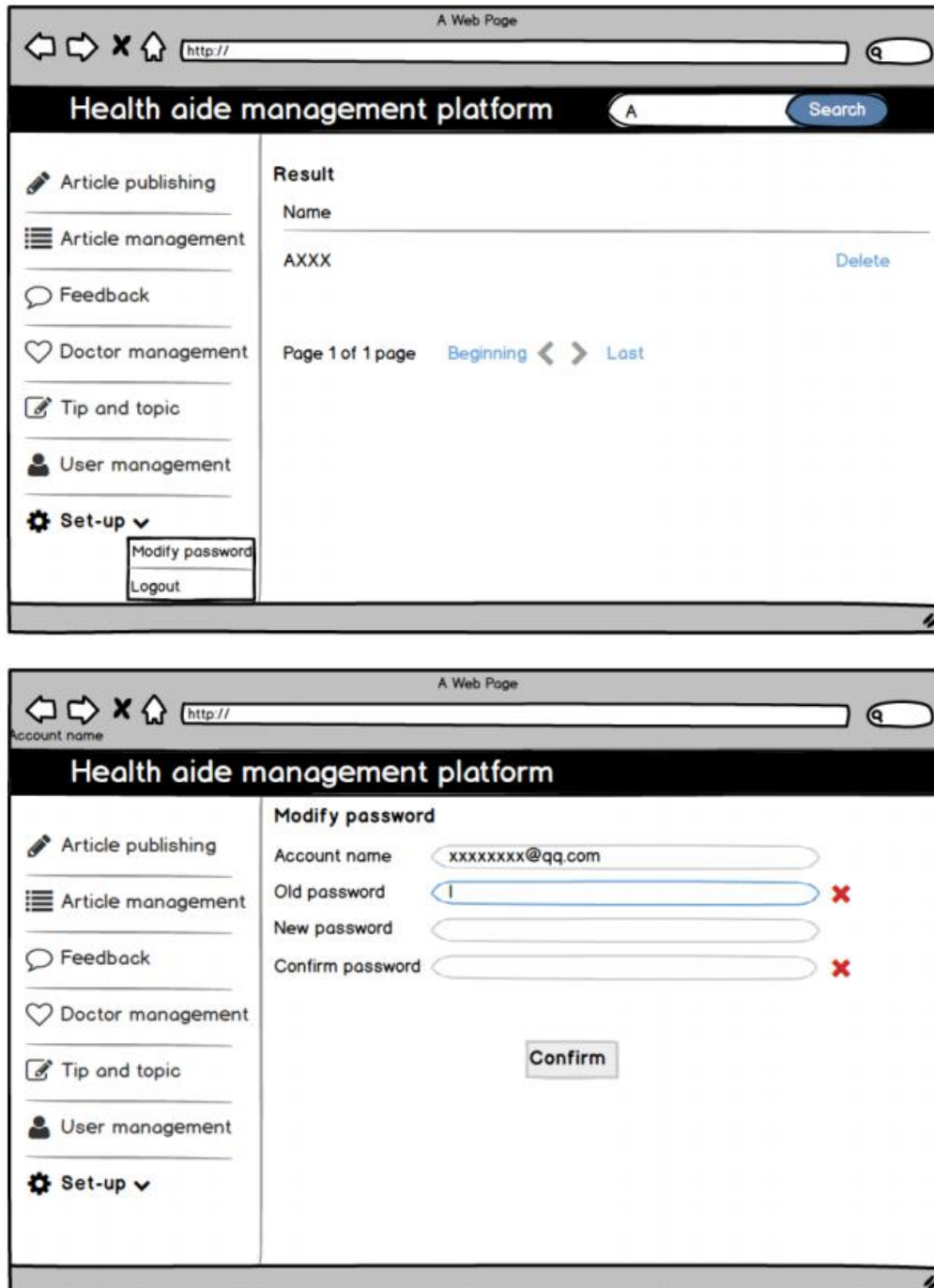
For set-up interface:

When move the mouse to this button, there are two sub-choice buttons:

   1) Modify the password

   2) logout

In the modify the password interface:

1) a label named "Old password" followed by an input text with hints "please enter old password", a sign is on the right side, if the password matches the old one the sign will turn to green otherwise it will be red.

2) a label named "New password" followed by an input text with hints "please enter new password"

3) a label named "Confirm new password" followed by an input text with hints "please enter new password again", a sign is on the right side, if the password matches the previous new one the sign will turn to green otherwise it will be red.

4) a button named "Confirm" that we request user to enter the new password at twice, because if they make a mistake and enter the wrong new password, they will fail to login next time.

When click "logout" user will come back to the login interface.

2.3 Database design
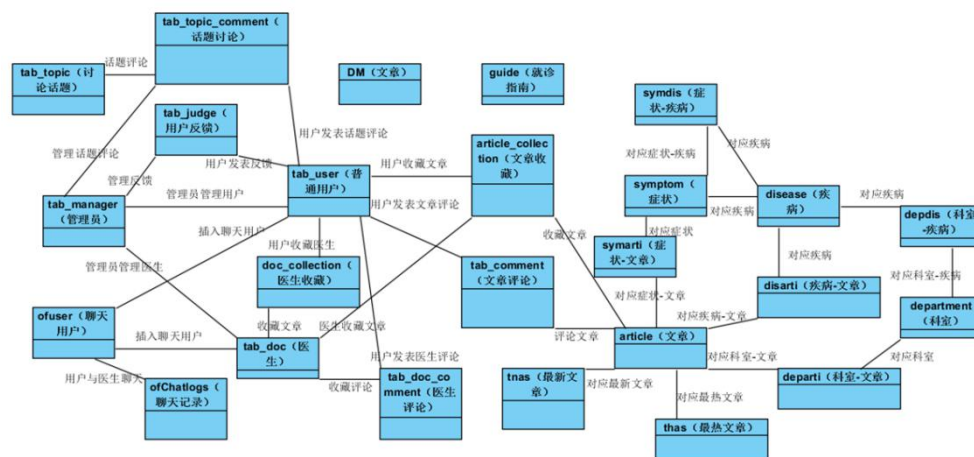
Database Design

As shown in the figure, our team has established the following table structure according to the software requirements: user table, doctor table, article table, disease table, visiting guide table, symptom table, department table, hot problem table, symptom-article table, disease-article table, department - article table, symptom - disease table, department - disease table, latest articles table, hottest articles table, chatting user table, chatting records table, topic table, topic comments table, evaluation table, doctor comments table, articles comments table, doctor collection table, article collection table.

2.4 Interface design

Interface design

As shown in the figure, the team's interface design considers and implements the following aspects: user registration, user information perfection, user login, avatar information modification, nickname information modification, password modification, user feedback operation, three latest articles, three hottest articles, ten latest articles, ten hottest articles, the collection of articles, article details, articles comments from user, user articles collection, get ten comments, the doctor list, the collection of doctor, the doctor details, access ten reviews, submit reviews, article searching, self-diagnoses, doctor reviews, get all the reviews for hot topics, click on a topic for details, show all new comments, reply to comments, get all comments, create comments.

The team's health aide APP client and server interact between the key-value pairs of information transmission through the json format.

2.5 Task Arrangement

The task arrangement is corresponding with the system components. We need one project manager and technology manager, one Web developer, one Web back-end developer, one Android developer, one Android back-end developer and one algorithm developer. So here is the detail requirements and plan:

Bill is project manager and technology manager. He is duty with the project process management, organize team meeting every week. He also need to implement and optimize the highlight technology and performance including the search algorithm optimization, chatting function and other technology guidance.

Yingdi is Web developer. She is good at web design and she can use her advantage to create some surprise interface mockup. She is duty with the development and iteration of web interface and she also need to communicate and connect with web back-end to realize dynamic functions.

Xin is Web back-end developer. She has careful logic which is suitable with the back-end design and business logic. She is duty with the development and

optimization of web back-end responding speed and satisfy the request from the web front-end. She will also manage the database and ensure the data can be transferred back to web smoothly.

Wade is Android developer. He is good at mobile phone interface design and he can also create some nice mockup. He is duty with the development and update of Android interface and he need to communicate with the Android back-end and realize functions.

Tom is Android back-end developer. He has some experience in the back-end development, so he is very familiar with the back-end design and development. It is easy for him to understand the new business logic and build a mature back-end framework. He will also need to manage the database and increase the performance.

Kelly is the algorithm developer. She has a great communication skill and learning method. It is suitable to provide her the algorithm development. She need to use the online crawler tool to catch online healthy-care data into our cloud database. And she will optimize the search algorithm and optimize user feeling.

3 User Manual

3.1 Function brief description

This module will briefly introduce the functions of the healthy mother's APP client and the management and management platform interface.

3.2 Patient app

Login interface: enter the account number / phone number and password to log in.

Registration interface: enter the phone number, and click to get the verification code, the phone will receive a verification code SMS, the user will enter the password again, click on registration, the interface will jump to the login interface.

Password: click the login interface to retrieve password button to jump to the interface, enter the mobile phone number, click to get the verification code, and enter the new password again, click Reset to complete the input validation, password reset, complete password reset after the interface jump to the login screen.

Home Page Exhibition：

Patient app home page

Input box: Enter query words, related articles with keywords, and click articles to enter the interface of the article. Click Cancel to return to the main interface.
Message reminding: after the click, you can see the system message, the active push and the doctor reminding.

Self diagnosis: after click enter, enter the query word in the input box, related to the disease related to the related symptoms, and click the disease to enter the disease interface. Click Cancel to return to the main interface.

Life tips: push related health information, hot issues, health tips, and so on.

Everyone is talking: look at the latest hot topics, while you can leave a message and give your opinion, as shown in the next picture.

Topic center   "Everybody is talking"

Search box
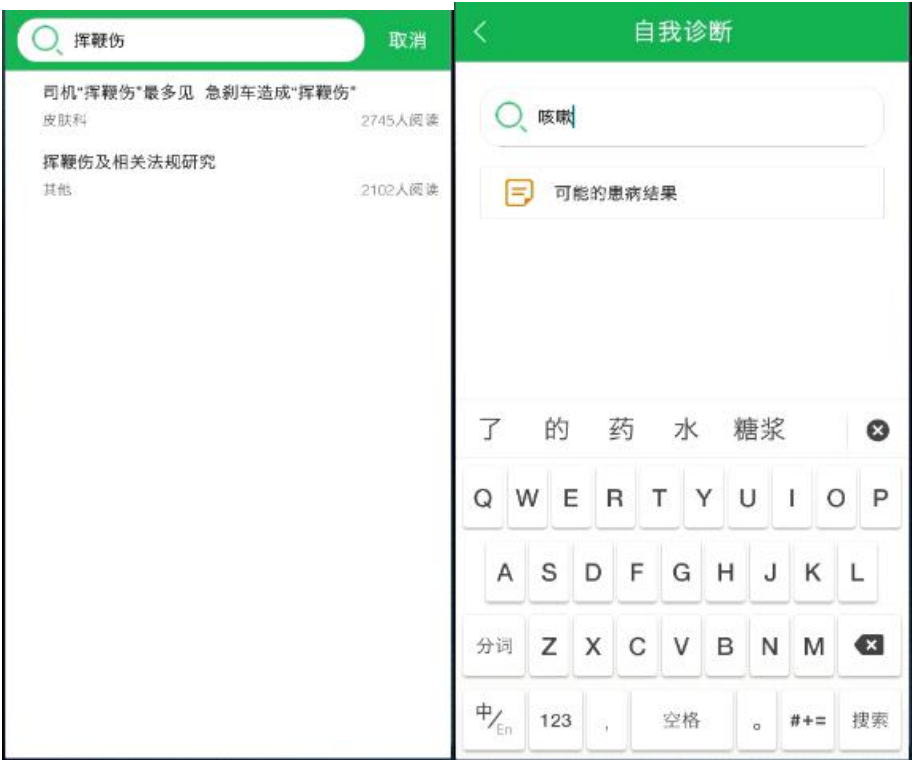
Search result   Self diagnosis
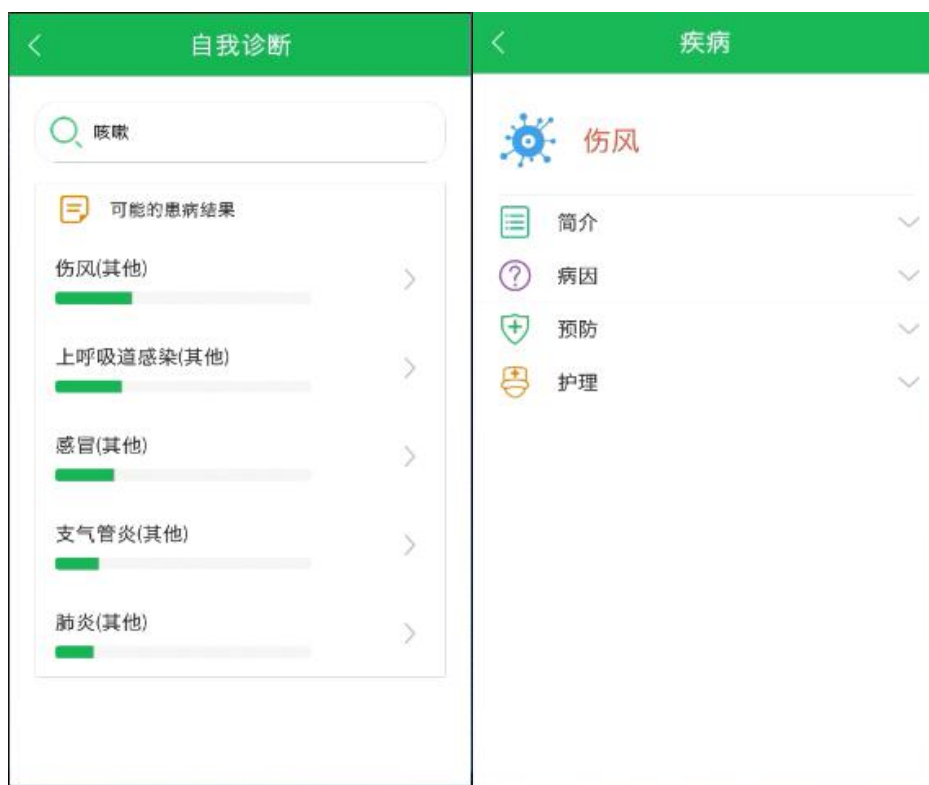
Self diagnosis result   "cold" interface

The latest article: this column displays the latest 3 news, click on the latest article, enter the "article list" interface, show 10 articles, each drop-down refresh increase 10 articles.

Hot articles: this column displays the latest 3 news, click on "hot articles", enter the "article list" interface, display 10 articles, each drop-down refresh increase 10 articles.

The latest article list

Open an article

Article comment
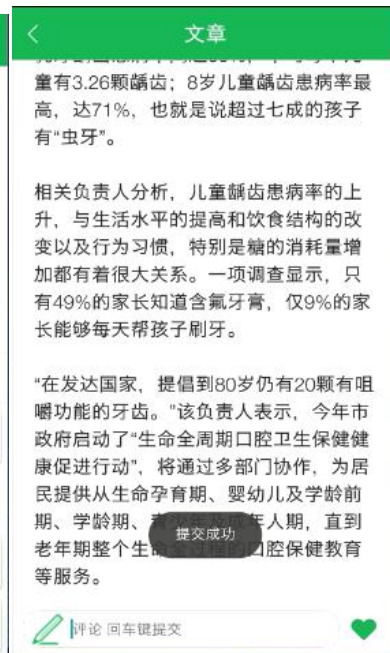
Submit successful
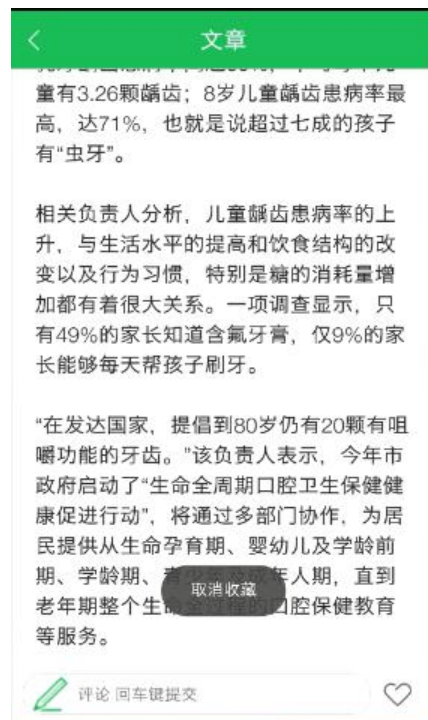
Cancel collection

Hospital interface:

Doctor selection   Doctor
information

Oral and maxillofacial Department: choose this section to enter the doctor's selection list, as shown in the picture.

"Me"interface

Personal information   My doctor
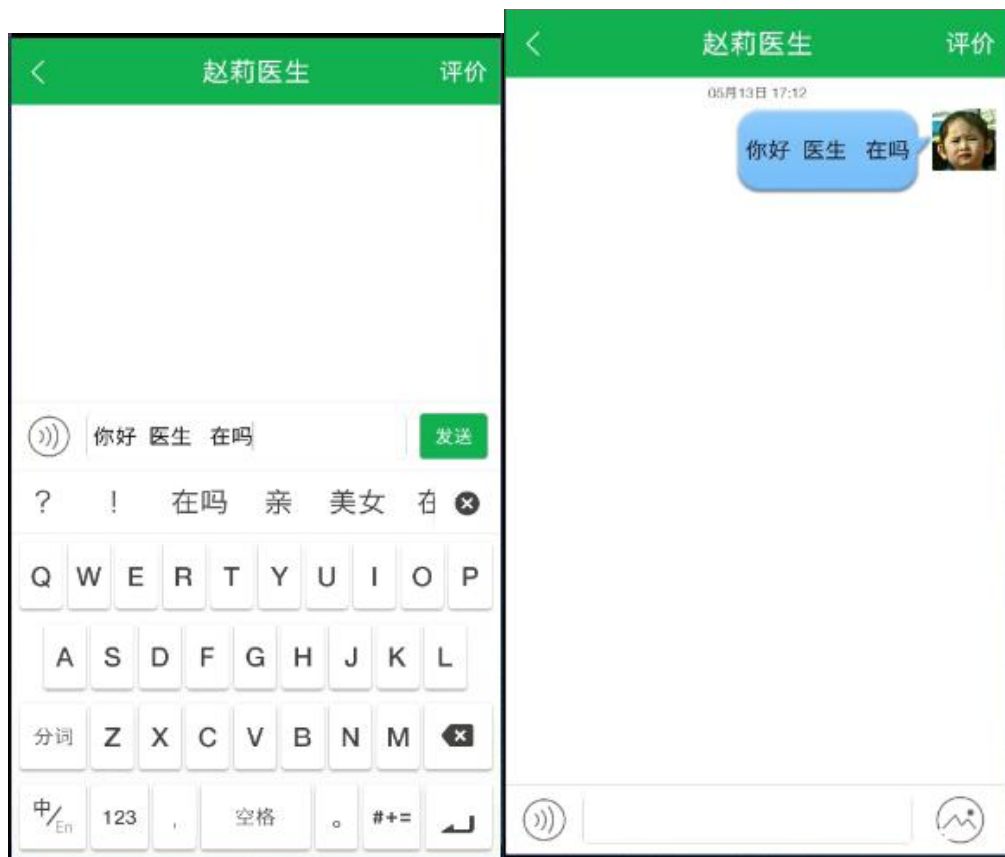
Chatting interface

Select photo

Photo chatting
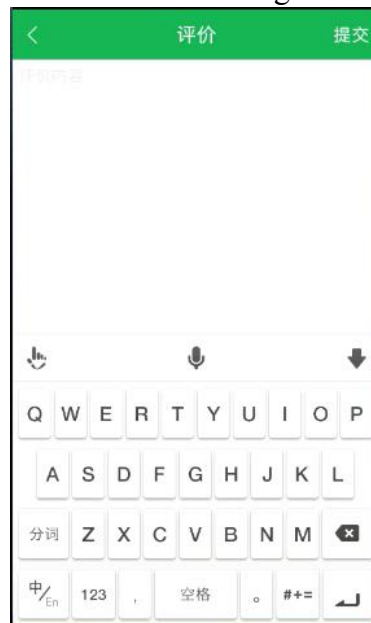
Judge for doctor

Article collection
Topic collection

Suggestion feedback and tip notice

Head image: after clicking, enter the "personal information" interface to modify the head image and specific information.

News collection: after clicking, enter the "article collection" interface, reading articles and comments, and grading, reviewing, collecting, and complains.
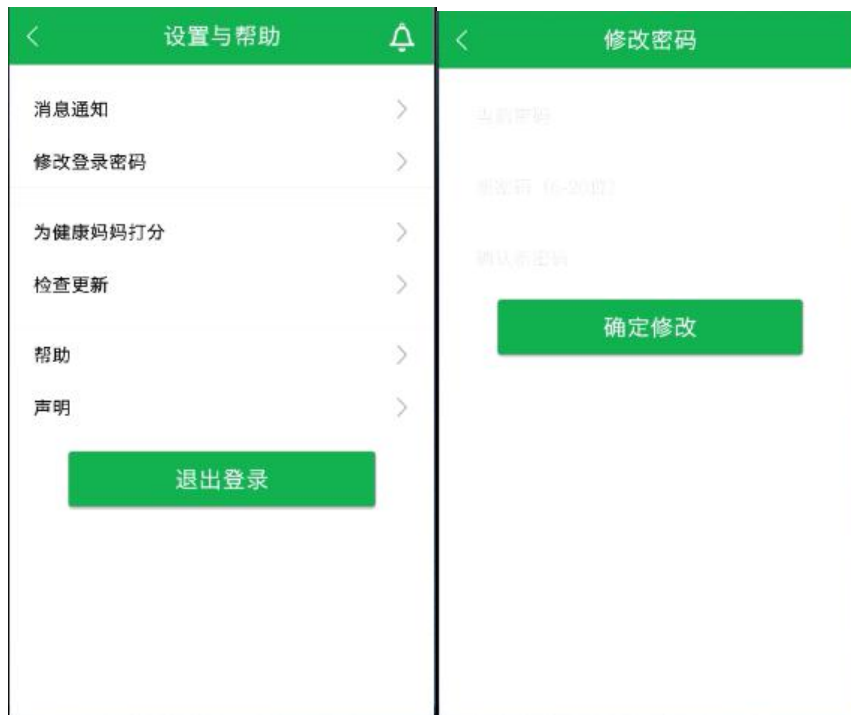
Setting and help   modify password

Check update version and log out

Setup and help: Click to enter the setup and help interface: users can manage messages, modify login password, score for healthy mothers, check updates, get help, read related information and quit landing.

Feedback: users can feed their opinions to the developers.

3.3 Doctor app

Doctor login
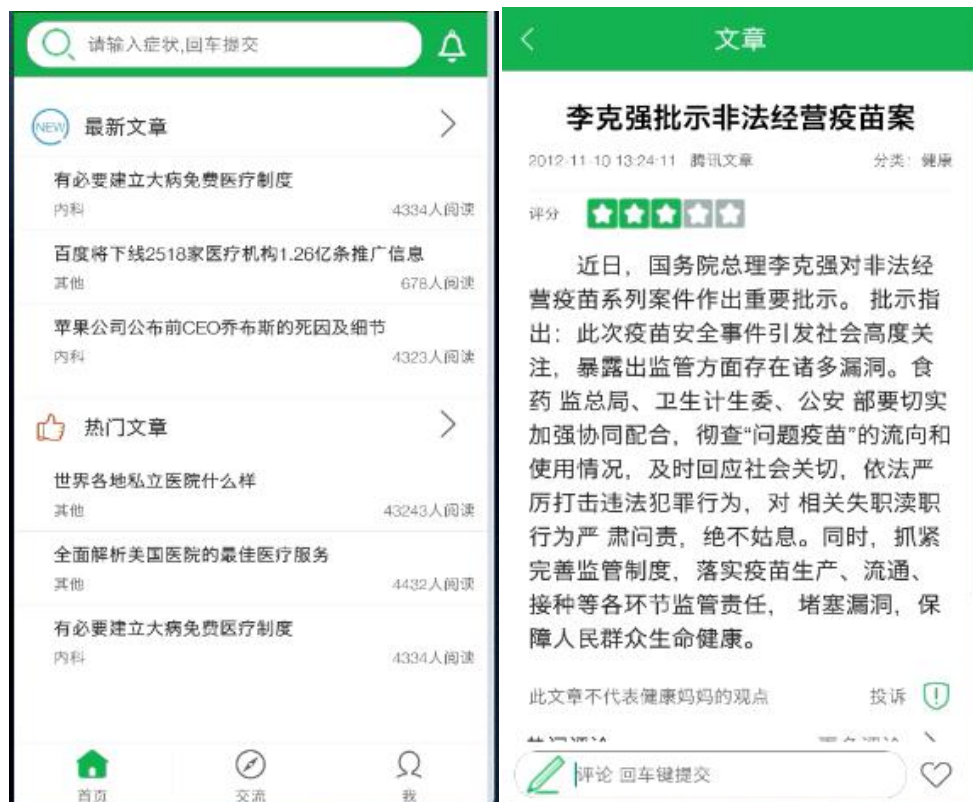
Doctor home page   the latest article

| Comment | submit comment successful |

The basic interface between the doctor and the app is the same as the students' app, so only the difference between the doctor's app and the students' app is introduced.
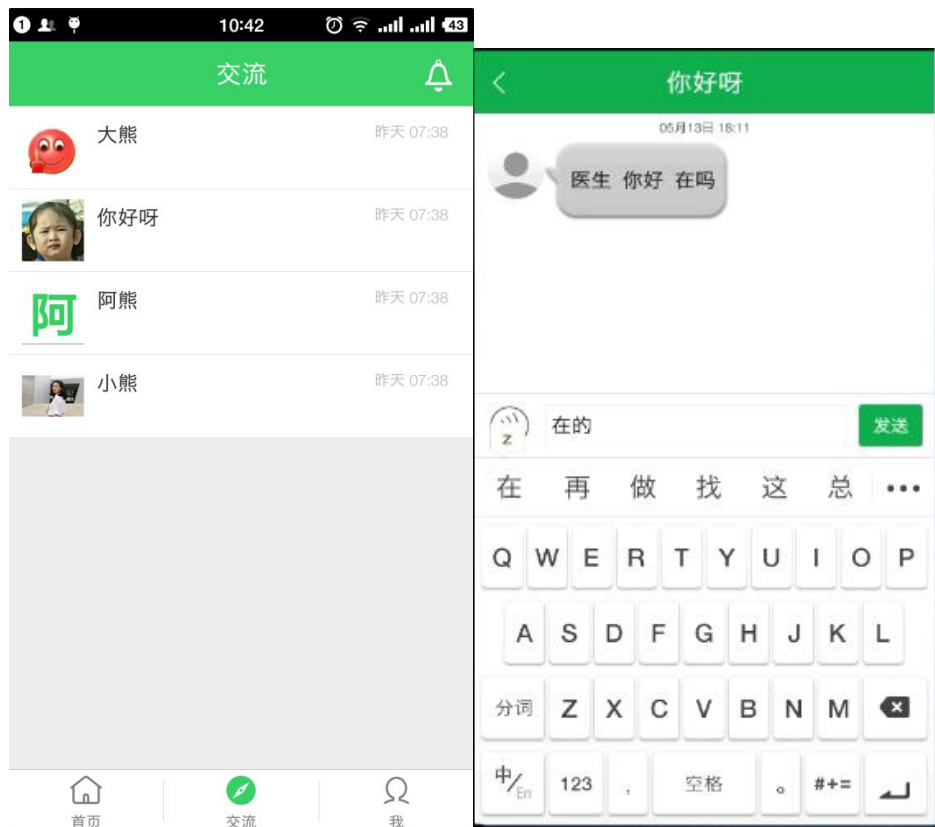
Chatting interface
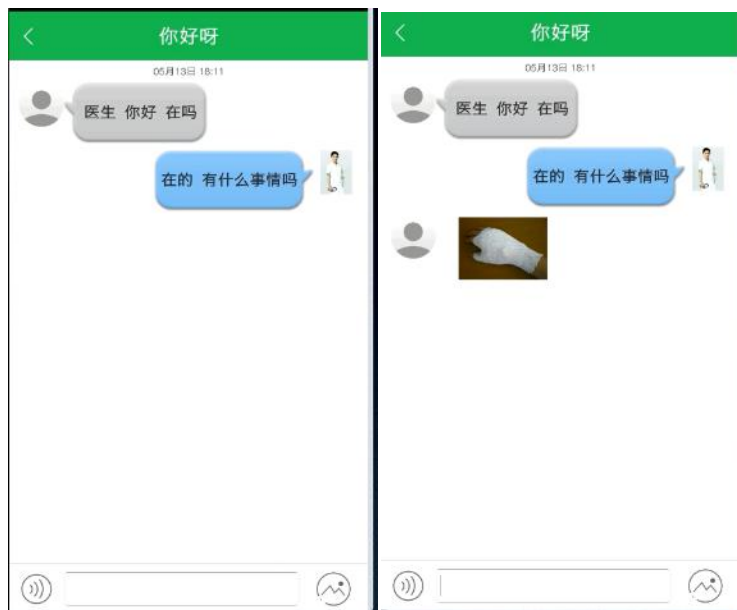
Word chatting   Photo chatting
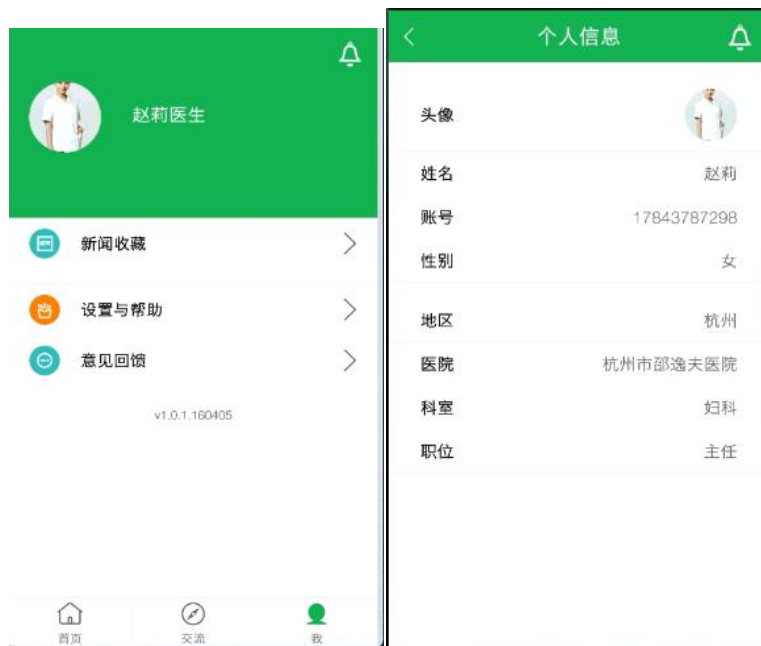
Doctor personal interface and information interface
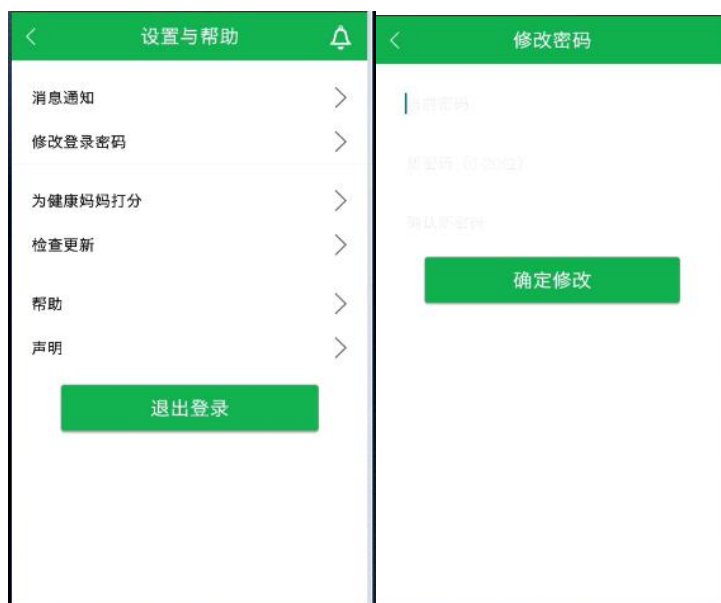
Setting and help   modify password

Exit the login and return to the login interface

3.4 Web
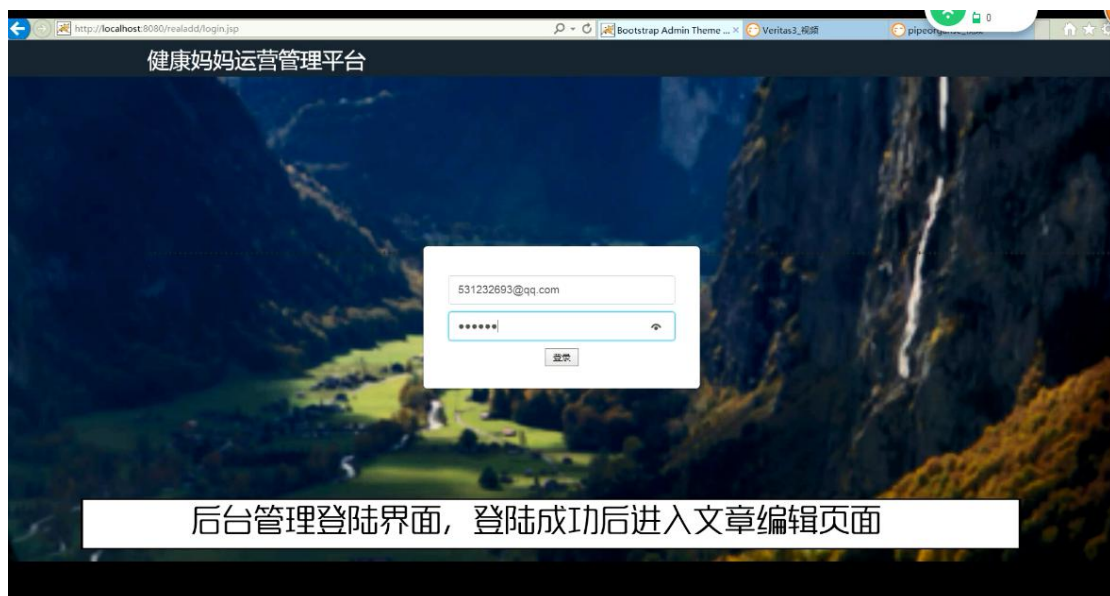
The login interface of back-stage management, managers could edit the articles if they login in this website successfully.

在这个页面，管理人员可以发布相关的健康资讯

In this interface, managers could push health information.

点击文章管理，可以看到爬虫从网上爬取的以及管理人员手工录入的健康资讯

Click the button called "management of articles", managers could see the health information. These information is from the internet which acquire by the tech-reptile and the by-hand input by the managers.

Managers could search the articles in this interface by the key words.

Managers could search the articles in this interface by the key words.

In this module, managers could check and delete the articles.

In this module, managers could check and delete the articles.

In this module, managers could check and delete the articles.

Click the button called "feedback information", managers could see the feedbacks of users related to this application.

同样，在反馈信息界面，我们也实现了对反馈信息的搜索功能

Equally, in this feedback interface, managers could search the feedback by the key words.

同样，在反馈信息界面，我们也实现了对反馈信息的搜索功能

Equally, in this feedback interface, managers could search the feedback by the key words.

医生管理界面，管理员可以手动添加医生，并查看入驻平台医生的列表

In the interface of management of doctor, managers could manually add the information of into our database and check the list of doctors' information.

医生管理界面，管理员可以手动添加医生，并查看入驻平台医生的列表

In the interface of management of doctor, managers could manually add the information of into our database and check the list of doctors' information.

Managers could search the doctor by his/her name and delete doctors from databases.

Managers could search the doctor by his/her name and delete doctors from databases.

This is the interface of topic pushing, managers could timely push some topic which may attract college students

Managers could push the health information to attract college students

4　Test case

4.1 Web management platform

Web management platform	
Number	Explanations
Enter the login interface	Input the username and password, then click the login button to enter the main interface.
In the main interface	Click the button called "management of articles" in the title panel to enter the interface of managing articles. This interface would show the titles, release time, the source and the category of the articles. The managers could edit, delete and search the articles.
	(2) Click the button called"feedback of users" in the title panel to enter the interface of feedbacks. It will show the users' name and the details and release time of users' feedback. What's more, managers could search the feedback of users by the key words.
	Click the button called "management of doctor" in the title panel to enter the interface of managing doctors. In the top half part, managers could input the name, phone numbers and the name of him/her hospitals. Then, click the button called add doctors to add a doctor into our database. In the bottom half part, it will show the list of added doctors with his/her name, hospital, department, the title of a technical post and phone numbers. The managers could delete the doctors and search doctors by his/her name.
	Click Tip & Topic, there are two parts, the first part is publishing topic by entering topic, time and content. The second part is publishing tip by inputting area, time and content.

	Click "User management, the interface is similar with the doctor management. The attribute of new manager are account name and initial password which should be entered at twice. In the managers' list, current user can delete existing manager. And they can also search the manager.
	Move the mouse to the set-up button ,there are two sub-choice "modify the password" and "logout". Click the "modify the password "button and enter its interface, input the right old password and new one at twice, then click the" confirm" button. Click the "logout" button to logout current account.

4.2 Patient platform

Patient app	
Number	Explanation
Open a healthy mother's Application on a mobile phone and enter the "landing interface"	(1) click on "quick registration", jump to the "registration interface", fill in the data and get the verification code, check "I have agreed to user agreement", click the "registration" button.
	(2) click "forget password", jump to the password reset interface, enter the new password on both sides, click the "confirm" button and jump to the "home page".
	(3) enter the account, password, click the "login" button, jump to the "home"
	(1) click on the upper input box, enter the symptoms, relate the article with the keyword, and click the article to enter the article interface. Click Cancel to return to the main interface.
	(2) click "self diagnosis", enter the "self diagnosis" interface, appear the input box, enter the symptoms, after submission, show the possible result of the disease. Select the result, jump to the

Operation on the home page	corresponding disease interface.
	(3) the latest 3 articles are displayed in the latest article column. Click on the latest article, enter the "article list" interface, show 10 articles, each time pull-down refresh increase 10 articles.
	(4) the "latest articles" show the latest 3 news. Click on "hot articles" to enter the "article list" interface, and display 10 articles, each time the drop-down refresh increases 10 articles.
Click on the "hospital" in the navigation bar below, and jump to the "hospital" interface.	Click to select the Department, jump to the corresponding interface, select the doctor, jump to the "doctor" interface, show the doctor's specific information and other people's evaluation: click the "send message" button and enter the chat interface. The chat interface can receive and send text messages, voice and pictures. Click the "more evaluation", "evaluation into the list, click the show more evaluation, and evaluation of" angle "button to jump to" evaluate "interface, can fill in the evaluation, click the" submit "submitted for evaluation, evaluation and returns the list interface, display the evaluation of success".
Click on the "topic" in the navigation bar below, and jump to the "topic" interface.	(1) click on "everyone in the chat, jump to the corresponding detailed" topic "interface, display topic name, content, date and other information, the user can click on the" attention ", to achieve the topic of concern, click Cancel, cancel the implementation of concern" attention to the topic and the topic of the user comments, display user comments in accordance with the number of points like from top to bottom, from large to small order.
Click "Me" in the navigation bar below and jump to the "management interface"	(1) click on the head image, enter the "personal information" interface, can modify the head image and specific data, click the top left back button to return to the "management interface".
	(2) click "my doctor", go into my doctor's interface and show the doctor who has exchanged it. Select the doctor and enter the chat interface. The chat interface can receive and send text messages, voice and pictures. Click the "more evaluation", "evaluation into the list, click the show more evaluation, and evaluation of" angle "button to jump to" evaluate "interface, can fill in the evaluation, click the" submit "submitted for evaluation, evaluation and returns the list interface,

	display the evaluation of success".
	(3) click on "topic attention" and go into the topic interface that I pay attention to, showing the topic that I pay attention to.
	(4) click on "news collection" and enter the "article collection" interface. Select the article click, jump to the article theme interface, display the article. Click on "more comments", jump to the review list, and show more popular comments. Click below and enter the "box" and enter the comment. Click the input box at the end of the heart button to collect the article, showing that the collection is successful.
	(5) click "settings and help" to enter the "setup and help" interface Click "modify the login password", enter the "modified password" interface, enter the original password and new password, and click the "confirm modification" button to return to the previous interface. Click the "logon" button and exit.
	(6) click "feedback", enter the opinion in the square text box, click the "submit" button and submit the information.

4.3 Doctor platform

Doctor app	
Number	Explanation
Open a healthy mother's Application on a mobile phone and enter the "landing interface"	(1) enter the account, password, click the "login" button, jump to the "home"
	(1) click on the upper input box, enter the symptoms, relate the article with the keyword, and click the article to enter the article interface. Click Cancel to return to the main interface.

Operation in the home page	(2) click "self diagnosis", enter the "self diagnosis" interface, appear the input box, enter the symptoms, after submission, show the possible result of the disease. Select the result, jump to the corresponding disease interface.
	(3) the latest 3 articles are displayed in the latest article column. Click on the latest article, enter the "article list" interface, show 10 articles, each time pull-down refresh increase 10 articles.
	(4) hot news articles show the latest 3 news, click on "hot articles", enter the "article list" interface, display 10 articles, each time pull down refresh increase 10 articles.
Click on the "communication" in the navigation bar below, and jump to the "communication" interface.	(1) the patients who had recently initiated questions and communicated with each other in chronological order were clicked. The patients could enter the chat interface, and could receive and send text messages, voice and pictures at the chat interface.

Click "Me" in the navigation bar below and jump to the "management interface"	(1) click "settings and help" to enter the "setup and help" interface:
	    Click "message notification" and show the latest news.
	    Click "modify login password", enter the "modify password" interface, enter the original password and the new password, click the confirmation change button to return to the previous interface.

	Enter a click "for a healthy mother." Click the "log out" button and exit.
	(2) click "feedback", enter the opinion in the square text box, click the "submit" button and submit the information.