

2014

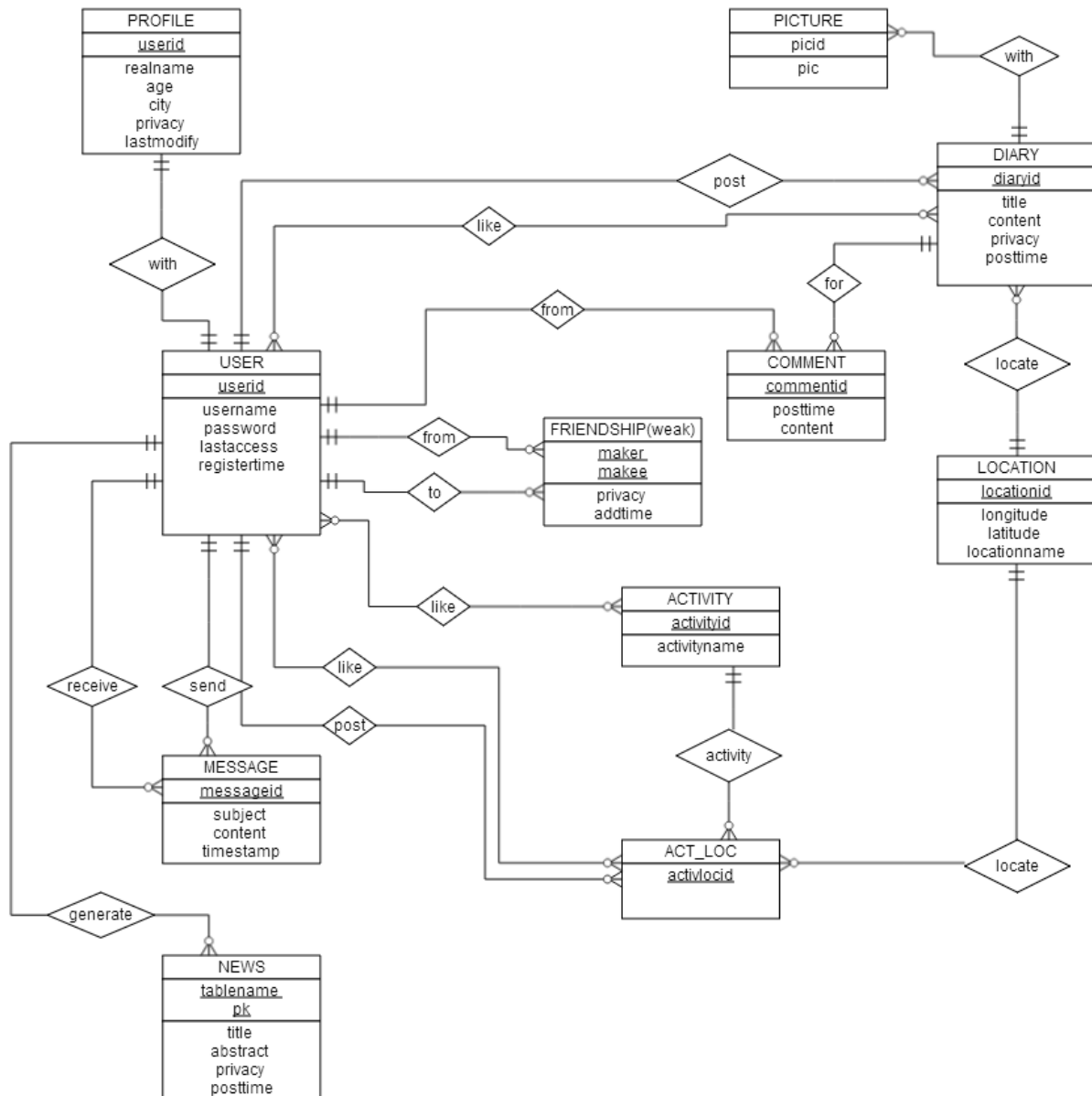
wildbook

Project Report

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Part 1. E-R Diagram



Part 2. Relational Schema

USER(userid, username, password, lastaccess)

A user should have a username and password when register. Lastaccess is the timestamp.

PROFILE(userid, realname, age, city, privacy, lastmodify)

userid reference USER.userid.

Profile contains realname, age, and city of the user(correspond to the userid). Lastmodify is the timestamp which automatically generated by the system when user modify his/her profile. Privacy is 0, 1, 2 or 3 which means public to everyone, only friends and fofs, only friends or only me.

FRIENDSHIP(maker, makee, privacy, addtime)

maker,makee reference USER.userid.

Once one friendship was confirmed, 2 tuples will be inserted into this table. The privacy shows the privacy configuration of maker in this friendship. When the friendship is visible to everyone, privacy=0. Privacy is 0, 1, 2 or 3 which means this friendship is public to everyone, only friends and fofs, only friends or only me.

DIARY(diaryid, title, content, privacy, posttime, userid, locationid)

userid, locationid reference USER.userid, LOCATION.locationid.

Content contains the diary's content. It could include text and pictures. Privacy is 0, 1, 2 or 3 which means public to everyone, only friends and fofs, only friends or only me. Userid is the author's userid, and locationid shows the diary's location. The location could be the corresponding activity's location, the current location of author, or NULL.

COMMENT(commentid, content, userid, diaryid, posttime)

userid, diaryid reference USER.userid, DIARY.diaryid.

Content is the content of comment, which only support text. Userid is the current comment's author's userid. Diaryid indicates the diary which this comment belongs to. Posttime is timestamp.

NEWS(tablename, pk, userid, title, abstract, privacy, posttime)

userid references USER.userid.

News can be a user post a diary or like a location for an activity. Tablename is the corresponding tablename that should be tracked. Pk is the primary key of the tracked table. For example, if this news is "some user post a diary", then tablename equals to "DIARY", and pk should equal to the corresponding diaryid. Userid indicates the owner of the news. Title is generated by webserver, which looks like "JASON: diary title", "ALICIA thinks sunset park is good for jogging". Abstract is also automatically generated by webserver, which is the first 100 words of a diary, or a brief introduction. Privacy is 0, 1, 2 or 3 which means public to everyone, only friends and fofs, only friends or only me. Privacy of the news equals to the corresponding diary's privacy, and is 0 when it's about like something.

PICTURE (picid, diaryid, pic)

diaryid references DIARY.diaryid

We assume that pictures can only be posted as part of diary entries.

ACTIVITY(activityid, activityname)

Activity includes fishing, hiking, and kayaking, and also could be modified by users. This record is inserted when a user likes some activity or a user shares some location that is suitable for this activity.

LOCATION(locationid, locationname, longitude, latitude)

Location includes any location, like some parks or hills, together with its coordinate. It can be added by user when s/he adds new location in diary, or adds a new activity-location relation.

ACT_LOC(actlocid, userid, activityid, locationid)

userid, activityid, locationid reference USER.userid, ACTIVITY.activityid, LOCATION.locationid

This table stores the relations between activities and locations. A location may be suitable for several activities, and an activity can be carried out in several locations. Userid indicates the creator of each activity-location relation.

LIKEDIARY(diaryid, userid, addtime)

diaryid, userid references USER.userid, DIARY.diaryid.

A diary can be liked by other users. Userid is id of the user who like this diary.

LIKEACTLOC(actlocid, userid, addtime)

actlocid, userid reference ACT_LOC.actlocid, USER.userid.

A activity-location relationship can be liked by users. Userid indicates the user who like it.

LIKEACTIVITY(activityid, userid)

activityid, userid references ACTIVITY.activityid, USER.userid.

A activity can be liked by users. Userid indicates the user who like it. It doesn't have addtime because it is like the user's profile which wouldn't change too much.

MESSAGE(messageid, posttime, title, content, senderid, receiverid)

senderid, receiverid reference USER.userid

Title for the message could be "FRIEND REQUEST" or other that written by sender. Content could be only text or together with a special-use button (for example, a friend request message could be with a "confirm" button which trigger the corresponding operation).

Part 3. Functions, views and triggers

Function

We created a function `getRelation` in the database. Using this function, we can easily get the relation, indicated by an integer, between two users. This function is heavily used when computing whether or not a user could see a post with privacy setting.

```
CREATE DEFINER=`root`@`localhost` FUNCTION `getrelation`(x int, y int)
RETURNS int(11)
    DETERMINISTIC
begin
declare result int;
if x=y then
set result=3;
else
if exists (select * from friendship where maker=x and makee=y) then
    set result=2;
else
    if exists ( select * from friendship f1, friendship f2 where f1.maker=x
and f1.makee=f2.maker and f2.makee=y) then
        set result=1;
    else
        set result=0;
end if;
end if;
end if;
return result;
end$$
```

Trigger

To better manage the data, we created several triggers, including one that insert a empty row into `profile` table as initialization when a user entry is inserted, so that we do not have to care if users are creating a profile or updating a profile. We only have to update the profile table when users edit their profiles, so the system becomes simpler.

Another example is a trigger which deletes all the related data before we delete a diary, so we do not have to delete those data that breaks the foreign key constraints.

```
-- Triggers `diary`
--
DROP TRIGGER IF EXISTS `befDelDiary`;
DELIMITER //
CREATE TRIGGER `befDelDiary` BEFORE DELETE ON `diary`
    FOR EACH ROW begin
delete from `picture` where diaryid=old.diaryid;
```

```
delete from `comment` where diaryid=old.diaryid;
delete from `news` where tablename='diary' and pk=old.diaryid;
delete from `liked diary` where diaryid=old.diaryid;
end
//
DELIMITER ;
```

[View](#)

To better count how many times a post is liked by users and later will be used to build a ranking system, we also have some views for posts. For example, liked diary_num:

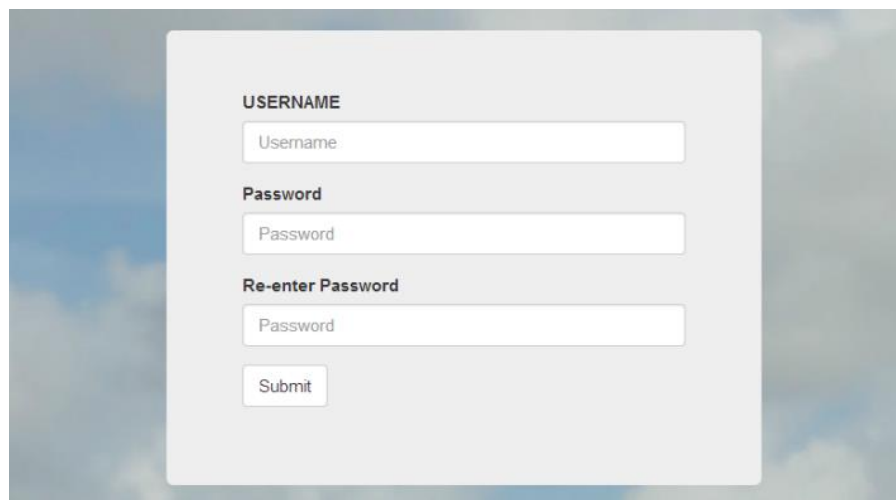
```
CREATE ALGORITHM=UNDEFINED DEFINER=`root`@`localhost` SQL SECURITY DEFINER
VIEW `liked diary_num` AS select `liked diary`.`diaryid` AS `diaryid`,count(0) AS
`like_num` from `liked diary` group by `liked diary`.`diaryid` union select
`diary`.`diaryid` AS `diaryid`,0 AS `0` from `diary` where
(not(`diary`.`diaryid` in (select `liked diary`.`diaryid` from `liked diary`)));
```

Part 4. Functions of Wildbook

Index page



In the index page, a user can either login or sign up a new account.

The image shows a sign-up form overlaid on the same background as the index page. The form is a light gray rectangle with the following fields and labels: "USERNAME" with a text input field containing the placeholder "Username"; "Password" with a text input field containing the placeholder "Password"; "Re-enter Password" with a text input field containing the placeholder "Password"; and a "Submit" button at the bottom.

In the sign up page, we validate input from users in case they have mistype in the password or the username is already taken by another user.

The image shows a login form centered on a light blue background with a subtle cloud pattern. The form is a white rectangle with rounded corners. It contains two labels: 'USERNAME' and 'Password', each followed by a text input field. Below the password field is a 'Submit' button.

In the login page, a user can input the username and password to login. Here for simplicity we just store the password in the database as plain text. In practical production, we will definitely process the password with salty hashing.

After user provide correct username and password, the server program will create a session for this user, store user id, user name, last access time and other information in the cookie, which will be later used by server in other web pages.

The last access time of users is stored in database. Every time a user login, the data in database will be updated, and will be updated again later when user quit the website.

The image is a screenshot of a web application's 'News Page'. At the top, there's a navigation bar with links for 'Homepage', 'Locations', 'Activities', and 'Search'. Below this is a user profile section for 'Foosebake' with a 'Discover' button. The main content area shows two news items. The first item has the title 'Twitter: Hawaii County is a good place for Fishing' and a 'Like' button. The second item has the title 'Twitter: why are fish attracted to worms' and a longer text snippet about a 'Bobber system'. It also has a 'Like' button and a 'Leave a comment...' section with a 'Submit' button.

After a user successfully login, the page will be redirected to news page. In this page, news from others will be enumerated. When other users post a diary, or some certain place is good for some activity, the server will generate a news for this event, and then will be displayed in this page.

To avoid too much irrelevant information in this page, system will only display news relevant to the user's interests, for example, posts by friends or a friend of friend's. However, when a new user comes

to this page just after sign up, there is no friends, resulting in no news. In this case, system will recommend some news, whose privacy is set to be public, for the new user.

Ke: I wanna peace inside

So why should I go outside? The world is so noisy. Only my bed will always be the best place for fishing, hiking, swimming and skydiving.

like

Lingzhu: good published at 2014-05-10 19:31:55

Lingzhu: very very good! published at 2014-05-10 19:32:04

Lingzhu: very very good! published at 2014-05-10 19:38:01

Leave a comment...

Submit

Above is what happened after last time you came

Ke: post with pics`

ahahhahaha

like

Leave a comment...

Submit

There will be a divide line to indicate which news is posted after last time the user accessed this website.

Discover Page

[Homepage](#)
[Locations](#)
[Activities](#)
[Search](#)

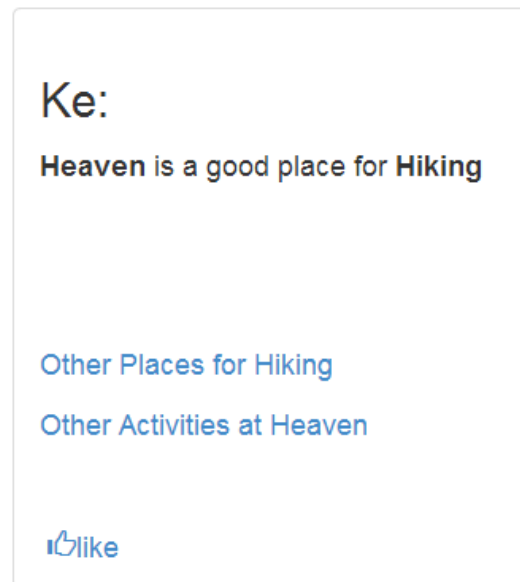
[Foocebake](#)
[Discover](#)

[New diary](#)
[New place for activity](#)
[Message 1](#)
[Profile](#)
[Logout](#)

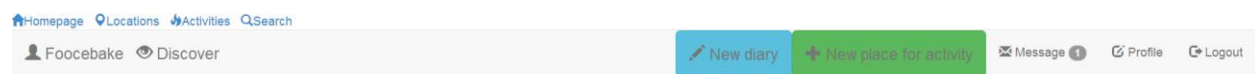
<p>Ke:</p> <p>Heaven is a good place for Hiking</p> <p>Other Places for Hiking</p> <p>Other Activities at Heaven</p> <p>like</p>	<p>WaterCC:</p> <p>Prospect Park is a good place for Fishing</p> <p>Other Places for Fishing</p> <p>Other Activities at Prospect Park</p> <p>like</p>	<p>Lingzhu:</p> <p>NYU Polytechnic School of Engineering is a good place for Fishing</p> <p>Other Places for Fishing</p> <p>Other Activities at NYU Polytechnic School of Engineering</p> <p>like</p>	<p>Foocebake:</p> <p>Prospect Park is a good place for Swimming</p> <p>Other Places for Swimming</p> <p>Other Activities at Prospect Park</p> <p>like</p>
<p>cry:</p> <p>Ocean Parkway Jewish Center is a good place for Swimming</p> <p>Other Places for Swimming</p> <p>Other Activities at Ocean Parkway Jewish Center</p> <p>like</p>	<p>jack:</p> <p>Destination Backcountry Adventures is a good place for Hiking</p> <p>Other Places for Hiking</p> <p>Other Activities at Destination Backcountry Adventures</p> <p>like</p>	<p>Ke:</p> <p>Green-Wood Cemetery is a good place for Swimming</p> <p>Other Places for Swimming</p> <p>Other Activities at Green-Wood Cemetery</p> <p>like</p>	<p>jack:</p> <p>Appalachian Mountain Club is a good place for Hiking</p> <p>Other Places for Hiking</p> <p>Other Activities at Appalachian Mountain Club</p> <p>like</p>
Ke:	admin:	Yohaa:	Ke:

After a user logged in, he/she could click the “Discover” button in the navigation bar at the top of the

page and enter the discover page. It will show all the activity-location relationship in like-count order. Every single box contains the whole message like below

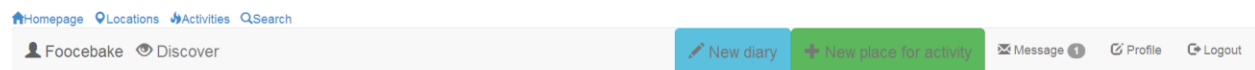


“Some user: Somewhere is a good place for Some activity”. They will also followed by “other places for some activity, other activities at somewhere”. User could click the link to see more information.



Hiking

Available at
Prospect Park
Green-Wood Cemetery
Whatta Catch Sport Fishing & Charter Boats
Destination Backcountry Adventures
Appalachian Mountain Club
Heaven



Prospect Park

Position: 40.661076, -73.969391
Good for Fishing Hiking Swimming

At the bottom of each box, there is a like button. User could like it and help it obtain a better rank.

Location page

[Homepage](#) [Locations](#) [Activities](#) [Search](#)

[Foosebake](#) [Discover](#)

[New diary](#)

[New place for activity](#)

[Message](#)

[Profile](#)

[Logout](#)

Prospect Park 40.661076, -73.969391 Good for Fishing Hiking Swimming	Green-Wood Cemetery 40.653964, -73.990446 Good for Swimming Hiking	Ocean Parkway Jewish Center 40.636218, -73.972851 Good for Swimming	Whatta Catch Sport Fishing & Charter Boats 40.619248, -73.902040 Good for Fishing Hiking
Destination Backcountry Adventures 40.671999, -73.987528 Good for Hiking	Appalachian Mountain Club 40.777635, -73.979631 Good for Hiking	Skydiving New Jersey 40.760474, -74.049326 Good for Skydiving	St John's Recreation Center 40.677207, -73.935343 Good for Fishing

After a user logged in, he/she could click the “location” button at the top of the page and enter the location page. In this page, users can see all the locations in the system along with their name, latitude, longitude and suitable activities. User could click an activity to see more suitable locations for it.

In this page, user could also click a location to see what other activities it is good for. These activities are found in actloc table.

Activity Page

[Homepage](#) [Locations](#) [Activities](#) [Search](#)

[Foosebake](#) [Discover](#)

[New diary](#)

[New place for activity](#)

[Message](#)

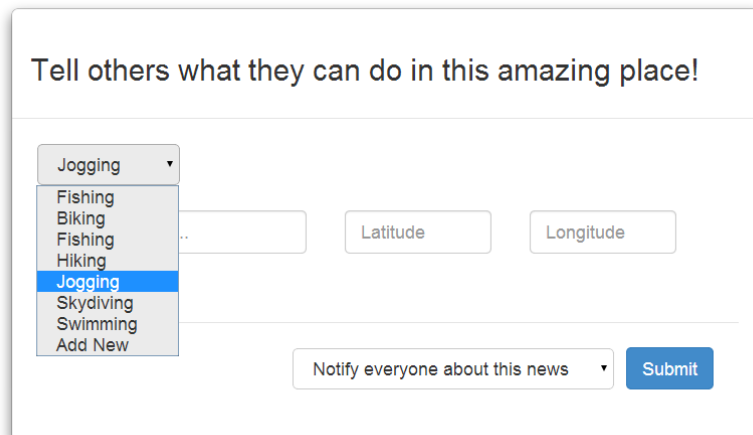
[Profile](#)

[Logout](#)

Fishing 3 people liked this Available at Prospect Park Whatta Catch Sport Fishing & Charter Boats St John's Recreation Center Betsy Head Pool Trailside Nature & Science Center Hell American Sportfishing Charters Washington Square S NYU Polytechnic School of Engineering	Biking 2 people liked this Available at Bike Trail	Jogging 2 people liked this Available at Jogging Ct	Swimming 0 people liked this Available at Prospect Park Green-Wood Cemetery Ocean Parkway Jewish Center Betsy Head Pool Heaven Hell
Fishing 0 people liked this	Hiking 0 people liked this	Skydiving 0 people liked this	

After a user logged in, he/she could click the “activity” button at the top of the page and enter the activity page. This page shows all the activities in like-count order. In each box, there is the activity name, number of likes and the available places. Available places are selected from activity-location relationship. User could click the link below and see more activities available at that place.

Post a New place for an activity



Tell others what they can do in this amazing place!

Jogging
Fishing
Biking
Fishing
Hiking
Jogging
Skydiving
Swimming
Add New

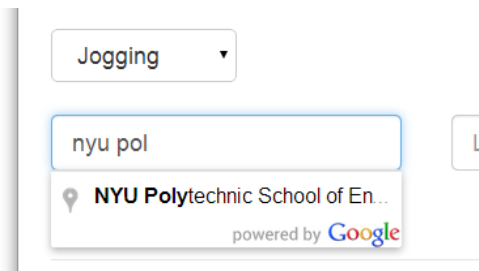
Latitude

Longitude

Notify everyone about this news

Submit

There is also a “New place for activity” button in the navigation bar to enter this page, to post a place for an activity. In the dropdown button, user could select an exist activity, or choose “add new” to input a new activity in the popped out input area.



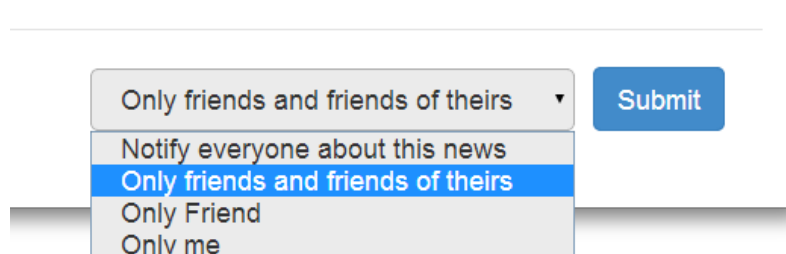
Jogging

nyu pol

NYU Polytechnic School of En...

powered by Google

When a user types in the location name box, system will generate a dropdown menu containing possible locations that the user might want to input. This is done by using Google Maps place API. If users choose a location from the menu, latitude and longitude data will be automatically filled in the form. If there is no match place, users could also type in exact the name of this location together with its latitude and longitude manually.



Only friends and friends of theirs

Submit

Notify everyone about this news

Only friends and friends of theirs

Only Friend

Only me

There is a privacy option at the bottom, which indicates the privacy setting of the news for this post. If everything is done, user could click the “Submit” button and go back to the Discover page. If there is already a same location in the database, the insertion will be ignored.

Post new diary

The form is titled "Post new diary" and contains the following elements:

- A text input field labeled "Title..."
- A large text area labeled "Content here..." with a vertical scrollbar on the right.
- A dropdown menu with the text "Everyone could read this diary" and a downward arrow.
- A file upload section with a "Choose Files" button and the text "No file chosen".
- Three input fields for location: "Your location...", "latitude", and "longitude".
- A blue "Submit" button at the bottom right.

After a user logged in, he/she could write new diaries.

User could choose a picture from local drive to upload as part of the diary. Picture will be stored in picture table with the corresponding diary id. A location could also be indicated by user. The input of location is also build with Google Maps place API. Location could either be selected from the dropdown list, or mannually inputted by users. The locationid will be inserted into diary table.

Message page

After a user logged in, there will be a badge indicating the number of new messages since last logged in. He/she could click the "Message" button to enter this page and view all the messages.

Homepage Locations Activities Search

Lingzhu Discover

New diary New place for activity Message 1 Profile Logout

Inbox

Friend Request from [Twitter](#), 2014-05-13 02:53:19

Public Relationship to Everyone [Confirm Friend Request](#)

Hey from [Ke](#), 2014-05-12 23:28:08

What's up

Yes from [Ke](#), 2014-05-12 17:12:08

of course

Hey from [Ke](#), 2014-05-12 17:11:58

would you like to go out?

Outbox

Friend Request to [WaterCC](#), 2014-05-12 16:37:27

Friend Request to [Yohaa](#), 2014-05-12 16:21:51

Friend Request to [Yohaa](#), 2014-05-12 16:21:32

Inbox is at the left side and outbox at the right side. It will show the message's title, sender name, time, and message content. User could click the sender's name to enter the sender's personal page.

We also build the friend request system with this message system. A request for adding friend will be send as a message, and will be displayed in the message box. There will be a "confirm" button in the content area. The user could select the privacy setting of this friendship, and click confirm. If the user don't want to be friend of the sender, he/she could just leave the message there without dealing.

After a user successfully confirm a friend request, the request message will be deleted. Their relationship will be inserted into friendship table. If operation is not success, server wil pop-up an alert and tell the user try again.

User's page

Homepage Locations Activities Search

Lingzhu Discover

New diary New place for activity Message Profile Logout

Ke

Name: Ke Xu
Age: 23
City: Brooklyn
Last Access: 2014-05-13 01:58:55
Like: Fishing, Jogging

[His/Her Friends](#)
[Send Message](#)

[eat chicken feet](#)

soooooooooooooooooooooo delicious

[i like](#)

Leave a comment...

[Submit](#)

[10 Inspiring Books Every Youth Should Read!](#)

These are my top 10 favorite books.

The Alchemist
By Paulo Coelho

What I Learned:
How to listen to my heart, follow my dreams, and ignore people who don't understand.

Book Description:

"My heart is afraid that it will have to suffer," the boy told the alchemist one night as they looked up at the moonless sky." Tell your heart that the fear of suffering is worse than the suffering itself. And that no heart has ever suffered when it goes in search of its dreams."

Sophie's World
By Jostein Gaarder

By clicking on a user's name in any page, we could enter his/her personal page. The user's profile information will be displayed on the left side of the page, and diaries on the right side. If the page owner and the current user are already friend, there will be a "send message" button in the profile area. If they are not friend, there will be an "add friend" button for sending friend requests.

Messages will be validated by system and cannot be empty.

If the user sends a friend request successfully, server will prompt a success notification and then let the user return to the former page. If not successful, server will also alert the user.

On the right side is the diary list of the page owner on descent time order. Current user could also like, comment the diary, or click the diary title to view more.

His/her Friend page

Homepage Locations Activities Search

Lingzhu Discover

New diary New place for activity Message Profile Logout

Friend Name	Real Name	Last Access	Relationship
Lingzhu	Lingzhu Zhang	2014-05-13 02:53:34	Public Relationship to Everyone
Foocebake	James Ye	2014-05-13 02:52:41	Only Friends and Friends of them could see this Relationship
cry	Alice Leotta	2014-04-23 23:27:40	Public Relationship to Everyone
jack	Bill Gates	2014-04-23 23:27:40	Only Friends could see this Relationship
admin	Carl Kats	2014-05-02 16:41:32	Only Friends and Friends of them could see this Relationship
Twatter	Federith Young	2014-05-13 02:53:29	Public Relationship to Everyone

After a user logged in, there will be a "His/Her friend" on every user's personal page. The friend page shows all the page owner's friend which are public to the current user. User could click their name and enter their personal page.

Edit profile

Real Name

Age

City

Who can view your profile?

Like activities(seperate with comma)

In this page, user could modify profile including realname, age, city. Users could also input activities they like, as their tags. A user can like multiple activities, and this will be added up in the activity page. The lastmodify timestamp in profile table will be updated to record the last time a user updates the profile.

Users could also modify the privacy setting of their own profiles by modify the privacy option.

Search page

[Homepage](#) [Locations](#) [Activities](#) [Search](#)

[Lingzhu](#) [Discover](#)

[New diary](#)

[New place for activity](#)

[Message](#)

[Profile](#)

[Logout](#)

People

[Lingzhu](#) Real name: Lingzhu Zhang, Age: 16, City: Brooklyn

[cry](#) Real name: Alice Leotta, Age: 22, City: Jersey City

[jack](#) Real name: Bill Gates, Age: 42, City: Boston

[Yohaa](#) Real name: Dick Aronov, Age: 32, City: Washington

[Twater](#) Real name: Federith Young, Age: 39, City: Stony Brook

[HappyBird](#) Real name: ...

Homepage Locations Activities Search

Lingzhu Discover

New diary New place for activity Message Profile Logout

i Diary Submit

why are fish attracted to worms

Agree with the smell statement. We invented a Bobber system (Bobber With A Brain) what this does is Holds (suspends) your Bait (worms) off the bottom away from debris. Sinker anchors to the bottom and the line is straight up to the top of the bobber, on that line, we have hooks attached that branch out. (See the Website: <http://www.bigtentackle.com> for the idea.)
So this removed the bait from

What fish are suitable for a fish bowl besides goldfish?

A betta is better adapted to living in a fish bowl than a goldfish.
It is a common misconception that goldfish are considered suitable for a fish bowl. Goldfish excrete large amounts of waste, and when given proper care and room can often grow to over a foot in length and 20+ years in age. However, a goldfish is extremely tolerant of high ammonia levels and low levels of dissolved oxygen.

BUT YOU DIDN'T

Remember the day I borrowed your brand
new car and dented it?
I thought you'd kill me, but you didn't.
And remember the time I dragged you to the beach,
and you said it would rain, and it did?
I thought you'd say, "I told you so." But you didn't.

Do you remember the time I flirted with all
the guys to make you jealous, and you were?
...

User could search other users, or search posts.

When user select “people” and search with a keyword, the server will try to find users whose username or realname contains the keyword. During this process, users’ privacy setting will also be checked, which means a user can only search the profiles he/she has the privilege to view.

When user search a keyword in diary, the server will try to find a diary whose title, content or comment contains the keyword. A user could only search the diaries he/she has the privilege to view.

In the search result, each link is connected to the corresponding webpage.

Summary

This website has designed front-end and a well-developed back-end server, which could support normal use as a website.