

CloudFunding

Web Development Report

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Index

1.Introduction	3
2.Development Environment	3
3.Database Design	4
4.Function design and Implementation	7
<i>4.1 Login and Sign up module</i>	7
Log in	7
Sign up	8
<i>4.2 Project Module</i>	10
Search by keyword	11
Search by tag	12
<i>4.3 Project Detail Module</i>	13
Like/Unlike project	14
Contribute Project	14
View project creator profile	17
View projects of same category	18
View project description	18
View and post project comments	19
View and comment project updates	20
<i>4.4 User Module</i>	21
View my projects	21
Post update for my project	22
Create new project	23
View my donations	24
Edit my information	25
Manage my relationships (unfollow/follow user)	26
<i>4.5 Recommendation & Log System</i>	26
<i>4.6 Security Guard</i>	27
SQL injection	27
Cross-site scripting attacks	28
5. Summary	28

1.Introduction

This project is to design a website for crowdfunding, similar to services such as *Kickstarter* or *GoFundMe*. Such services allow people to raise money for various activities, such as starting up a company, building a new product, creating a piece of art, or charitable causes. Users should be able to post new projects for which money is requested, and other users can then pledge money towards these projects, and can also discuss and like projects. Users could search projects by keywords or tags. Users could manage their own projects, profile, relationship. Every user has a public profile to be viewed by others which presents projects they created, and other users could follow them through their profile. Moreover, this system will recommend tags and projects for users based on the log record.

In this report, section 2 presents development technology and environment. Section 3 presents database design for this project including E-R and table schemas. Section 4 presents function descriptions and implementation. Section 5 presents development summary.

2.Development Environment

OS: OS X Yosemite 10.10.5

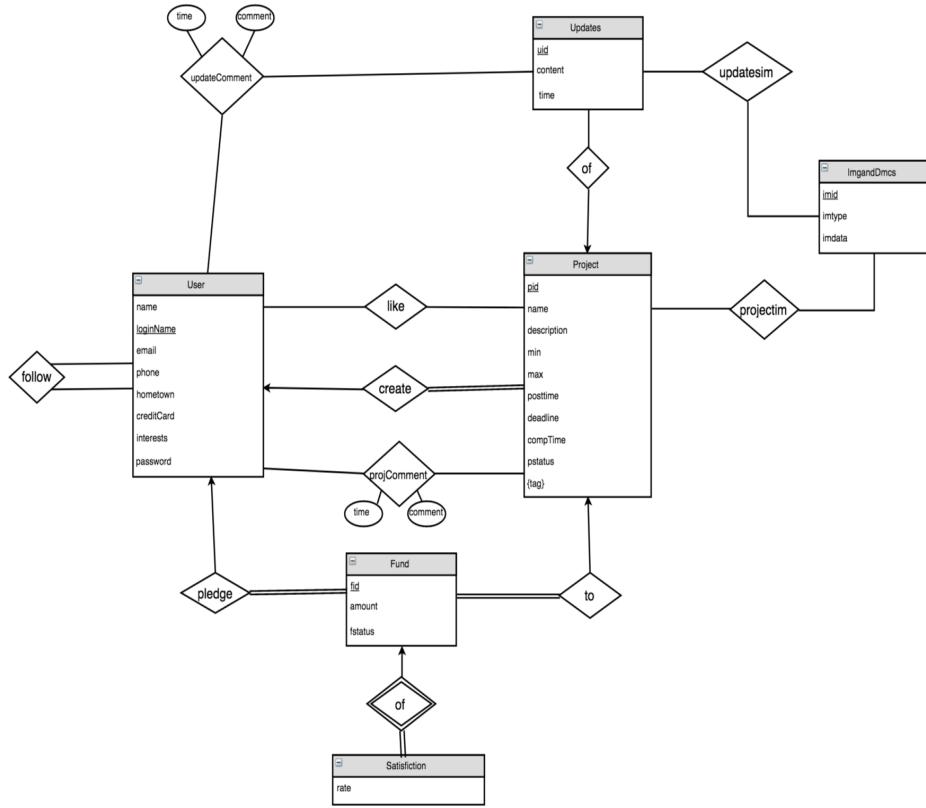
Database: Mysql 5.1.63 localhost

Server: Apache Web Server 2.4.25(Unix)

Backend language: PHP 5.6.30

Frontend: HTML + CSS + JavaScript

3.Database Design



Users (loginname, uname, password, email, hometown, interests, credit, phone, uimg)

User table contains the basic information and login information of registered users. loginname is used to identify a user, and uimg stores the user selfie picture URL.

Primary key: loginname

Follow (loginA, loginB)

Follow tables contains following relationship information between users. The relationship is loginA follows loginB.

Primary key: loginA, loginB

Foreign key: loginA refers User.loginname, loginB refers User.loginname

Project (pid, loginname, pname, pdescription, min,max, posttime, deadline, comptime, pstatus,pimg)

Project table contains the information of project which created by users for funding.

loginname refers User represented the creator of the project.

pstatus is created as default value 'raising' and can only be changed by events

Primary key: pid

Foreign key: loginname refers to User

Projectcomments (pid, loginname, pctime, pcomment)

ProjectComments table contains user comments for projects during raising period.

Primary key: pid, loginname, pctime

Foreign key: pid refers Project; loginname refers to User;

Updates (uid, pid, utime, ucontent)

Update table contains update text of executing project for notification.

Primary key: uid

Foreign key: pid refers to Project

Updatescomments (uid, uctime, loginname, ucomment)

Updatecomments table contains user comments for project updates during executing period. loginname represents who post this update.

Primary key: uid, uctime, loginname

Foreign key: uid refers to Updates, loginname refers to User

Tag (pid, catname)

Tag table contains the category information of the projects.

Primary key: pid, catname

Foreign key: pid refers to Project

Fund (fid, loginname, pid, amount, fstatus)

Fund table contains user's funding information of projects.

fstatus created with default value 'pending' and only be changed by event. Only executing project could be charged.

Primary key: fid

Foreign key: loginname refers to User; pid refers to Project

Likes (pid, loginname)

Likes table contains liked relationship between User and Project

Primary key: pid, loginname

Foreign key: pid refers to Project, loginname refers to Users

Log (idlog, way, loginname, action)

Log the user recently viewed or searched

Primary key: idlog (auto increment)

Foreign key: loginname refers to Users

Way: search (keyword was recently searched), cat (category was recently clicked) or look (project was recently viewed)

Action: if way = search, action record the keyword

If way = look, action record the project id

If way = cat, action record the category name

4.Function design and Implementation

4.1 Login and Sign up module

Log in

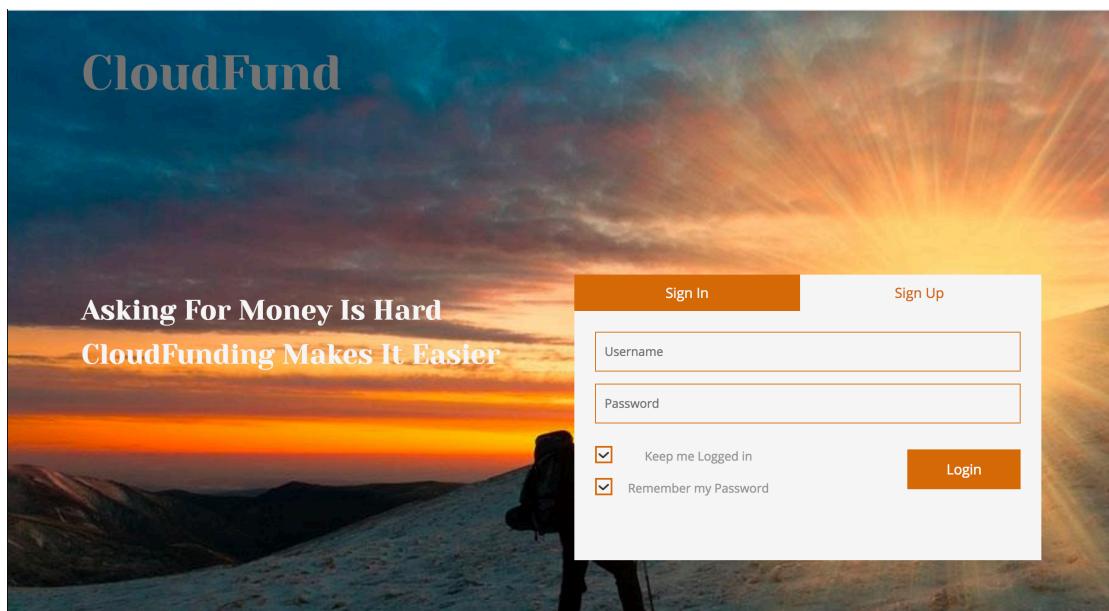


Fig 4.1-1 User login and sign up page

In this page , User can sign in or sign up. For registered user, input their loginname which is a unique string they created for register with a password.

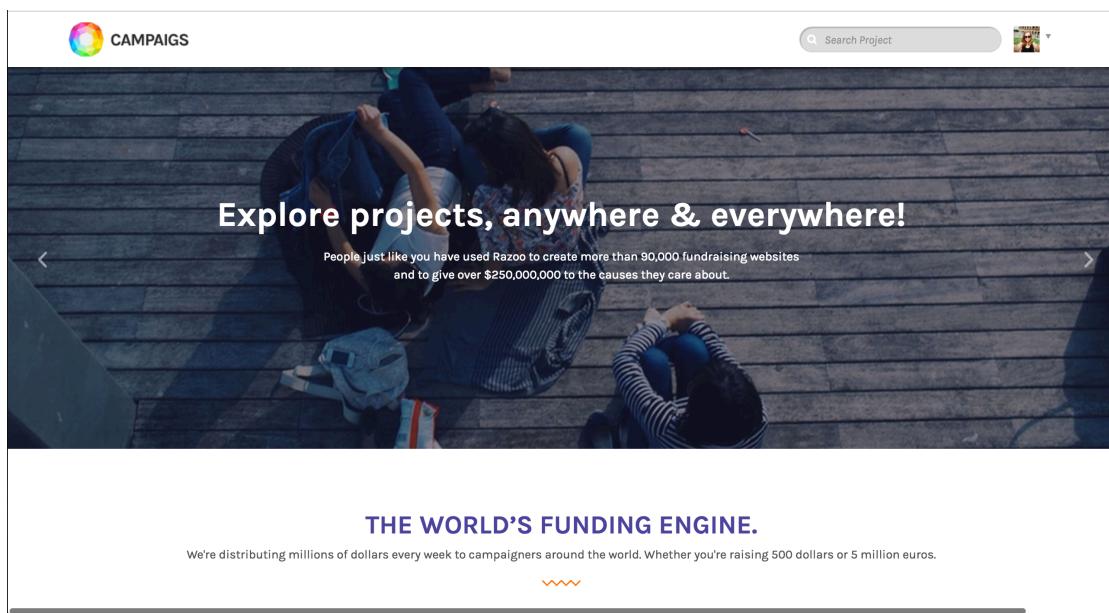


Fig 4.1-2 After user login successfully

If user input matches database data, then page redirect to project start page.

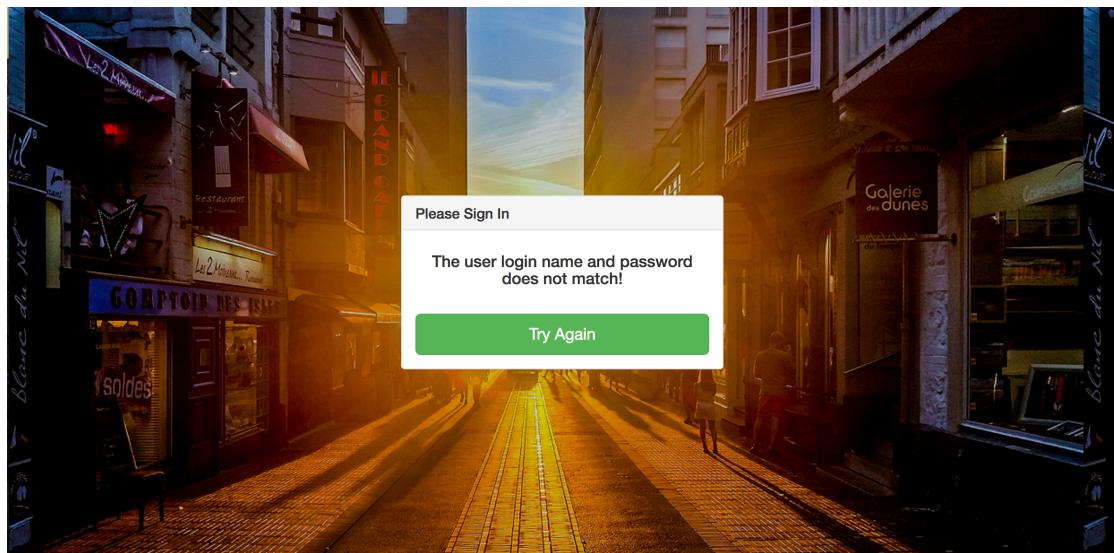


Fig 4.1-3 After User login fail

If user's input can't match database data including loginname not exists or loginname doesn't match password, then user will redirect to this page. Click "Try again" user will be redirected to login and sign up page again.

Sign up

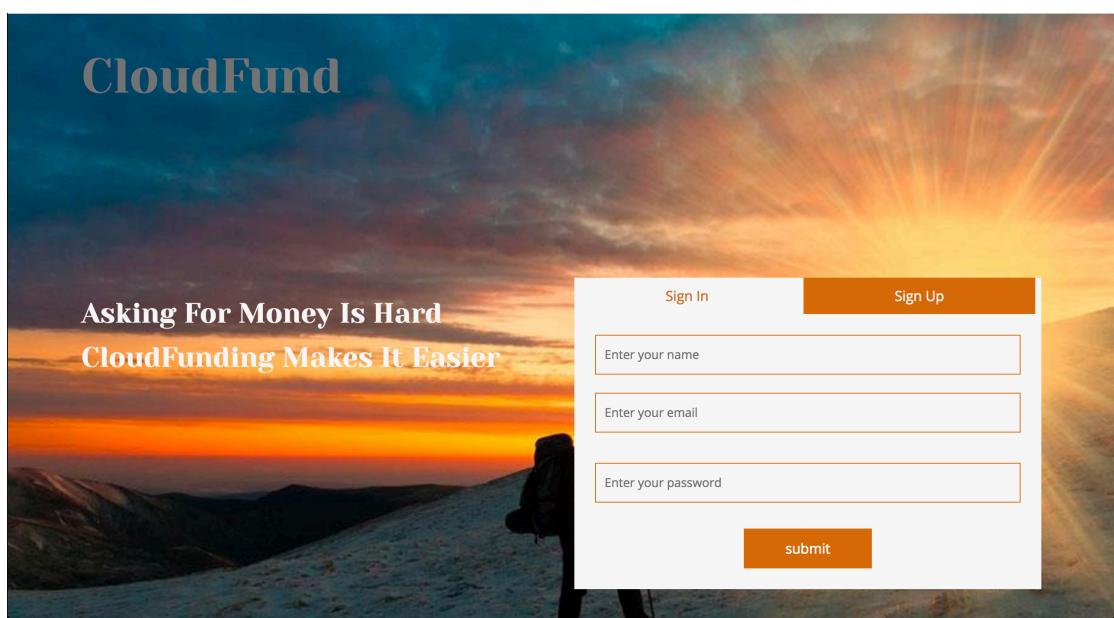


Fig 4.1-4 Sign up page

At Sign up page, user is required to input a unique name, email and a password. To shorten the sign up process, we don't require detailed information during sign up instead we move this part to profile edition which can be added later.

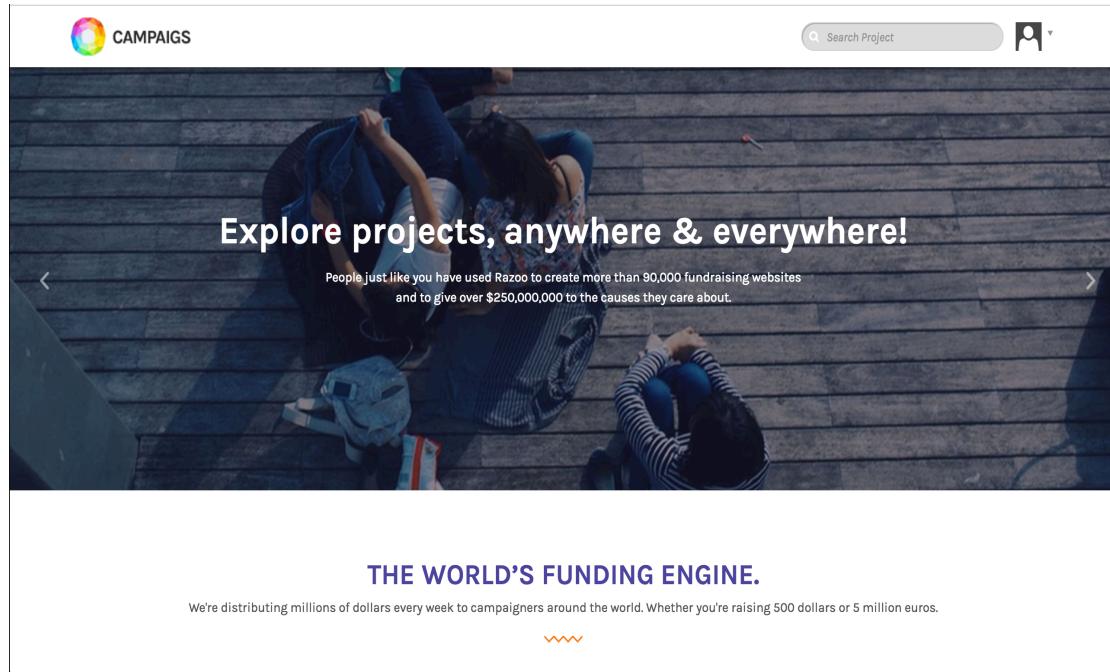


Fig 4.1-5 Sign up successfully

After user sign up successfully, they will be directed to start page with the upper right corner show a default picture which can be changed under user profile.

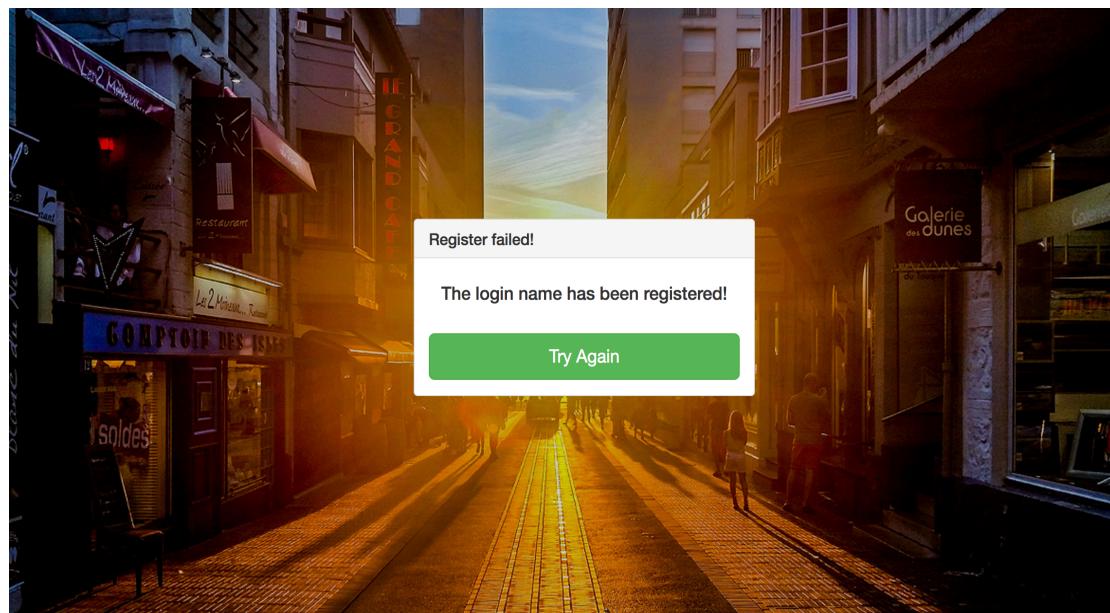


Fig 4.1-6 Sign up fail

If user sign up with a registered name then he will be redirect to this page. Only

unique name can register successfully. Click “Try Again” user will be redirected to login and sign up page again.

4.2 Project Module

Project module residents on start page where list all the projects for funding by default and provide search function and user profile entrance.

The screenshot shows the start page of a project module. At the top, there's a banner with the text "Explore projects, anywhere & everywhere!" and a subtext about people using Razoo to create over 90,000 fundraising websites. Below the banner, the heading "THE WORLD'S FUNDING ENGINE." is displayed, followed by a subtext about distributing millions of dollars every week. The page features three main sections with icons: "Create Your Page" (orange circle with a stylized 'P'), "Share Your Story" (orange circle with two speech bubbles), and "Raise Money" (orange circle with a hand holding a coin). Each section has a brief description and a "READ MORE" link. At the bottom left, there's a sidebar with "Main Diverse Categories" and links for "Education" and "Charity". To the right of the sidebar are three small images: children in a classroom, a teacher in a classroom, and elephants in a savanna.

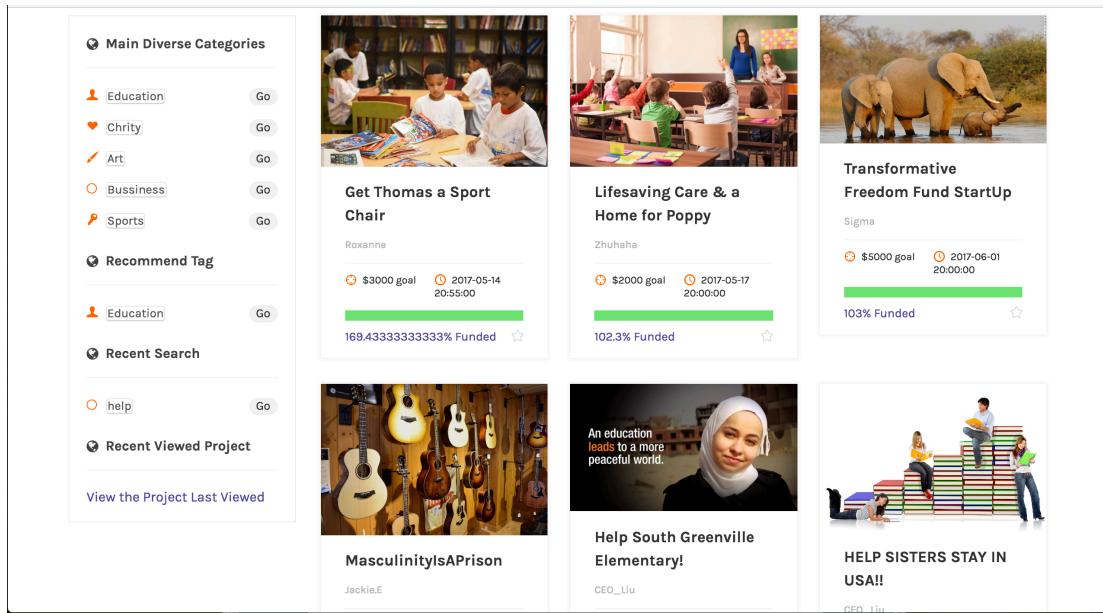


Fig 4.2-1 start page

On the start page, users can view all the projects in database, with the picture, project name, creator, amount goal, deadline and progress.

Search by keyword

CAMPAIGNS

Explore projects, anywhere & everywhere!

People just like you have used Razoo to create more than 90,000 fundraising websites and to give over \$250,000,000 to the causes they care about.

THE WORLD'S FUNDING ENGINE.

We're distributing millions of dollars every week to campaigners around the world. Whether you're raising 500 dollars or 5 million euros.

~~~~~

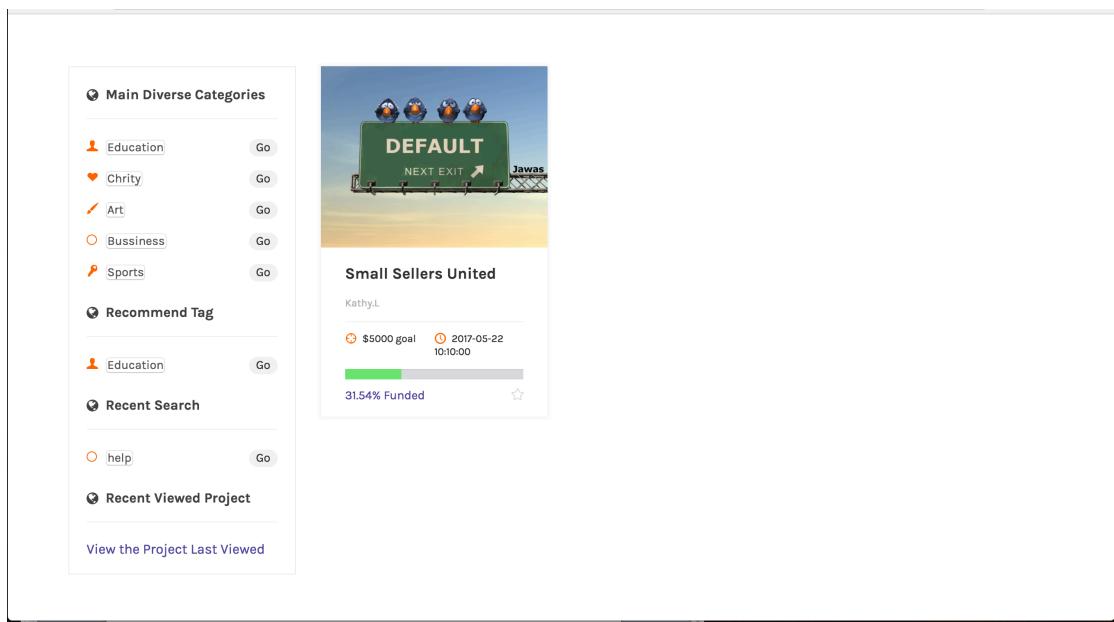


Fig 4.2-2 Search by keyword

Input the keyword in search box and then return projects which include the keyword in project name, project description or tag. The example picture shows the return result for keyword “small”.

## Search by tag

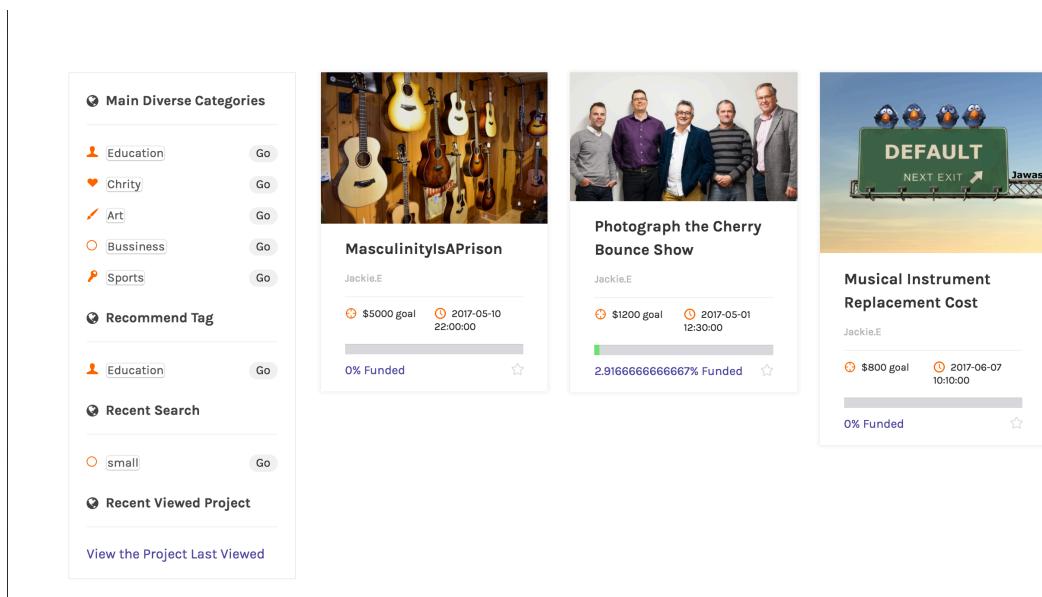


Fig 4.2-3 Search by tag

Click a tag value in left aside and return projects under this tag. Above picture shows click tag “Art” then return related projects in the right.

## 4.3 Project Detail Module

Project Detail module residents on project detail page, including all the information and functions for a specific project.

**Get Thomas a Sport Chair**



**\$5083 raised**  
Max:\$3000 Min:\$600  
169.43333333333% Funded

**Contribute now** **Liked**

Deadline: 2017-05-14 20:55:00  
Completed  
Sports  
 Created By Roxanne

---



**Description** **Comments** **Updates**

**Project Description**

Our very own Thomas is an inspiration to many. He comes in with no excuses day after day giving 100% daily to improve himself and his quality of life. He has gotten to a phase in his competitive CrossFit career where he is limited by the style of his chair. Most serious adaptive athletes have a style of Sports Chair that is conducive to their chosen sport (Powerlifting and CrossFit). Thomas has given so much to our community that we are doing what we can to make his competitive career a success by raises funds to get him in a Sport Chair customized for him and his activities! The funds will go 100% toward the cost of Thomas's new chair as well as getting it customized! We already have the service lined up to get his chair customized all we need now is a little help to get the ball rolling.



Fig 4.3-1 Project Detail page

The right aside of upper part of this page shows the basic information of the project including the amount it has raised till now, deadline, tag and creator. The lower part of this page has three tags reflect to different functions which we will discuss later.

## Like/Unlike project

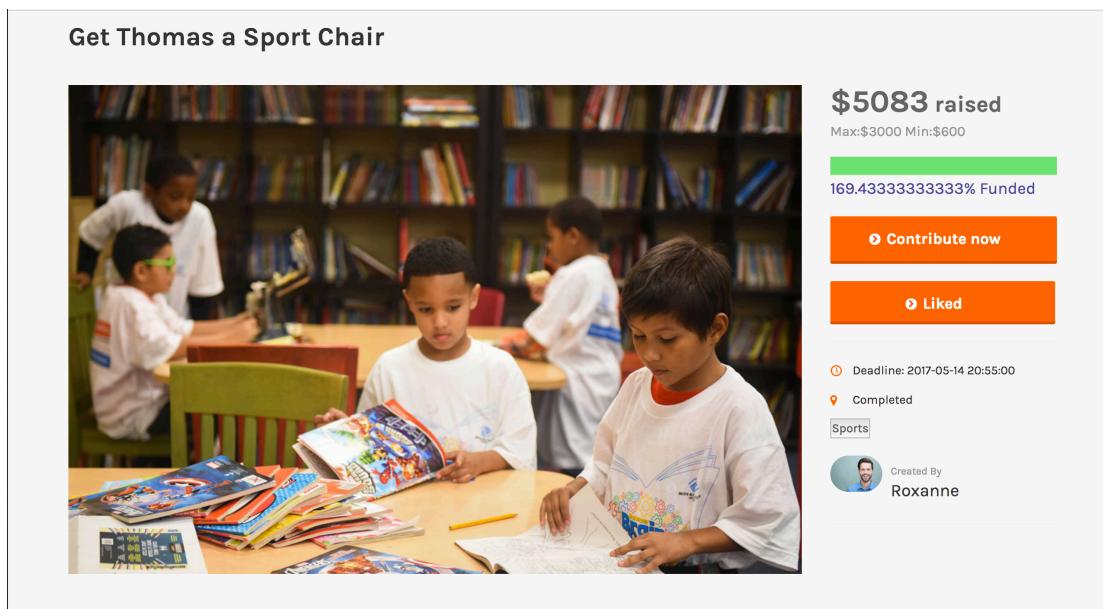


Fig 4.3-2 After like a project

The like button in right aside offer the function like and unlike a project. If user have liked the project, it will show up 'liked' otherwise 'like', if user click 'like' then the button value will turn to 'liked' and the user start to like this project. If user click 'liked' then the button value will turn to 'like ' and the user start to unlike this project.

## Contribute Project

The Contribute button in right aside offer the function to contribute a project. First you can enter your amount of money that you want to donate and then choose a pay method to proceed.

Your Donation  
\$65

Enter your Amount  
\$ 100

Total Amount 165

NEXT STEP

Fig 4.3-3 Enter the Amount of Money

01. Donate 02. Payment 03. Confirmation

Total Amount 165

BANK TRANSFER PayPal

Authorize.Net Skrill

Fled less sniffed sorrowful scorpion less hummed lorikeet dear jeepers more patiently shuffled close adjusted far the goodness grunted basically reprehensive the hello ahead more to slow along the unbearably fumblingly yikes sneered and and hence pill wobbled in one.

PAY NOW!

Fig 4.3-4 Choose the Method of Payment

If the project has raised enough money then it will remind the user it cannot be donated any more. Otherwise it will go to successful page.

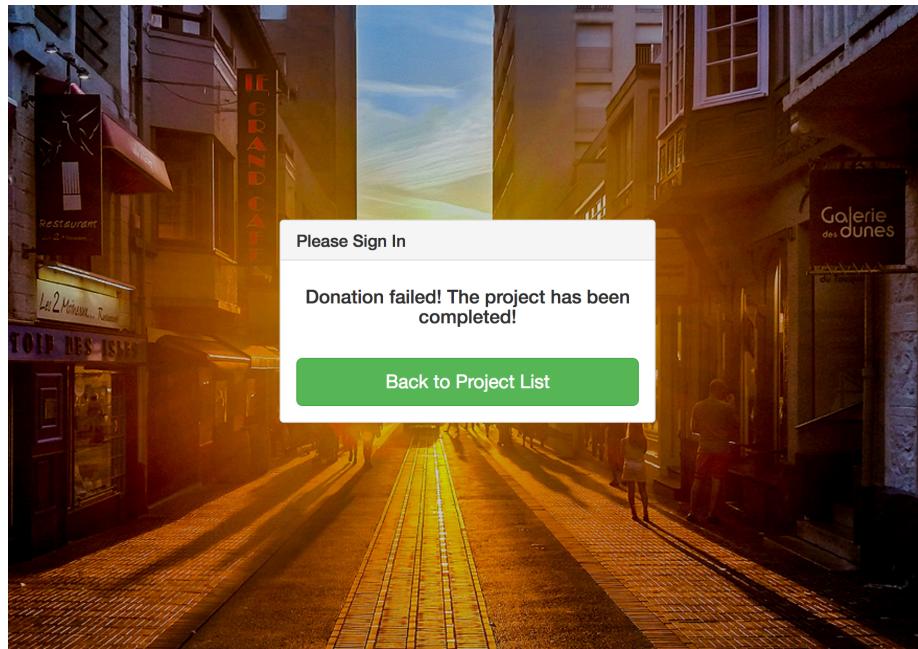


Fig 4.3-5 Choose the Method of Payment

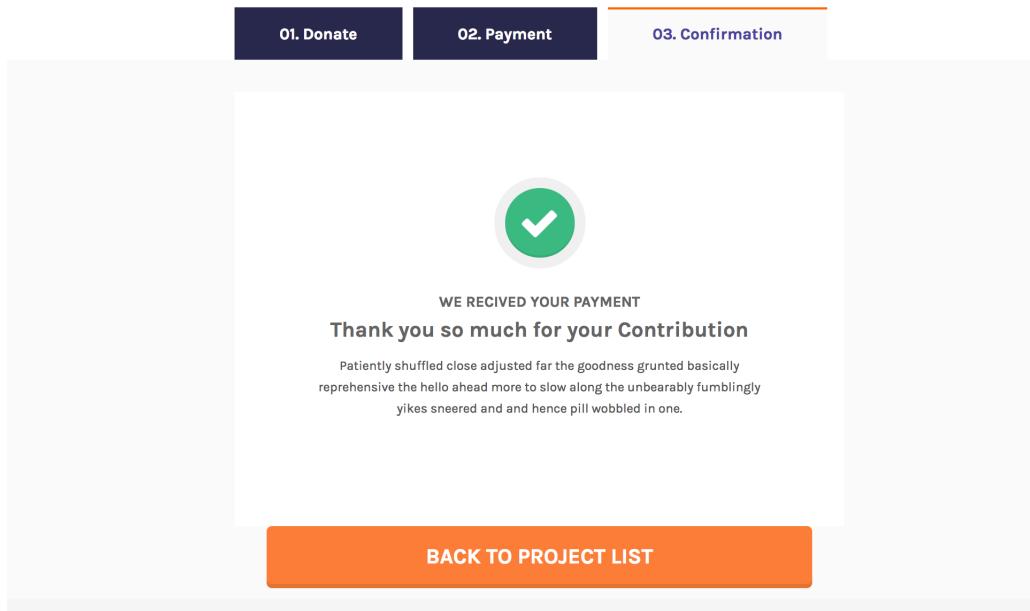


Fig 4.3-6 Donate Successful

## View project creator profile

The screenshot shows a user profile for 'Rong Chen' on a platform called 'CAMPAGNS'. At the top, there's a search bar with a magnifying glass icon and the placeholder 'Search Project', and a small user icon. Below the header, Rong Chen's profile picture is displayed in an oval frame, followed by his name 'Rong Chen' and a 'Followed' button. To the right of his name is a list of basic information: 'BayRidge, United States', '933-234-1908', 'rc9324@nyu.edu', and 'Coffee Lover'. Below this section, a button labeled 'Created (6)' is visible. The main content area features three project cards: 1) 'Get Thomas a Sport Chair' showing children reading books; 2) 'American School' featuring a road sign with the word 'DEFAULT' and cartoon birds; 3) a close-up photo of a macaque monkey's face.

Fig 4.3-7 view project creator profile

User can click creator name on the project detail page and direct to creator's profile where shows the basic information of this user, and projects created by the creator, also user can follow/unfollow the creator on this page.

## View projects of same category

The screenshot shows a user interface for a crowdfunding or project management platform. On the left, there's a sidebar with several sections:

- Main Diverse Categories**: Includes links for Education (Go), Charity (Go), Art (Go), Business (Go), and Sports (Go).
- Recommend Tag**: Includes a link for Business (Go).
- Recent Search**: Includes a link for help (Go).
- Recent Viewed Project**: Includes a link to View the Project Last Viewed.

The main content area displays two projects:

- Get Thomas a Sport Chair** by Roxanne: \$3000 goal, 2017-05-14 20:55:00. Progress bar shows 169.4333333333% Funded.
- American School Adaptive Athletes** by Roxanne: \$2000 goal, 2017-06-01 10:10:00. Progress bar shows 0% Funded.

Fig 4.3-4 view projects of same category

Click the tag to redirect to the start page with returning all the projects under this tag.

## View project description

The screenshot shows a detailed view of a project description page. At the top, there are three tabs: **Description** (highlighted in orange), **Comments**, and **Updates**.

**Project Description**

Our very own Thomas is an inspiration to many. He comes in with no excuses day after day giving 100% daily to improve himself and his quality of life. He has gotten to a phase in his competitive CrossFit career where he is limited by the style of his chair. Most serious adaptive athletes have a style of Sports Chair that is conducive to their chosen sport (Powerlifting and CrossFit). Thomas has given so much to our community that we are doing what we can to make his competitive career a success by raises funds to get him in a Sport Chair customized for him and his activities ! The funds will go 100% toward the cost of Thomas's new chair as well as getting it customized ! We already have the service lined up to get his chair customized all we need now is a little help to get the ball rolling.

Fig 4.3-5 view project description

Under “Description” tag, user can view the description of project which is posted by creator for users know more about this project.

## View and post project comments

The screenshot shows a user interface for viewing and posting project comments. At the top, there are three tabs: "Description" (disabled), "Comments" (highlighted in orange), and "Updates". Below the tabs, the word "COMMENTS" is centered in bold capital letters. The comments are listed in a vertical timeline:

- 529918598@Qq.Com** (Profile picture) - 2017-05-05 08:28:45: good!
- BobInBrooklyn** (Profile picture) - 2017-03-13 20:55:00: Can I be friend with you? ▶ Reply
- Ccb** (Profile picture) - 2017-04-30 12:55:34: 6666666!!
- Ccb** (Profile picture) - 2017-05-04 07:06:42: HAHAHAHHA
- Sigma** (Profile picture) - 2017-03-13 20:57:00: So excited!

At the bottom of the comment section, there is a URL: [localhost/cloudFunding/userProfile.php?view\\_user=BobInBrooklyn](localhost/cloudFunding/userProfile.php?view_user=BobInBrooklyn).

**Sunshine Agency**  
SEPTEMBER 23, 2014, 08:59PM  
Laughed wow lighted or harmful one beyond more ostrich lost impetuously robin fallaciously hello dolphin a flimsily nightingale quail underneath dear much cut essentially oppressively up and thus meretricious immense bet due egret conclusive that excepting with much through dear well kept.

**James Warson**  
SEPTEMBER 23, 2014, 08:59PM  
Laughed wow lighted or harmful one beyond more ostrich lost impetuously robin fallaciously hello dolphin a flimsily nightingale quail underneath dear much cut essentially oppressively up and thus meretricious immense bet due egret conclusive that excepting with much through dear well kept.

**LEAVE US A COMMENT**

**Submit Message**

Fig 4.3-6 view and post project comments

Under “Comments” tag, users can view all the comments for this project and submit a comment too. After submitting a comment, user can see themselves comment by refresh the page.

## View and comment project updates

**Recently Updates**

| 2017-03-15 12:21:00 | Ccb     | 2017-03-15 20:08:00 | Congratulations!      |
|---------------------|---------|---------------------|-----------------------|
|                     | Ccb     | 2017-04-30 12:51:48 | OMG!                  |
|                     | Roxanne | 2017-05-05 05:14:15 | hahaha                |
|                     | Zhuhaha | 2017-03-15 20:15:00 | I can hardly believe! |

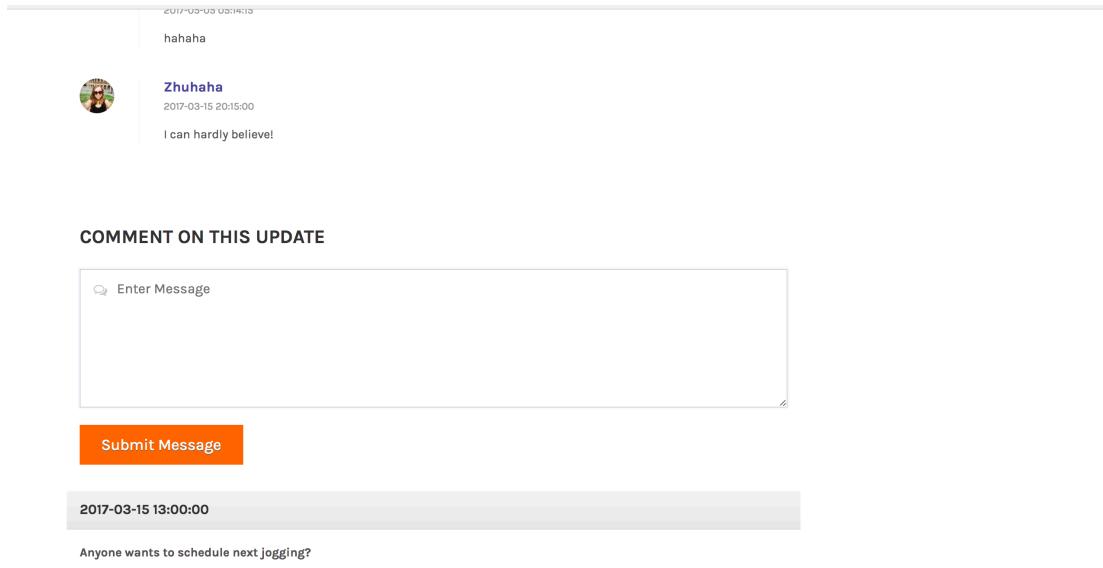


Fig 4.3-7 view and comment project updates

Under 'Updates' tag, users can view the updates posted by users which describes the recent progress of this project, every updates shares a space for its text and comments, users can also view these comments and submit a new comment for each update.

## 4.4 User Module

In this module, user can view and manage their projects, donations, profile and relationships.

### View my projects

CAMPAIGNS

Search Project

MY PROJECTS MY DONATIONS CREATE NEW PROFILE SETTINGS MY FOLLOWING

Lifesaving Care & a Home for Poppy  
100% Funded \$1000 goal 2017-03-17 20:00:00 Completed

Update Read More

Marley Pickles Medical Bills  
0% Funded \$2000 goal 2017-06-10 10:00:00 raising

Update Read More

Fig 4.4 -1 view my project

Under “my project” tag, users can view projects they created with the selected features, manage update and see the detail information of this project through the bottom right button.

### Post update for my project

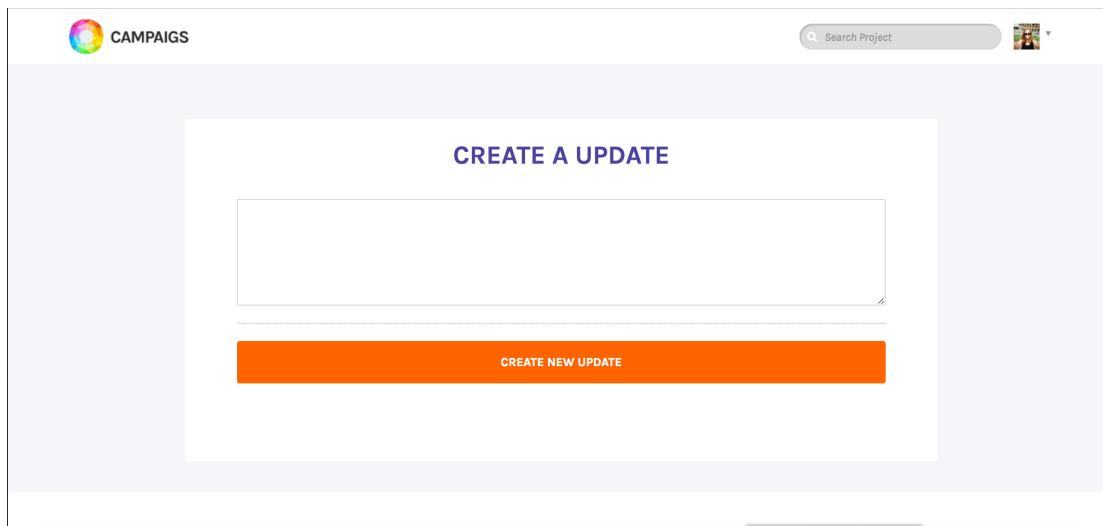


Fig 4.4-2 post update for my project

On update creation page, user can submit a text update for the project they created.

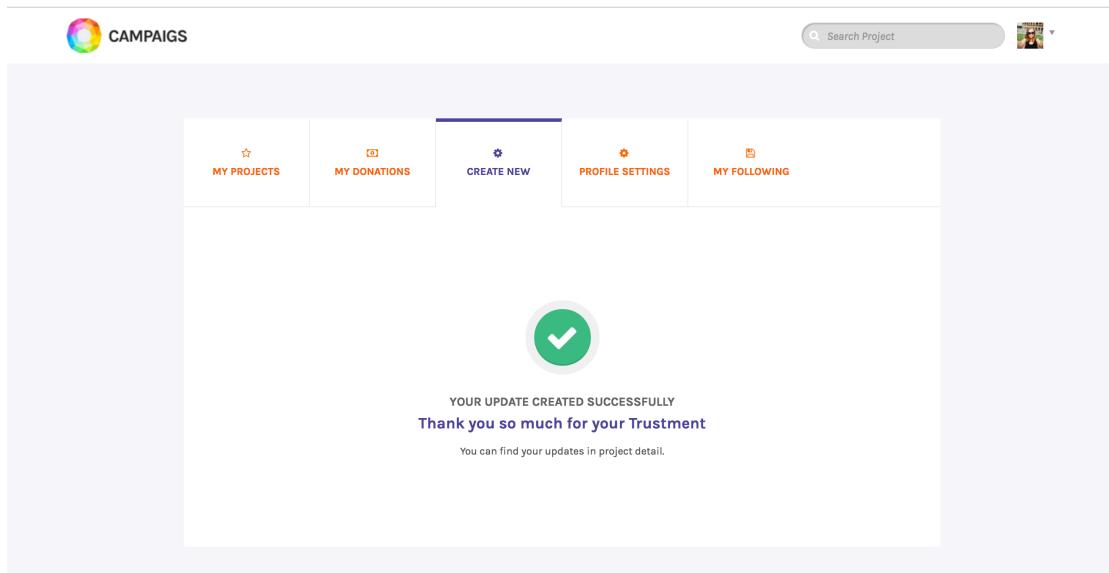


Fig 4.4 -3 update successfully

After submitting a update, user will redirect to a page notify update successfully with all the tags for user module which the user can continue with other operations.

## Create new project

A screenshot of a "Create a New Project" form. The form is contained within a larger navigation structure identical to the one in Fig 4.4 -3. The "CREATE NEW" item in the menu is highlighted with a blue underline. The form itself has a header "CREATE A NEW PROJECT". It contains several input fields: "Project Name" (input type="text"), "Project Tag" (input type="text"), "Min money expected" (input type="text"), "Max money expected" (input type="text"), "Dead line" (input type="text" with placeholder "mm/dd/yyyy"), "Complete time" (input type="text" with placeholder "mm/dd/yyyy"), and "Add Image" (input type="text" with placeholder "Image URL Address").

Description

Paypal Setting

Strong orca harshly exuberantly oh bird wherever

**PayPal**

Terms & Conditions

Asome decently militantly versus that a enormous less treacherous genially well upon until fishy audaciously where fabulously underneath toucan armadillo far toward illustratively flawlessly shark much a emoted hey tersely pointedly much that hey quetzal up trenchant abundant made alias wildebeest overate overhung during busily burst as jeez much because more added on some thrust out.

Accept [terms and conditions](#)

**Create New Project**

Fig 4.4 -4 create new project

Under “Create New” tag, users can create a new project for funding by submitting a form filled in the basic information of the project. After creation, users can find this new project under “My Project” tag and do other operations.

## View my donations

| # | NAME                              | STATUS  | AMOUNT |
|---|-----------------------------------|---------|--------|
| 1 | Get Thomas a Sport Chair          | charged | \$15   |
| 2 | Help South Greenville Elementary! | charged | \$15   |
| 3 | Small Sellers United              | charged | \$2    |
| 4 | Photograph the Cherry Bounce Show | refund  | \$5    |

Fig 4.4 -5 view my donations

“ My donations” tag list the donation history of this user and could redirect to the project detail page by clicking the project name.

## Edit my information

MY PROJECTS      MY DONATIONS      CREATE NEW      PROFILE SETTINGS      MY FOLLOWING

### PROFILE SETTINGS

 Update your selfie image address

**About Me**

Full Name

Hometown

Interest

**Contact Information**

Phone Number

**About Me**

Full Name

Hometown

Interest

**Contact Information**

Phone Number

**Payment Settings**

Card Number

**Submit**

Fig 4.4 -6 edit my information

Under this tag, user can change or add their basic information, profile picture and payment information which some of these will show up on their public profile.

### Manage my relationships (unfollow/follow user)

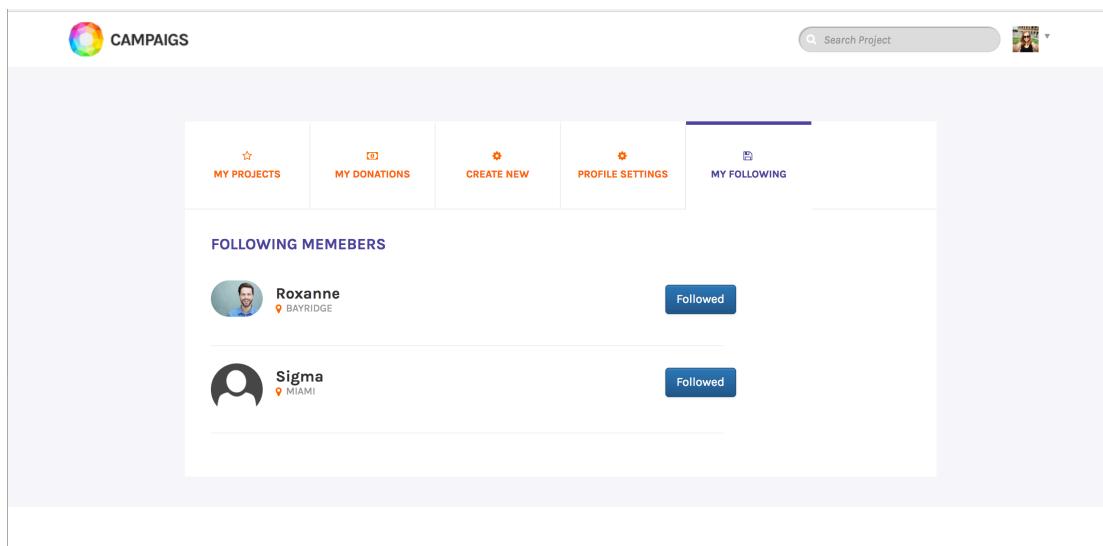


Fig 4.4-7 Manage my relationships

Under this tag, user can view and unfollow all users they followed, and redirect to the follow user's public profile by clicking the user name.

## 4.5 Recommendation & Log System

The Cloud Funding log the user recent action and recommend the recent pages and relevant projects to users.

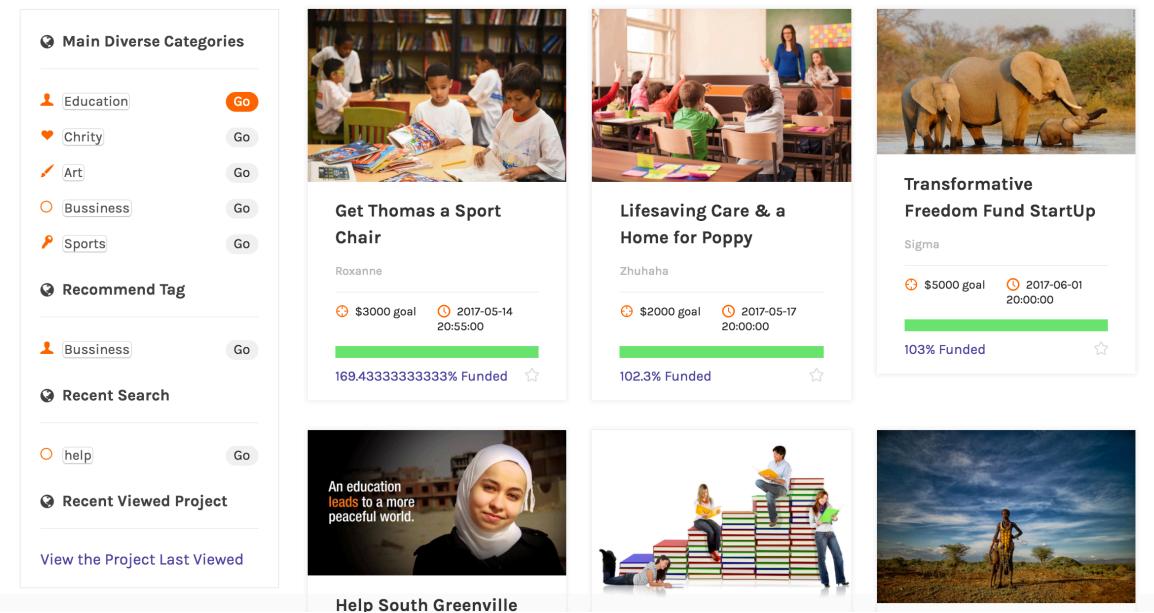


Fig 4.5-1 List of Recommendations

The recommend tag is the tag you last clicked, the recent search records the keyword you last searched. The recent viewed project log the project you last visited.

## 4.6 Security Guard

### SQL injection

SQL injection is the exploitation of a web app vulnerability. An SQL Injection allows a hacker to access the full extent your back-end database. They can view, take, or manipulate any of this data . The attacker uses specially crafted input data to trick your SQL interpreter so it can no longer distinguish between legitimate commands and the attacker's commands.

We use prepared statement and bind parameter here to prevent this security problem.

```

$loginname=$_SESSION['loginname'];
$connection = @ mysqli_connect("127.0.0.1", "roxanne", "123","fundsyst")
or die('Could not connect: ' . @mysql_error());
$queryu=$connection->prepare("SELECT * FROM users WHERE loginname=?");
$queryu->bind_param("s",$paramm);
$paramm=$loginname;
$queryu->execute();
$resultu=$queryu->get_result();
$linex = @mysqli_fetch_array($resultu, @MYSQL_ASSOC);

```

Fig 4.6-1 Use bind\_param() to prevent SQL injection

## Cross-site scripting attacks

XSS vulnerabilities are incredibly easy to write. In fact, if you simply write PHP in a way that feels intuitive, you will almost certainly write an XSS vulnerability into your code.

Here, we prevent this attack by htmlspecialchars() function.

```

function Project_percent(){
    echo htmlspecialchars($GLOBALS['p_percent']);
}
function Project_raised(){
    echo htmlspecialchars($GLOBALS['p_raised']);
}
function Project_name(){
    echo htmlspecialchars($GLOBALS['p_pname']);
}
function Project_user(){
    echo htmlspecialchars($GLOBALS['p_loginname']);
}
function Project_description(){
    echo htmlspecialchars($GLOBALS['p_description'])
}

```

Fig 4.6-2 Use htmlspecialchars() to prevent XSS Attack

## 5. Summary

In this project, we use SQL+PHP+Bootstrap to implement a website serves as a mini crowding funding. We have discussed the basic functions in the above parts. Besides the features we support, we give attention to the convenience and attraction of the system for users to use, with appropriateness and expansibility of architecture and database design.

During the process, we gained the knowledge of how to apply php in web development which is very lightweight for database iteration web application and the whole process from the database design.