# Enhancement Control and Management Tools for a website

by

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An Independent Project (CSIT 6910D; 3 Credits)

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August, 2016

# ACKNOWLEDGEMENT

I would like to express my great gratitude towards my supervisor, Dr. David

Rossiter, who had given me invaluable advice to this project.

# TABLE OF CONTENTS

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## ABSTRACT

The  project is to enhance the Bookbranch web for a better performance and stability with a more user friendly experience. The older version of Bookbranch web has the idea that make every one can create story together by continuing other people's work. The new version of Bookbranch web express the idea of this website explicitly to the user with improvements on the website's functions along with some instructions. Also some new features is added to make the website a complete reflection of the idea.

# 1 Introduction

The last version of Bookbranch web has several places can be improved.

1. If user arrive this website the first time, they may not understand the idea behind it.

2. Chapter prefix will be add automatically, it is sometimes confused by users.

3. After the story is created, it cannot be changed. Spelling mistakes can be an annoying problem.

4. Stories does not differentiated by categories, it makes user difficult to find the type of story they like.

5. User's header is stretched and the upload limit is too small.

6. After the story has too many chapters, the server needs to generate many SQL for parent fetching, it is too inefficient.

7. Word count needs to be added otherwise user do not know if they achieved the requirements.

8. Stories can not be share to other platform make it difficult to gain new user.

9. Report a story need to have a reason, and it is needed to see who is reporting the story in case some one just report for fun.

10. In case someone forget their password, a password reset function need to be developed.

11. Old version can only save title and content, need to be solved to make the writing process more fluent.
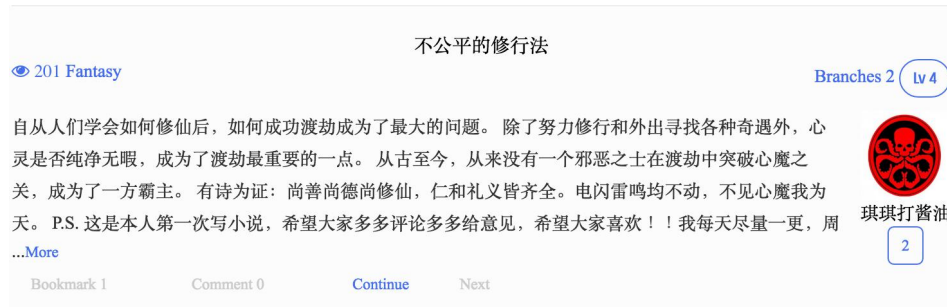
## 2   Thesis

### *2.1 Use case*

There are some new features has been added to the website.

1. View branches: View number of version of the next chapter according to the current chapter.

2. Create category:Before creating a story needs to add a category.

3. View category: View story according to story's category.

4. Display category: category will be displayed inside each story.

5. View continue: View story which is a continue of other story according to creating time.

6. Modify story: Modify stories they created if the story does not have a child chapter.

7. View tips: View tips that can guide user through the website.

8. Social account login: Login through QQ or Weibo.

9. Share story: Share story to Qzone or Weibo.

10. View level: Level is assign to each user according to number of likes they have, it can be viewed in user's information.

11. Specify report reason: User need to specify report reason to submit an report about a story.

12. Reset password: User can reset their password.

## *2.2 New use case implementation*

The new version is the extension of the old version and it is still using the Laravel

framework. Below is each use case's implementation.

**2.2.1.** View branches



Branches represent how many version the next chapter has, click it will go to

the next chapter.

Select Chapter

不公平的修行法

👁 201 Fantasy

lv 4

自从人们学会如何修仙后，如何成功渡劫成为了最大的问题。除了努力修行和外出寻找各种奇遇外，心灵是否纯净无暇，成为了渡劫最重要的一点。从古至今，从来没有一个邪恶之士在渡劫中突破心魔之关，成为了一方霸主。有诗为证：尚善尚德尚修仙，仁和礼义皆齐全。电闪雷鸣均不动，不见心魔我为天。P.S. 这是本人第一次写小说，希望大家多多评论多多给意见，希望大家喜欢！！我每天尽量一更，周
...More

琪琪打酱油
2

Bookmark 1 | Comment 0 | New Story Line

不公平的修行法
Chapter 1 引子

👁 44

Branches 1  lv 4

毅夫和他最好的朋友魄躺在麦子地里。"你说我爸为啥逼着我去参加考试呢？"毅夫看着天空呆呆的说。"我爸也一样，他说通过了考试，就能去尧黛宗修仙了。""这我知道，可我根本不想当仙人，当仙人据说要被火烤，要被闪电劈，想想都好疼啊。""不会呀，你想想看，当上仙人了，这一地的麦子一下子就能用仙法收了，多厉害啊，想想都好兴奋。而且仙人们内心都纯净无暇，不仅公正善良，走到哪里都会
...More

琪琪打酱油
3

Bookmark 0    Comment 0    Continue    Next

不公平的修行法
Chapter 1 有心栽花花不开

👁 26

Branches 0  lv 1

肖忌霸便是这样一个人。但凡任何人和肖忌霸谈修仙，他尽是一脸嫌弃。人问为何，常答: 何不成长生不老吃馍馍？ 花开两朵，各表一支。话说这天庭近年来是仙满为患，盖因凡间出了个新东方教，成日钻研升天术，什么五年修仙三年渡劫等奇技淫巧，无所不用其极，大大提升了升仙率。仙一多了，所谓有仙的地方就有江湖，什么王大仙和隔壁李仙姑通奸啦，赵半仙偷了香油钱啊，总之弄得仙界基
...More

<div style="border:1px solid">There is no next chapter, please click continue for a new next chapter.</div>

大鸡脖好吃
1

Bookmark 0    Comment 1    Continue

In this case, the next chapter has two different versions, the first version has one version of next chapter, the next version has no next chapter. If the mouse is over the Branches with no next chapter, the above tips will be shown.

### 2.2.2. Create category

Story Title

Story Background

Post | Category Selection | [            ] | Save

0

mMY He

In the new version every story introduction needs category, the chapters that is continuing this story will have the same category.

| Story Title |
| --- |

Story Background

Adventure
FanFiction
Fantasy
History
Horror
Mystery
Sicence Fiction
Speculative
Love
Others

Post | Category Selection | | | Save

0

There are ten categories, each story can only have one category.

### 2.2.3. View category



User can select category in Book, Continue, Week and Month options. All
option represent view all story without category selection.

### 2.2.4. Display category



挣扎

👁 63 Sicence Fiction                                                    Branches 1  lv 3

挺喜欢中国古代的一种说法，万物都可为道。之后看了无限流的小说，特别欣赏里面的那种什么能力都有的概念，修真魔法科技血统异能奥等等等等。就是个人才华有限，看过的小说电影动漫还有了解的神话传说神马的都很有限，就写一个开头，让众位大神帮我书写一下。而且我觉得最神奇的一点，就是不同的作者喜欢的能力不同，可能我喜欢魔法，他喜欢古武，你喜欢科技等等，就可以写出类似于平行空间一样的
...More

矫情贱人

5

Bookmark 1        Comment 2        Continue        Next

神的国度

👁 66 Mystery                                                           Branches 1  lv 4

在这个故事中，世界是存在神的，而，就在这个存在神的世界，有一些城市是被神抛弃的，不知道为什么，但是大家都是这么想的。主人公就来自其中一个被抛弃的城市，这些城市不堪入目，因为外面的世界存在神的庇护，大部分的罪犯都被迫集中在那些城市，干着各种非法勾当，城市无人管理，只有废墟，人们都会随身携带武器，城市虽然一直在崩溃的边缘，但是却神奇的一直维持着这个状况。主人公虽然
...More

Jack Wang

5

Bookmark 1        Comment 0        Continue        Next

樊笼

👁 39 Fantasy                                                           Branches 1  lv 3

死而复生的少年？来历神秘的老人？疯狂食人魔案的真凶？。。。。。。。。。。。好吧。。。。我承认这简介太没新意的。。类似Fate的世界观，恩，肯定是满满的即视感。。不过不是爽文就是了额，猜对了。。欢迎提出提出各种建议，新手，跪求指导、、嘛，就是这样！PS:名字不要太在意啊，实在没什么好想的了。。。
...More

羊皮裘老儿

3

Unbookmark 3      Comment 0        Continue        Next

黄昏街

👁 41 Fantasy                                                           Branches 1  lv 2

序 黄昏街19号是一个钟表店，店里摆满了瑰奇的钟表。或许在某个季节的黄昏，太阳那个金色的巨轮伴着油画般的天空徐徐下落之时，被抹上颜色的街角会出现一个店面，望去那只是一扇敞开的门，门里木制柜台上摆满了各式各样的钟表，表盘上闪着五彩光，店上面没有招牌，在店门外的灰白色墙上钉着一个黄铜金属牌子上面雕着树叶，藤蔓与枝叶缠着"XTX"的符号，一个灰色的影子投在地面上，被昏黄的阳光拉

mni

Each story will have a category on the upper left displaying the category of this story

樊笼

👁 39 Fantasy

lv 3

死而复生的少年？ 来历神秘的老人？ 疯狂食人魔案的真凶？ 。。。。。。。。。。。。 好吧。。。。
我承认这简介太没新意的。。。 类似Fate的世界观，恩，肯定是满满的即视感。。。不过不是爽文就是了
额，猜对了。。欢迎提出提出各种建议，新手，跪求指导、、、嘛，就是这样！PS:名字不要太在意
啊，实在没什么好想的了。。。
...More

羊皮裘老儿

3

| Unbookmark 3 | Comment 0 | New Story Line |

---

樊笼
Chapter 1 序 黑夜又至

👁 13

Branches 0  lv 3

在很久很久以前，遥远的某处时空中，有一片大陆沐浴在温暖的阳光之中。 从无穷远处望去，依稀可以
看见战火的硝烟正缓缓散去，从废墟中走出的人们脸上露出了久违的笑容。生机正在这片饱受摧残的大陆
上冉冉升起，满载着无数人对未来的向往。 某处偏远的小村庄中，一名浑身上下插满羽毛的巫女正站在
祭坛之上缓缓而舞，她不断的低吟着晦涩难懂的古老歌谣，手中似乎兜着贝壳一类的东西，哗哗作响。祭
...More

羊皮裘老儿

2

| Bookmark 0 | Comment 0 | Continue |

Bottom

Inside the story, the category will only be shown in the above introduction.

**2.2.5.** View Continue



This feature allow user to view the recent continued chapter, this feature is for

user who wants to see current updated story instead of just recent story

introduction and week rank or month rank.

### 2.2.6. Modify story

始祖
Chapter 1 梦

    Modify Branches 0

部落里的老人们。都会住在山顶上的一堆篝火旁。熊熊的篝火映衬着这些老人，苍凉，而有坎坷连。在1万多年前的世界里。一个人能活到老年的阶段。是一件非常不容易的事情。等他们变得苍老。但是身体又很健康的时候。他们就会陪部落里的人们，尊敬的看成是神的化身。他们理应获得人们的尊重。因为他们经过了时间的挑选。他们被他们所信仰的神。选择留了下来。也把那些能让他们活下来的理由。和生存的 ...More

Jack Wang
2

Bookmark 0　　　Comment 0　　　Continue

If a story is created by the user and it has no next chapter, then a Modify option will be displayed beside the Branches.

梦

部落里的老人们。都会住在山顶上的一堆篝火旁。熊熊的篝火映衬着这些老人，苍凉，而有坎坷连。在1万多年前的世界里。一个人能活到老年的阶段。是一件非常不容易的事情。等他们变得苍老。但是身体又很健康的时候。他们就会陪部落里的人们，尊敬的看成是神的化身。他们理应获得人们的尊重。因为他们经过了时间的挑选。他们被他们所信仰的神。选择留了下来。也把那些能让他们活下来的理由。和生存的技巧。逐渐的通过他们的言传身授。再传递给他们的子孙。这样就可以保证整个部族间的，传承下去。这样也就间接的保证了整个人类的传承。老人们并不怕面对危险。难关对于他们来说。就是人生不可避免的阶段。就想他们眼前的这堆篝火。只要燃烧下去。任何问题都会化为灰烬。所以当部落里最年长的人。将他们走到悬崖顶上的这个平台上时。他们并不担心他们将要听到的消息。可能，又是今年的猛犸象群不经过他们的狩猎区域。或者是某个老人有，看到了天象。他觉得今年的雪会下得比往年还大。

📨 Modify　　Normal Chapter

1222

8 Z 8Z/Q

Above is for the modification of a Normal chapter, If it is modifying a story introduction, the user will be able to change the category.



### 2.2.7. View tips

There are three tips, one is for the user who come to this website for the first time. It express how the website displays story in this different way and how to view story correctly in Bookbranch web. If the user visit the root domain of this web site, the first tips will be shown in the pop up way.

## About Viewing ✕

To show this tip again, please click "About Viewing" in "About" on the nav tab.

Here is a place for people to write story in a different way. Every one can continue other people's work by creating their own story lines.
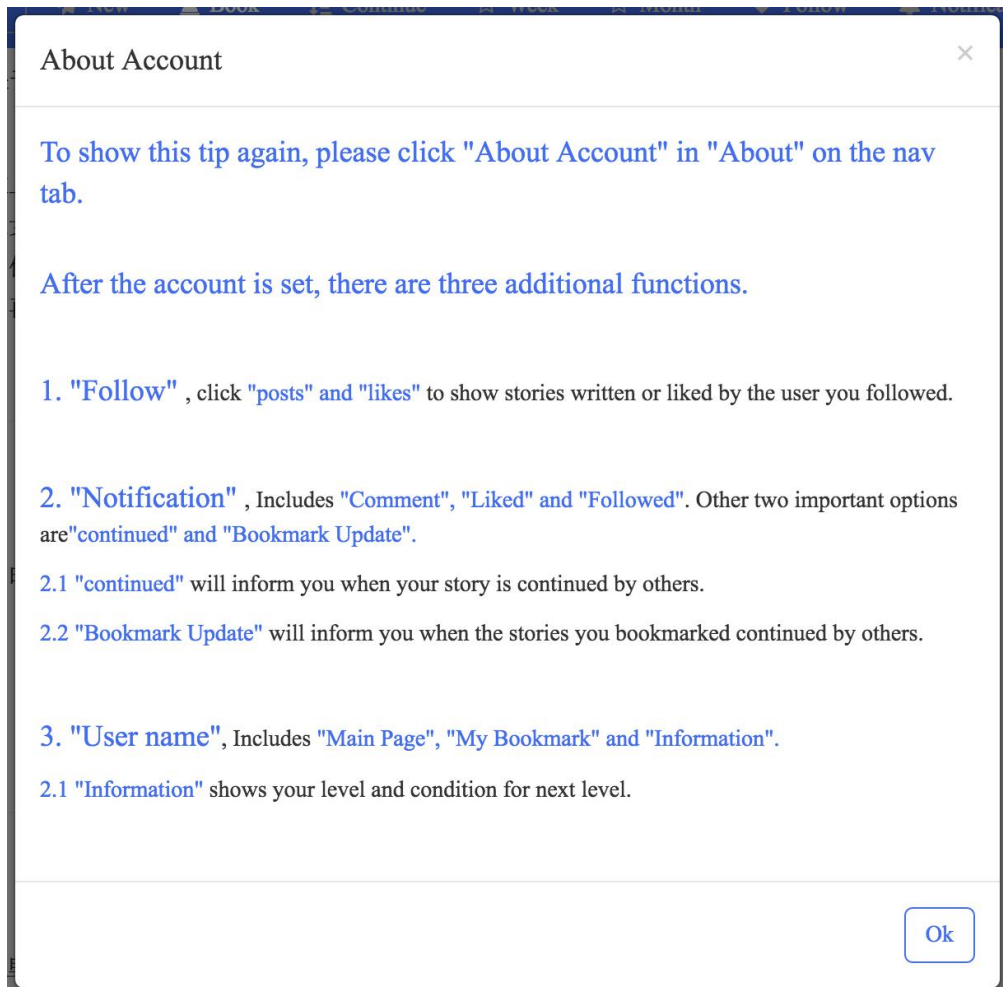
Here we provide

## 3 kinds of story form.

1. Introduction, click any kinds of category in "Book" on navbar to view corresponding story introduction.

2. Normal chapter, continue any introduction or normal chapter will create a new normal chapter. Click any kinds of category in "Week" or "Month" will display according to like number within week or month, and inside "Continue" is recently continued chapters.

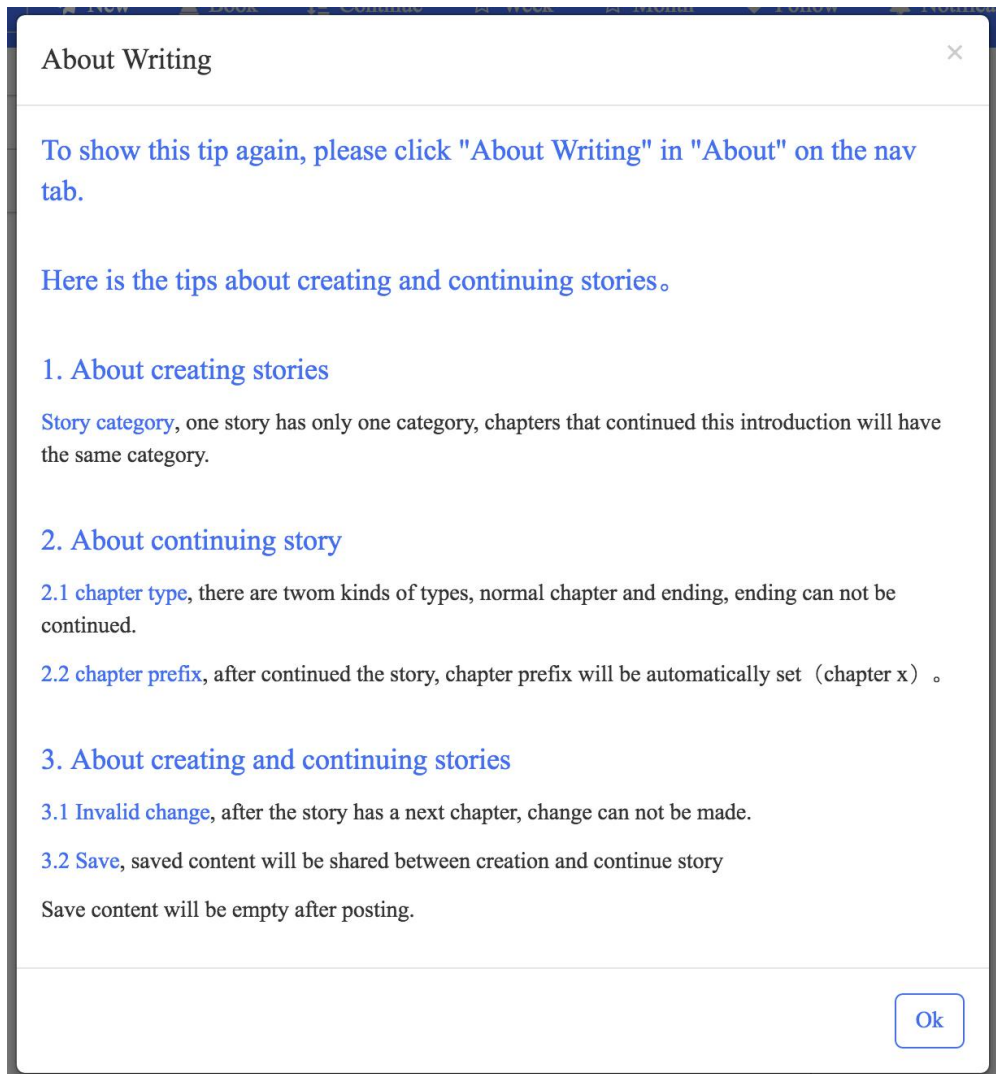3. Ending, a chapter that can not be continued anymore.

## 5 way to view a story.

1. Click story title, enter this story page, clicking introduction is different from clicking normal chapter and ending

1.1 Click introduction, If it has chapter 1, than it will show all version of chapter 1.

1.2 Click chapter, retrieve the story line that link to this chapter. For example, if it is chapter 5, then it retrieve chapter 1 - 4 related to this chapter 5.

2. Click Branches button, display the next chapters in this story page, branch number represent number of version of next chapters.

3. Click Previous or Next, dispaly previous or next chapter, if the story do not have previous or next chapter, word will not be shown.

4. Select chapter by clicking upper right corner button in story page, display all version of this chapter.

5. After Retrieving the story line, there will be "More Next Chapter" below every chapter's, click will display every different version of next chapter, it can be used to change story line while viewing the story. Branch number can be used as reference to see if it has any other versions.
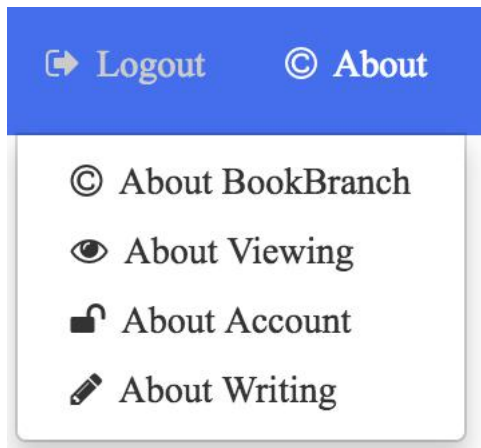
Ok

After the user registered an account, it will automatically login the user and show the second tips which is for user to understand what are the new features that an account has.

## About Account ✕

To show this tip again, please click "About Account" in "About" on the nav tab.

After the account is set, there are three additional functions.

1. "Follow" , click "posts" and "likes" to show stories written or liked by the user you followed.

2. "Notification" , Includes "Comment", "Liked" and "Followed". Other two important options are"continued" and "Bookmark Update".

2.1 "continued" will inform you when your story is continued by others.

2.2 "Bookmark Update" will inform you when the stories you bookmarked continued by others.

3. "User name", Includes "Main Page", "My Bookmark" and "Information".

2.1 "Information" shows your level and condition for next level.

Ok

When the user first enter the writing or continuing interface, the tip for writing will be shown.

## About Writing

To show this tip again, please click "About Writing" in "About" on the nav tab.

Here is the tips about creating and continuing stories。

### 1. About creating stories

Story category, one story has only one category, chapters that continued this introduction will have the same category.

### 2. About continuing story

2.1 chapter type, there are twom kinds of types, normal chapter and ending, ending can not be continued.

2.2 chapter prefix, after continued the story, chapter prefix will be automatically set（chapter x）。

### 3. About creating and continuing stories

3.1 Invalid change, after the story has a next chapter, change can not be made.

3.2 Save, saved content will be shared between creation and continue story

Save content will be empty after posting.

Ok

According to the tips, user can view those tips anytime in about option on the navbar.

The About BookBranch is list with my contact email for user who wants to give some of their advice.

**2.2.8.** Social account login

User can login the website by connection their social account, it can avoid the tedious process of registering an account, enter email, password number. It is only developed for Chinese version since only Chinese version is on line. But for English version the effect is the same.
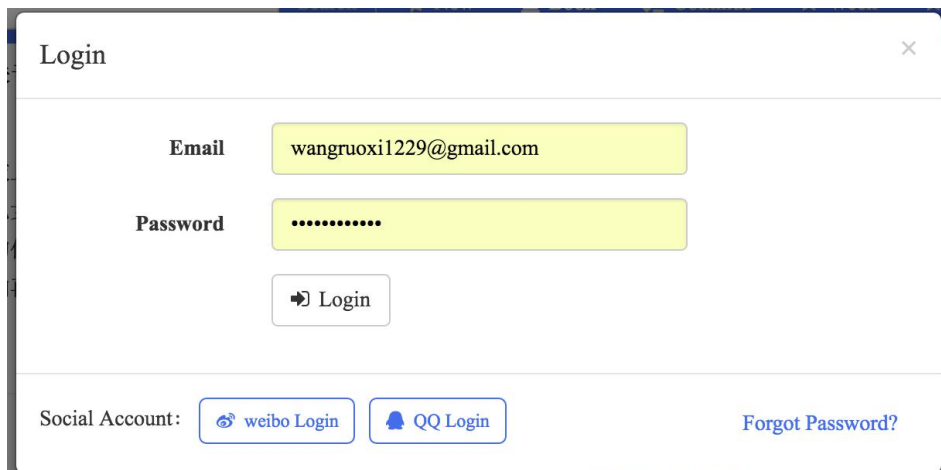


After clicking Weibo Login, it will lead to a page to let you enter the account and password for your Weibo.

For QQ the effect is similar.



After entering the right account and password, user will be redirect to the website with a new account has the name of his or her social account.

**2.2.9.** Share Story

User can share their story to Weibo or QQ after expanding the content of a story.





关于故事《黄昏街》请求帮助构思剧情

👁 58 Fantasy                                                                                    Branches 0 ( lv 2 )

　　诸位好，我是来请求诸位帮忙的，在书枝上我所写的一个故事《黄昏街》已经写了"序"和"第一章"剧情推进到了店里的年轻人给名叫白霏的吸血鬼女孩讲一个关于栀子花中的白城堡里发生的故事。

　　　所需要的帮助就是这个白城堡中的故事，此故事中的任何东西，人设，对话，情节大概，灵感，任何都需要。请诸位给我关于此故事的建议，提供帮助。哪怕再少都是弥足珍贵。我希望这并不是我所写的一个故事而是大家一起完成的故事。

　　　交代一下这个故事的基本设定，

1城堡里有着七个孩子，他们与世隔绝相依的活着。

2他们都得了绝症，将成年之前将死去。

3吸血鬼幼年与常人无异，并且此时他自己也不知道他是不是吸血鬼。

4他们其中一人是吸血鬼，因此当六个孩子相继逝去是吸血鬼的孩子将活下来。

5孩子们知道他们最终有一人将存活。

6孩子们在城堡中在栀子花中他们都有一颗好心。

7孩子们将相继的死去。

8愿生若夏花之绚烂，死若秋叶之静美。

注1,此处的"他"没性别意义。

注3,此时吸血鬼与那些孩子无异。

注2,如认为设定是镣铐，请戴着镣铐跳舞吧。

2016-07-29 00:12:52 Report

🕉 Share to Weibo   ⭐ Share to Qzone

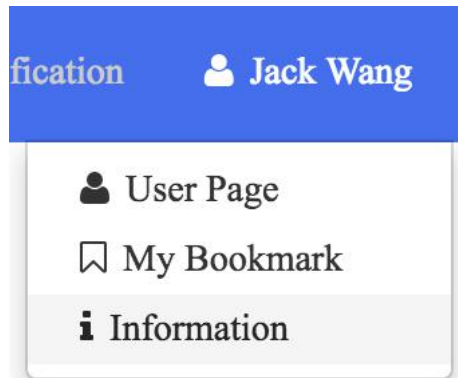Bookmark 0        Comment 0           Continue

The share option is in the bottom right.
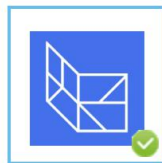
**2.2.10.** View Level

In new version every user will have their level, the level is rated by number of like they have. User can view their level by click Information in user's option on navbar.





Also users' level will be shown in each of the stories their wrote.

## 关于故事《黄昏街》请求帮助构思剧情

👁 59 Fantasy

Branches 0　lv 2

诸位好，我是来请求诸位帮忙的，在书枝上我所写的一个故事《黄昏街》已经写了"序"和"第一章"剧情推进到了店里的年轻人给名叫白霏的吸血鬼女孩讲一个关于栀子花中的白城堡里发生的故事。所需要的帮助就是这个白城堡中的故事，此故事中的任何东西，人设，对话，情节大概，灵感，任何都需要。请诸位给我关于此故事的建议，提供帮助。哪怕再少都是弥足珍贵。我希望这并不是我所写的一个故事而是大家
...More

mni

0

Bookmark 0　　　　Comment 0　　　　Continue

## 无题

👁 50 Fantasy

Branches 1　lv 4

写这故事就如同牵线木偶一般，不知什么时候就会无力地倒下去了。时间也不多，剧情大概还没脑洞完，续写就免了。

月历

2

...More

Bookmark 0　　　　Comment 0　　　　Continue　　　Next

## 第一章 命运

👁 43 Sicence Fiction

Branches 0　lv 0

"小宝，吃饭了。"妈妈和蔼的声音从屋子里传了出来。我急忙拍了拍手上的泥土，跑进了屋子。桌上是我最爱吃的南瓜饭和鱼香茄子。美食散发着诱人的香气，我迫不及待地拿起筷子大快朵颐。"慢点吃慢点吃，又没人和你抢。"妈妈慈爱地看着我，"欸？你鼻子上沾了灰，别动，我帮你擦擦。"妈妈的手轻轻拂过鼻尖，仿佛带过一股轻微的电流。吃完饭后，妈妈边收拾碗筷边对我说："家里的料酒没有了，一会儿
...More

木荣子格

0

Bookmark 0　　　　Comment 0　　　　Continue

Level will show in user page as well.
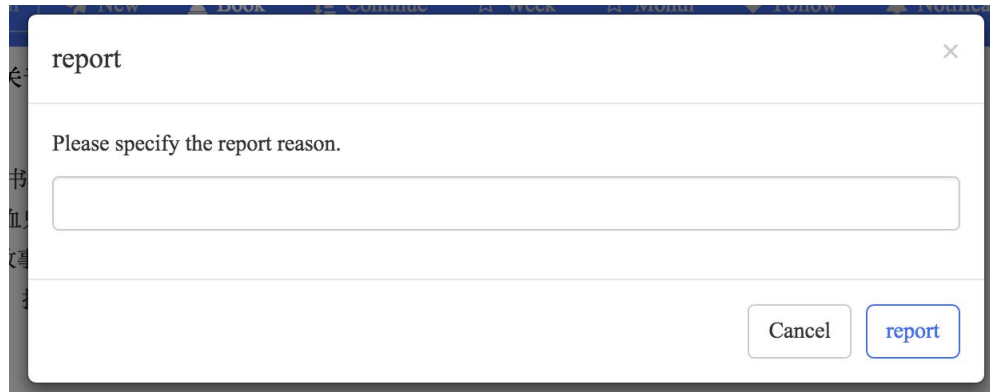
Jack Wang

lv 4

My Bookmark

♥Likes 14

Posted 2　　　|　　　Liked 35　　　|　　　Following 10　　　|　　　Followed 3

神的国度

### 2.2.11. Specify report reason

The old version do not need user to specify why they report certain story, and it is improved in the new version.



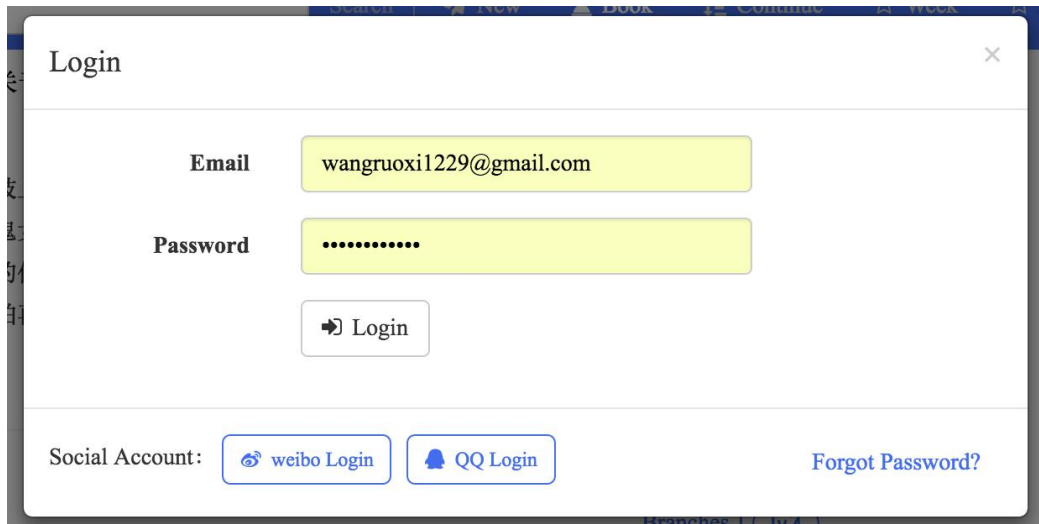A pop up will request a report reason.

For administrator, they can view specific reason and who has reported the story.

If a user is reporting story for fun, his or her account can be blocked as well.

**2.2.12.** Reset password

User can click Reset password on login pop up to set email to their mail box to get the reset link.
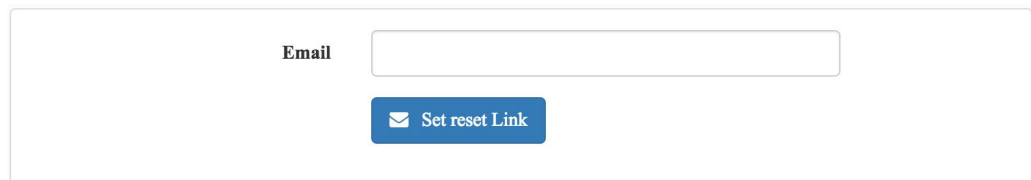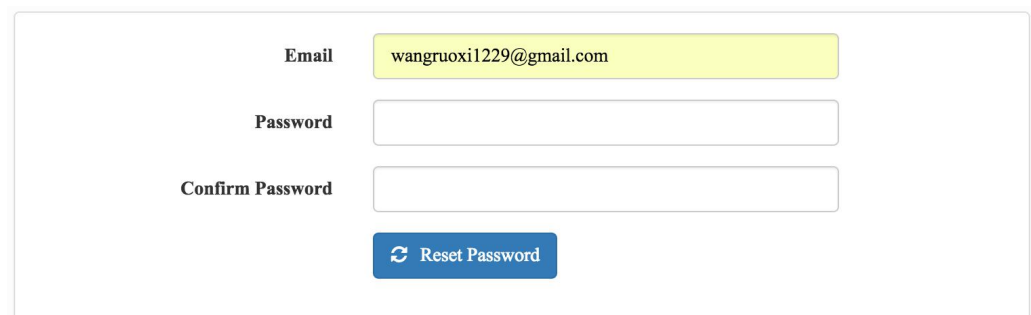


After the link is sent, open the mailbox and click the reset link to reset the password.

*2.3 Detail improvement*

**2.3.1.** Save function

The old version the save function will only save for title and content, the new

version include story category and chapter type so user will not worry about

entering the wrong category or chapter type when continuing writing with their

save content.

Considering some user will not click the save button, the save function is set to

automatically trigger itself if user does not writing anything within 10 seconds.

**2.3.2.** Image upload

The old version the header of user sometime will stretch to a different

proportion. The new version solved the problem and make the upload limit

into 2M, the old version is only 200k.

**2.3.3.** Recursive SQL fetching

One of the viewing function is fetching the story line, once user click a chapter,

it need to fetch its parent and its parent's parent all along to the root. In old

version it will continuing generate SQL query, means if it is chapter 100 then

it needs to generate 100 SQL. In the new version the problem is solved by two

lines of SQL. It is using hierarchical data in MySQL: parents and children in

one query.[1]

```php
    public function forStoryLine($story_id, $root_id)
    {//need to use cte

        $results = DB::select('SELECT T2.id
FROM (
    SELECT
        @r AS _id,
        (SELECT @r := parent_id FROM stories  WHERE id = _id) AS parent_id,
        @l := @l + 1 AS lvl
    FROM
        (SELECT @r := ?, @l := 0) vars,
        stories m
    WHERE @r <> ?) T1
JOIN stories T2
ON T1._id = T2.id
ORDER BY T1.lvl DESC;', [$story_id,$root_id]);
        $output = array_map(function ($object) { return $object->id; }, $results);
//        $ids = implode(', ', $output);

        return Story::with('user', 'root', 'parent', 'children')
            ->whereIn('id',$output)
            ->orderBy('chapter_num', 'asc')
            ->get();

    }
```

The $result is the result of recursively fetching the parent id until the parent id is equal to the root id. After the related id is fetched, use another SQL query to get corresponding stories and order them by chapter number. It save a lot of pressure from the server.

**2.3.4.** Word count

New version has word count function for writing and making comment.

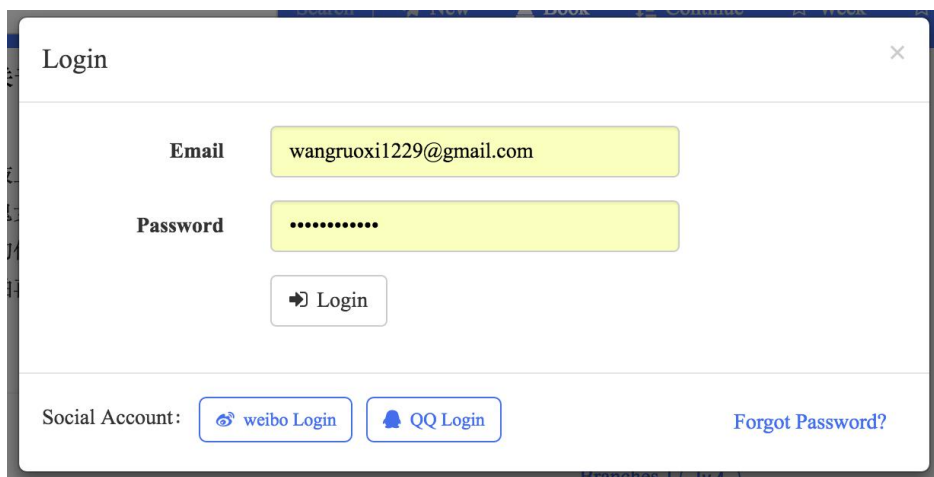Hello

Post
5

Post    Category Selection

0

**2.3.5.** Like and Unlike tip

Like button has been added with a tip for user to understand when they have

mouse over the button.



**2.3.6.** Login Register pop up

In old version login and register is displayed in a single page, it make

navigation a little bit difficult, so the new version change it into pop up.

When a user does not have an account, he or she click any button that require an account will pop up the register block.

**Conclusion**

This paper is focusing on the improvement of the BookBranch web in the aspect of functions, efficient and user experience. It has developed into a complete production and in the future it can develop into a place for people to communicate about stories and their imagination.

# References

[1] https://explainextended.com/2009/07/20/hierarchical-data-in-mysql-parents-and-children-in-one-query/

**Appendix**

**Minutes of the 1st Project Meeting**

**Date**: Wednesday, 8 June 2016

**Time**: 5:00 PM

**Place**: Room 3512

**Attending**: Prof. Rossiter, Jack Wang

**Absent**: None

**Recorder**: Jack Wang

**Approval of minutes**

This is first formal group meeting, so there were no minutes to approve.

**Report on Progress**

Discussed the improvement

**Discussion Items and Things To Do**

How to improve

**Meeting adjournment**

The meeting was adjourned at 5:20 PM.

**Minutes of the 2nd Project Meeting**

**Date**: Friday, 10 June2016

**Time**: 5:00 PM

**Place**: Room 3512

**Attending**: Prof. Rossiter, Jack Wang

**Absent**: None

**Recorder**: Jack Wang

**Approval of minutes**

The minutes of the last meeting were approved without amendment.

**Report on Progress**

Previous improvement has been programmed

**Discussion Items and Things To Do**

Discuss other improvement

**Meeting adjournment**

The meeting was adjourned at 5:20 PM.

**Minutes of the 3rd Project Meeting**

**Date**: Monday, 13 June2016

**Time**: 3:30 PM

**Place**: Room 3512

**Attending**: Prof. Rossiter, Jack Wang

**Absent**: None

**Recorder**: Jack Wang

**Approval of minutes**

The minutes of the last meeting were approved without amendment.

**Report on Progress**

Discuss further ideas

**Discussion Items and Things To Do**

Extends some functions

**Meeting adjournment**

The meeting was adjourned at 3:50 PM.

**Minutes of the 4th Project Meeting**

**Date**: Friday, 29 July2016

**Time**: 2:30 PM

**Place**: Room 3512

**Attending**: Prof. Rossiter, Jack Wang

**Absent**: None

**Recorder**: Jack Wang

**Approval of minutes**

The minutes of the last meeting were approved without amendment.

**Report on Progress**

Discuss improvement

**Discussion Items and Things To Do**

Extends some functions

**Meeting adjournment**

The meeting was adjourned at 2:50 PM.