哈尔滨工业大学 计算学部 2024年秋季学期《开源软件开发实践》

Lab3:自选开源项目编程

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[文档全部完成之后,请更新上述区域]

1 实验要求

这次实验的目标是能够根据开源项目提供的文档,对项目进行了解和分析、掌握基本的Markdown语法、实际参与某开源项目,贡献代码。所以首先掌握Markdown语法,然后参与实际开源项目。

2 实验内容1 掌握基本Markdown语法

1. Italics and Bold

e'll start by learning two basic elements in text for	ormatting: Italics and bold. In these lessons, you'll notice some; this text is actually written in Markdown! regular text, but we're providing some highlighting to make it easier to see. Fornatted red text.
	round words with an underscore (). For example, word would become italicthis_
or this next lesson, make the word "not" italic.	
not_	7 not
	United the second secon
Skip	
Skip	
码:_not_	
H-1110t_	
ome! Great job.	
irly, to make phrases bold in Markdow	n, you can surround words with two asterisks (). This will get your point across. ** **really**
box below, make the word "will" bold.	
EX.	will
[**	will
Į sa	will
100	will
120	will
100	will
<u>ে</u>	Will
<u>ে</u>	Will
ū	Will
	will
i.e.	will
	will
ikip	will
ikip	will
ikip	will
	will
dikip □: **will**	will
引: **will**	will can also span themboth italics and bold_ **across multiple words**
d: **Will** od work! course, you can use in the same line. You of	can also span themboth italics and bold_ **across multiple words**
If: **Will** od work! course, you can use in the same line. You of the box below, make the words "Of course"	can also span themboth italics and bold_ **across multiple words** Italic, and the words "a little moxie" bold.
If: **Will** od work! course, you can use in the same line. You of the box below, make the words "Of course"	can also span themboth italics and bold_ **across multiple words**
d work! course, you can use in the same line. You on the box below, make the words "Of course"	can also span themboth italics and bold_ **across multiple words** Italic, and the words "a little moxie" bold.
d work! course, you can use in the same line. You on the box below, make the words "Of course"	can also span themboth italics and bold_ **across multiple words** Italic, and the words "a little moxie" bold.
d work! course, you can use in the same line. You on the box below, make the words "Of course"	can also span themboth italics and bold_ **across multiple words** Italic, and the words "a little moxie" bold.
iklip **Will** od work! course, you can use in the same line. You of the box below, make the words "Of course"	can also span themboth italics and bold_ **across multiple words** Italic, and the words "a little moxie" bold.
引: **will**	can also span themboth italics and bold_ **across multiple words** Italic, and the words "a little moxie" bold.

代码: _of course_ **a little moxie"

Fantastic!		
For the final exercise in this lesson, we're going to ma	ke some words bold and italic.	
In general, it doesn't matter which order you place the Place the asterisks , just to make it more legible.	asterisks or underscores. In the box below, make the words "This is unbelievable" both bold an n the outside_***	nd italic.
This is unbelievable	This is unbelievable	
Skip		

代码: **_This is unbelievable_**

2.Header

For this next lesson, make each header the right size.

##Header one
###Header Three

Header Three

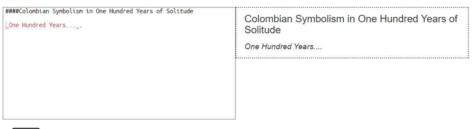
Header Two
Header Two
Header Three

代码: #Header one ##Header Two ###Header Three

All right!

It's up to you to decide when it's appropriate to use which header. In general, headers one and six should be used sparingly.

You can also mix and match inline styles within headers, such as *italicizing* them. In the box below, make the first line a heading level four, and italicize the nam of the book:



Skip

代码: ####Colombian Symbolism in One Hundred Years of Solitude.
One hundred Years

3.Links

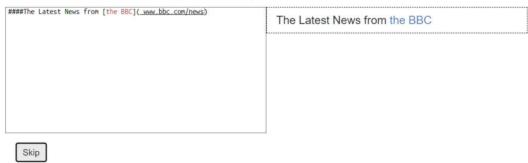
We'll now learn how to make links to other web sites on	the World Wide Web.
	n of them render the exact same way. The first link style is called an <i>inline link</i> . To create an inline link, you up the link in parentheses (()). For example, to create a hyperlink to www.github.com, with a link text Visit GitHub!](www.github.com).
In the box below, make a link to www.google.com, with	link text that says "Search for it."
[Visit YouTube](https://www.youtube.com/)	VisitYouTube
I'll want to make sure that the bold phrasing occ	he box below, make the phrase "really, really" bold, and have the entire sentence link to www.dailykii curs within the link text brackets.
g: [Search for it](www.goog	he box below, make the phrase "really, really" bold, and have the entire sentence link to www.dailykii curs within the link text brackets.

代码: [You're **really, really** going to want to see this.](www.dailykitten.com.)

Fantastic!

Although it might make for an awkward experience, you can make links within headings, too.

For this next tutorial, make the text a heading four, and turn the phrase "the BBC" into a link to www.bbc.com/news:



代码: ####The Latest News from the [BBC](www.bbc.com/news)

That's all there is to writing inline links.

The other link type is called a *reference* link. As the name implies, the link is actually a reference to another place in the document. Here's an example of what we mean:

```
Here's [a link to something else][another place].

Here's [yet another link][another-link].

And now back to [the first link][another place].

[another place]: www.github.com
[another-link]: www.google.com
```

The "references" above are the second set of brackets: [another place] and [another-link]. At the bottom of a Markdown document, these brackets are defined as proper links to outside websites. An advantage of the reference link style is that multiple links to the same place only need to be updated once. For example, if we decide to make all of the [another place] links go somewhere else, we only have to change the single reference link.

Reference links don't appear in the rendered Markdown. You define them by providing the same tag name wrapped in brackets, followed by a colon, followed by the link.

In the box below, we've started writing out some reference links. You'll need to finish them up! Call the first reference tag "a fun place", and make it link to www.zombo.com: make the second link out to www.stumbleupon.com.

```
Do you want to [see something fun][a fun place](www.zombo.com)?

Well, do I have [the website for you](www.stumbleupon.com)[another fun place]!

Do you want to [see something fun]a fun place?

Well, do I have the website for you[another fun place]!
```

代码: Do you want to [see something fun][a fun place](www.zombo.com)? Well, do I have [the website for you](www.stumbleupon.com)[another fun place]!

4.Images

Images

If you know how to create links in Markdown, you can create images, too. The syntax is nearly the same.

Images also have two styles, just like links, and both of them render the exact same way. The difference between links and images is that images are prefaced with an exclamation point (1).

The first image style is called an *inline image link*. To create an inline image link, enter an exclamation point (1), wrap the alt text in brackets ([]), and then wrap the link in parentheses (()). (Alt text is a phrase or sentence that describes the image for the visually impaired.)

For example, to create an inline image link to https://octodex.github.com/images/bannekat.png, with an alt text that says, Benjamin Bannekat, you'd write this in Markdown: I[Benjamin Bannekat](https://octodex.github.com/images/bannekat.png).

In the box below, turn the link to an image, and fill out the alt text brackets to say "A pretty tiger"



代码: [A pretty tiger](https://upload.wikimedia.org/wikipedia/commons/5/56/Tiger.50.jpg)

Wonderful

Although you don't need to add alt text, it will make your content accessible to your audience, including people who are visually impaired, use screen readers, or do not have high speed internet connections.

For a reference image, you'll follow the same pattern as a reference link. You'll precede the Markdown with an exclamation point, then provide two brackets for the alt text, and then two more for the image tag, like this: <code>[The founding father][Father]</code> At the bottom of your Markdown page, you'll define an image for the tag, like this: <code>[Father]: http://octodex.github.com/images/founding-father.jpg</code>.

In the box below, we've started placing some reference images; you'll need to complete them, just like the last lesson. Call the first reference tag "Black", and make it link to <a href="https://pupload.wikimedia.org/wikipedia/commons/a/a3/81_INE_DIV_SSI_jpg: make the second image link out to <a href="https://pupload.wikimedia.org/wikipedia/commons/a/a3/81_INE_DIV_SSI_jpg: make the second image link out to <a href="https://pupload.wikimedia.org/wikipedia/commons/a/a3/81_INE_DIV_SSI_jpg: make the second image link out to <a href="https://pupload.wikimedia.org/wikipedia/commons/a/a3/81_INE_DIV_SSI_jpg: make the second image link out to <a href="https://pupload.wikimedia.org/wikipedia/commons/a/a3/81_INE_DIV_SSI_jpg: make the second image link out to <a href="https://pupload.wikimedia.org/wikipedia/commons/a/a3/81_INE_DIV_SSI_jpg: make the second image link out to <a href="https://pupload.wikimedia.org/wikipedia/commons/a/a3/81_INE_DIV_SSI_jpg: make the second image link out to <a href="https://pupload.wikimedia.org/wikipedia/commons/a/a3/81_INE_DIV_SSI_jpg: make the second image link out to <a href="https://pupload.wikimedia.org/wikipedia/commons/a/a3/81_INE_DIV_SSI_jpg: make the second image link out to <a href="https://pupload.wikimedia.org/wikipedia/commons/a/a3/81_INE_DIV_SSI_jpg: make the second image link out to <a href="https://pupload.wikimedia.org/wikipedia/commons/a/a3/81_INE_DIV_SSI_jpg: make the second image link out to <a href="https://pupload.wikimedia.org/wikipedia/commons/a/a3/81_INE_DIV_SSI_jpg: make the second image link out to <a href="https://pupload.wikimedia.org/wikipedia/commons/a/a3/81_INE_DIV_SSI_jpg: make the second image link out to <a href="https://pupload.wikimedia.org/wikipedia/commons/a/a3/81_INE_DIV_SSI_jpg: make the second image link out to <a href="https://pupload.wikimedia.org/wikimedia.org/wikimedia.org/wikimedia.org/wikimedia.org/wikimedia.org/wikimedia.org/wikimedia.org/wikimedia.org/wikimedia.org/wikimedia.org/wikimedia.org/wikimedia.org/wikimedia.org/wikimedia.org/wikimedia

[Black cat]https://upload.wikimedia.org/wikipedia/commons/a/a3/81_I	[Black cat]https://upload.wikimedia.org/wikipedia/commons/a/a3/81_INF_DIV_SSI.jpg [Orange http://icons.iconarchive.com/icons/google/noto-emoji-animals-nature/256/22221-cat-icon.png [Black] https://upload.wikimedia.org/wikipedia/commons/a/a3/81_INF_DIV_SSI.jpg
---	---

代码:

[Black cat]https://upload.wikimedia.org/wikipedia/commons/a/a3/81_INF_DIV_SSI.jpg [Orangecat][Orange]http://icons.iconarchive.com/icons/google/noto-emoji-animals-nature/256/22221-cat-icon.png

[Black] https://upload.wikimedia.org/wikipedia/commons/a/a3/81_INF_DIV_SSLjpg

5.Blockquotes

If you need to call special attention to a quote from another source, or design a pull quote for a magazine article, then Markdown's blockquote syntax will be useful. A blockquote is a sentence or paragraph that's been specially formatted to draw attention to the reader. For example:

"The sin of doing nothing is the deadliest of all the seven sins. It has been said that for evil men to accomplish their purpose it is only necessary that good men should do nothing."

To create a block quote, all you have to do is preface a line with the "greater than" caret (>). For example:

> "In a few moments he was barefoot, his stockings folded in his pockets and his canvas shoes dangling by their knotted laces over his shoulders and, picking a pointed salt-eaten stick out of the jetsam among the rocks, he clambered down the slope of the breakwater."

In the box below, turn the book quotation into a blockquote:

>I read this interesting quote the other day:

> "Her eyes had called hin and his soul had leaped at the call. To live, to err, to fall, to triumph, to recreate life out of life!"

| I read the call. To live, to err, to fall, to triumph, to recreate life out of life!"

代码: >I read this interesting quote the other day:

>"Her eyes had called him and his soul had leaped at the call. To live, to err, to fall, to triumph, to recreate life out of life!"

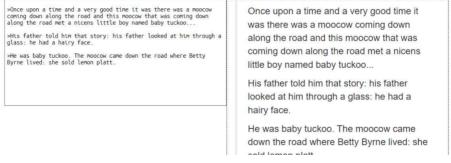
Marvelous!

You can also place a caret character on each line of the quote. This is particularly useful if your quote spans multiple paragraphs. For example:

> His words seemed to have struck some deep chord in his own nature. Had he spoken of himself, of himself as he was or wished to be? Stephen watched his face for some moments in silence. A cold sadness was there. He had spoken of himself, of his own loneliness which he feared.
>
> —Of whom are you speaking? Stephen asked at length.
>
> Cranly did not answer.

Notice that even blank lines must contain the caret character. This ensures that the entire blockquote is grouped together.

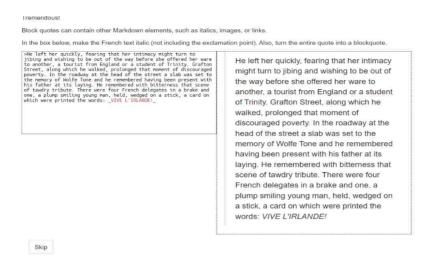
In the box below, Make the entire quotation a block quote by inserting a caret on each line.



代码: >Once upon a time and a very good time it was there was a moocow coming down along the road and this moocow that was coming down along the road met a nicens little boy named baby tuckoo...

>His father told him that story: his father looked at him through a glass: he had a hairy face.

>He was baby tuckoo. The moocow came down the road where Betty Byrne lived: she sold lemon platt.



代码: >He left her quickly, fearing that her intimacy might turn to jibing and wishing to be out of the way before she offered her ware to another, a tourist from England or a student of Trinity. Grafton Street, along which he walked, prolonged that moment of discouraged poverty. In the roadway at the head of the street a slab was set to the memory of Wolfe Tone and he remembered having been present with his father at its laying. He remembered with bitterness that scene of tawdry tribute. There were four French delegates in a brake and one, a plump smiling young man, held, wedged on a stick, a card on which were printed the words: _VIVE L'IRLANDE!_

6.Lists

* Tomatoes

Lists This tutorial is all about creating lists in Markdown. There are two types of lists in the known universe; unordered and ordered. That's a fancy way of saving that there are lists with bullet points, and lists with numbers. To create an unordered list, you'll want to preface each item in the list with an asterisk (*), then follow it with a space. Each list item also gets its own line. For example, a grocery list in Markdown might look like this: * Milk This Markdown list would render into the following bullet points: Milk • Eggs Salmon Butter In the box below, turn the words separated by a comma into a list. • Flour · Cheese Tomatoes 代码: * Flour, * Cheese,

All right! That's how you write an unordered list. Now, let's talk about ordered ones.

An ordered list is prefaced with numbers, instead of asterisks. Take a look at this recipe:

1. Crack three eggs over a bowl
2. Pour a gallon of milk into the bowl
3. Rub the salmon vigorously with butter
4. Drop the salmon into the egg-milk bowl

To write that in Markdown, you'd do this:

1. Crack three eggs over a bowl
2. Pour a gallon of milk into the bowl
3. Rub the salmon vigorously with butter
4. Drop the salmon into the egg-milk bowl

Easy, right? It's just like you'd expect a list to look.

In the box below, turn the rest of the recipe into an ordered list.

1. Cut the cheese,
2. Sitce the tonatoes,
3. Rub the tonatoes in flour

Skio

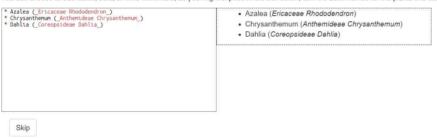
代码: 1.Cut the cheese,

2.Slice the tomatoes,

3. Rub the tomatoes in flour

Fantastic work!

You can choose to add italics, bold, or links within lists, as you might expect. In the box below, turn the Latin names for the plants into italics.



代码: *Azalea (_Ericaceae Rhododendron_)

- * Chrysanthemum (Anthemideae Chrysanthemum)
- * Dahlia (_Coreopsideae Dahlia_)

```
When rendered, this list turns into the following grouping:

    Tintin

    A reporter

    Has poofy orange hair

             o Friends with the world's most awesome dog

    Haddock

    A sea captain

    Has a fantastic beard

    Loves whiskey

                    Possibly also scotch?
In the box below, turn the character's characteristics into sub-bullets
* Calculus,
* A professor,
* Has no hair,
* Often wears green
* Castafiore,
* An opera singer,
* Has white hair,
* Is very famous

    Calculus

    A professor.

 Has no hair,

    Often wears green

                                                                                               · Castafiore,

    An opera singer.

    Has white hair,

    Is very famous

     Skip
```

代码: * Calculus,

- * A professor,
- * Has no hair,
- * Often wears green
- * Castafiore.
- * An opera singer,
- * Has white hair.
- * Is very famous

Stupendous! While you could continue to indent and add sub-lists indefinitely, it's usually a good idea to stop after three levels; otherwise, your text becomes a

There's one more trick to lists and indentation that we'll explore, and that deals with the case of paragraphs. Suppose you want to create a bullet list that requires some additional context (but not another list). For example, it might look like this:

1. Crack three eggs over a bowl.

Now, you're going to want to crack the eggs in such a way that you don't make a mess.

If you do make a mess, use a towel to clean it up!

2. Pour a gallon of milk into the bowl

Basically, take the same guidance as above: don't be messy, but if you are, clean it up!

3. Rub the salmon vigorously with butter.

By "vigorous," we mean a strictly vertical motion, Julia Child once guipped:

Up and down and all around, that's how butter on salmon goes.

4. Drop the salmon into the egg-milk bowl.

Here are some techniques on salmon-dropping:

- Mala and the Allinean Allinean and the Allinean Allinean
- Use both hands
- o Always have a towel nearby in case of messes

To create this sort of text, your paragraph must start on a line all by itself underneath the bullet point, and it must be indented by at least one space. For examp

Notice that the first two items have a single space. This looks a bit odd, so you might want to indent properly to match the characters up (like items three and four). In these paragraphs, you can include all sorts of other Markdown elements, like blockguotes, or even other lists!

In the box below, convert the bullet points into their own paragraphs.

```
1. Cut the cheese
* Make sure that the cheese is cut into little triangles.
2. Silce the tomatoes
* Be careful when holding the knife.
* For more help on tomato silcing, see Thomas Jefferson's sential essay __Ion Ate __Ion __Ion
```

代码: 1. Cut the cheese

- * Make sure that the cheese is cut into little triangles
- 2. Slice the tomatoes
 - * Be careful when holding the knife.
 - * For more help on tomato slicing, see Thomas Jefferson's seminal essay Tom Ate Those .

7.Paragraphs

If you forcefully insert a new line, you end up breaking the togetherness:

Do I contradict myself?

Very well then I contradict myself,

(I am large, I contain multitudes.)

This is what's known as a hand break, what our poetry asks for is a soft break. You can accomplish this by inserting two spaces after each new line. This is not possible to see, since spaces are invisible, but it'd look something like this:

Do I contradict myself?...

Very well then I contradict myself,...
(I am large, I contain multitudes.)

Each dot (:) represents a space on the keyboard.

Left stry this technique out. In the box below, insert the necessary number of spaces to make the poem render correctly:

We pictured the neek mild creatures where They deelt to their straw pen, Nor did it occur to one of us there To doubt they were kneeling then.



8. Conclusion

Congratulations!

You've completed all the lessons!

Believe it or not, we've only just begun exploring what can be accomplished with Markdown. There are many "extended" implementations of Markdown that support formats like tables, definition lists, footnotes, and more. Because they're non-standard, they're not essential to learning the basics, as we've introduced here.

If you'd like to know more about these Markdown implementations, you're welcome to explore any number of other Markdown apps and tutorials. Here are just a few:

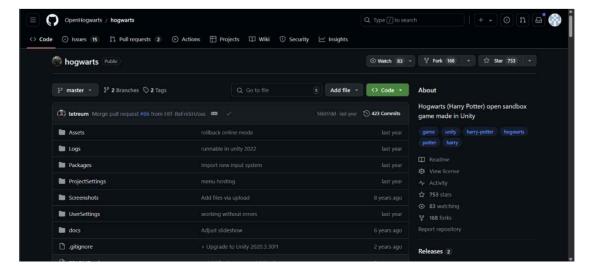
- https://daringfireball.net/projects/markdown/
- · https://spec.commonmark.org/dingus/
- https://johnmacfarlane.net/babelmark2/faq.html
- https://www.markdownguide.org
- https://dave.autonoma.ca/blog/2019/05/22/typesetting-markdown-part-1/
- $\bullet \ \ http://idrather bewriting.com/2013/06/04/exploring-mark down-in-collaborative-authoring-to-publishing-workflows/$
- https://en.wikipedia.org/wiki/Markdown#Example
- https://docs.gitlab.com/ee/user/markdown.html
- https://docs.github.com/en/github/writing-on-github/basic-writing-and-formatting-syntax

完整结束。

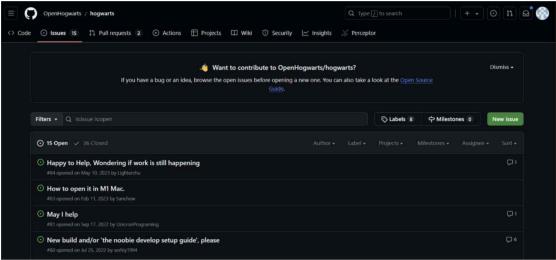
3 实验内容2 参与开源项目

3.1 分析所选项目

项目地址: https://github.com/OpenHogwarts/hogwarts







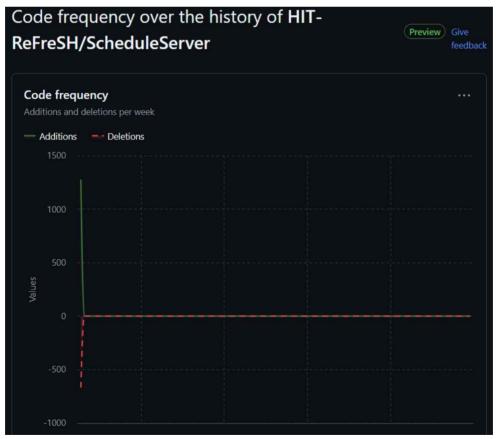
OpenHogwarts项目旨在利用Unity引擎开发一款以哈利波特世界为背景的开放式沙盒游戏。项目的结构由Assets、logs、Packages、Projects、Usersettings。这项目遵守MIT许可。分析项目活跃度,这项目的star是756个,Fork是166个,主要贡献者是Kardall,Vancete, Seyji, finchen,开发并改善多样的功能。commit比较定期的。

3.2 项目参与者贡献过程分析

我分析的项目是HIT-ReFreSH/ScheduleServer。这项目还没PR,所以不能提交PR的过程。这项目的贡献方针可分为4个阶段。第一是Fork和Clone。将项目进行fork后,将clone放入本地机器中。第二是创建分支,创建新的分支已进行更改。第三是测试和评审,测试更改并填写评审信息,最后是创建完整PR,将更改提交到PR。

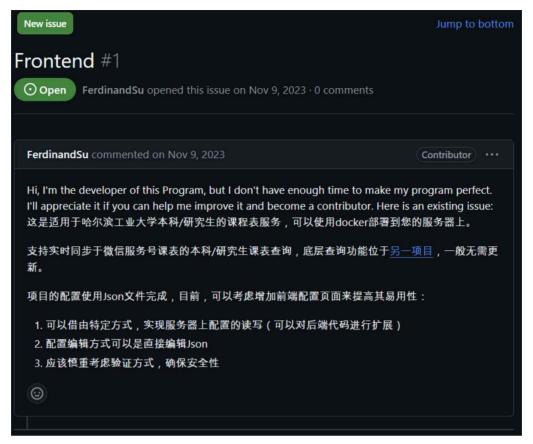
选择的贡献者是FerdinandSu。





[Code Frequency]

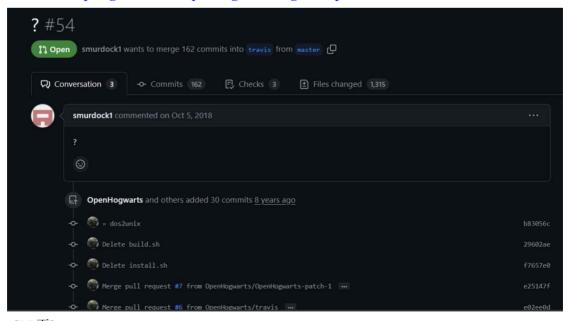
下的图片是他写的项目介绍。



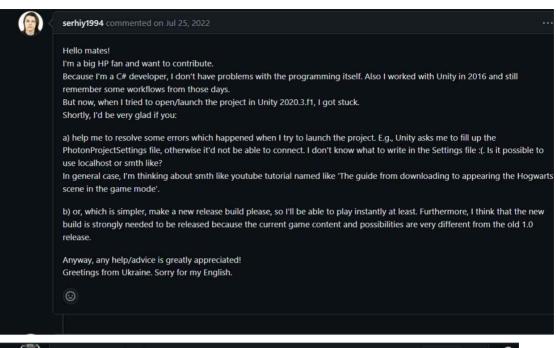
我看这个项目没有开发进度。 其依据是没有Issue交流,也没有PR的状态。 读了项目介绍,觉得是非常好的项目,只是有点可惜。 希望这个项目的参与者能够完成开发。

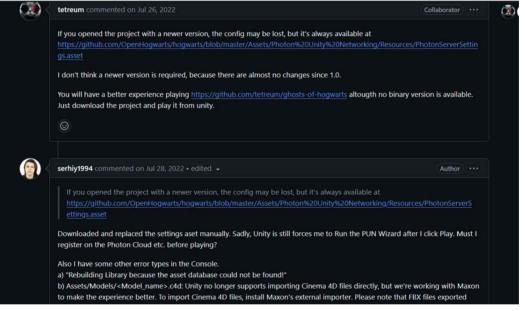
3.3 贡献代码

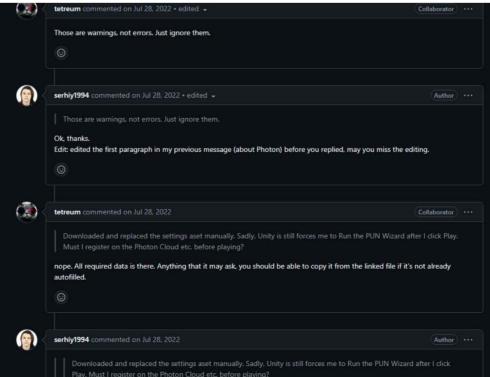
Issue 地址: https://github.com/OpenHogwarts/hogwarts/issues/80
PR地址: https://github.com/OpenHogwarts/hogwarts/pulls



[PR页]







[Issue页面]

选择了Issue是New build and/or 'the noobie develop setup guide', please。这Issue的解决方法首先为了初学者编写开发设置指南。指南的内容要包含Unity2020.3安装并设置方法、项目下载及打开、如何配置 PhotonServerSettings.asset 文件等的内容。然后创建并提交最新的构建,让新贡献者更容易实施项目。

下述是核心代码:

// PhotonServerSettings.asset 文件配置示例
PhotonServerSettings serverSettings = new PhotonServerSettings();
serverSettings.AppSettings.AppIdRealtime = "YOUR_APP_ID";
serverSettings.AppSettings.Server = "localhost";
PhotonNetwork.PhotonServerSettings = serverSettings;

4 小结

该实验首先熟悉Markdown语法,然后选择项目,分析贡献者、项目的Issue、PR。 通过这次实验,似乎很清楚应该以何种方式分析项目,Issue部分和PR部分是什么,起到什么作用。 Issue部分是项目参与者重要的沟通手段。 这是可以共享项目的改善点、好奇点等并进行反馈的空间。 因此,我认为对于第一次使用GitHub的人来说,这是非常必要的实验。 这是本人参与的项目,如果不能与参与者进行沟通,项目开发将面临困难。 如果说第二个实验是对基本分析工具的介绍,那么我认为这次实验是与之前的实验联系起来,使分析工具更加自由自在。 但是,我似乎还没有习惯使用Hypercrx等分析工具

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