

## Storing and Sharing Code Online

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For Sci. and Tech.

## Storing and Sharing Code Online

### 1 Introduction

In the last few years, the advent of online services that help you to code, check syntax and host code has created a large opportunity for coders. Among this is the opportunity to share code with a wide audience such as open source projects or with a smaller audience such as a team project for a competition such as Botball. These online services typically provide many services that would be difficult or at least time-consuming to implement by one's self and provide a great resource for any botball team.

### 2 Online Storing and Saving

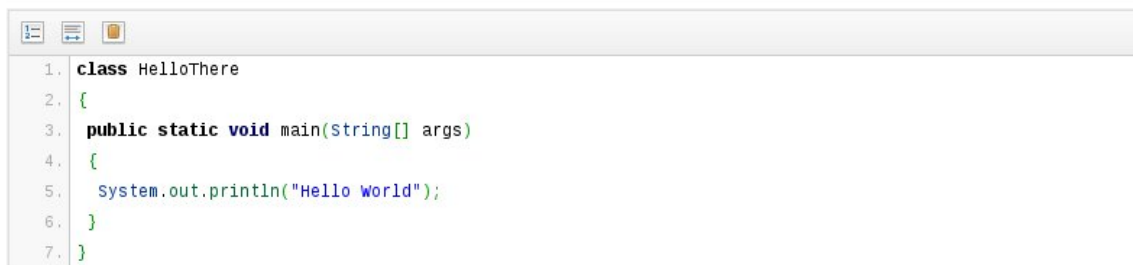
#### 2.1 Saving Code Online

#### Pastie.org

```
1 class HelloThere
2 {
3     public static void main(String[] args)
4     {
5         System.out.println("Hello World");
6     }
7 }
```

Figure 1

#### Pastebin.org

A screenshot of a code editor window. The window has a title bar with three icons (a list, a document, and a folder). The code is displayed on a white background with a light gray border. The code is as follows:

```
1. class HelloThere
2. {
3.     public static void main(string[] args)
4.     {
5.         System.out.println("Hello World");
6.     }
7. }
```

Figure 2

As a result of this, it is possible to save code and widely distribute it using a link. For example

the pastebin link above is <http://pastebin.com/Dhaixcp2>. This allows quick copying and is a useful tool for asking questions as well as sharing code. Furthermore many, such as pastebin allow you to limit the link from public to private (if it is visible with or without the url) and how long you would like it to be saved on the website.

## 2.2 Quick Code Collaboration

In recent years, many services have popped up that allow you to collaborate with other members of a team in real-time and without even logging in. They typically provide syntax highlighting (but not always, some as plaintext) and save your code for a certain amount of time. Examples of such websites are Figure 3 and Figure 4.

### Codr.cc

```
1  class HelloThere
2  {
3
4      public static void main(String[] args)
5      {
6          System.out.println("Hello World!");
7      }
8
9  }
10
```

Figure 3

### Collabedit.com

```
1 public class HelloWorld
2 {
3     public static void main(String [] args)
4     {
5         System.out.println("Hello World!");
6     }
7 }
```

Figure 4

## 2.3 Subversion and Quick Code Collaboration

When I see teams storing code and then sharing it via USB drives and not-so-commonly cd's, though I have seen that in general, I wonder why. I think there is a much better alternative which many teams are not aware of. This is web-based code hosting. A prime example of this is Github (Figure 5 shows the front page), a location where many open source projects such as have their code hosted.

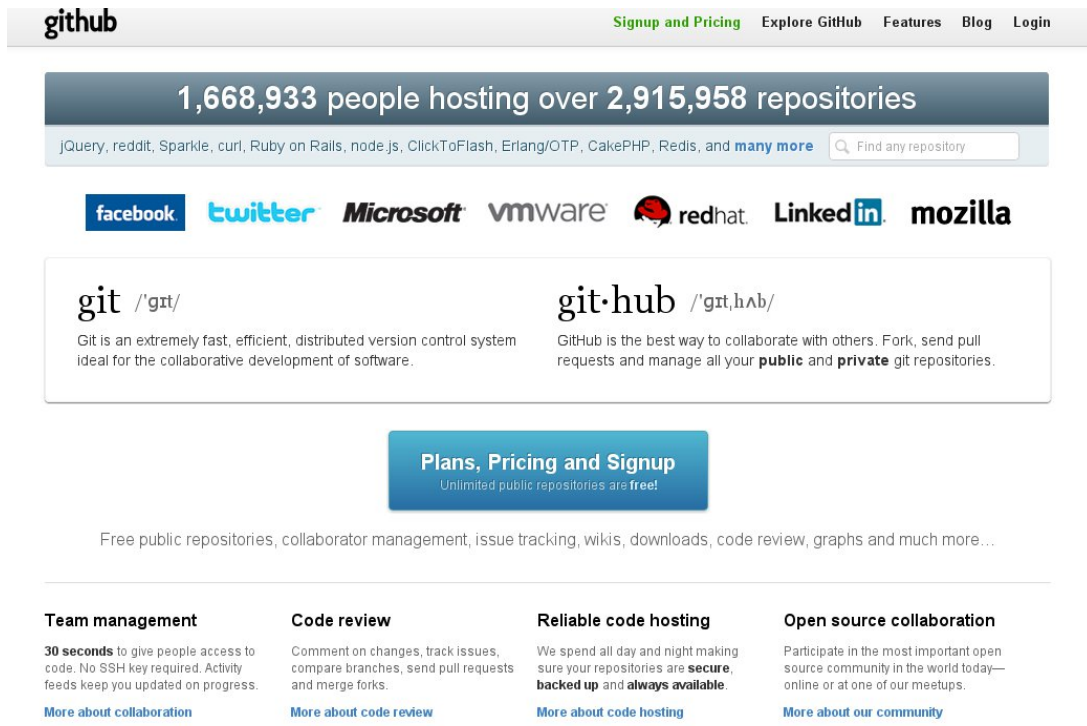


Figure 5

Github offers many services that you may not have implemented or have the infrastructure for. An example of this is collaborating between users across the world and the ability to easily give access. Furthermore the chance of Github and it's various servers and mirrors crashing is far less especially when you consider it is hosted on Rackspace, one of the giants of the cloud hosting world comparable to Amazon's EC3 Service.

To users using public repositories - meaning anyone can see your code online, it is free while for private or corporate use it is a monthly cost. Git offers privilege levels to users as well as shared administration, wiki documentation and bug tracking. Even better, it offers comments for pull and push requests and allows users to see what is being modified and where the changes will happen. This is all in addition to versioning control which means if you accidentally add or delete code, the previous version will be saved and you can revert back. Even better, Github allows forking and merging of different branches that allows for different versions of the code to be worked on simultaneously while allowing comparing of different version of code. [1]

Accessing Github is not a complicated coding matter and if you're not comfortable with pulling, pushing and forking via git commands after ssh-ing a convenient step-by-step tutorial is offered. If you just do not like the barebones text interface there are GUIs that can access Github such as Tortoise Git, Eclipse, and Tower (specifically for Mac, example screenshot shown in Figure 6).

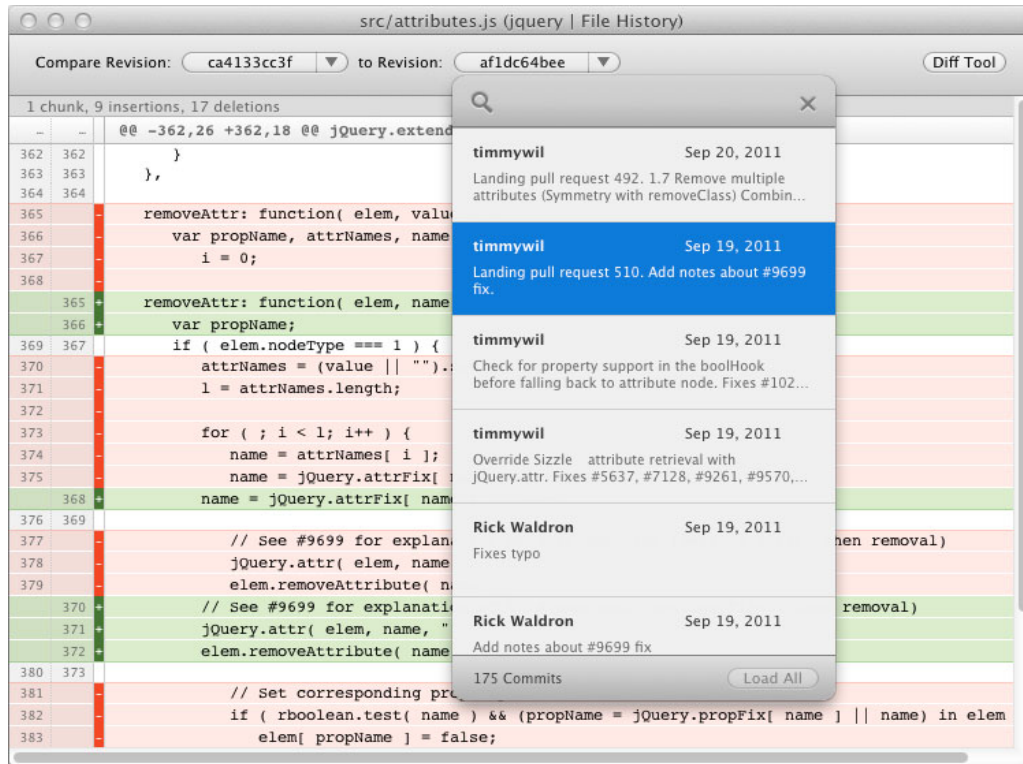


Figure 6 from [2]

If Github is not your thing, there are similar services provided by other websites such as Gitorious, Bitbucket and SourceForge and wikipedia actually gives a wonderful comparison of a wide selection of these [http://en.wikipedia.org/wiki/Comparison\\_of\\_open\\_source\\_software\\_hosting\\_facilities](http://en.wikipedia.org/wiki/Comparison_of_open_source_software_hosting_facilities)

## 2.4 Online IDE (Integrated Development Environment)

**9 Cloud9 IDE** PRICING FEATURES BLOG COMPANY NODE.JS SUPPORT

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**What is Cloud9 IDE?**  
Cloud9 IDE is an online development environment for Javascript and Node.js applications as well as HTML, CSS, PHP, Java, Ruby and 23 other languages.

**Who is it for?**  
Anyone looking for a modern and secure IDE. With your code online and accessible from anywhere, you can work more efficiently than before.

**Why use it?**  
You're programming for the web, on the web. Teams can collaborate on projects and run them within the browser. When you're finished, deploy it—and you're done!

Figure 7 from [3]

Another resource teams can use if they're away from a computer is an online IDE such as Cloud9. It allows for code editing in multiple languages and even has a debugger! Some online IDEs also allow the compiling of small programs. Another service, codepad.org, though not an IDE, allows for the compiling and running of a small pieces of code and is useful for testing syntax.

### 3 Summary

In this paper I have discussed a few services that let you put your code online and share with others. This provides a degree of security, reliability and convenience that traditional local storage does not. The versioning features help observe progress and change over time and revert accidental changes. Even better, online services you can download your code from anywhere and share code snippets fast! As a result, I hope that all of you will consider using an online code hosting service in your next project!

## References

- 1) GitHub Inc. "Features." *Github*. GitHub Inc., 2012. Web. 28 May 2012. <<https://github.com/features/projects/>>.
- 2) Fournova GmbH. "Git Client for Mac." *Tower*. Fournova GmbH, 2011. Web. 28 May 2012. <<http://www.git-tower.com/>>.
- 3) Cloud9ide. "Cloud9 IDE." *Cloud9 IDE*. Cloud9ide, 2012. Web. 26 May 2012. <<http://c9.io/>>.