



What's Cooking at Github?

Having Fun with Social Coding

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What is Github?

- ▶ GitHub is to collaborative coding, what Facebook is to social networking ¹
- ▶ It serves as a web front-end to open source projects by allowing things like source code access, wikis, commit histories, branches, tags etc
- ▶ It also uses feeds to publish actions on projects, such that they are easily aggregated by a news feed page
- ▶ Like Twitter, you can follow users and watch projects such that their traffic ends up on your news feed page

¹Interestingly, Facebook's source code is on GitHub!



What is Git?

- ▶ Git is a distributed source control system written by Linus Torvalds (perhaps you've heard of him?)
- ▶ He wrote it for Linux kernel development (where it is still used) and aimed to make it fast and flexible
- ▶ Every Git working directory is also a full repository, removing the requirement for network access which you get in centrally organised source control
- ▶ It's geared for rapid, non linear development and ideal for open source projects



How to get git

- ▶ On Debian/Ubuntu: `$ sudo apt-get install git`
- ▶ On Mac OS X via MacPorts: `$ sudo port install git`
- ▶ On Windows, use CygWin, or visit <http://code.google.com/p/msysgit/downloads/list>



Some git commands

```
$ cd (project-directory)
```

```
$ git init
```

```
$ (add some files)
```

```
$ git add .
```

```
$ git commit -m 'Initial commit'
```

```
$ cd (new-project-directory)
```

```
$ git clone (some git url)
```

```
$ (make some changes)
```

```
$ git commit -m 'I made some changes!'
```

```
$ git push origin
```



Why Git is *awesome*

- ▶ It's fast and efficient (much faster than SVN, for example)
- ▶ It works distributed so there's no central point of failure
- ▶ Commits are cryptographically archived, such that they cannot be modified without detection. Each object in the repository is hashed via sha-1
- ▶ It's easy and cheap to branch



Why Github is *awesome*

- ▶ The feeds it offers make it easy to keep tabs on multiple projects
- ▶ It has excellent source code display with syntax highlighting, line numbers etc
- ▶ It is free and open source
- ▶ It shows full diffs per commit
- ▶ Shows graphs for activity, commits etc etc
- ▶ Usual social network features - user profiles, messaging, comments etc



Reading Source Code on Github

Updated cucumber registration feature on advice of Lee



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August 20, 2009

commit 4df37e5413d69adb0195dab23bd8af7f938c8914
tree 4f5ad389eb5de68afd1e24a3f721b65d16a12f70
parent b8538d754f60a4902d3788638d23e90a70428bdf

[SeanBlog](#) / [app](#) / [models](#) / [user.rb](#)

100644 84 lines (67 sloc) 2.586 kb

[edit](#) [raw](#) [blame](#) [history](#)

```

1  require 'digest/sha1'
2  class User < ActiveRecord::Base
3    # Virtual attribute for the unencrypted password
4    attr_accessor :password
5
6    validates_presence_of :login, :email
7    validates_presence_of :password,                :if => :password_required?
8    validates_presence_of :password_confirmation,   :if => :password_required?
9    validates_length_of :password, :within => 4..40, :if => :password_required?
10   validates_confirmation_of :password,            :if => :password_required?
11   validates_length_of :login, :within => 3..40
12   validates_length_of :email, :within => 3..100
13   validates_uniqueness_of :login, :email, :case_sensitive => false
14   before_save :encrypt_password
15
16   # prevents a user from submitting a crafted form that bypasses activation
17   # anything else you want your user to change should be added here.
18   attr_accessible :login, :email, :password, :password_confirmation
19

```





Viewing Commits on Github

0 config.ru

```
... .. @@ -1,4 +1,8 @@
1 1   require 'sinatra'
2   +require 'rack-google-analytics'
3   +
4   +# Add google analytics tracker
5   +use Rack::GoogleAnalytics, :tracker => 'UA-13097791-1'
2 6
3 7   FileUtils.mkdir_p 'log' unless File.exists?('log')
4 8   log = File.new("log/sinatra.log", "a")
```

0 watched.it/app/controllers/beta_registrants_controller.rb

```
... .. @@ -1,18 +1,18 @@
1 1   class BetaRegistrantsController < ApplicationController
2   -
3 2   before_filter :ensure_instance_of_beta_registrant_available, :only => [:new, :create]
4 3
5 4   def new
6 5     #draw a form
7 6   +
8 7   end
9 8
10 9   - def create
11 10  - # process the railsish create
12 11  + def create
13 12     if @beta_registrant.update_attributes(params[:beta_registrant])
14 13     flash[:confirmation] = 'Thank you for registering your interest'
15 14     else
16 15     - flash[:error] = "Sorry, something went wrong"
17 16     + flash[:error] = 'Sorry, something went wrong'
18 17     end
19 18   + redirect_to('/')
```





Why Ruby is *awesome*

- ▶ It's a dynamically typed, pure object-oriented language with natural syntax and some functional elements
- ▶ It's highly reflective (for example, it lets you open classes back up at runtime and define new methods on them)
- ▶ It lets you write really elegant, beautiful code
- ▶ Focuses on the human element of coding - garbage collection is automatic, the language strives to be as unsurprising and natural as possible
- ▶ It's free, open source and developed and maintained by bright, passionate developers
- ▶ I can't qualify it but it's more fun programming in it than other languages!



Snippet 1: Hello World

```
# The Greeter class
class Greeter
  def initialize(name)
    @name = name.capitalize
  end

  def salute
    puts "Hello #{@name}!"
  end
end

# Create a new object
g = Greeter.new("world")

# Output "Hello World!"
g.salute
```





Snippet 2: Add methods to core classes on the fly

```
class Numeric
  def plus(x)
    self.+(x)
  end
end

y = 5.plus 6
# y is now equal to 11
```



Some fun projects on Github

- ▶ Toto - a lightweight blogging system which uses git itself to store blog entries
 - ▶ <http://github.com/cloudhead/toto>
- ▶ Coffee Script - Nice simple language that compiles to JavaScript
 - ▶ <http://github.com/jashkenas/coffee-script>
- ▶ Facebook's HipHop library - translates php into optimised C++
 - ▶ <http://github.com/facebook/hiphop-php>



Stuff to Read

- ▶ <http://www.github.com> - Github itself
- ▶ <http://whygitisbetterthanx.com> - Comparison of Git to other source control systems
- ▶ <http://tryruby.org> - Excellent interactive Ruby tutorial
- ▶ <http://www.rubyonrails.org> - Home of Rails



Questions?