



# Ruby on Rails

3-Day BootCamp



# Introductions

- Name
- Coding Experience
- What would you like to learn?



# Curriculum

- RoR Toolset
- Rails Walk-Through
- Gems and Deployment
- Full Apps and Ruby inside Rails

# Schedule

Times	Day 1	Day 2	Day 3
9am - 10:30	Tools	RubyToolBox	BootStrap
Break			
10:45 - 12	Scaffold and Views	Cucumber	RailsApps and Hobo / Spree
Lunch			
1pm - 2:30	Routes and Controllers	Devise	Calculator
Break			
2:45 - 4:30	Models and Testing	I18N and Haml	Translator

# Learning Goals

- Basic Rails
- Common Patterns and Practices
- Where to go for help

# Learning Path

- Experimentation
- Test First Teaching
- Ask Questions
- Resources for finding answers

# Structure

- Explanation (me talking)
- Demonstration (me typing)
- Experimentation (in-class coding)
- Questions

# RoR Tools

- RVM / Pik / Jewelry Box / Rb.Env
- Git / Github / Heroku
- Sublime / Vi / RubyMine
- RubyGems / RubyToolbox
- Testing / RSpec / Cucumber
- Terminal / irb / Rails Console

# RoR Resources

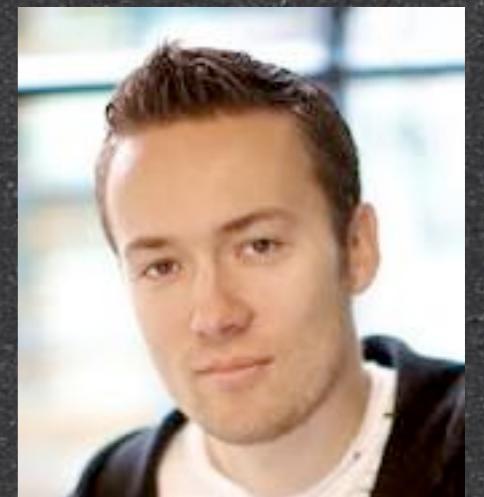
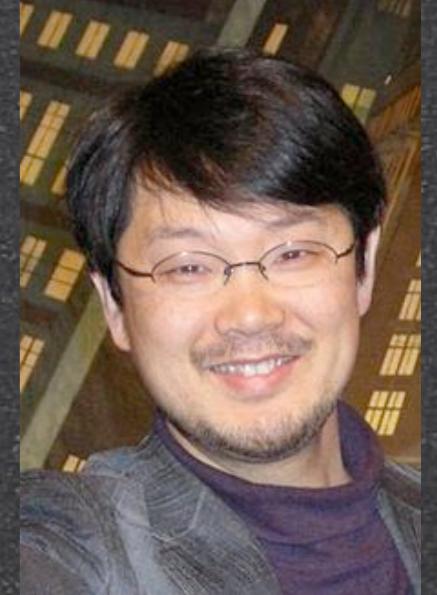
- RailsGuides - [guides.rubyonrails.org](http://guides.rubyonrails.org)
- Rails API - [api.rubyonrails.org](http://api.rubyonrails.org)
- RubyDoc - [ruby-doc.org](http://ruby-doc.org)
- RailsCasts - [railscasts.com](http://railscasts.com)
- Github ReadMe
- Ruby ToolBox - [www.ruby-toolbox.com](http://www.ruby-toolbox.com)

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# Ruby vs. Rails

- ➊ Ruby is the Language -
  - ➊ developed 1993
  - ➊ Yukihiro Matsumoto “Matz”
  
- ➋ Rails is the Framework -
  - ➋ developed 2004
  - ➋ David Heinemeier Hansson “DHH”



# The Ruby Way

- Written in C
- Influenced by SmallTalk & Pearl
- Ruby is for People
- MINSWAN
- OSS (Open Source Software)
- RubyGems

# The Rails Way

- Opinionated Software
- Convention over Configuration
- DRY (Don't Repeat Yourself)
- TDD (Test Driven Development)
- Less Code, More Productivity

# Tools

- Command Line
- Ruby / RubyGems
- Rails
- Source Control - Git
- IDE
- Deployment - Heroku

# Command Line

- Command Prompt (CLI)
- Mac: Terminal, iTerm, etc...
- Unix: bash, zsh, csh, etc....
- Windows: Command Prompt w/ Ruby on Rails

# Ruby

- Ruby -v
  - 1.9.2, 1.9.3, 2.0.0 (1.8.7)
- gem list
  - Bundler, Rake, rubygems, etc...

# RVM

# Ruby Version Manager

- rvm list
- rvm use
- rvm gemset list

• [rvm.io](http://rvm.io)



# Ruby Versions

- MRI, YARV, Standard Library, C-Ruby
- JRuby - Java
- Rubinius - Pure Ruby
- MagLev - SmallTalk
- MacRuby - Objective-C
- IronRuby - C# (for .Net)

# Rails

- Rails -v
- 2.0-3, 3.0-2, 4.0

# RVM Demo

- ➊ Gemset for Rails 4
  - ➋ rvm use --create 2.0.0@rails4
  - ➋ gem install rails --version 4.0.0.beta1
  - ➋ mkdir rvm\_test
  - ➋ cd rvm\_test
  - ➋ rvm --rvmrc --create

# Git

- which git
- git --version

# Git

- Source Control System
- Timeline, Track Changes
- Branching and Merging
- Code Safety



# Git Commands

- git clone / init
- git status
- git add / rm
- git commit
- git push
- git log

# Git Remotes

- GitHub - [www.github.com](http://www.github.com)
- Heroku - [www.heroku.com](http://www.heroku.com)

# Git Help

- Git Site - [git-scm.com](http://git-scm.com)
- Git Immersion - [gitimmersion.com](http://gitimmersion.com)
- GitHub Help - [help.github.com](http://help.github.com)

# Git Demo

- ➊ mkdir git\_test
- ➋ cd git\_test
- ➌ git init
- ➍ touch test\_file.txt
- ➎ git status
- ➏ git add .
- ➐ git commit -m “add a file”
- ➑ git status

# Git Demo

```
• cd ..  
• git clone git_test/.git clone_test  
• cd clone_test  
• ls  
• git remote -v  
• touch clone.txt  
• git commit -am “add another file”  
• git push
```

# Editor

- Sublime Text 2 / TextMate
- RubyMine
- KomodoEdit
- Eclipse
- Vi / Vim / Emacs

# Sublime Text 2

## • Command line alias

- Win: doskey subl="C:\Program Files\Sublime Text 2\sublime\_text.exe" \$\*
- Mac: ln -s "/Applications/Sublime Text 2.app/Contents/SharedSupport/bin/subl" ~/bin/subl
- Linux: sudo ln -s /opt/SublimeText2/sublime\_text /usr/bin/subl

## • How to Open a folder

Command line alias

Win: doskey subl="C:\Program Files\Sublime Text 2\sublime\_text.exe" \$\*

Mac: ln -s "/Applications/Sublime Text 2.app/Contents/SharedSupport/bin/subl" ~/bin/subl

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How to Open a folder

# BREAK!

- 10-15 minutes

# Rails

- New Rails App
- Modify the HomePage
- Scaffold
- MVC
- Layers

# Create a New App

- rails
- Shows Options
- rails new <app\_name> --options

# Create a Class Management App

- We want an app to manage Students, Classes, and Teachers
- rails new class\_mngmt

```
rails new class_mngmt
```

# The Application Directory

- The Root of our App: Rails root
- Entire App in one directory!

# Run the App

- cd class\_mngmt
- rails
  - see rails commands
- rails server

rails server

# Save a Baseline with git

- git init
- git add .
- git commit -m “add a bare rails app to track changes”

```
git init
git add .
git commit -m "add bare rails app to track"
```

# Modify the HomePage

- public/index.html
- public folder contains static content

# Scaffolding

- rails generate
- see the generators
- rails g scaffold Student full\_name  
age:integer bio:text title

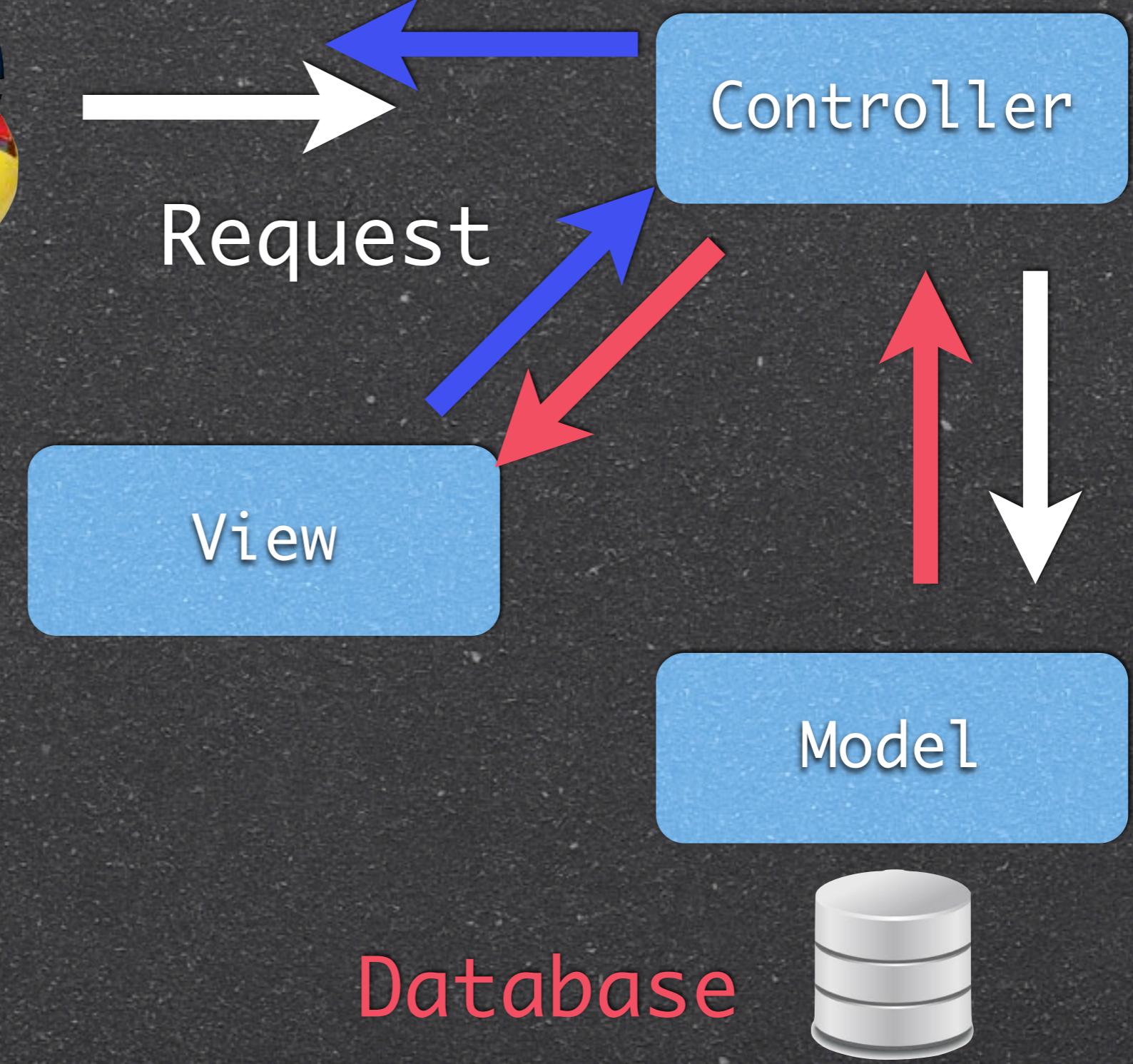
```
rails g scaffold Student full_name age:integer bio:text title
```

# MVC



Browser

Response



Database



# Shorten Bio Demo

- Shorten the bio on the view page
- Add a read more link

# Helpers

- Presentation Logic
- Presenter Pattern
- Ruby Module - Included on all views
- Method Definitions
- Help generate html

# View Exercise

- On the main Student page
  - Change the Listing Students to My Students or All Students
  - Show only the Full Name and title
  - Have the Full Name link to the view page

# Lunch!

- 12pm - 1pm

# Routing

- rake routes
- public folder

# hello.html

- ➊ create a hello file
- ➋ find it in the browser

# RESTful Routes

- Representational State Transfer (REST)
- [guides.rubyonrails.org/routing.html](https://guides.rubyonrails.org/routing.html)

# Controller Actions

- index, show, new, edit, create, update, destroy

# New Controller

• rails g controller Welcome

# Welcome

- put hello.html in the welcome folder
- app/views/welcome/hello.html

# Find it!

• <http://localhost:3000/welcome/hello>

# Break!

- 10-15 minutes

# Active Record

- ➊ Ruby Driven Schema
- ➋ Where are the methods?

# Students Manage Their Courses

- As a student we want to add our courses.

# Add Courses

- rails g model Course title  
description:text student\_id:integer

# Relationships

- Student has many courses
- A Course belongs\_to a Student

# 3 Kinds of Relationships

- one-to-one
- one-to-many
- many-to-many

# Rails DB / Console

- rails db
  - login with the db credentials
- rails console
  - irb with your app loaded

# Add email to Student

- rails g migration AddEmailToStudents  
email

# Test Driven Rails

- add rspec
- test drive our business rules

# Validations & callbacks

- [guides.rubyonrails.org/  
active\\_record\\_validations\\_callbacks.h  
tml](http://guides.rubyonrails.org/active_record_validations_callbacks.html)
- Validate a Student has a name

# Validate the student email

- presence and format

# Scopes and QI

- saved sql queries
- [http://guides.rubyonrails.org/active\\_record\\_querying.html](http://guides.rubyonrails.org/active_record_querying.html)

# Environments

- development
- test
- production

# Deployment

- Heroku
  - Free cloud VPS, backed by Amazon
  - Uses git for deployment

# Heroku Accounts

- Signup at [Heroku.com](http://Heroku.com)
- Download the toolbelt:  
[toolbelt.heroku.com](http://toolbelt.heroku.com)

# Deploy!

- heroku create <app name>
- Modify Gemfile
- update git
- git push heroku master

# Rails App Walk Through

- What is all this stuff?!

# Questions?

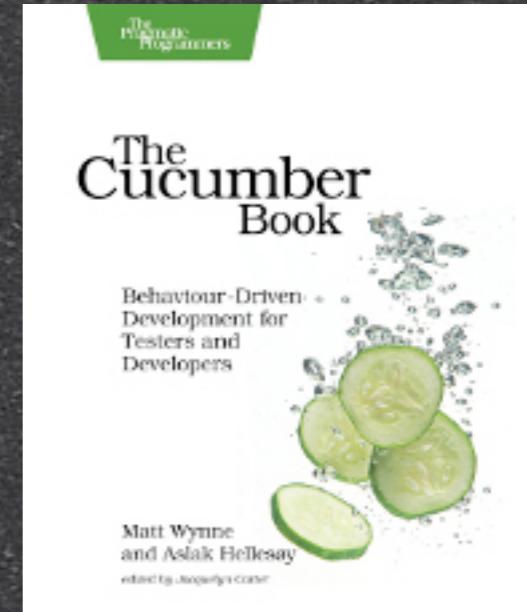
• ??

# Day 2

- Integration Testing
- Gems!
- Authentication
- Internationalization
- Haml and Draper

# Integration Testing

- Cucumber
- User Stories
- Given-When-Then
- MVC testing
- Tests with direct business value



# Cucumber

```
group :test do
  gem 'rspec-rails'
  gem 'cucumber-rails'
  gem 'capybara'
  gem 'database_cleaner'
end
```

# Cucumber

- rails generate rspec:install
- rails generate cucumber:install --capybara

# Cucumber

- Add Features
- Write Steps
- Make them Pass!

# Break!

- 15 minutes

# Gems!

- There's a Gem for that!

# Finding and Picking Gems



<https://www.ruby-toolbox.com>

# Gem Project

- Github
- README
- Getting Started Guide
- Travis CI
- Code Climate

# Devise Demo

- Pick Devise for Student Authentication!

# Devise Exercise

• [https://github.com/nirds/RoR3DayBC/  
tree/master/devise](https://github.com/nirds/RoR3DayBC/tree/master/devise)

# Lunch

- 12pm - 1pm

# I18N

- Internationalization!

# Haml

- Alternative to ERB

# Draper

- Decorator pattern in Rails

# Formtastic

- Building forms in Rails

# BootStrap

- Twitter allows developers to make pretty things too!

# Putting it All Together

- Building a working, pretty, useful app.

# Ruby Demo

• Let's talk about Ruby!

# Calculator Exercise

- ➊ Clone the Repo
- ➋ Run the tests
- ➌ Make them pass

# Translator Exercise

- Create a new app
- Incorporate some tests
- Make them pass