



Developing Amazing Web Apps with Ruby on Rails

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GROUPON[®]



Harvard Class of 2017

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What is RoR?

Framework



Model View Controller



```
unsigned int DJBHash(const char* str)
{
    unsigned int hash = 5381;

    for(int i = 0; i < strlen(str); i++)
    {
        hash = ((hash << 5) + hash) + str[i];
    }

    return hash;
}
```



```
dictionary = Hash.new  
dictionary["foo"] = true
```

```
if dictionary["foo"] == true  
  return true
```

Gems

Plenty of help online

FUN!

Just like C...

- puts "Hello World"
- x = 1
- while x < 50
- if x > 25
- puts "Big!"
- else
- puts "Small..."
- end
- x += 1
- end

But more powerful!

- `x = 5`
- `puts "I am #{x}" if x > 3`
- `list = ["John", 4, 2]`
- `list << 3`
- `List.each do |elem|`
- `puts elem`
- `end`

Ruby + HTML

- `<body>`
- `<% if user.logged_in? %>`
- `<div>Welcome <%= user.name %></div>`
- `<% end %>`
- `</body>`

Resources

- <http://ruby-lang.org>
- <http://tryruby.org>
- <http://codecademy.com>



RAILS is LOVE

Why Rails?

- MVC makes everything simpler
- Less time spent on low-level problems
- Very popular right now! Rails 4.0!

- app
- config
- config.ru
- db
- doc
- Gemfile
- Gemfile.lock
- lib
- log
- public
- Rakefile
- README.rdoc
- script
- test
- tmp
- vendor

- assets
- controllers
- helpers
- mailers
- models
- views

- activation_controller.rb
- application_controller.rb
- books_controller.rb
- countdown_controller.rb
- profile_controller.rb
- sessions_controller.rb
- songs_controller.rb
- students_controller.rb

Model

- Each table in the Database has a corresponding model
- rails generate model User email:string password:string
- Database relations - has_many/belongs_to

✖ student.rb

✖ book.rb

```
class Book < ActiveRecord::Base
  attr_accessible :author, :description, :genre, :title

  belongs_to :student

  def self.sorted_all
    elems = Book.all
    elems.sort! do |a, b|
      b.created_at <=> a.created_at
    end
    elems
  end
end
```

View



HTML & CSS

```
<!DOCTYPE html>
<html>
<head>
  <title>Harvard 2017</title>
  <%= stylesheet_link_tag      "application", media: "all", "data-turbolinks-track" => true %>
  <%= javascript_include_tag  "application", "data-turbolinks-track" => true %>
  <%= csrf_meta_tags %>
</head>
<body>

<%= yield %>

</body>
</html>
```

```
<p id="notice"><%= notice %></p>
```

```
<h1>Listing books</h1>
```

```
<table>
```

```
  <tr>
```

```
    <th>Title</th>
```

```
    <th>Author</th>
```

```
    <th>Description</th>
```

```
    <th>Genre</th>
```

```
    <th></th>
```

```
    <th></th>
```

```
    <th></th>
```

```
  </tr>
```

```
<%= @books.each do |book| %>
```

```
  <tr>
```

```
    <td><%= book.title %></td>
```

```
    <td><%= book.author %></td>
```

```
    <td><%= book.description %></td>
```

```
    <td><%= book.genre %></td>
```

```
    <td><%= link_to 'Show', book %></td>
```

```
    <td><%= link_to 'Edit', edit_book_path(book) %></td>
```

```
    <td><%= link_to 'Destroy', book, method: :delete, data: { confirm: 'Are you sure?' } %></td>
```

```
  </tr>
```

```
<%= end %>
```

```
</table>
```

Controller

- Interface between Model and View
- Loads Information for the view
- Calls methods from Model

```
class BooksController < ApplicationController
  before_filter :filter_guests

  # GET /books
  # GET /books.json
  def index
    @books = BookLog.sorted_all

    respond_to do |format|
      format.html # index.html.erb
      format.json { render json: @books }
    end
  end

  # GET /books/:id/new
  # GET /books/:id/new.json
  def new
    @student = Student.find(params[:id])

    if @student.songs.present?
      redirect_to song_error_path
    else
      respond_to do |format|
        format.html # new.html.erb
        format.json { render json: @book }
      end
    end
  end
end
```


Installing Rails

- <http://rubyonrails.org/download>
- http://guides.rubyonrails.org/getting_started.html
- Appliance
- Windows
- Mac

Questions?!

