
RAILS FOR
ZOMBIES

DEEP IN THE CRUD

LEVEL 1

TWITTER FOR ZOMBIES

DB TABLE

Columns
(we have 3)

tweets

Rows
(we have 4)

	A	B
1	Where can I get a good bite to eat?	Ash
2	My left arm is missing, but I don't care.	Bob
3	I just ate some delicious brains.	Jim
4	OMG, my fingers turned green. #FML	Ash

id

status

zombie

Zombie Challenge #1

Retrieve the Tweet object with id = 3

Hash

Series of key value pairs

Single key & value

```
b = { id: 3 }
```

Multiple keys & values

```
b = { id: 3,
      status: "I just ate some delicious brains",
      zombie: "Jim" }
```

Hash Recipe: `variable = { key: value }`

Hash

Series of key value pairs

keys	values
:id	3
:status	"I just ate some delicious brains"
:zombie	"Jim"

Symbols

```
b = { id: 3,
      status: "I just ate some delicious brains",
      zombie: "Jim" }
```

Hash

Read the value

RETRIEVE

```
b = { id: 3,
      status: "I just ate some delicious brains",
      zombie: "Jim" }
```

```
b[:status]
```

```
=> "I just ate some delicious brains"
```

```
b[:zombie]
```

```
=> "Jim"
```

```
b[:zombie] + " said " + b[:status]
```

```
=> "Jim said I just ate some delicious brains"
```

read recipe: `variable[:key] => value`

Zombie Challenge #1

Retrieve the Tweet object with id = 3

Result

```
{ id: 3,
  status: "I just ate some delicious brains",
  zombie: "Jim" }
```

tweets

id	status	zombie
1	Where can I get a good bite to eat?	Ash
2	My left arm is missing, but I don't care.	Bob
3	I just ate some delicious brains.	Jim
4	OMG, my fingers turned green. #FML	Ash

Zombie Challenge #1

RETRIEVE

Retrieve the Tweet object with id = 3

Answer

```
t = Tweet.find(3)
```

Result

```
{ id: 3,
  status: "I just ate some delicious brains",
  zombie: "Jim" }
```

Accessing tables

CASE & TENSE

tweets Lowercase & Plural Table Name

id	status	zombie
1	Where can I get a good bite to eat?	Ash
2	My left arm is missing, but I don't care.	Bob
3	I just ate some delicious brains.	Jim
4	OMG, my fingers turned green. #FML	Ash

will allow you to access

Answer

Singular & Uppercase Table Name

```
t = Tweet.find(3)
```

tweets

RETRIEVE

id	status	zombie
1	Where can I get a good bite to eat?	Ash
2	My left arm is missing, but I don't care.	Bob
3	I just ate some delicious brains.	Jim
4	OMG, my fingers turned green. #FML	Ash

```
t = Tweet.find(3)
```

```
puts t[:id]
```

```
   => 3
```

```
puts t[:status]
```

```
   => "I just ate some delicious brains."
```

```
puts t[:zombie]
```

```
   => "Jim"
```

Alternate Syntax


```
puts t[:id]                                    puts t.id
   => 3
puts t[:status]                                puts t.status
   => "I just ate some delicious brains."
puts t[:zombie]                                puts t.zombie
   => "Jim"
```

HASH vs DOT SYNTAX

Student Question: Should I use the hash or dot syntax?

You can use EITHER syntax. It comes down to personal preference.

Zombie Challenge #2

CASE & TENSE

Retrieve the Weapon object with id = 1

Answer

```
w = Weapon.find(1)
```

weapons

id	name
1	Ash
2	Bob
3	Jim

CRUD

Create

```
t = Tweet.new
t.status = "I <3 brains."
t.save
```

Read

```
Tweet.find(3)
```

Update

```
t = Tweet.find(3)
t.zombie = "EyeballChomper"
t.save
```

Delete

```
t = Tweet.find(3)
t.destroy
```

Create a zombie

CREATE

```
t = Tweet.new
t.status = "I <3 brains."
t.save
```

- how delicious -
The id gets set for us

Alternate Syntax

```
t = Tweet.new(
    status: "I <3 brains",
    zombie: "Jim")
t.save
```

```
Tweet.create(status: "I <3
brains", zombie: "Jim")
```

Recipe

```
t = TableName.new
t.key = value
t.save
```

```
t = TableName.new(hash)
t.save
```

```
TableName.create(hash)
```

Read


```
Tweet.find(2)
```

=> Returns a single tweet with id of 2

```
Tweet.find(3, 4, 5)
```

=> Returns an array of tweets, id of 3, 4, or 5

```
Tweet.first
```

=> Returns the first tweet

```
Tweet.last
```

=> Returns the last tweet

```
Tweet.all
```

=> Returns all the tweets

Recipes to Read

READ

```
Tweet.count
```

=> Returns total number of tweets

```
Tweet.order(:zombie)
```

=> Returns all tweets, ordered by zombies

```
Tweet.limit(10)
```

=> Returns the first 10 tweets

```
Tweet.where(zombie: "ash")
```

=> Returns all tweets from zombie named ‘ash’

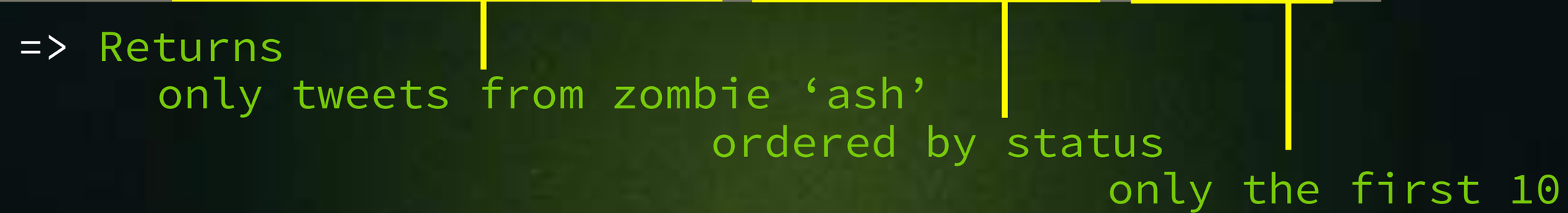
We can combine any of these read methods together to add constraints

Method Chaining

Method Chaining

READ

```
Tweet.where(zombie: "ash").order(:status).limit(10)
```



=> Returns
only tweets from zombie ‘ash’
ordered by status
only the first 10

```
Tweet.where(zombie: "ash").first
```

=> Returns
only tweets from ‘ash’
just the first one

Update a zombie

CREATE

```
t = Tweet.find(3)
t.zombie = "EyeballChomper"
t.save
```

Alternate Syntax

```
t = Tweet.find(2)
t.attributes = {
  status: "Can I munch your eyeballs?",
  zombie: "EyeballChomper" }
t.save
```

```
t = Tweet.find(2)
t.update(
  status: "Can I munch your eyeballs?",
  zombie: "EyeballChomper")
```

Recipe

```
t = TableName.find(id)
t.key = value
t.save
```

```
t = TableName.find(id)
t.attributes = hash
t.save
```

```
t = Tweet.find(2)
t = TableName.update(hash)
```

Delete a zombie

Recipe

```
t = Tweet.find(2)
t.destroy
```

```
t = Table.find(id)
t.destroy
```

Alternate Syntax

```
Tweet.find(2).destroy
```

```
TableName.find(id).destroy
```

```
Tweet.destroy_all
```

```
TableName.destroy_all
```

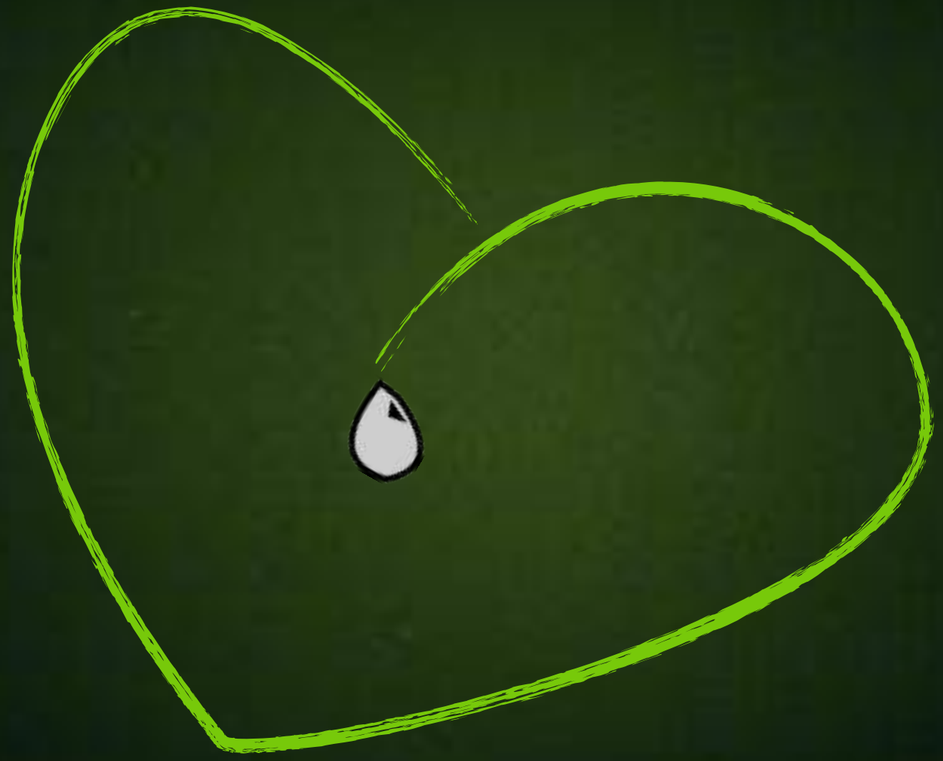
MODELS
LIFEBLOOD OF THE APP

LEVEL 2

Model

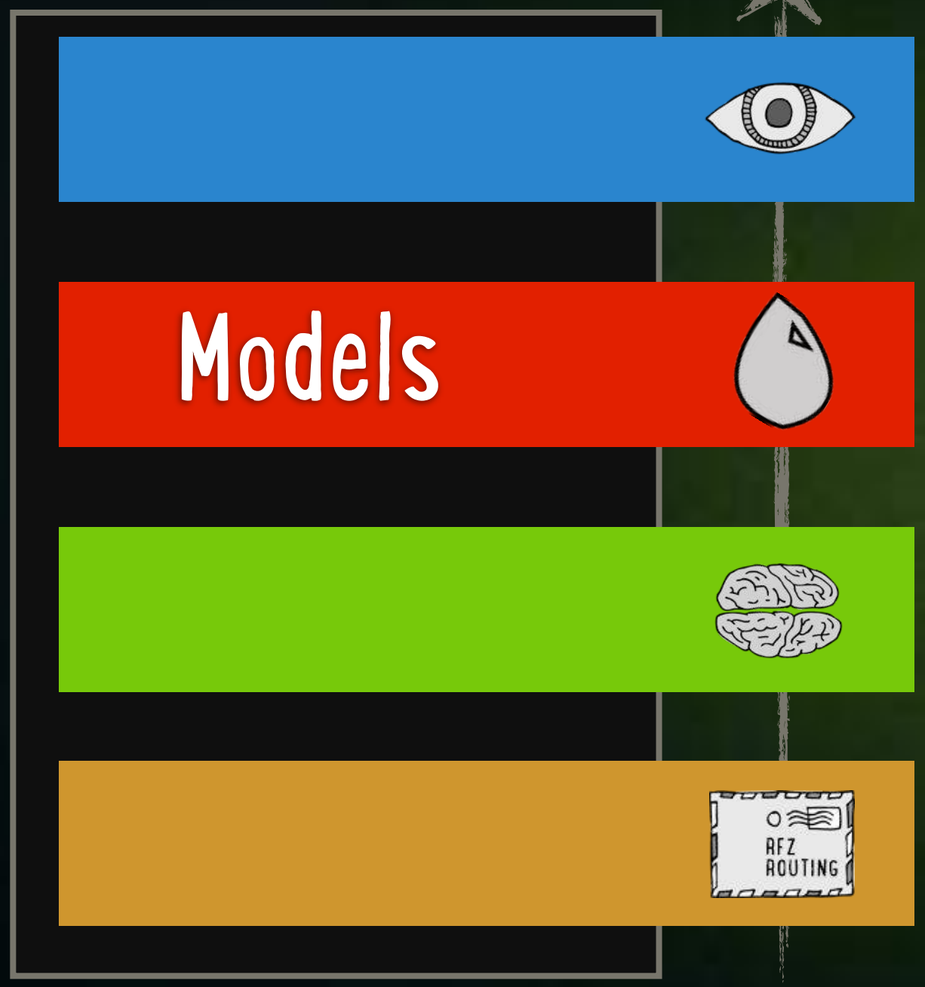
How your Rails application communicates with a data store

MODELS



The Lifeblood of the application

Application Stack



ROUTING

MODELS

```
t = Tweet.find(3)
```

app/models/tweet.rb

```
class Tweet < ActiveRecord::Base

end
```

tweets

id	status	zombie
1	Where can I get a good bite to	Ash
2	My left arm is missing, but I	Bob
3	I just ate some delicious	Jim
4	OMG, my fingers turned green.	Ash

MODELS

Tweet

app/models/tweet.rb

```
class Tweet < ActiveRecord::Base

end
```

Maps the class to the table

tweets

id	status	zombie
1	Where can I get a good bite to	Ash
2	My left arm is missing, but I	Bob
3	I just ate some delicious	Jim
4	OMG, my fingers turned green.	Ash

MODELS

app/models/tweet.rb

```
class Tweet < ActiveRecord::Base

end
```

(Instance of Tweet #3)

```
t = Tweet.find(3)
```

Class

tweets

id	status	zombie
1	Where can I get a good bite to	Ash
2	My left arm is missing, but I	Bob
3	I just ate some delicious	Jim
4	OMG, my fingers turned green.	Ash

Validations

tweets

id	status	zombie
1	Where can I get a good bite to	Ash
2	My left arm is missing, but I	Bob
3	I just ate some delicious	Jim
4	OMG, my fingers turned green.	Ash
5		

```
t = Tweet.new
t.save
```

Ack, we don't want to create a blank Tweet!

VALIDATIONS

app/models/tweet.rb

```
class Tweet < ActiveRecord::Base
  validates_presence_of :status
end
```

```
>> t = Tweet.new
=> #<Tweet id: nil, status: nil, zombie: nil>

>> t.save
=> false

>> t.errors.messages
=> {status:["can't be blank"]}

>> t.errors[:status][0]
=> "can't be blank"
```

VALIDATIONS

```
validates_presence_of :status

validates_numericality_of :fingers

validates_uniqueness_of :toothmarks

validates_confirmation_of :password

validates_acceptance_of :zombification

validates_length_of :password, minimum: 3

validates_format_of :email, with: /regex/i

validates_inclusion_of :age, in: 21..99

validates_exclusion_of :age, in: 0...21,
                       message: “Sorry you must be over 21”
```

VALIDATIONS

Attribute

Validation

```
validates :status, presence: true
validates :status, length: { minimum: 3 }
```

Alternate Syntax

```
validates :status,
          presence: true,
          length: { minimum: 3 }

          presence: true
          uniqueness: true
          numericality: true
          length: { minimum: 0, maximum: 2000 }
          format: { with: /.*/ }
          acceptance: true
          confirmation: true
```

Additional Options

RELATIONSHIPS

Because they always travel in packs

RELATIONSHIPS

tweets

id	status	zombie
1	Where can I get a good bite to eat?	Ash
2	My left arm is missing, but I don't	Bob
3	I just ate some delicious brains.	Jim
4	OMG, my fingers turned green. #FML	Ash

We want to store zombies in their own table!

RELATIONSHIPS

tweets

id	status	zombie_id
1	Where can I get a good bite to eat?	1
2	My left arm is missing, but I don't	2
3	I just ate some delicious brains.	3
4	OMG, my fingers turned green. #FML	1

RELATIONSHIPS

tweets

id	status	zombie_id
1	Where can I get a good bite to eat?	1
2	My left arm is missing, but I don't	2
3	I just ate some delicious brains.	3
4	OMG, my fingers turned green. #FML	1

zombies

id	name	graveyard
1	Ash	Glen Haven Memorial Cemetery
2	Bob	Chapel Hill Cemetery
3	Jim	My Father's Basement

RELATIONSHIPS

zombies

id	name	graveyard
1	Ash	Glen Haven Memorial Cemetery
2	Bob	Chapel Hill Cemetery
3	Jim	My Father's Basement

a Zombie
HAS MANY
Tweets

app/models/zombie.rb

```
class Zombie <
ActiveRecord::Base
  has_many :tweets

end
```

Plural

tweets

id	status	zombie_id
1	Where can I get a good bite to eat?	1
2	My left arm is missing, but I don't	2
3	I just ate some delicious brains.	3
4	OMG, my fingers turned green. #FML	1

RELATIONSHIPS

tweets

id	status	zombie_id
1	Where can I get a good bite to eat?	1
2	My left arm is missing, but I don't	2
3	I just ate some delicious brains.	3
4	OMG, my fingers turned green. #FML	1

a Tweet
BELONGS TO
a Zombie

zombies

id	name	graveyard
1	Ash	Glen Haven Memorial
2	Bob	Chapel Hill Cemetery
3	Jim	My Father's Basement

app/models/tweet.rb

```
class Tweet < ActiveRecord::Base
  belongs_to :zombie


end
```

Singular

Using Relationships


```
> ash = Zombie.find(1)
  => #<Zombie id: 1, name: "Ash", graveyard: "Glen Haven Memorial Cemetery">

> t = Tweet.create(status: "Your eyelids taste like bacon.",
                   zombie: ash)
 => #<Tweet id: 5, status: "Your eyelids taste like bacon.", zombie_id: 1>

> ash.tweets.count
  => 3
> ash.tweets
=> [#<Tweet id: 1,
           status: "Where can I get a good bite to eat?", zombie_id: 1>,
    #<Tweet id: 4,
           status: "OMG, my fingers turned green. #FML", zombie_id: 1>,
    #<Tweet id: 5,
           status: "Your eyelids taste like bacon.", zombie_id: 1>]
```

RELATIONSHIPS

tweets

id	status	zombie_id
1	Where can I get a good bite to eat?	1
2	My left arm is missing, but I don't	2
3	I just ate some delicious brains.	3
4	OMG, my fingers turned green. #FML	1
5	Your eyelids taste like bacon.	1

zombies

id	name	graveyard
1	Ash	Glen Haven Memorial Cemetery
2	Bob	Chapel Hill Cemetery
3	Jim	My Father's Basement

Using Relationships


```
> t = Tweet.find(5)
 => #<Tweet id: 5, status: "Your eyelids taste like bacon.",
zombie_id: 1>

> t.zombie
 => #<Zombie id: 1,
             name: "Ash",
             graveyard: "Glen Haven Memorial Cemetery">
> t.zombie.name
 => "Ash"
```

VIEW VISUAL REPRESENTATION

LEVEL 3

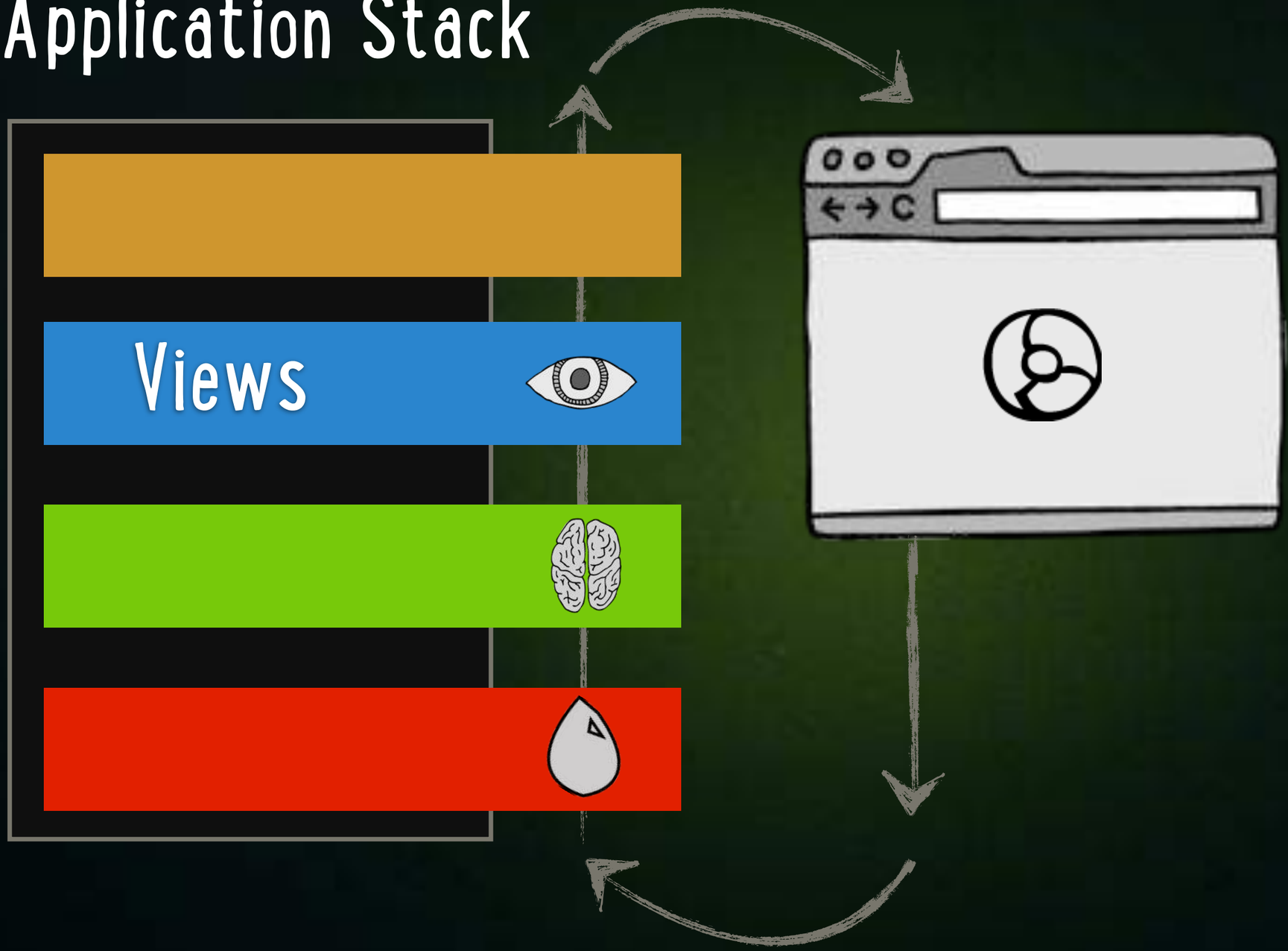
View

User Interface. What we see.

VIEWS

The **Visual Representation**
of the application

Application Stack



VIEWS

ERB

~~Edible Rotting Bodies~~

Ruby inside HTML

Embedded Ruby

Show a tweet

/app/views/tweets/show.html.erb

SHOW

```
<!DOCTYPE html>
<html>
 <head><title>Twitter for Zombies</title>
 <body>
   <header>...</header>

   <% tweet = Tweet.find(1) %>
   <h1><%= tweet.status %></h1>
   <p>Posted by <%= tweet.zombie.name %><
 </body>
</html>
```

Evaluate Ruby: <% ... %> Evaluate Ruby & Print Result: <%=

Show a tweet

/app/views/tweets/show.html.erb

```
<!DOCTYPE html>
<html>
 <head><title>Twitter for Zombies</title></head>
 <body>
   <header>...</header>

   <% tweet = Tweet.find(1) %>
   <h1><%= tweet.status %></h1>
   <p>Posted by <%= tweet.zombie.name %></p>

 </body>
</html>
```

SHOW

– Rotten Code –
We are repeating this in multiple views.

Evaluate Ruby: `<% ... %>` Evaluate Ruby & Print Result: `<%= ... %>`

Show a tweet

SHOW

/app/views/layouts/application.html.erb

```
<!DOCTYPE html>
<html>
 <head><title>Twitter for Zombies</title></head>
 <body>
   <header>...</header>
   <%= yield %>
 </body>
</html>
```

- Tasty Code -
Every page we create
uses this template by default

/app/views/tweets/show.html.erb

```
<% tweet = Tweet.find(1) %>
<h1><%= tweet.status %></h1>
<p>Posted by <%= tweet.zombie.name %></p>
```

Show a tweet

/app/views/tweets/show.html.erb


```
<% tweet = Tweet.find(1) %>
<h1><%= tweet.status %></h1>
<p>Posted by <%= tweet.zombie.name %></p>
```

How do we make this a link ??

Create a Link

```
<%= link_to tweet.zombie.name, zombie_path(tweet.zombie) %>
```

Alternate Syntax

```
<%= link_to tweet.zombie.name, tweet.zombie %>
```

As with tweets, shorter is better.

Link Recipe

```
<%= link_to text_to_show, object_to_show %>
```

Show a tweet

/app/views/tweets/show.html.erb


```
<% tweet = Tweet.find(1) %>
<h1><%= tweet.status %></h1>
<p>Posted by <%= link_to tweet.zombie.name, tweet.zombie %> </p>
```

Show a tweet

/app/views/tweets/show.html.erb


```
<% tweet = Tweet.find(1) %>
<h1><%= tweet.status %></h1>
<p>Posted by <%= link_to tweet.zombie.name, tweet.zombie %> </p>
```

Student Question:

What options can we use with link_to?

We'll Billy, we are glad you asked!
Our next topic happens to be:

Looking up Documentation

Options for link_to

1. Look in the source

Open your editor and search for "def link_to"

Command Line

```
git clone http://github.com/rails/rails.git
cd rails
grep -rin “def link_to”
```

Options for link_to

1. Look in the source
   Open your editor and search for "def link_to"

2. Look at api.rubyonrails.org
   (and search for link_to)

Options

- `:data` - This option can be used to add custom data attributes.
- `method: symbol of HTTP verb` - This modifier will dynamically create an HTML form and immediately submit the form for processing using the HTTP verb specified. Useful for having links perform a POST operation in dangerous actions like deleting a record (which search bots can follow while spidering your site).

Data attributes

- `confirm: 'question?'` - This will allow the unobtrusive JavaScript driver to prompt with the question specified. If the user accepts, the link is processed normally, otherwise no action is taken.

```
link_to(body, url, html_options = {})
  # url is a String; you can use URL helpers like
  # posts_path

link_to(body, url_options = {}, html_options = {})
  # url_options, except :method, is passed to url_

link_to(options = {}, html_options = {}) do
  # block
end
```

Options for link_to

LINK

1. Look in the source

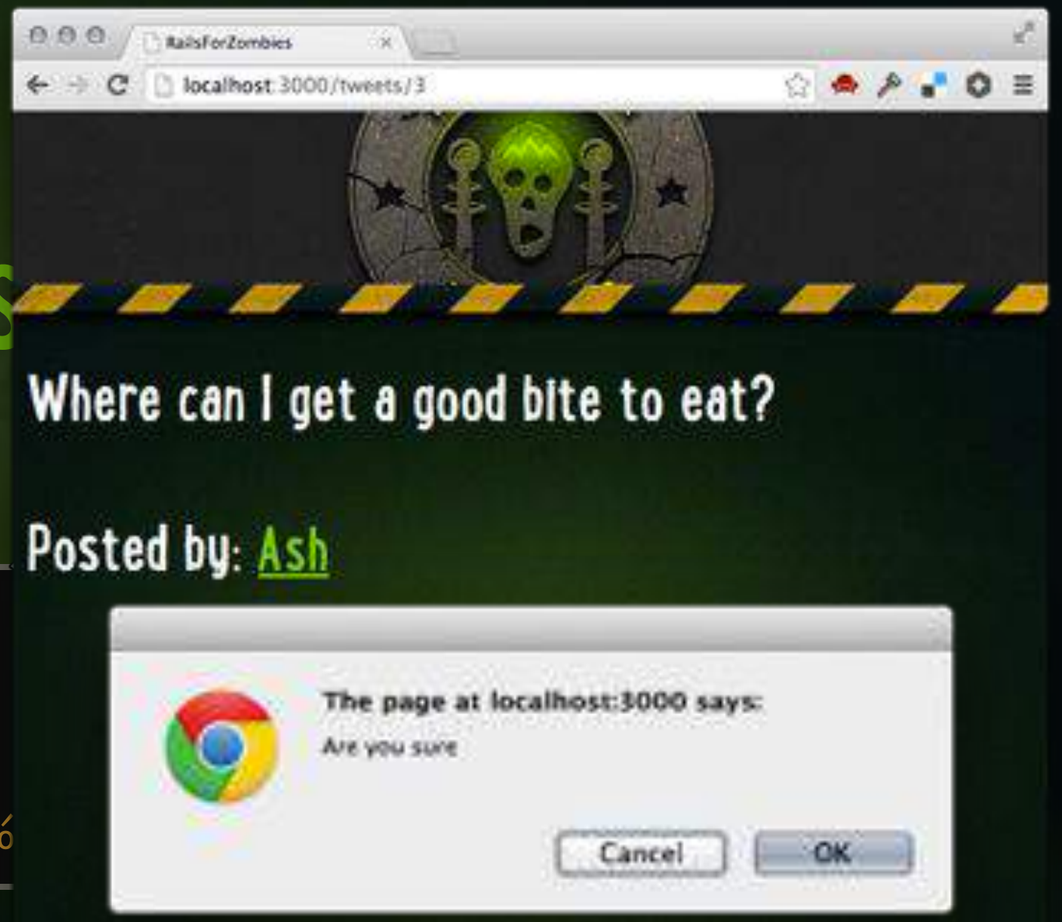
Open your editor and search for "def link_to"

2. Look at api.rubyonrails

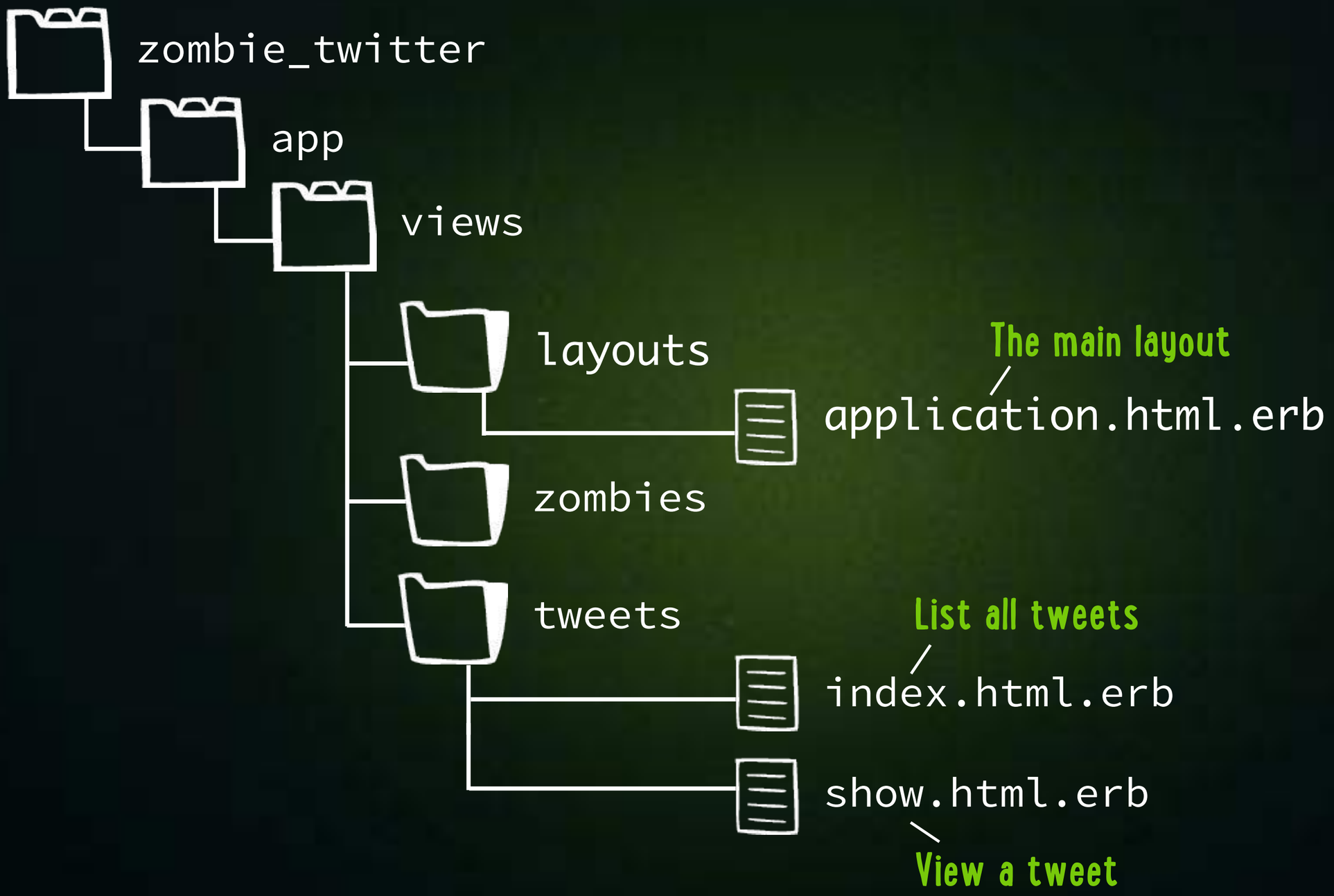
(and search for link_to)

/app/views/tweets/show.html.erb

```
...
<%= link_to tweet.zombie.name,
            tweet.zombie,
            confirm: "Are you sure?" %
```



VIEWS


zombie_twitter
app
views
layouts
The main layout
application.html.erb
zombies
tweets
List all tweets
index.html.erb
show.html.erb
View a tweet

List Tweets

/app/views/tweets/index.html.erb

```
<h1>Listing tweets</h1>
<table>
  <tr>
    <th>Status</th>
    <th>Zombie</th>
  </tr>
<% Loop through each tweet %>
  <tr>
    <td><%= tweet.status %></td>
    <td><%= tweet.zombie.name %></td>
  </tr>
<% end %>
</table>
```

List Tweets

/app/views/tweets/index.html.erb

```
<h1>Listing tweets</h1>
<table>
  <tr>
    <th>Status</th>
    <th>Zombie</th>
  </tr>
<% Tweet.all.each do |tweet| %>
  <tr>
    <td><%= tweet.status %></td>
    <td><%= tweet.zombie.name %></td>
  </tr>
<% end %>
</table>
```

What they return

`Tweet`	class
`Tweet.all`	array of tweets
`tweet`	single tweet

Create Links

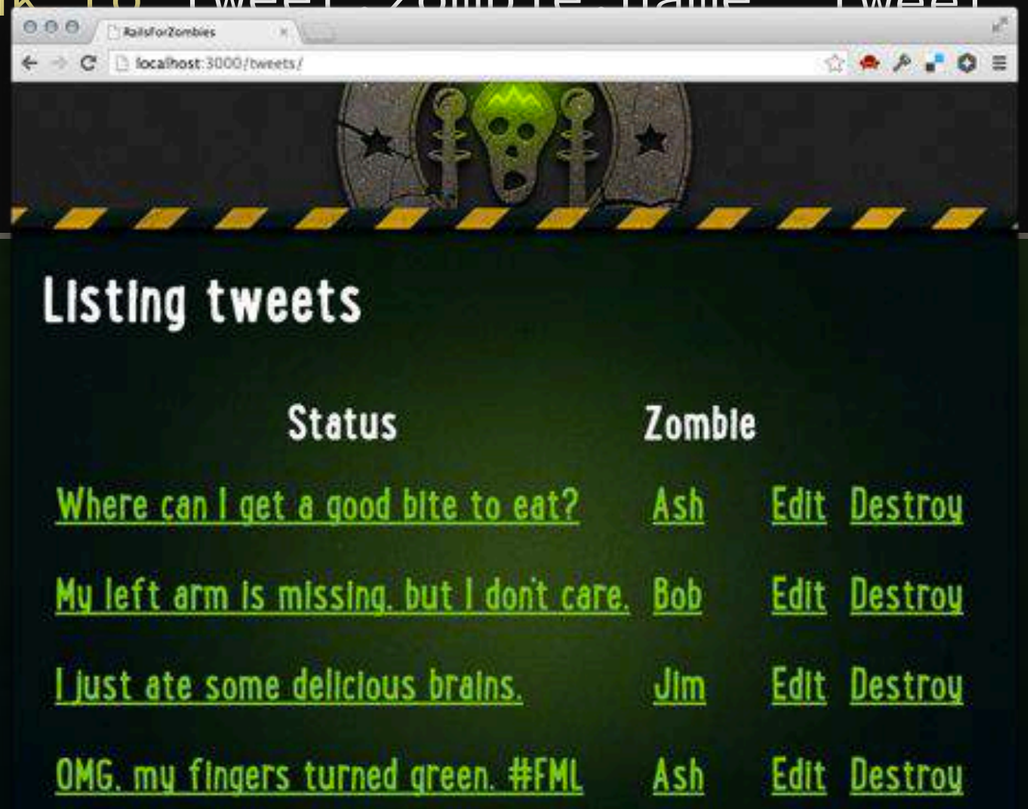
/app/views/tweets/index.html.erb

```
<% Tweet.all.each do |tweet| %>
  <tr>
    <td><%= tweet.status %></td>
    <td><%= tweet.zombie.name %></td>
  </tr>
<% end %>
```

Create Links

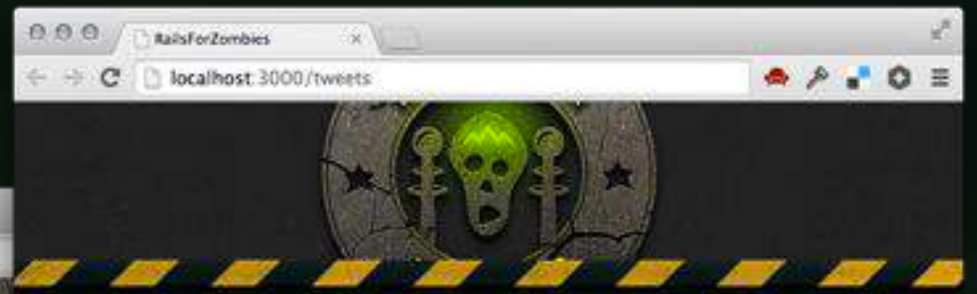
/app/views/tweets/index.html.erb

```
<% Tweet.all.each do |tweet| %>
  <tr>
    <td><%= link_to tweet.status, tweet %></td>
    <td><%= link_to tweet.zombie.name, tweet.zombie %></td>
  </tr>
<% end %>
```



Empty Table?

VIEWS



Listing tweets

Status Zombie

Listing tweets

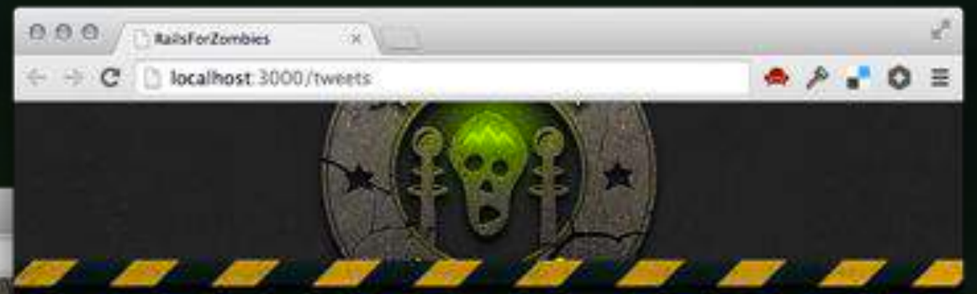
Status Zombie

No Tweets Found

```
<% Tweet.all.each do |tweet| %>
   ...
<% end %>
```

Empty Table?

VIEWS



Listing tweets

Status Zombie

Listing tweets

Status Zombie

No Tweets Found

```
<% tweets = Tweet.all

   tweets.each do |tweet| %>
   ...
<% end %>
```

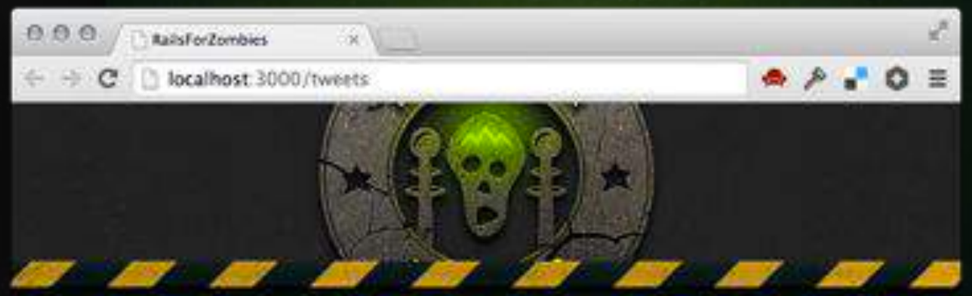
Empty Table?

```
<% tweets = Tweet.all %>
<% tweets.each do |tweet| %>
   ...
<% end %>
<% if tweets.size == 0 %>
   <em>No tweets found</em>
<% end %>
```

VIEWS

Listing tweets

Status Zombie



Listing tweets

Status Zombie

No Tweets Found

Edit & Delete Links

VIEWS

```
<% tweets.each do |tweet| %>
  <tr>
    <td><%=
    <td><%=                                    nbie %></td>
    <td><%=                                    et) %></td>
    <td><%=                                    :delete %></td>
  </tr>
<% end %>
```

All Links For Tweets

VIEWS

Action	Code	The URL
List all tweets	tweets_path	/tweets
New tweet form	new_tweet_path	/tweets/new

```
tweet = Tweet.find(1)
```

These paths need a tweet

Action	Code	The URL
Show a tweet	tweet	/tweets/1
Edit a tweet	edit_tweet_path(tweet)	/tweets/1/edit
Delete a tweet	tweet, :method => :delete	/tweets/1

Link Recipe: `<%= link_to text_to_show, code %>`

CONTROLLERS
BRAINS OF THE APP

LEVEL 4

Controller

The binding between the Model and the View

CONTROLLERS

The Brains of the application

Application Stack

ROUTING

Views

Models

Controllers

Show A tweet

/app/views/tweets/show.html.erb

```
<!DOCTYPE html>
<html>
 <head><title>Twitter for Zombies</tit
 <body>
   <header>...</header>

   <% tweet = Tweet.find(1) %>
   <h1><%= tweet.status %></h1>
   <p>Posted by <%= tweet.zombie.name
 </body>
</html>
```

Where can I get a good bite to eat?

Posted by: Ash

This code tastes like rotted brains. We will fix it later.

CONTROLLERS

Request /tweets/1

/app/controllers/tweets_controller.rb

Controllers

/app/views/tweets/show.html.erb

```
<% tweet = Tweet.find(1) %>
<h1><%= tweet.status %></h1>
<p>Posted by <%= tweet.zombie.name %></p>
```

CONTROLLERS

Request /tweets/1

/app/controllers/tweets_controller.rb

Controllers

/app/views/tweets/show.html.erb

```
<% tweet = Tweet.find(1) %>
<h1><%= tweet.status %></h1>
<p>Posted by <%= tweet.zombie.name %></p>
```

It is no coincidence that the word 'tweets' is found in the URL, the controller name, and the view folder.

Request /tweets/1

/app/controllers/tweets_controller.rb

```
class TweetsController < ApplicationController

  ...

end
```

/app/views/tweets/show.html.erb

```
<% tweet = Tweet.find(1) %>
<h1><%= tweet.status %></h1>
<p>Posted by <%= tweet.zombie.name %></p>
```

Request /tweets/1

/app/controllers/tweets_controller.rb

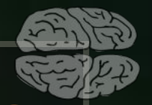
```ruby
class TweetsController < ApplicationController
  def show

  end
end
```

/app/views/tweets/show.html.erb

```erb
<% tweet = Tweet.find(1) %>
<h1><%= tweet.status %></h1>
<p>Posted by <%= tweet.zombie.name %></p>
```

Request /tweets/1

/app/controllers/tweets_controller.rb



```
class TweetsController < ApplicationController
  def show

  end
end
```

/app/views/tweets/show.html.erb

```
<% tweet = Tweet.find(1) %>
<h1><%= tweet.status %></h1>
<p>Posted by <%= tweet.zombie.name %></p>
```

Request /tweets/1

/app/controllers/tweets_controller.rb

```
class TweetsController < ApplicationController
  def show

  end
end
```

This is where we typically call our models.
So let's fix our code!

/app/views/tweets/show.html.erb

```
<% tweet = Tweet.find(1) %>
<h1><%= tweet.status %></h1>
<p>Posted by <%= tweet.zombie.name %></p>
```

Request /tweets/1

/app/controllers/tweets_controller.rb

```ruby
class TweetsController < ApplicationController
  def show
    tweet = Tweet.find(1)
  end
end
```

/app/views/tweets/show.html.erb

```erb
<h1><%= tweet.status %></h1>
<p>Posted by <%= tweet.zombie.name %></p>
```

Student Question: What about variable scope?

Request /tweets/1

REQUEST

/app/controllers/tweets_controller.rb

```ruby
class TweetsController < ApplicationController
  def show
    @tweet = Tweet.find(1)
  end
end
```

/app/views/tweets/show.html.erb

```erb
<h1><%= @tweet.status %></h1>
<p>Posted by <%= @tweet.zombie.name %></p>
```

Instance Variable: grants view access to variables with @

Rendering a Different View

REQUEST

/app/controllers/tweets_controller.rb

```
class TweetsController < ApplicationController
  def show
    @tweet = Tweet.find(1)
    render action: 'status'
  end
end
```

/app/views/tweets/status.html.erb

```
<h1><%= @tweet.status %></h1>
<p>Posted by <%= @tweet.zombie.name %></p>
```

Accepting Parameters

/tweets/1 /tweets/4
/tweets/2 /tweets/5
/tweets/3 /tweets/6

REQUEST

/app/controllers/tweets_controller.rb

```ruby
class TweetsController < ApplicationController
  def show
    @tweet = Tweet.find(params[:id])
    render action: 'status'
  end
end
```

Params Recipe: `params = { id: "1" }`

Parameters

PARAMS

/tweets?status=I'm dead

```
params = { status: "I'm dead" }
```

```
@tweet = Tweet.create(status: params[:status])
```

/tweets?tweet[status]=I'm dead

```
params = { tweet: {status: "I'm dead" }}
```

```
@tweet = Tweet.create(status: params[:tweet][:status])
```

Alternate Syntax

```
@tweet = Tweet.create(params[:tweet])
```

Parameters

/tweets?tweet[status]=I'm dead

```
params = { tweet: {status: "I'm dead" }}
```

```
@tweet = Tweet.create(params[:tweet])
```

- Rotten Code -

This could be dangerous! Users might be able to set any attributes!

In Rails 4 we are required to use Strong Parameters

We need to specify the parameter key we require

```
require(:tweet)
```

And the attributes we will permit to be set

```
permit(:status)
```

Strong Parameters

/tweets?tweet[status]=I'm dead

```
params = { tweet: {status: "I'm dead" }}
```

```
@tweet = Tweet.create(params.require(:tweet).permit(:status))
```

If there were multiple things we needed to permit, we could use an array

```
params.require(:tweet).permit([:status, :location])
```

```
@tweet = Tweet.create(params[:tweet])
```

Strong Params Required only when:
CREATING or UPDATING
with MULTIPLE Attributes

Respond with XML or JSON?

/tweets/1

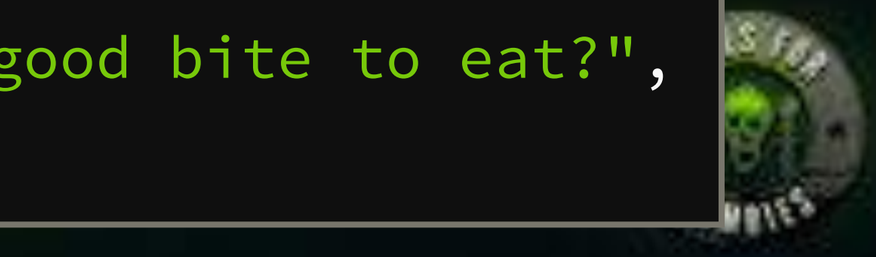
PARSE

XML

```
<?xml version="1.0" encoding="UTF-8"?>
<tweet>
  <id type="integer">1</id>
  <status>Where can I get a good bite to eat?</status>
  <zombie-id type="integer">1</zombie-id>
</tweet>
```

JSON

```
{"tweet":{"id":1,
          "status":"Where can I get a good bite to eat?",
          "zombie_id":1}}
```



Respond with HTML or JSON

/tweets/1.json

PARSE

/app/controllers/tweets_controller.rb

```ruby
class TweetsController < ApplicationController
  def show
    @tweet = Tweet.find(params[:id])
    respond_to do |format|
      format.html # show.html.erb
      format.json { render json: @tweet }
    end
  end
end
```

JSON

```
{"tweet":{"id":1,
          "status":"Where can I get a good bite to eat?",
          "zombie_id":1}}
```

Respond with HTML, JSON, XML

/tweets/1.xml

PARSE

/app/controllers/tweets_controller.rb

```ruby
class TweetsController < ApplicationController
  def show
    @tweet = Tweet.find(params[:id])
    respond_to do |format|
      format.html # show.html.erb
      format.json { render json: @tweet }
      format.xml { render xml: @tweet }
    end
  end
end
```

XML

```
<?xml version="1.0" encoding="UTF-8"?> ...
```

Controller Actions

REQUEST

/app/controllers/tweets_controller.rb

```
class TweetsController < ApplicationController
  def index     List all tweets
  def show      Show a single tweet
  def new       Show a new tweet form
  def edit      Show an edit tweet form
  def create    Create a new tweet
  def update    Update a tweet
  def destroy   Delete a tweet
end
```

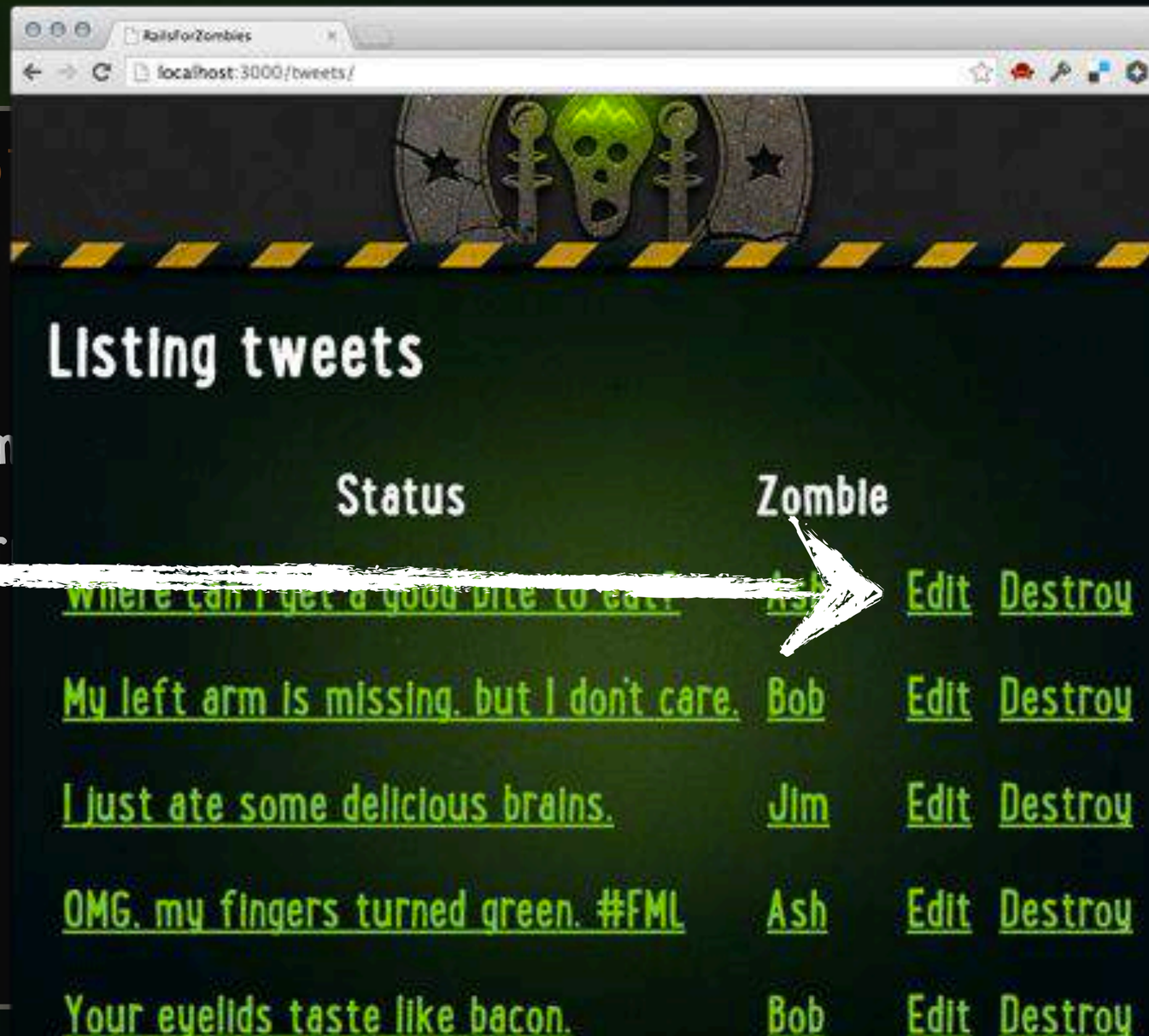
Views

Controller Actions

/app/controllers/tweets_controller.rb

```
class TweetsController < App
  def index     List all tweets
  def show      Show a single tweet
  def new       Show a new tweet form
  def edit      Show an edit tweet for
  def create    Create a new tweet
  def update    Update a tweet
  def destroy   Delete a tweet
end
```

EDIT

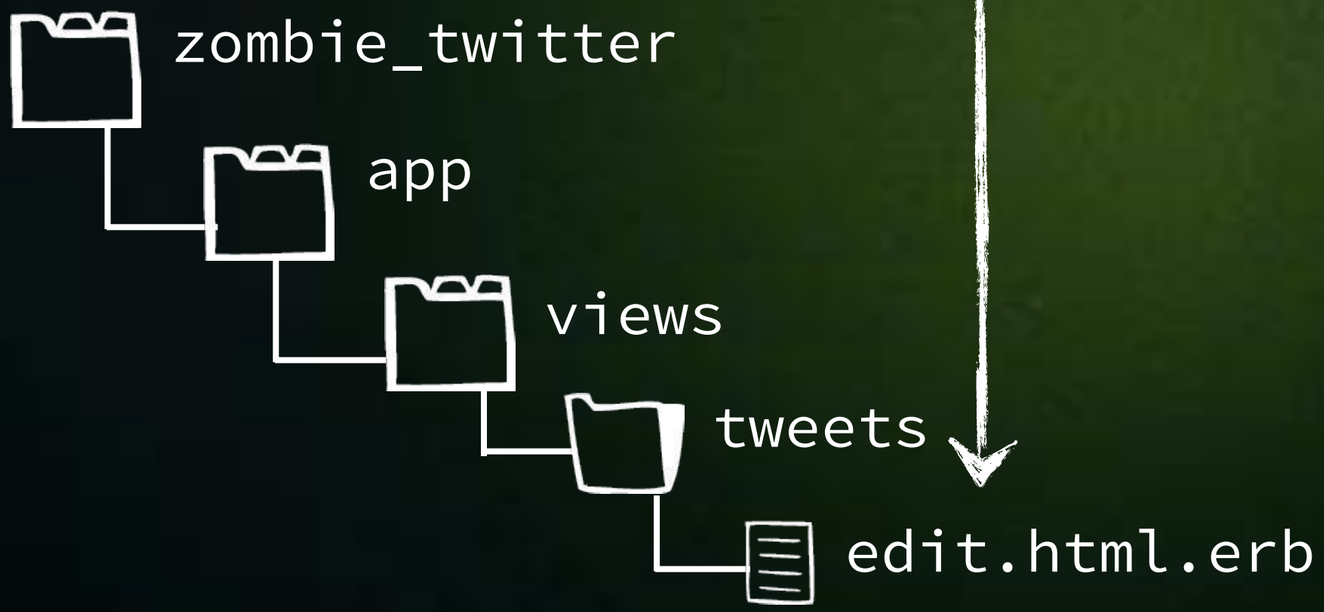


The Edit Action

EDIT

/app/controllers/tweets_controller.rb

```ruby
def edit
    @tweet = Tweet.find(params[:id])
end
```



Adding Some Authorization

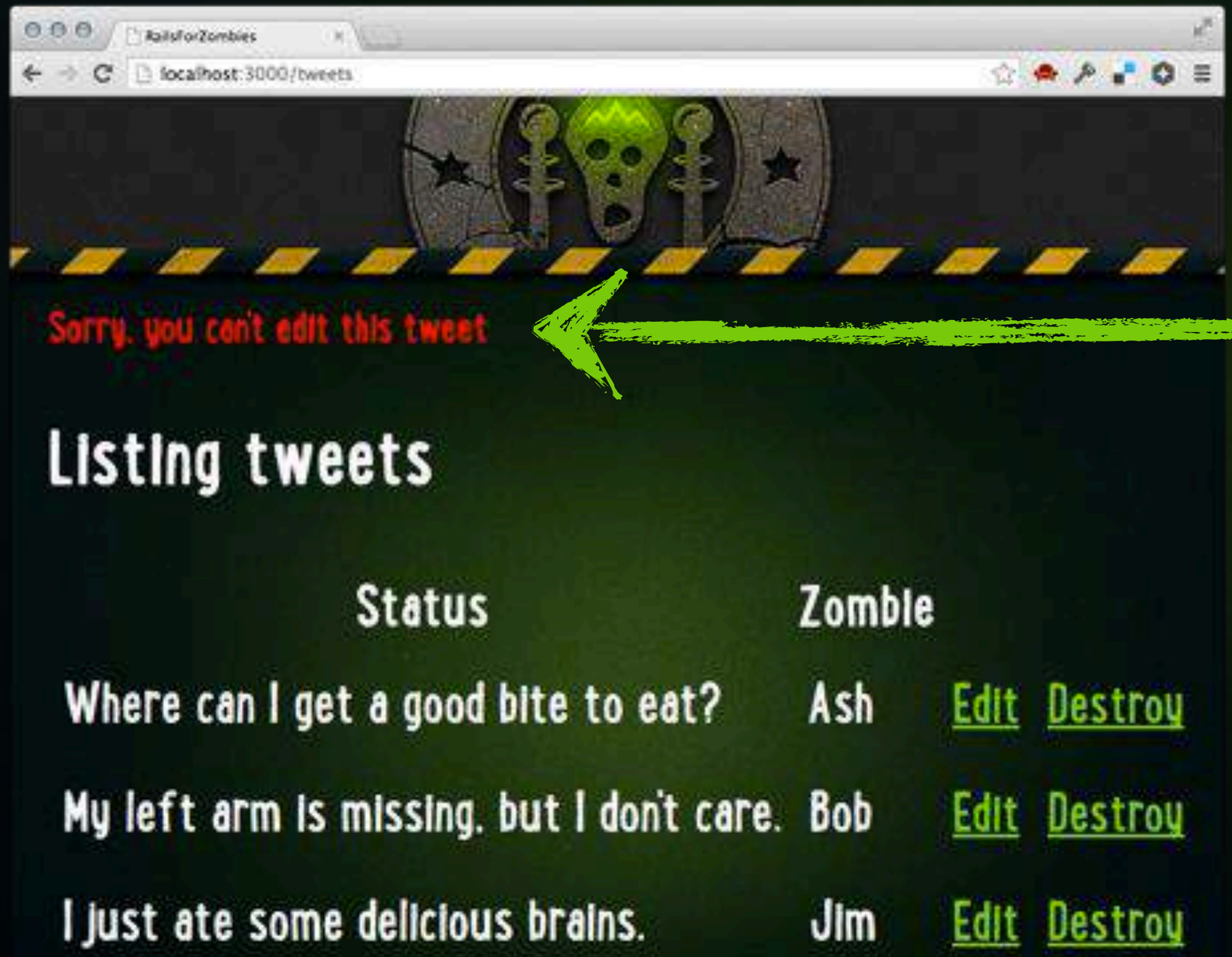
EDIT

Adding Some Authorization

DELETE

Adding Some Authorization

DELETE



Redirect and Flash

REQUEST

/app/controllers/tweets_controller.rb

```
class TweetsController < ApplicationController
  def edit
    @tweet = Tweet.find(params[:id])
    if session[:zombie_id] != @tweet.zombie_id
      flash[:notice] ="Sorry, you can't edit this tweet"
      redirect_to(tweets_path)
    end
  end
end
```

session	Works like a per user hash
flash[:notice]	To send messages to the user
redirect <path>	To redirect the request

Redirect and Flash

/app/controllers/tweets_controller.rb

```
class TweetsController < ApplicationController
  def edit
    @tweet = Tweet.find(params[:id])
    if session[:zombie_id] != @tweet.zombie_id
      flash[:notice] ="Sorry, you can't edit this tweet"
      redirect_to(tweets_path)
    end
  end
end
```

Flash + Redirect

Alternate Recipe:

```
redirect_to(tweets_path,
            :notice =>"Sorry, you can't edit this tweet")
```

Notice for Layouts

/app/views/layouts/application.html.erb

```
<!DOCTYPE html>
 <head>
  <title>Twitter for Zombies</title>
 </head>
 <body>
  <img src="/images/twitter.png" />
  <%= yield %>
 </body>
</html>
```

Notice for Layouts

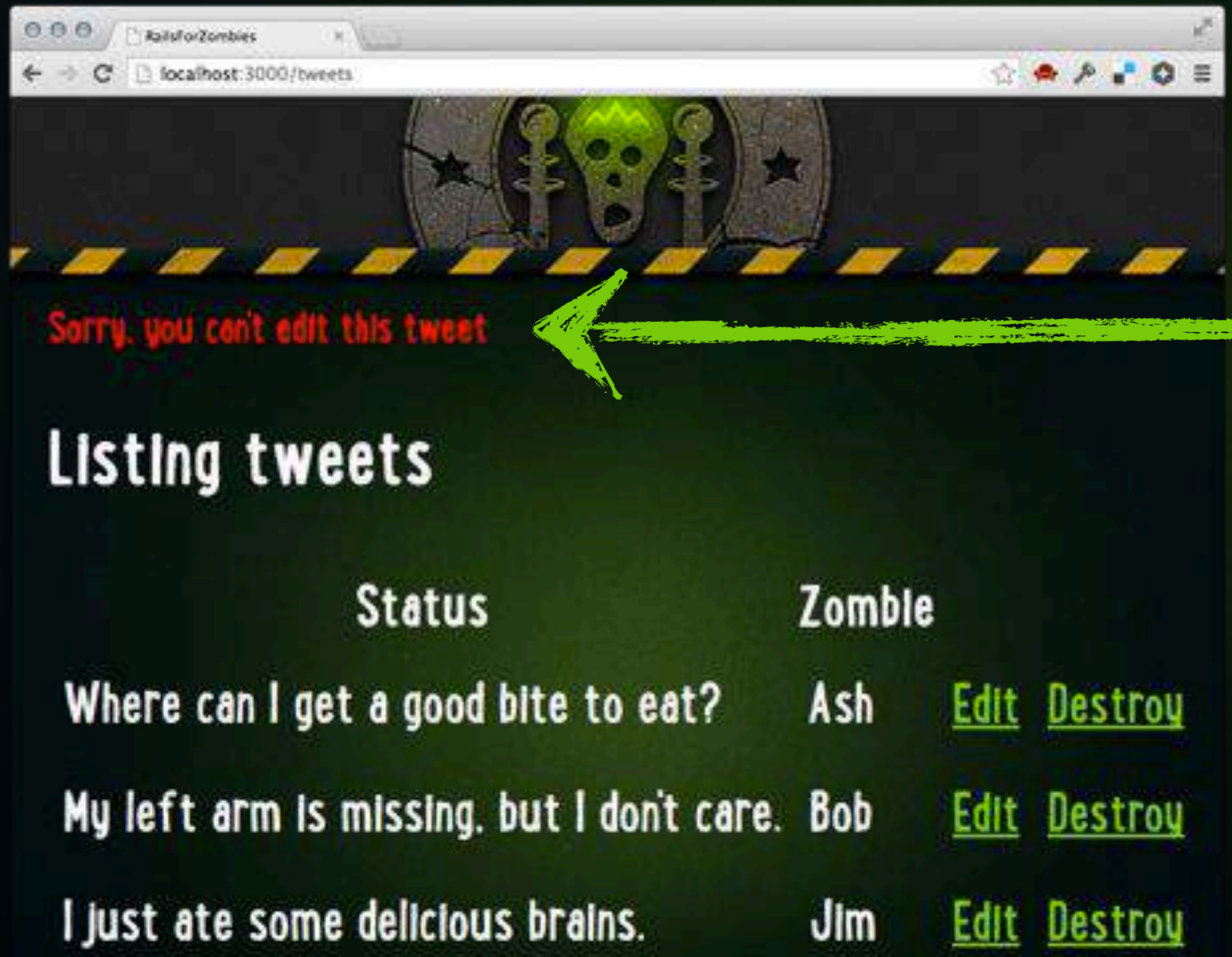
/app/views/layouts/application.html.erb

```
<!DOCTYPE html>
 <head>
  <title>Twitter for Zombies</title>
 </head>
 <body>
  <img src="/images/twitter.png" />
  <% if flash[:notice] %>
    <div id="notice"><%= flash[:notice] %></div>
  <% end %>
  <%= yield %>
 </body>
</html>
```

Adding Some Authorization

DELETE

Adding Some Authorization



DELETE

Controller Actions

REQUEST

/app/controllers/tweets_controller.rb

```
class TweetsController < ApplicationController
  def index      List all tweets
  def show       Show a single tweet
  def new        Show a new tweet form
  def edit       Show an edit tweet form
  def create     Create a new tweet
  def update     Update a tweet
  def destroy    Delete a tweet
end
```

Views

Controller Actions

REQUEST

/app/controllers/tweets_controller.rb

```
class TweetsController < ApplicationController
  def index      List all tweets
  def show       Show a single tweet
  def new        Show a new tweet form
  def edit       Show an edit tweet form
  def create     Create a new tweet
  def update     Update a tweet
  def destroy    Delete a tweet
end
```

Views

Need Authorization

Before Actions

REQUEST

/app/controllers/tweets_controller.rb

```
class TweetsController < ApplicationController
  def edit
    @tweet = Tweet.find(params[:id])
    ...
  end
  def update
    @tweet = Tweet.find(params[:id])
    ...
  end
  def destroy
    @tweet = Tweet.find(params[:id])
    ...
  end
end
```

BEFORE ACTIONS

/app/controllers/tweets_controller.rb

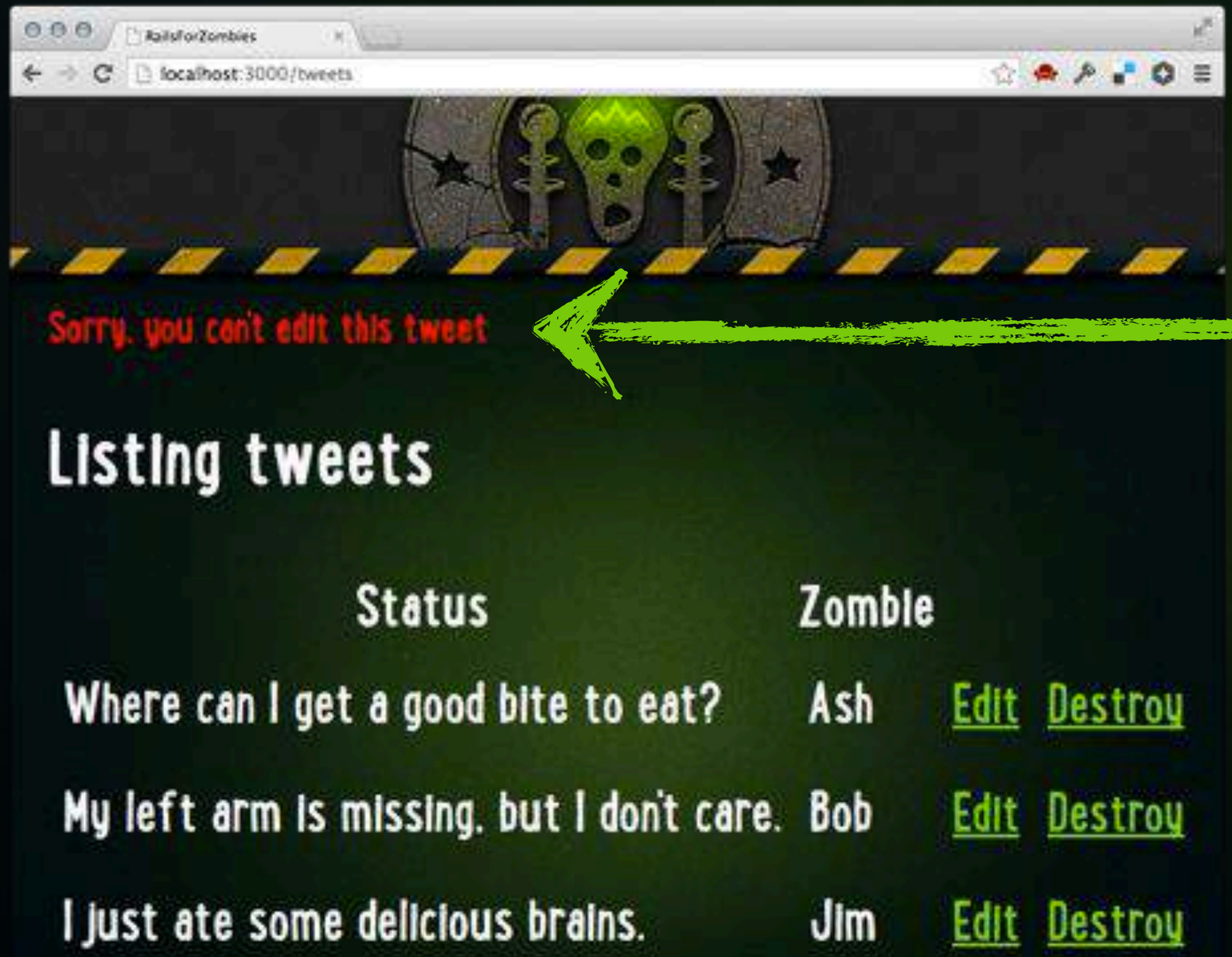
```
class TweetsController < ApplicationController
  before_action :get_tweet  , only: [:edit, :update, :destroy]
  def get_tweet
    @tweet = Tweet.find(params[:id])
  end

  def edit
    ...
  end

  def update
    ...
  end

  def destroy
    ...
  end
end
```

BEFORE ACTIONS

/app/controllers/tweets_controller.rb

```
class TweetsController < ApplicationController
  before_action :get_tweet  , :only => [:edit, :update, :destroy]
  before_action :check_auth , :only => [:edit, :update, :destroy]
  def get_tweet
    @tweet = Tweet.find(params[:id])
  end
  def check_auth
    if session[:zombie_id] != @tweet.zombie_id
      flash[:notice] = "Sorry, you can't edit this tweet"
      redirect_to tweets_path
    end
  end
  def edit
  def update
  def destroy
end
```

Adding Some Authorization

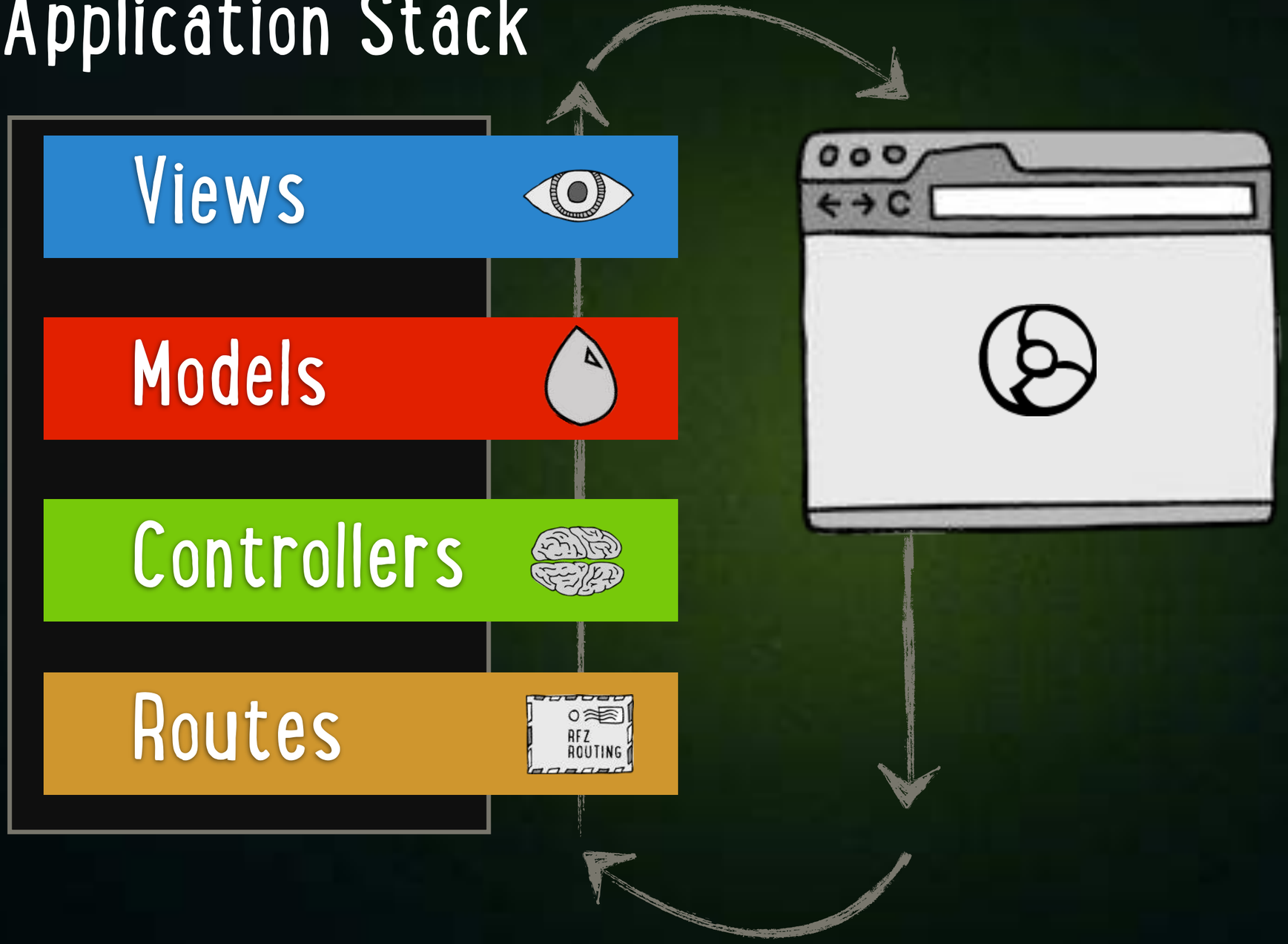


DELETE

ROUTING THROUGH RAILS

LEVEL 5

Application Stack



ROUTING

ROUTING

In order to properly find these paths...

```
<%= link_to "<link text>", <code> %>
```

Action	Code	The URL Generated
List all tweets	tweets_path	/tweets
New tweet form	new_tweet_path	/tweets/new

```
tweet = Tweet.find(1)
```

These paths need a tweet

Action	Code	The URL
Show a tweet	tweet	/tweets/1
Edit a tweet	edit_tweet_path(tweet)	/tweets/1/edit
Delete a tweet	tweet, :method => :delete	/tweets/1

and these actions...

REQUEST

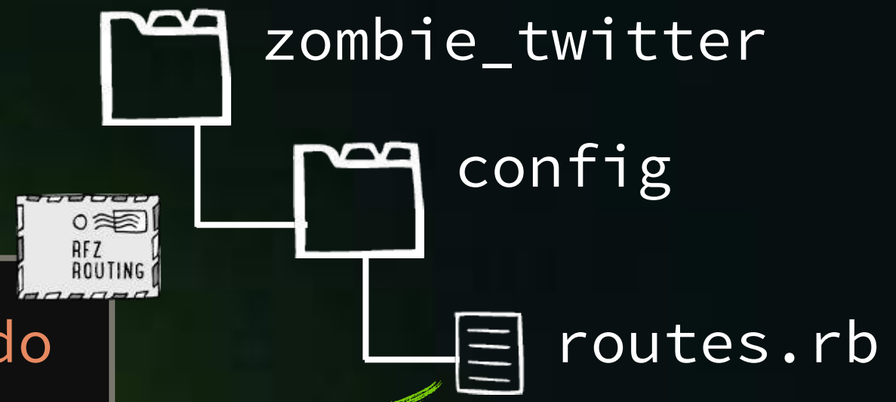
/app/controllers/tweets_controller.rb

```
class TweetsController < ApplicationController
  def index     List all tweets
  def show      Show a single tweet
  def new       Show a new tweet form
  def edit      Show an edit tweet form
  def create    Create a new tweet
  def update    Update a tweet
  def destroy   Delete a tweet
end
```

Views

We need to define Routes

Creating what we like to call a "REST"FUL resource




```
ZombieTwitter::Application.routes.draw do
  resources :tweets
end
```

Code	The URL	TweetsController
tweets_path	/tweets	def index
tweet	/tweet/<id>	def show
new_tweet_path	/tweets/new	def new
edit_tweet_path(tweet)	/tweets/<id>/edit	def edit
and a few more....		

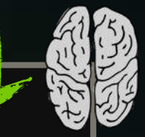
Custom Routes

ROUTING

http://localhost:3000/new_tweet render http://localhost:3000/tweets/new

Controller name	Tweets
Action name	new

```
class TweetsController
  def new
    ...
  end
end
```



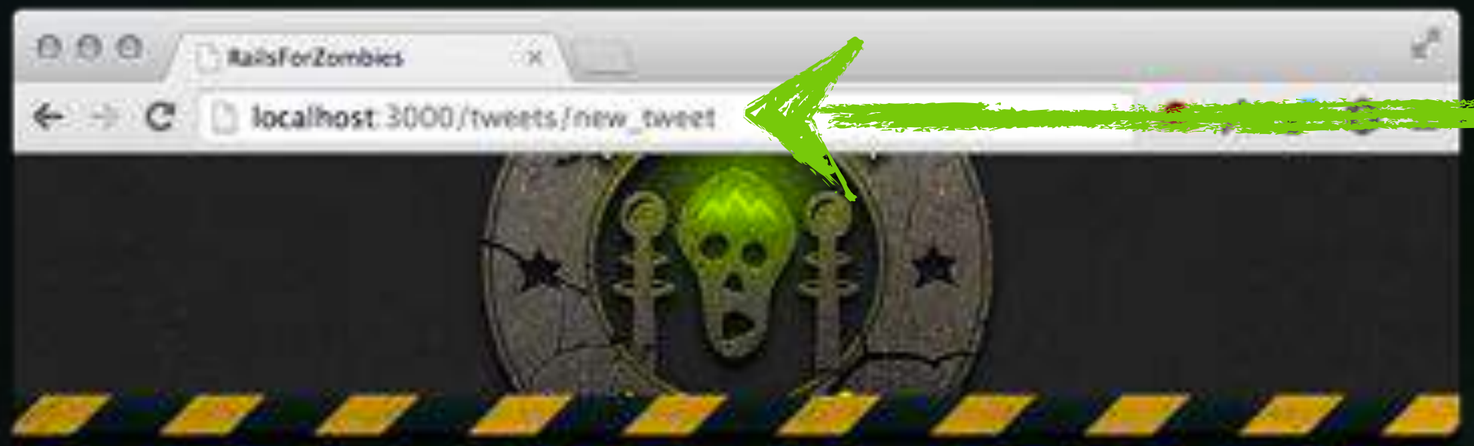
/config/routes.rb


```
ZombieTwitter::Application.routes.draw do
  resources :tweets
  get '/new_tweet' => 'tweets#new'
end
```

Path

Controller

Action



ROUTING

New tweet

Status

Zombie

Named Routes

ROUTING

http://localhost:3000/all render http://localhost:3000/tweets

Controller name	Tweets
Action name	index

```
class TweetsController
  def index
    ...
  end
end
```

/config/routes.rb


```
get '/all' => 'tweets#index'
```

```
<%= link_to "All Tweets", ? %>
```

tweets_path wouldn't work

Named Routes

ROUTING

http://localhost:3000/all render http://localhost:3000/tweets

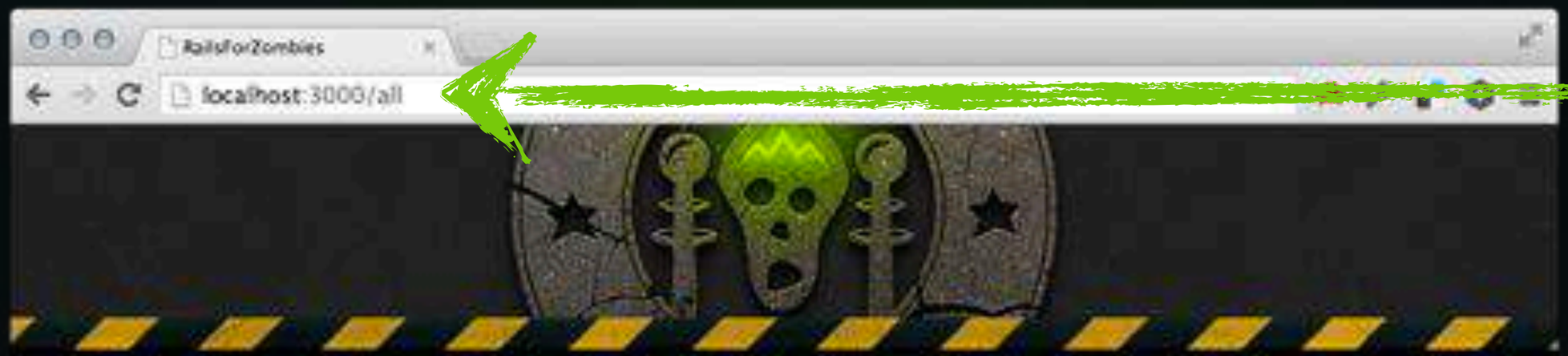
Controller name	Tweets
Action name	index

```
class TweetsController
  def index
    ...
  end
end
```

/config/routes.rb


```
get '/all' => 'tweets#index', as: 'all_tweets'
```

```
<%= link_to "All Tweets", all_tweets_path %>
```



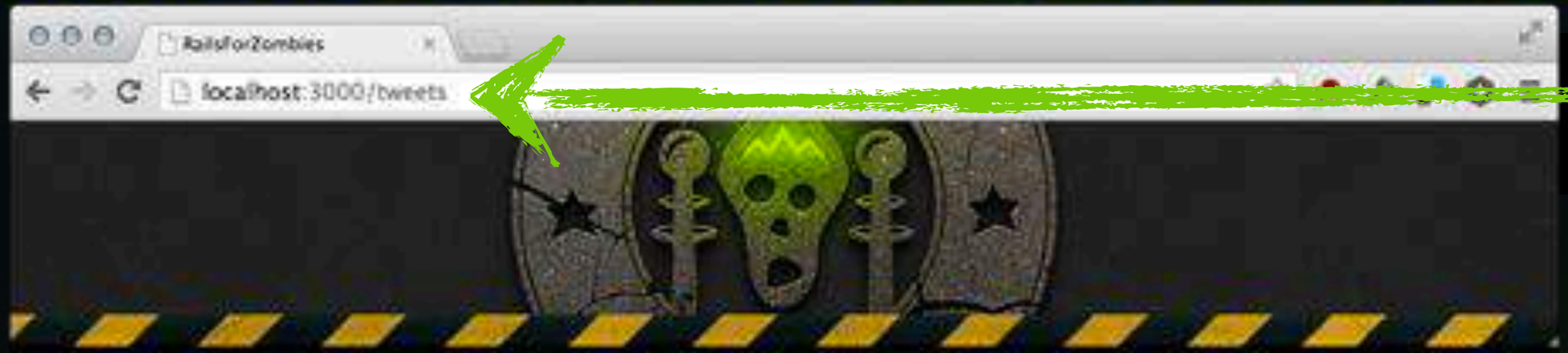
ROUTING

Listing tweets

Status	Zombie		
Where can I get a good bite to eat?	Ash	Edit	Destroy
My left arm is missing. but I don't care.	Bob	Edit	Destroy
I just ate some delicious brains.	Jim	Edit	Destroy

What if our tweets used to be found at /all, but now our definitive URL is /tweets What can we do?

ROUTING



ROUTING

Listing tweets

Status	Zomble		
Where can I get a good bite to eat?	Ash	Edit	Destroy
My left arm is missing. but I don't care.	Bob	Edit	Destroy
I just ate some delicious brains.	Jim	Edit	Destroy

Redirect

ROUTING

http://localhost:3000/all redirect_to http://localhost:3000/tweets


```
get '/all' => redirect('/tweets')
```


```
get '/google' => redirect('http://www.google.com/')
```

Root Route

ROUTING

http://localhost:3000/ render http://localhost:3000/tweets


```
root to: "tweets#index"
```

Controller

Action

```
<%= link_to "All Tweets", root_path %>
```

Route Parameters

/local_tweets/32828
/local_tweets/32801

Find all zombie tweets in this zip code

/app/controllers/tweets_controller.rb

```
def index
  if params[:zipcode]
    @tweets = Tweet.where(zipcode: params[:zipcode])
  else
    @tweets = Tweet.all
  end
   respond_to do |format|
     format.html # index.html.erb
     format.xml  { render xml: @tweets }
   end
end
```

Route Parameters

/local_tweets/32828
/local_tweets/32801

Find all zombie tweets in this zip code


```
get '/local_tweets/:zipcode' => 'tweets#index'
```

referenced by params[:zipcode] in controller


```
get '/local_tweets/:zipcode'
  => 'tweets#index', as: 'local_tweets'
```

```
<%= link_to "Tweets in 32828", local_tweets_path(32828) %>
```


http://twitter.com/github
twitter
Home Profile Find People Settings Help Sign out
github
Follow
Lists
Followed by @joshsusser, @jwalsh, @calke, and 10+ others
@luckiestmonkey those are called kertaco huts
about 12 hours ago via Seesmic in reply to luckiestmonkey
@TuttleTree our new wikis support a variety of formats, including markdown: http://bit.ly/9GL15O
12:29 AM Aug 21st via Tweetie for Mac in reply to TuttleTree
Say hi to @defunkt at @iosdevcamp this weekend
7:52 PM Aug 18th via web
Looks like there might be some connectivity issues to the site from some ISPs. If you can't reach us, it should be back momentarily.
3:45 AM Aug 18th via Tweetie for Mac
GitHub Meetup SF this Thursday!
Name GitHub
Location San Francisco, CA
Web http://github.com
Bio Social coding? Pretty awesome.
12 following
15,358 followers
1,541 listed
Tweets 1,385
Favorites
Actions
block github
report for spam
You both follow
Following
More like github
darkhelmetlive
Daniel Huckstep
Follow


http://twitter.com/github
twitter
Home Profile Find People Settings Help Sign out
github
Follow
Lists
Followed by @joshsusser, @jweiss, @caike, and 10+ others
@luckiestmonkey those are called kertaco huts
about 12 hours ago via Seesmic in reply to luckiestmonkey
@TuttleTree our new wikis support a variety of formats, including markdown: http://bit.ly/9GL1SO
12:29 AM Aug 21st via Tweetie for Mac in reply to TuttleTree
Say hi to @defunkt at @iosdevcamp this weekend
7:52 PM Aug 18th via web
Looks like there might be some connectivity issues to the site from some ISPs. If you can't reach us, it should be back momentarily.
3:45 AM Aug 18th via Tweetie for Mac
GitHub Meetup SF this Thursday!
Name GitHub
Location San Francisco, CA
Web http://github.com
Bio Social coding? Pretty awesome.
12 following
15,358 followers
1,541 listed
Tweets 1,385
Favorites
Actions
block github
report for spam
You both follow
Following
More like github
darkhelmetlive
Daniel Huckstep
Follow

ROUTING

Route Parameters

/eallam /envylabs

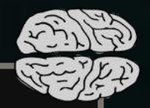
/greggpollack /github

Show the tweets for these zombies


```
get ':name' => 'tweets#index', as: 'zombie_tweets'
```

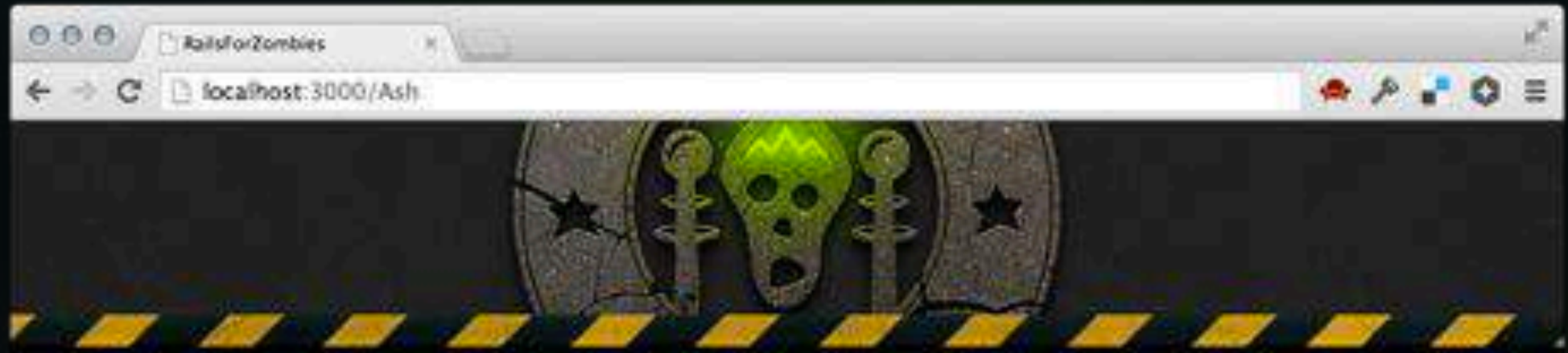
```
<%= link_to "Gregg", zombie_tweets_path('greggpollack') %>
```

/app/controllers/tweets_controller.rb



```
def index
  if params[:name]
    @zombie = Zombie.where(name: params[:name]).first
    @tweets = @zombie.tweets
  else
    @tweets = Tweet.all
  end
end
```

ROUTING



Listing tweets

Status	Zomble	
Where can I get a good bite to eat?	Ash	Edit Destroy
OMG. my fingers turned green. #FML	Ash	Edit Destroy