# Beginning Ruby on Rails

Session Six

# Advanced Topics

- A new app from scratch
- User Sessions
- More Associations

# The New App

How about a simple “question and answer” app?

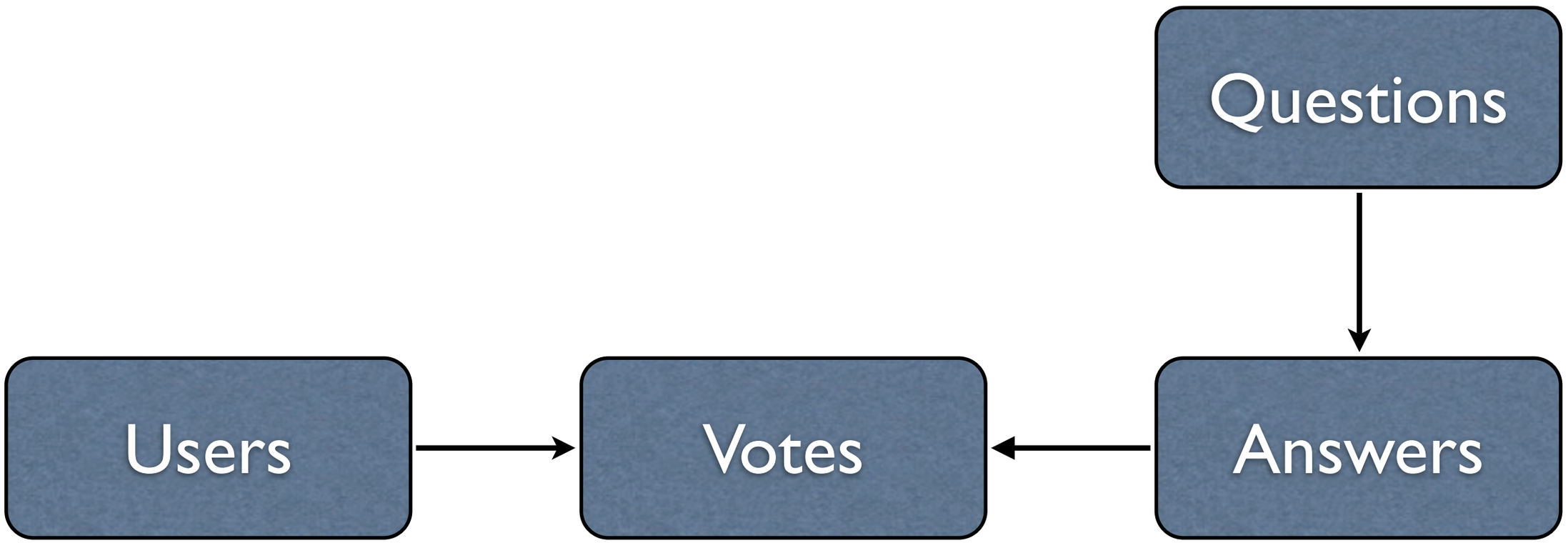
# Features

- Anonymous users will be able to register an account and log in.
- Logged in users will be able to post questions and answers.
- Logged in users will be able to vote answers up or down.

# Models

- We will need to create these models:
  - Question
  - Answer
  - Vote
  - User

# Associations



# Creating the App

- rails new qanda
- cd qanda
- bundle install
- rake db:create

# Adding Models

- rails generate scaffold Question body:text
- rails generate model answer body:text question:references
- edit app/models/question.rb
- rake db:migrate

# Setup Routes

- Edit config/routes.rb
- Answers are nested in Questions
  - Just like Comments and Posts
- root :to => “questions#index”
- Delete public/index.html

# Update Views

- Use basically the same views as the blog
- Obviously, change post to question and comment to answer
- https://github.com/anthonylewis/qanda

# Sessions

Web servers have terrible memory

# Sessions

- The web is “stateless”
- We generate a session id for each user so the server can remember who they are.
- The session id is stored in a cookie that is passed to the server with each request.
- This sounds like a lot of work...

# Devise

- https://github.com/plataformatec/devise
- A flexible Rails authentication system
- Takes care of user registration, log in, log off, password resets, etc.
- Devise is a Rails Engine - it has models, views and controllers

# Installing Devise

- Edit Gemfile
  - gem ‘devise’
- bundle install
- rails generate devise:install
- rails generate devise user

# Configuring Devise

- Make sure you have a root route
- Make sure your views include flash messages (notice and alert)
- Customize the User model and migration for your application
- rake db:migrate

# Devise Helpers

- authenticate_user!
- user_signed_in?
- current_user
- user_session

# Update View

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

```
<% if user_signed_in? %>
  <%= link_to "Sign out", destroy_user_session_path,
    :method => :delete %>
<% else %>
  <%= link_to "Sign in", new_user_session_path %> |
  <%= link_to "Sign up", new_user_registration_path %>
<% end %>
```

# Update Controller

- Edit app/controllers/questions_controller.rb

```
before_filter :authenticate_user!,
  :except => [:show, :index]
```

# More Associations

Everything is connected

# User Associations

- Questions belong to a User
- Answers belong to a User
- A User has many Questions and Answers

# Adding Columns

- rails generate migration add_associations
- Edit the migration file
  - add_column :questions, :user_id, :integer
  - add_column :answers, :user_id, :integer
- rake db:migrate

# Question Controller

- Edit app/controllers/questions_controller.rb

```
def create
  @question = Question.new(params[:question])
  @question.user_id = current_user

  if @question.save
    redirect_to(@question,
      :notice => 'Question successfully created.')
  else
    render :action => "new"
  end
end
```

# Answer Controller

- rails generate controller answers
- Edit app/controllers/answers_controller.rb

```ruby
def create
  @question = Question.find(params[:question_id])
  @answer = @question.answers.build(params[:answer])
  @answer.user = current_user
  @answer.save
  redirect_to question_path(@question)
end
```

# More Associations

- has_many :through
  - A user has many answered questions
- Edit app/models/user.rb

```
has_many :answered_questions,
  :through => :answers, :source => :question
```

# Votes & Scores

Your vote counts

# Vote Model

- We have Questions, Answers, and Users
- Let's add Votes
- rails generate model vote vote:integer answer:references user:references
- rake db:migrate

# Vote Associations

- Votes belong to a User and an Answer
- A User has many votes
- An Answer has many votes

# Vote Routes

- Create either an “up” or “down” vote
- Vote belongs to current user and answer
- The URL could look like this:
  - /vote/up/:answer_id
  - /vote/down/:answer_id

# Vote Routes

- Edit config/routes.rb

```
match 'votes/up/:answer_id' => 'votes#up',
  :via => :post, :as => :vote_up
match 'votes/down/:answer_id' => 'votes#down',
  :via => :post, :as => :vote_down
```

# Vote Actions

- rails generate controller votes
- Edit app/controllers/votes_controller.rb

```ruby
def up
  create_vote( 1, params[:answer_id], current_user)
end

def down
  create_vote(-1, params[:answer_id], current_user)
end
```

# Vote Actions

```
def create_vote(vote, answer, user)
  @answer = Answer.find answer

  @vote = @answer.votes.create :user_id => user,
    :vote => vote

  redirect_to question_path(@answer.question)
end
```

# Counting Votes

- Rather than total up the votes every time, let's add a score to each answer
- rails generate migration add_score_to_answers
- Edit the migration
- rake db:migrate

# Updating Scores

- This is "business logic" and should be a method of the Answer model

```
def update_score
  self.score =
    Vote.where(:answer_id => self.id).sum('vote')

  self.save
end
```

# Counting Votes

```
def create_vote(vote, answer, user)
  @answer = Answer.find answer

  @vote = @answer.votes.create :user_id => user,
    :vote => vote

  @answer.update_score
  redirect_to question_path(@answer.question)
end
```

# Votes in the View

- Edit app/views/questions/show.html.erb

```
<p>Score: <%= answer.score %></p>
<% if user_signed_in? %>
  <%= button_to 'Vote Up', vote_up_path(answer) %>
  <%= button_to 'Vote Down', vote_down_path(answer) %>
<% end %>
```

# Homework

Thought exercises

# Work On The App

- Clone the app from GitHub
- Make the views a little prettier
  - Look at sites like Quora or Stack Overflow for inspiration
- Think about other features to add