Welcome!

CSPP 52553

Web Development

Spring 2013

Course Overview

1. What are we going to do?
2. Where are we right now?
3. I want an *A*. How do I get it?
4. Hold on - who *are* you people?

Instructors

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Materials

News, Slides, and Resources

`cspp52553.com`

Q&A

`piazza.com`

What Will We Build?

1. Web Applications

- "Dynamic"
- "Data-Backed"
- "User-Centric"

What Will We Build?

2. Web Services

- "API"
- JSON, XML, CSV, ...
- "REST"

How Will We Build All This Stuff?

Grading

Homework (first 5 weeks)	**20%**
Midterm (week 6)	**30%**
Final Project (week 11)	**50%**

Grading

Class Participation	~ 0%
Homework (first 5 weeks)	20%
Midterm (week 6)	30%
Final Project (week 11)	50%

Prerequisites and Assumptions

Programming 101

- Sequence of instructions
- Expressions
- Variables
- Data Structures
  - Strings
  - Arrays
  - Hashes/Maps/Dictionaries
- Methods (or functions)
- Loops

OOP 101

- Class vs. Instance
- Object state
- Method calls
- Class Inheritance

Goals

Web Development

- HTTP
- SQL Data
- HTML
- CSS
- Javascript

Rails

- Routes
- Controllers
- Views
- Models
  - Database-Backed
  - Associations
  - Business Rules

Patterns

Object Collaboration

Callbacks

Conventions

Agile Practices

What You'll Need

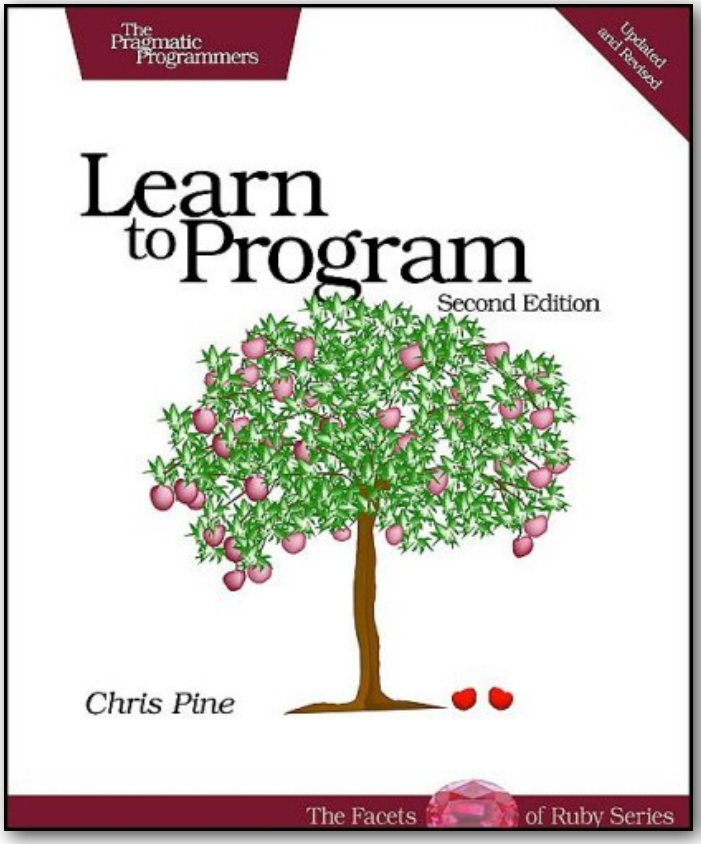
Ruby 2.0

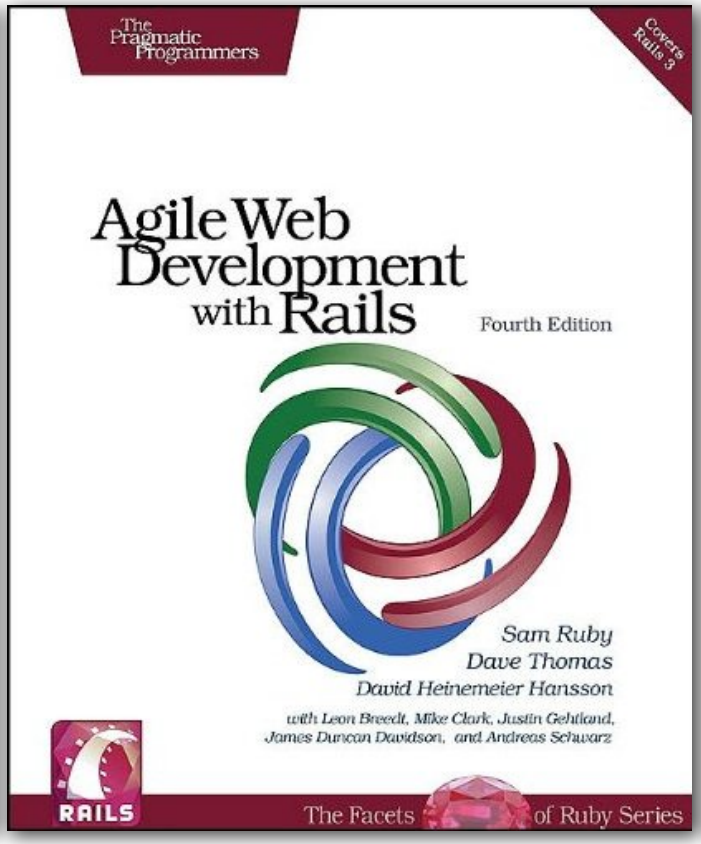
http://www.jeffcohenonline.com/installing-rails

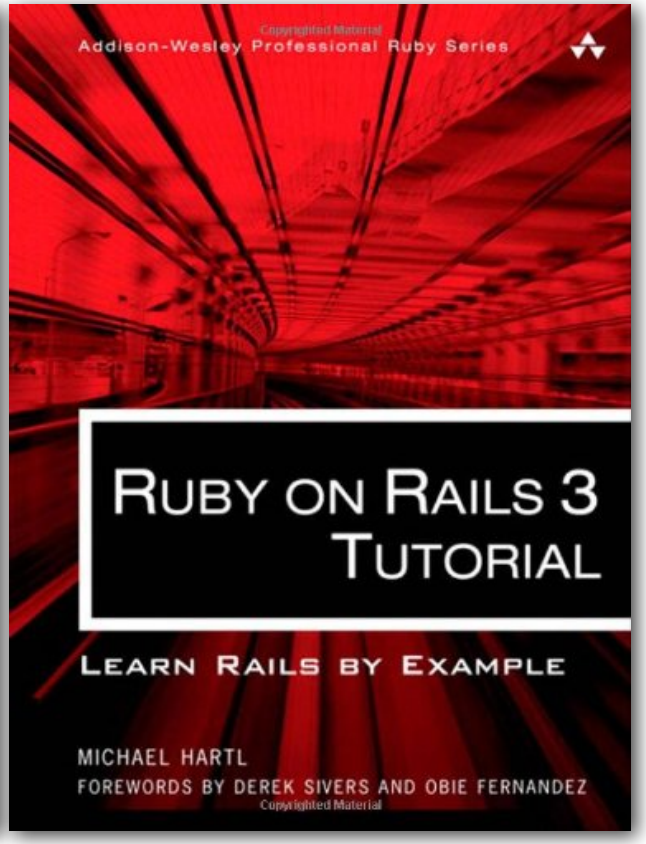
Rails 3.2.13

Git

Books (Optional)







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Do Not Memorize

Focus On Concepts

Ask Questions

Collaborate

Have Fun

HTML QuickStart

Elements

Tags

Attributes

DOM

Ruby QuickStart

Statements

Methods

Variables

Arrays

Blocks

Hashes

Classes

Instances

Type-along: Ruby 101

- Open Terminal
- irb

Demo + Lab

Goal: Display a list of Chicago landmarks.

Each landmark should have two attributes:

- Name
- Admission Fee

Use an Array of Landmark instances.

Use puts statements to display the data.

JSON Example

```
"[
  {
    created_at: "2013-01-05T17:41:49Z",
    hometown: "Skokie, IL",
    id: 1,
    name: "Jeff Cohen",
    updated_at: "2013-01-05T17:41:49Z"
  },
  {
    created_at: "2013-01-05T17:41:49Z",
    hometown: "Goshen, IN",
    id: 2,
    name: "Raghu Betina",
    updated_at: "2013-01-05T17:41:49Z"
  }
]"
```

Converting JSON into a Ruby Hash

```
require 'json'

data = "string"

h = JSON.parse(data)
```

Automated Testing with Ruby

class Test::Unit::TestCase

Automated Testing with Ruby

```
class Test::Unit::TestCase
```

Ruby Modules

- Package Management
- Unit of reusability

Automated Testing with Ruby

```
class TestJSON < Test::Unit::TestCase

  def test_parse_from_string
    json = '{"favorites": {"color":"maroon", "fruit":"apple", "language":"ruby"}}'
    assert_equal('apple', get_favorite("fruit", json))
  end

end
```

1. Run this code to trigger the test.
2. Watch for success or failure.
3. Write implementation code until success.

To Do!

- ★ Watch for my email
- ★ Setup your Ruby environment
- ★ Homework #1