



# Hello Programming



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<html>



# The Plan

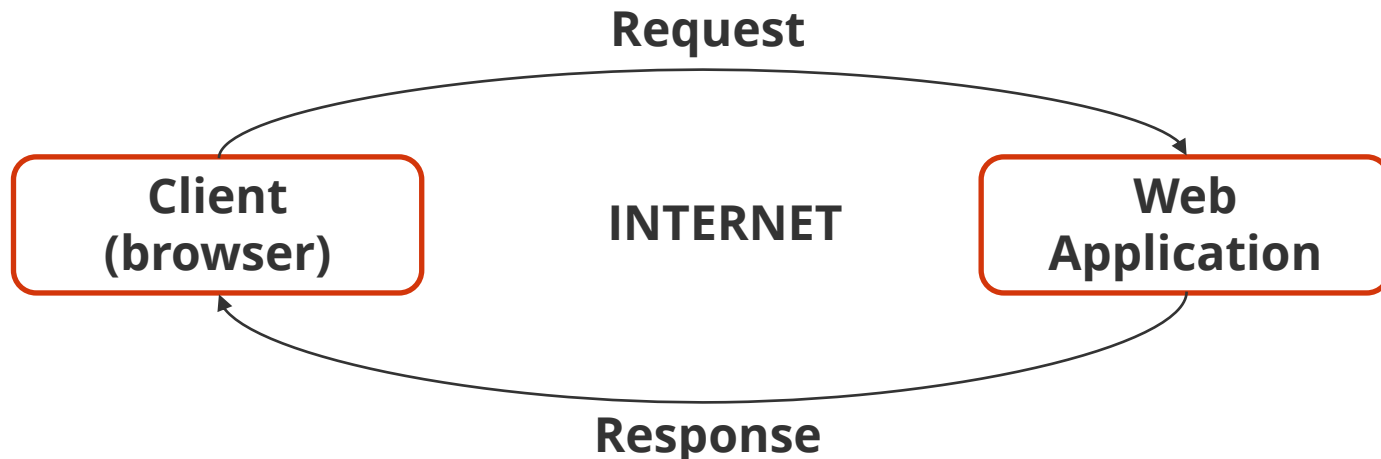
- What are Web Applications?
- What are Programming Languages?
- What is Ruby on Rails?
- Getting Started with Ruby on Rails



# What are Web Applications?

# Web Applications

- Receive a request from a user
- Do something
- Return a result back to the user



# Static Websites

- Fixed Content
- Same info to all users
- Needs to be updated manually



# Dynamic Websites

- Content is not fixed
- Customised experience for the user
- Frequently updated





COPERNICUS  
GALILEO  
NEWTON  
KEPLER  
HUYGENS  
HERSCHEL  
HALLEY  
EINSTEIN  
HUBBLE

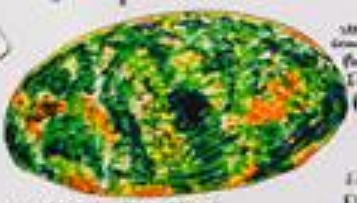
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CARL SAGAN

SPEED = DISTANCE / TIME  
NEWTON'S 2nd LAW:  $a = F/m$   
Work done by a force = force  $\times$  distance  
moved in the direction of the force =  $Fd$   
Power = energy transferred / time  
Kinetic Energy =  $\frac{1}{2} \text{mass} \times \text{velocity}^2 = \frac{1}{2}mv^2$   
momentum = mass  $\times$  velocity  
Impulse = force  $\times$  time over which force acts  
angular momentum = rotational motion of body = angular velocity  
Newton's Law of Universal Gravity  
 $F = \frac{Gm_1m_2}{r^2}$

Weight = mass  $\times$  gravitational field strength =  $mg$   
Gravitational Energy =  $Gm_1m_2/r$

KEPLER'S LAW  
 $P^2 = a^3$   
ESCAPE SPEED =  $\sqrt{\frac{2GM}{r}}$  (Earth = 7.9 m/s)

RELATIVITY  
 $E = mc^2$   
 $\gamma = \frac{1}{\sqrt{1 - \frac{v^2}{c^2}}}$



MICROWAVE BACKGROUND RADIATION

NEED TO CHART - ① DISTANCE  
② GRAVITY  
③ TEMPERATURE  
④ DENSITY  
⑤ PRESSURE  
⑥ MAGNETIC FIELD  
⑦ ELECTRIC FIELD  
⑧ CHEMICAL COMPOSITION  
⑨ BIOLOGICAL ACTIVITY  
⑩ PSYCHOLOGICAL STATE  
⑪ SOCIAL BEHAVIOR  
⑫ ECONOMIC ACTIVITY  
⑬ POLITICAL INFLUENCE  
⑭ CULTURAL HERITAGE  
⑮ ENVIRONMENTAL FACTORS  
⑯ TECHNOLOGICAL ADVANCEMENT  
⑰ EDUCATIONAL LEVEL  
⑱ OCCUPATIONAL STATUS  
⑲ MARITAL STATUS  
⑳ AGE  
㉑ GENDER  
㉒ ETHNICITY  
㉓ RELIGION  
㉔ IDEOLOGY  
㉕ PERSONALITY  
㉖ INTELLIGENCE  
㉗ EMOTIONS  
㉘ ATTITUDES  
㉙ BELIEFS  
㉚ VALUES  
㉛ MORALS  
㉜ ETHICS  
㉝ LEGAL OBLIGATIONS  
㉞ SOCIAL NORMS  
㉟ CULTURAL TABOOS  
㊱ RELIGIOUS DOCTRINES  
㊲ POLITICAL IDEOLOGIES  
㊳ ECONOMIC SYSTEMS  
㊴ BIOLOGICAL FACTORS  
㊵ PSYCHOLOGICAL FACTORS  
㊶ ENVIRONMENTAL FACTORS  
㊷ TECHNOLOGICAL FACTORS  
㊸ EDUCATIONAL FACTORS  
㊹ OCCUPATIONAL FACTORS  
㊺ MARITAL FACTORS  
㊻ AGE FACTORS  
㊼ GENDER FACTORS  
㊽ ETHNICITY FACTORS  
㊾ RELIGION FACTORS  
㊿ IDEOLOGY FACTORS

ELECTRIC FIELD  
MAGNETIC FIELD

# DEPARTMENT OF ROCKET SCIENCE



# What are Programming Languages?

**Let's cook...**



# Cooking vs Web Apps

COOKING	WEB APPLICATION
RECIPE	SPECIFICATION
COOKING SET	FRAMEWORK
COOKING UTENSILS	LIBRARY
RAW INGREDIENTS	PROGRAMMING LANGUAGE

# Specification (The Recipe)

- What shall we do?
- How shall we do it?

# Framework (The Cooking Set)

- Baking Set (baking)
- Sushi Set (making Sushi)
- Cheese Set (presenting cheese)

# Framework (The Cooking Set)

- Rails Framework (web applications)
- Android Framework (android applications)
- Libgdx Framework (game applications)

# Library (The Cooking Utensils)

- Knife (cutting)
- Rolling Pin (rolling dough)
- Oven (baking)

# Library (The Cooking Utensils)

- Sqlite3 (sql database)
- Carrier Wave (file uploading)
- OmniAuth (authentication framework)



# Programming Language (The Raw Ingredients)

- Bread, ham, cheese (sandwich)
- Mushrooms, onions, stock (soup)
- Eggs, milk, butter (omelette)



# Programming Language

## (The Raw Ingredients)

- Ruby Language (web applications)
- Java Language (enterprise applications)
- Objective-C Language (mobile applications)



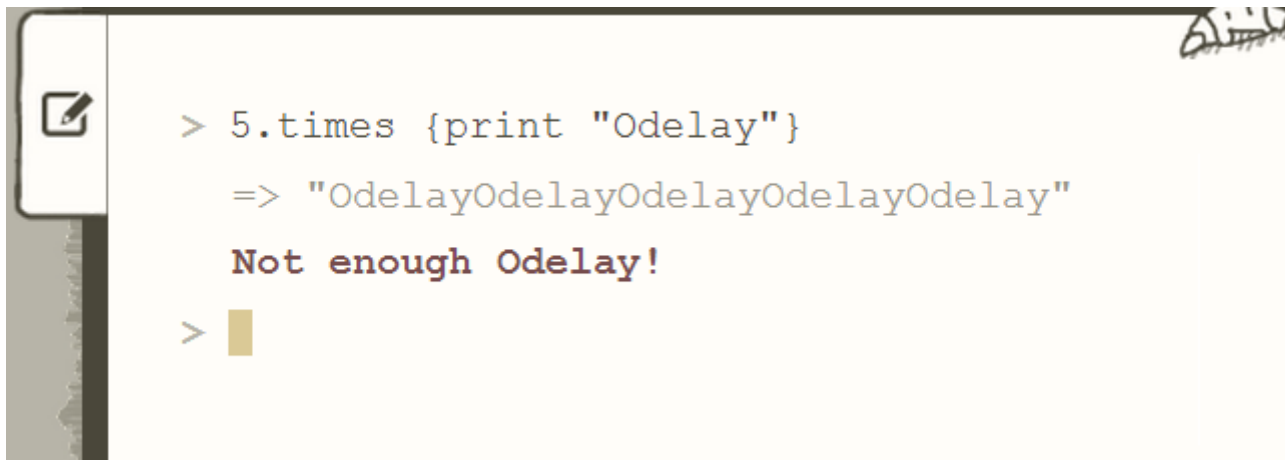
**What is Ruby on Rails?**



**KEEP  
CALM  
AND  
LEARN  
RUBY**

# What is Ruby?

- The programming language



```
> 5.times {print "Odelay"}  
=> "OdelayOdelayOdelayOdelayOdelay"  
Not enough Odelay!  
> █
```

# What is Rails?

- The underlying framework
- Used for web programming



# What is Ruby on Rails?

- Open-source
- A web application framework
- Lets you write beautiful code
- Optimised for programmer happiness 😊





**Let's Dive In**



# Tools

- Text Editor (Sublime Text, Komodo Edit, Vim, Emacs, Gedit...)
- Terminal / Command Prompt
- Web browser (Firefox, Safari, Chrome...)

# Getting Started

- Follow the instructions at:  
<http://guides.railsgirls.com/app/>
- To view the app:  
<http://localhost:3000>

**tryruby.org**

# Other Resources

- Rails for Zombies:  
<http://railsforzombies.org>
- Rails Guides:  
<http://guides.rubyonrails.org/>
- Code Quizzes:  
<http://www.codequizzes.com/>
- Rails Screencasts:  
<http://railscasts.com/>
- Codecademy:  
<http://www.codecademy.com/tracks/ruby>



**Questions?**



**Thank You...**

***Happy Coding!***