Functional Reactive Programming
With Frappuccino
@steveklabnik
Thank you!

We Build Developers

JumpstartLab offers the best web development training anywhere. We're known for our expertise in Ruby on Rails, but also instruct courses in jQuery, JavaScript, ExtJS, and Git.

For companies and teams, we offer custom training anywhere from two days to six months.
Thank you!

Thank you so much, Athens.
Dad
Frappuccino
Irresponsible Ruby
Irresponsible Ruby

What is #irresponsibleruby?
Irresponsible Ruby

Ruby code that you wouldn't deploy at your day job because it's just too interesting or creative.
Irresponsible Ruby

- Neat hacks
- Weird metaprogramming
- Unusual techniques
- No Unit Tests
Creativity
Creativity

"A letter from _why"
Creativity

I do not write tests for my code. I do not write very many comments. I change styles very frequently.
Creativity

And, most of all, I shun the predominant styles of coding because that would go against the very essence of experimentation.
Creativity

In short: all I do is muck around.
Creativity

I admire programmers who take risks. They aren’t afraid to write dangerous or “crappy” code.
Creativity

If you worry too much about being clean and tidy, you can’t push the boundaries.
Creativity

Until an asteroid,

_why
Creativity

Steve Klabnik  •  2 years ago
As someone who maintains _why's code these days, please, write some tests.
6  △  ▼  Reply  Share »
Creativity

In the end, _why was right. 
But so was I.
Two Modes

Programmers produce things. We're builders.
Two Modes

"Linguistic Relativity"
Two Modes

- Responsible Mode
- Irresponsible Mode
Two Modes

- TDD Mode
- "Exploratory Mode"
Two Modes

We need both!
Shoes Introduction
Shoes Introduction

- App
Shoes Introduction

- Button
Shoes Introduction

- Alert
Shoes Introduction

- Para
Shoes Introduction

- edit_line
Shoes Introduction

- background
Shoes Introduction

- hide
Shoes Introduction

- animate
FRP Introduction

FRP has two parts:

- Functional
- Reactive
FRP Introduction

Functional programming: functions as a first-class concept.
FRP Introduction

Reactive Programming: data flows as a first-class concept.
FRP Introduction

FRP: using first-class functions to manipulate data flows
FRP Introduction

Data flows?
FRP Introduction

\[
\begin{align*}
  a &= 5 \\
  b &= a + 6 \\
  b # &= 11 \\
  a &= 6 \\
  b # &= 11
\end{align*}
\]
FRP Introduction

\[
\begin{align*}
a & := 5 \\
b & := a + 6 \\
b & \# => 11 \\
a & := 6 \\
b & \# => 12
\end{align*}
\]
FRP Introduction

- "time varying value": "behavior" or "signal"
- "events": occurs many times over time
- "switching": react to events
FRP Introduction
FRP Introduction
Frappuccino
Introduction

- Streams
Frappuccino
Introduction

- Events
Frappuccino Introduction

- map
Frappuccino
Introduction

- inject
Frappuccino + Shoes

- Button sample
Frappuccino + Shoes

- Circle Example
Frappuccino

The most irresponsible code I've written lately.
Go Forth And Be Irresponsible

- Be Creative.
- Do 'bad' things.
- Let's have fun with Ruby!