



Simb
& Company

Enterprise JS

Simeon Bateman
simeon@simb.co
@simBateman

Simeon Bateman

Principal Instigator

Simb & Company

Developer/Consultant

Flex and AIR Trainer

CF/Java/Ruby/Node/Javascript

Spoon Foundation Board

Apache Flex Committer



In the beginning there was HTML and it was good.
But there were many browsers and HTML was not
consistently implemented

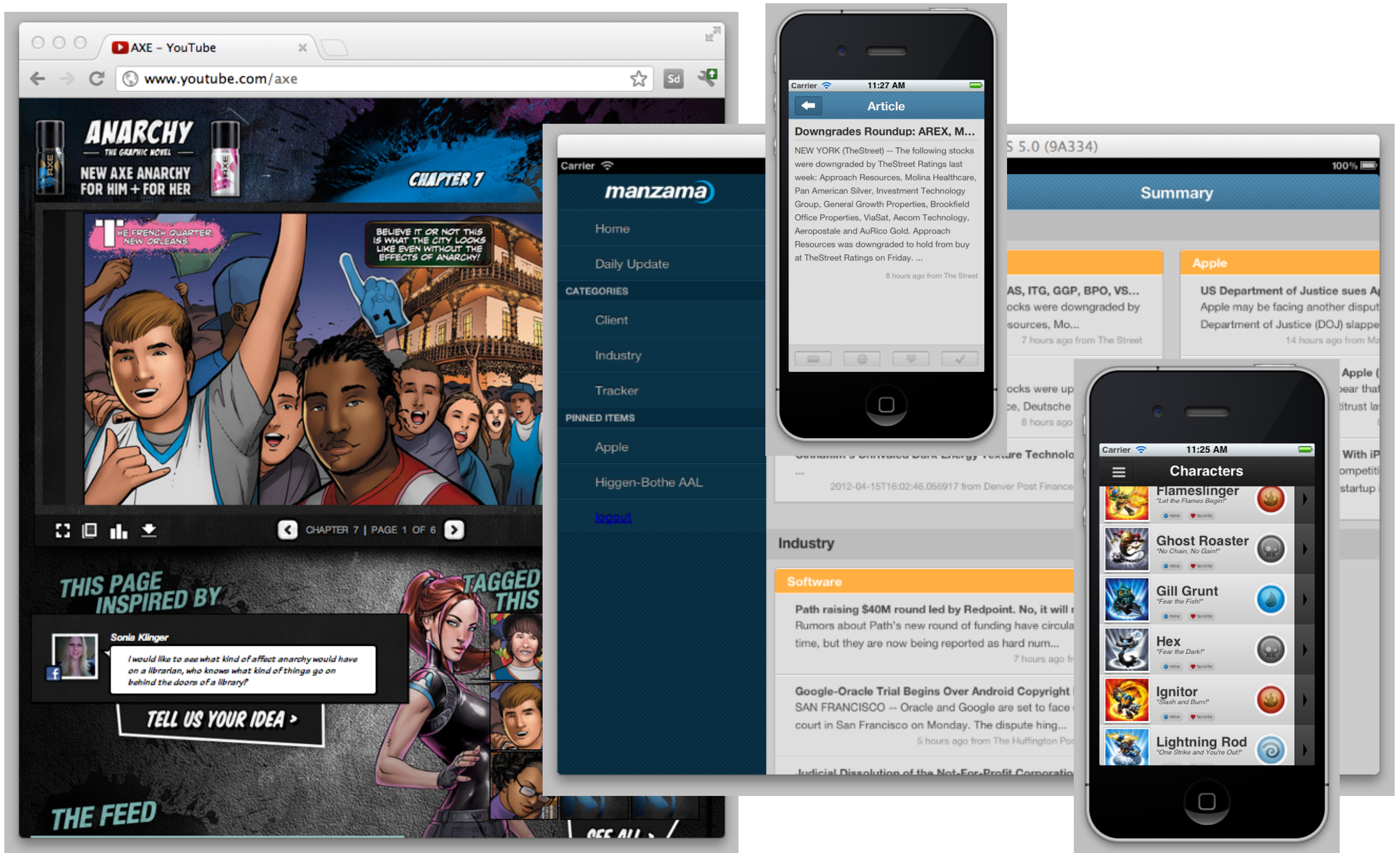
Flash was a plugin with great reach and penetration. It ran everywhere and it was said that it was good.

But then came the day when the prophet Steve said that he was not happy with Flash. And he cried out that it would not run on his tablets.

And thus Simeon was cast out of the promised land to search for a new tool to build apps for all clients and platforms.

The journey began ~ 2 years ago...

How can I build solutions for all of this with one technology



What is a guy to do?



The common base

- HTML
- Javascript
- CSS

Javascript



- Scoping
- “Classes”
- Inheritance

```
var Person = (function() {  
    var name;  
  
    Person.name = 'Person';  
  
    name = "Not Set";  
  
    function Person(name) {  
        this.name = name;  
    }  
  
    Person.prototype.getName = function() {  
        return this.name;  
    };  
  
    return Person;  
  
})();  
  
var sim = new Person("Sim");  
alert(sim.getName());
```

jQuery



- Not an application Framework
- Utility library for:
 - DOM Manipulation
 - Animation
 - Effects
 - AJAX
 - Deferreds

```
document.getElementById("content");
```

```
$("#content") //id selector
```

```
//update contents of id="content"  
$("#content").html("updated html");  
//alert contents of id="content"  
alert( $("#content").html() );
```

```
//Grab the value of id="my-input"  
$("#my-input").val()
```

```
$(".some_class") //class selector
```

```
//make id="content" disappear with fade animation  
$("#content").fadeOut();
```

```
//remove the id="#content" element  
$("#content").remove();
```

```
$.get('http://api.twitter.com/status')  
.done(function(data){  
    //do something with data  
}).fail(function(e,r,q){  
    // something went wrong  
});
```



Layout and Skinning

- CSS provides great control over the visual styling of your controls
- CSS Box Model
- Relative/Absolute Positioning
- Animation (GPU acceleration)

MVC

ember

Spine



BACKBONE.JS

Knockout.

<angular/>



batman.js

Backbone JS - <http://backbonejs.org/>

- Leverages jQuery API libraries
- MV-R
 - Model Views and Router
- REST API Access
- Active Developer Community
- Lots of Extensions

Common Backbone Idioms

- Use the `extends` function to create your classes
- A function named `initialize` will be called as a constructor on your backbone objects
- Backbone is build on top of Underscore. Underscore provides:
 - Collection Manipulation
 - View Templates

Backbone Router

- Responsible for the interaction of the URL/Navigator
- Define a Router definition by calling extend on the Backbone Router object

```
var Router = Backbone.Router.extend({
  routes : {
    "": "createHome",
    "game": "createGame",
    "user/:id": "loadUser"
  },
  createHome: function() {
    //Run the Home Screen Code
  },
  createGame: function() {
    //Run the Game Screen Code
  },
  loadUser: function(id) {
    //Run the Game Screen Code
  },
});
var router = new Router();
router.navigate("game", {trigger: true});
```

Backbone Views

- Views provide a structure for common patterns like drawing your UI responding to UI events.
- Provide separation of UI from behavior using templates
- Render method is used by convention to process the actual drawing of UI to screen
- el defaults to div but can be changed with tagName prop

```
var GameView = Backbone.View.extend({
  className: 'panel',
  template: _.template( $('#game-template').html() ),
  events: {
    "click #gameBoardClock": "onClockClick"
  },
  render: function(){
    this.$el.html( this.template() );
    var gameBoard = new GameBoardView();
    var $gameBoard = this.$el.find('#gameBoard');
    $gameBoard.html( gameBoard.render().el);
    return this;
  },
  onClockClick: function(e){
    console.log('clock clicked', e);
  }
});
```


View Compositing

- Views can be used to instantiate other views
- You can also swap out views for to create “modules” or navigation in an application

Todos

What needs to be done?

☐ Mark all as complete

- ☐ Get Groceries
- ☐ Pick up kids
- ☐ Eat
- ☐ Sleep
- ☒ ~~Feel Overwhelmed~~

4 items left

Clear 1 completed item

Backbone Models and Collections

- Built on top of Backbone.Events, the Model and Collection “classes” allow us to listen for changes in the data
 - Model’s don’t define their properties
 - Collections specify what type of Model make up its children
 - Use the `get` and `set` methods to modify data
 - Understand REST and have built in functionality for fetch, save, etc...
- ```
var Todo = Backbone.Model.extend({
 initialize: function() {
 console.log('new todo created',
 this.attributes);
 }
});

var Todos = Backbone.Collection.extend({
 model: Todo
});
```

# Backbone Events

---

- All Backbone Classes extend events giving them “on” and “off” methods for event binding
- To dispatch an event use the “trigger” function
- Bind a callback to “all” to receive any event the object dispatches

```
var Sidebar = Backbone.Model.extend({
 promptColor: function() {
 var cssColor = prompt("Please enter a CSS color:");
 this.set({color: cssColor});
 }
});

window.sidebar = new Sidebar;

sidebar.on('change:color', function(model, color) {
 console.log('color changed', model, color);
});

sidebar.set({color: 'white'});

sidebar.promptColor();
sidebar.trigger('change:color', sidebar, 'aqua')
```

# Todo Demo

---

- Lets Look at the Backbone Todo Demo

# More Info On Backbone

---

- [backbonejs.org](http://backbonejs.org)
- <http://recipeswithbackbone.com/>
- <http://addyosmani.github.com/backbone-fundamentals/>



# Backbone JS Extensions

---

- <http://walmartlabs.github.com/thorax/>
- <https://github.com/moviepilot/chaplin>
- <http://derickbailey.github.com/backbone.marionette/>



**Backbone.Marionette**

# CoffeeScript - <http://coffeescript.org/>

---

- DSL that compiles to Javascript

```
class Person
 name= "Not Set"
 constructor: (name) ->
 @name = name
```

- Writing good JS code is rigorous

```
 getName: ->
 @name
```

- Little Book on CoffeeScript  
<http://arcturo.github.com/library/coffeescript/>

```
class Captain extends Person
 boat: "SS Big Ship"
```

```
sim = new Captain("Sim")
alert(sim.getName())
alert(sim.boat)
```

# Tooling

---

Brunch

TextMate

Capt

Eclipse

Live Reload



Sublime Text 2

IntelliJ

Aptana

Guard

# Brunch - <http://brunch.io/>

---

- Toolset for
  - Creating Projects
  - Building/Compiling Code
  - Web Server
  - Stitching Files/RequireJS
- Runs on Node.js
  - CoffeeScript, Stylus, Eco, Jade, Handlebars and more!

# Brunch Demo

---

- Create New Brunch application
- Review Brunch version of Todo



# Q & A

---

- Simeon Bateman
- [simeon@simb.co](mailto:simeon@simb.co)
- <http://blog.simb.net>
- @simBateman



Call Us For Help With Your Project!

1-855-5-SIMBCO