

The Joshfire Framework

Technical overview of the 0.9 release

@sylvinus

ParisJS #8, June 29th 2011

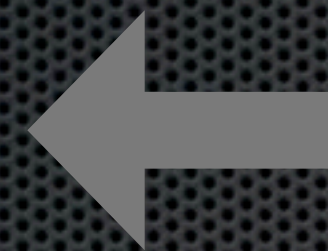
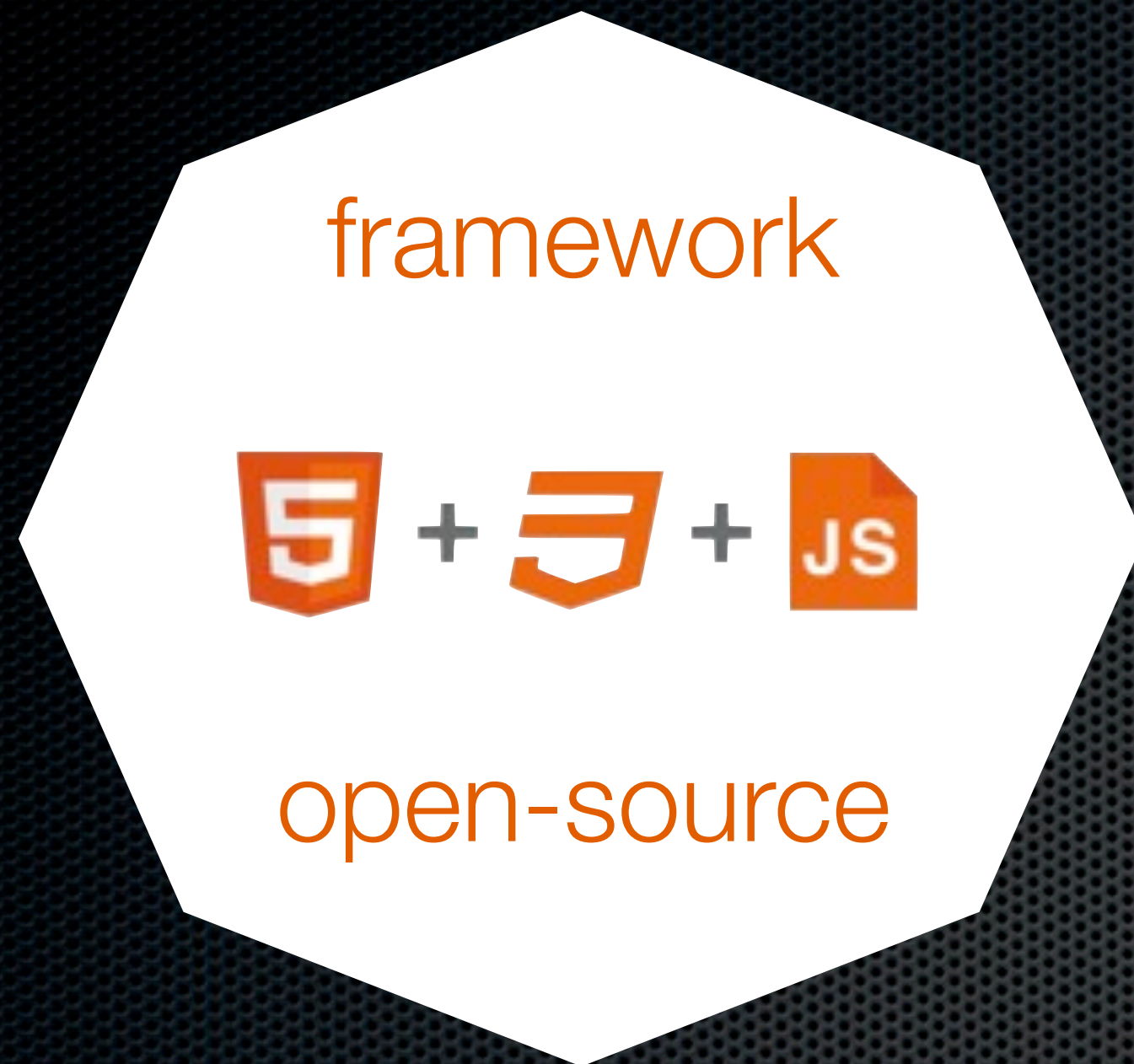
What problem Joshfire solves

- ✦ A new device every day...
- ✦ Technological fragmentation
- ✦ Some boxes/SDKs are very hard to develop for
- ✦ Agencies selling N apps for N devices

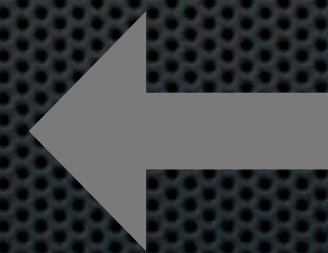


Increasing fragmentation => Developer pain

The solution



A powerful framework based only on standard web technologies



A library of device-specific adapters



One app, many devices



- ✦ For developers:
 - ✦ Simple, fast
 - ✦ Documented, standard
 - ✦ Easy to maintain
 - ✦ Evolutive
- ✦ For users:
 - ✦ A continuous experience through all their devices

Let's do a cross-device video app

Specs

- ✦ There's a list of videos
- ✦ I choose a video
- ✦ Video plays
- ✦ (Repeat on new device)

HTML5 ?

```
<html>
<body>
  <video id="myplayer" controls autoplay />
  <ul>
    <li><a href="video1.mp4">Video 1</a></li>
    <li><a href="video2.mp4">Video 2</a></li>
  </ul>
  <script>
    $('li a').click(function(ev) {
      $('#myplayer')[0].src = ev.target.href;
    });
  </script>
</body>
</html>
```

Not actually cross-device

- ✦ <video> nightmare
- ✦ jQuery on poor browsers :/
- ✦ Keyboard/Remote support?
- ✦ How to load Video 3?
- ✦ Server-side?

Describe what you want!

```
var Data = [  
  {  
    "id": "1",  
    "url": "video1.mp4"  
  },  
  {  
    "id": "2",  
    "url": "video2.mp4"  
  },  
];
```

```
var UI = [  
  {  
    "id": "myPlayer",  
    "type": "video"  
  },  
  {  
    "id": "myVideos",  
    "type": "list",  
    "dataPath": "/",  
    "onSelect": function(elt) {  
      app.ui.myPlayer.play(elt.url);  
    }  
  }  
];
```

Every Joshfire app has a Data Tree and a UI Tree

Describe what you want!

```
var Data = [  
  {  
    "id": "videos",  
    "children": [  
      {  
        "id": "1",  
        "url": "video1.mp4"  
      },  
      {  
        "id": "2",  
        "url": "video2.mp4"  
      }  
    ]  
  }  
];
```

```
var UI = [  
  {  
    "id": "myPlayer",  
    "type": "video"  
  },  
  {  
    "id": "myVideos",  
    "type": "list",  
    "dataPath": "/videos/",  
    "onSelect": function(elt) {  
      app.ui.myPlayer.play(elt.url);  
    }  
  }  
];
```

Every Joshfire app has a Data Tree and a UI Tree

Describe what you want!

```
var Data = [  
  {  
    "id": "videos",  
    "children": function(callback) {  
      myVideoApi(callback);  
    }  
  }  
];
```

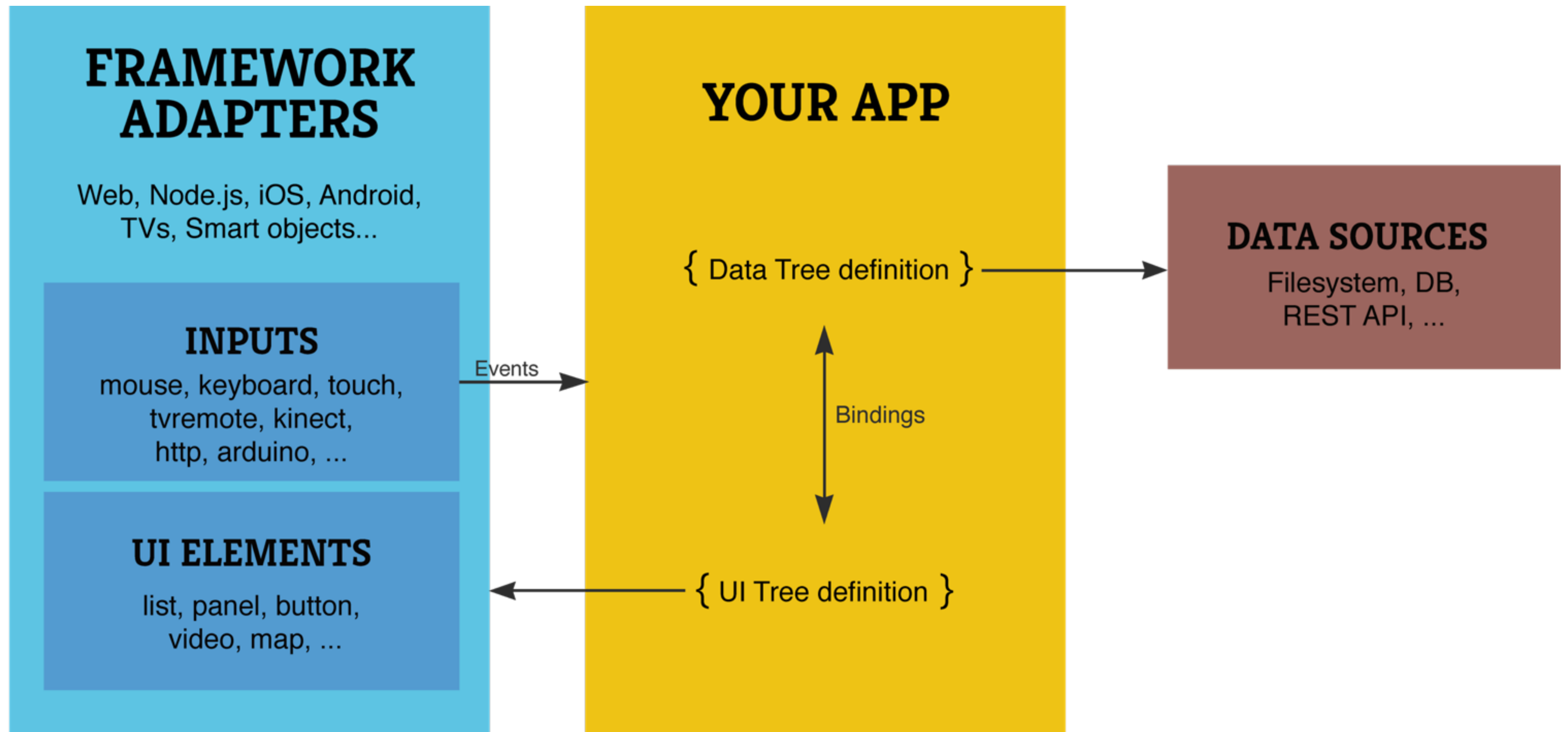
```
var UI = [  
  {  
    "id": "myPlayer",  
    "type": "video"  
  },  
  {  
    "id": "myVideos",  
    "type": "list",  
    "dataPath": "/videos/",  
    "onSelect": function(elt) {  
      app.ui.myPlayer.play(elt.url);  
    }  
  }  
];
```

Every Joshfire app has a Data Tree and a UI Tree

What does this allow?

- ✦ Forget PHP, Ruby and [insert deprecated language]. **Full JavaScript stack.**
- ✦ Translate to HTML(5), either on client or server
- ✦ Adapt UI depending on device (iOS lists, Native video players, ...)
- ✦ Accept any input method (mouse, keyboard, touch, HTTP, ...)
- ✦ Switch to any data source
- ✦ Expose as RSS/XML feed
- ✦ ...

General design



Framework opinions

- ✦ Impose what really matters
 - ✦ Data & UI Trees
 - ✦ Adapters
- ✦ Let developer stay in his comfort zone for the rest
 - ✦ Template engine / CSS frameworks / CoffeeScript / ...
 - ✦ Backbone.js / Models / Data sources / ...
 - ✦ Expressjs / ...

Tech overview

- ✦ Code 100% JavaScript (FTW!)
- ✦ Beautiful documentation, Simple examples, GitHub
- ✦ Ridiculously modular (RequireJS, Events)
- ✦ Don't reinvent the wheel (Underscore.js, MediaElement.js, ...)
- ✦ Utils library (Splashscreen, Stresstest, Worker pool, Geoloc, ...)
- ✦ Optional build tools in Python (synchronous, Fabric)

Adapter solutions

- ✦ Mobile: Zepto, iScroll/Scrollability, PhoneGap, Titanium?
- ✦ TVs: jQuery (modern), Server-side rendering (CEHTML & friends)
- ✦ Desktop: Chromeless, AIR, ...
- ✦ Arduino/Objects: HTTP packets to Node then socket.io
- ✦ Embedded: ARM + Chromium framebuffer?
- ✦ Boxee: XML export
- ✦ ...

Joshfire 0.9 (Developer preview)

- ✦ Released today! Check <http://joshfire.com>
- ✦ First JS library ever to ship with web+mobile+TV+node+arduino
- ✦ Under heavy development (new adapters, more doc, ...)
- ✦ Developer feedback welcome before 1.0 API freeze
- ✦ 0.9.x & 1.x releases will focus on media/content apps
- ✦ We're still hiring ;-)
- ✦ We'll be happy to help you refactor your apps with the framework
- ✦ Questions?

Joshfire
THE CHANGE FACTORY