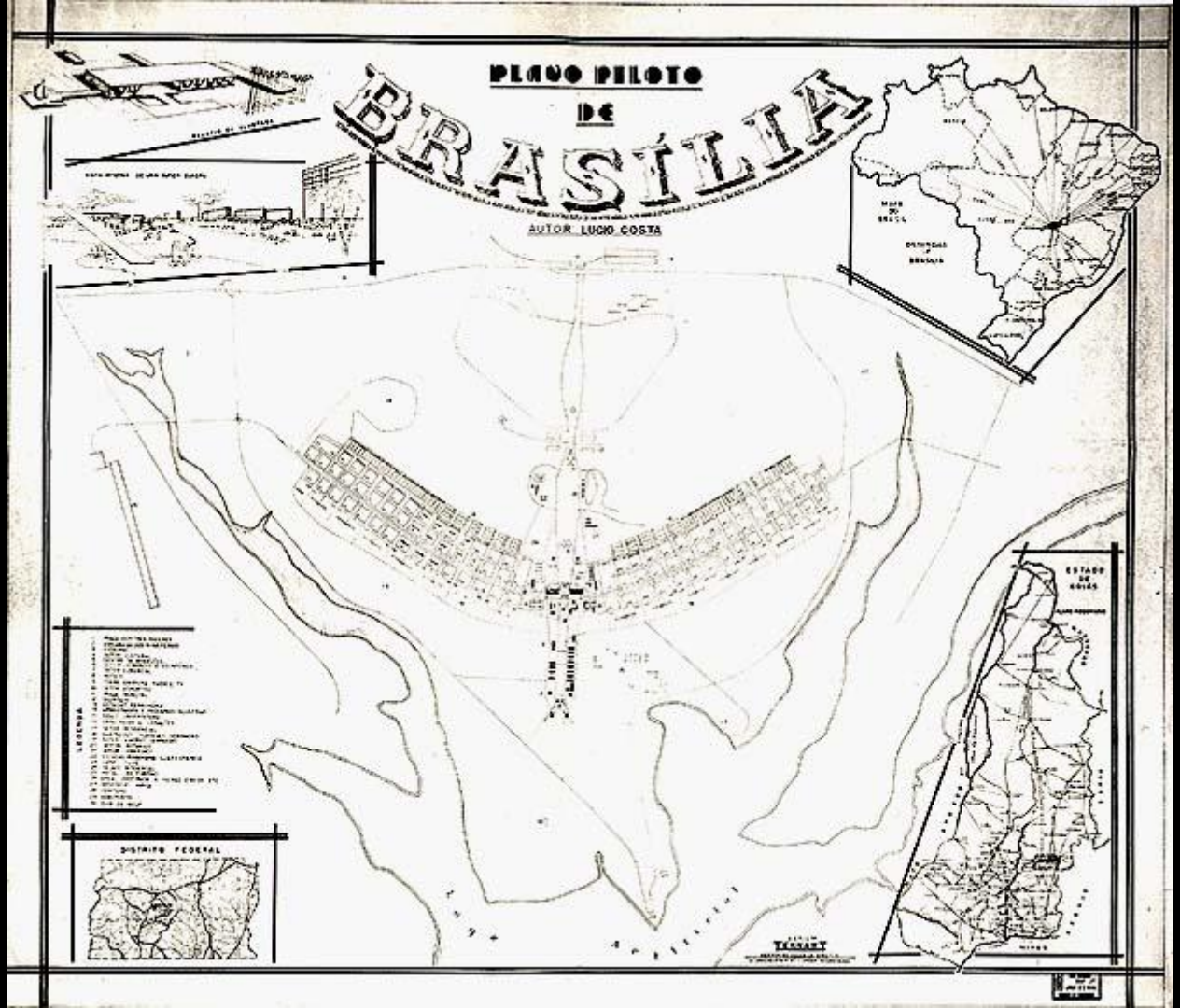
Clients Matter, Services Don't

Recovering the Future of Services on the Web

Mike Amundsen, API Academy / CA
@mamund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Clients Matter, Services Don't

Recovering the Future of Services on the Web

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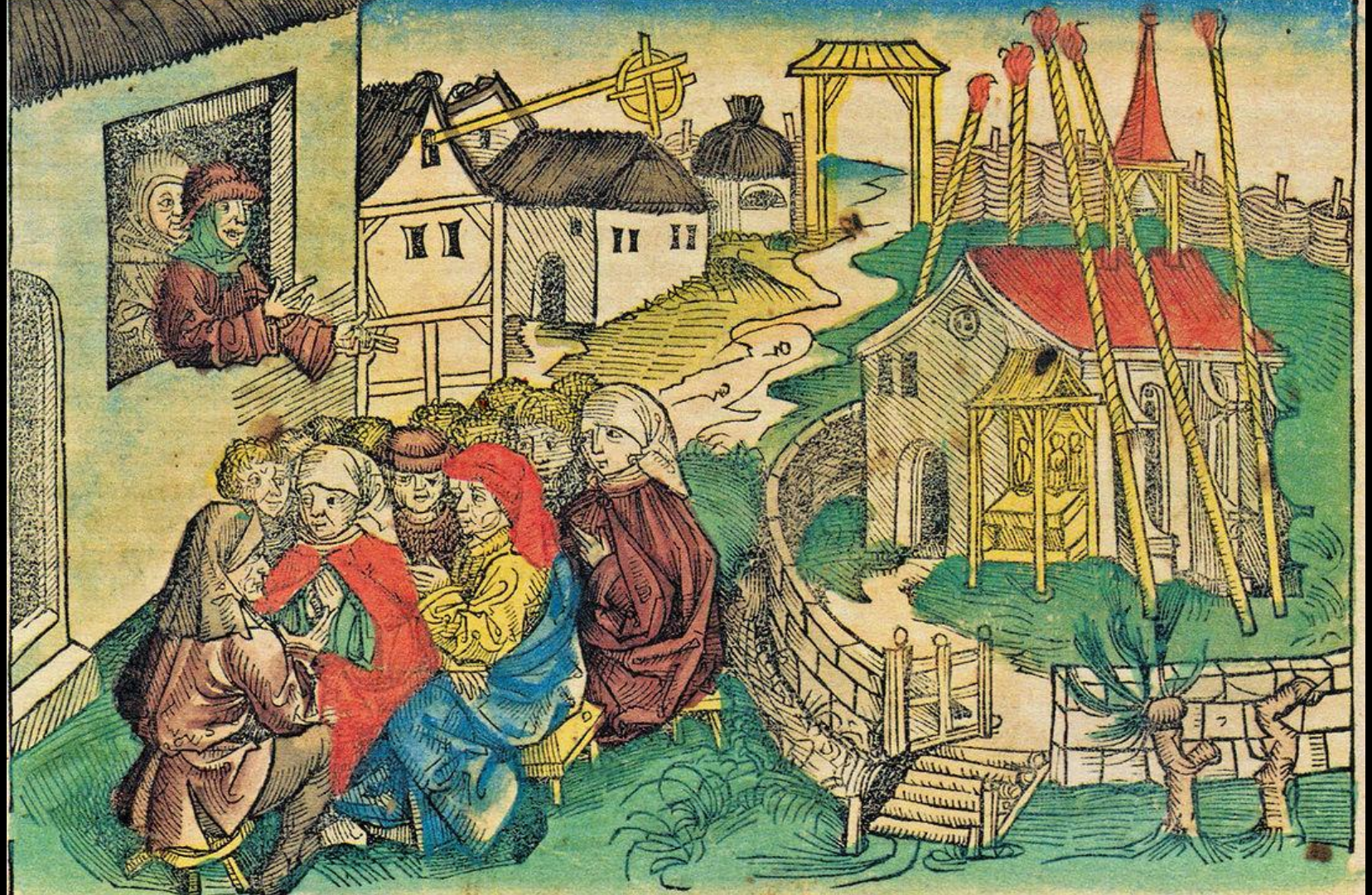

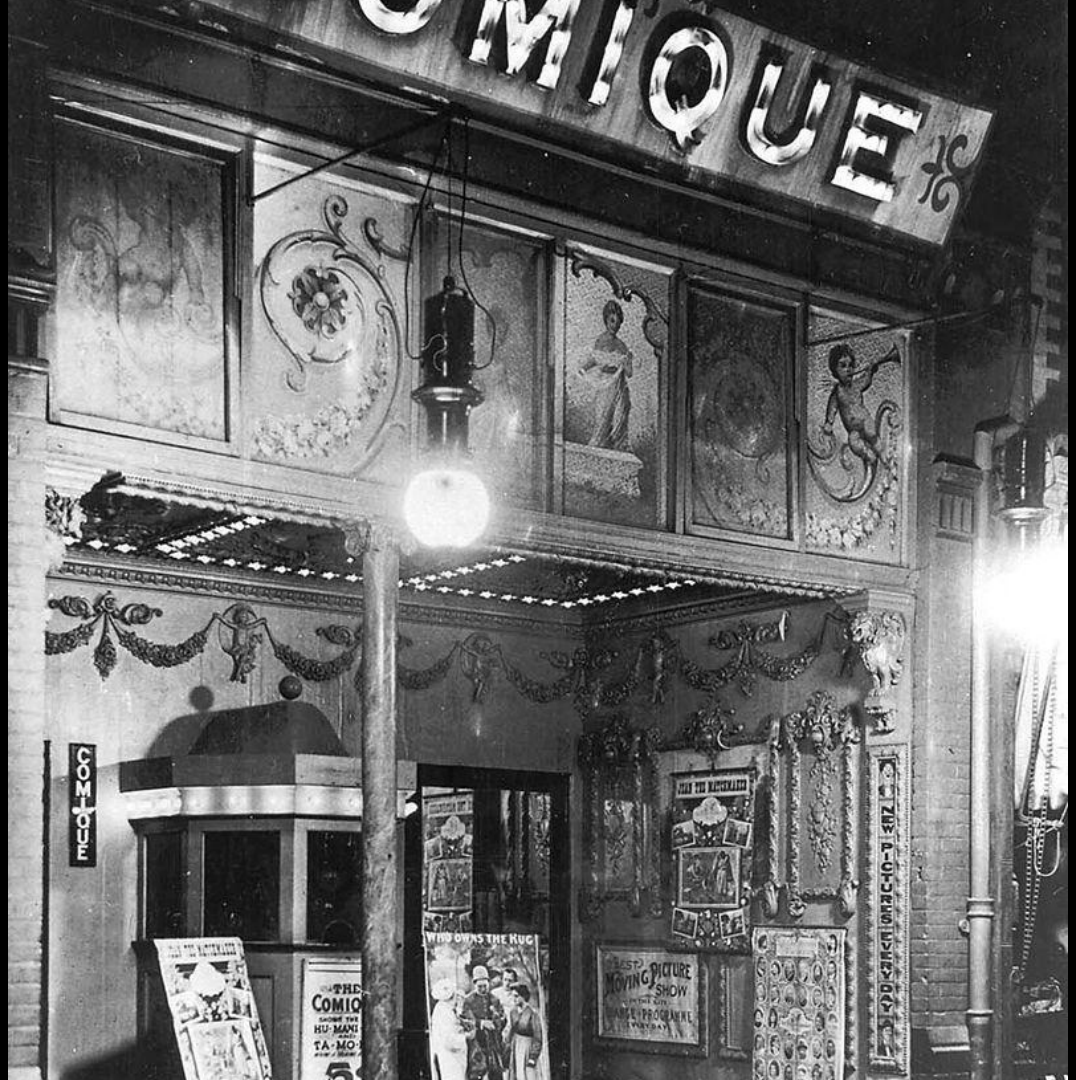
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WHO OWNS THE KUG
BEST MOVING PICTURE SHOW

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HONEST HERE...
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NCSA Mosaic for MS Windows

File Edit Options Navigate Hotlist Annotate Help

Document Title: NCSA Mosaic Home Page

Document URL: http://www.ncsa.uiuc.edu/SDG/Software/Mosaic/NCSAMosaicHome.html

Welcome to NCSA Mosaic, an Internet information browser and World Wide Web client. NCSA Mosaic was developed at the National Center for Supercomputing Applications at the University of Illinois in --> Urbana-Champaign. NCSA Mosaic software is copyrighted by The Board of Trustees of the University of Illinois (UI), and ownership remains with the UI.

Jan `97

The Software Development Group at NCSA has worked on NCSA Mosaic for nearly four years and we've learned a lot in the process. We are honored that we were able to help bring this technology to the masses and appreciated all the support and feedback we have received in return. However, the time has come for us to concentrate our limited resources in other areas of interest and development on Mosaic is complete.

All information about the Mosaic project is available from the homepages.

NCSA Mosaic Platforms:

- NCSA Mosaic for the X Window System
- NCSA Mosaic for the Apple Macintosh
- NCSA Mosaic for Microsoft Windows

World Wide Web Resources The following resources are available to help introduce you to cyberspace and keep track of its growth:

- A glossary of World Wide Web terms and acronyms
- An INDEX to Mosaic related documents
- NCSA Mosaic Access Page for persons with disabilities
- Mosaic and WWW related Tutorials
- Internet Resources Meta-Index at NCSA

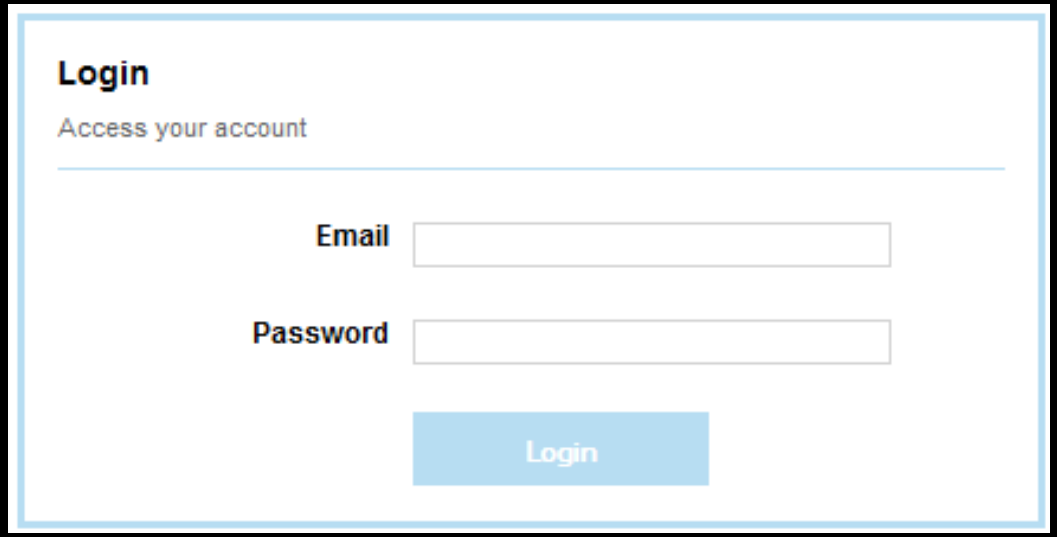
NUM

NATIVE APPS

VS

HTML

APPS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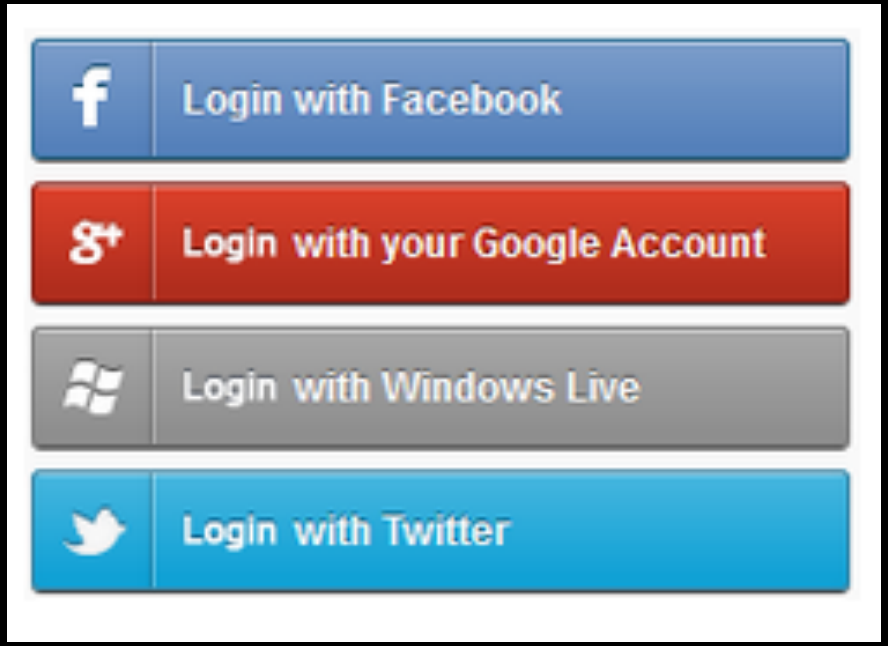
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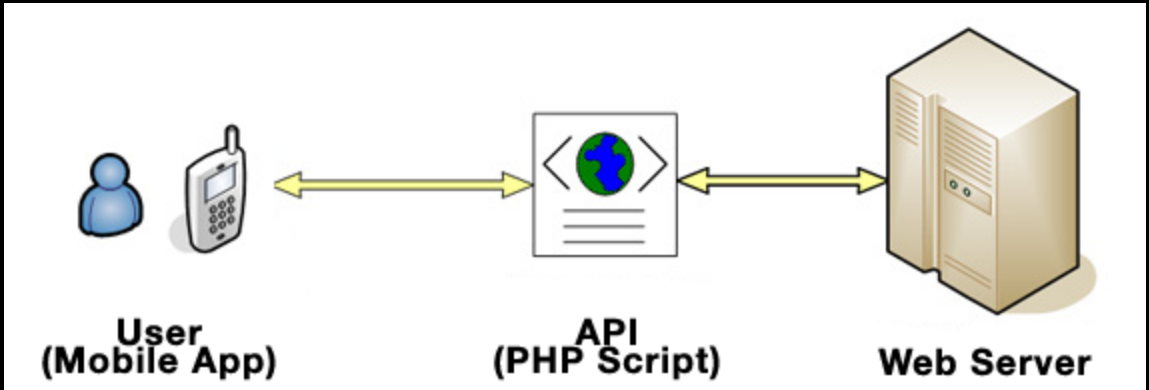
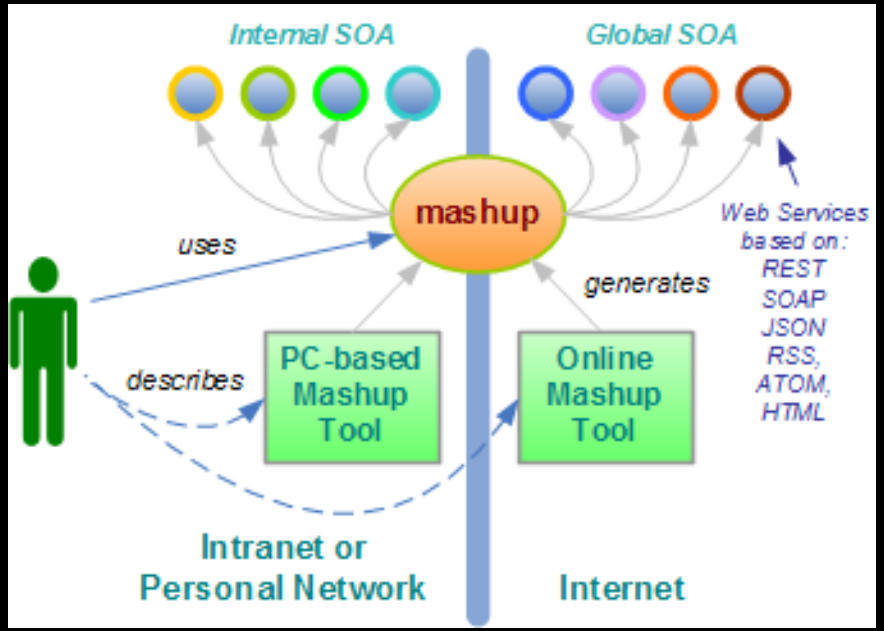
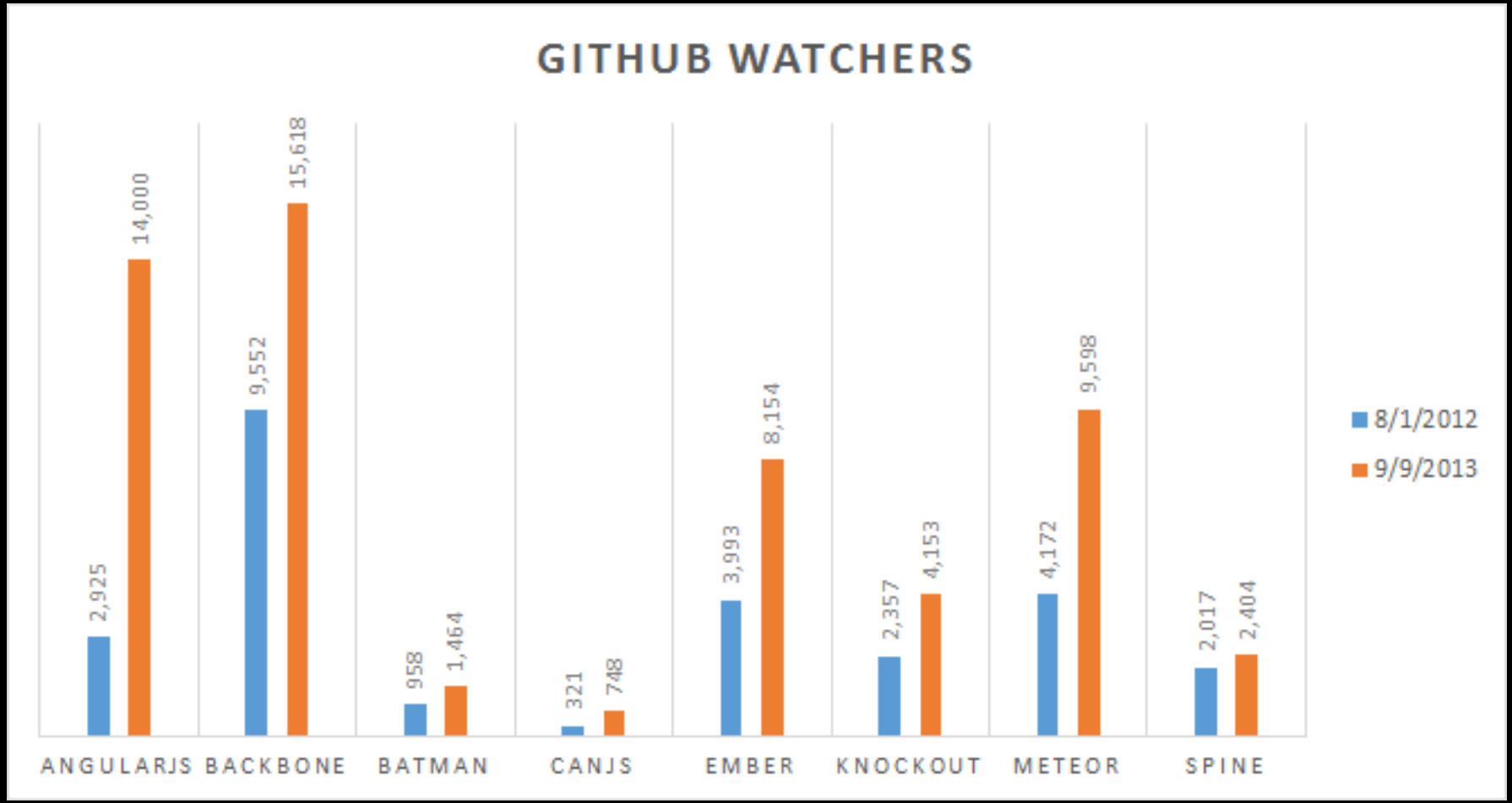

User
(Mobile App)
API
(PHP Script)
Web Server


Internal SOA
Global SOA
mashup
Web Services
based on:
REST
SOAP
JSON
RSS,
ATOM,
HTML
uses
generates
describes
PC-based
Mashup
Tool
Online
Mashup
Tool
Intranet or
Personal Network
Internet


GITHUB WATCHERS
2,925
14,000
9,552
15,618
958
1,464
321
748
3,993
8,154
2,357
4,153
4,172
9,598
2,017
2,404
ANGULARJS
BACKBONE
BATMAN
CANJS
EMBER
KNOCKOUT
METEOR
SPINE
8/1/2012
9/9/2013

Balloons — Balloons.playground — Edited

Balloons.playground › setupHero(_:_:)

```
func doDidMoveToView(scene : SKScene,
                     delegate : SKPhysicsContactDelegate) {


    // ================== Blimp Control ======================

    yOffsetForTime = { i in
        return 80 * sin(i / 10.0)
    }

    // ============= Scene Configuration ====================

    // Set up balloon lighting and per-pixel collisions.
    balloonConfigurator = { b in
        b.physicsBody.categoryBitMask = CONTACT_CATEGORY
        b.physicsBody.fieldBitMask = WIND_FIELD_CATEGORY
        b.lightingBitMask = BALLOON_LIGHTING_CATEGORY
    }

    // Load images for balloon explosion.
    balloonPop = (1...4).map {
        SKTexture(imageNamed: "explode_0\($0)")
    }

    // Install turbulant field forces.
    var turbulence = SKFieldNode.noiseFieldWithSmoothness(0.7,
                                 animationSpeed:0.8)
    turbulence.categoryBitMask = WIND_FIELD_CATEGORY
    turbulence.strength = 0.21
    scene.addChild(turbulence)

    cannonStrength = 210.0

    // ================ Scene Initialization =================

    // Do the rest of the setup and start the scene.
    setupHero(scene, delegate)
    setupFan(scene, delegate)
    setupCannons(scene, delegate)
}


func handleContact(bodyA : SKSpriteNode,
                   bodyB : SKSpriteNode)| {

    if (bodyA == hero) {
        bodyB.normalTexture = nil
        bodyB.runAction(removeBalloonAction)
    } else if (bodyB == hero) {
        bodyA.normalTexture = nil
        bodyA.runAction(removeBalloonAction)
    }
}
```

(Function)
(1058 times)

(Function)

(55 times)

[SKTexture, SKTexture, SKTe...
(4 times)

SKNoiseFieldNode

SKNoiseFieldNode
SKNoiseFieldNode
(GameScene ((Function)) ((F...

210.0

Timeline › Balloons.playground (Timeline)

Balloons

let y = 80 * sin(x)

An application is defined by the client, not the service

Libraries, Widgets, and Frameworks, Oh My!

ANGULARJS

```
<!doctype html>
<html ng-app="app">
  <head>
    <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.3.0-beta.
11/angular.min.js"></script>
    <script src="components.js"></script>
    <script src="app.js"></script>
    <link rel="stylesheet" href="bootstrap.css">
  </head>
  <body>
    <tabs>
      <pane title="Localization">
        Date: {{ '2012-04-01' | date:'fullDate' }} <br>
        Currency: {{ 123456 | currency }} <br>
        Number: {{ 98765.4321 | number }} <br>
      </pane>
      <pane title="Pluralization">
        <div ng-controller="BeerCounter">
          <div ng-repeat="beerCount in beers">
            <ng-pluralize count="beerCount" when="beerForms"></ng-pluralize
>
          </div>
        </div>
      </pane>
    </tabs>
  </body>
</html>
```

ember

```
<table>
    <tr>
        <th>Date</th>
        <th>Subject</th>
        <th>From</th>
        <th>To</th>
    </tr>

    {{#each messages}}
        {{#link-to "mail" this tagName="tr"}}
            <td>{{date date}}</td>
            <td>{{view.isActive}}{{subject}}</td>
            <td>{{from}}</td>
            <td>{{to}}</td>
        {{/link-to}}
    {{/each}}
</table>

{{outlet}}
```

B

```
<!-- set up the modal to start hidden and fade in and out -->
<div id="myModal" class="modal fade">
  <div class="modal-dialog">
    <div class="modal-content">
      <!-- dialog body -->
      <div class="modal-body">
        <button type="button" class="close" data-dismiss="modal">&times;</butto
        Hello world!
      </div>
      <!-- dialog buttons -->
      <div class="modal-footer"><button type="button" class="btn btn-primary">O
    </div>
  </div>
</div>
```

jQuery
write less, do more.

Get the `<button>` element with the class 'continue' and change its HTML to 'Next Step...'

```
$( "button.continue" ).html( "Next Step..." )
```

Event Handling

Show the `#banner-message` element that is hidden with `display:none` in its CSS when any button in `#button-c`

```
var hiddenBox = $( "#banner-message" );
$( "#button-container button" ).on( "click", function( event ) {
  hiddenBox.show();
});
```

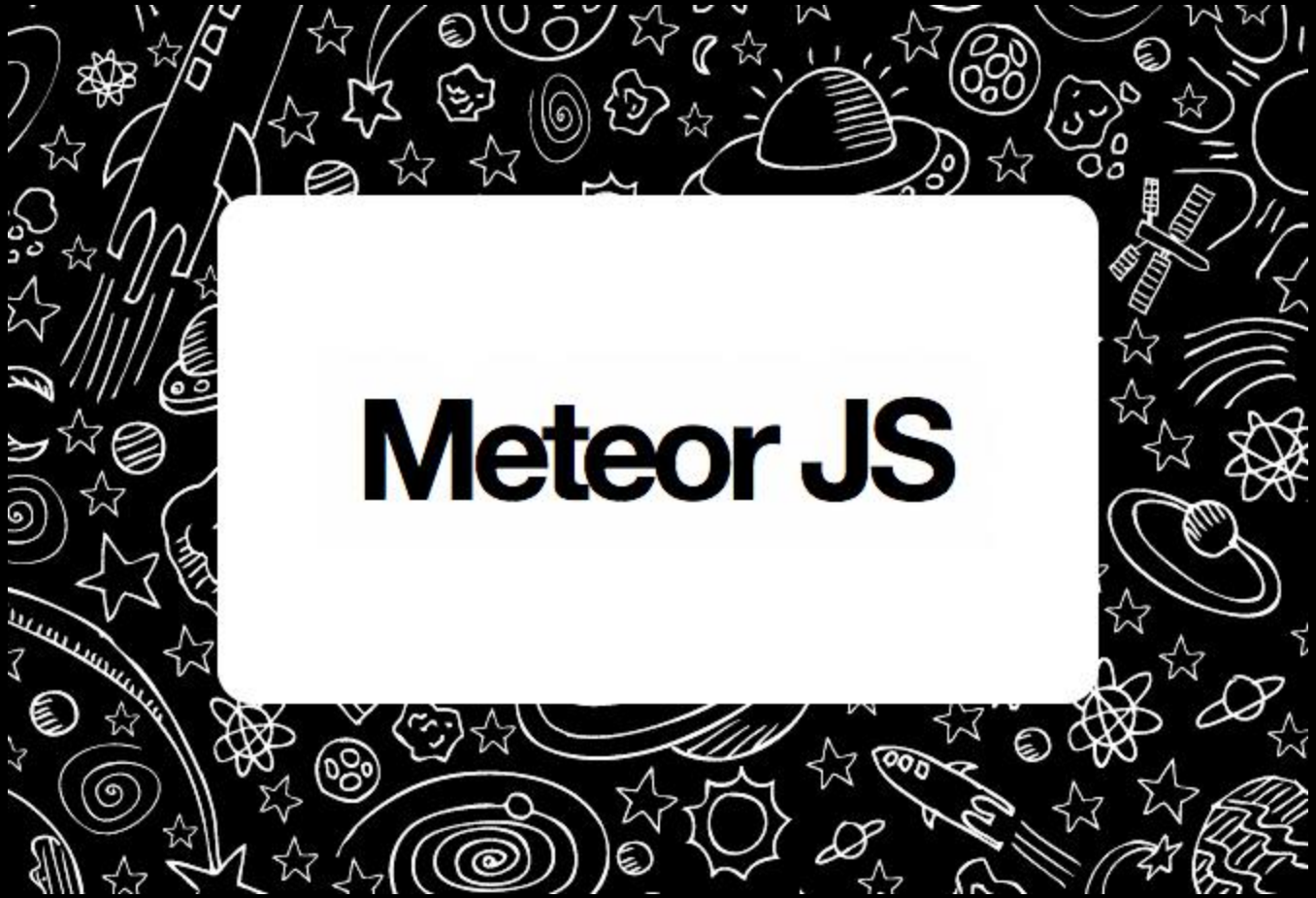
Ajax

Call a local script on the server `/api/getWeather` with the query parameter `zipcode=97201` and replace the elem

```
$.ajax({
  url: "/api/getWeather",
  data: {
    zipcode: 97201
  },
  success: function( data ) {
    $( "#weather-temp" ).html( "<strong>" + data + "</strong> degrees" );
  }
});
```

BACKBONE.JS

```
<!-- Templates -->

<script type="text/template" id="item-template">
  <div class="view">
    <input class="toggle" type="checkbox" <%= done ? 'checked="checked"' : '' %> />
    <label><%- title %></label>
    <a class="destroy"></a>
  </div>
  <input class="edit" type="text" value="<%- title %>" />
</script>

<script type="text/template" id="stats-template">
  <% if (done) { %>
    <a id="clear-completed">Clear <%= done %> completed <%= done == 1 ? 'item' : 'items' %></a>
  <% } %>
  <div class="todo-count"><b><%= remaining %></b> <%= remaining == 1 ? 'item' : 'items' %> left</div>
</script>
```

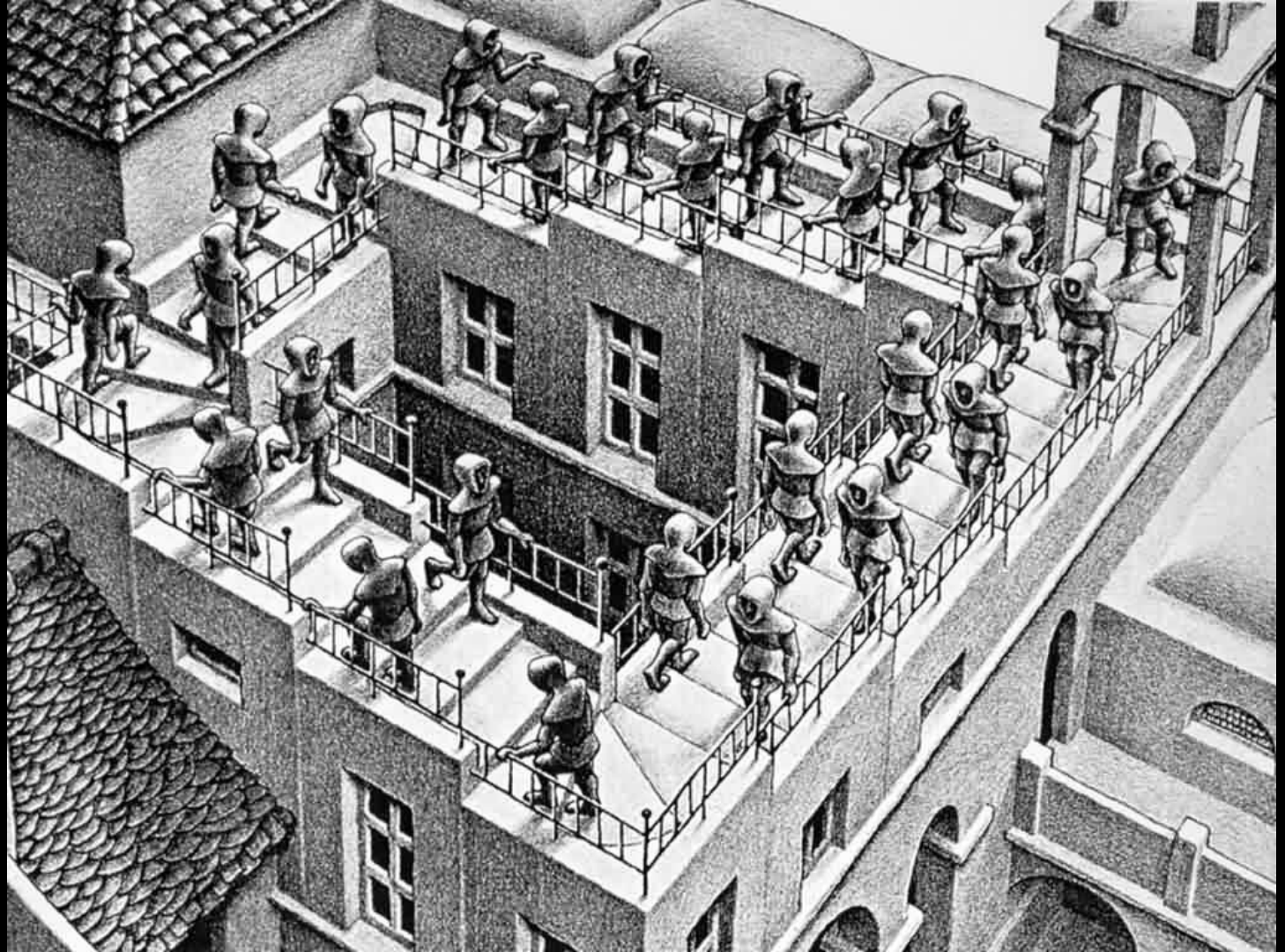

Meteor JS

```
// server: publish all room documents
Meteor.publish("all-rooms", function () {
  return Rooms.find(); // everything
});

// server: publish all messages for a given room
Meteor.publish("messages", function (roomId) {
  check(roomId, String);
  return Messages.find({room: roomId});
});

// server: publish the set of parties the logged-in user can see.
Meteor.publish("parties", function () {
  return Parties.find({$or: [{"public": true},
                             {invited: this.userId},
                             {owner: this.userId}]});
});
```

Publish functions can provide different results to each client. In the last example, a logged in user can only see `Party` documents that are public, that the user owns, or that the user has been invited to.

Once subscribed, the client uses its cache as a fast local database, dramatically simplifying client code. Reads never require a costly round trip to the server. And they're limited to the contents of the cache: a query for every document in a collection on a client will only return documents the server is publishing to that client.

```
// client: start a parties subscription
Meteor.subscribe("parties");

// client: return array of Parties this client can read
return Parties.find().fetch(); // synchronous!
```



MUTTS

BY PATRICK McDONNELL

My heart is ever at your service.

~ William Shakespeare

2-12 MUTTS © 2012 PATRICK McDONNELL · DISTRIBUTED BY KING FEATURES

J. Developer and the Seven Services

COST
VALUE

It's your story.
Own it.

Singly | API Integration M

singly.com

Apps #readingToday g-mail Fidesic ePay Service ... TripIt glink g-voice MyChart mfp 5/3 sf Peabrain rest-irc lrssi DONALD REMEMBE... 100words

singly

API PARTNERSHIP ENTERPRISE LOGIN

Integrate Lots of APIs, Easily

If integrating one of these APIs on your own is a headache, then integrating several is a migraine. Singly Data Fabric pushes unified data from any apps or devices your users have authenticated directly to your database. Forget about nuanced differences in rate limits, endpoints and API design. Instead, just pick the APIs you'd like connected and get moving.

HEALTH PHOTOS SOCIAL CONTACTS

Whether you need Foursquare Checkins, Facebook Likes, Favorite Tweets or anything else across all the major social networks, we've got you covered.

Cloudant

Cloudant's distributed database as a service (DBaaS) allows developers of fast-growing web and mobile apps to focus on building and improving their products, instead of worrying about scaling and managing databases on their own. Highly available, durable and feature-rich, our data store is built for scaling, optimized for concurrent reads & writes, and handles a wide variety of data types including JSON, full-text, and geospatial.

Cloudant is built from the ground up to scale globally, like a CDN for your database.

Learn More DBaaS Comparison

Key features:

- JSON Data Store
- Cloudant Search
- Cloudant Replication
- Cloudant Geospatial
- Cloudant Sync
- Data Security
- MapReduce
- RESTful API
- Cloudant Management and Monitoring

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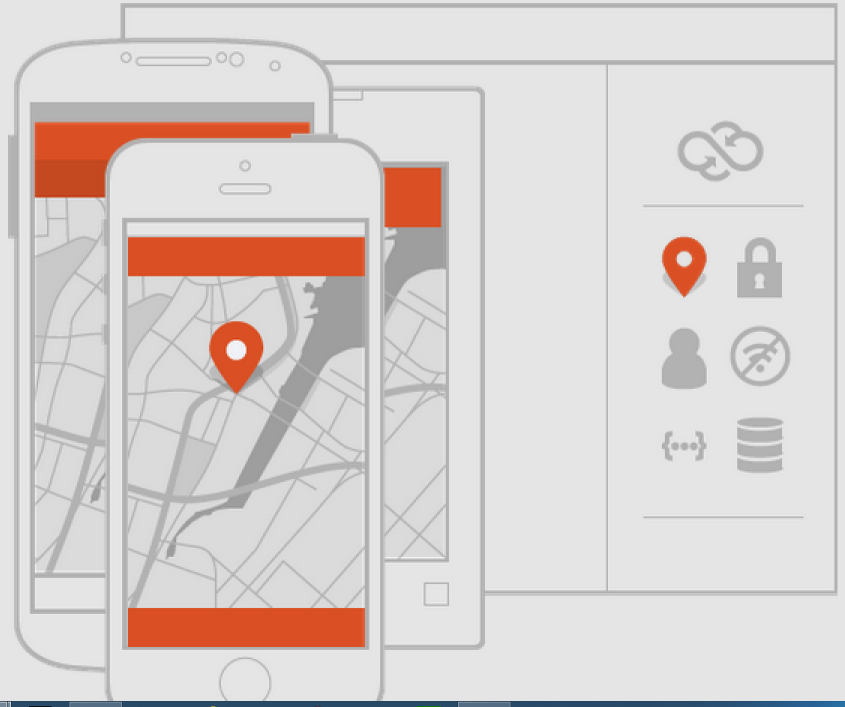

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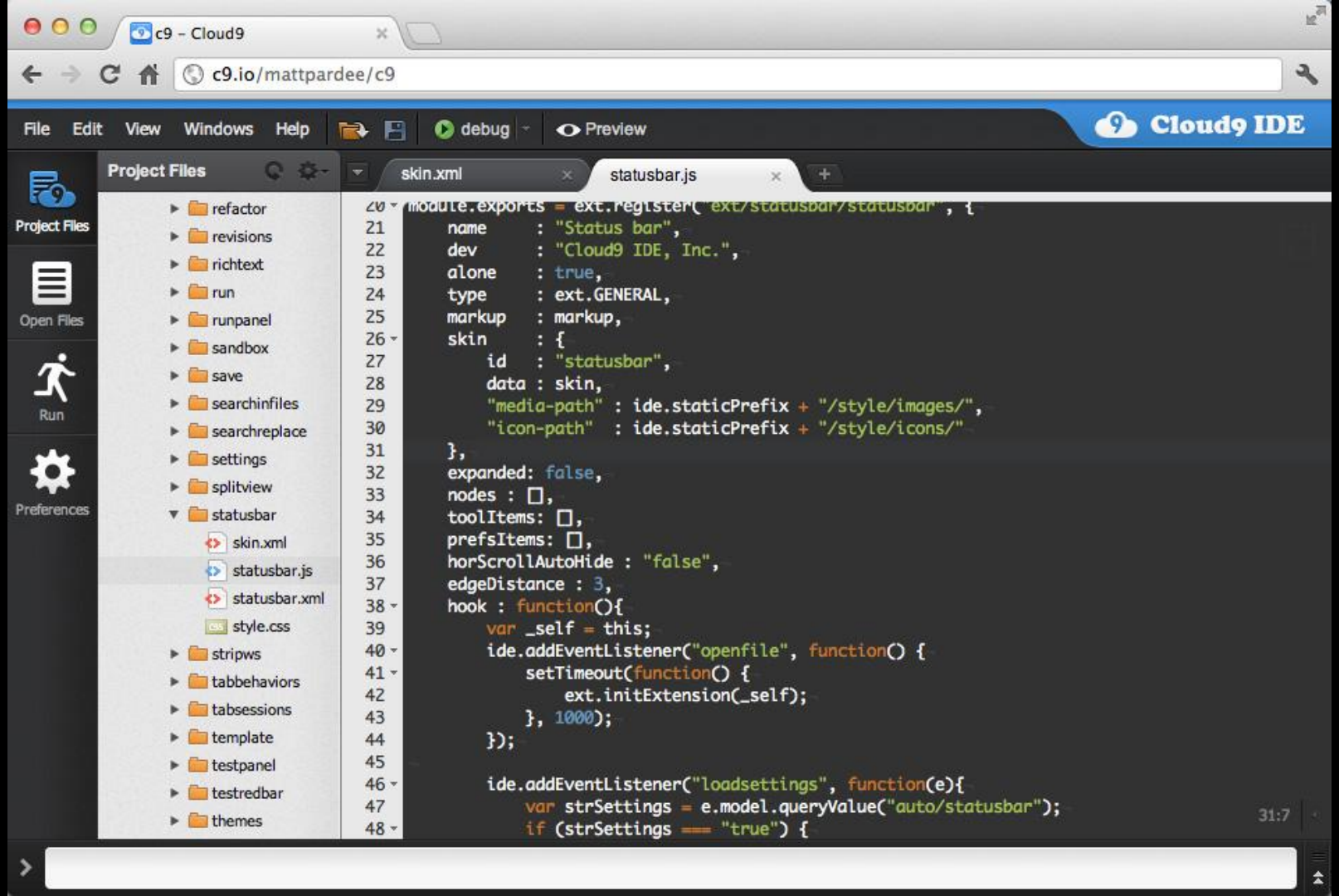
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Open Files
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Preferences
Project Files
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revisions
richtext
run
runpanel
sandbox
save
searchinfiles
searchreplace
settings
splitview
statusbar
skin.xml
statusbar.js
statusbar.xml
style.css
stripws
tabbehaviors
tabsessions
template
testpanel
testredbar
themes
skin.xml
statusbar.js
module.exports = ext.register("ext/statusbar/statusbar", {
name : "Status bar",
dev : "Cloud9 IDE, Inc.",
alone : true,
type : ext.GENERAL,
markup : markup,
skin : {
id : "statusbar",
data : skin,
"media-path" : ide.staticPrefix + "/style/images/",
"icon-path" : ide.staticPrefix + "/style/icons/"
},
expanded: false,
nodes : [],
toolItems: [],
prefsItems: [],
horScrollAutoHide : "false",
edgeDistance : 3,
hook : function(){
var _self = this;
ide.addEventListener("openfile", function() {
setTimeout(function() {
ext.initExtension(_self);
}, 1000);
});
ide.addEventListener("loadsettings", function(e){
var strSettings = e.model.queryValue("auto/statusbar");
if (strSettings === "true") {
31:7

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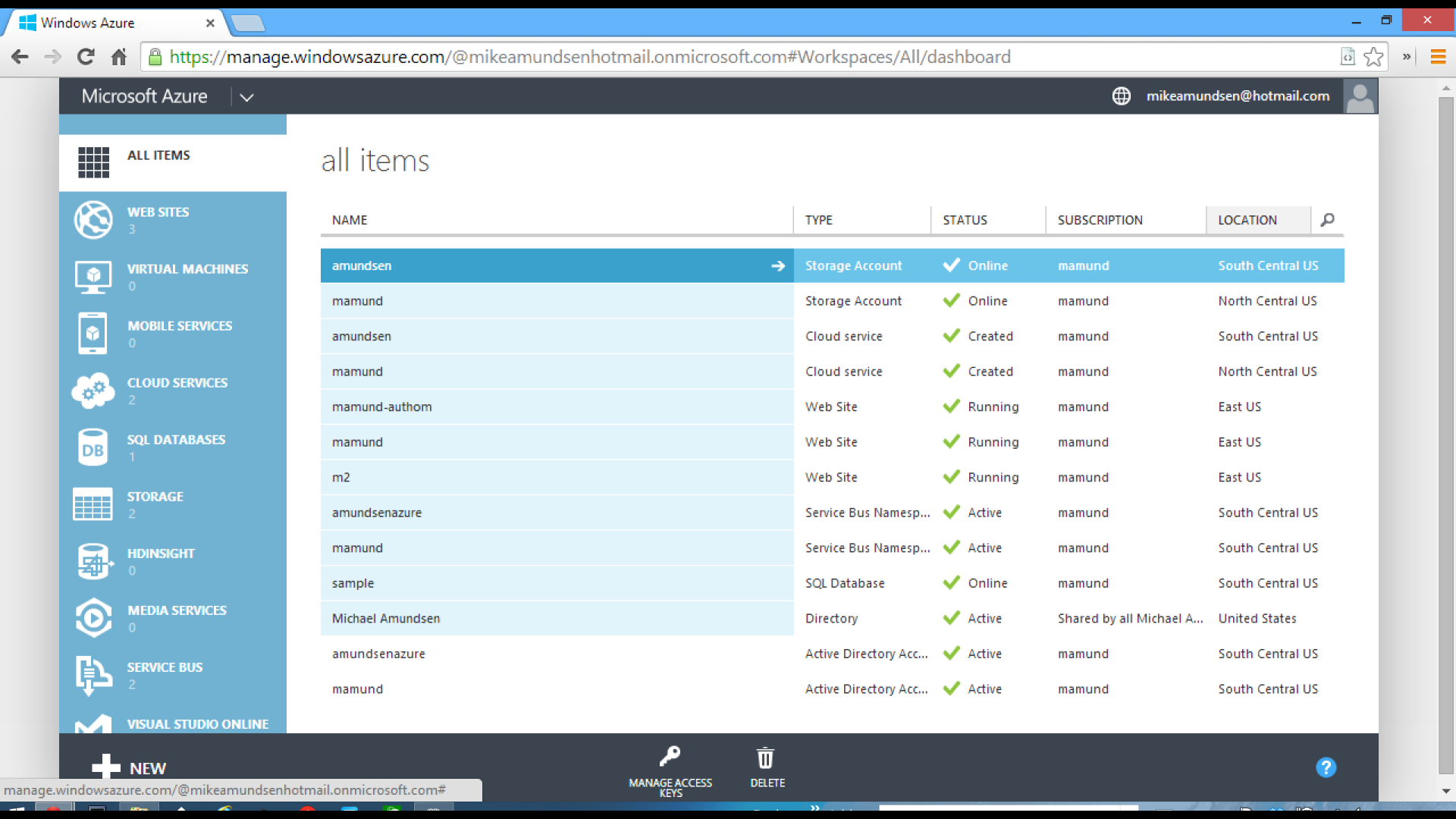
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VIRTUAL MACHINES 0
MOBILE SERVICES 0
CLOUD SERVICES 2
SQL DATABASES 1
STORAGE 2
HDINSIGHT 0
MEDIA SERVICES 0
SERVICE BUS 2
VISUAL STUDIO ONLINE
all items
NAME TYPE STATUS SUBSCRIPTION LOCATION
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m2 Web Site Running mamund East US
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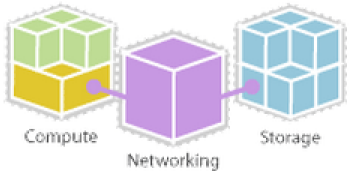

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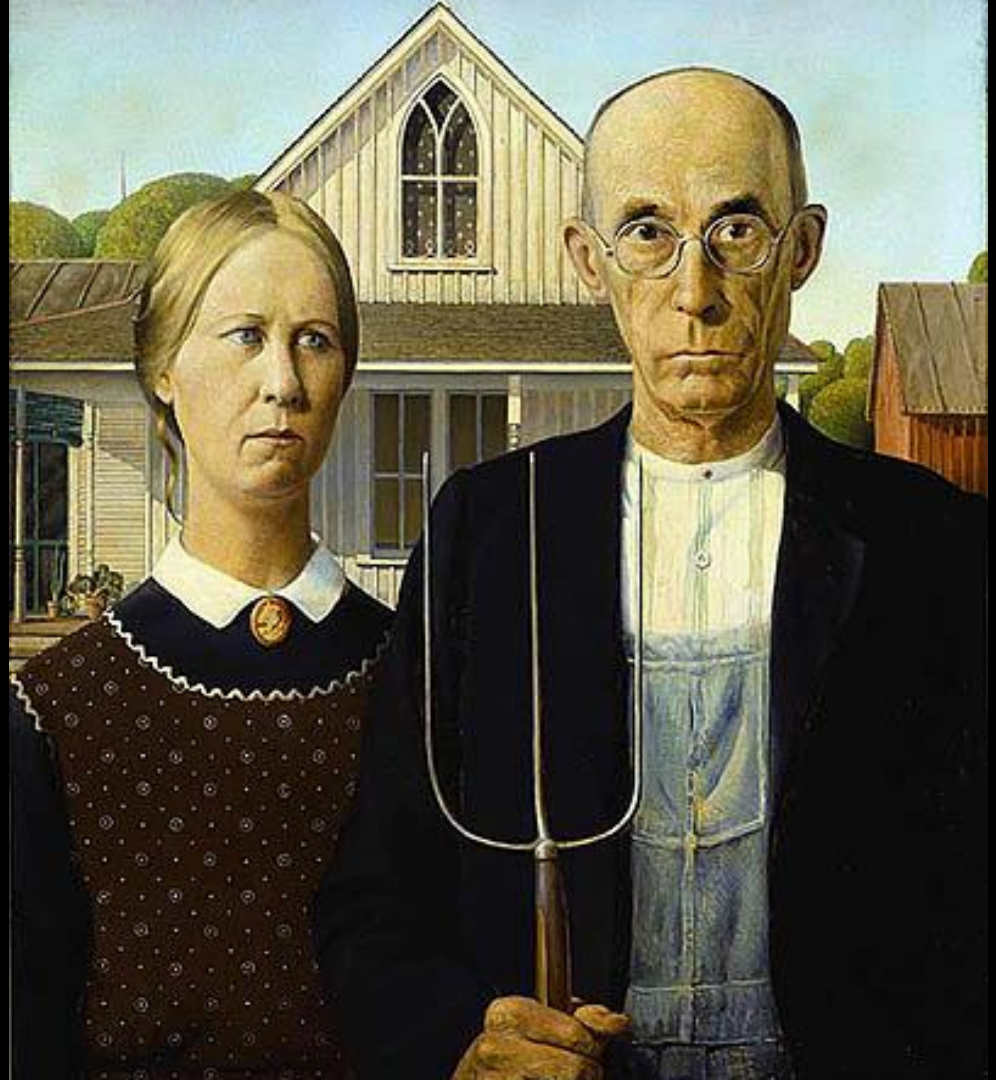

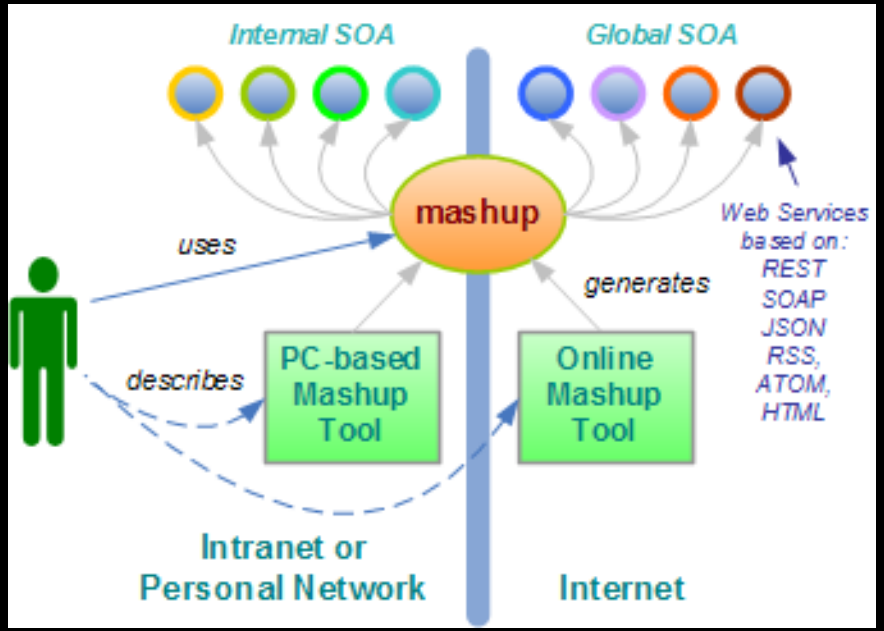
Internal SOA
Global SOA
mashup
Web Services
based on:
REST
SOAP
JSON
RSS,
ATOM,
HTML
uses
generates
describes
PC-based
Mashup
Tool
Online
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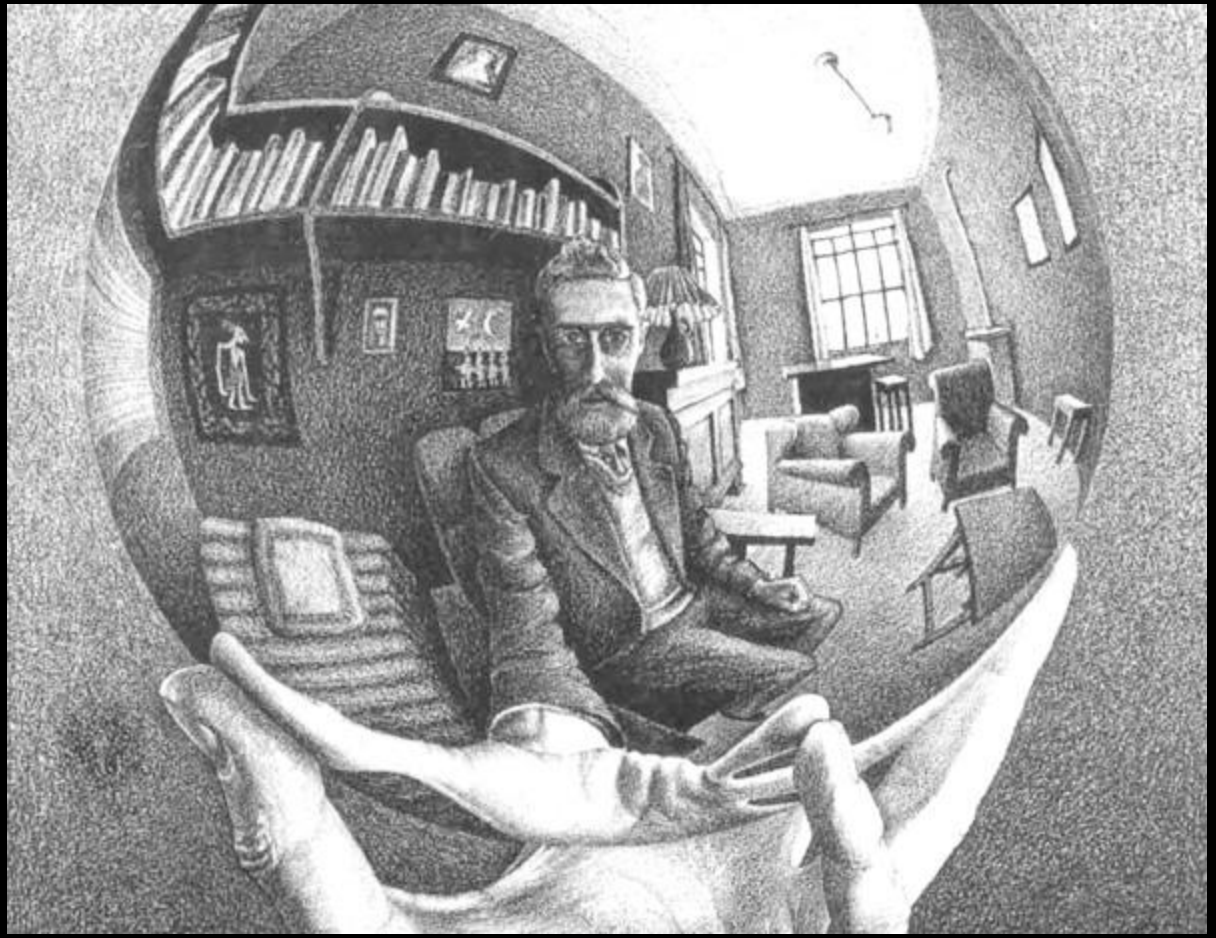
Intranet or
Personal Network
Internet

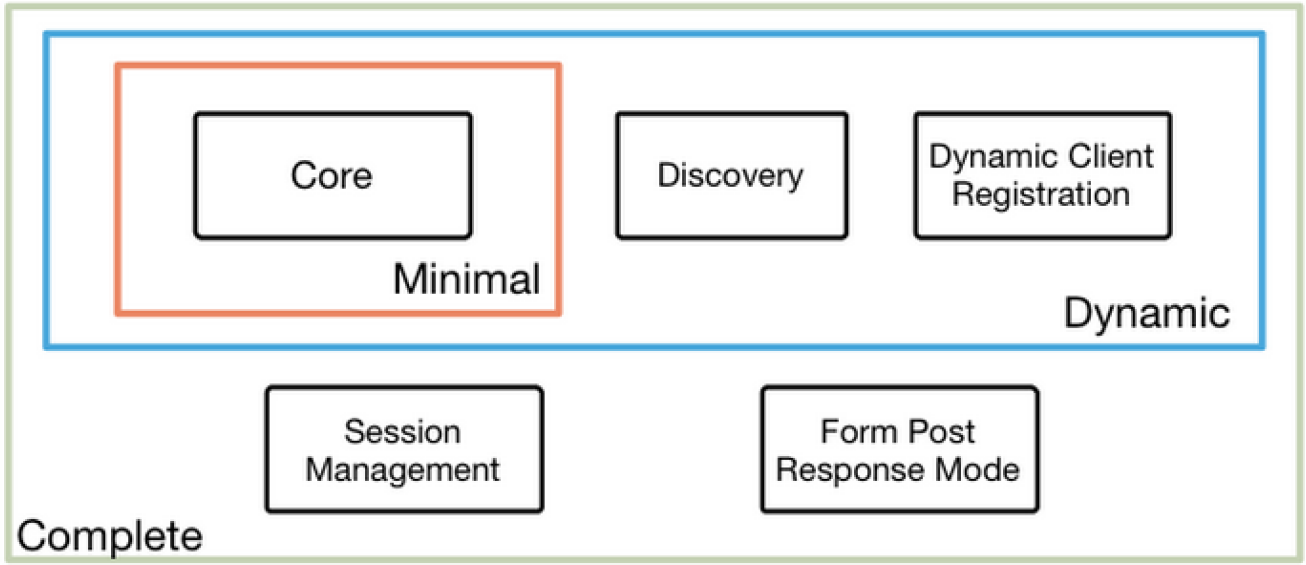
Five Not So Easy Services



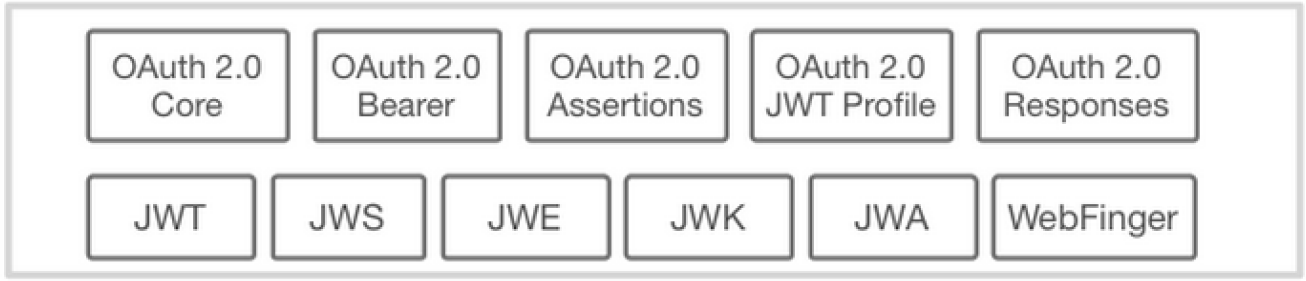
Identity

OpenID Connect Protocol Suite

http://openid.net/connect



Underpinnings



Social logins and authorizations can be annoying. So we made

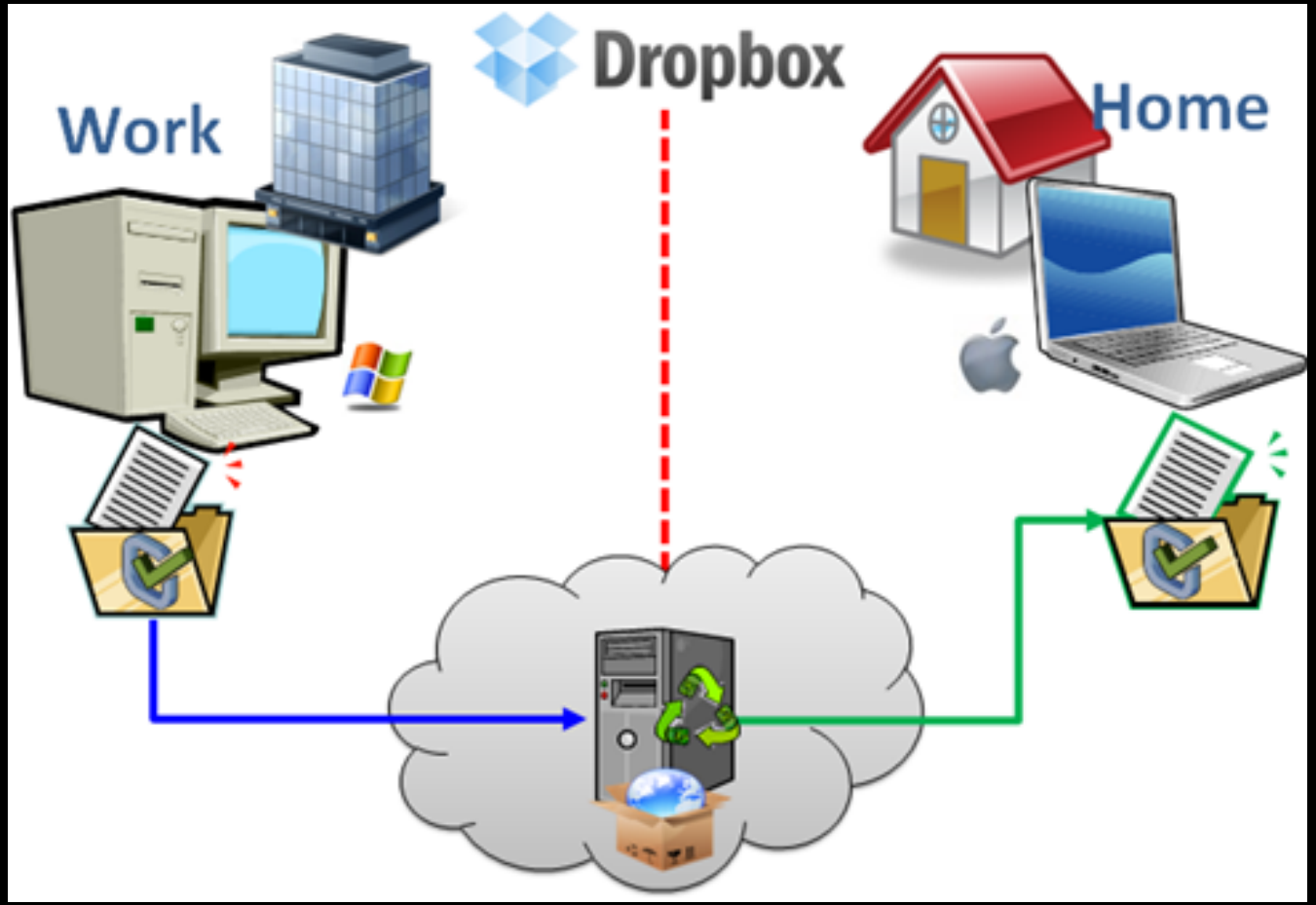
The fastest way to integrate OAuth

```
//Authorize your user to facebook
OAuth.popup('facebook').done(function(facebook) {
    //Get your user's personal data
    facebook.me().done(function(me) {
        alert(me.name)
    })
})
```

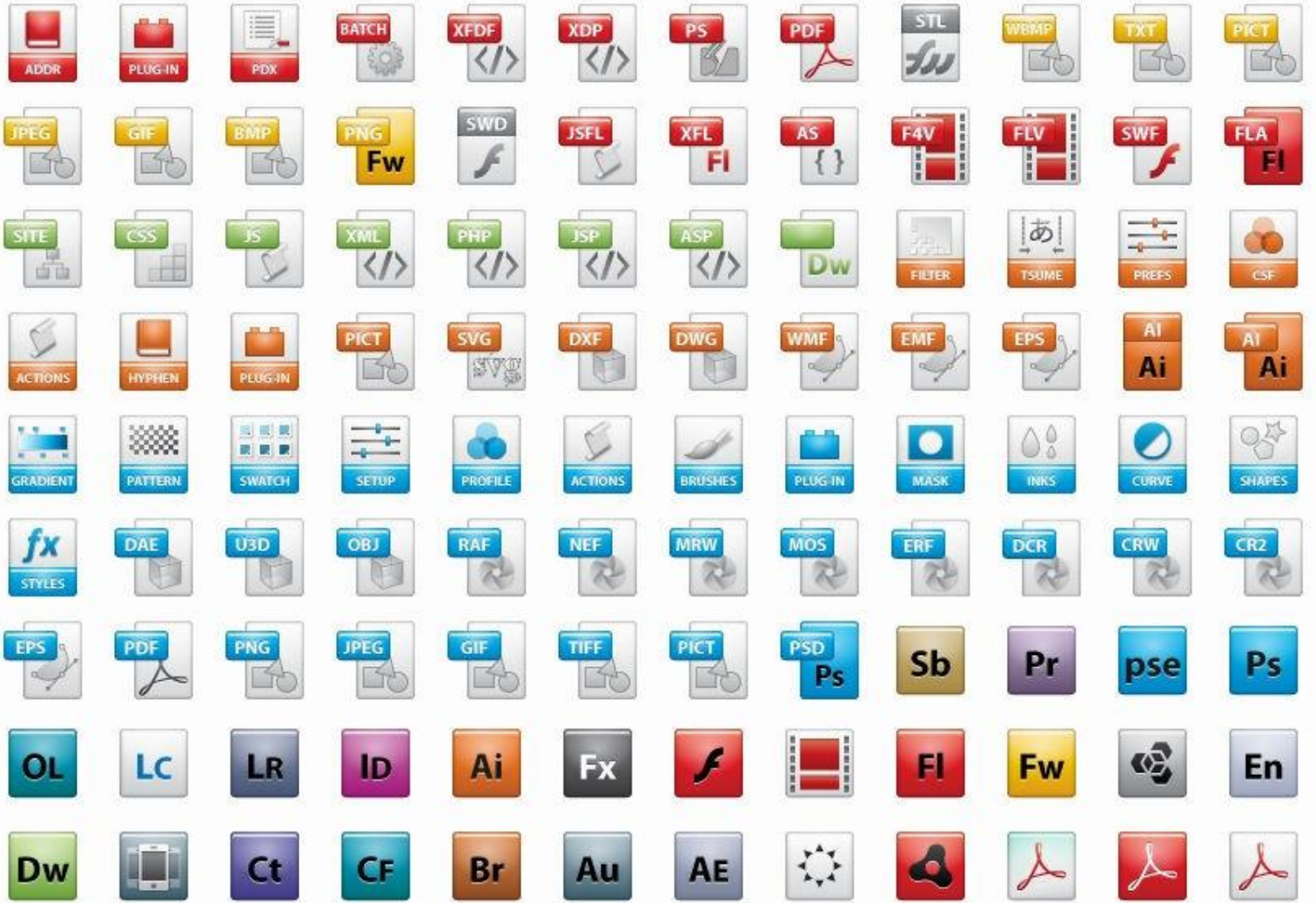
Try it

- 100+ OAuth providers
- Web & Mobile SDKs
- 90 seconds process

Synchronization


Work
Dropbox
Home

Representation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TXT
PICT
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PNG
Fw
SWD
JSFL
XFL
Fl
AS
{ }
F4V
FLV
SWF
FLA
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CSS
JS
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PHP
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CSF
ACTIONS
HYPHEN
PLUG-IN
PICT
SVG
DXF
DWG
WMF
EMF
EPS
Ai
Ai
GRADIENT
PATTERN
SWATCH
SETUP
PROFILE
ACTIONS
BRUSHES
PLUG-IN
MASK
INKS
CURVE
SHAPES
fx
STYLES
DAE
U3D
OBJ
RAF
NEF
MRW
MOS
ERF
DCR
CRW
CR2
EPS
PDF
PNG
JPEG
GIF
TIFF
PICT
PSD
Ps
Sb
Pr
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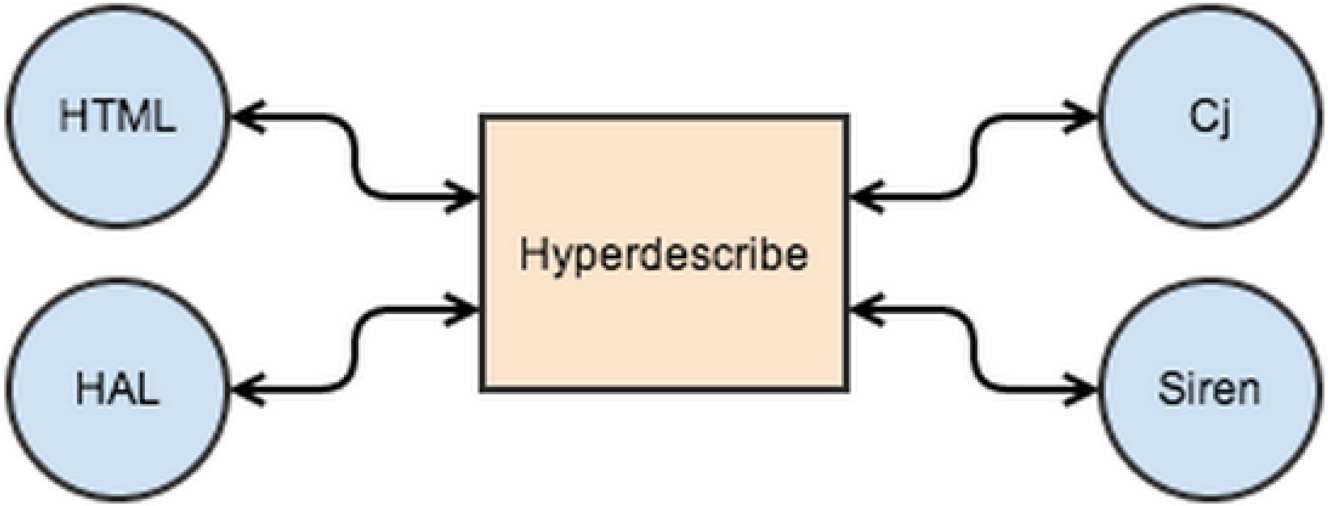
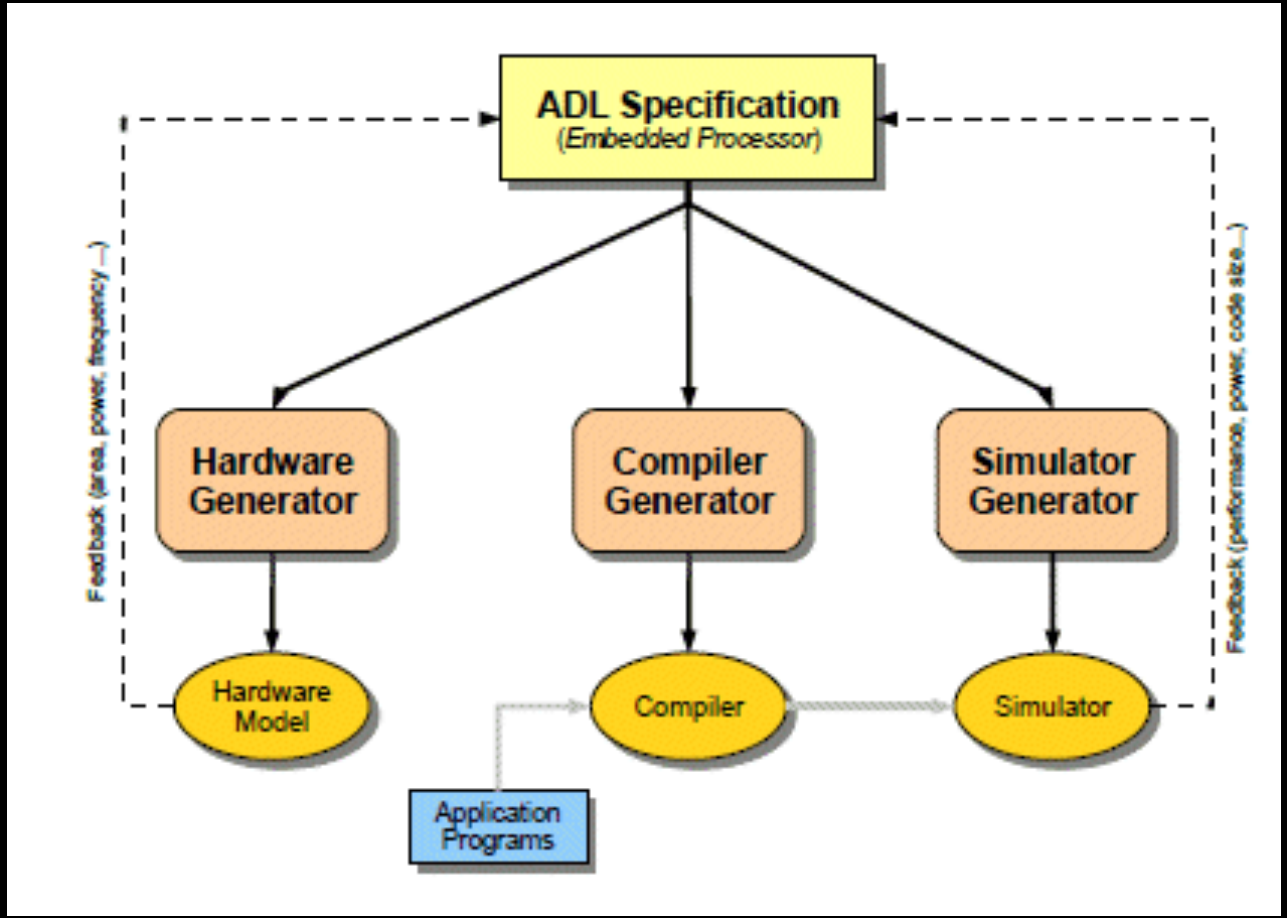
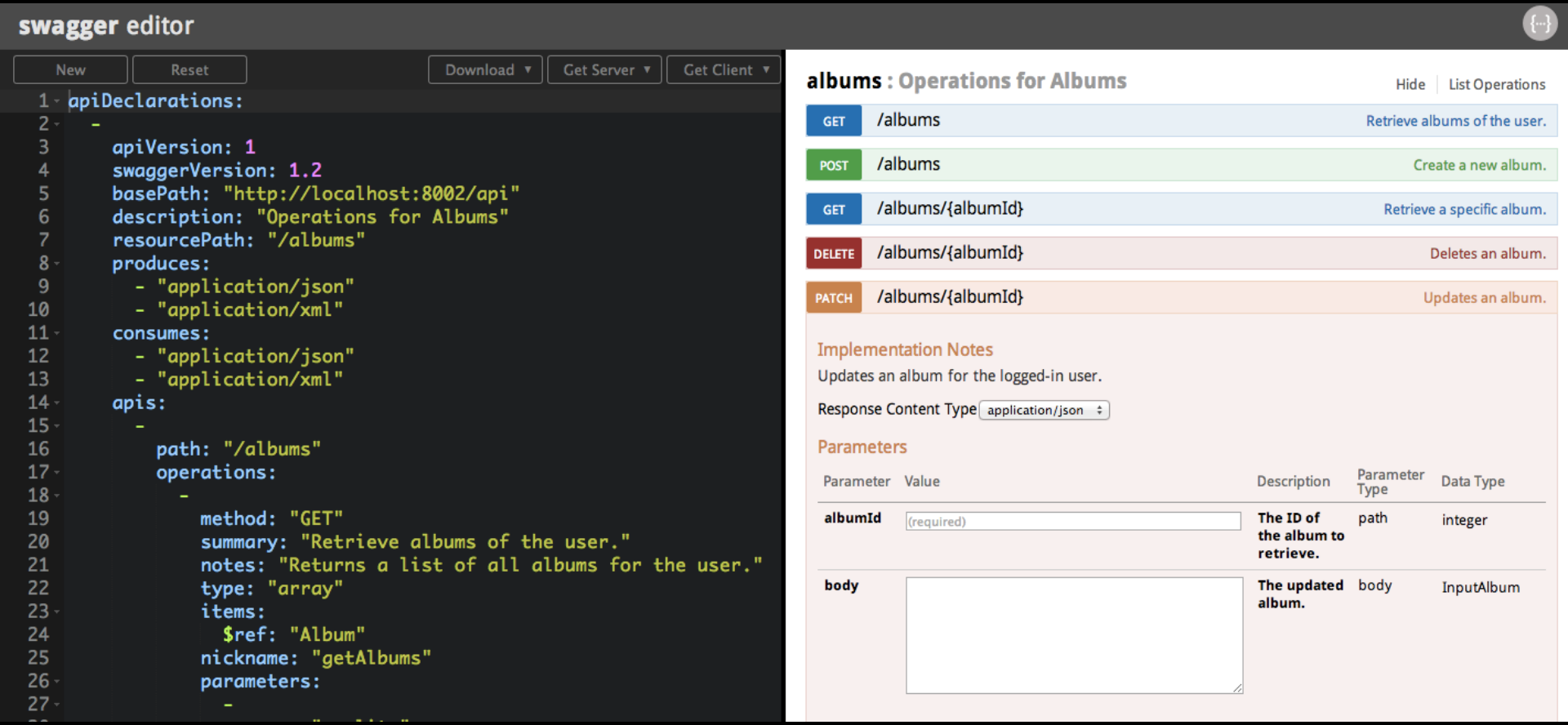
Ps
OL
LC
LR
ID
Ai
Fx
Fl
Fw
En
Dw
Ct
CF
Br
Au
AE

Hyperdescribe is a standardized way for describing hypermedia messages.
be built that will automatically convert one hypermedia type to another. It also
built that allows for coding to hypermedia elements rather than specific mess

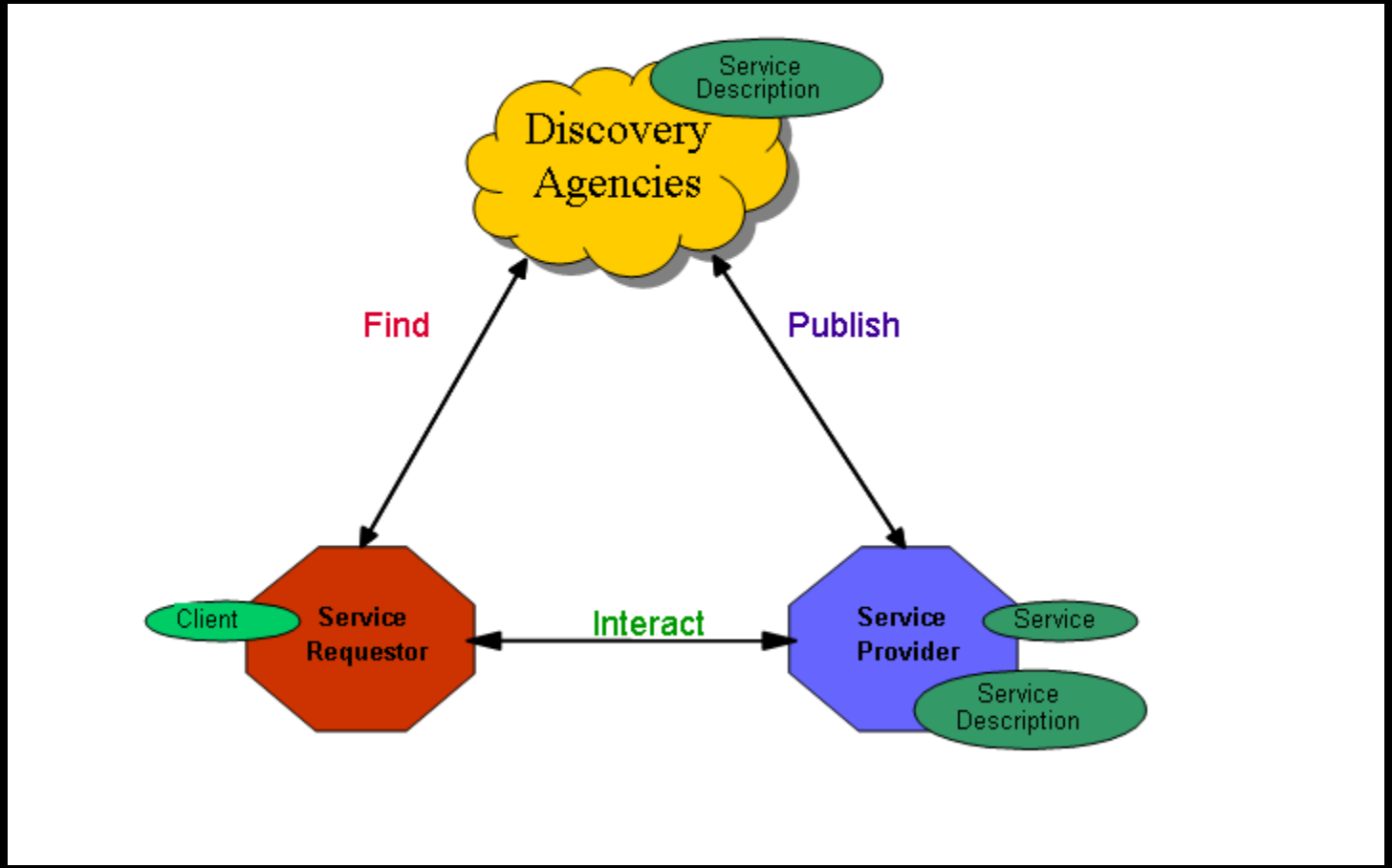


Description


ADL Specification
(Embedded Processor)
Hardware Generator
Compiler Generator
Simulator Generator
Hardware Model
Compiler
Simulator
Application Programs
Feedback (area, power, frequency ...)
Feedback (performance, power, code size...)


swagger editor
New
Reset
Download
Get Server
Get Client
apiDeclarations:
-
apiVersion: 1
swaggerVersion: 1.2
basePath: "http://localhost:8002/api"
description: "Operations for Albums"
resourcePath: "/albums"
produces:
- "application/json"
- "application/xml"
consumes:
- "application/json"
- "application/xml"
apis:
-
path: "/albums"
operations:
-
method: "GET"
summary: "Retrieve albums of the user."
notes: "Returns a list of all albums for the user."
type: "array"
items:
$ref: "Album"
nickname: "getAlbums"
parameters:
-
albums : Operations for Albums
Hide
List Operations
GET /albums Retrieve albums of the user.
POST /albums Create a new album.
GET /albums/{albumId} Retrieve a specific album.
DELETE /albums/{albumId} Deletes an album.
PATCH /albums/{albumId} Updates an album.
Implementation Notes
Updates an album for the logged-in user.
Response Content Type application/json
Parameters
Parameter
Value
Description
Parameter Type
Data Type
albumId
(required)
The ID of the album to retrieve.
path
integer
body
The updated album.
body
InputAlbum

Discovery


Service Description
Discovery Agencies
Find
Publish
Client
Service Requestor
Interact
Service Provider
Service
Service Description

APIs.io

apis.io

{API}Search

90 APIs in database by 78 maintainers. Add API Validator Builder API FAQ About

product

Ex: all, evangelist,photo Add API

WeatherTrigger

developer.weatherunlocked.com

by Weather Unlocked | 11 days ago

Tags : Weather

signup documentation features

PivotalTracker

PivotalTracker API

pivotaltracker.com

by PivotalTracker | 8 days ago

Tags : agile product management

signup

fitbit

Fitbit API dev.fitbit.com

by Fitbit | a month ago

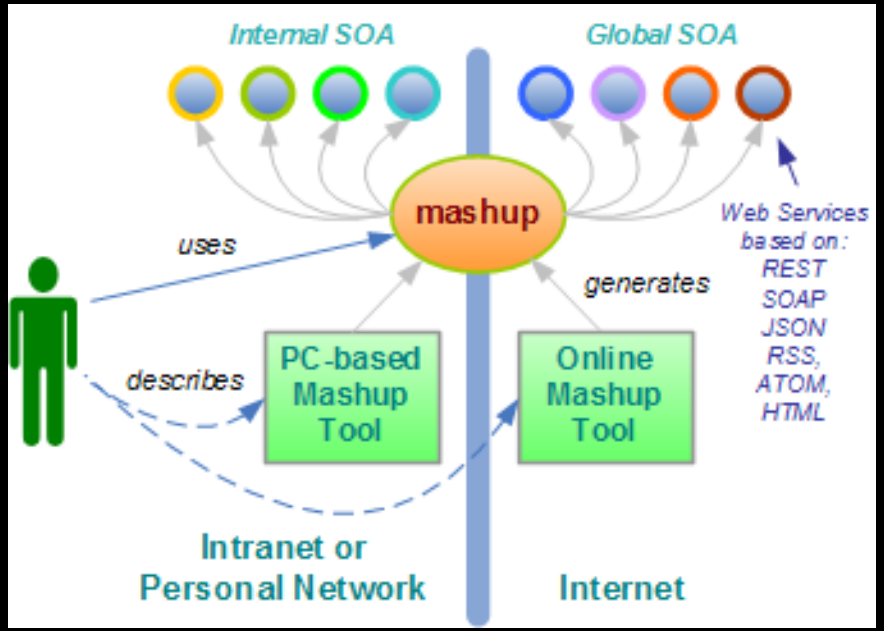
Tags : wearable iot internet of things health tracker

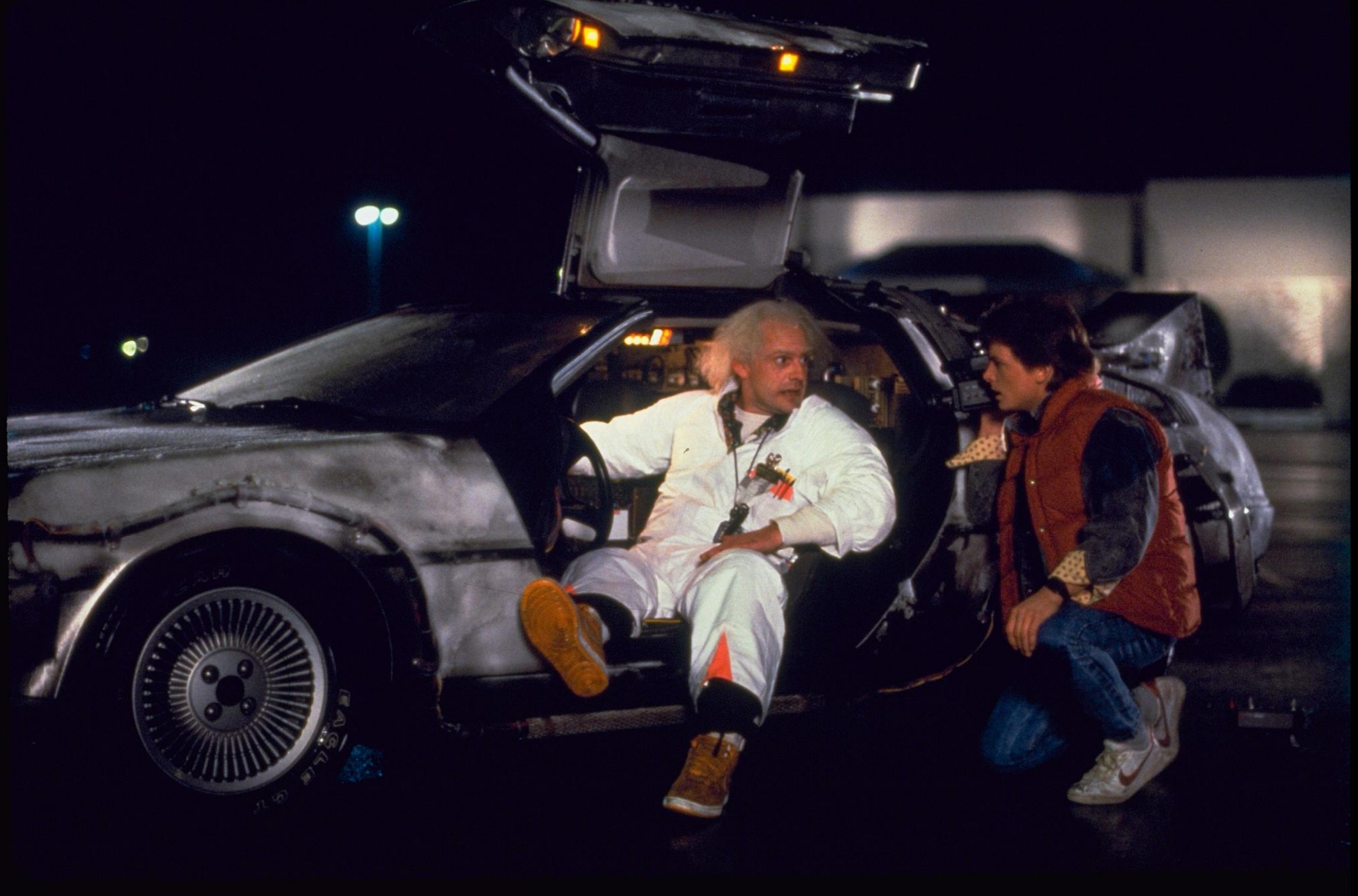
Five Not So Easy Services

- Identity
- Synchronization
- Representation
- Description
- Discovery

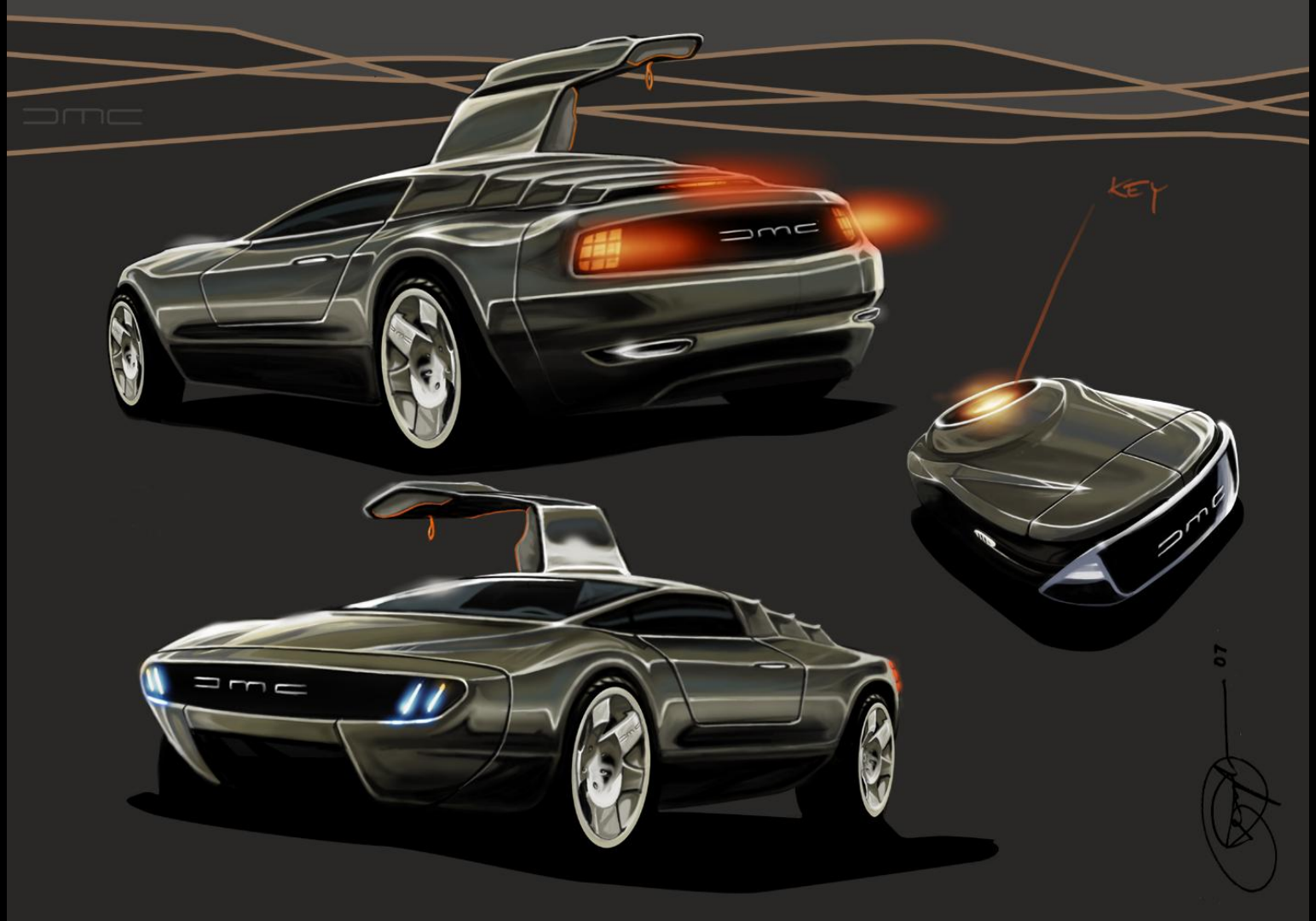
Five Not So Easy Services

- **Security** (Identity)
- **Storage** (Synchronization)
- **Compatibility** (Representation)
- **Functionality** (Description)
- **Distribution** (Discovery)

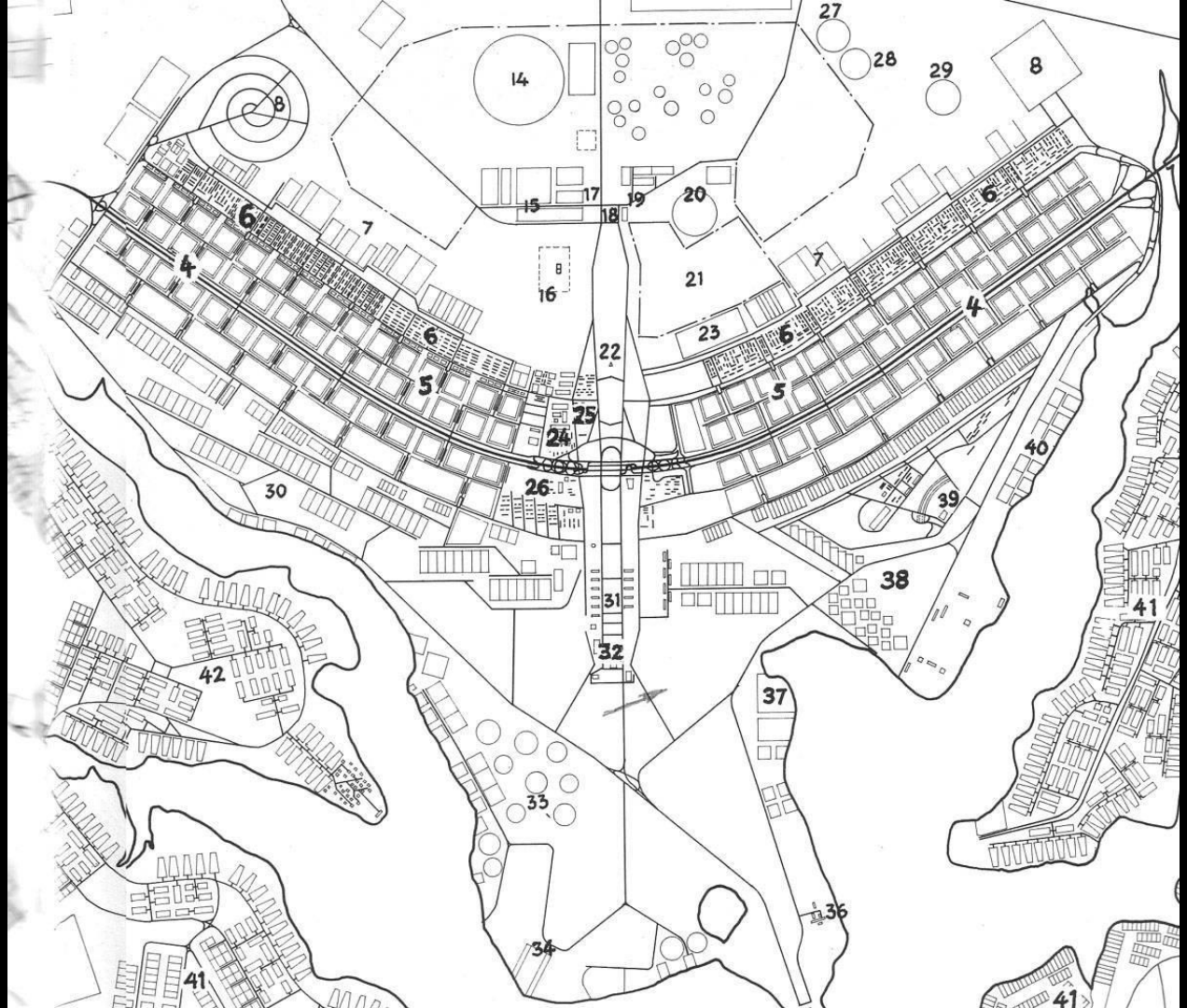

Internal SOA
Global SOA
mashup
Web Services
based on:
REST
SOAP
JSON
RSS,
ATOM,
HTML
uses
generates
describes
PC-based
Mashup
Tool
Online
Mashup
Tool
Intranet or
Personal Network
Internet



Recovering the Future


KEY

TESLA
394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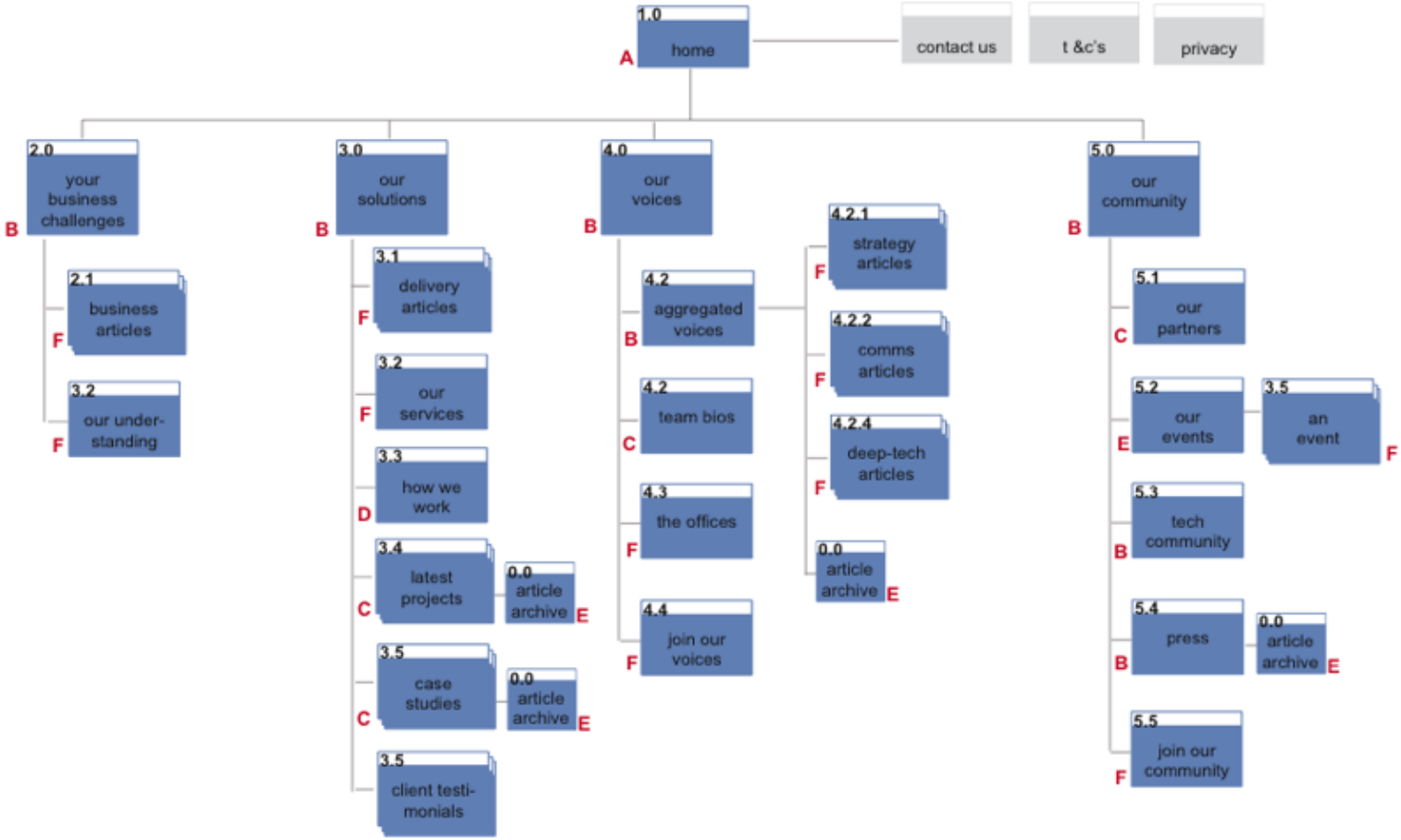
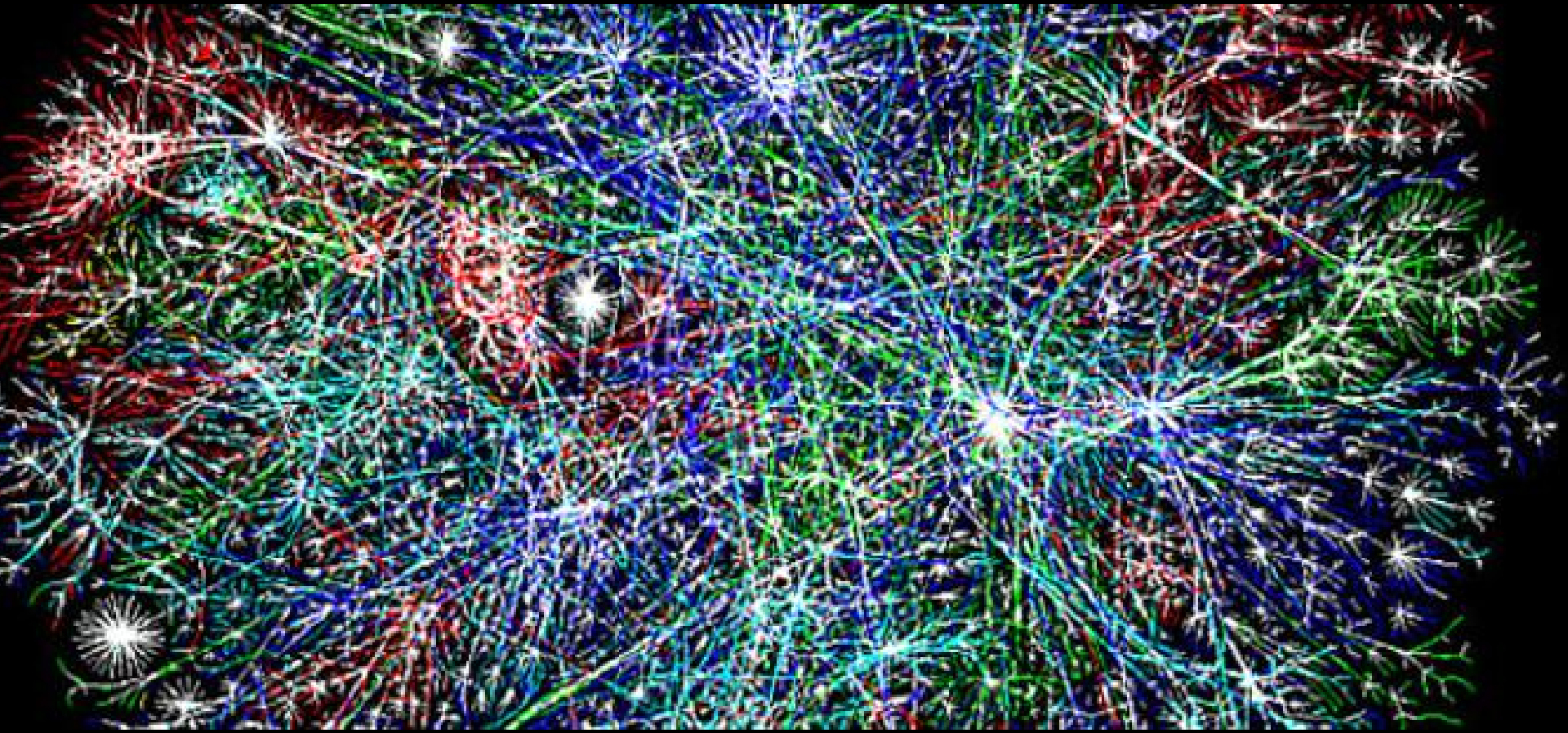
Information architecture - sitemap

Templates = A





What are we building?

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Clients Matter, Services Don't

Recovering the Future of Services on the Web

http://g.mamund.com/qconnewyork2014-talk

Mike Amundsen, API Academy / CA
@mamund