

APIS AND SERVICES: TO THE LAST LINE OF CODE

Michael Wawra



CALL ME

+45 89 88 25 29

TWIML

```
<Response>
```

```
<Say>
```

```
Hello Copenhagen.
```

```
Thanks for coming to hear me talk.
```

```
</Say>
```

```
</Response>
```

RUBY

```
require 'sinatra'

post '/voice' do
  content_type 'text/xml'
  "<Response>
    <Say>
      Hello Copenhagen.
      Thanks for coming to hear me talk.
    </Say>
  </Response>"
end
```

HELPER

```
require 'twilio-ruby'
```

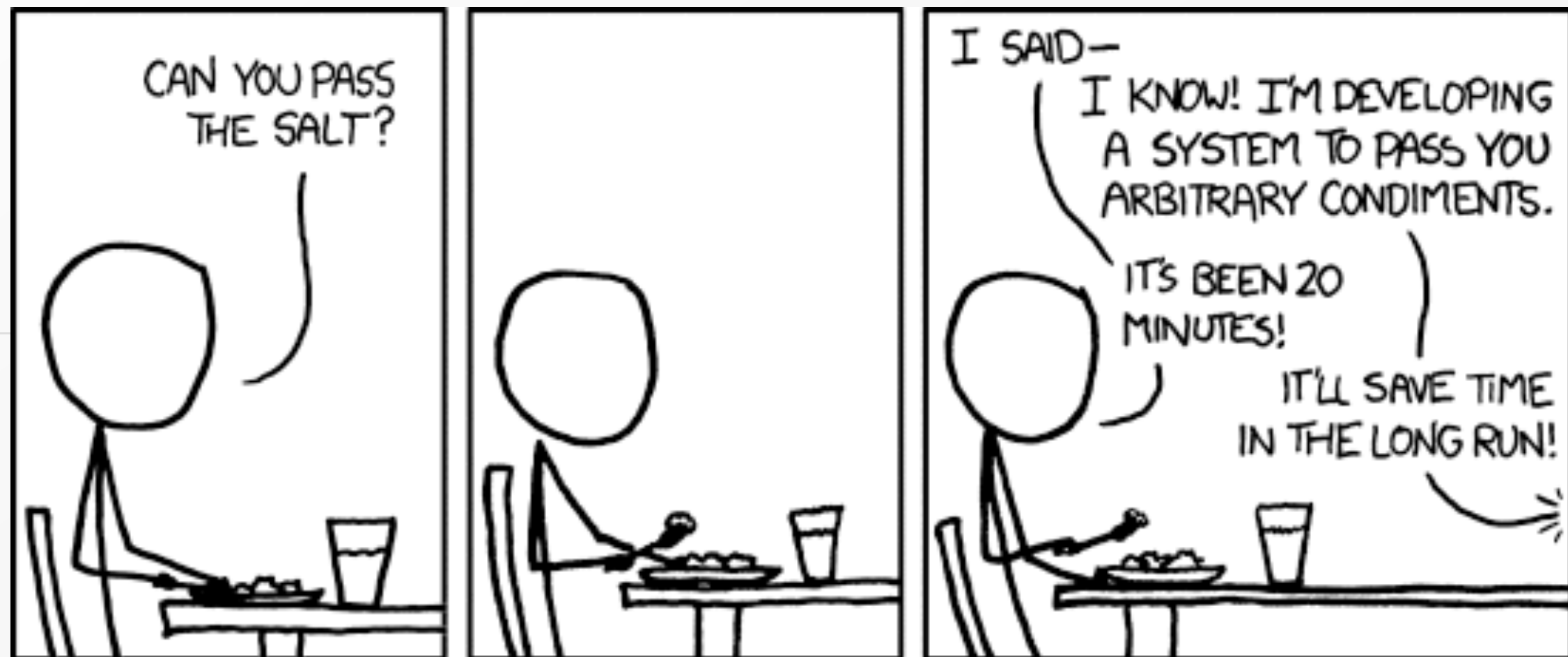
```
client = Twilio::REST::Client.new  
        ENV['SID'], ENV['TOKEN']
```

```
client.account.calls.create
```

```
  :to => "+4589882529"
```

```
  :from => "+442033221091"
```

```
  :url => "http://demo.wawra.co/voice"
```



ISOLATION



INTEGRATION

Never Computer Alone

WELL, YOU KNOW WHAT
THEY SAY. THE PAST IS
A FOREIGN COUNTRY—

—WITH AN OUTDATED
MILITARY AND HUGE
OIL RESERVES!

HMMM...



HOLIDAYS

XML

Create

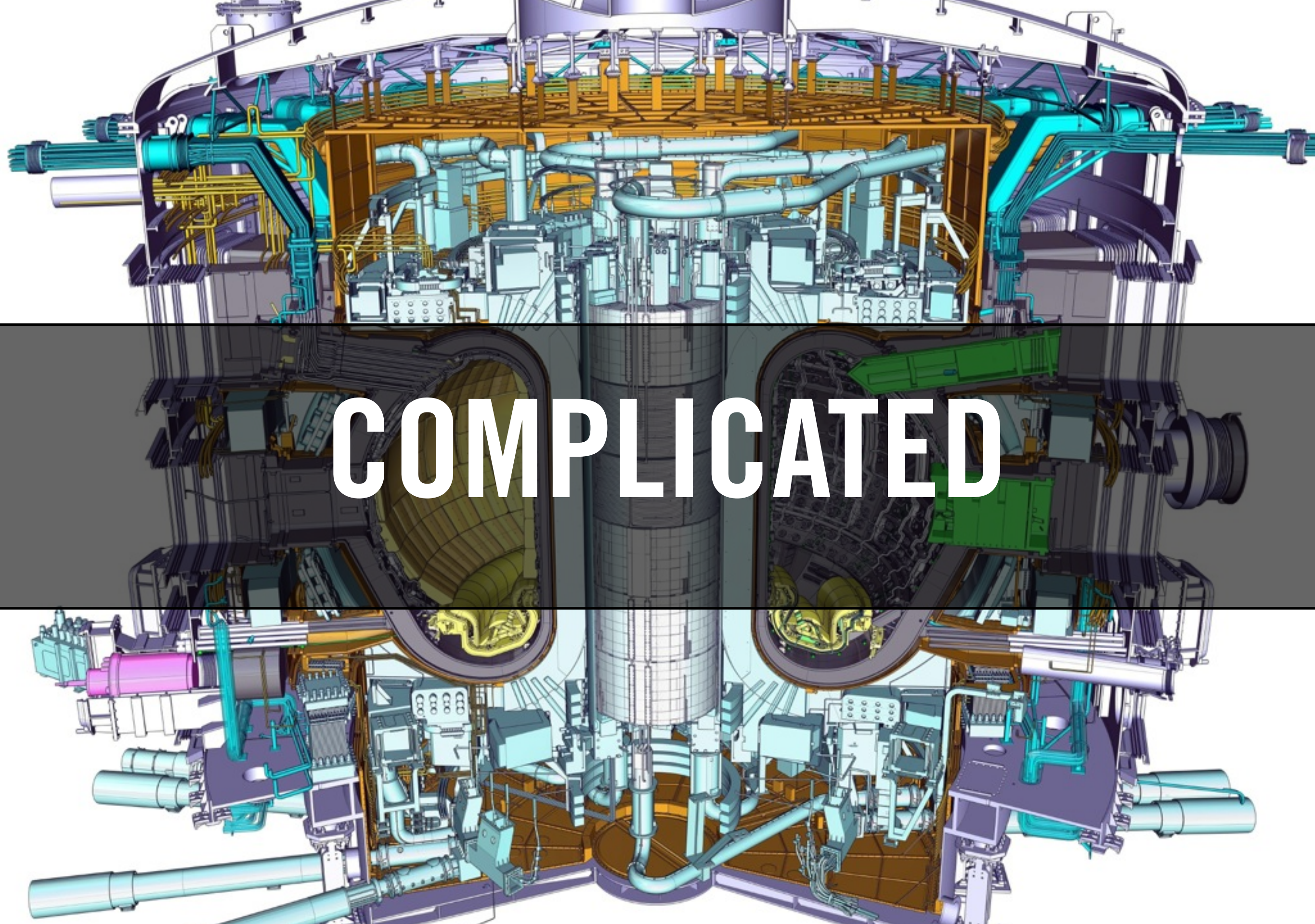
~~Read~~

Update

Delete

META PROGRAMMING

C#, not Ruby



COMPLICATED

MEH

No quite #fail, but #couldbebetter

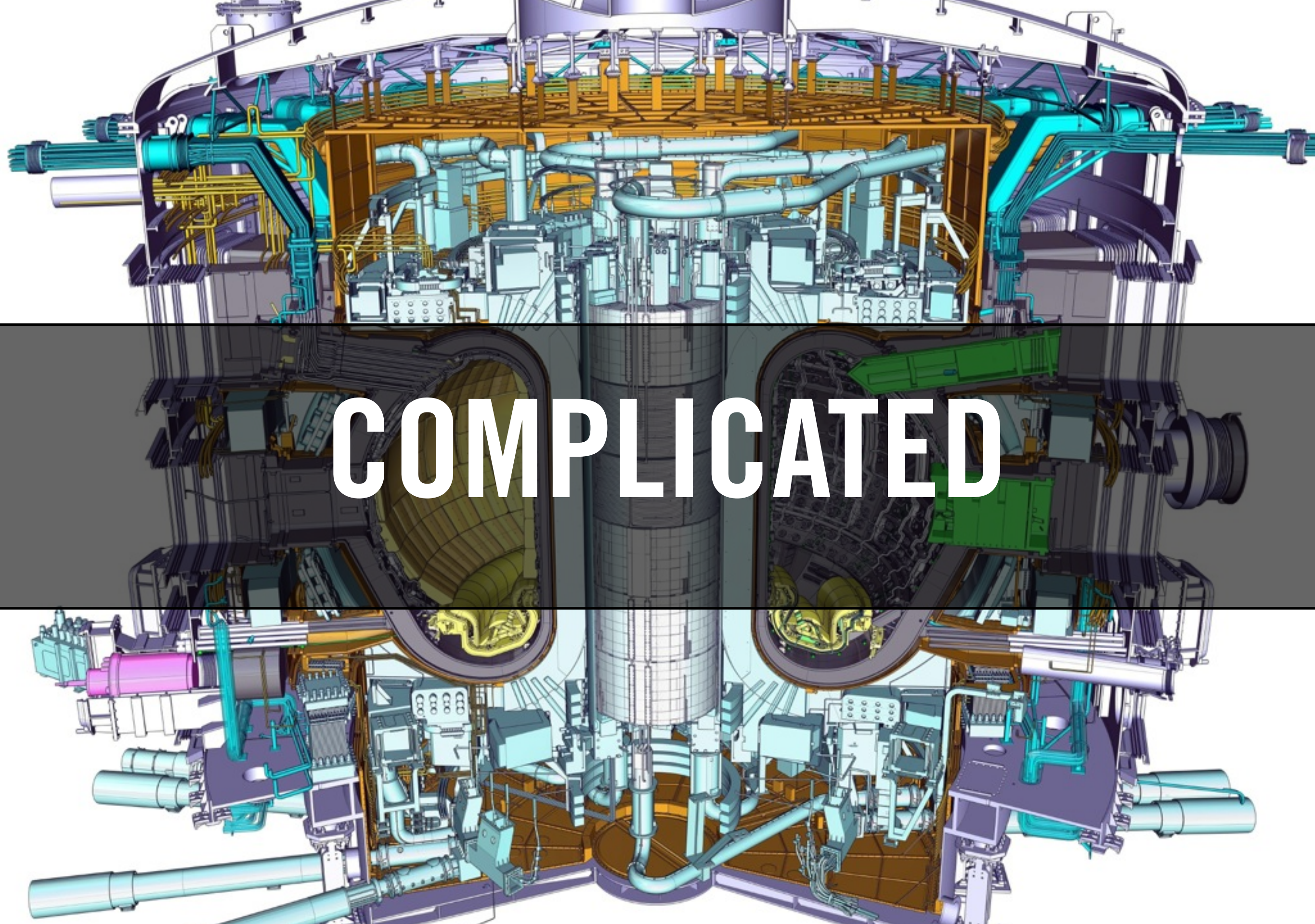
EDUCATIONAL

COURSE

- ID
- Description
- Sub-modules
- Entry requirements
- Acceptance criteria
- Possible Qualifications
- Accreditation Number
- Certificate Type
- Credits
- Last Certification
- Expiry

FILE WATCHER

So many edge cases.



COMPLICATED



Michael Wawra

@xmjw

Just worked out how to fix a bug from 3 years ago, on a project that is finished, for a company I don't work for anymore. Oh well.

↩ Reply ★ Favorite ... More

2:43 PM - 23 Sep 2014



Reply to @xmjw

MEH

#couldbebetter

So, because of the system the system that manages all the data works, it's really complicated for us to make changes, but we have this mechanism that allows us to export all the files however, and we were thinking maybe we could use that to import all the data into the new CMS system you are using as it would mean we could spend more time on working on a load of other stuff we have and really it should be okay there aren't too many thousands of records - just a tens of thousands and that really will be okay I'm sure we can do this it is not be best way but I do not think this is the worst way and there are bound to be a few little issues and we may have to drip feed the system and we can't really think of a better way of doing because of all the reasons you stated above maybe we can do a trial and see how it goes and figure out if everything is going to be okay that would be nice but oh yeah there's this

A white stick figure is shown in a falling or jumping pose, moving from a red ring at the top to a blue ring at the bottom. The figure is positioned in the center of the frame. The red ring is at the top, and the blue ring is at the bottom. The text "NOT SUSTAINABLE" is overlaid in the center of the image.

NOT SUSTAINABLE

AGILE





How the customer explained it



How the Project Leader understood it



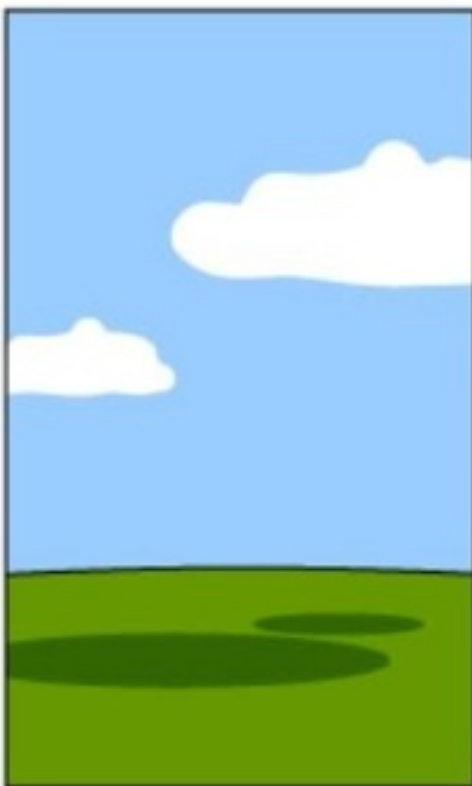
How the Analyst designed it



How the Programmer wrote it



How the Business Consultant described it



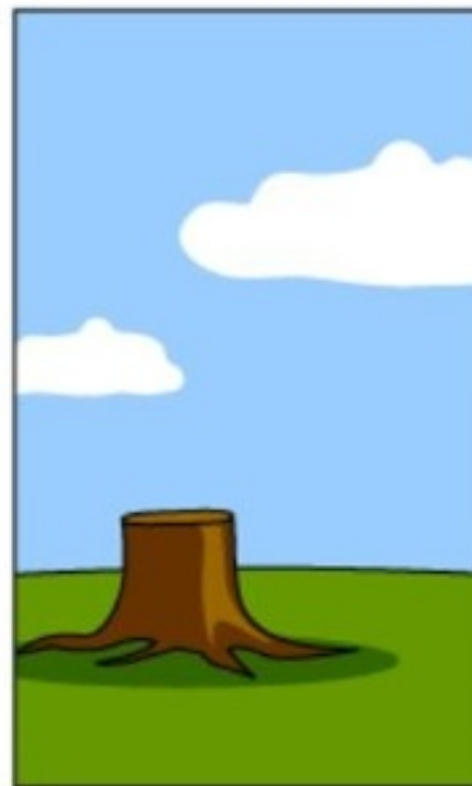
How the project was documented



What operations installed



How the customer was billed



How it was supported



What the customer really needed

FRANCE TELECOM

They're now called Orange



3 WEEKS

31,500 Minutes



SMS, MMS, Voice, and SIP in the Cloud!

0.000001 WEEKS

5 Minutes

CODE IS FOR HUMANS

Compilers are for computers.

HOW?

How should we build APIs and Services



SOAP

SOAP

POST /InStock HTTP/1.1

Host: www.example.org

Content-Type: application/soap+xml; charset=utf-8

Content-Length: nnn

<?xml version="1.0"?>

<soap:Envelope

xmlns:soap="http://www.w3.org/2001/12/soap-envelope"

soap:encodingStyle="http://www.w3.org/2001/12/soap-encoding">

<soap:Body xmlns:m="http://www.example.org/stock">

<m:GetStockPrice>

<m:StockName>IBM</m:StockName>

</m:GetStockPrice>

</soap:Body>

</soap:Envelope>

HTTP

What more do you need?



REST

HTTP://

facebook.com

google.com

twilio.com

bit.ly

VERBS

POST /the-thing

GET /the-thing

PUT /the-thing

DELETE /the-thing

REST

HTTP POST <https://api.twilio.com/.../Messages>

To

From

Body

cURL

Do things with a single request.

SMS

```
curl -X POST
```

```
https://api.twilio.com/2010-04-01/Accounts/  
{AccountSid}/Messages\
```

```
-d "To=+14159352345" \
```

```
-d "From=+14158141829" \
```

```
-d "Body=Hello world!" \
```

```
-d "MediaUrl=http://www.images.com/flower.png" \
```

```
-u '{AccountSid}:{AuthToken}'
```


EMAIL

curl

-d 'to=destination@example.com'

-d 'toname=Destination'

-d 'subject=Example Subject'

-d 'text=testingtextbody'

-d 'from=info@domain.com'

-d 'api_user=your_sendgrid_username'

-d ;api_key=your_sendgrid_password'

<https://api.sendgrid.com/api/mail.send.json>

HTTP

What more do you need?



HELPER LIBRARY

HELPER

```
require 'twilio-ruby'
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```
client = Twilio::REST::Client.new  
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```

```
  :url => "http://demo.wawra.co/voice"
```

A HELPER LIBRARY

- Your workflow
- Your capability
- Few lines of code

A GREAT HELPER LIBRARY

- Your security
- Hypermedia
- Thread safe
- Open Source

MULTI-LINGUAL

Assembly

Pearl

Haskell

Fortran

VIM Script

Lisp

Cobol

JavaScript

Clojure

C

ASP

Go

C++

Visual Basic

Erlang

Java

Delphi

OCaml

C#

Scala

Objective-C

Python

Lua

Smalltalk

Ruby

Ada

Bash

PHP

Pascal

Rust

LANGUAGE IDIOMATIC

Runs in C++, looks like C++.

Runs in Java, looks like Java.

Runs in Ruby, looks like Ruby.

Runs in Cobol, looks like Cobol.

Runs in Erlang, looks like Erlang.

Runs in Python, looks like Python.

Runs in Haskell, looks like Haskell.

Runs in JavaScript, looks like JavaScript.

Runs in Objective-C, looks like Objective-C.

Runs in Clojure looks like Clojure

Why are you still reading?

YOU & YOURSELF

Plus many, many others.

∞: END

Last line.

A close-up photograph of an owl's face, showing its large, yellow-orange eyes and detailed feather patterns. The owl is looking directly at the camera. A dark horizontal band across the middle of the image contains the text "WORD OF WARNING" in white, bold, sans-serif capital letters.

WORD OF WARNING

YOU ARE NOT OMNIPOTENT

If you are, what does the next slide say?

THANKS!

@XMJW

WAWRA@TWILIO.COM

