

DEVOPS 2015

開發敏捷與維運高效的 IT 新典範

從 DevOps 觀念看 Web 前端開發測試先行

From devOps to front end Ops



@clonncd

Caesar Chi

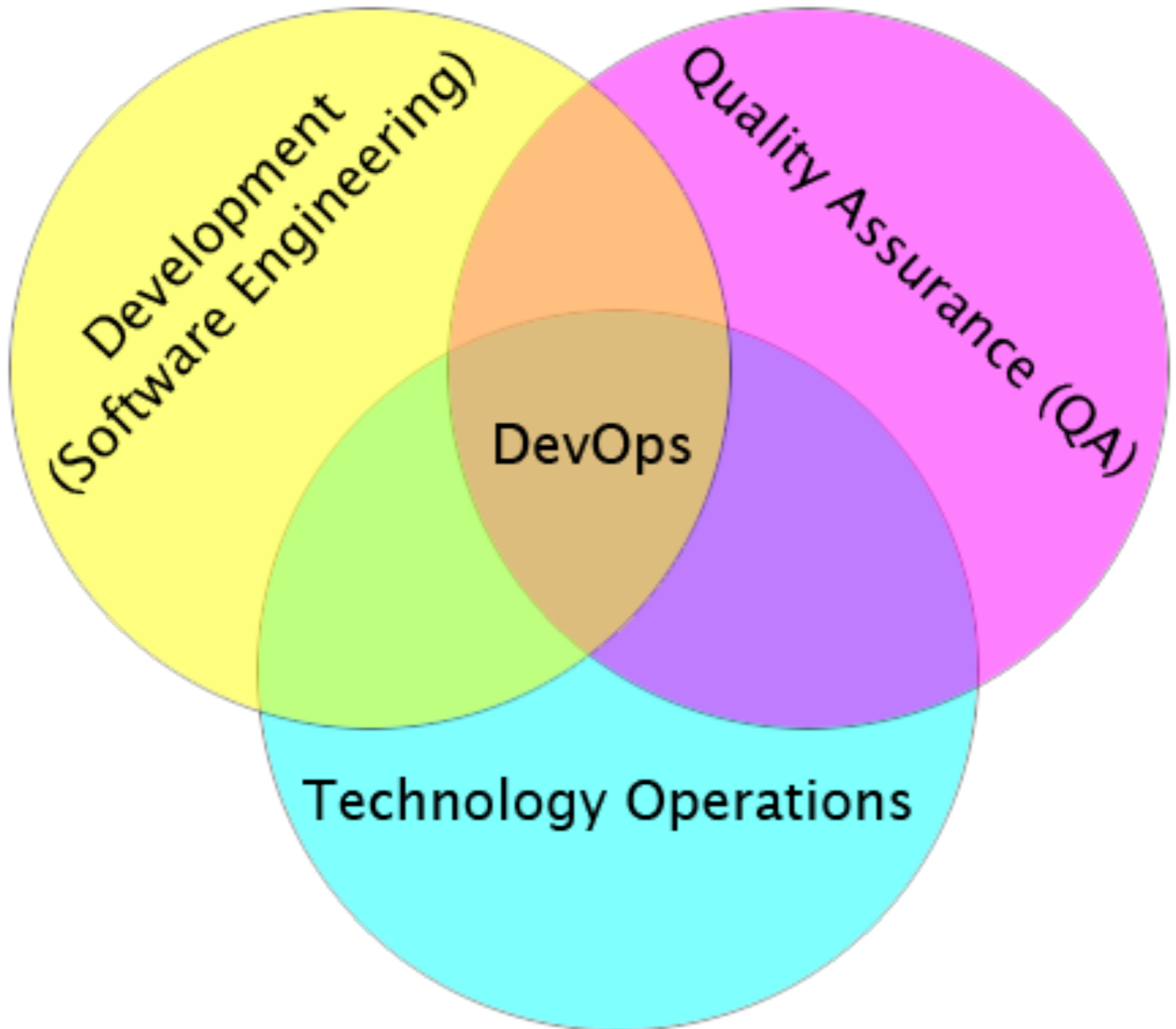
戚務漢

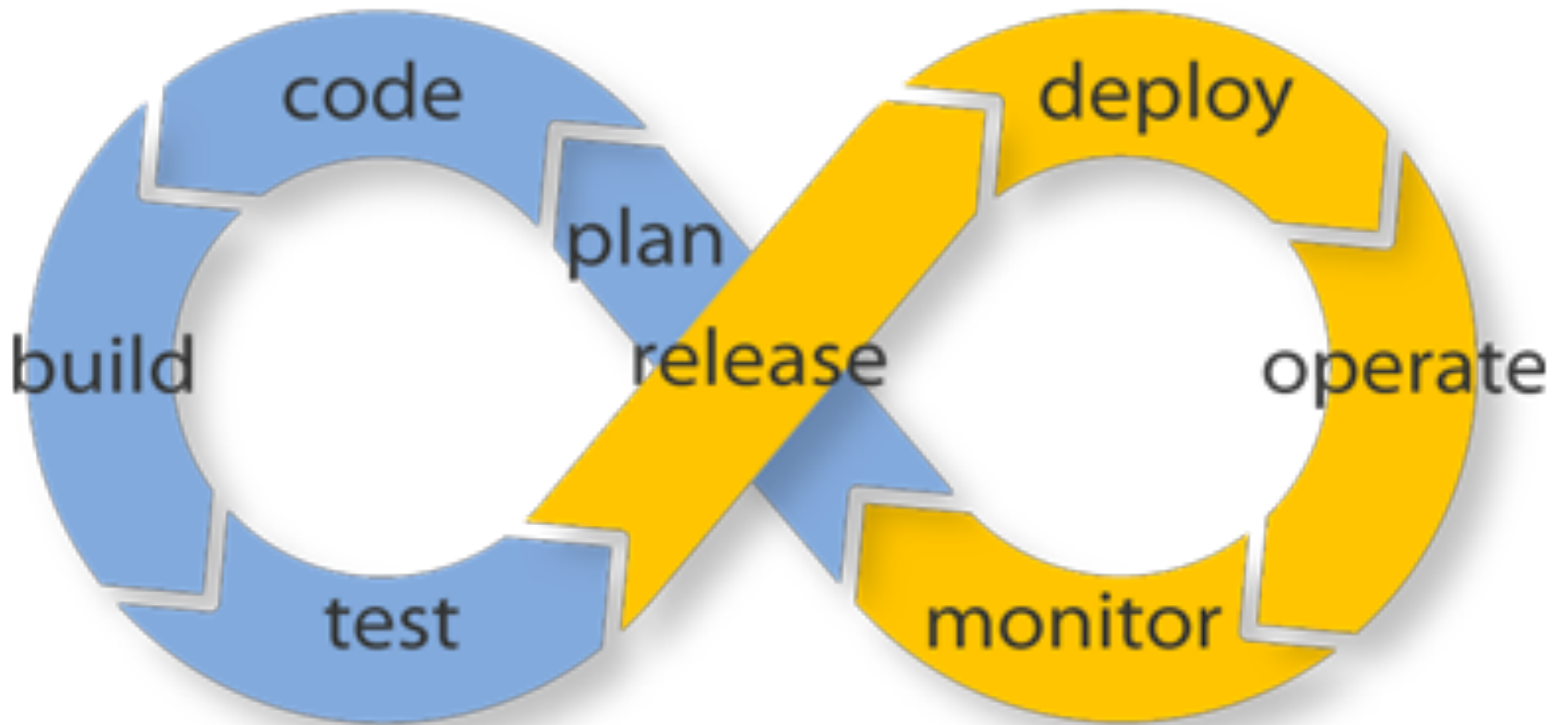


What is DevOps

What is DevOps

Developer + Operation





TEST IS ALL

沒有測試的佈署，就像是裸奔

Deploy without test, it is naked

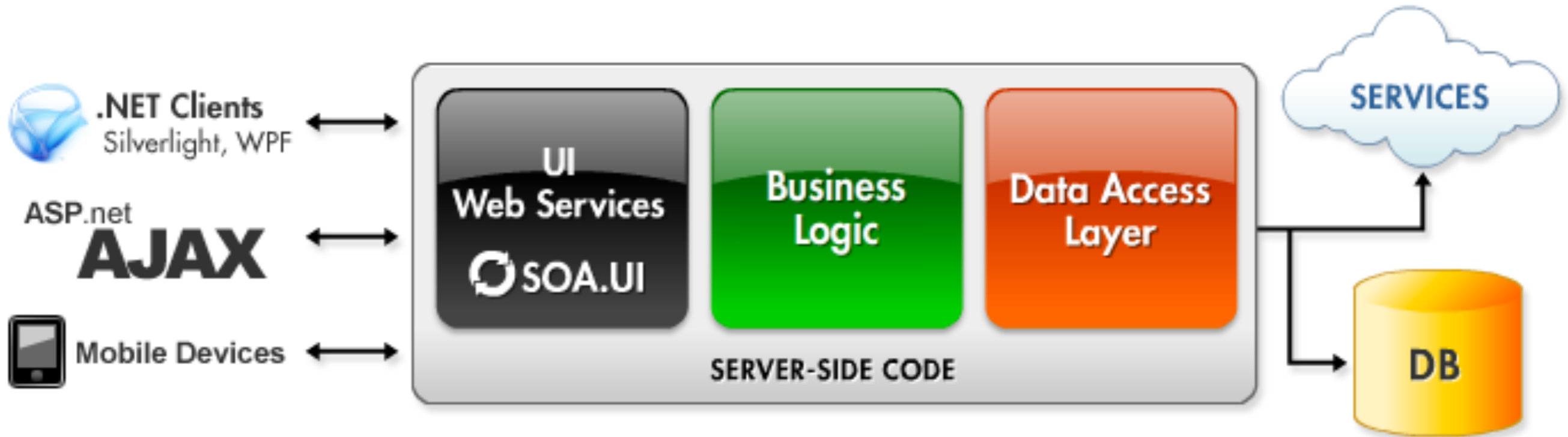
“Any tests than none.”

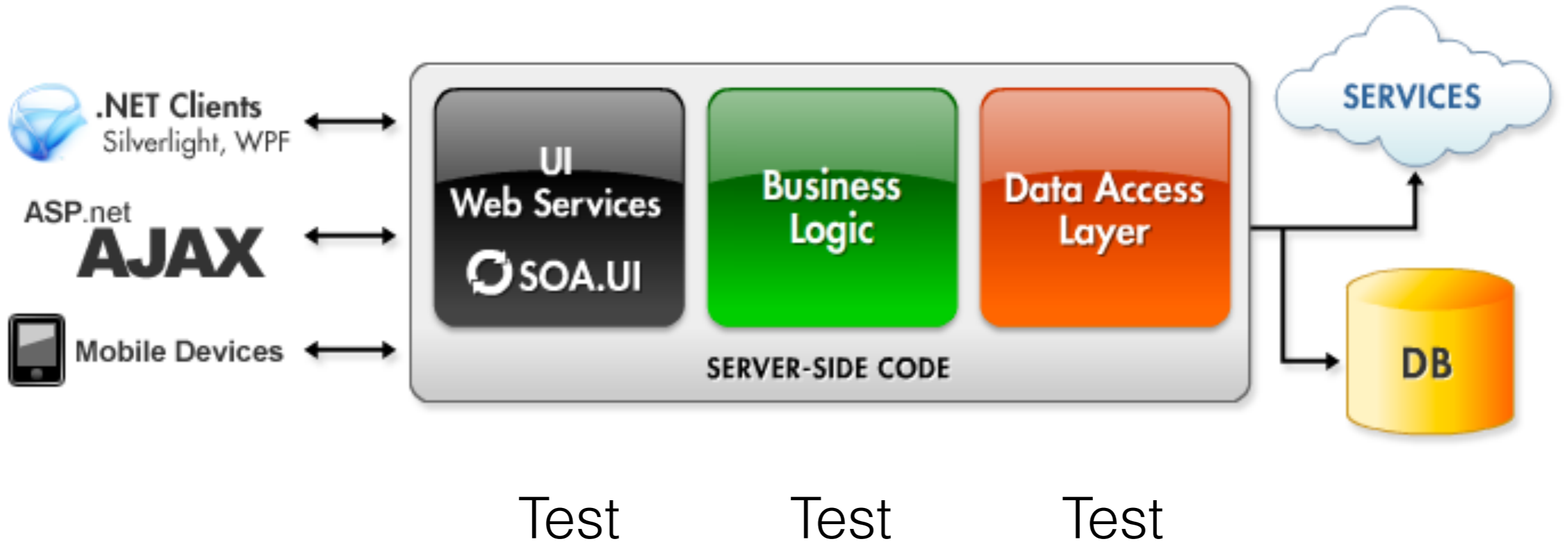
–DevOps

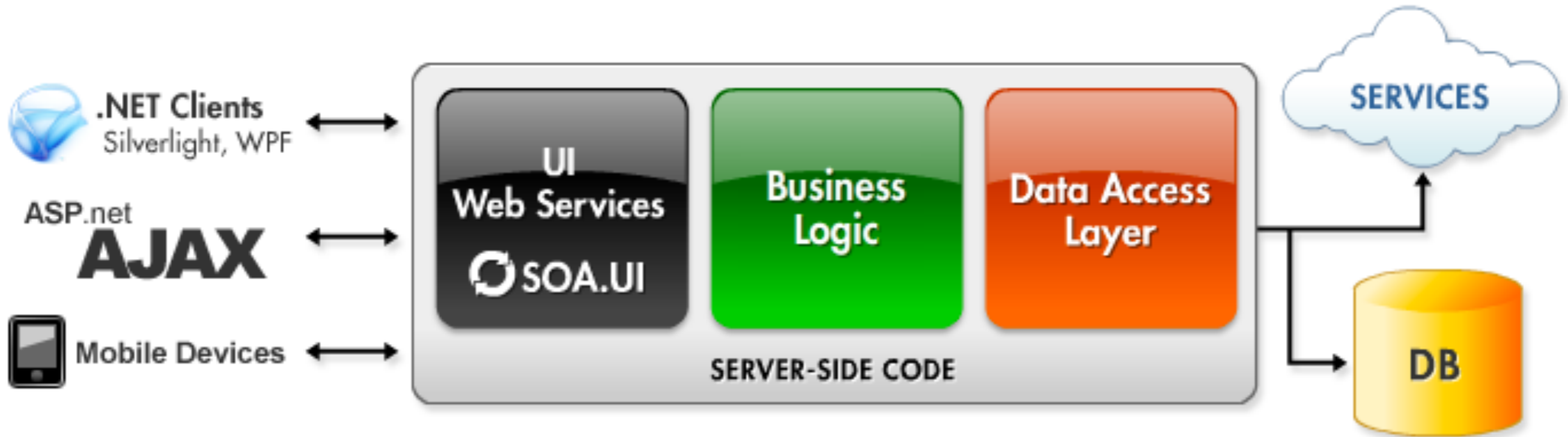
Everything has test
(at least)

BDD, TDD, Unit test, XDD, Whatever







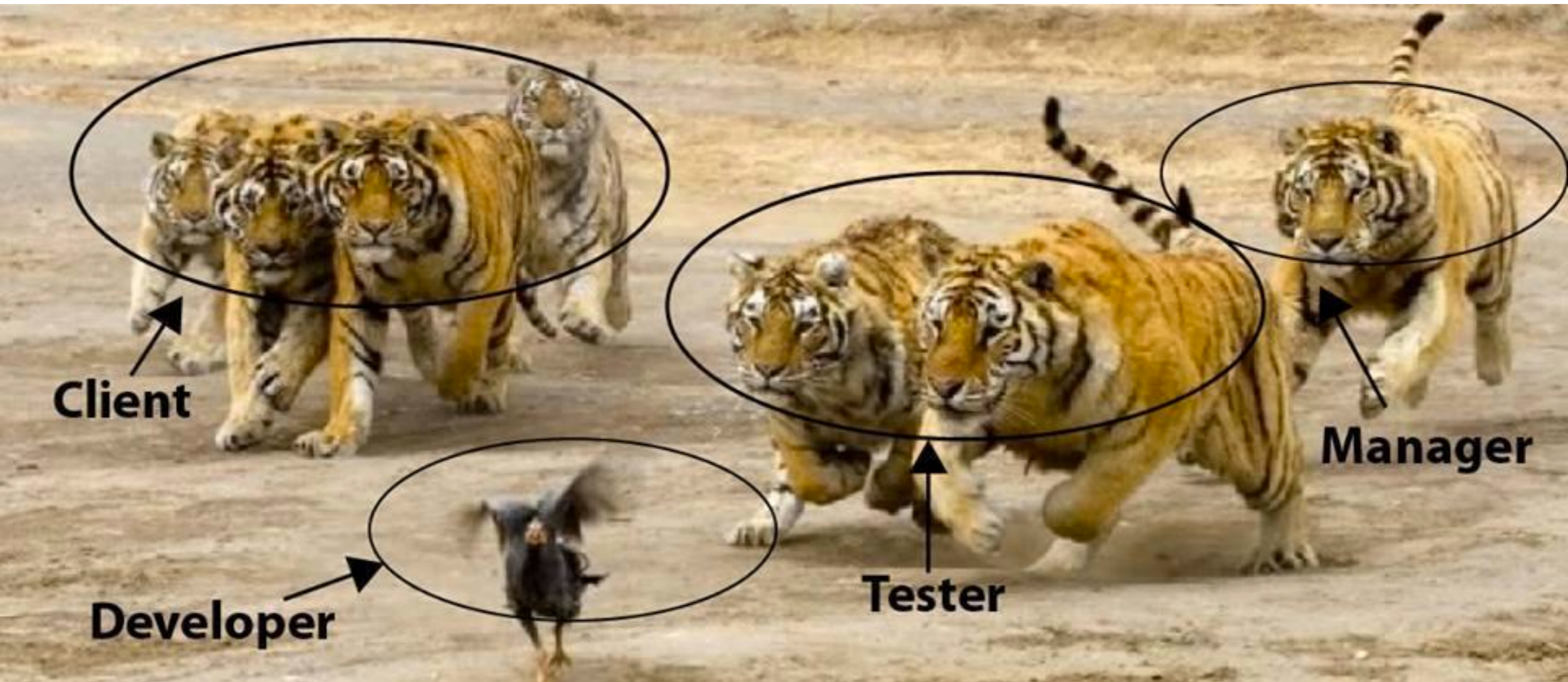


Test? Test Test

Do you have ever front end test yet?



Nauf Kinani 2007



Client

Developer

Tester

Manager

Trigger

Developer / QA/ Anyone

Open browser

Key / input / submit / mouse

Success / Fail

Trigger

Developer / QA/ Anyone

Open browser

Key / input / submit / mouse

Success / Fail

Deploy



Trigger

Developer / QA/ Anyone

Open browser

Key / input / submit / mouse

Success / Fail

Deploy

Daily



Trigger

Developer / QA/ Anyone

Open browser

Key / input / submit / mouse

Success / Fail

Deploy

Daily

Feature



Trigger

Developer / QA/ Anyone

Open browser

Key / input / submit / mouse

Success / Fail

Deploy

Daily

Feature

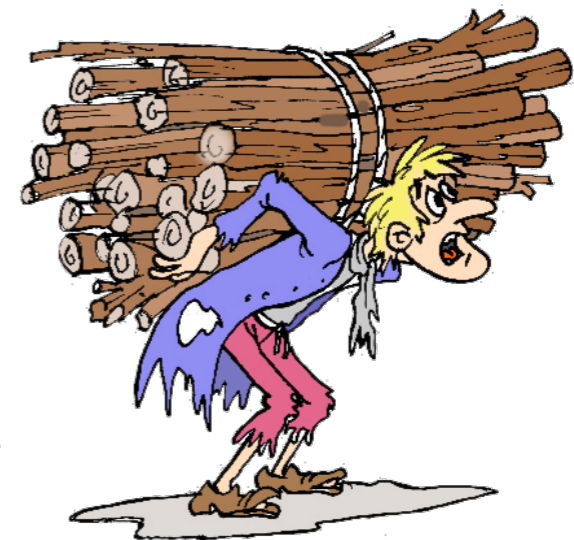
Hotfix



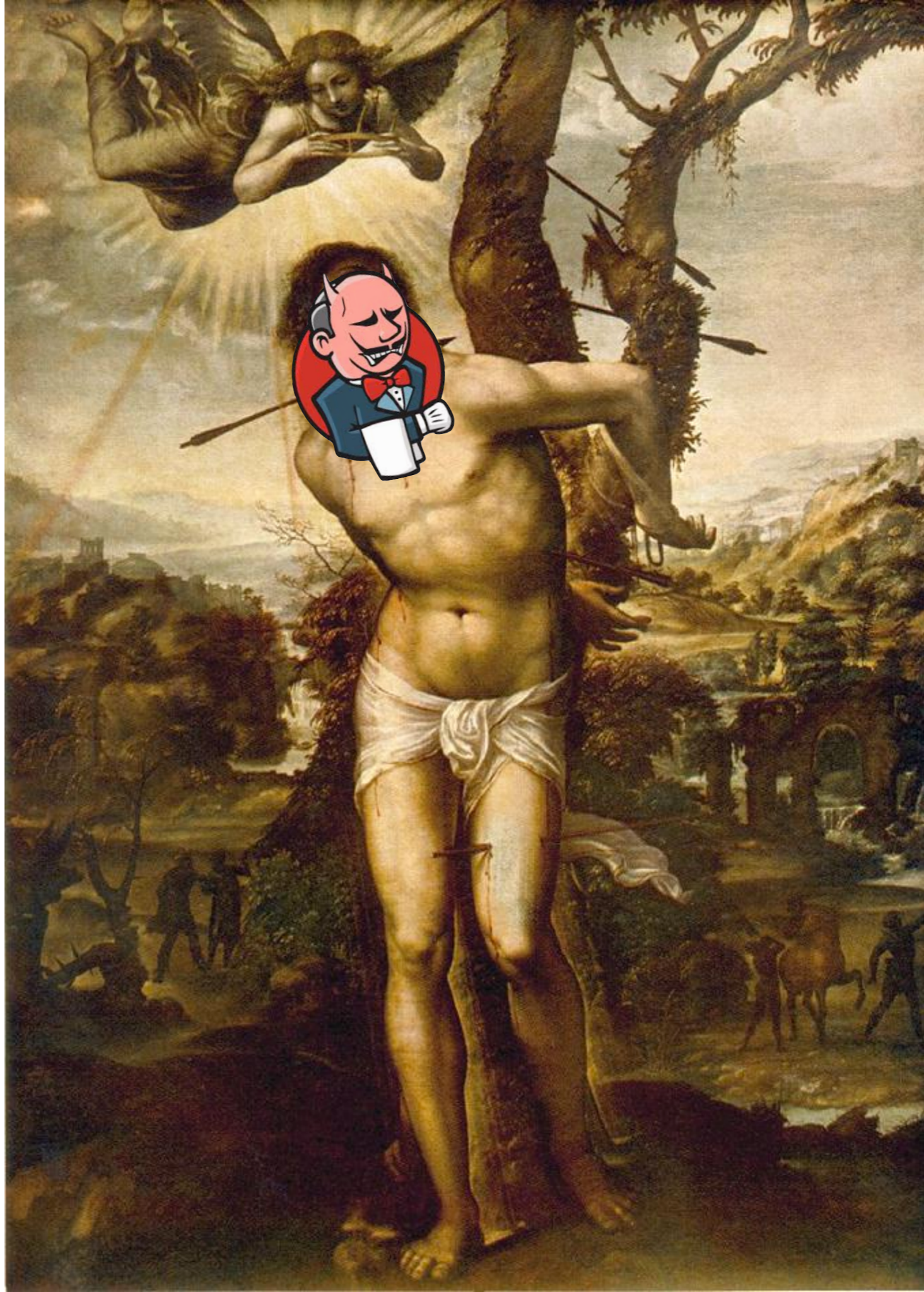


“Boss Driven Development.”

~~BDD~~

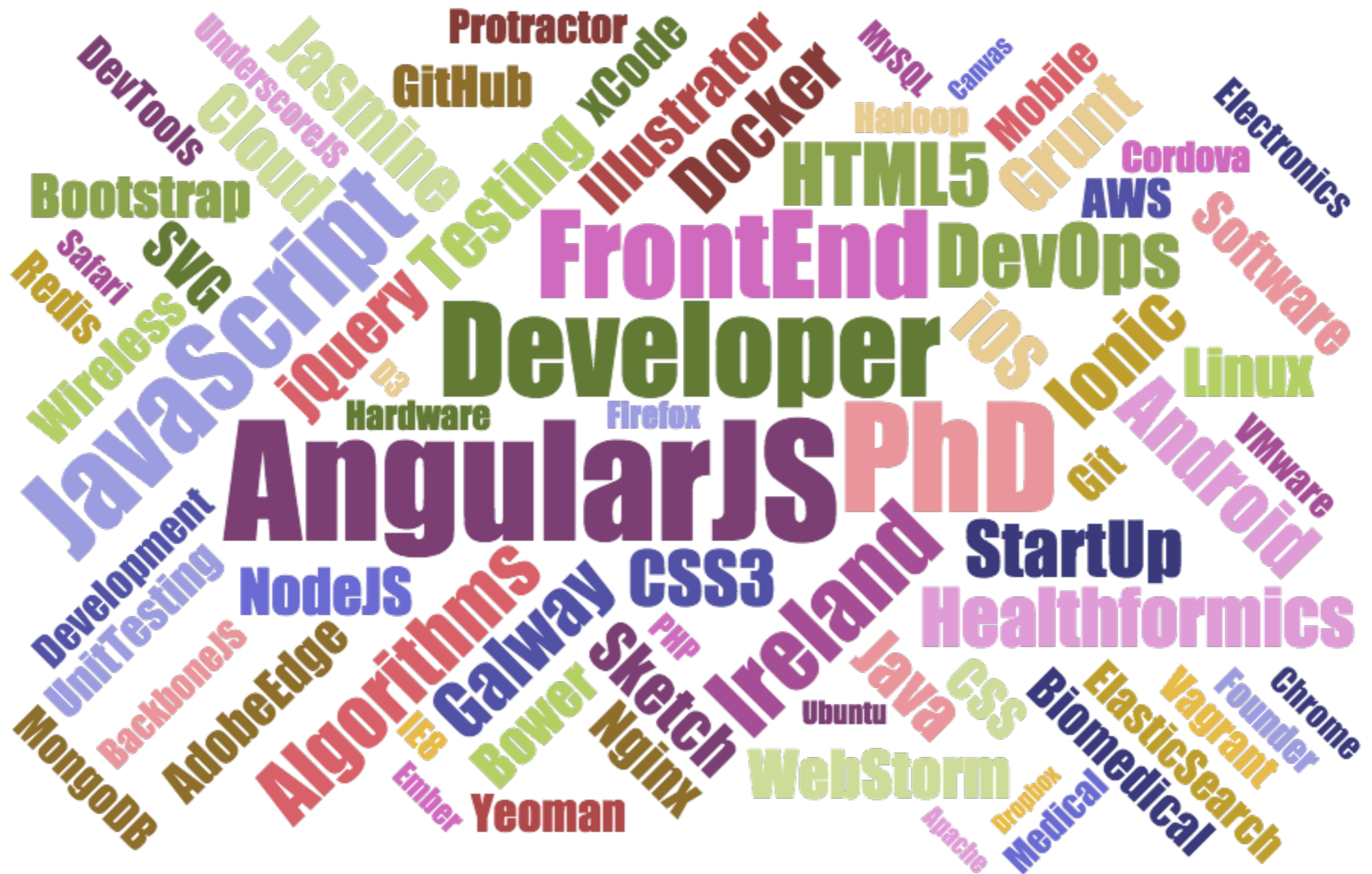






“If test is all,
why not test front end / UI.”

– John Doe



HTML



JS



CSS



Foundation

Start here, build everywhere.



Bootstrap



jQuery
write less, do more.



jQuery
mobile



React



ionic



aurelia



BACKBONE.JS

JS



CSS



HTML



Convention
Controller
Compressor

Convention

“Everyone’s code, must be same code.”



+ 'use restrict'

JavaScript

\$jscss .

```
Expected indentation of 4 characters at app/scripts/quicksort.js :
 4 |   if (items.length > 1) {
 5 |     left = typeof left !== 'number' ? 0 : left;
 6 |     right = typeof right !== 'number' ? items.length-1 : right;
-----^
 7 |     index = partition(items, left, right);
 8 |     if (left < index-1) {

Operator - should not stick to preceding expression at app/scripts/quicksort.js :
 4 |   if (items.length > 1) {
 5 |     left = typeof left !== 'number' ? 0 : left;
 6 |     right = typeof right !== 'number' ? items.length-1 : right;
-----^
 7 |     index = partition(items, left, right);
 8 |     if (left < index-1) {
```

```
► Uncaught SyntaxError: Unexpected identifier
  at Object.InjectedScript._evaluateOn (<anonymous>:905:140)
  at Object.InjectedScript._evaluateAndWrap (<anonymous>:838:34)
  at Object.InjectedScript.evaluate (<anonymous>:694:21)
```


The logo for Jade, featuring the word "jade" in a white, lowercase, sans-serif font centered on a green square background with a diagonal shadow effect.

HTML

```
doctype html
html(lang="en")
  head
    title= pageTitle
    script(type='text/javascript').
      if (foo) {
        bar(1 + 5)
      }
  body
    h1 Jade - node template engine
    #container.col
      if youAreUsingJade
        p You are amazing
      else
        p Get on it!
    p.
      Jade is a terse and simple
      templating language with a
      strong focus on performance
      and powerful features.
```

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <title>Jade</title>
    <script type="text/javascript">
      if (foo) {
        bar(1 + 5)
      }
    </script>
  </head>
  <body>
    <h1>Jade - node template engine</h1>
    <div id="container" class="col">
      <p>You are amazing</p>
      <p>
        Jade is a terse and simple
        templating language with a
        strong focus on performance
        and powerful features.
      </p>
    </div>
  </body>
</html>
```



Sass

CSS

```
nav {  
  ul {  
    margin: 0;  
    padding: 0;  
    list-style: none;  
  }  
  
  li { display: inline-block; }  
  
  a {  
    display: block;  
    padding: 6px 12px;  
    text-decoration: none;  
  }  
}
```

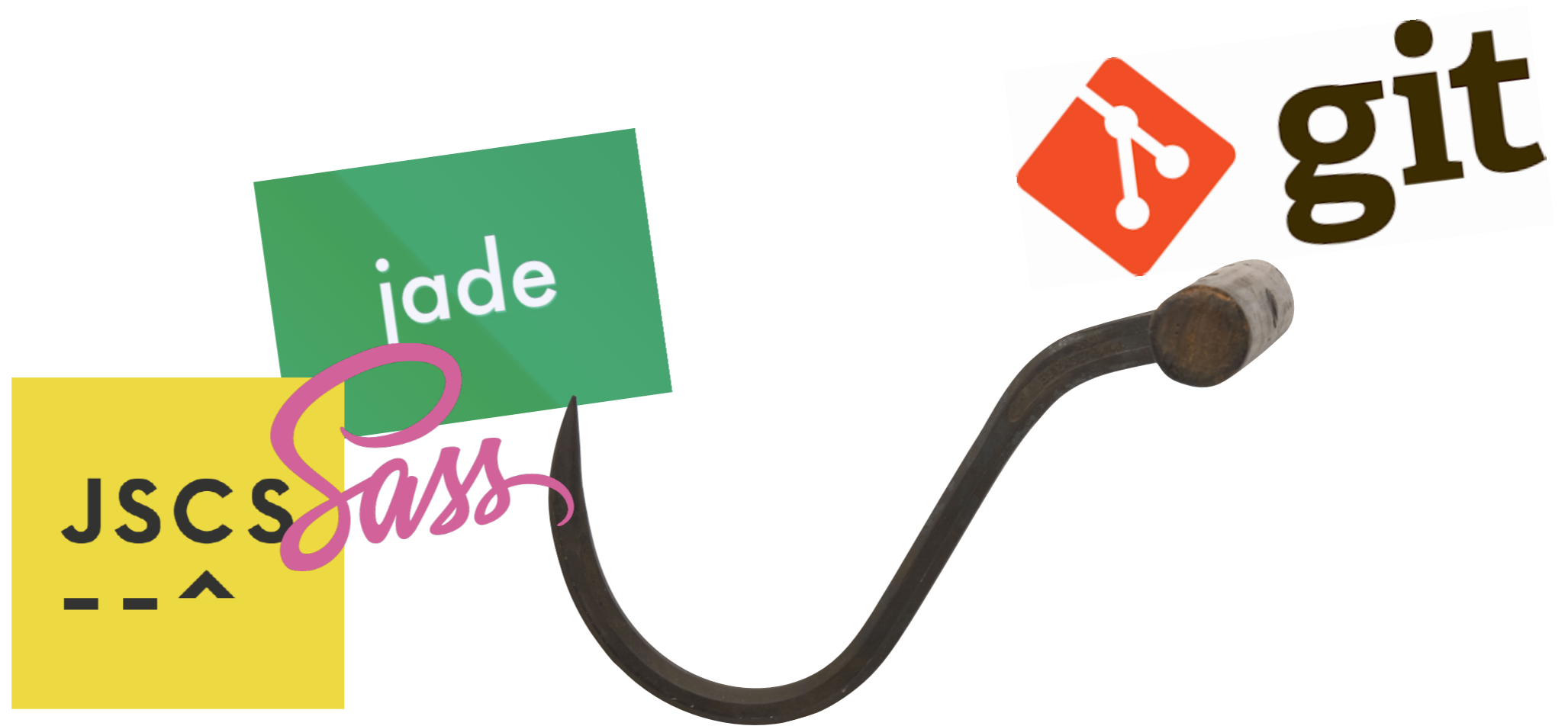
```
nav ul {  
  margin: 0;  
  padding: 0;  
  list-style: none;  
}  
  
nav li {  
  display: inline-block;  
}  
  
nav a {  
  display: block;  
  padding: 6px 12px;  
  text-decoration: none;  
}
```

ghooks

use

precommit-hook

to validate all things in local before commit



Convention

“Everyone’s code, must be same code.”



+ 'use restrict'

JavaScript



HTML



CSS



Controller

“User Interface.”



WEB COMPONENTS

TEMPLATES

```
<template id="">  
</template>
```

SHADOW DOM

```
div  
  #document-fragment  
  span
```

HTML IMPORTS

```
<link rel="import"  
  href="part.html">
```

CUSTOM ELEMENTS

```
<my-elem>  
</my-elem>
```

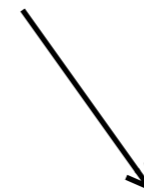

Controller

UI event
Logic function

Controller

UI event
Logic function

user input -> login -> **Validate** -> ~~Auth -> success~~



result verify

Mock data



Logic function

```
<div id="mocha"><p><a href=".">Index</a></p></div>
<div id="messages"></div>
<div id="fixtures"></div>
<script src="vendor/mocha.js"></script>
<script src="vendor/chai.js"></script>
<script src="cow.js"></script>
<script>mocha.setup('bdd')</script>
<script src="cow_test.js"></script>
<script>mocha.run();</script>
```



passes: 6 failures: 0 duration: 2.03s 100%

[Index](#)

Cow

- constructor
 - ✓ should has a default name
 - ✓ should set cow's name if provided
- #greet
 - ✓ should throw if no target is passed in
 - ✓ should greets passed target
- #lateGreet
 - ✓ should send back an error if no target is passed in 1002ms
 - ✓ should greets passed target after one second 1002ms



Logic function (Angular)

```
describe('sorting the list of users', function() {  
  it('sorts in descending order by default', function() {  
    var users = ['jack', 'igor', 'jeff'];  
    var sorted = sortUsers(users);  
    expect(sorted).toEqual(['jeff', 'jack', 'igor']);  
  });  
});
```

Jasmine 1.3.1 revision 1354556913

finished in 0.024s

•

Passing 1 spec

No try/catch

sqrt

should compute the square root of 4 as 2



Jasmine

Mock data

```
describe('PasswordController', function() {
  beforeEach(module('app'));

  var $controller;

  beforeEach(
    inject(function(_$controller_) {
      // The injector unwraps the underscores (_) from around the parameter names when matching
      $controller = _$controller_;
    })
  );

  describe('$scope.grade', function() {
    it('sets the strength to "strong" if the password length is >8 chars', function() {
      var $scope = {};
      var controller = $controller('PasswordController', { $scope: $scope });
      $scope.password = 'longerthaneightchars';
      $scope.grade();
      expect($scope.strength).toEqual('strong');
    });
  });
});
```

“Make Test as Simple as Possible.”

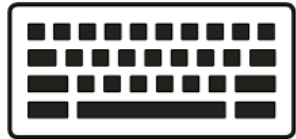
– John Doe

Controller

UI event

Logic function

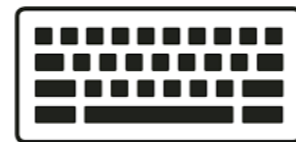
Code save



Open browser



.... // do sth



Success / Fail



, wait ...

too heavy to run with browser.

Phantom JS



Phantom JS

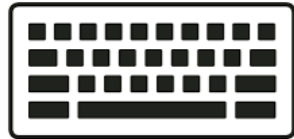
```
$ phantomjs test-runner.js  
Testing http://viget.com/
```

Viget Home Test

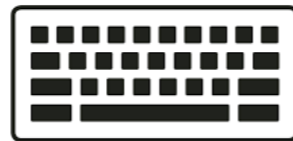
- ✓ tracks outbound links
- ✓ tracks clicks on the news items section
- ✓ tracks clicks on careers links

```
var page = require('webpage').create();  
page.open('http://example.com', function(status) {  
    console.log("Status: " + status);  
    if(status === "success") {  
        page.render('example.png');  
    }  
    phantom.exit();  
});
```

Test save

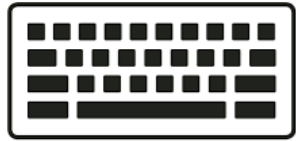


Code save



Success / Fail

Test save



Fail



, you turn

run all test on real browser ... GO

use WebDriver to trigger browser



Protractor

end to end testing for AngularJS

No more extra code

Testing Against Multiple Browsers

If you would like to test against multiple browsers, use the `multiCapabilities` configuration option.

```
multiCapabilities: [{
  'browserName': 'firefox'
}, {
  'browserName': 'chrome'
}]
```



`</>` `protractor.conf.js`





UI event

Logic function

UI event

User basic behavior

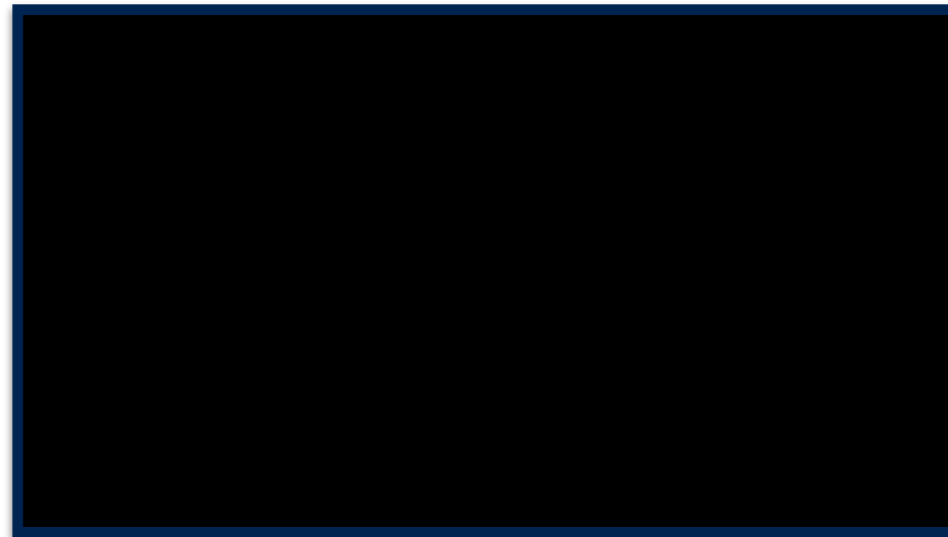
Logic function

Backend

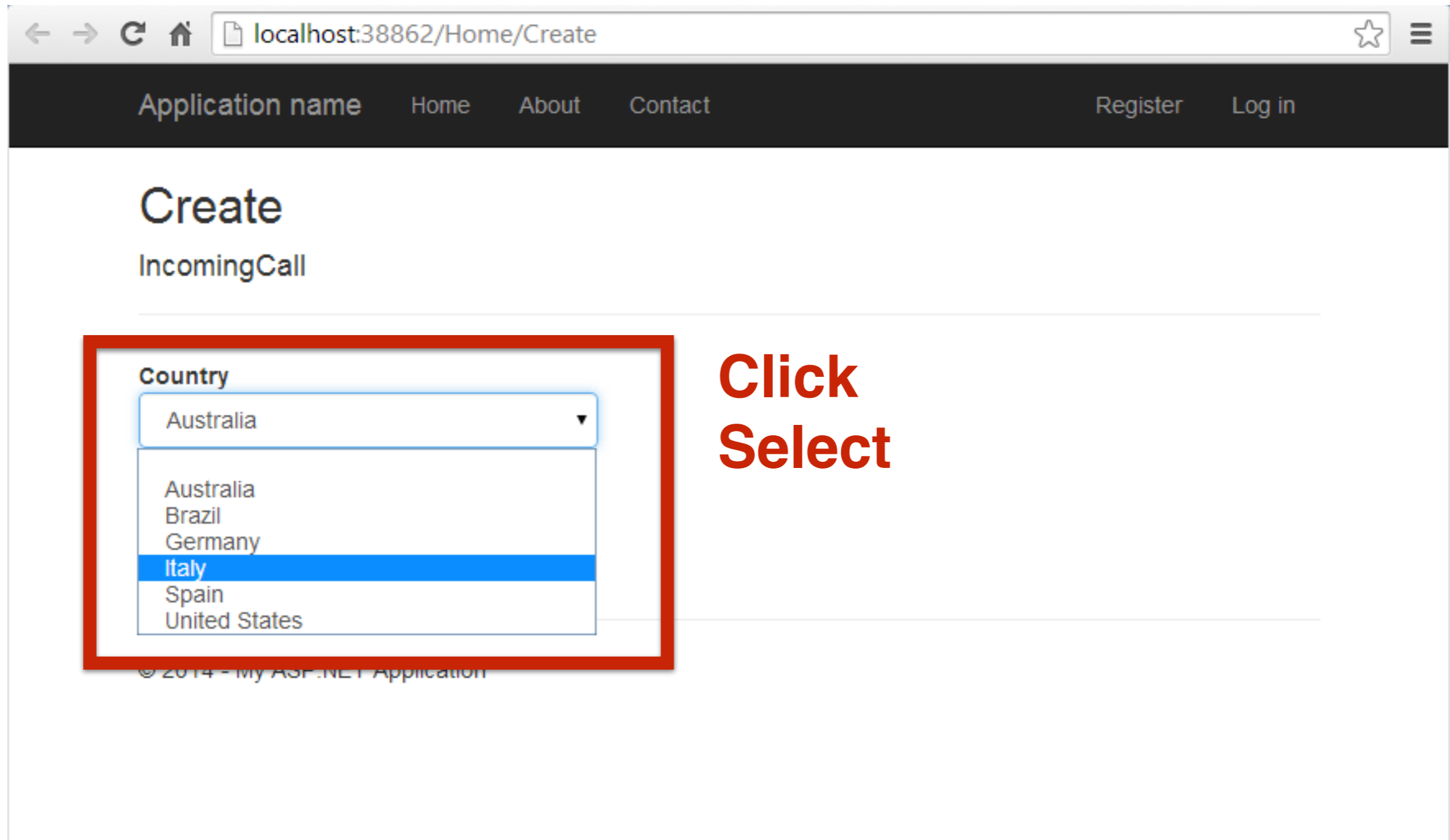
Logic function

Backend

Input



Output



The screenshot shows a web browser window with the address bar displaying 'localhost:38862/Home/Create'. The page has a dark navigation bar with links for 'Application name', 'Home', 'About', 'Contact', 'Register', and 'Log in'. The main content area is titled 'Create IncomingCall'. A dropdown menu for 'Country' is highlighted with a red border. The dropdown is open, showing a list of countries: Australia, Brazil, Germany, Italy (highlighted in blue), Spain, and United States. To the right of the dropdown, the text 'Click Select' is written in large, bold, red font. At the bottom left of the page, there is a copyright notice: '© 2014 - My ASP.NET Application'.

Application name Home About Contact Register Log in

Create

IncomingCall

Country

- Australia
- Australia
- Brazil
- Germany
- Italy**
- Spain
- United States

Click Select

© 2014 - My ASP.NET Application

Compresser

Deploy





concat minify





```
// STYLES
link(rel="stylesheet", href="/linker/styles/ho
link(rel="stylesheet", href="/bower/angular-bu
link(rel="stylesheet", href="/bower/bootstrap-
link(rel="stylesheet", href="/bower/fontawesom
link(rel="stylesheet", href="/bower/jquery-tim
link(rel="stylesheet", href="/bower/ng-date-gr
link(rel="stylesheet", href="/bower/ng-loading
link(rel="stylesheet", href="/bower/ng-mk-moda
link(rel="stylesheet", href="/bower/ng-table/n
link(rel="stylesheet", href="/bower/nvd3/nv.d3
link(rel="stylesheet", href="/bower/select2/se
link(rel="stylesheet", href="/bower/tmd-bootst
link(rel="stylesheet", href="/linker/styles/im
link(rel="stylesheet", href="/linker/styles/im
link(rel="stylesheet", href="/linker/styles/so
link(rel="stylesheet", href="/linker/styles/su
// STYLES END
// SCRIPTS
script(src="/bower/underscore.string/underscor
script(src="/bower/jquery/jquery.js?1431486497
script(src="/bower/angular/angular.js?14314864
script(src="/bower/sails.io.js/sails.io.js?143
script(src="/bower/angular-sails/angular-sails
script(src="/bower/moment/moment.js?1431486497
script(src="/bower/ng-bs-daterangepicker/ng-bs
script(src="/bower/moment-timezone/moment-time
script(src="/bower/angular-translate/angular-t
script(src="/bower/angular-translate-loader-st
script(src="/bower/angular-translate-storage-c
script(src="/bower/angular-animate/angular-ani
script(src="/bower/angular-bootstrap/ui-bootst
script(src="/bower/angular-busy/angular-busy.j
script(src="/bower/angular-charts/angular-char
script(src="/bower/angular-cookies/angular-coo
script(src="/bower/angular-file-upload/angular
script(src="/bower/angular-jquery-timepicker/t
script(src="/bower/angular-moment/angular-mome
script(src="/bower/angular-nvd3/angular-nvd3.m
script(src="/bower/angular-route/angular-route
script(src="/bower/angular-sanitize/angular-sa
script(src="/bower/angular-ui-router/angular-u
```

```
// STYLES
link(rel="stylesheet", href="/linker/styles/ho
link(rel="stylesheet", href="/bower/angular-bu
link(rel="stylesheet", href="/bower/bootstrap-
link(rel="stylesheet", href="/bower/fontawesom
link(rel="stylesheet", href="/bower/jquery-tim
link(rel="stylesheet", href="/bower/ng-date-gr
link(rel="stylesheet", href="/bower/ng-loading
link(rel="stylesheet", href="/bower/ng-mk-moda
link(rel="stylesheet", href="/bower/ng-table/n
link(rel="stylesheet", href="/bower/nvd3/nv.d3
link(rel="stylesheet", href="/bower/select2/se
link(rel="stylesheet", href="/bower/tmd-bootst
link(rel="stylesheet", href="/linker/styles/im
link(rel="stylesheet", href="/linker/styles/im
```

```
// STYLES
link(rel="stylesheet", href="production.css")
// STYLES END
// SCRIPTS
script(src="/js/production.js")
// SCRIPTS END
```

```
script(src="/bower/ng-bs-daterangepicker/ng-bs
script(src="/bower/moment-timezone/moment-time
script(src="/bower/angular-translate/angular-t
script(src="/bower/angular-translate-loader-st
script(src="/bower/angular-translate-storage-c
script(src="/bower/angular-animate/angular-ani
script(src="/bower/angular-bootstrap/ui-bootst
script(src="/bower/angular-busy/angular-busy.j
script(src="/bower/angular-charts/angular-char
script(src="/bower/angular-cookies/angular-coo
script(src="/bower/angular-file-upload/angular
script(src="/bower/angular-jquery-timepicker/t
script(src="/bower/angular-moment/angular-mome
script(src="/bower/angular-nvd3/angular-nvd3.m
script(src="/bower/angular-route/angular-route
script(src="/bower/angular-sanitize/angular-sa
script(src="/bower/angular-ui-router/angular-
```



concat minify



THEN ?

As Developer

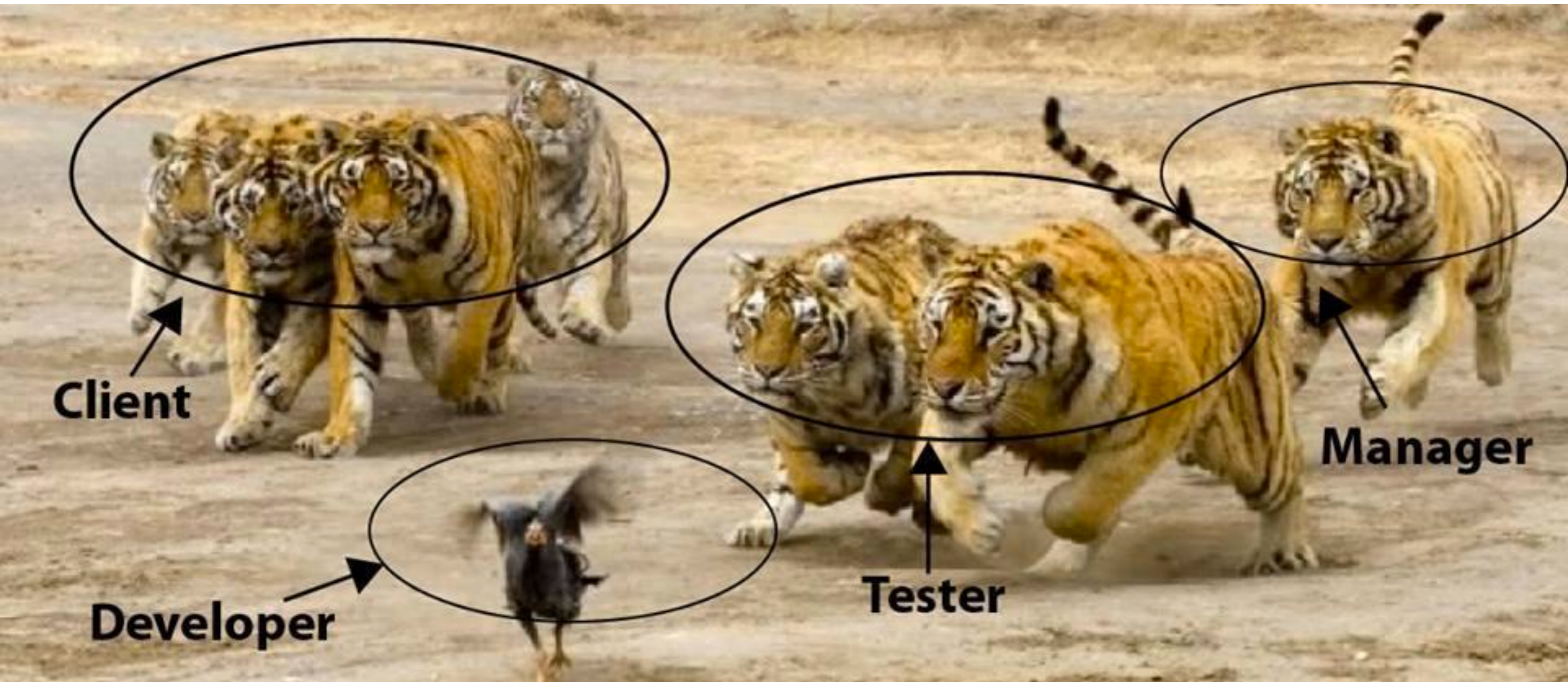
- Keep test running
- Share test concept
- Build a jenkins server
- Keep your task done on time.
- Wash your boss' brain.

A large golden Buddha statue stands on the left side of the image, with its right hand raised in a gesture of blessing. To the right, a long row of smaller golden Buddha statues is arranged on a white stone platform, each sitting on a dark, textured base. The background is a bright blue sky with scattered white clouds.

You

We are here

As Manager



Push them, do the right thing

Make resource for developer,
ex, time, machine, env ...

A large golden Buddha statue stands on the left side of the image, with its right hand raised in a gesture of blessing. To the right, a long row of smaller golden Buddha statues is arranged on a white stone platform, each sitting on a dark, textured base. The background is a bright blue sky with scattered white clouds.

You

We are here

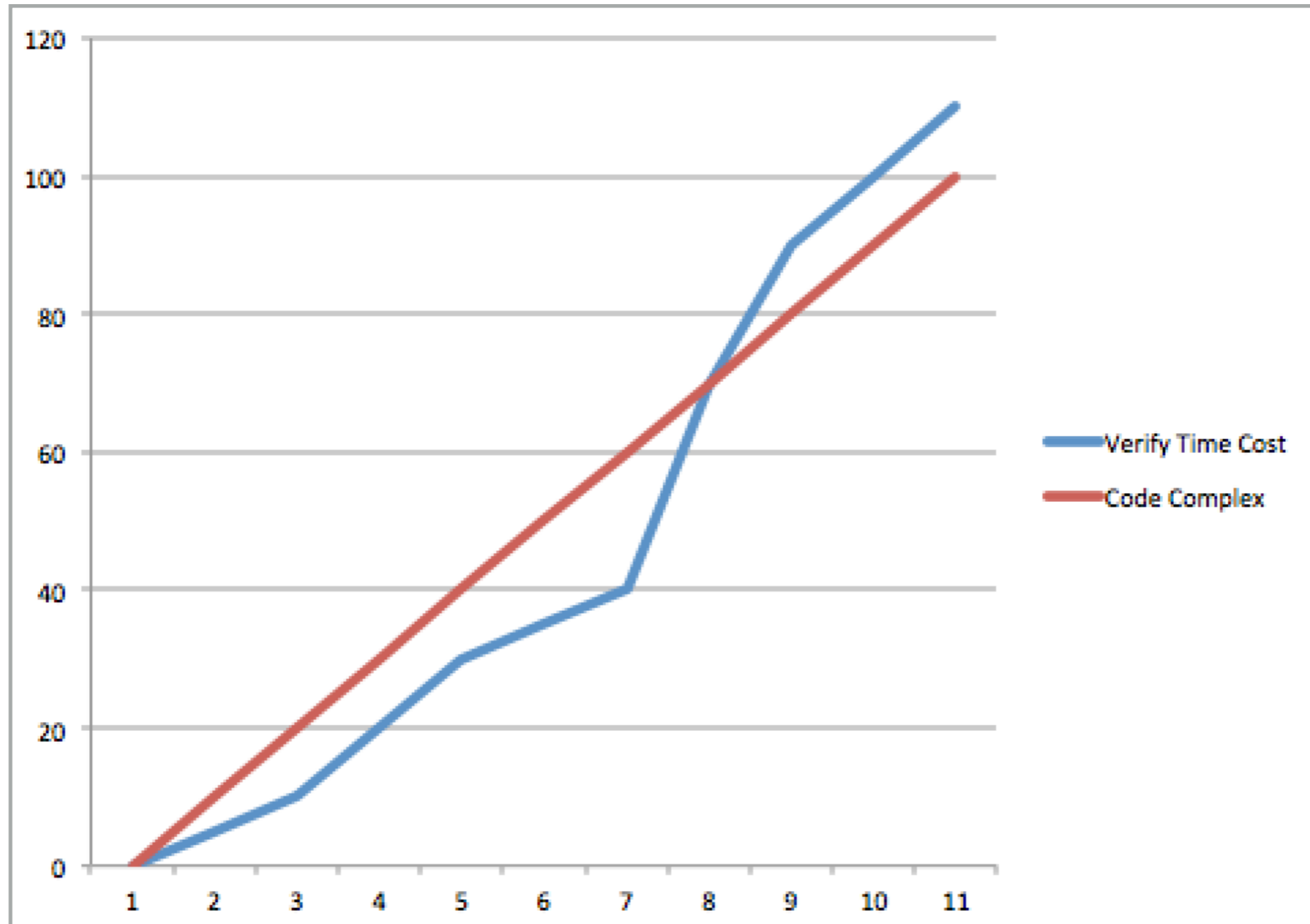


NO PAIN

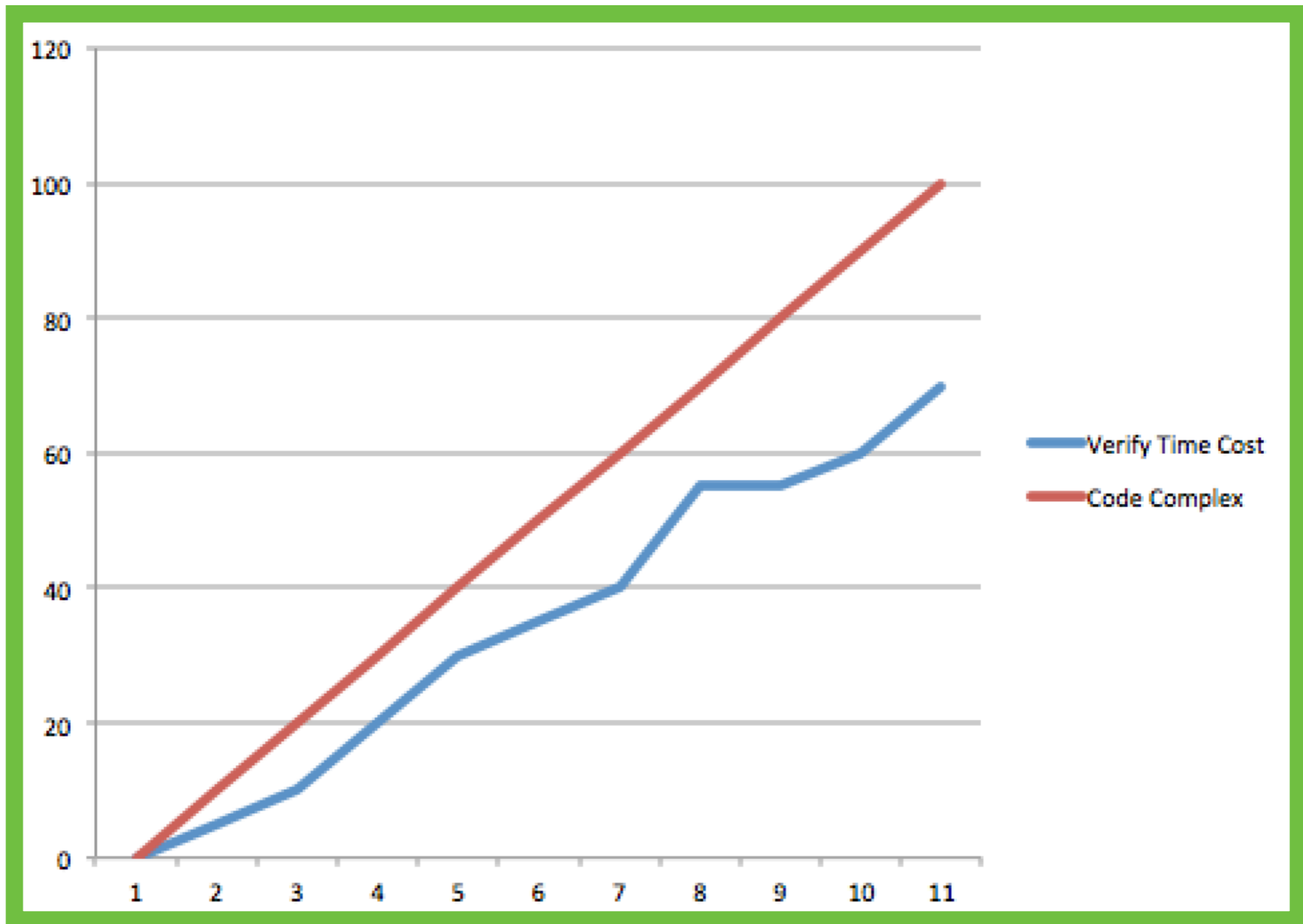
NO GAIN

Effect

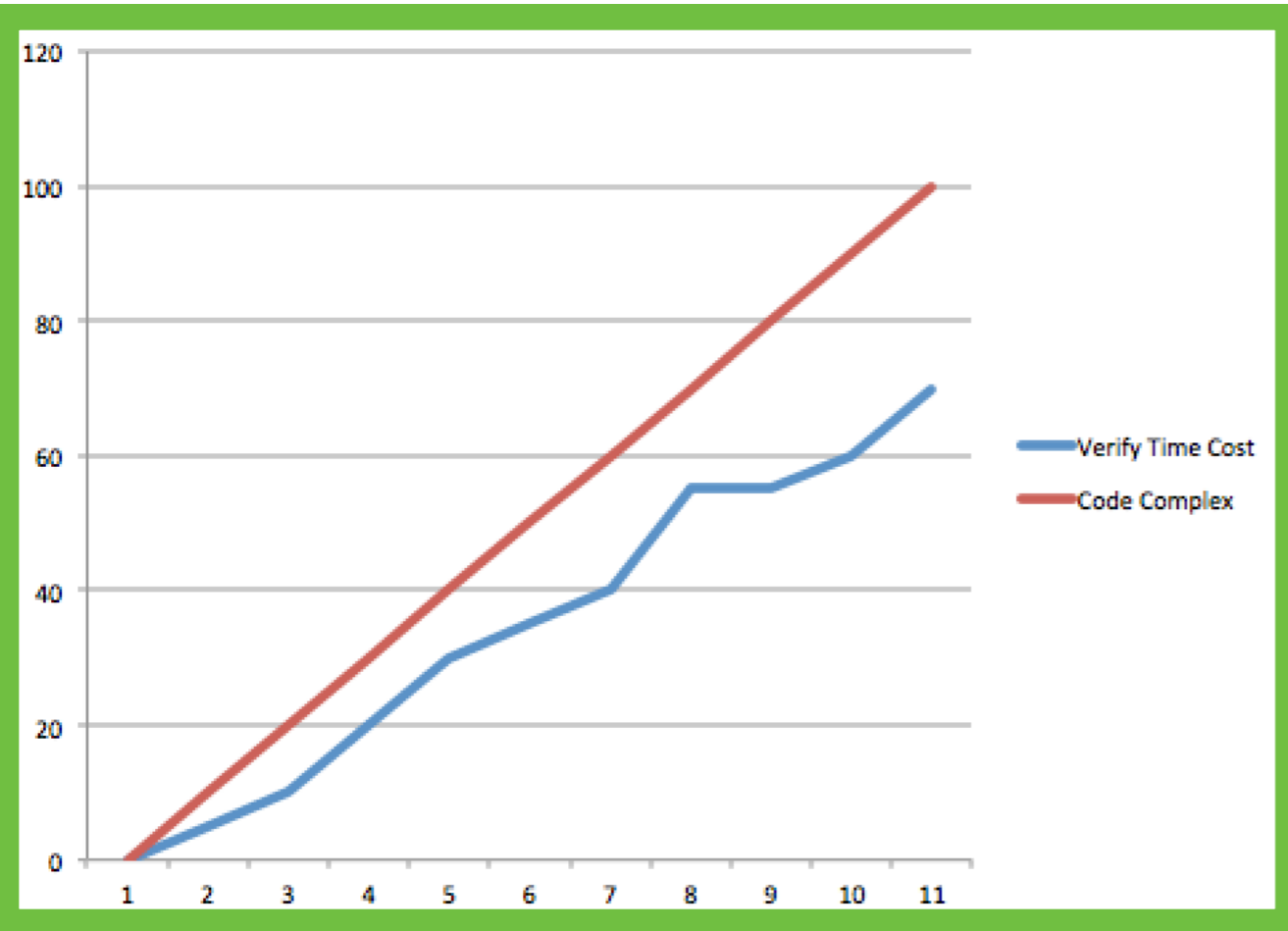
Code without Test



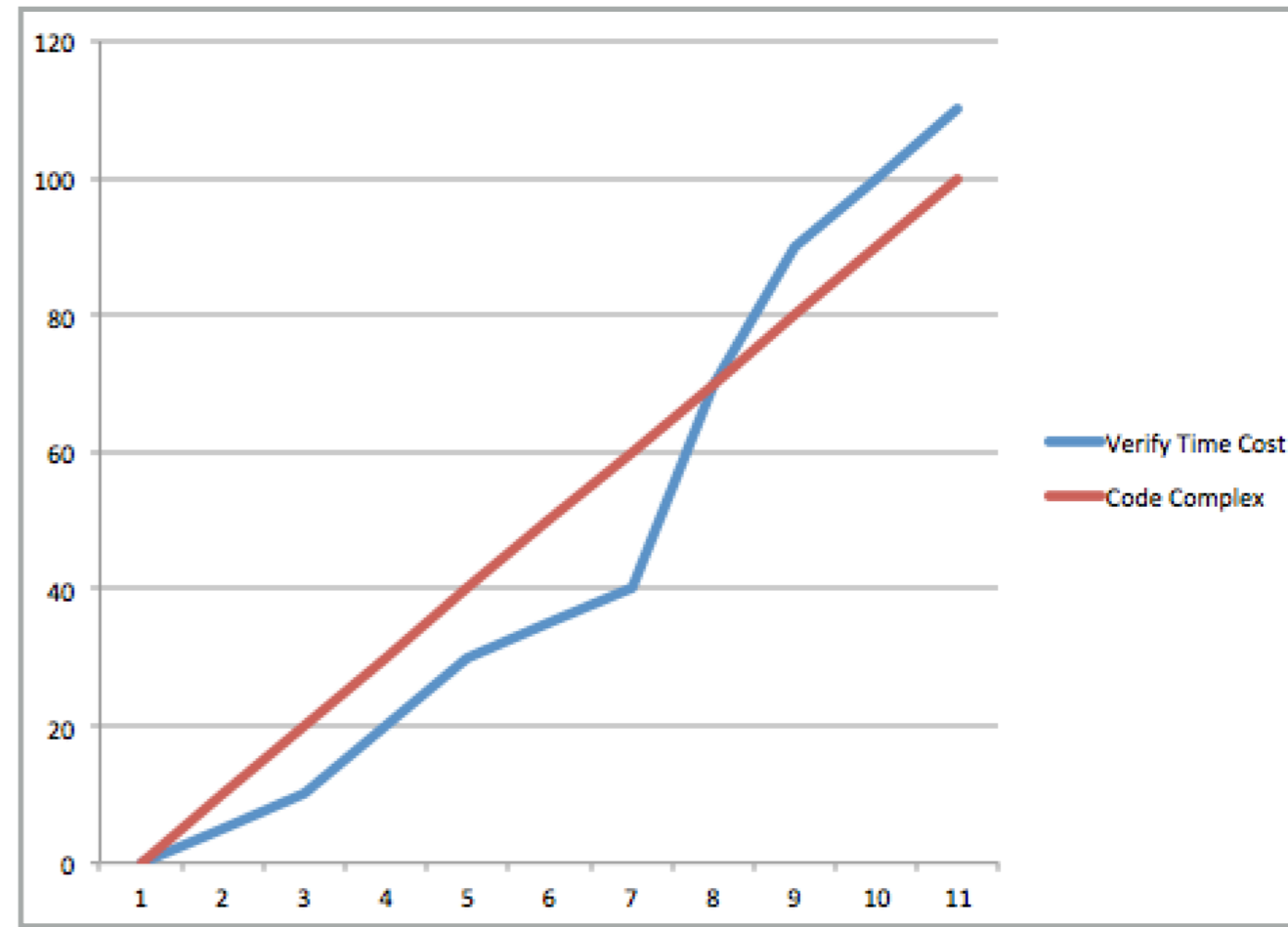
Code with Test



Compare



Test



No test

Test more, keep test move on with logic complex, it is more easy figure out problem.
Then you will save more time



NO PAIN

NO GAIN

Front end Ops

- Face problem
- Accept Result (fail / success)
- Refactor code
- Deploy code
- Trade off code



面對它

接受它

處理它

放下它

至心廠

