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Test Automation Engineer

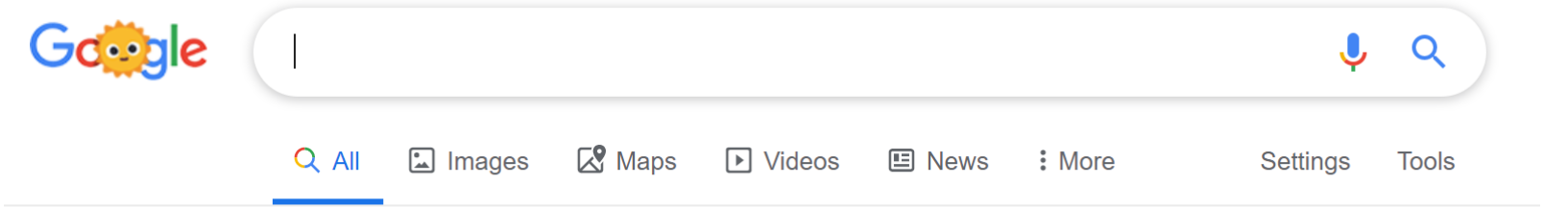
- ✓ 7 years in Accenture
- ✓ Test Automation Lead
- ✓ Last few years in large digital projects working with custom test automation suites
- ✓ Tech: PHP, Ruby and JAVA

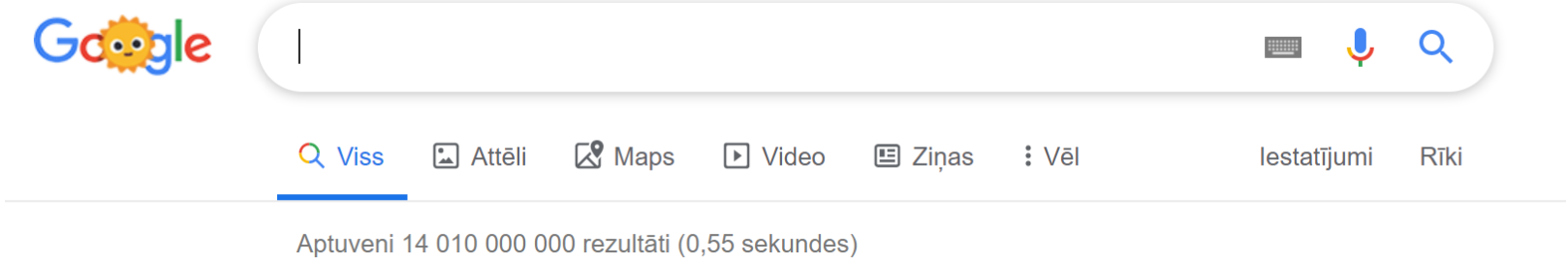
AUTOMATION UI TESTING WITH WRITING CODE FOR WHAT YOU NEED

VISUAL UI TESTING

The common practice for the visual testing is testing via taking a screenshot or multiple ones and compare them. Then seeing the difference and defining whether that is a bug or a feature.

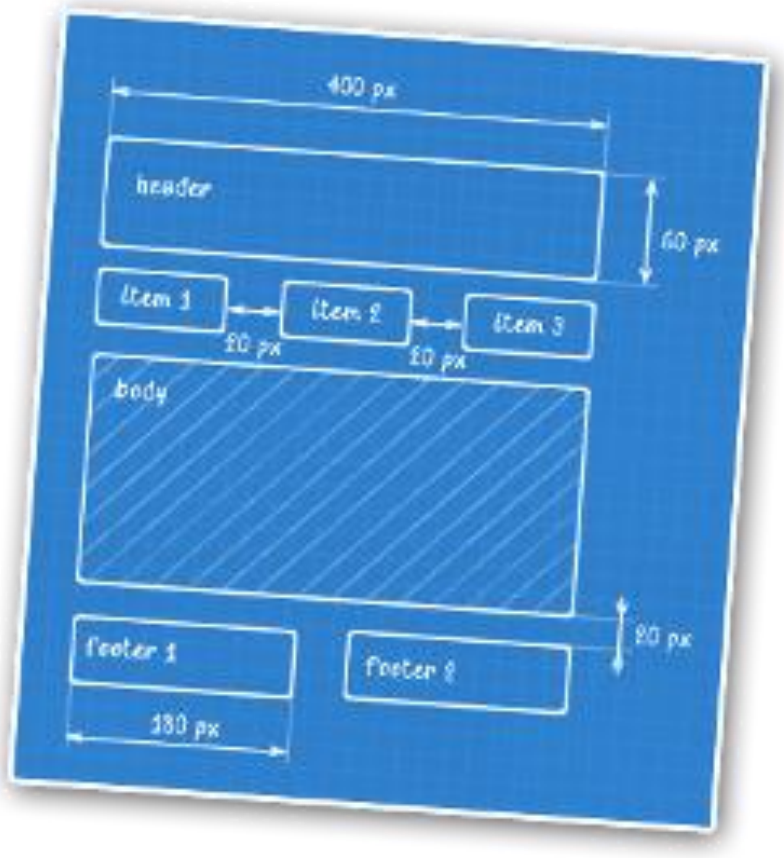
LET'S COMPARE A FEW IMAGES





LET'S COMPARE A FEW IMAGES

HOW ABOUT TRY DOING IT A BIT DIFFERENTLY?



The Idea...

Layout testing seemed always a complex task.

Galen Framework offers a simple solution: test location of objects relatively to each other on a page. Using a special syntax and describe any layout you can imagine

(c) http://galenframework.com/

WHICH LANGUAGES CAN BE USED?

- Basic syntax
- JavaScript Tests
- Java API

BASIC SYNTAX

```
@@ Table devices
    | deviceName  | size      | tags      |
    | mobile      | 450x700   | mobile    |
    | tablet      | 600x800   | tablet    |
    | desktop     | 1024x768  | desktop   |

@@ Parameterized using devices
Home page on ${deviceName}
    http://example.com ${size}
        inject custom-cookies.js
        check homepage.spec --include ${tags}

@@ Parameterized using devices
User profile page on ${deviceName}
    http://example.com ${size}
        run loginAsTestUser.js
        wait 1m until visible "css: #login-button"
        check userProfile.spec --include ${tags}
```

JAVASCRIPT TESTS

```
function Device(deviceName, size, tags) {
    this.deviceName = deviceName;
    this.size = size;
    this.tags = tags;
}
var devices = {
    mobile:  new Device("mobile", "450x700", ["mobile"]),
    tablet:  new Device("tablet", "600x800", ["tablet"]),
    desktop: new Device("dekstop", "1024x768", ["desktop"])
};

forAll(devices, function () {
    test("Home page on ${deviceName}", function (device){
        var driver = createDriver("http://example.com",
            device.size);
        checkLayout(driver, "homepage.spec", device.tags);
        driver.quit();
    });
});
```

JAVA API

```java
public class WelcomePageTest extends GalenTestNgTestBase {

    @Override
    public WebDriver createDriver(Object[] args) {
        return new ChromeDriver();
    }

    @Test
    public void welcomePageShouldLookGoodOnDesktopDevice() {
        load("http://example.com", 1024, 768);
        checkLayout("/specs/welcomePage.spec", asList("desktop"));
    }
}
```

BROWSER SUPPORT

Galen Framework can be run with **Selenium Grid** or be set up to run on cloud with **Sauce Labs** or **BrowserStack**. Therefore enabling not only running across different browsers, but also devices. Galen can also be run in parallel to save time.

SAUCELABS

BrowserStack

WHERE DO WE START?

Object definition

OBJECT DEFINITION

Same as with every web testing, first you would need to define object with which you would work. Galen Framework supports id, css and xpath.

HTML sample:

```
<body>
      <div id='search-bar’>
        <input type='text' name='search' value=‘’/>
        <a href='#' class='search-button'>Search</a>
      </div>
</body>
```

```
@objects
      search_panel search-bar
            input input[type='text’]
            button a
```

OBJECT DEFINITION

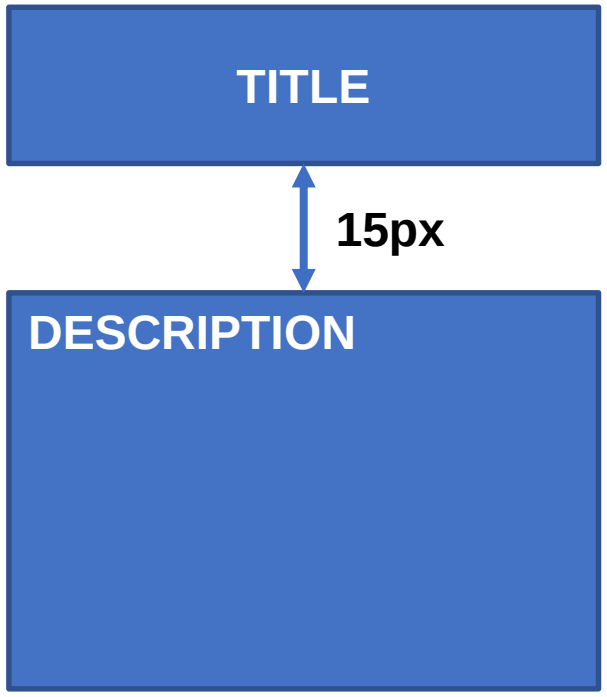
It is also possible to define multiple objects

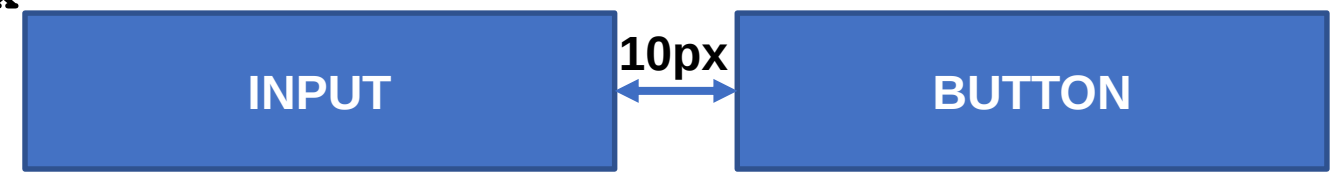
```
<ul id='lang'>
      <li><a href='#'>English</a></li>
      <li><a href='#'>Russion</a></li>
      <li><a href='#'>Latvian</a></li>
</ul>

@objects lang_item-* css #lang li a
```

SPEC DEFINITION

SPEC DEFINITION

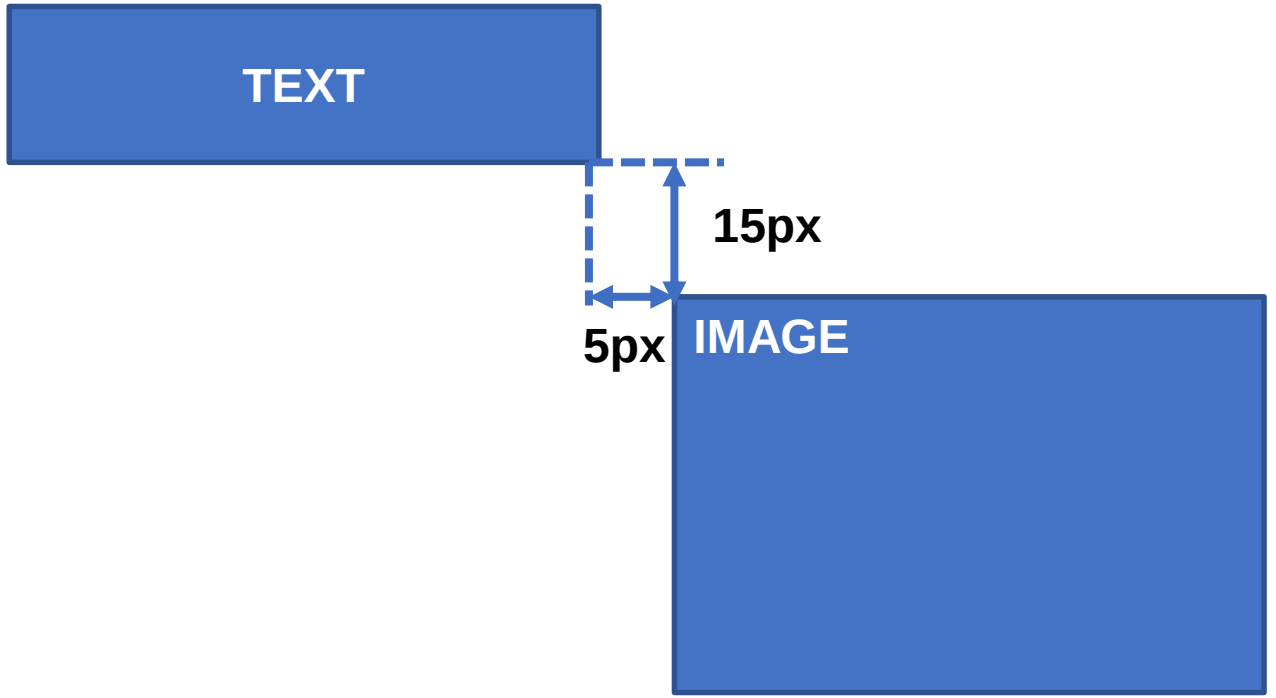
```
title:
        above description 10 to 20 px
description:
        below title ~15 px
        # Approximate 15px

input:
        left-of button 10 px
button:
        right-of caption 10 px
```





SPEC DEFINITION

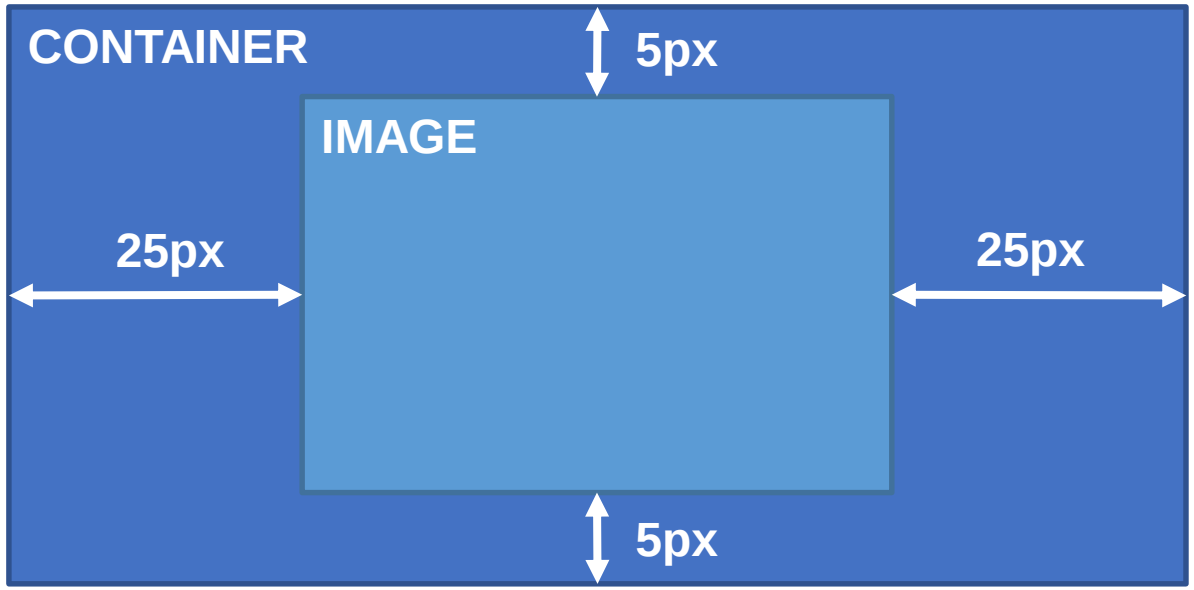
```
text:
        near image 5px top, 10px left
```



SPEC DEFINITION

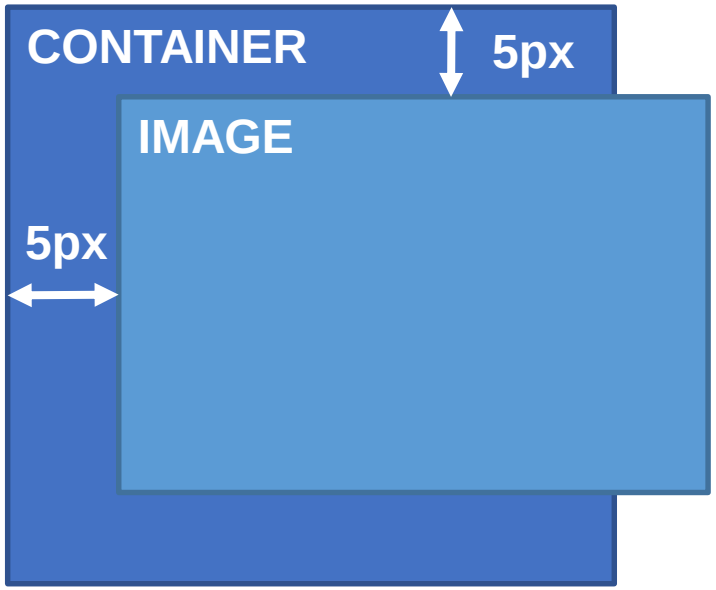
```
image:
        inside container 25px left right, 5px top bottom
```

```
image:
        inside container
```



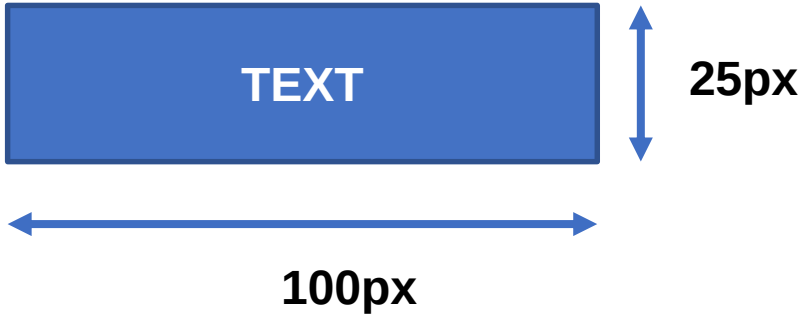
SPEC DEFINITION

```
image:
        inside partly container 5px top left
```



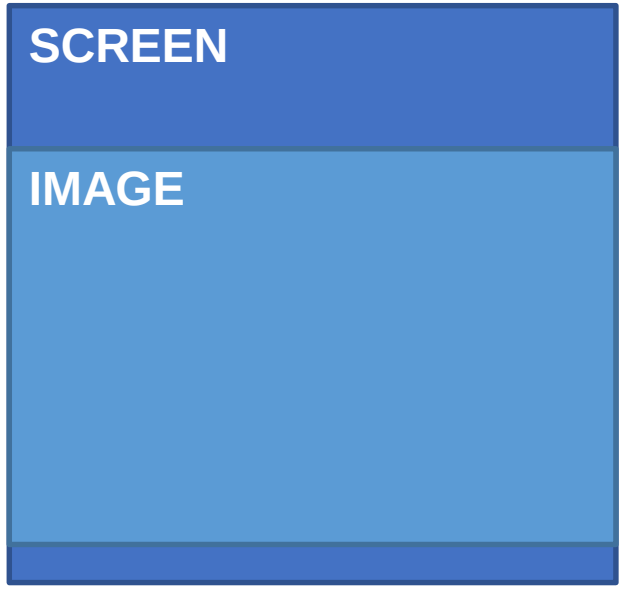
SPEC DEFINITION

```
text:
        width 100 px
        height 25px
text:
        width < 101 px
```



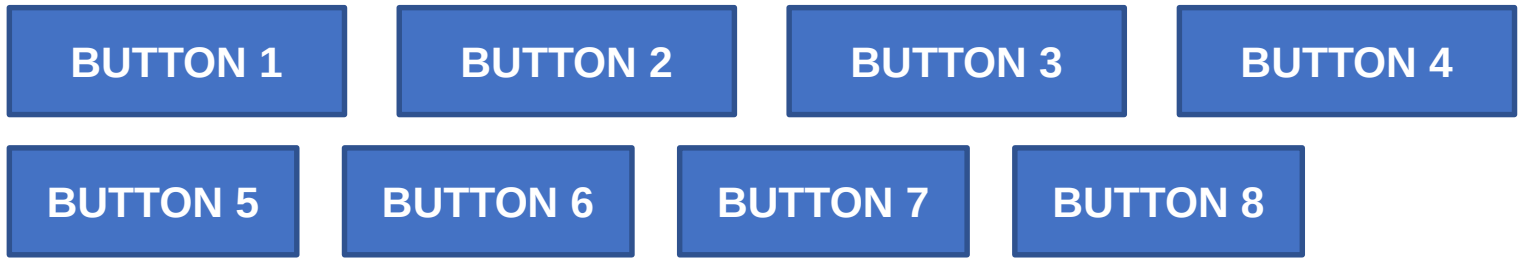
SPEC DEFINITION

```
image:
        width 100 % of screen/width

image:
        width 95 to 100 % of screen/width
```



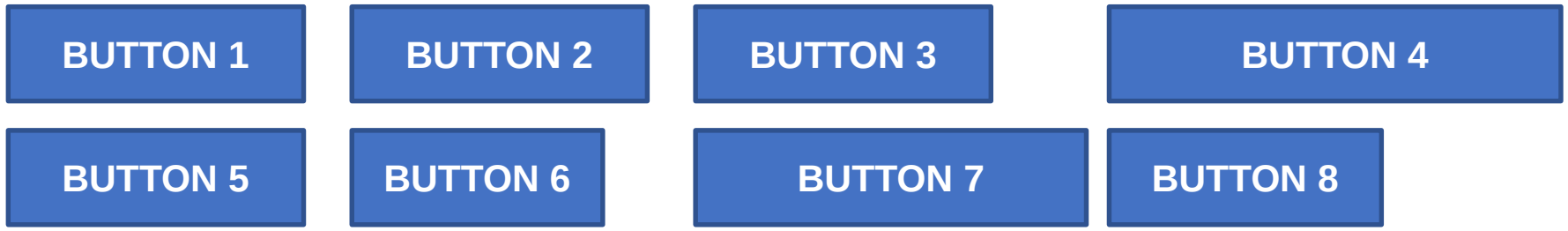
SPEC DEFINITION

```
@for [1 - 3, 5 - 7] as index
      btn_item-${index}:
            aligned horizontally top btn_item-${index + 1}
            right-of btn_item-${index + 1} 10px
```



SPEC DEFINITION

```
@for [1 - 4] as index
        btn_item-${index}:
                aligned vertically left btn_item-${index + 4}
                above btn_item-${index + 4} 10px
```



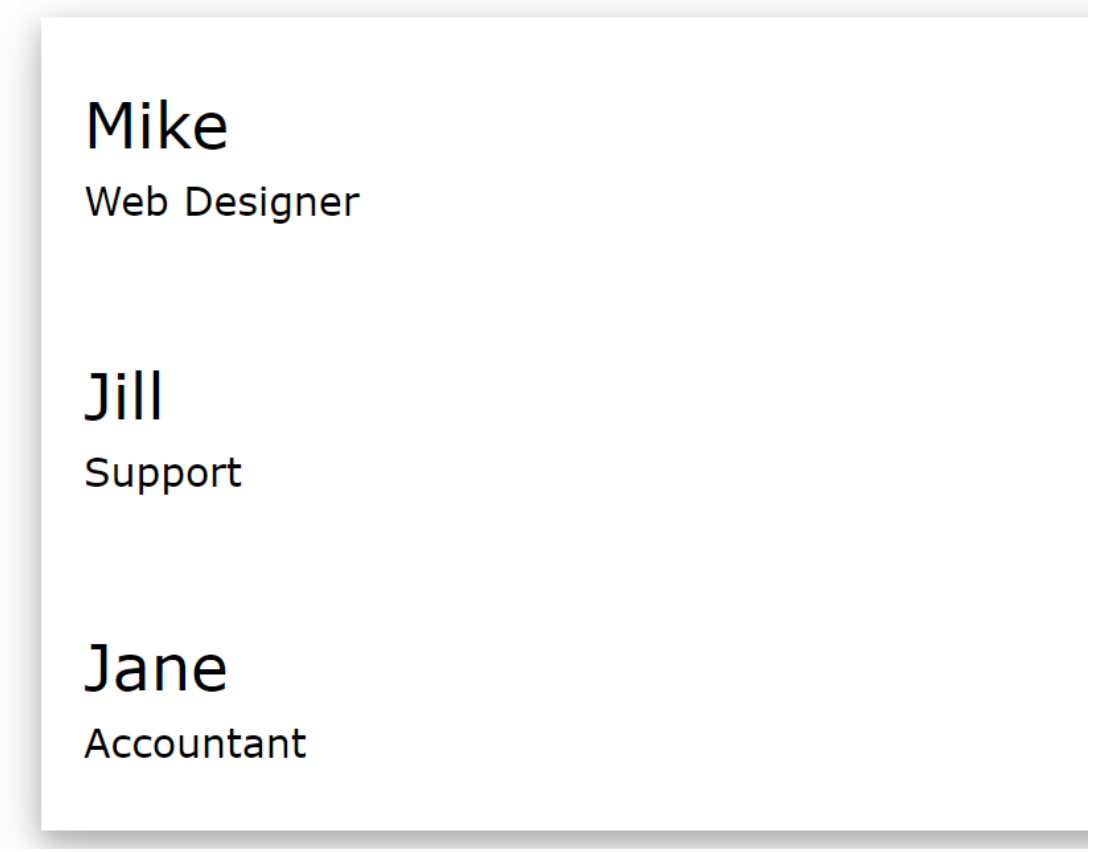
SPEC DEFINITION

```
@if ${isVisible("banner-1")}
      banner-1:
            width 300 px
            height 100 px
@elseif ${isVisible("banner-2")}
      banner-2:
            width 300 px
            height 100 px
@else
      banner-3:
            width 300 px
            height 100 px
```

SPEC DEFINITION – RESPONSIVE DESIGN

```
@on *
        button:
                height 70px
@on mobile
        login-button:
                width 100px
@on mobile, desktop
        menu:
                height 300 px
```

COMPONENTS – SIMILAR PAGES OR PATTERN LIBRARY



COMPONENTS – SIMILAR PAGES OR PATTERN LIBRARY

```
# person.gspec file


@objects
      name   css    .name
      job    css    .job
= User section =
      name:
            inside parent 10px top left
            height 30px
      job:
            inside parent 10px top
            below name 10px right
```

```
# list.spec file


@import person.gspec


@objects
      person-* css .person


= Person test =
      person-*:
            component person.gspec
```

DEMO & REPORTING

IS GALEN USED ANYWHERE?
SHOULD I USE GALEN?

IS GALEN USED ANYWHERE?

We have successfully used Galen for responsive design automation for a big client for website with over 20 different design styles.

The current implementation has over 100 specs and the tests are being run via TestNG in parallel for 6 different view ports (desktop large, desktop small, tablet portrait, table landscape, mobile portrait and mobile landscape view) for the last 2+ years.

The tests are being run daily as a part of CI regression suite on docker.

SHOULD I USE GALEN?

Yes if:

- You need responsive UI tests
- You can write code
- You have some specific things you want to check on multiple pages

No if:

- You have iFrame
- You need an overall page design test, which can be executed via capturing a screenshot and comparing them

WHERE CAN I GET MORE INFORMATION ON GALEN?

The official support is on Galen Framework homepage - http://galenframework.com/:

QUESTIONS?

COMMENTS?