ANGULAR ARCHITECTS
INSIDE KNOWLEDGE

Angular Testing

4 - Component & Integration Tests Advanced

Reducing Boilerplate

Test Setup

Approaches

1. beforeEach
    1. Default Configuration by Angular CLI
    2. All tests with same setup
    3. Simple situations
2. Nested describes, aka. Contexts
    1. Advanced Scenarios
    2. Limited amount of TestBed configuration
3. Factory methods
    1. The test has full control - not the Test Suite
    2. Most Flexible

Popular Libraries

Testing Library

Spectator vs. Testing Library

Spectator

- Great Support for Mocking
- Applicable for various testing types
- Much more common in Angular

Testing Library

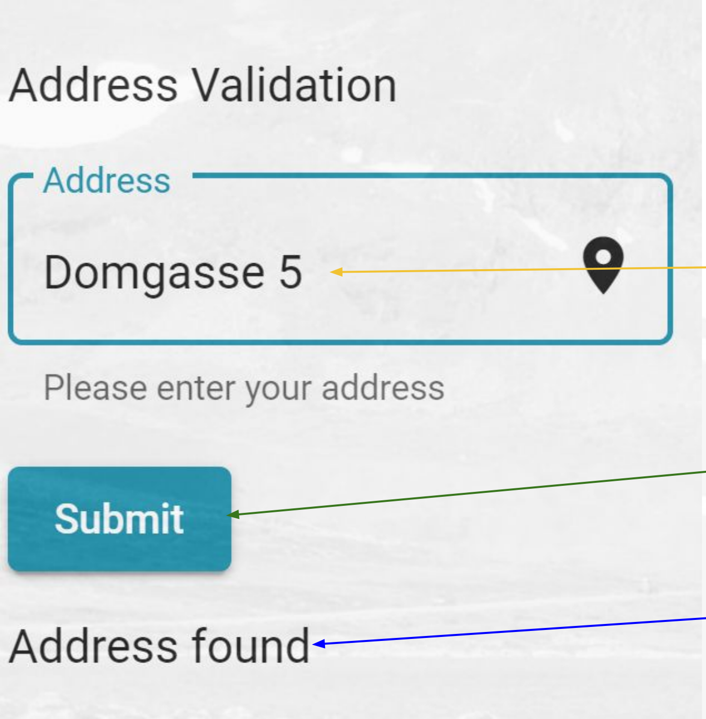
- Enforces a Testing Philosophy
- Superior UI Debugging Tools
- find* removes Asynchronity and Change Detection
- userEvent with real-world behaviour
- Common API for multiple frameworks (Cypress,....)
- Host Components very easy

Harnesses

Taming the Beast...

Test Harnesses

- Page Object Models for Component Tests
- Available since Angular v9
- Provide a test abstraction for components
- Developed by @angular/material
- Full coverage for material since v11
- Reduces code size significantly
  - Better Readability
  - Better Maintainability



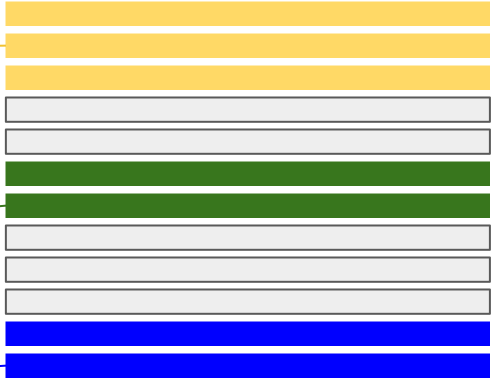
Address Validation

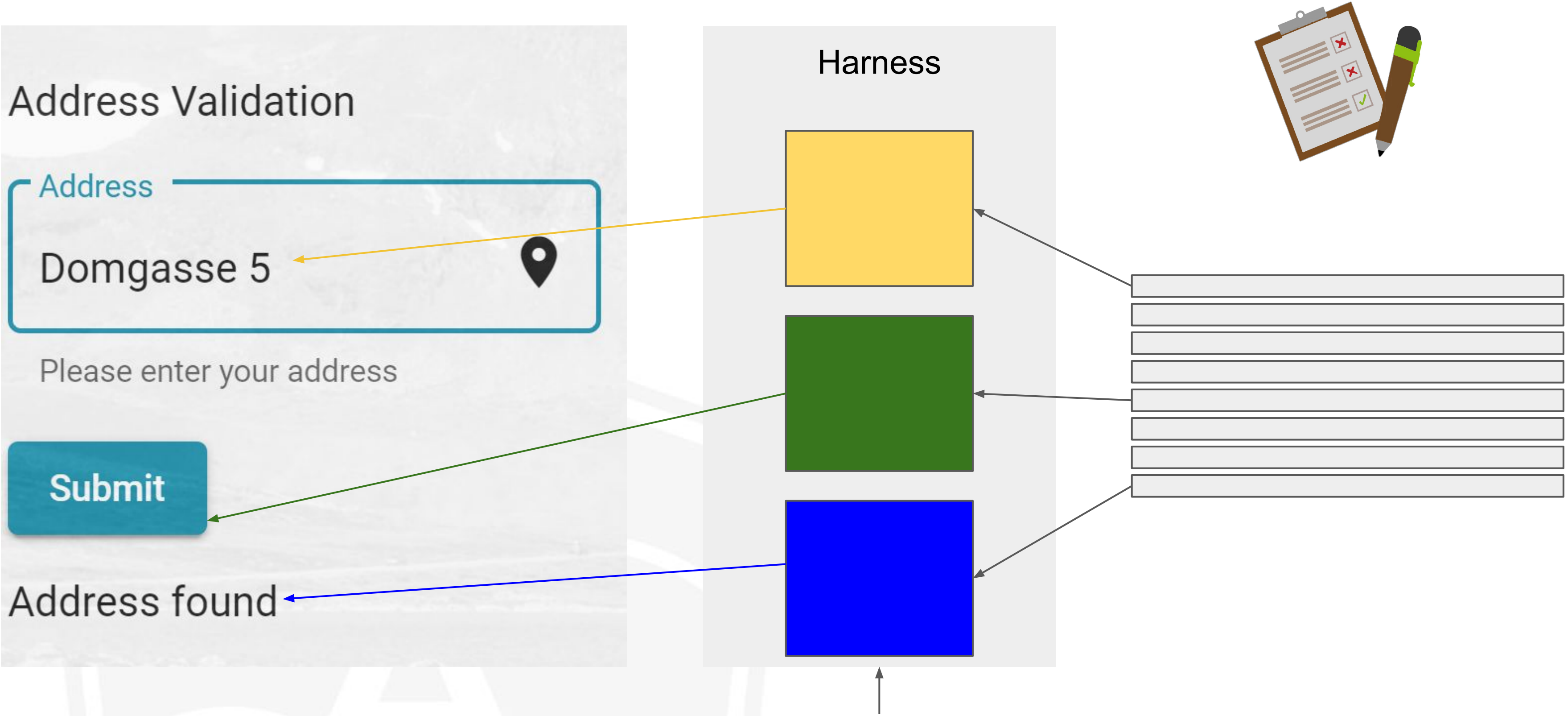
Address

Domgasse 5

Please enter your address

Address found





Address Validation

Address

Domgasse 5

Please enter your address

Submit

Address found

- Element Selection
- Change Detection
- Asynchronity
- Rendering

Creating a Harness

```typescript
export class RequestInfoComponentHarness extends ComponentHarness {
  static hostSelector = "app-request-info";
  protected getButton = this.locatorFor("button[type=submit]");

  async submit(): Promise<void> {
    const button = await this.getButton();
    return button.click();
  }
}
```

Using a Harness

```
it("should use the harness", async () => {
  // setup TestModule…

  const harness = await TestbedHarnessEnvironment.harnessForFixture(
    fixture,
    RequestInfoComponentHarness
  );
  await harness.submit();
  // expect something
});
```

Lab Time