

A Witches Guide to Testing



Who are we?



CHRISTINA
@merelyChristina



ANNA
@merelyAnna





Potion Spells Wands Brooms Equipment



Love Potion

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren.



Rainbow Potion

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren.



Happy Potion

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Child Potion

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Debugging

Incantation:

dee-BUG-guhng

Type:

Locating Ritual

Description:

Finds evil sprits in the area of effect

Needed for execution:

- Debugging Sanctum in your IDE
- 5 candles matching the IDE color theme
- Half a jar of patience
- A big pinch of hope
- 8.37 days



Potion Spells Wands Brooms Equipment



Love Potion

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Rainbow Potion

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Our shop is haunted!



(They are all bugs. Get it? Ay? Hahahahaha.)

WE NEED PROTECTION!



Unit Test Spell





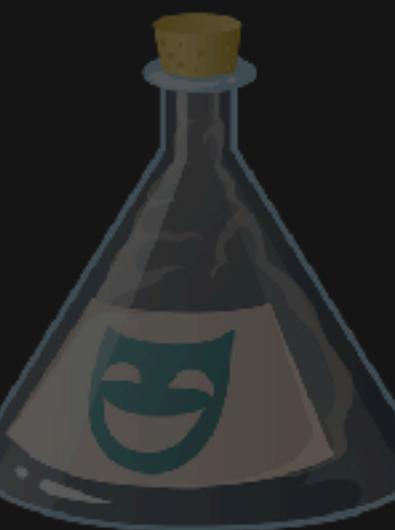
Love Potion

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Rainbow Potion

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Happy Potion

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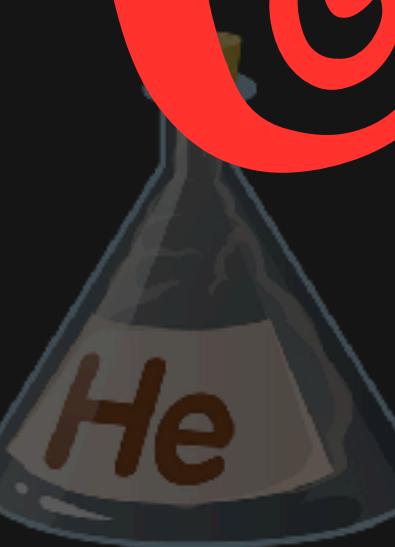
Dark Matter potion

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren,



Red Potion

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Helium

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My cart



3 x 300 ml Love Potion

345 €



5 x 1 L Happy Potion

245 €



1 x 300 ml Rainbow Potion

1003 €

Total

1593€

CHECKOUT



Hermine Granger

[Sign out](#)

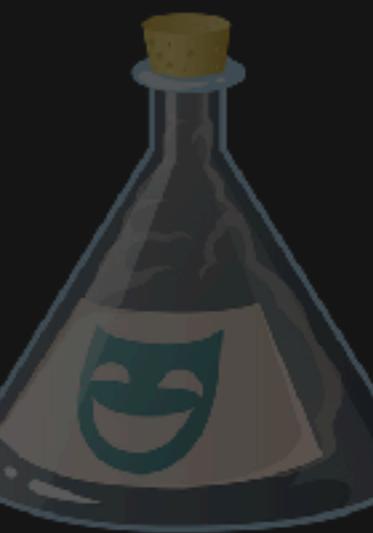
Love Potion

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Rainbow Potion

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Happy Potion

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Unit Testing



Secure units of our code are working as expected

My cart



3 x 300 ml Love Potion

345 €



5 x 1 L Happy Potion

245 €



1 x 300 ml Rainbow Potion

1003 €



Total

1593€



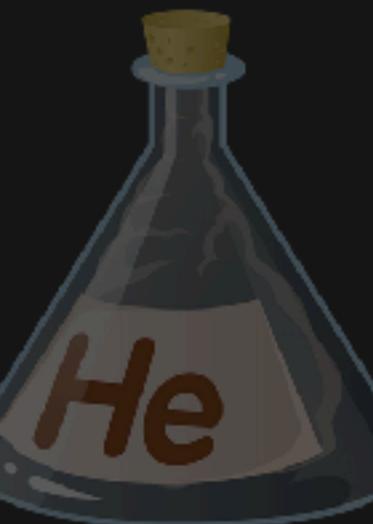
Dark Magic Potion

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Red Potion

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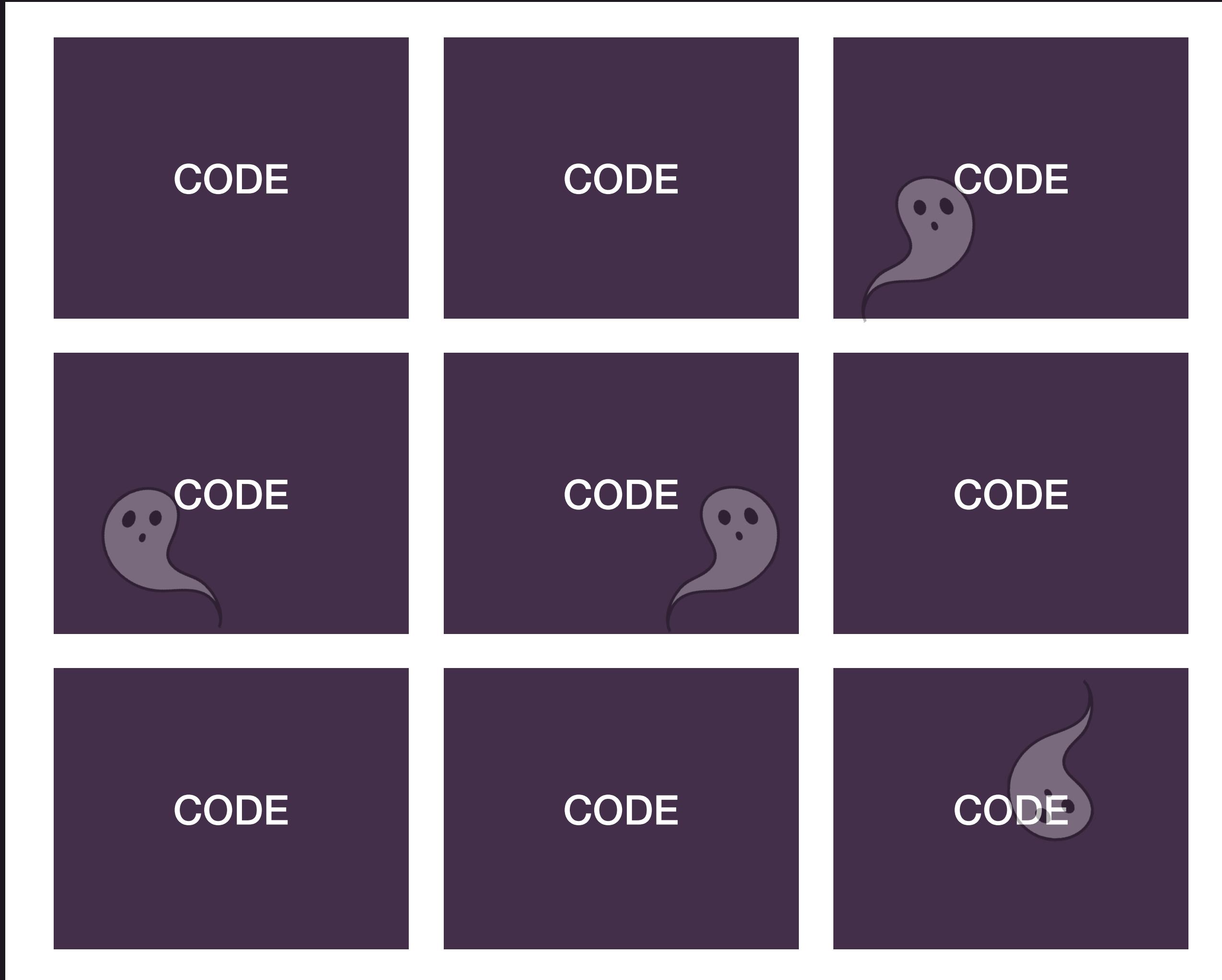


Helium

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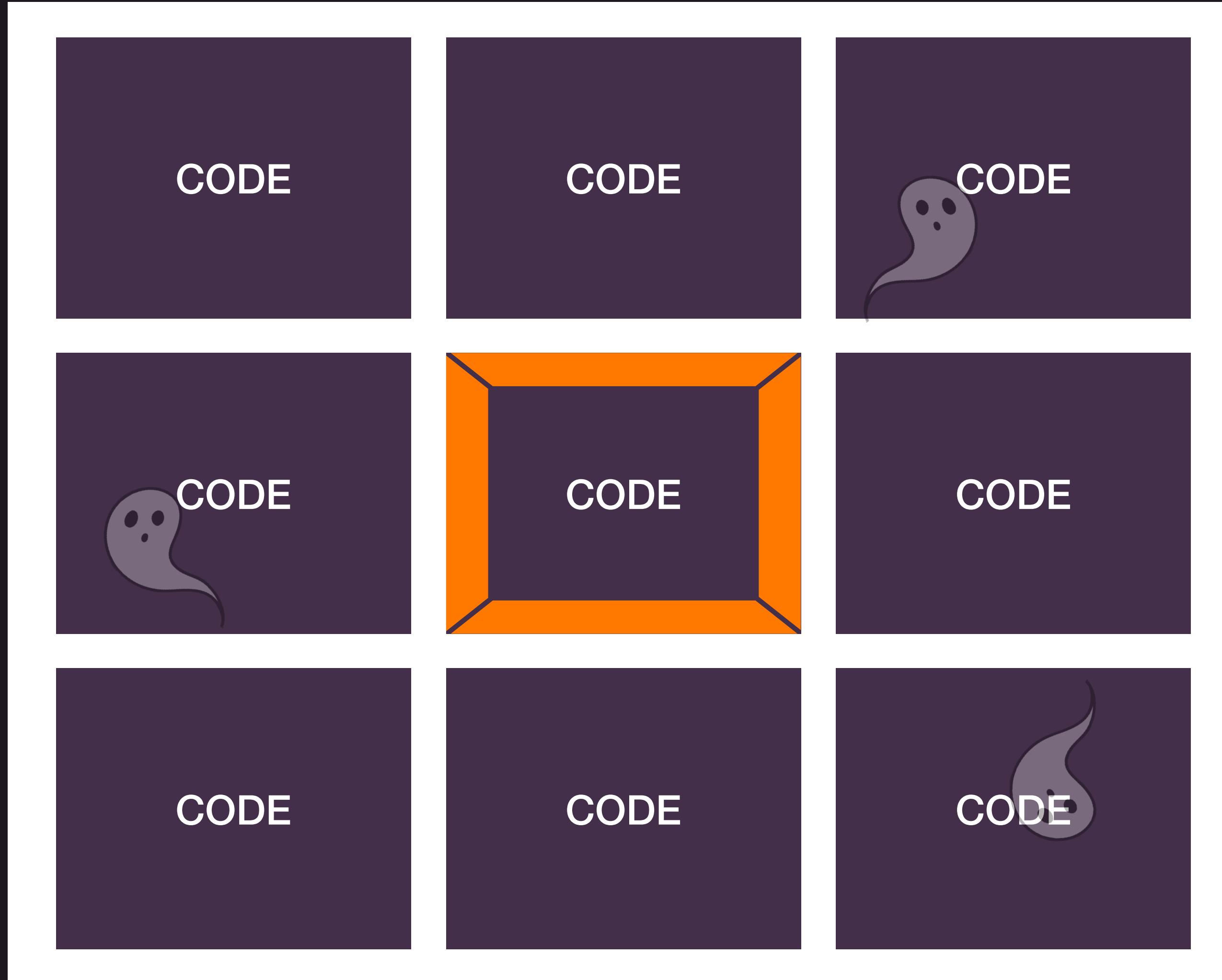
[CHECKOUT](#)

Unit Test Spell



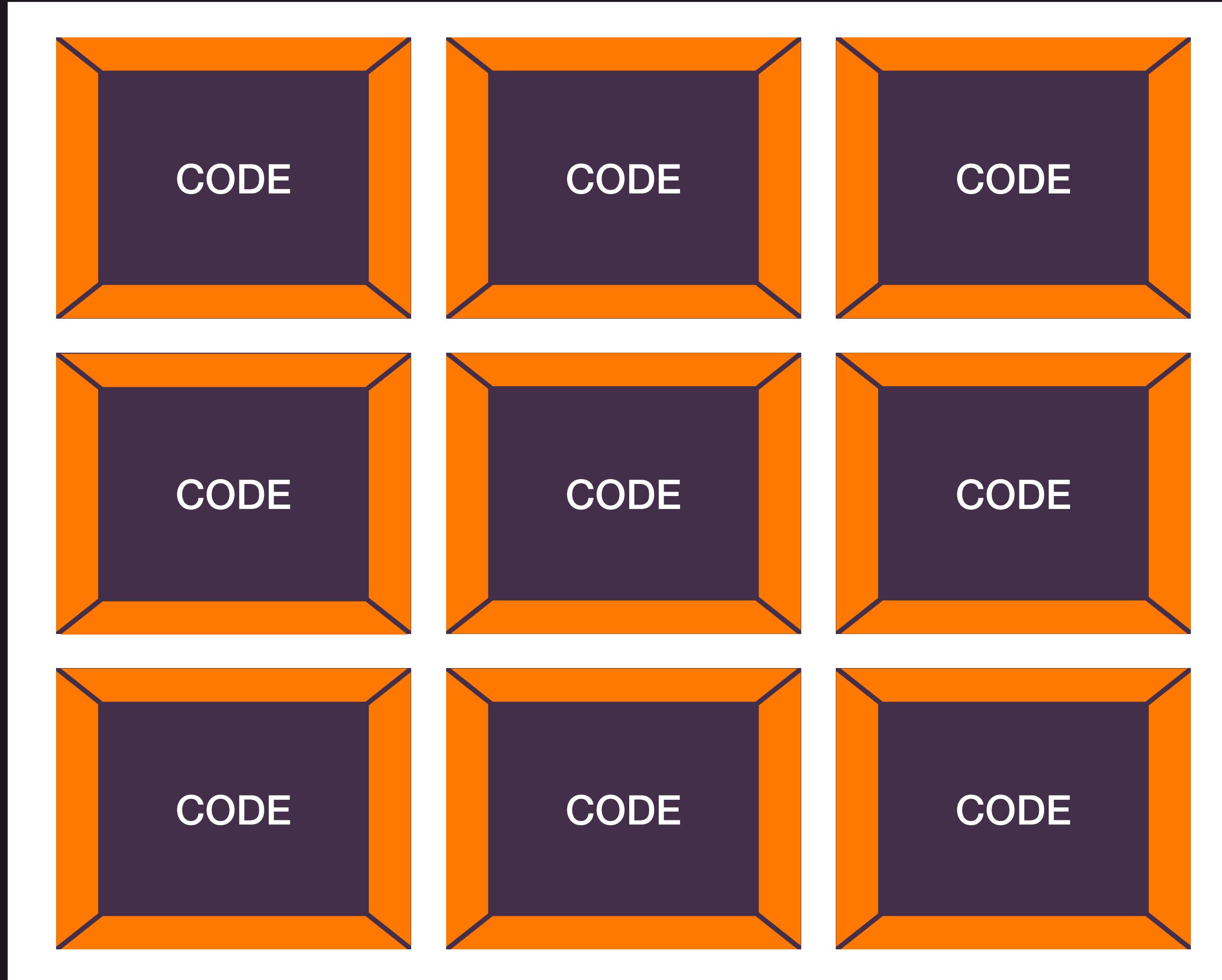
Webshop

Unit Test Spell



Webshop

Unit Test Spell



Webshop

Unit Test Spell - What is needed?



Testing
Framework



Assertions



should.js
expect.js



Mock

Unit Test Spell - Casting

```
const getPotionName = require("./potionRegistry");

test("Returns name for potion ID", () => {
  expect(getPotionName("0002")).toBe("Rainbow Potion");
});
```

Unit Test

Incantation:

y00-nut-test

Type:

protection Spell

Wand movement:

Hopeful swing in the shape of
a U

Description:

Protects units of code from
ghosts when

- performing refactoring rituals
- adding new features
- or expelling other bug ghosts

It works right ?





Love Potion

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Rainbow Potion

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Happy Potion

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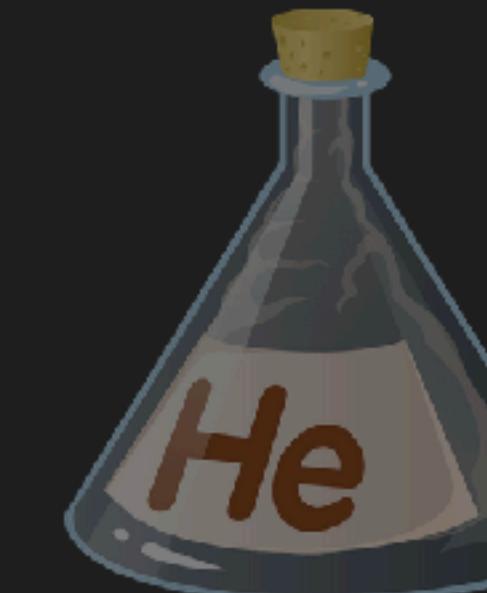
Dark Magic Potion

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna



Red Potion

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna



Helium

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna



Hermine Granger

[Sign out](#)

My cart



3 x 300 ml Love Potion

345 €



0 x Happy Potion

245 €



1 x 300 ml Rainow
Potion

1003 €



Total

1593€

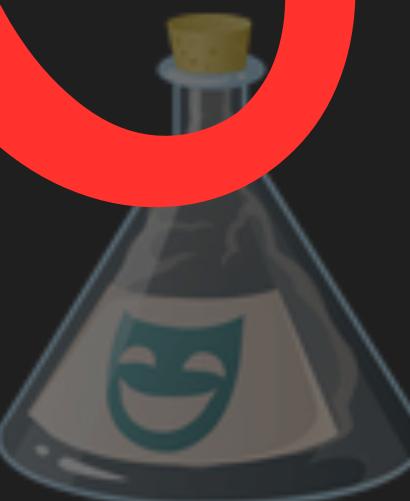
My cart

Brocken



x 300 ml Love Potion

345 €



0 x Happy Potion

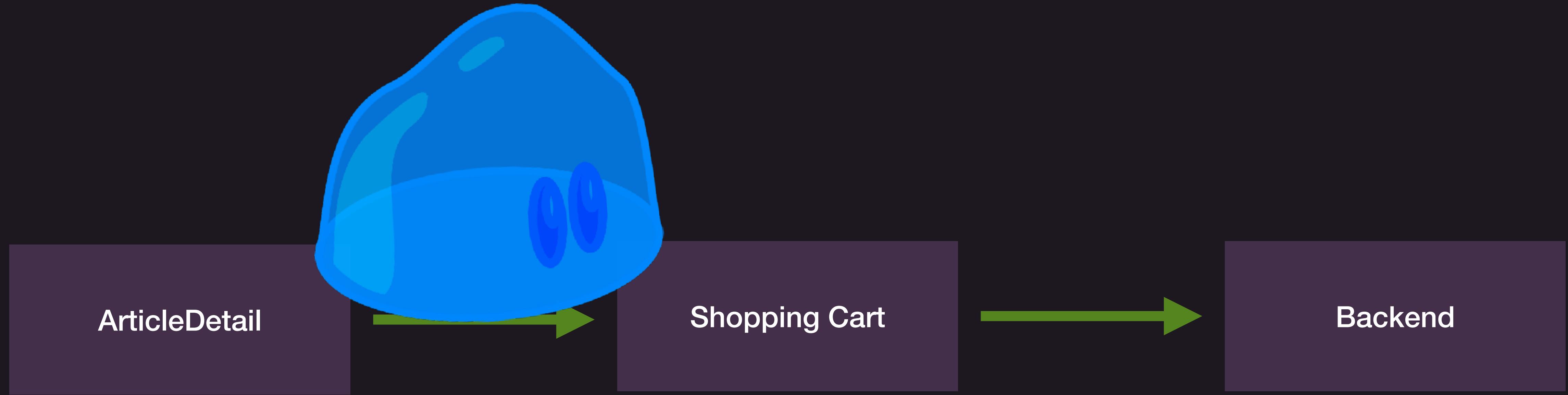
245 €



1 x 300 ml Rainow
Potion

1003 €

Functional Test Spell - Incantation building blocks



My cart



3 x 300 ml Love Potion

345 €

Integration Testing

Secure communication with one another correctly



1 x Happy Potion

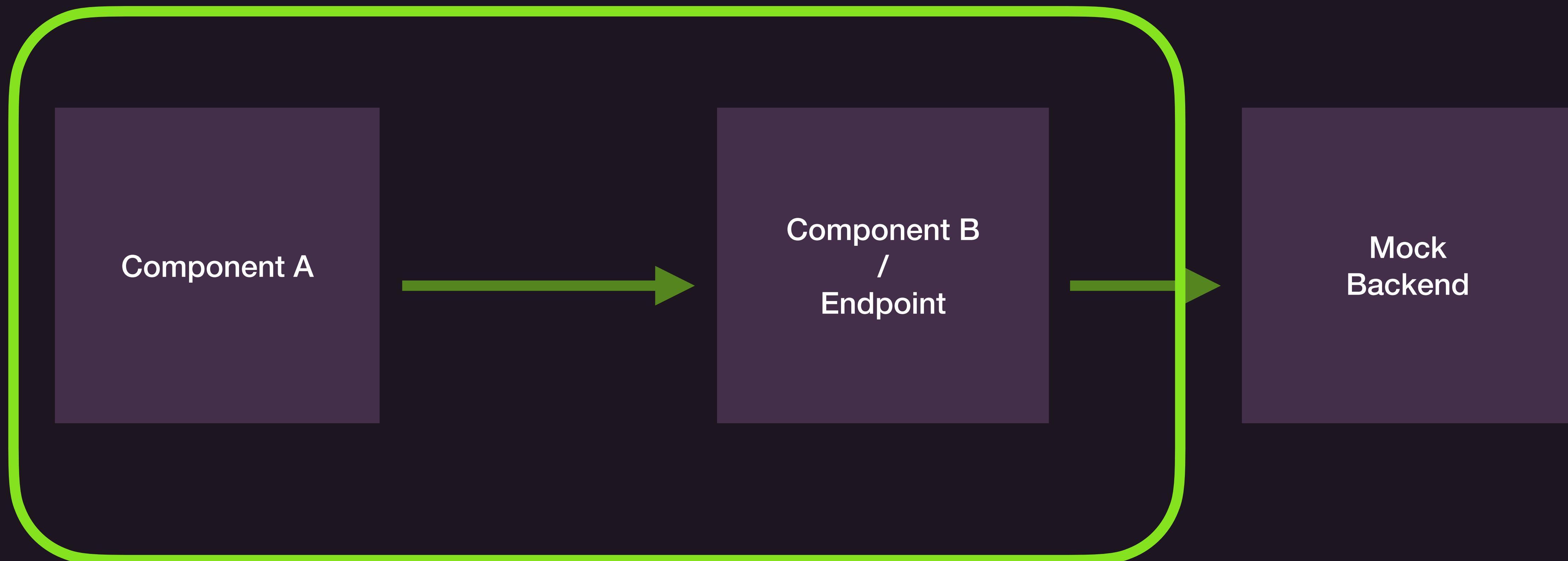
245 €



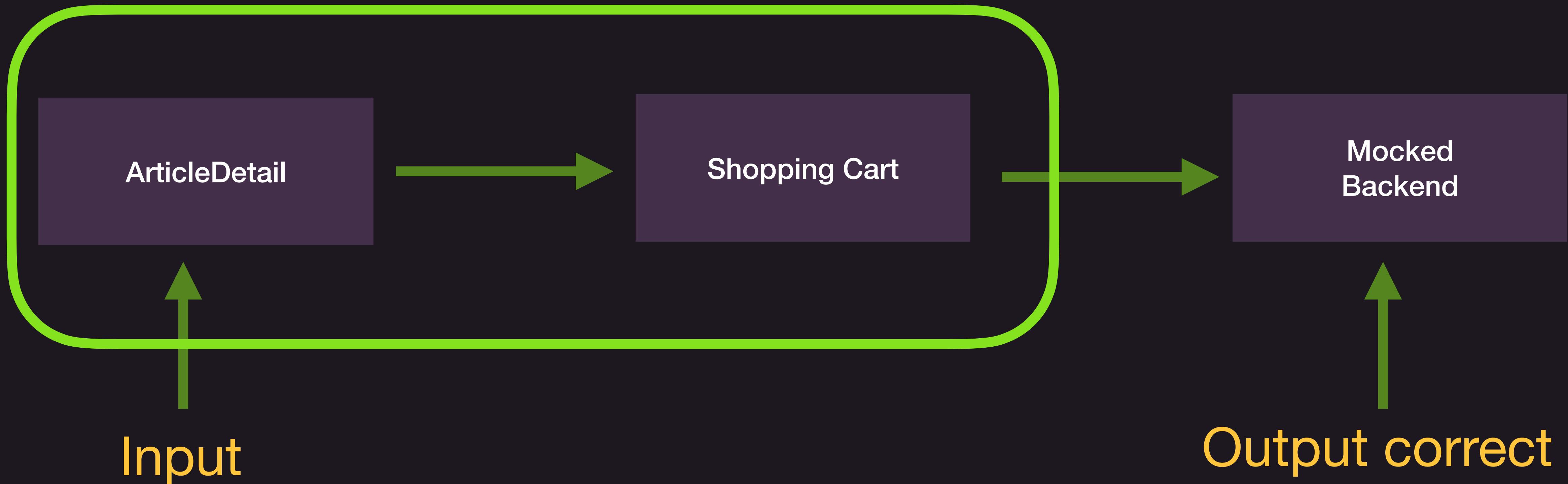
1 x 300 ml Rainbow
Potion

1003 €

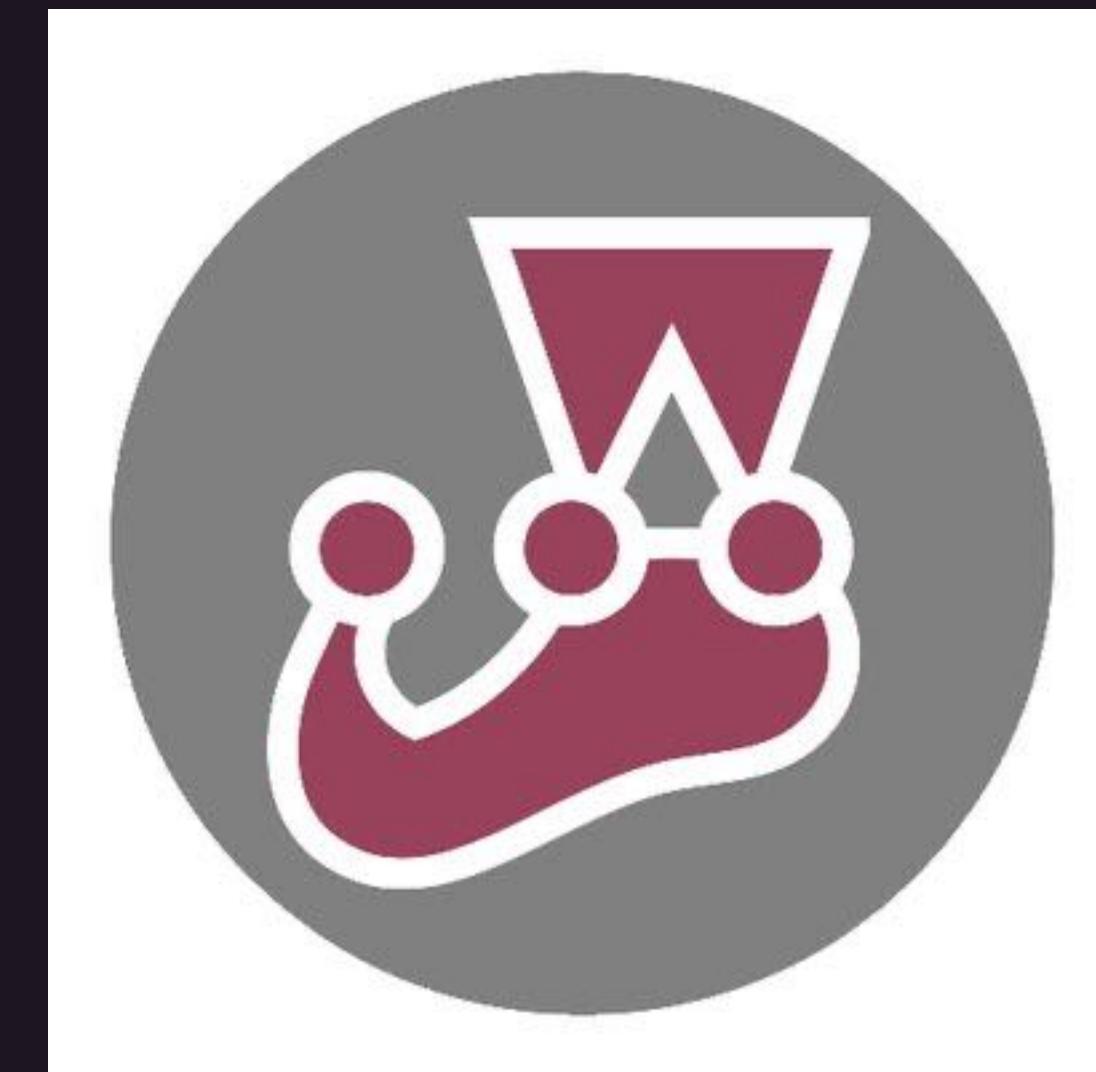
Integration Test Spell - Casting



Functional Test Spell - Incantation building blocks



Functional Test Spell - Incantation building blocks



Integration Test Spell - Casting

```
jest.mock("./HttpClient", () => ({
  push: jest.fn(),
  get: jest.fn(() => ({ name: "love potion" })),,
}));
```



```
const articleDetail = shallow(<ArticleDetail><ArticleDetail>);
articleDetail.find(Button).simulate("click");

expect(HttpClient.push).toHaveBeenCalledWith("/cart/update", [
  { article: { name: "love potion" }, size: "300ml", amount: 1 },
]);
```

Integration Test

Incantation:

in-tuh-GREI-shn-test

Type:

Counter-Curse

Wand movement:

Tipp on first element and then
on second element

Description:

Removes ghost plasma
that is stuck between our
components so they can work
together

No it's broken again





Hermine Granger

[Sign out](#)

Love Potion

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren,



Rainbow Potion

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Happy Potion

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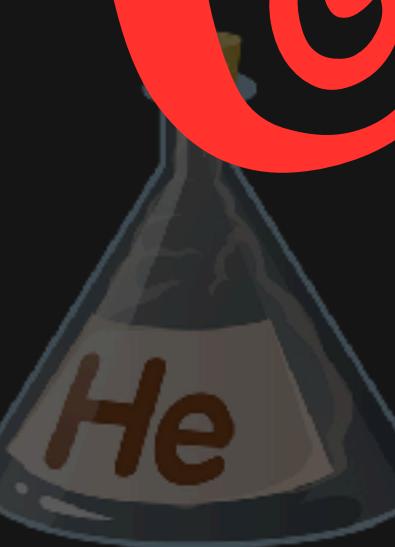
Dark Matter potion

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren,



Red Potion

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Helium

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My cart



3 x 300 ml Love Potion

345 €



5 x 1 L Happy Potion

245 €



1 x 300 ml Rainbow Potion

1003 €

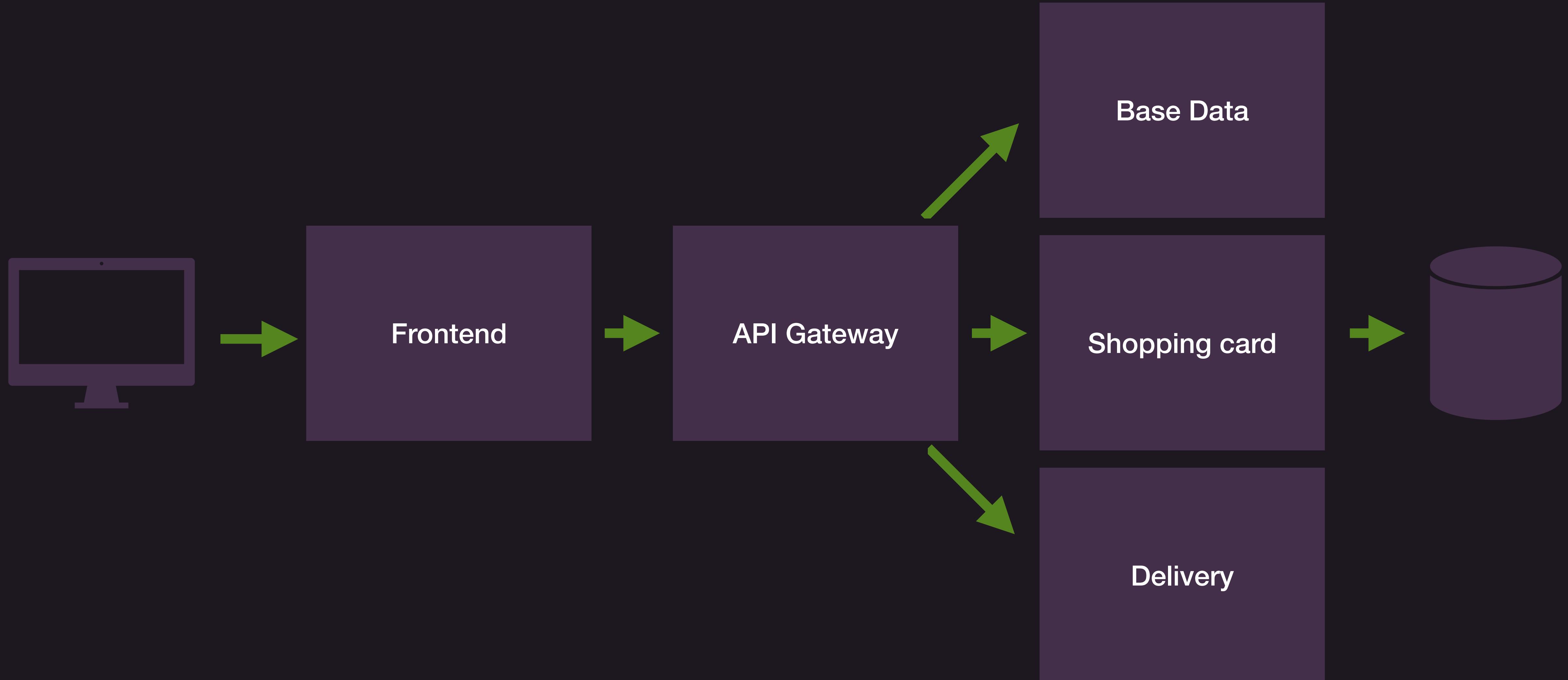


Total

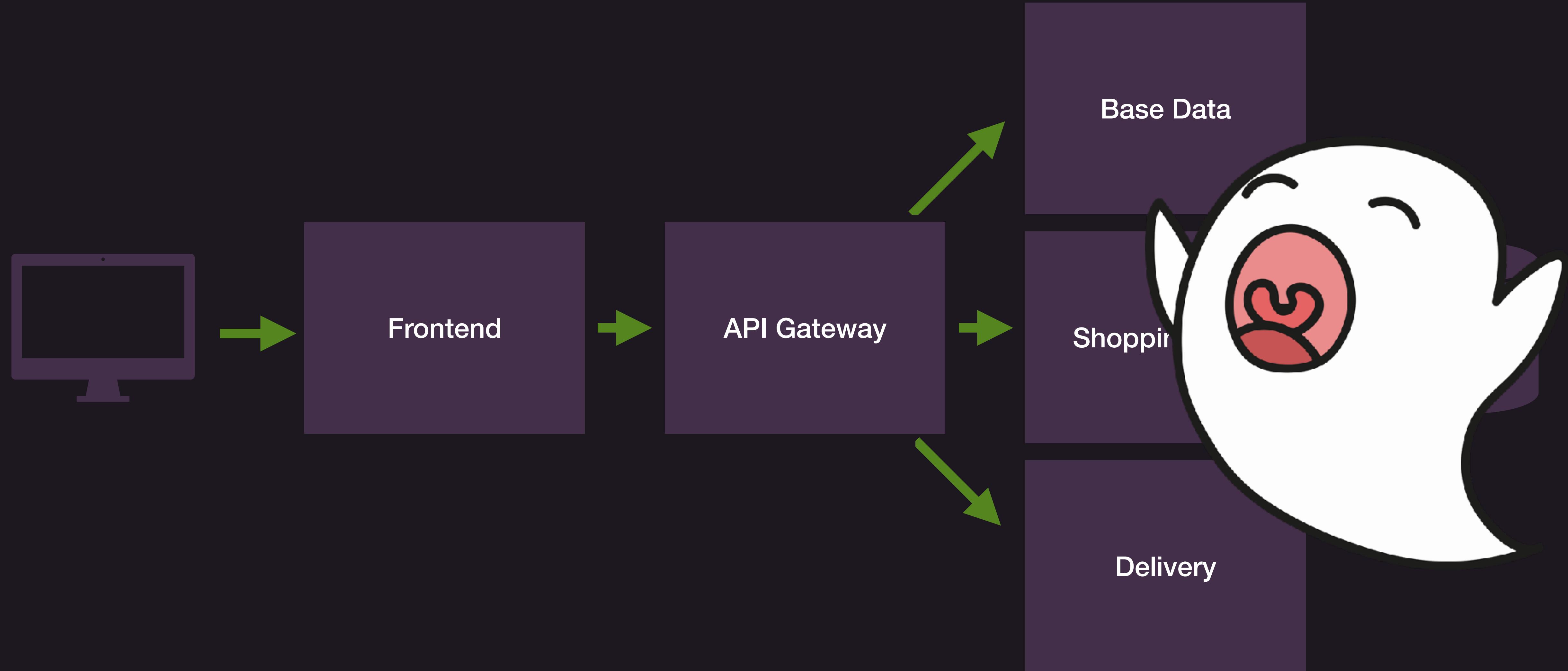
1593€

[CHECKOUT](#)

Functional Test Spell - Incantation building blocks



Functional Test Spell - Incantation building blocks





Hermine Granger

[Sign out](#)

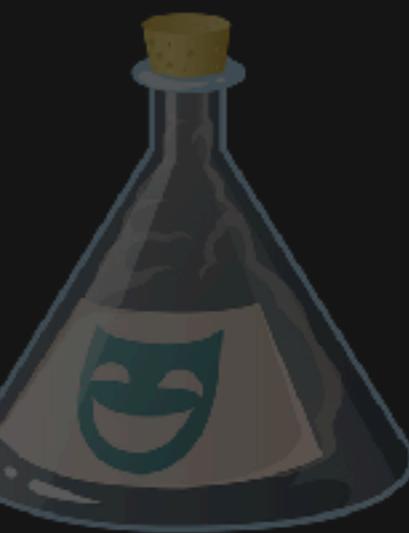
Love Potion

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Rainbow Potion

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Happy Potion

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End-to-End Testing

Secure the happy path



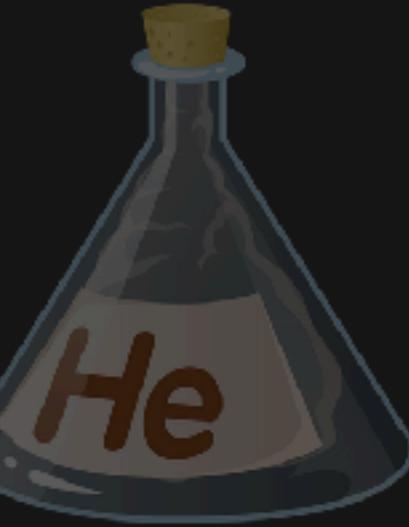
Dark Magic Potion

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Red Potion

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Helium

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My cart



3 x 300 ml Love Potion

345 €



5 x 1 L Happy Potion

245 €



1 x 300 ml Rainbow Potion

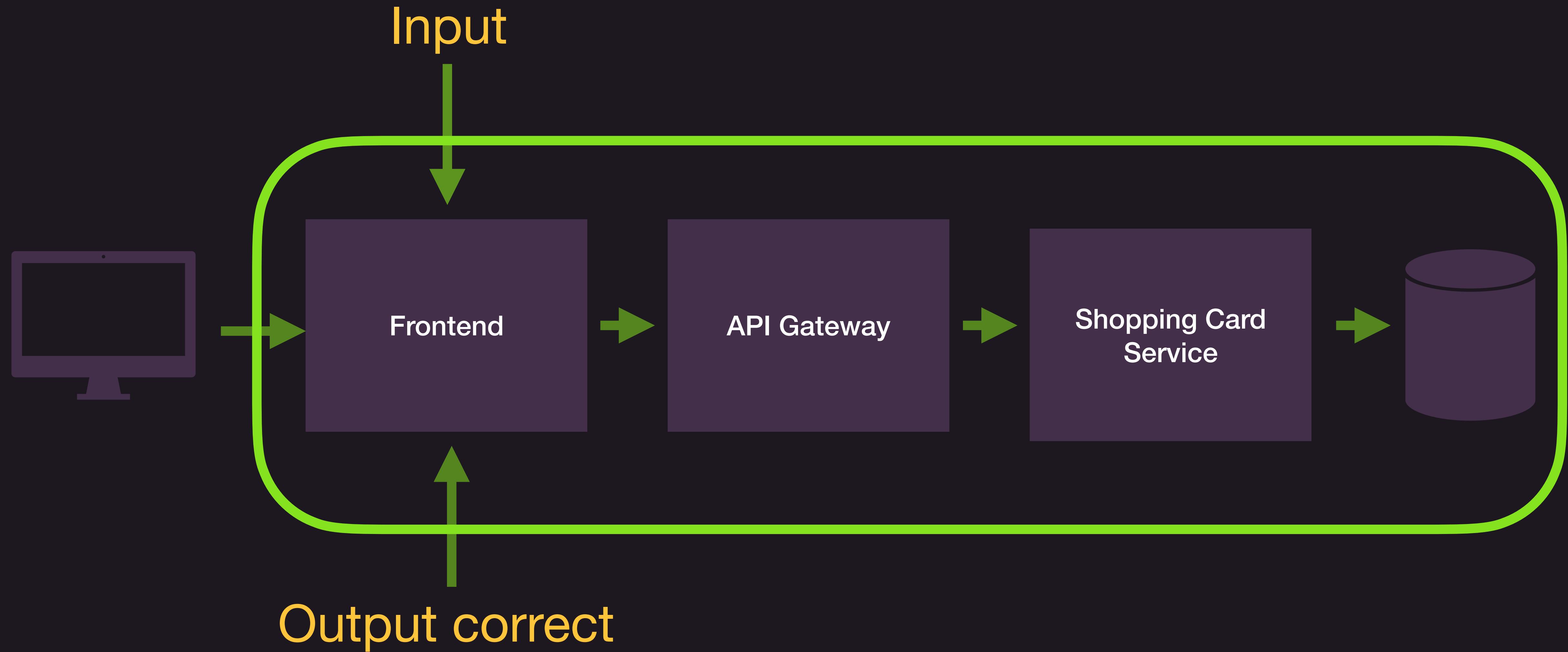
1003 €

Total

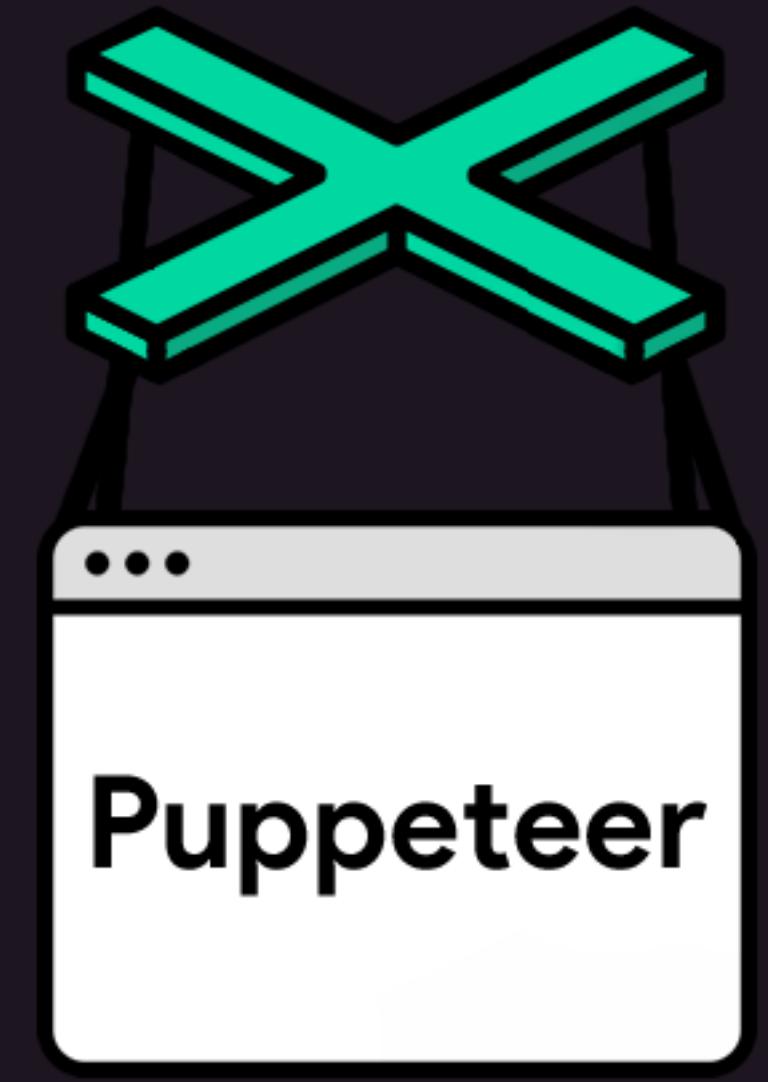
1593€

[CHECKOUT](#)

Functional Test Spell - Incantation building blocks



Functional Test Spell - Incantation building blocks



Functional Test Spell - Casting

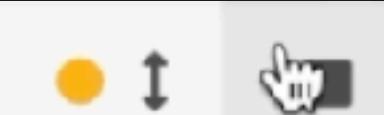
```
describe("Checkout", () => {
  it("Checkout successful", () => {
    cy.visit("http://localhost:3000");

    cy.get(".shoppingCartButton").click();

    cy.get(".shoppingCartEntry").should("have.length", 1);
    cy.contains(" 3 x 300 ml Love Potion 345 €");

    cy.contains("1593€");

    cy.get(".checkoutButton").click();
  });
});
```



http://localhost:3000/

...loading ⏱ 1000 x 660 (75%)

cypress/integration/tests/checkout.spec.js

Stop Running S

Checkout

Q Should pay customer

▼ TEST BODY

```
visit http://localhost:3000
```

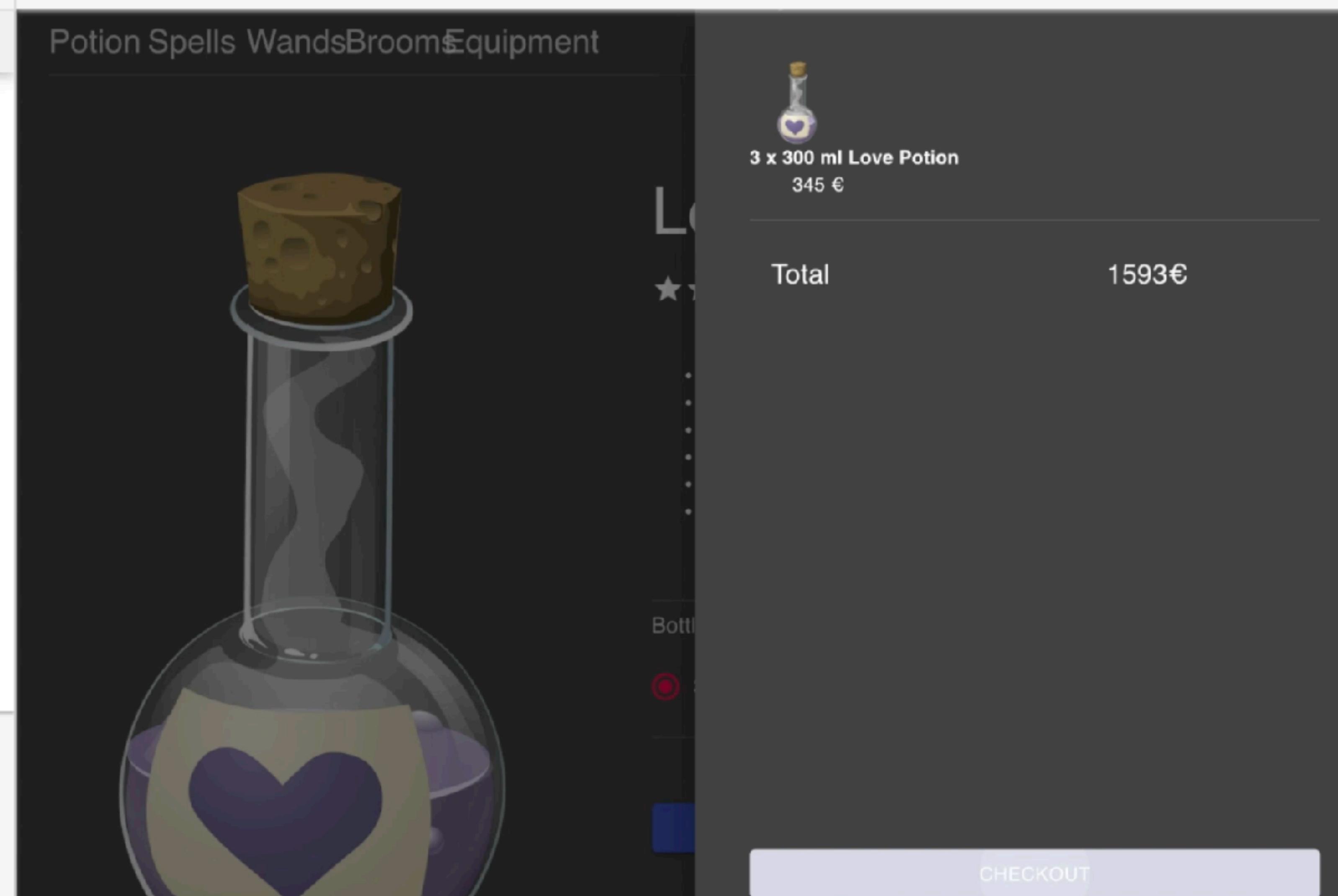
cypress/integration/tests/checkout.spec.js

Checkout

Should pay customer

TEST BODY

```
1 visit      http://localhost:3000
2 get        .shoppingCartButtons
3 - click
4 get        .shoppingCartEntry
5 - assert  expected
               <div.shoppingCartEntry> to have
               a length of 1
6 contains   3 x 300 ml Love Potion 345 €
7 contains   1593€
8 get        .checkoutButton
9 - click
```



Functional Test

Incantation:

FUHNGK-shuh-nuhl-test

Type:

Barrier Spell

Wand movement:

Wiggle it from left to right

Description:

Keep ghosts away from our interface and our users

Secures the happy path of our applications

Cool..... now what?



Why use those spells?



Cost



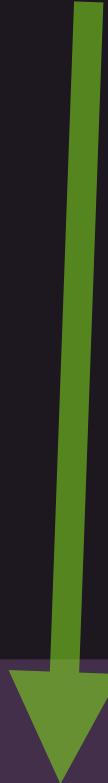
Safety Net



Confidence

How many spells should I perform?

Are usually easier and cheaper to write



Unit

How many spells should I perform?



How many spells should I perform?



Testing pyramid - the ultimate truth?

Testing pyramid

Testing ice cream cone

Testing trophy

Testing pyramid as a bug filter





DO what WORKS

But please write tests....



But when do we write them



Implementation first



Problem

We tested the implementation
not
the requirements



Hermine Granger

[Sign out](#)

Love Potion



Rainbow Potion



Happy Potion

Test Driven Development



Total

1593€



Dark Magic Potion

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Red Potion

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Helium

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[CHECKOUT](#)

My cart



3 x 300 ml Love Potion

345 €



5 x 1 L Happy Potion

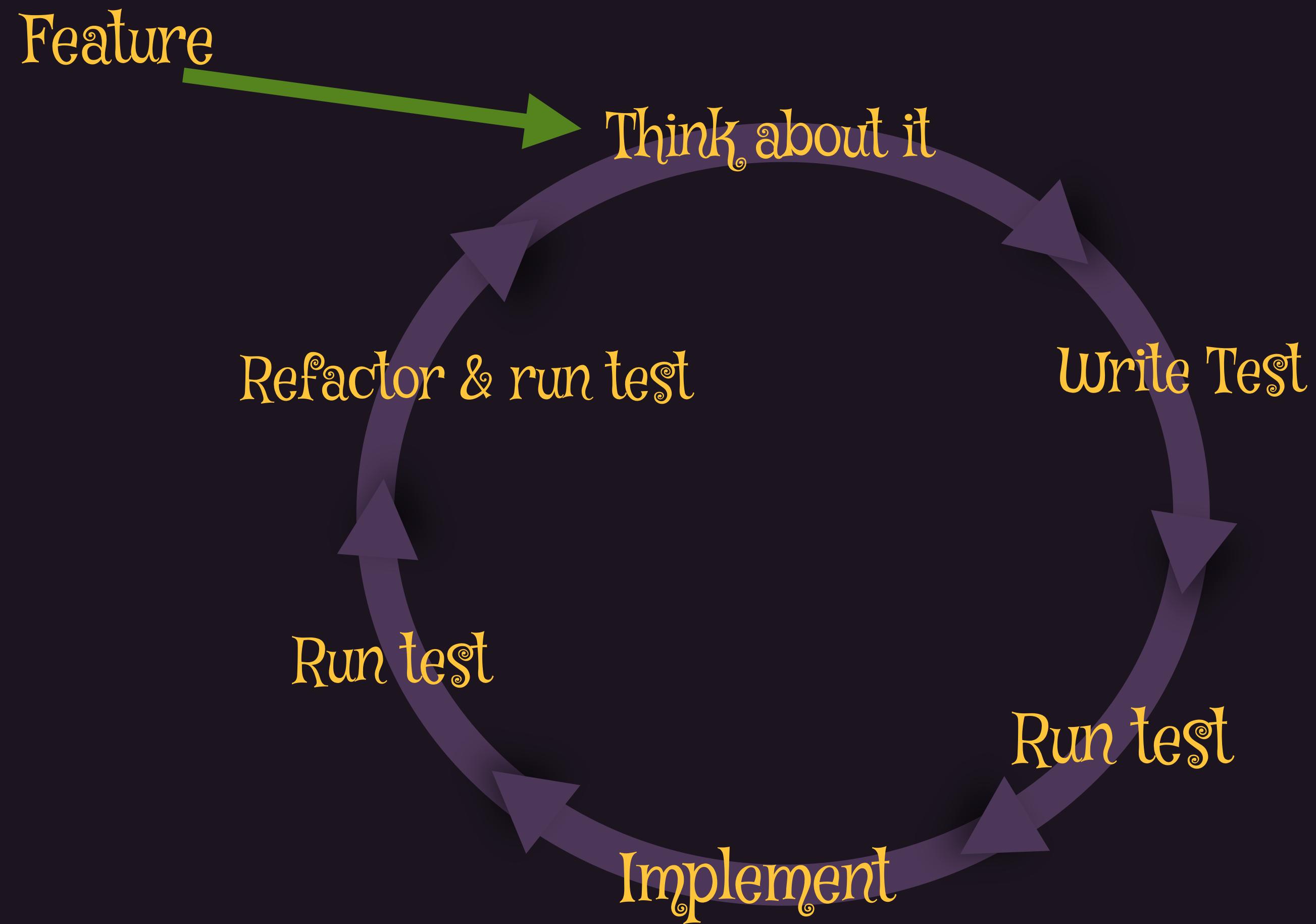
245 €



1 x 300 ml Rainbow Potion

1003 €

Test driven development



Test driven development - WHY??

Feature

Think about it

We need to thinking about our implementation

Write Test

Refactor & run test

But not about the whole picture

Run test

Run test

Implement

Test driven development - WHY??

Feature

Think about it

You can ignore everything around

If a component does not exist you can mock it

Run test

Run test

Implement

Test driven development - WHY??

Feature

Think about it

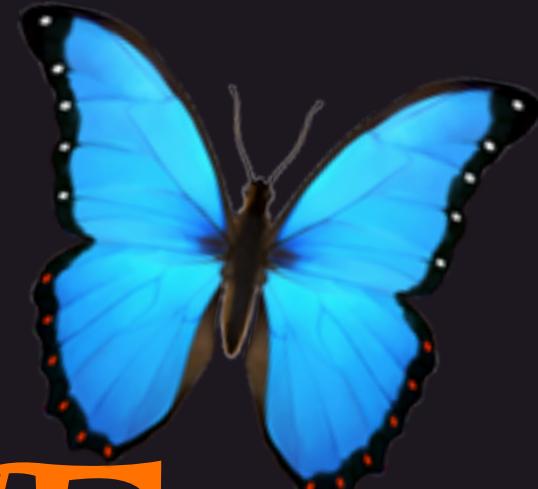
Code which is hard to test & run test

Has in most cases bad structure

Run test

Run test

Implement



A LAST FEW WORDS OF ADVICE



The END
We're friends with the ghosts now,
they can't harm us anymore

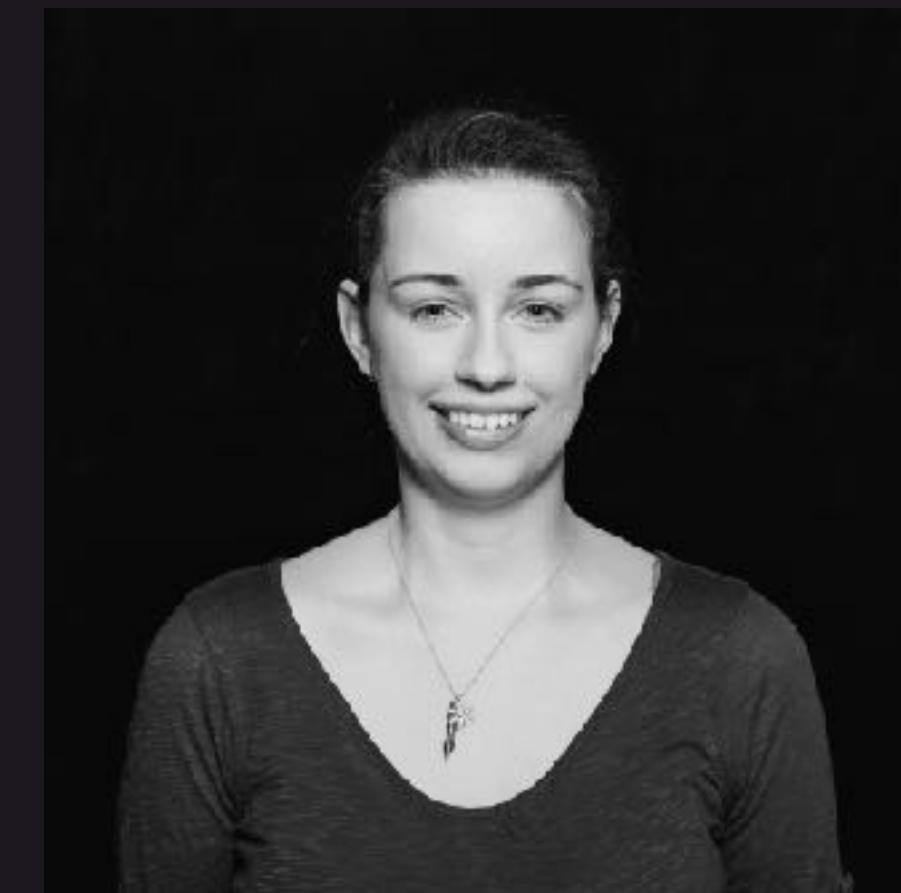


Questions?

Come talk to us!



CHRISTINA
@merelyChristina



ANNA
@merelyAnna