



# Project 4.0

20/12/2022



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<b>Job title</b>	Cloud and Cyber Security
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<b>Industry</b>	Tech / IT
<b>Responsibility</b>	Cloud infrastructure & Security



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<b>Responsibility</b>	AI/BI



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**Lenaerts**

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<b>Industry</b>	IT
<b>Responsibility</b>	AI/BI



**Wout**  
**Deelkens**

<b>Job title</b>	APP
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<b>Industry</b>	IT
<b>Responsibility</b>	Application Development



**Nicholas**

**Coorevits**

<b>Job title</b>	APP
<b>Location</b>	Zichem, Belgium
<b>Industry</b>	IT
<b>Responsibility</b>	Application Development

# Agenda

<b>Application</b>	<b>01</b>
<b>Contentful</b>	<b>02</b>
<b>Algolia</b>	<b>03</b>
<b>Adyen</b>	<b>04</b>
<b>Testing</b>	<b>05</b>
<b>UI Prototypes</b>	<b>06</b>
<b>Infrastructure</b>	<b>07</b>
<b>AWS Pricing</b>	<b>08</b>
<b>Conclusion</b>	<b>09</b>

01

# Application

02

# Contentful

# Contentful CMS

01

Provides a platform for organizing, storing and managing content

02

designed to be flexible and scalable

03

often used in conjunction with a static site generator or a front-end framework

03



**algolia**

# Algolia API

01

Capable of providing quick search results using indices.

02

A high-end recommendation engine is part of its services.

03

Easy connection between Contentful by way of a webhook.

04

# Adyen

# Adyen

01

Payment service provider that enables businesses to accept a wide range of payment methods

02

Payment processing platform is designed to be highly secure

03

Adyen supports a wide range of industries and use cases

# WRM - Design pattern

Name	Weight	Model View Controller		Model View Presenter		Model-View ViewModel	
		Rating	Weighted Ranking	Rating	Weighted Ranking	Rating	Weighted Ranking
<b>decoupled view</b>	<b>3</b>	<b>33%</b>	<b>1</b>	<b>66%</b>	<b>2</b>	<b>100%</b>	<b>3</b>
<b>maintainability</b>	<b>2</b>	<b>50%</b>	<b>1</b>	<b>100%</b>	<b>2</b>	<b>100%</b>	<b>2</b>
<b>testing</b>	<b>2</b>	<b>100%</b>	<b>2</b>	<b>100%</b>	<b>2</b>	<b>100%</b>	<b>2</b>
<b>Experience</b>	<b>1</b>	<b>100%</b>	<b>1</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>0</b>
<b>project requirements</b>	<b>5</b>	<b>40%</b>	<b>2</b>	<b>60%</b>	<b>3</b>	<b>80%</b>	<b>4</b>
<b>Total</b>	<b>13</b>	<b>54%</b>	<b>7</b>	<b>69%</b>	<b>9</b>	<b>85%</b>	<b>1</b>

05

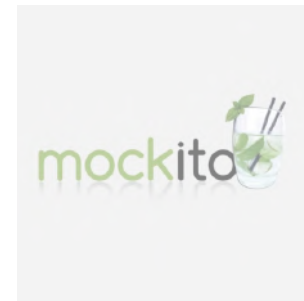
# Testing

# Solution Testing



## Selenium

Selenium allows us to automate the general front-end testing using its webdrivers.



## Mockito

Mockito allows us to test different components that might still be in development during the early stages.



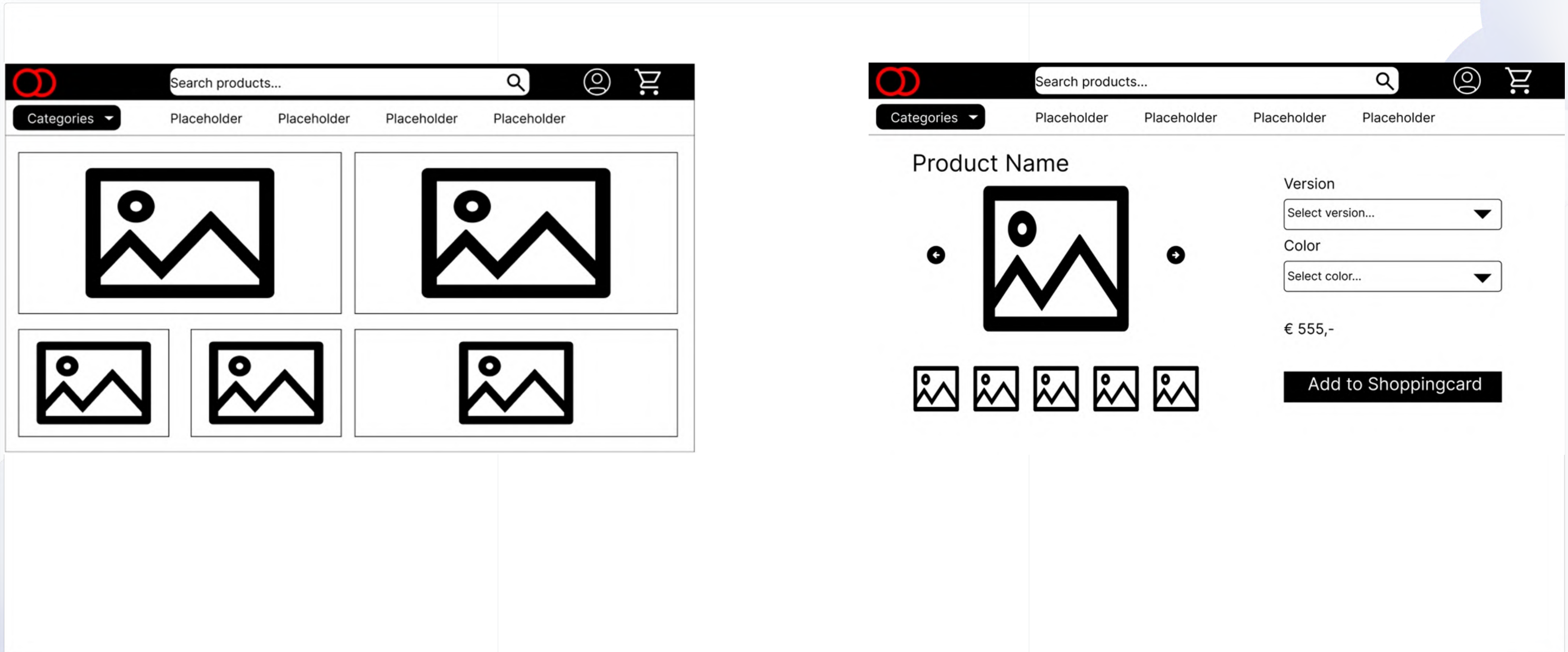
## SonarQube

Sonarqube will help us retain code cleanliness and spot general errors earlier during development.

06

# UI Prototypes

# Homepage + Product page



# Login + Register

The image displays two wireframe designs for a user authentication page, both featuring a shared header with a logo, a search bar, and navigation icons.

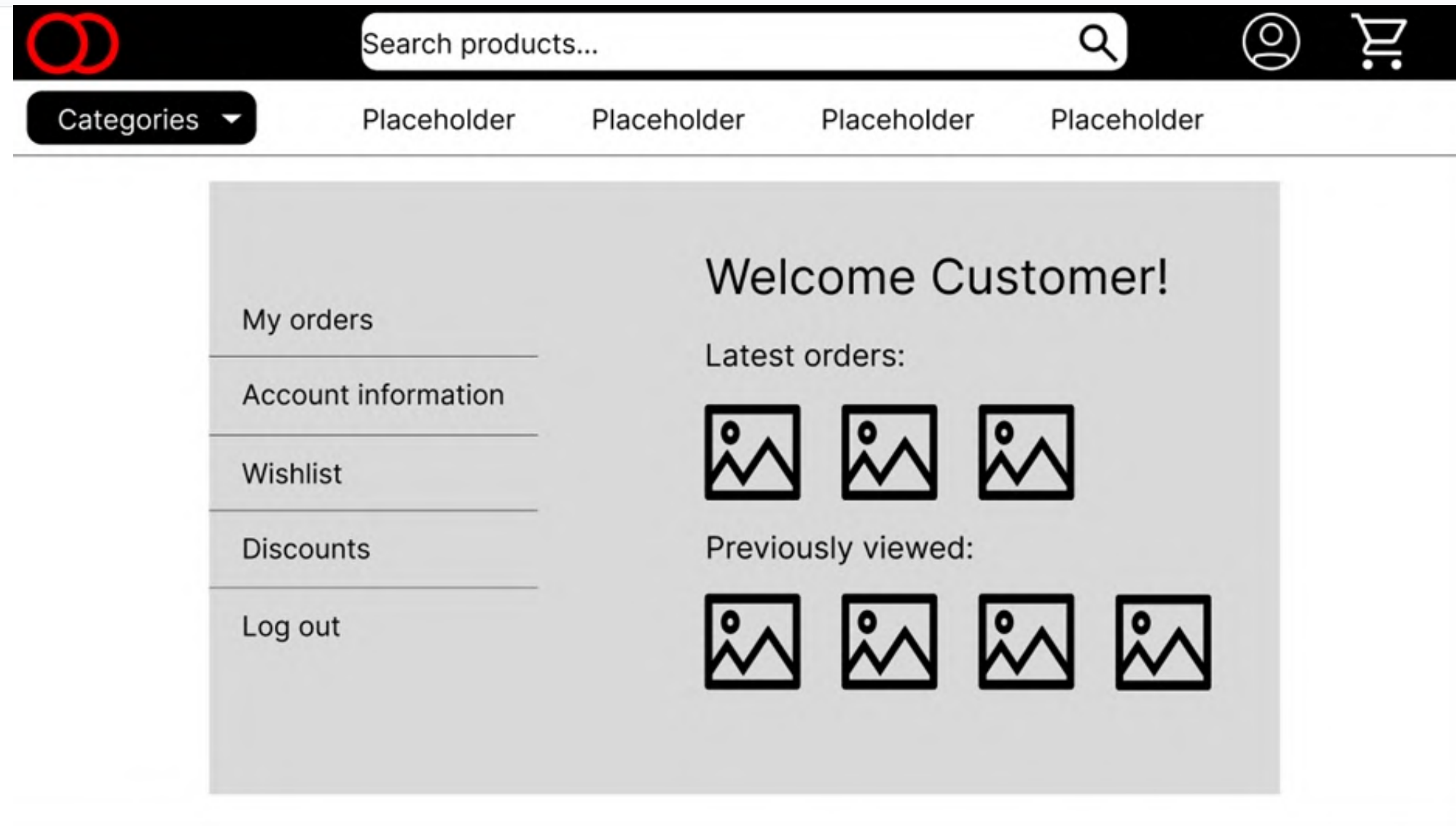
**Left Design (Split Layout):**

- Login Section:** Includes an "E-mail" input field, a "Password" input field, a "Forgot password?" link, and a "Login" button.
- Register Section:** Includes a "Register Account" button.




**Right Design (Unified Register Section):**

- Register Account Section:** Includes an "E-mail" input field, a "Password" input field, a "Confirm Password" input field, a "Receive Newsletter?" checkbox, a "Register Account" button, and a link: "Already have an account? Log in [here!](#)".

# Profile page







# Checkout

Search products...   




Categories Placeholder Placeholder Placeholder Placeholder

Product Name Product Information



Quantity:   

Overview	
Articles (amount)	0€
Delivery Fee	0€
<b>Total</b>	<b>0€</b>

Search products...   


Categories Placeholder Placeholder Placeholder Placeholder

Adress

Delivery Date

Payment Method

Overview	
Articles (amount)	0€
Delivery Fee	0€
<b>Total</b>	<b>0€</b>

Search products...   

Categories Placeholder Placeholder Placeholder Placeholder

Payment Method Overview

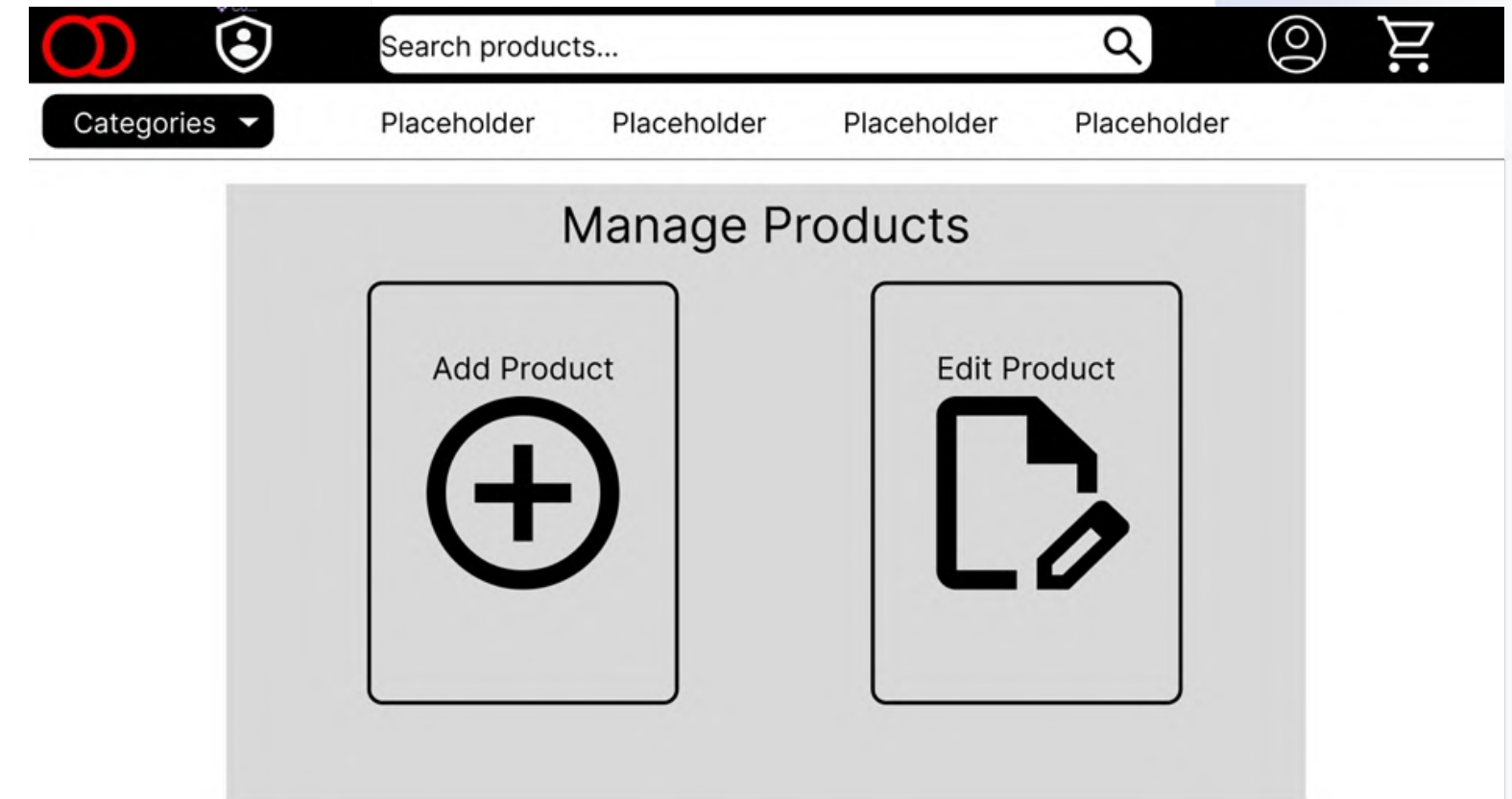
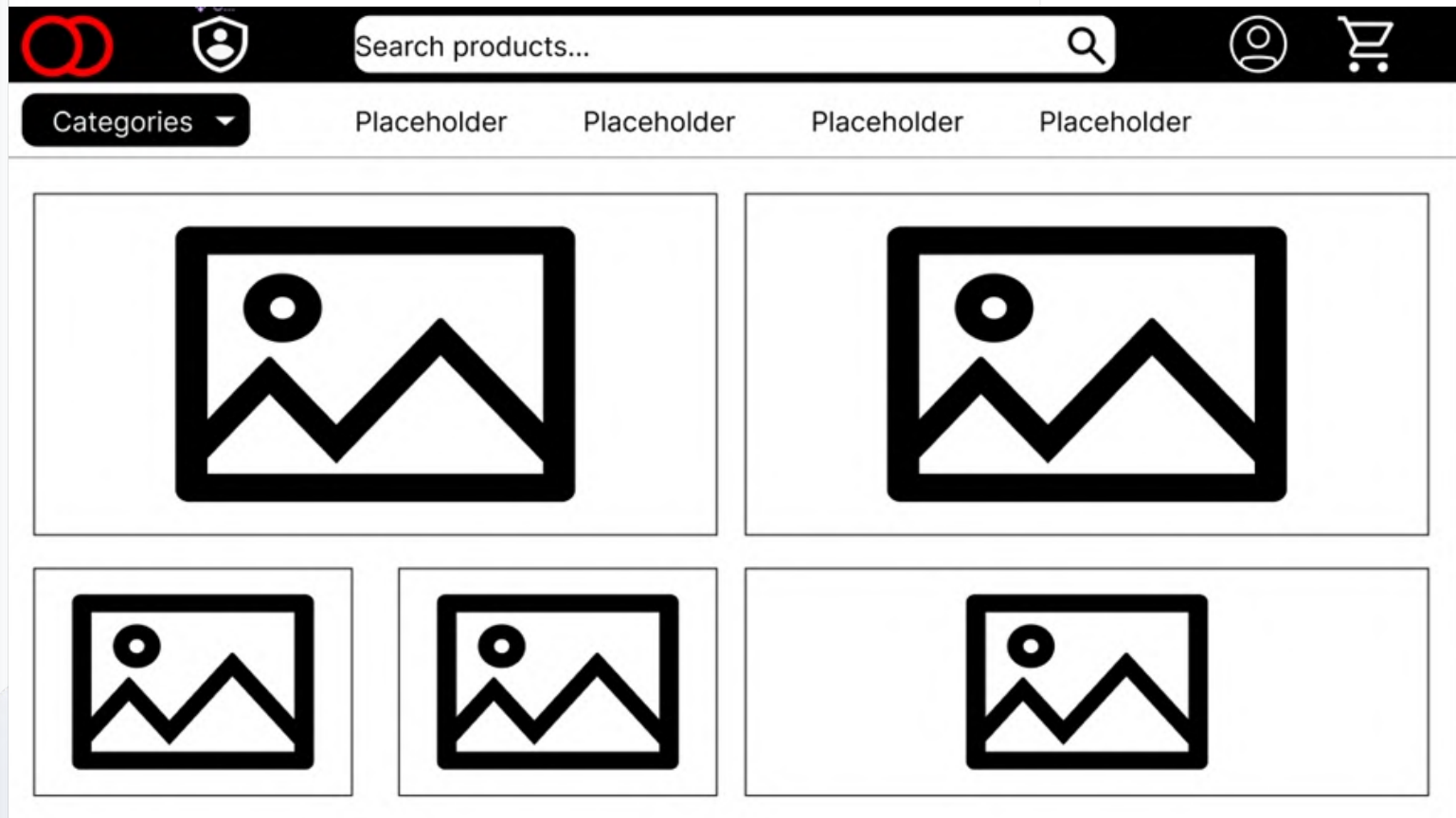
Card Number

Name CardHolder

Expiration Date



# Admin Homepage + Manage Products



# Add Products + Edit Products

Navigation bar: Logo, Profile, Search products..., User, Shopping cart, Categories, Placeholder, Placeholder, Placeholder, Placeholder

### Add Product

Name	Price
<input type="text"/>	<input type="text"/>
Category	Storage capacity
Select a category... ▼	Add capacities... +
Images	Colors
Select images... 🖼️	Add colors... +

**Add**

Navigation bar: Logo, Profile, Search products..., User, Shopping cart, Categories, Placeholder, Placeholder, Placeholder, Placeholder

### Edit Product

Name	Price
iPhone 14	995
Category	Storage capacity
Apple Iphone	128 GB × 256 GB × + 512 GB ×
Images	Colors
Image 1 × Image 2 × 🖼️ Image 3 × Image 4 ×	Black × White × + Blue × Green × Red ×

**Edit**

07

# Infrastructure

# Amazon Web Services



## AWS

Offers a broad set of Cloud-Based Services, that are available in seconds with a pay-as-you-go pricing



HashiCorp  
**Terraform**

## Terraform

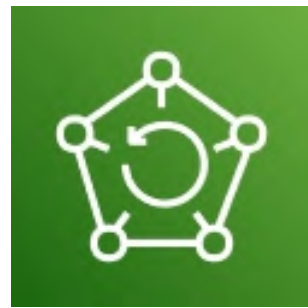
Terraform allows us to provision all the needed AWS services in combination with GitHub Pipeline.



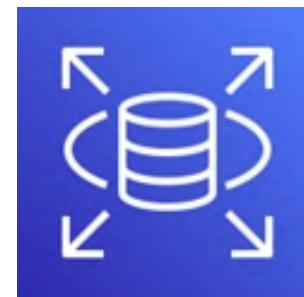
## GitHub

We're going to use GitHub for our pipeline.

# Amazon Web Services



**AWS Backup**

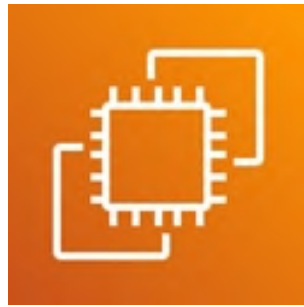


**RDS MySQL**

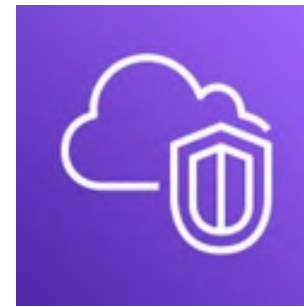


**Elastic Beanstalk**

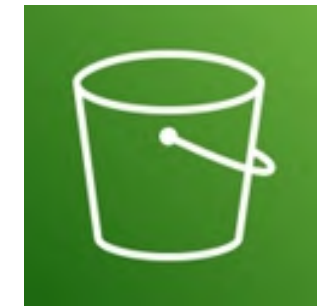
# Amazon Web Services



**EC2 Instance**

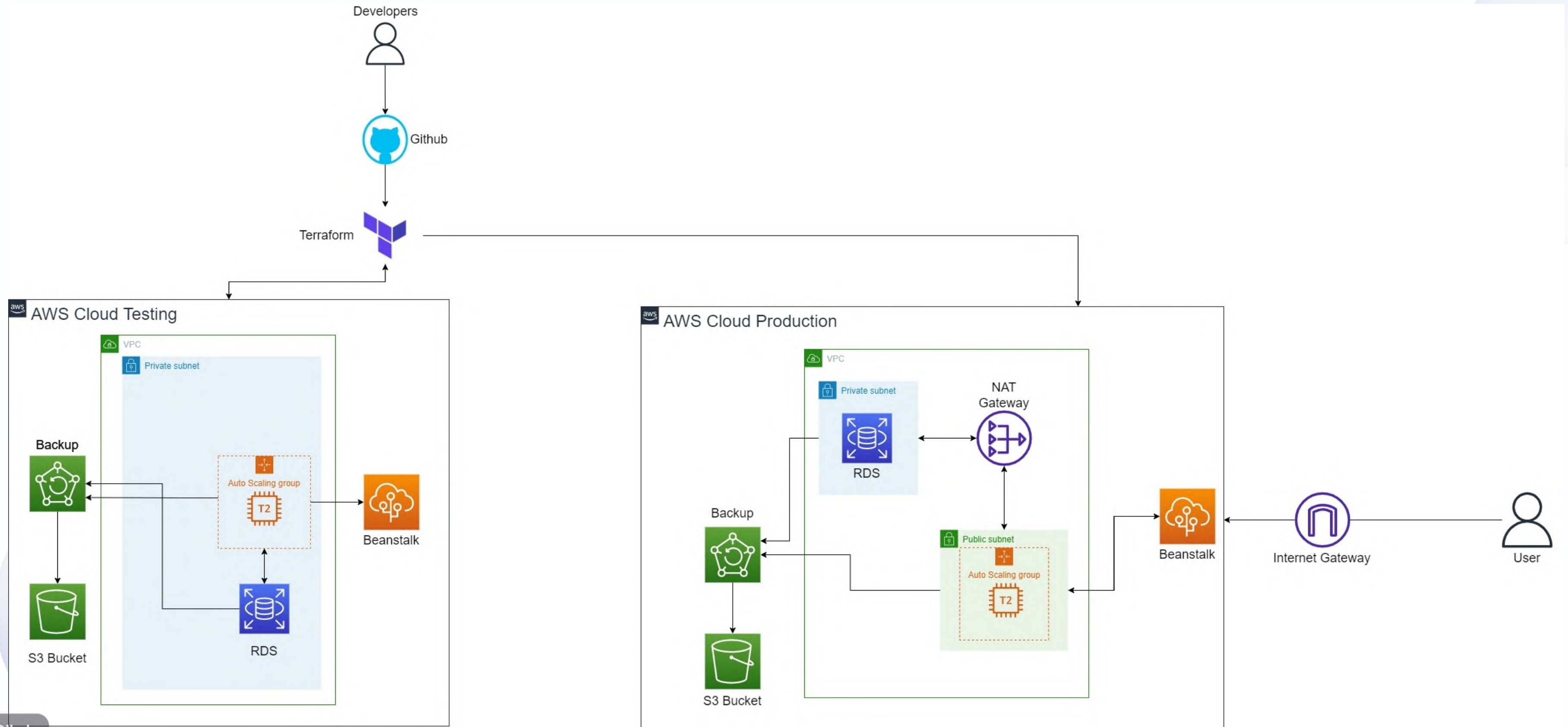


**Virtual Private Cloud**



**S3 Bucket**

# AWS Architecture



08

# AWS Pricing

# AWS Pricing

## Service

## Price

EC2 Instance

\$81.18 (\$40.59)

RDS MySQL

\$37.76

S3 Bucket

\$0.46 (\$0.23)

Backup

\$1.00 (\$0.50)

Virtual Private Cloud

\$66.06 (\$33.03)

**Total per month:**

**\$185.96**

09

# Conclusion

**Are there any  
Questions ?**