

# **Project Report**

## **“Online Goods”**

Students:

Miguel D. Morais [50034581@iade.pt](mailto:50034581@iade.pt)

Paulo F. Patarra [50034705@iade.pt](mailto:50034705@iade.pt)

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## 1 Introduction

Nowadays is possible to buy pretty much everything online, something that before was impossible, this possibility is due to easier internet access worldwide. The Internet brought a revolution and new paradigms to various sectors of the economy and one of them is seen through the consumption patterns of a country. More and more companies adopt e-commerce (online commerce), which facilitates lives all over the globe, such as the Portuguese, with easier, quicker, and more comfortable transactions.

On the picture below is possible to observe, on a European level, the average amount of consumers that use e-commerce, having Portugal a considerable amount of online shoppers.

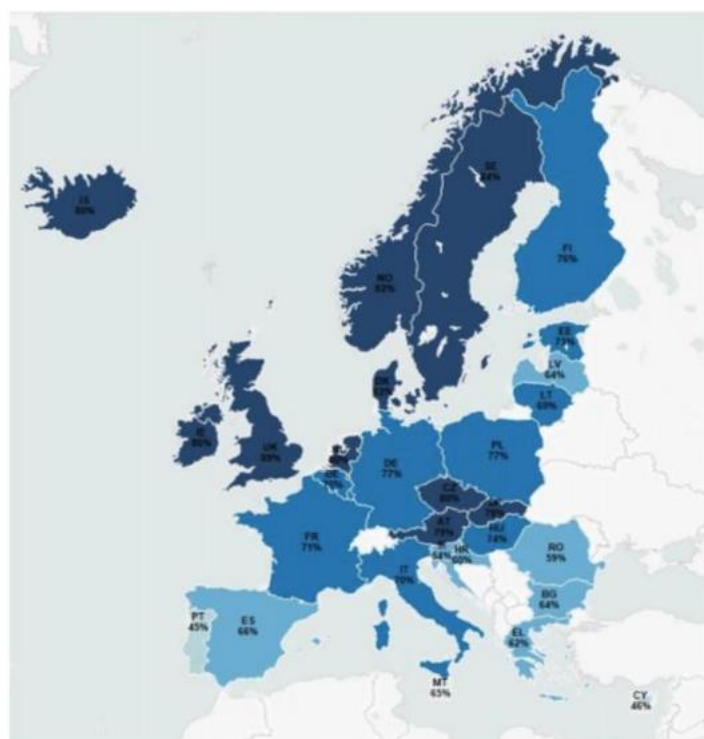
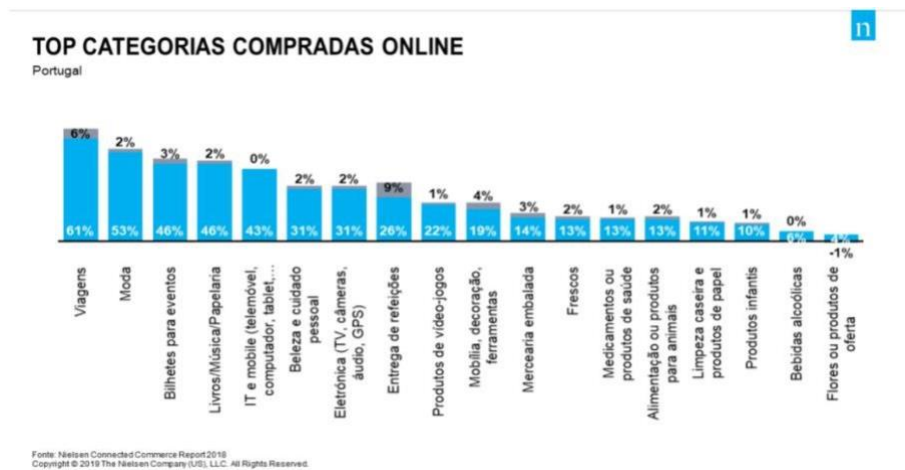


Fig.1 – Average proportion of European consumers buying online (%)

On the picture below we are shown the top categories of Portuguese online expense:



Internet access is a constant on Portuguese lives, whether for sharing information, searching for new things, work or even purchasing goods or service.

## 2 Stakeholders

Stakeholder	Functions/Responsibilities
PhD Miguel Bugalho	In charge of software development (OO Programming CU)
Miguel Moraes	Developer
Paulo Patarra	Developer
Actor Admin	System Admin
Actor Client	System User

### 3 Project Briefing

Deliverables		Stakeholder
1 <sup>st</sup> deliverable	Project Name; Project Description and Scope; Use cases	PhD Miguel Bugalho
2 <sup>nd</sup> deliverable	Final Scenarios; Final Personas; Class Diagram; ER Diagram; PPT Presentation;	PhD Miguel Bugalho
3 <sup>rd</sup> deliverable	Functional Prototype; Source Code in GitHub; Updated Report; Updated Class Diagram; Updated ER Diagram; Rest Documentation; PPT Presentation;	PhD Miguel Bugalho
4 <sup>th</sup> deliverable	Final Project; Final report; Updated Use Cases; Updated Class Diagram; Updated ER Diagram; Rest Documentation; User Manual; Source Code in GutHub; PPT presentation; Video presentation.	PhD Miguel Bugalho

## 4 Project Description and Scope

The Online Goods it is an application of online shopping where people can buy almost everything they want, from a simple pair of socks to a brand new Iphone. As we seen, nowadays and with all the problems caused by this pandemic, people choose to buy much more things online, not just because of the pandemic but also because of the evolution of times. It is simple for people to be laying down on their couches, seeing Tv and order a product that they saw in a commercial, through a PC, a tablet or a phone. Almost every companies, from clothes, to electronic, to sports, have an online shop where people can buy their products. There are already some applications such as Amazon our Ebay that make a joint of all these companies, selling all products in only one place, saving time to the clients. Our project is similar to these already known applications, where clients, can buy everything in a single application. Clients can choose a category or see all the products available from different categories and buy them in our application without been redirected to another application. Our project saves our costumers even more time than other applications and that is why it is different and better. We will show you how our application saves even more time in our project objectives.

## 5 Project Objectives and Success Criteria

The objective of this project is to give clients the same products that they have in other's applications but in less time. When we order something from Amazon or E-bay, we wait for our order at least 15 days. With an application fully headquartered in Portugal we can guarantee to our clients the same products but with a much lower waiting time, that will lead costumers to choose our application.

## 6 Scenarios

### Main Scenario:

The main page of the project is where it will be presented to the client all products available and where the client can place is order. We assume that the client is already registered and only has to log on. The client can filter the products by category. The client can add one or more orders to his basket and then finish his order by making the payment. A new page is triggered where the client can choose the payment method and confirm the purchase.

### Alterative Scenario N1:

This alternative scenario is where the client after placed an order, can check his status and his information. The client can see different status such as, waiting payment, payed, in submission, shipped, delivered, or

even cancel the order and his status will pass to canceled. Here the client can see which products he bought in that order, how the payment has been done, and the address that will be delivered.

### **Alternative Scenario N2:**

This second alternative scenario where the admin is logged in and manage the stock and change the status of the orders. It's in this scenario that the admin can add new products or change the quantity available of one specific product. Here the admin can also change the status of an order, for example from in submission to shipped.

## **7 Personas**

The system will only have two user roles, the admin and the client. The admin function is to manage stock and orders. The client only has the job to place orders and see its status.

## 8 Context Diagram



## 9 Use Cases

### UC01 – Place an order

<b>Description</b>	The client places an order.
<b>Pre-Conditions</b>	<ol style="list-style-type: none"> <li>1. Client registered;</li> <li>2. Products selected must be in stock.</li> </ol>
<b>Main Scenario</b>	<ol style="list-style-type: none"> <li>1. Client does the log in in the application;</li> <li>2. Client sees all products available and can filter by category;</li> <li>3. Client choose one or more products that are added to his basket;</li> <li>4. In the end he sees all products in the basket and can delete the ones he does not want;</li> <li>5. Finish is purchase by making the payment by credit card putting:               <ol style="list-style-type: none"> <li>5.1. Credit card number;</li> <li>5.2. CVC;</li> <li>5.3. Expiration date;</li> </ol> </li> <li>6. The Client confirms the payment and the order is created with “waiting payment” status;</li> </ol>
<b>Main Actor</b>	Client
<b>Post-condition</b>	<ol style="list-style-type: none"> <li>1. Changes in the product stock;</li> <li>2. The order is saved with a reference and a date;</li> </ol>



**UC02 – See orders**

<b>Description</b>	The client sees the orders he made
<b>Pre-Conditions</b>	1. Logged in as Client.
<b>Main Scenario</b>	1. The client sees all orders he made; 2. Choose one order; 3. The client can see which products he bought in that order and the order status; 4. If the order has not been shipped, the client can cancel it.
<b>Main Actor</b>	Client
<b>Post-condition</b>	1. If an order is cancelled: 1.1 Change order status to cancelled; 1.2 The payment is cancelled; 1.3 The product stock is reset.

**UC03 – Add product**

<b>Description</b>	The admin add a new product
<b>Pre-Conditions</b>	1. Logged in as Admin.
<b>Main Scenario</b>	1. The admin add a new product to the application with: 1.1 Name of the product; 1.2 Reference of the product; 1.3 Stock existing; 1.4 Category of the product;
<b>Main Actor</b>	Admin
<b>Post-conditions</b>	1. Product is saved in DB;

**UC04 – Manage product stock**

<b>Description</b>	The admin manages the stock of the product
<b>Pre-Conditions</b>	1. Logged in as admin;
<b>Main Scenario</b>	1. The admin changes the product stock when more products arrive;
<b>Main Actor</b>	Admin
<b>Post-Condition</b>	1. The products stock is updated.

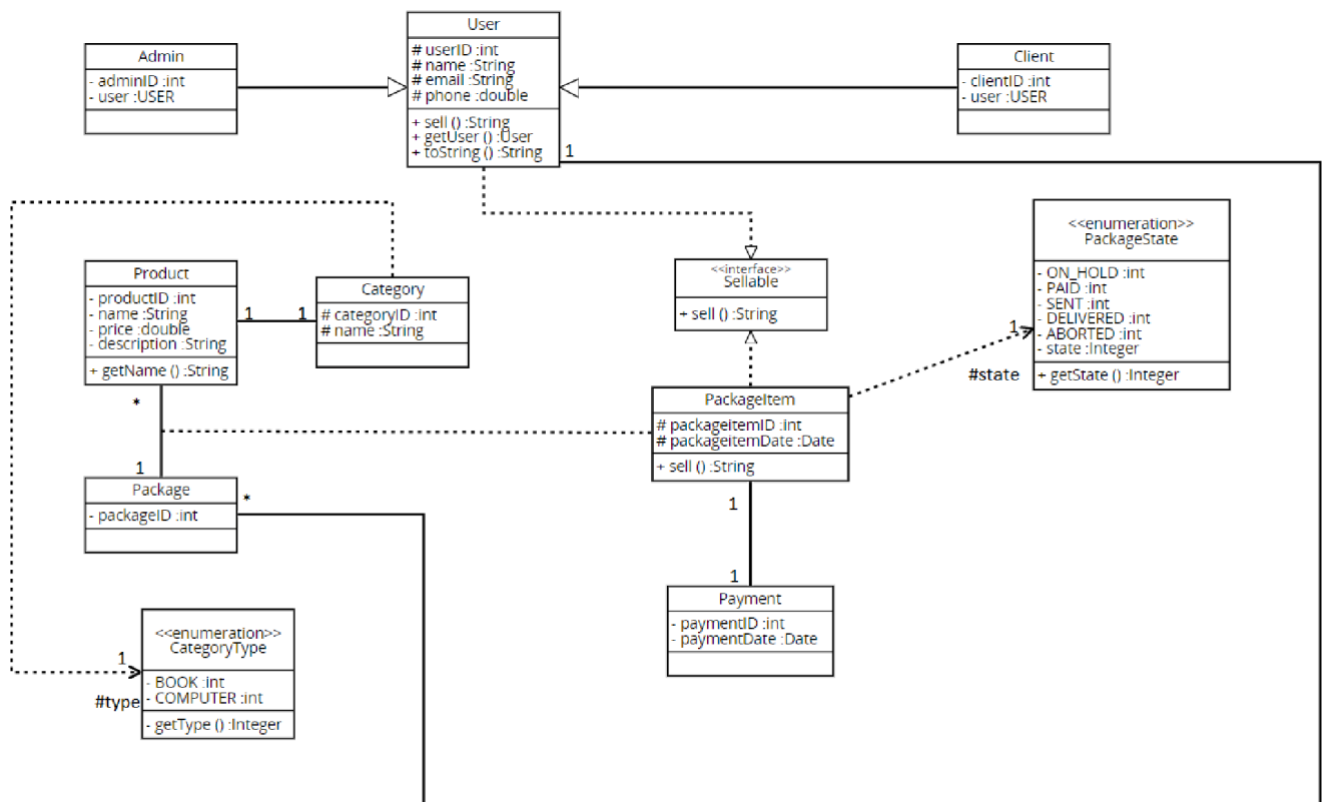
**UC05 – Change order status**

<b>Description</b>	The admin change order status
<b>Pre-Conditions</b>	1. Logged in as Admin.
<b>Main Scenario</b>	1. The Admin change the order status to: <ul style="list-style-type: none"> <li>1.1. Payed (when the payment is confirmed);</li> <li>1.2. In Submission (after the payment is confirmed, the warehouse personal starts to prepare the order);</li> <li>1.3. Shipped (once the orders leaves the warehouse to be delivered);</li> <li>1.4. Delivered (when the order is delivered to the client);</li> <li>1.5. Canceled (when the client cancel the order).</li> </ul>
<b>Main Actor</b>	Admin
<b>Post-Condition</b>	1. The order status is changed.

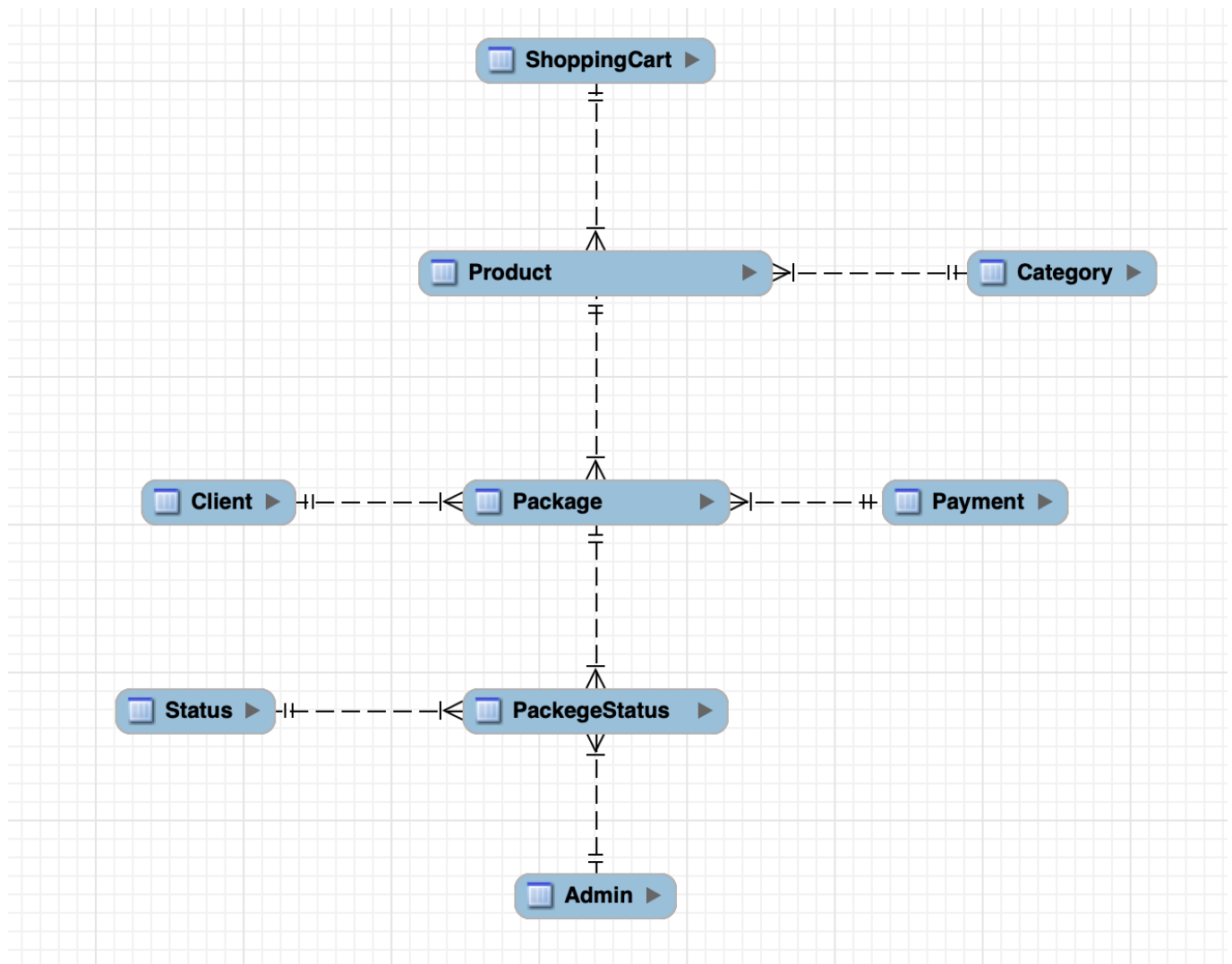
## UC06 – Filter by category

<b>Description</b>	Client filter the products by category
<b>Pre-Conditions</b>	1. Logged in as Client.
<b>Main Scenario</b>	1. Client choose the category he wants; 2. The products of that category are displayed.
<b>Main Actor</b>	Client

## 10 Class Diagram



## 11 ER Diagram



## 12 Rest Documentation

### GetProducts

Return all products.

URL: api/product

Response:

```
[ { "productID": 1, "name": "Tablet Samsung", "price": 99.9, "reference": 999888777, "stock": 58,
  "category": { "categoryID": 1, "name": "Tecnologia" } }, { "productID": 2, "name": "Samsung S20",
  "price": 1279.0, "reference": 111222333, "stock": 101, "category": { "categoryID": 1, "name":
  "Tecnologia" } }, { "productID": 3, "name": "Lata Atum ", "price": 0.49, "reference": 123456789, "stock":
  990, "category": { "categoryID": 2, "name": "Alimentacao" } }, { "productID": 4, "name": "Calças de
```

```
ganga", "price": 19.9, "reference": 987654321, "stock": 30, "category": { "categoryID": 3, "name": "Moda" } } ]
```

## GetProduct

Return a specific product according the ID chosen.

URL: api/products/{id: }

Response:

```
{ "productID": 1, "name": "Tablet Samsung", "price": 99.9, "reference": 999888777, "stock": 58, "category": { "categoryID": 1, "name": "Tecnologia" } }
```

## GetCategories

Return all categories and his products.

URL: api/category

Response:

```
[ { "categoryID": 1, "name": "Tecnologia", "product": [ { "productID": 1, "name": "Tablet Samsung", "price": 99.9, "reference": 999888777, "stock": 58 }, { "productID": 2, "name": "Samsung S20", "price": 1279.0, "reference": 111222333, "stock": 101 } ] }, { "categoryID": 2, "name": "Alimentação", "product": [ { "productID": 3, "name": "Lata Atum ", "price": 0.49, "reference": 123456789, "stock": 990 } ] }, { "categoryID": 3, "name": "Moda", "product": [ { "productID": 4, "name": "Calças de ganga", "price": 19.9, "reference": 987654321, "stock": 30 } ] } ]
```

## GetCategory

Return a specific category and his products.

URL: api/category/{id: }

Response:

```
{ "categoryID": 1, "name": "Tecnologia", "product": [ { "productID": 1, "name": "Tablet Samsung", "price": 99.9, "reference": 999888777, "stock": 58 }, { "productID": 2, "name": "Samsung S20", "price": 1279.0, "reference": 111222333, "stock": 101 } ] }
```

## GetClients

Return all clients.

URL: api/cliente

**Response:**

```
[ { "clientID": 1, "name": "Miguel Duarte Morais", "username": "miguelmorais", "password": "miguelmorais", "email": "miguel.morais@hotmail.com", "address": "Rua da maria N4 2ºdrt 3000-121", "nif": 123456789 }, { "clientID": 2, "name": "Paulo Patarra", "username": "paulopatarra", "password": "paulopatarra", "email": "paulo.patarra@hotmail.com", "address": "Rua da maria N4 2ºdrt 3000-121", "nif": 987654321 }, { "clientID": 3, "name": "Catarina Guilherme", "username": "catarinaguilherme", "password": "catarinaguilherme", "email": "catarinaguilherme@hotmail.com", "address": "Rua da maria N4 2ºdrt 3000-121", "nif": 112233445 } ]
```

**GetClient**

Return a specific client.

URL: api/client/{id: }

**Response:**

```
[{ "clientID": 1, "name": "Miguel Duarte Morais", "username": "miguelmorais", "password": "miguelmorais", "email": "miguel.morais@hotmail.com", "address": "Rua da maria N4 2ºdrt 3000-121", "nif": 123456789 }]
```

**GetAdmins**

Return all admins.

URL: api/admin

**Response:**

```
[ { "adminID": 1, "name": "Miguel Duarte Morais", "username": "miguelmorais", "password": "miguelmorais", "email": "miguel.morais@hotmail.com" }, { "adminID": 2, "name": "Miguel Duarte Morais", "username": "miguelmorais", "password": "miguelmorais", "email": "miguel.morais@hotmail.com" } ]
```

**GetAdmin**

Return a specific admin.

URL: api/admin/{id: }

**Response:**

```
[{ "adminID": 1, "name": "Miguel Duarte Morais", "username": "miguelmorais", "password": "miguelmorais", "email": "miguel.morais@hotmail.com" }]
```

## GetPackages

Return all packages.

URL: api/package

Response:

```
[ { "packageID": 1, "reference": 123456789, "package_productID": 1, "package_paymentID": 1,
  "package_clientID": 1 }, { "packageID": 2, "reference": 123456789, "package_productID": 2,
  "package_paymentID": 1, "package_clientID": 1 }, { "packageID": 3, "reference": 987654321,
  "package_productID": 4, "package_paymentID": 2, "package_clientID": 2 } ]
```

## GetPackage

Return all packages.

URL: api/package/{id: }

Response:

```
[{ "packageID": 2, "reference": 123456789, "package_productID": 2, "package_paymentID": 1,
  "package_clientID": 1 }]
```

## 13 References

[1] Amazon. Access in: 19-11-2020, at: (<https://amazon.com>)

[2] Ebay. Access in: 19-11-2020, at: (<http://www.ebay.com>)

