

Háskólinn í Reykjavík  
Verklegt námskeið 2  
T-220-VLN2  
Teacher: Arnar Leifsson

# Design Report



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## Introduction

In this design report we have created a prototype of the website that indicates a visual outlook, steps and functionality of the Captain Console online store.

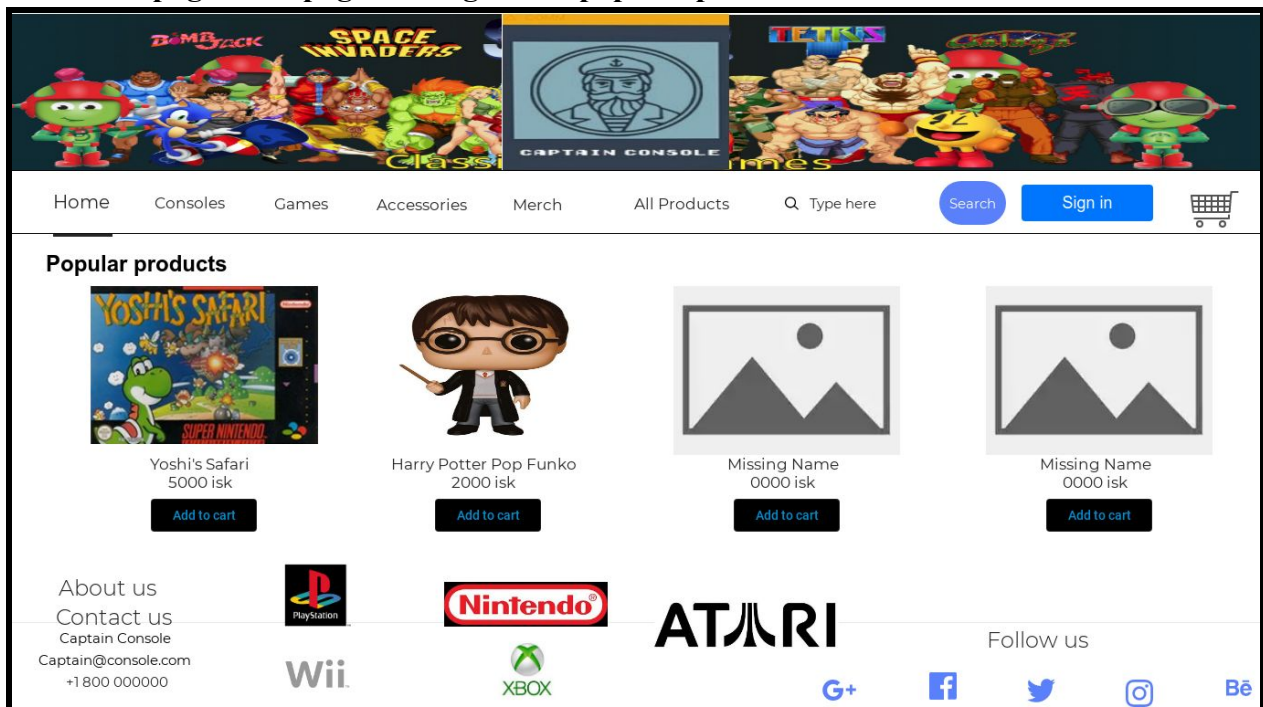
The prototype has a more simple version of the functionality tools that are yet to be implemented properly. The design of the prototype shows the final look of the website but small changes can always be made if needed. Followed by the user testing, class, navigation and state diagrams of the proposed system.

Several test-users were given the opportunity to share their thoughts and overall experiences of the prototype by answering a set of questions and performing small tasks. The outcome of those helped us to broaden the perspective of further possible improvements. We then looked into the best structure for programming rules which are to be followed by team members during the backend coding phase.

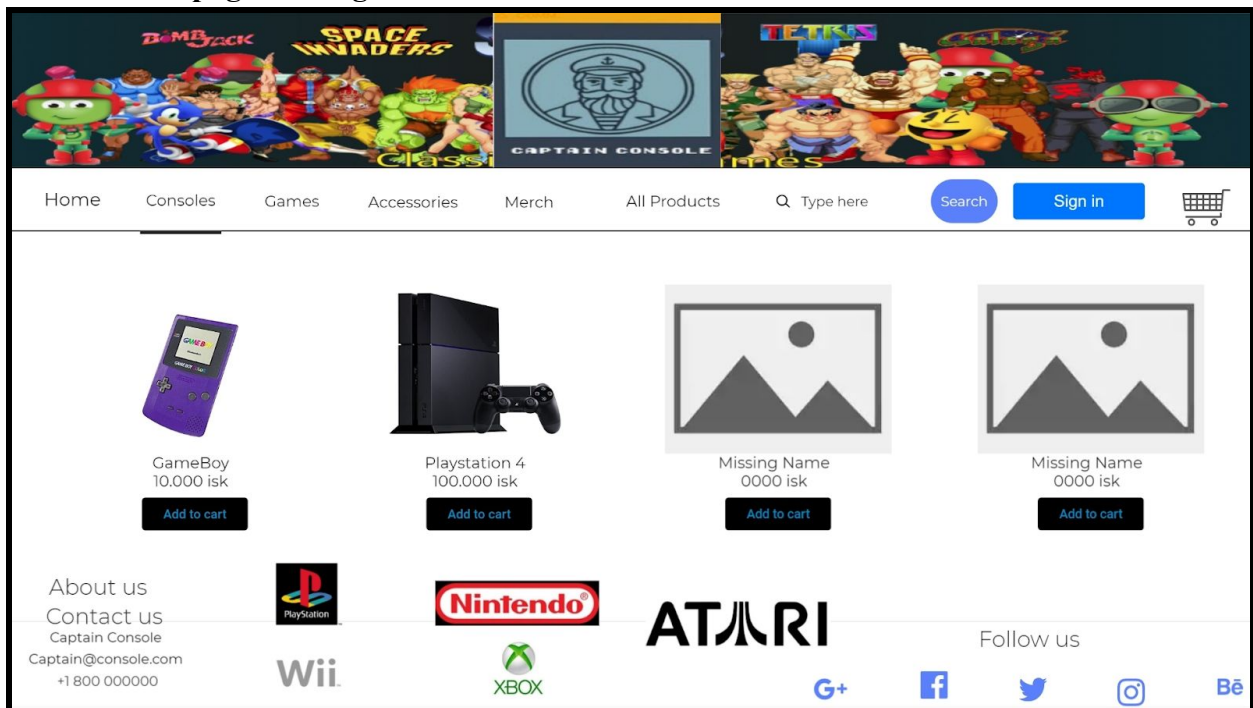
The diagrams helped us perceive how the application should work better and what it needed to have to be the best version of itself. The class diagram makes it easier for us to start coding because it gives us an overall view of what classes and functions each element has. The others show the layout of the website and how you can get from one point to the other.

## Prototypes

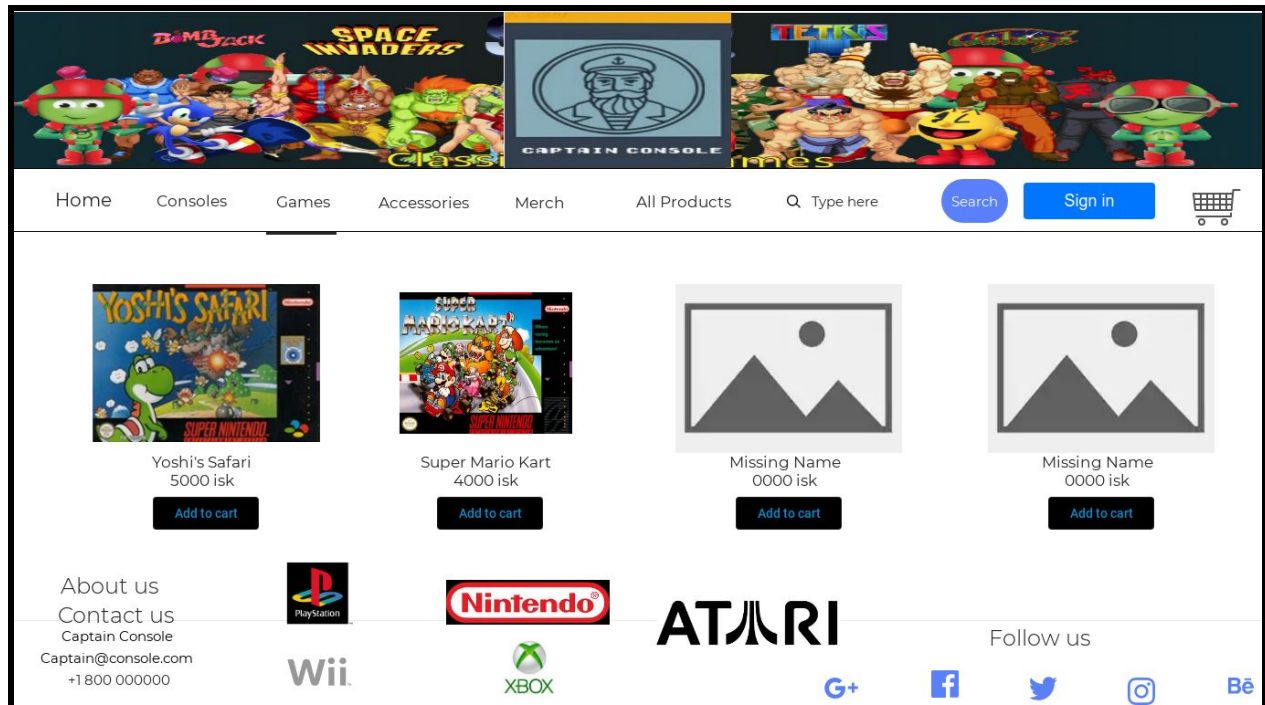
The Home page/front page. Listing all the popular products.



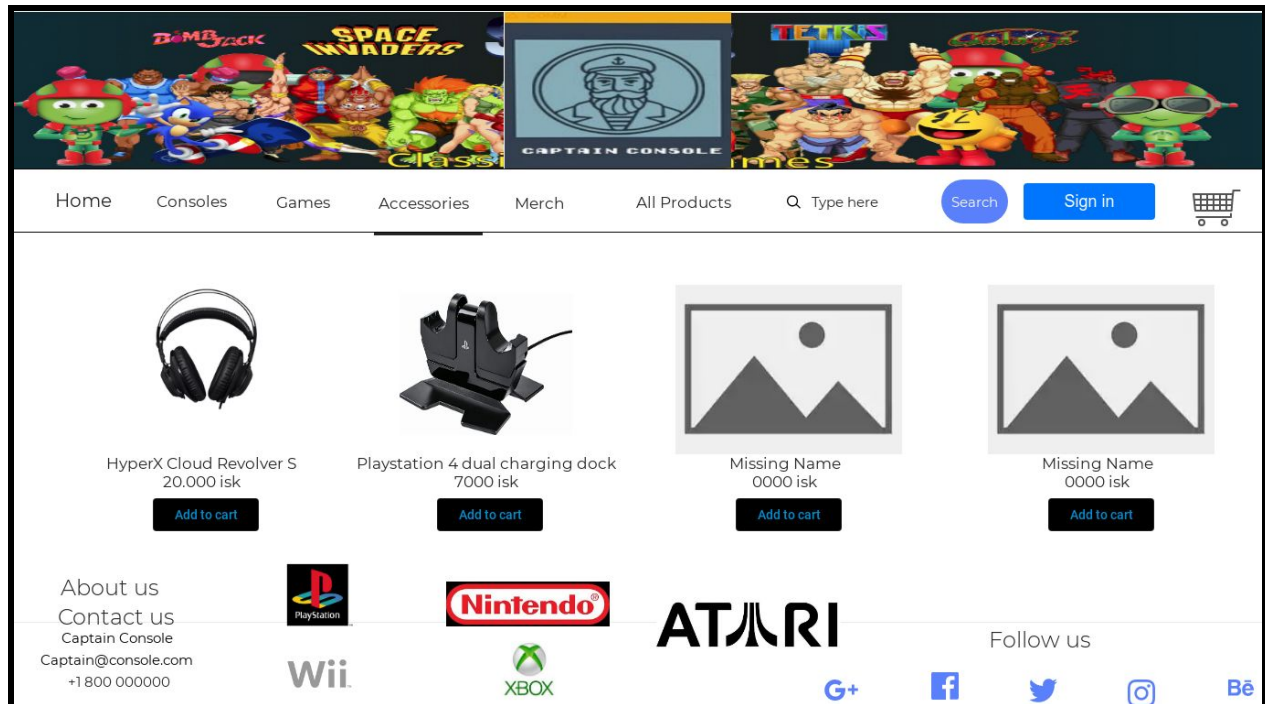
The Consoles page. Listing all the consoles available



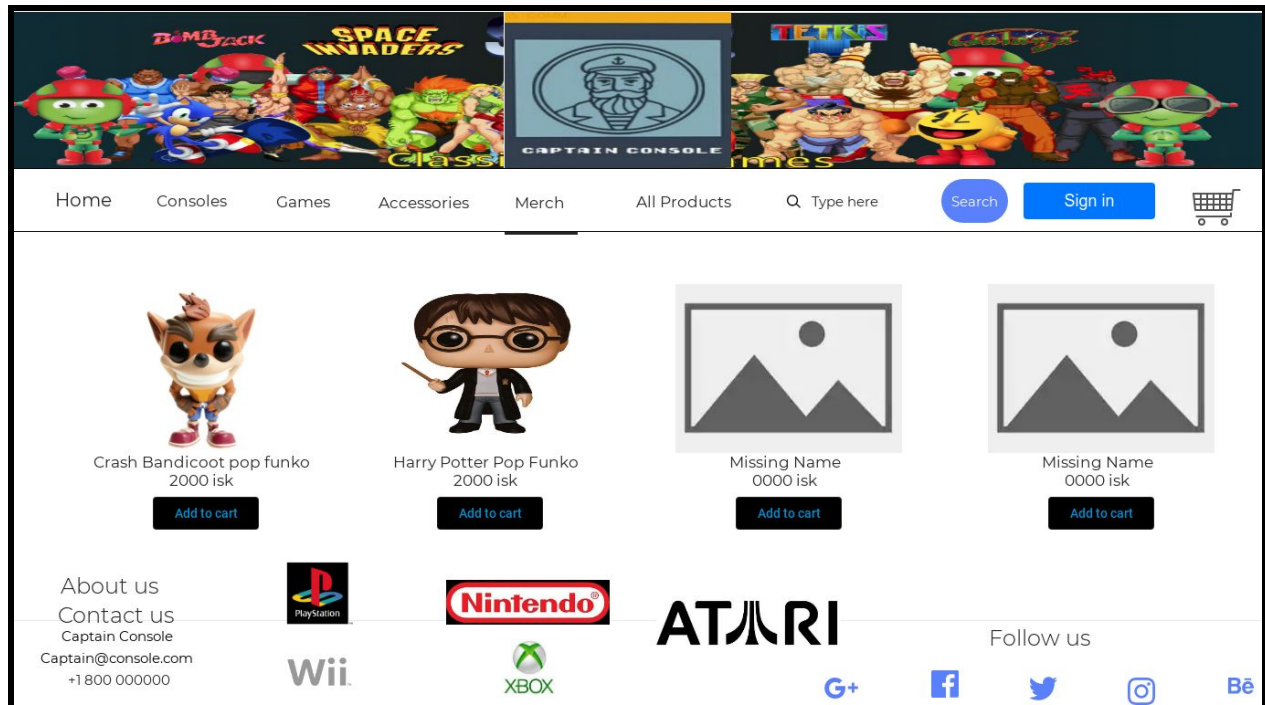
## The games page. Listing all available games



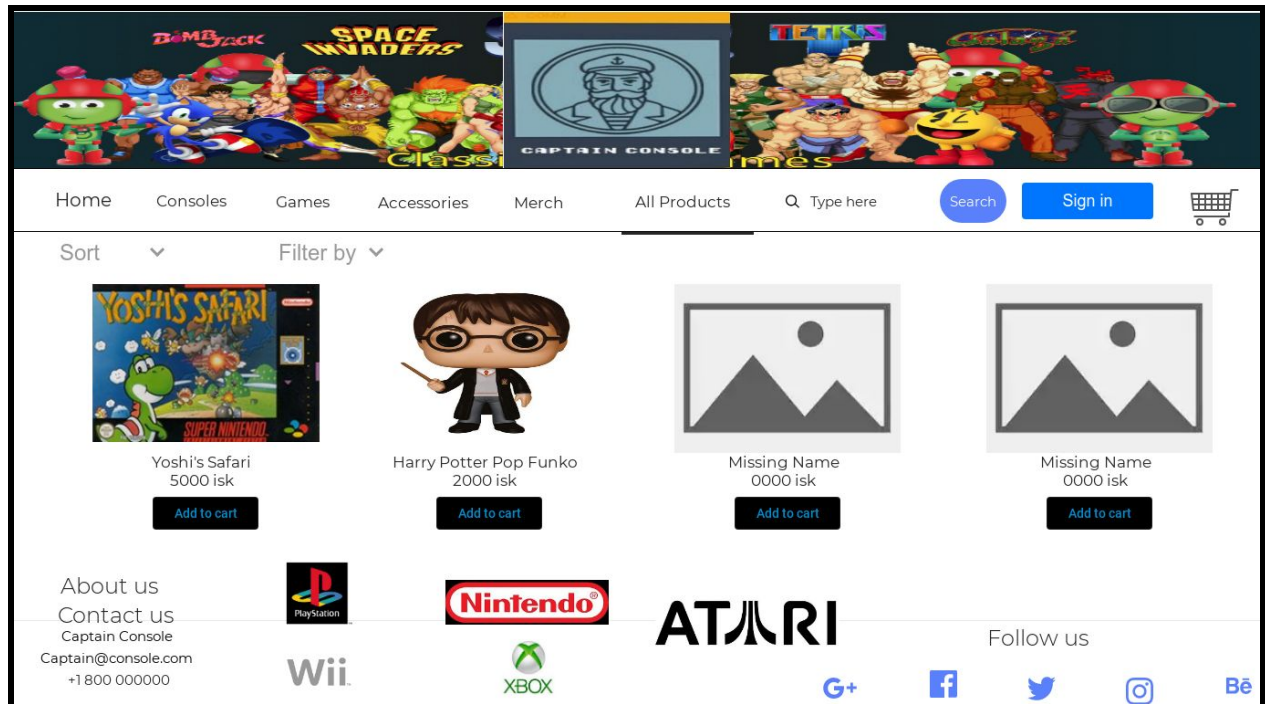
## The accessories page. Listing all accessories (charging cables, controllers, headphones) available.



The merch page. Listing all the available merchandize

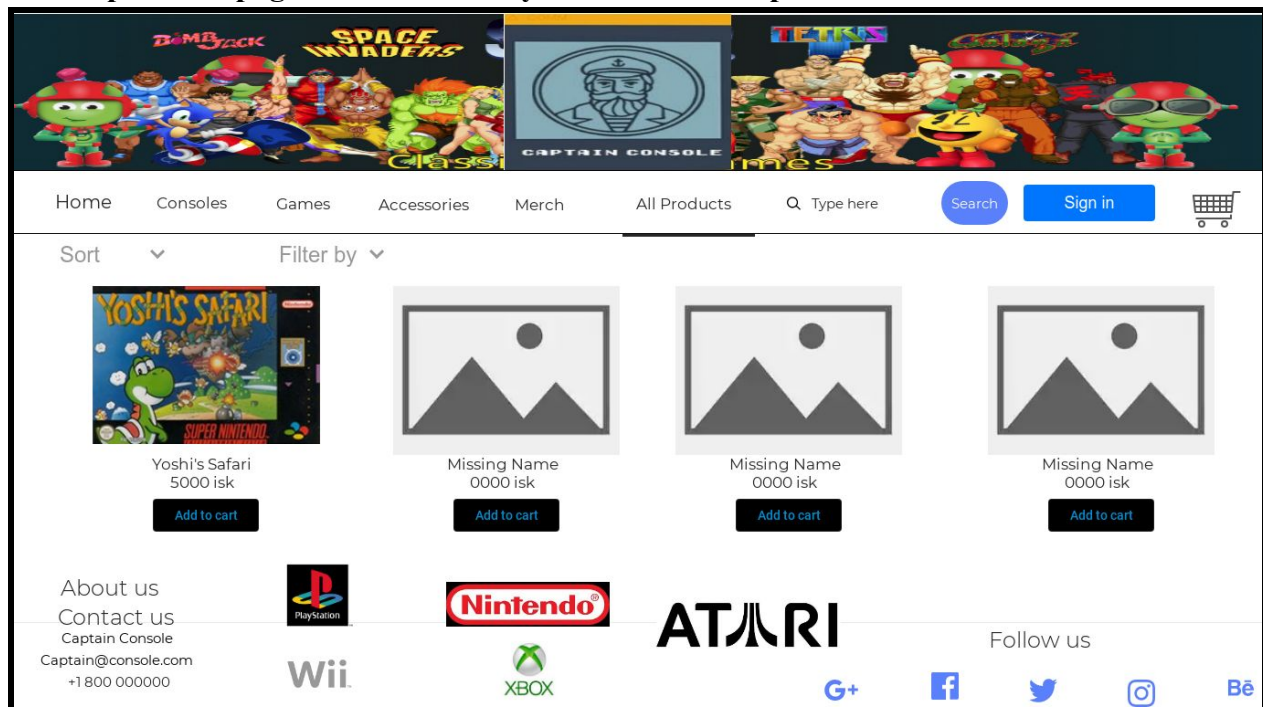


The catalogue page or all products page. There you can sort by price or name and filter so you e.g. only get Nintendo products.

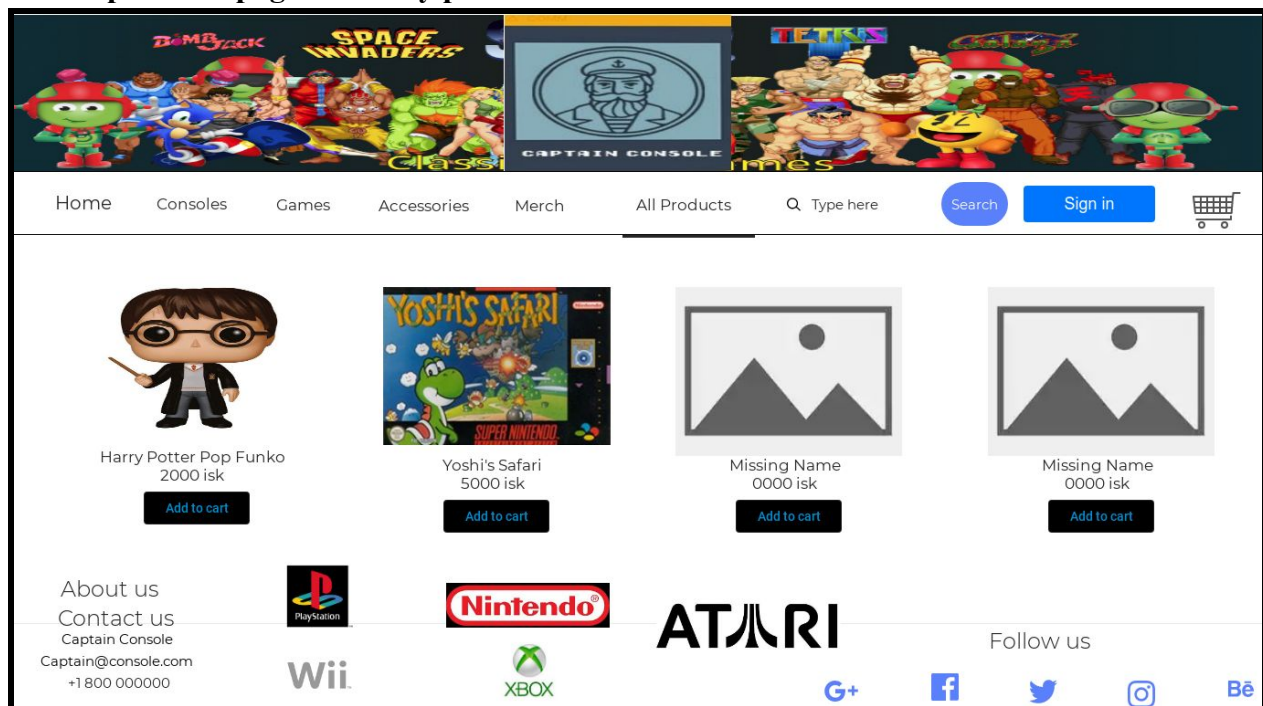




The all products page filtered so it only shows Nintendo products.



The all products page sorted by price



The sign in and sign up pop up windows. Go over the page you are already on.

×

Sign in

Forgot password?

×

Sign up

When you press on the picture of a product you see more details of it. More pictures and a detailed description of the product.

BOOM STICK

SPACE INVADERS

CLASS

CAPTAIN CONSOLE

TIME

Home

Consoles

Games

Accessories

Merch

All Products

Q Type here

### Yoshi's safari

Yoshi's Safari is a 1993 light gun shooter developed and published by Nintendo for its Super Nintendo Entertainment System. It is the only Mario franchise game to feature first-person shooter gameplay and requires the SNES's Super Scope light gun

5000 isk

About us

Contact us

Captain Console

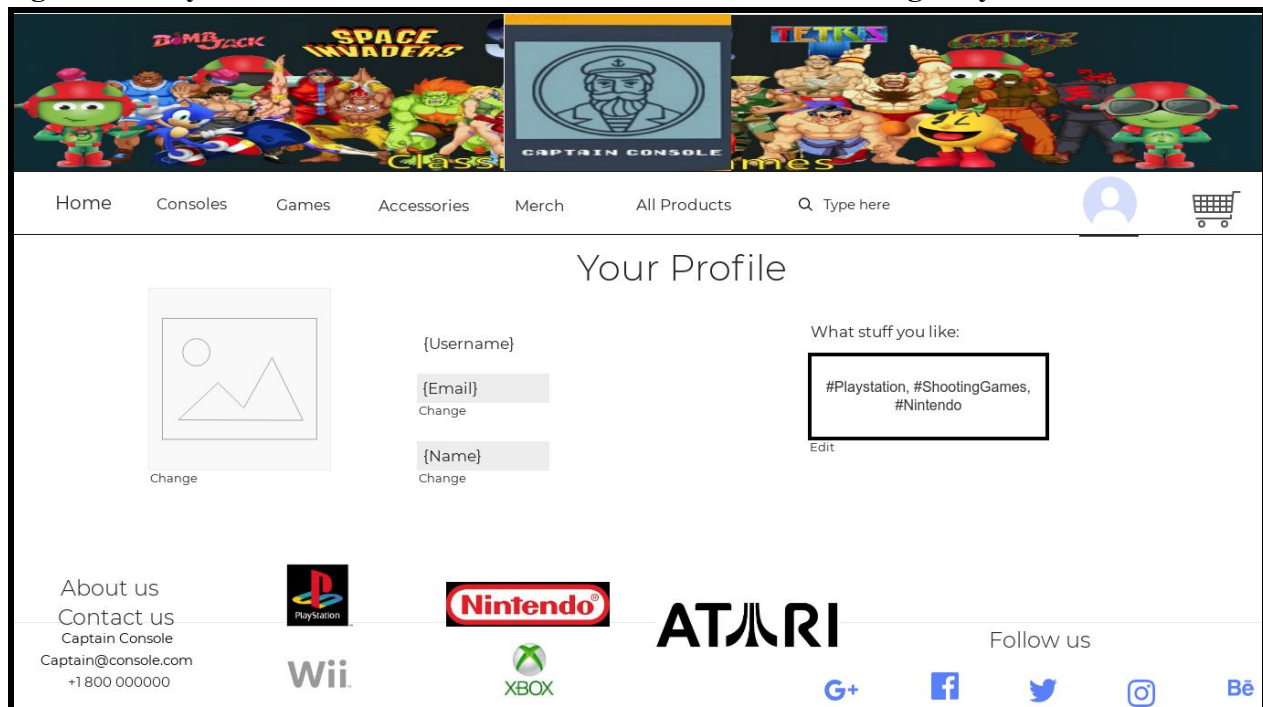
Captain@console.com

+1 800 000000

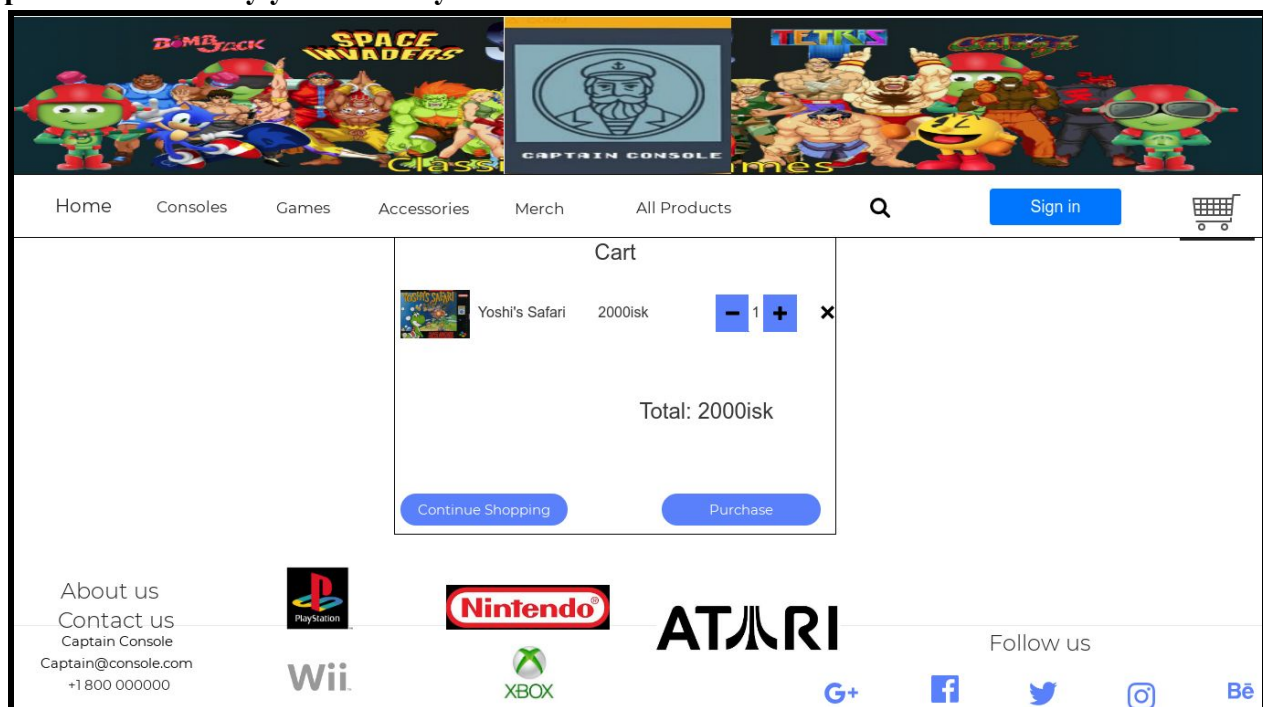
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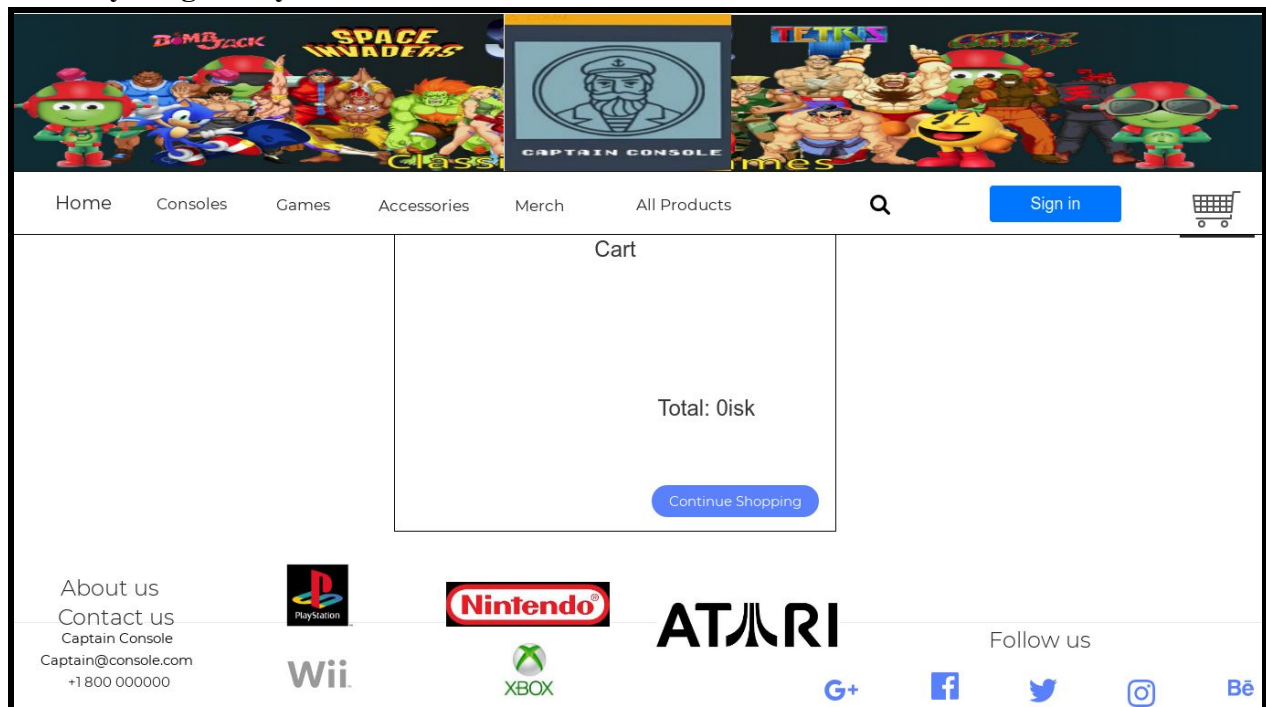
**Your profile page. Here you can edit/add a picture, change your email or name, and add tags for stuff you are interested in so the website recommends things to you like.**



**The cart with an item in it. It shows the total cost of everything in the cart and for each product how many you have in your cart.**



An empty cart. Here the total is 0 and you no longer have the option to pay since you don't have anything to buy.



When you press pay in the cart it brings you to the checkout page. There you write in your contact information and payment information.

Checkout

Full Name
Address
City
Country
Postal Code
Name of Cardholder
Card Number
Expiration Date
CVC

Pay

**After you press pay in the checkout you see what you are buying and what information you inputted. If the information was valid and everything went according to plan you see a sign of success after you press “finish and pay”.**



Yoshi's Safari 2000isk

1

{Full Name}  
{City}  
{Country}  
{Postal Code}  
{Name of Cardholder}  
{\*\*\*\*\_\*\*\*\*\_\*\*\*\*\_0000}  
{Expiration Date}  
{\*\*\*}

Finish and pay

Order successful

Your order was successful. Thank you for shopping with us.  
May the Force be with you

Nice Got It


**The ‘About us’ page. Pop up window that tells you the store's history.**



About Us

Founded in 1989 by  
Ragnar The Red (born  
1912)  
Our manager is Sigfús  
Snorrason (born 1986)

**The contact us page. Here you can send the store an email with questions or reviews.**



## Contact us

☒ Mr ☐ Mrs

First Name\*

Mark

Last Name\*

Title

▼

Company

Street

No.

City

Postal

E-Mail\*

Phone\*

Type your message here\*

You have 355 characters left

☒ By signing up I agree to the [terms of service](#) and [privacy policy](#)

Send now

Here is a link to the website we used to create it. There you can interact with the prototype to further your understanding of how it should work: <https://pr.to/EK9WUU/>

## Think aloud testing

We started the interviews by explaining what it was about and telling them that it was all confidential. We then asked them some questions about their background with video games and online stores and then asked them to think aloud while testing our application. We had prepared small tasks for them to perform using the prototype.

### **The background questions**

1. How old are you?
2. What's your education level?
3. How good are you with computers?
4. Do you play a lot of video games?
5. Do you have much experience with online stores?
6. After testing: Do you have anything you'd like to add?

### **The tasks and rating questions**

1. Can you find the page to see all products the site has available?
2. Can you find the game Yoshi's Safari and preview it?
3. Can you filter the products on the site so you only see nintendo products?
4. Can you search for the game Yoshi's Safari from the home page?
5. Can you place the game Yoshi's Safari into the cart?
6. Can you remove the game from your cart?
7. Can you place it back in your cart?
8. Can you buy the game you just put into the cart by going through the transaction process completely?
9. Can you find the read-only review for the product before finishing the transaction process?
10. Can you see the success window after you have bought the product?
11. Can you create your own profile?
12. Can you change the name of the profile you have already created?
13. Can you see the special products section on the front page?
14. Can you order the products on the catalogue site by price?
15. On a scale of 1-10 what grade would you give the application?
16. On a scale of 1-10 what grade would you give the use of the application?



## Person A

Person A is a 25 year old certified painter who is ok with computers, plays video games a few times a year and has good experience with online stores. With the filter question he first searched for it which worked fine, being told to try to do it in a different way took a bit longer, he wanted to have the possible filters pop up when hovering over the sections of the navigation bar. He liked the site but thought having so many logos and colors all over was a bit too much and distracting from using the functionality of the site.

## Person B

Person B is 49 years old with a Bsc in computer science. They are very good with computers and play a lot of video games. They have some experience with online stores but not alot. Overall person B liked the application but felt it was missing the “sign up” button and that it should say merchandise instead of merch in the navigation bar.

## Person C

Person C is 19 years old and is almost done with upper secondary school. They are decent with computers and play a lot of video games in their freetime. They have a lot of experience with online stores and especially gaming stores. The only thing they felt was missing was that there wasn't a border around the search button so they felt that the “type something” and “search” wasn't connected.

## Person D

Person D is 35 years old with a bachelor and master degrees in Psychology and a basic programming skill. Has a rather high experience in online shopping, uses online purchasing more frequently than going to the physical store location to buy a game. Interviewee had been satisfied with the functionality of the given website and had made a remark about compressed pictures, design aspect of the top part of the webpage. Overall, the users think the test has been satisfactory.

## Person E

Person E is 29 years old, has an BA degree in Icelandic and has an average computer knowledge. They have a normal amount of experience with online stores, and shops online from time to time. They felt that the filter and sort functions should be available in all the product categories, not only *All Products*. When they were supposed to filter for only nintendo products, they went straight to the *Consoles* site, and expected it would be possible to filter nintendo products there.

## Summary of all interviews

To make the interviews easier to review we created a table in spreadsheets. There you could write if the person finished the task and how many resources they used. The spreadsheet was too big to fit on the page so you can find it in the zip file. It is called interviews.

Overall the feedback that we got about the website was positive and all test users could navigate the site with ease and managed to reach all the usability goals. There were however some remarks about the site that users didn't like. The most simple remark was that one test-user wanted a section in the navigation bar to be called merchandise instead of merch which is understandable.

The most common remark was about the filter functionality and sort functions, many seemed a bit confused when they were supposed to use them, wanting them to be available on all product categories, not only on the *All Products* section. One test-user wanted a pop-up window to appear when you would hover over the product category name with the mouse cursor to show the most common filters for that page too but this would be something we'd only implement if we had the time for it.

Some commented on the compressed pictures which we will of course fix for the actual site but there was another test-user who thought having so many logos a bit too distracting to focus on the actual functionality of the page and wanted the site decorations and colors to be a bit more simple.

Then there was a test-user who found that a border around the search button was missing so they felt that the "type something" and "search" wasn't connected properly. Another complaint was that a "sign up" button was missing, we do have a sign-up button connected to the sign-in button like many websites do however but we'll think about adding a sign-up button beside it if one isn't logged in already.

# Programming rules

## Python

- Imports should be at the top of the file and be in separate lines.
- We'll use double-quotes for strings and triple-quotes for docstrings.
- Function calls have no space between the function name and the parenthesis. for example: `get_name()`
  - Same for slicing and indexing
- Avoid trailing whitespaces
- If operators have different priorities, use whitespace around those with the lowest priority. Example:

```
i = i + 1
```

```
var += 1
```

```
x = x*2 - 1
```

```
z = x*x + y*y
```

```
c = (a+b) * (a-b)
```

- No space before a comma (x, y), semicolon (x; y) or colon (x: y)
  - except in slicing where colon should have equal space in either side according to it's priority (treating it like a operator)
- Write docstrings in english for all public modules, functions, classes, and methods.
- Write comment for non-public methods describing what the method does (after the def line)

- Naming rules:
  - Function names should be lowercase and words separated by an underscore, e.g. `get_name()`
  - Class names should have capitalize first letter in each word, e.g. `class GetName():`
  - Always use `self` for the first argument to instance methods.
  - Constants should be all capital letters and separated with underscores.

## CSS

- Classes should be lowercase with underscore separating words (e.g. `.item_left`)
- One space after a colon (e.g. `border-radius: 10px;`)
- Space before `{` in classes, e.g. `.item {`
- Use `rgb` color code
- No indentation for blocks

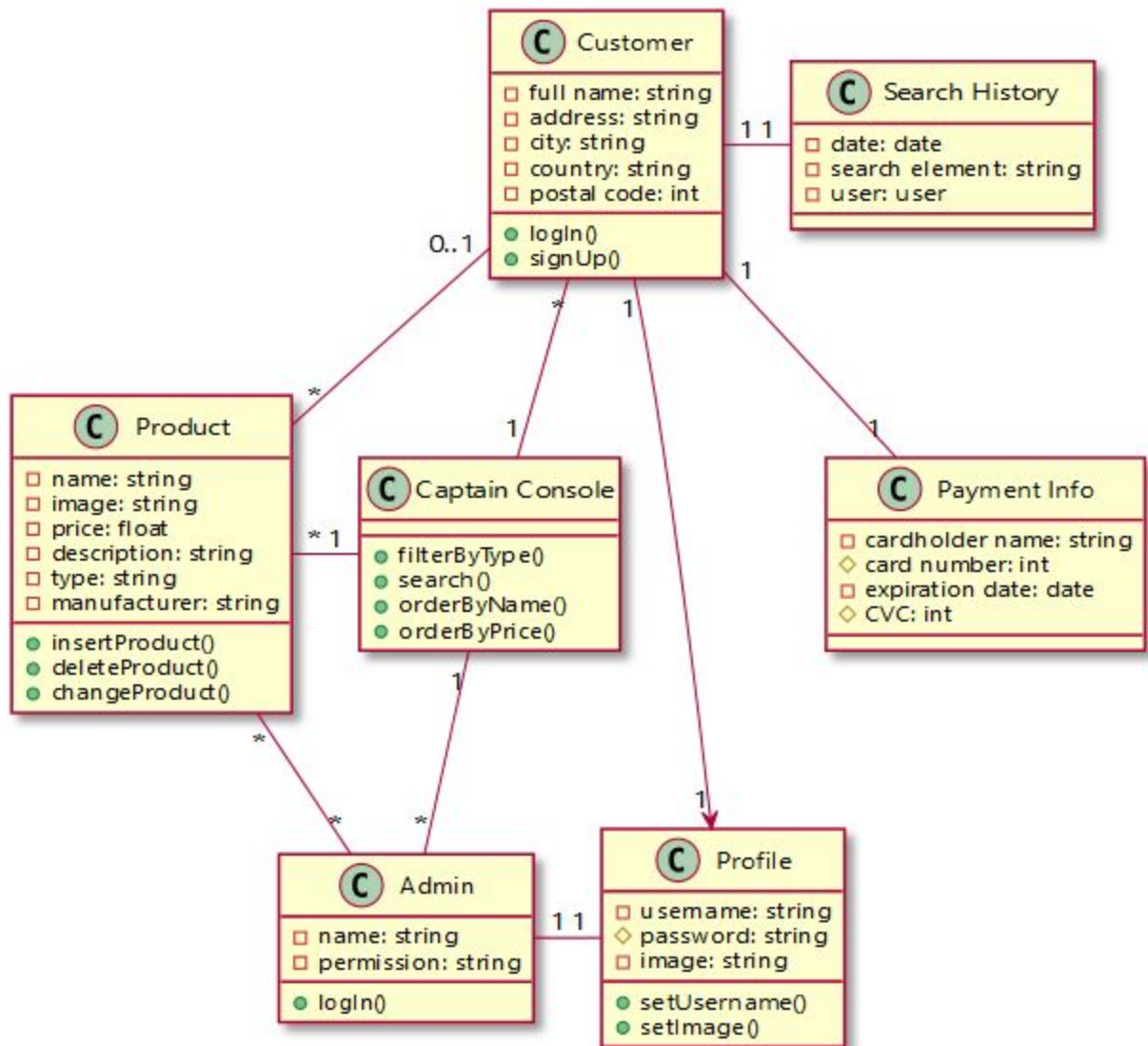
## Javascript

- Semicolon after each simple statement
- Variables should be lowercase, but if they are more than one word, the words after the first one should have the first letter capitalized (camelCase)
- Space before the open bracket and the closing bracket should always be in a new line.
- Colon after each property and a space, then the value and then a comma if there are other properties.
- Use single quotes for strings
- Place the script element in the html file at the end of the body section, after all the existing elements.
- Declare each variable in a separate line, ending with a semicolon.
- If the variable is used frequently we use *var* to declare it, otherwise we use *let*.

## References:

[https://www.python.org/dev/peps/pep-0008/#a-foolish-consistency-is-the-hobgoblin-of-little-min  
ds](https://www.python.org/dev/peps/pep-0008/#a-foolish-consistency-is-the-hobgoblin-of-little-minds)

## Class diagram



Orange square: Private variable

Yellow diamond: Protected variable

Red connecting line: Association between classes

Red arrow line: Composition

Green circle: Function



# Navigation diagram

## Design Specification Checklist for Navigation diagram

**Briefing:** Website for an online gaming and merchandize store.

**Objectives:** Increase number of enquiries to the website, increase online sales, provide information on new trending games and merchandise.

**Key audience:** Demographic followers of the offered games: teenagers and adults, ages between 15-68 mostly Icelandic or Iceland-based.

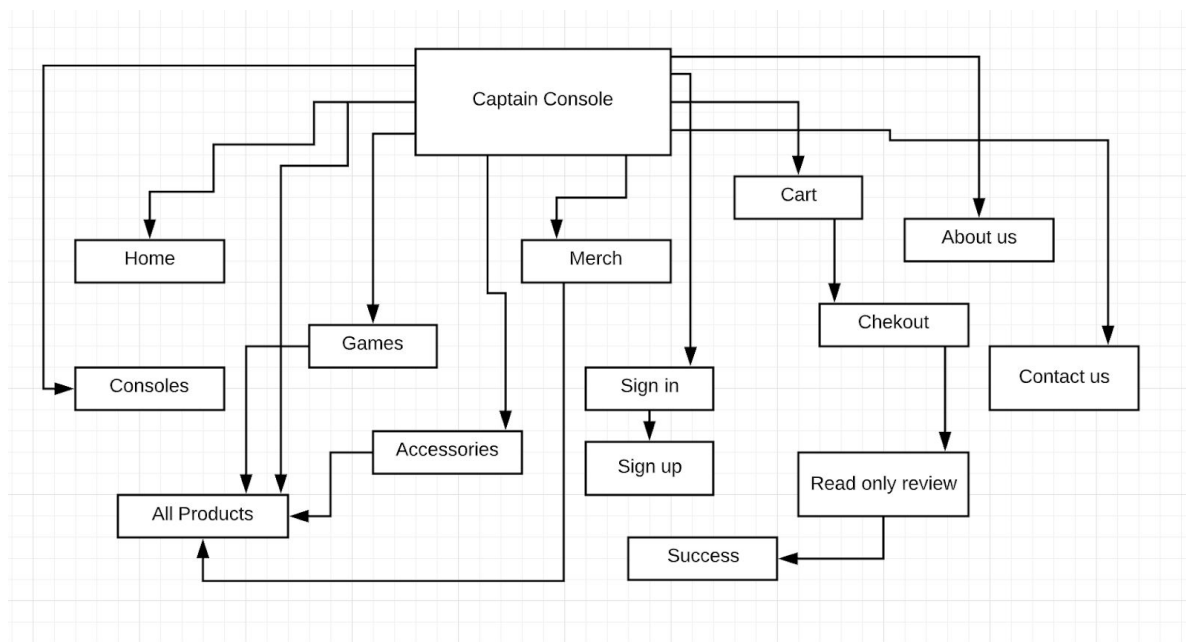
**Purpose of the website:** To allow users to browse, select and purchase favourable games and more.

**Proposed web environments:** Content management system, Product catalogue, Quick preview, Direct linking to other social media platforms.

**Proposed content types:** Logos, texts, photos, navigation links.

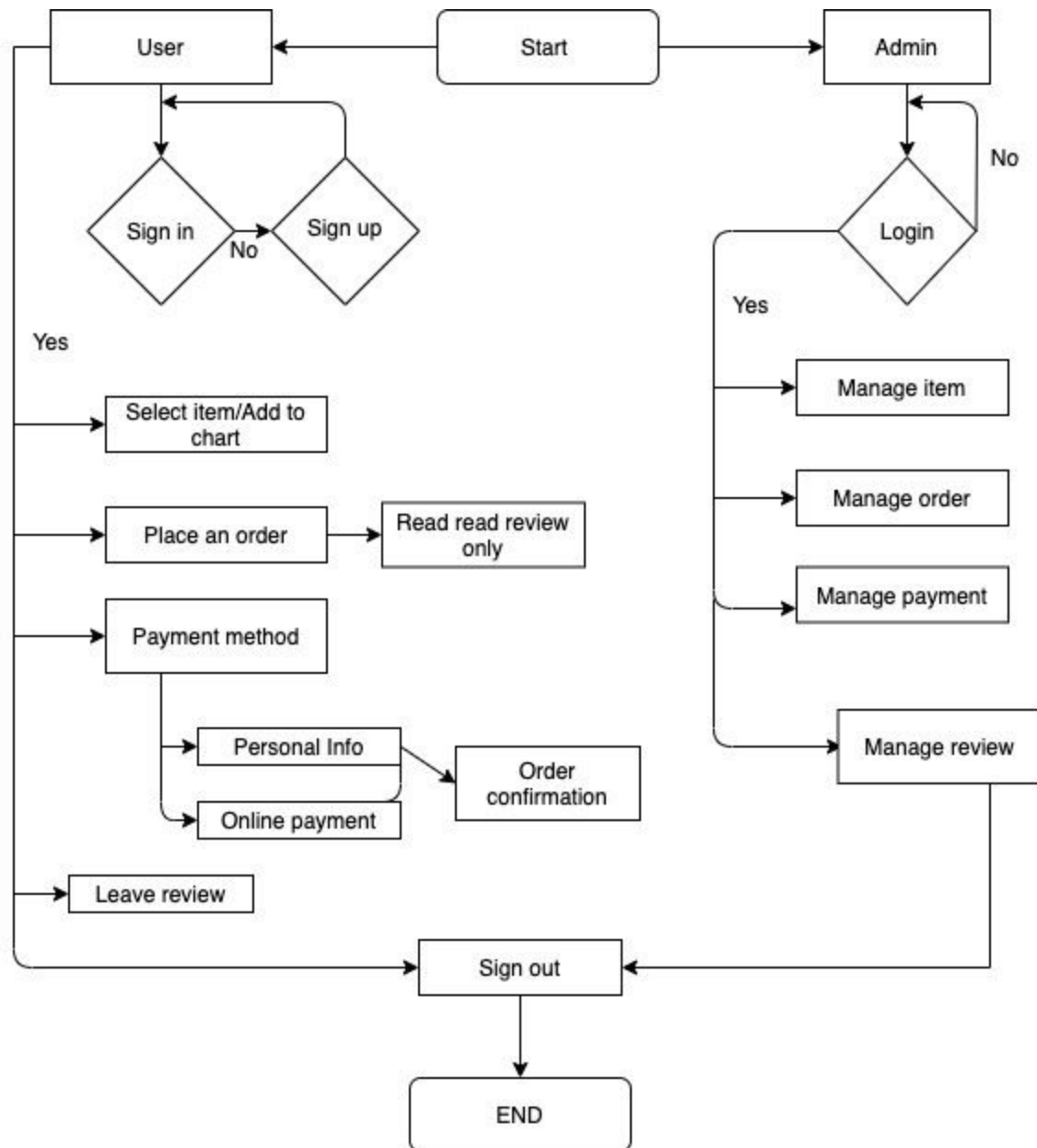
**Expected delivery platforms:** Desktop computers, laptops, either Windows or Mac OS.

## Navigation diagram



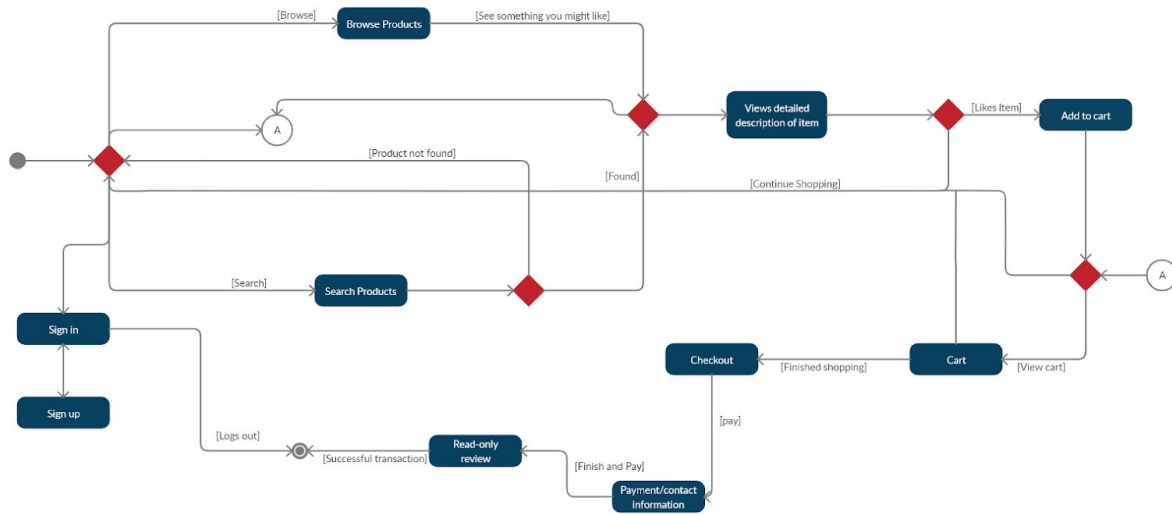
Other

### Flow chart



This flow diagram shows basic flow and representation of the logic sequence for both user and admin whilst using the website to manage and/or purchase available products.

## State diagram



The A in the circle represents the lines from the red diamonds that go into it to the red diamond that leads to the cart. The A is a portal from one place to the other. This was done so the diagram would be readable and less cluttered.

The image above is not very readable because of the difference in size of the image itself and the page it is on. Along with this file you will see an image called state diagram. There you can look at it better.

## **Next steps and changes**

### *Changes to the design*

The page is missing a “sign up” button and that will be added. The search button is not the same in all pages and that will be fixed and also we will add a border around it to make it more visible. The filter by and order by will be on all pages except the home page not only on the all products page.

### *Next steps*

Creating the databases for all the products and starting the coding.