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Introduction

WHAT WE WILL COVER

- Fetch
- Asynchronous JavaScript: Promises and async
- Arrow functions
- Array filter and map
- Refresher of let, const and DOM manipulation

RECOMMENDED REQUIREMENTS

- Basic knowledge of JavaScript
- Familiarity with programming
 - Variables
 - Conditionals and loops
 - Functions
 - Objects
- Code editor

WHAT WE WILL CREATE TOGETHER

In this course we will be build a JSON based trading card store front.

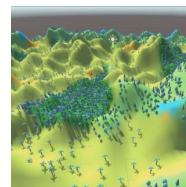
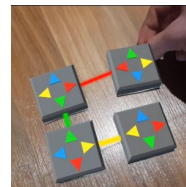
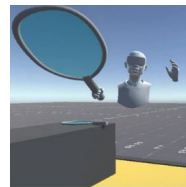
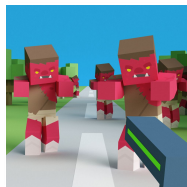
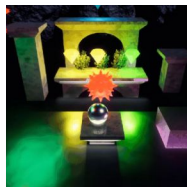
Project Screenshots

☐ Show Rare Cards Only ☐ Show Prices in EUR

ID	Name	Price	Is Rare
110	Red Dragon	\$100	false
111	Green Dragon	\$25	false
112	Black Dragon	\$50	true
113	Gold Dragon	\$15	false
114	Chaos Dragon	\$300	true
115	Silver Dragon	\$5	false
116	Platinum Dragon	\$10	false
117	Bronze Dragon	\$100	false
118	Etheral Dragon	\$700	true
119	Undead Dragon	\$500	true

☒ Show Rare Cards Only ☒ Show Prices in EUR

ID	Name	Price	Is Rare
112	Black Dragon	€43.5	true
114	Chaos Dragon	€261	true
118	Etheral Dragon	€609	true
119	Undead Dragon	€435	true



LET'S GET STARTED WITH THE FIRST LESSON



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Setting Up Our Environment



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Quick JavaScript Refresher

WHAT IS THE DOM

- Acronym for Document Object Model
- Node-based Object representation of a HTML document
- Allows manipulation via JavaScript
 - Content
 - Structure

JAVASCRIPT AND THE DOM

JavaScript has several selectors we can use to interact with the DOM

The main selectors are:

- `querySelectorAll`
- `getElementById`
- `getElementsByClassName`

let

- Declaration of a block-scoped variable
- Allows for initializing it to a value

let counter = 1;

What's the difference between let and var?

Variables declared with var are global, whereas let declared variables are scoped to the block or expression they are in.

const

const is a statement that declares a block-scoped variable

```
const euroConversion = 1.16;
```

What's the difference between const, let and var?

Variables declared with the const keyword cannot be changed or reassigned a different value anywhere in code, except for its declaration. Because of this, you must initialize a const with a value at its declaration



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Asynchronous Programming With Promises

What is a Promise

A Promise is an asynchronous operation that represents a value that isn't known when created.

Example:

```
let myPromise = new Promise((resolve, reject) => {  
  |   setTimeout(() => { resolve('foo'); }, 300);  
});
```

What is a Promise

- Promises have three states
 - **pending** – initial state
 - **fulfilled** – means the operation was completed successfully
 - **rejected** – means the operation failed

What is a Promise

- Promises can be chained by using
 - `promise.then()`
 - `promise.catch()`
 - `promise.finally()`



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Asynchronous Programming With `async/await`

What is async/await

- An async function is a function declared using the `async` keyword and `await` is used within them.
- Example:

```
async function myAsyncFunction(){  
  const response = await fetch('http://localhost/myfile.mjson');  
  let json = await response.json();  
}
```



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Promises vs async/await

What is the difference between Promises and async?

- async and await function the same as Promises, however they are cleaner and avoid Promise chaining.
- async functions do not have states like Promises, they simply return a success or failure.
- async has cleaner error handling.
- Promises can become messy with multiple chaining.



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Error handling in async

try catch Block

- try catch blocks are statements that specify how to handle exceptions when thrown

```
async function myAsyncFunction(){  
  try {  
    const response = await fetch('http://localhost/myfile.json');  
    let json = await response.json();  
  } catch (err){  
    console.log(err);  
  }  
}
```



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Creating our JSON File



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Loading our JSON File With `fetch()`

What is fetch()

Fetch is an API that allows JavaScript to access and manipulate the requests and responses parts of the HTTP pipeline.

It is meant to be a replacement for **XMLHttpRequest** and even **jQuery.ajax()**



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Displaying Our Cards



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Getting Started With Arrow Functions



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Displaying Our Rare Cards



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Converting Dollar to Euro



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A Challenge



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Conclusion

WHAT DID WE LEARN

During this course we learned the following JavaScript concepts

- Fetch
- Promises
- Async JS
- The differences between Promises and Async
- Arrow functions
- Array filter and map
- Refresher of let, const and DOM manipulation

