Introduction to JS

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Agenda

1. Introduction to AA
2. Background of JS
3. The Basics
    a. Statements
    b. Variables
    c. Data Types (Strings, Objects, Arrays)
    d. Functions

About Aleksander

Aleksander Fabijan

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Computer Science has shaped our lives, how we live, how we sleep and how we dream. Influencing this is an honor.

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Research

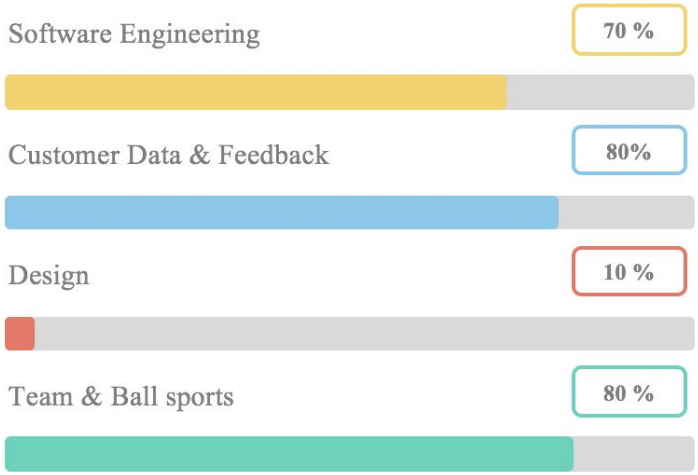
I explore **customer feedback** and **product data** collection techniques.

My goal is to move software companies **away** from having **opinion based** development and closer to **data-driven**.

Education & Experience

- Engineer, Computer Science
- Software Developer (Java, Python)
- IT Engineer (Global Blue)
- Data Scientist RI (Microsoft)

"Skills"



Engagements

Software Center

EXP Microsoft

1.

History of JS

The background behind the language of the web.

Brief History of JS

- **1995:** At Netscape, Brendan Eich created "JavaScript".
- **1996:** Microsoft releases "JScript", a port for IE3.
- **1997:** JavaScript was standardized in the "ECMAScript" spec.
- **2005:** "AJAX" was coined and the web 2.0 age begins.
- **2006:** jQuery 1.0 was released.
- **2010:** Node.JS was released.
- **2015:** ECMAScript 6 was released.
- **2016:** Microsoft releases HoloJS.
- **2017:** You started this class.

2.

The Basics

Statements, variables, functions etc.

Tools

Text editor (Atom, Visual Studio Code, etc.)
Chrome Developer Tools

Statements

Each instruction in JS is a "statement", like:

```
console.log('Hello World!');
```

Try it out: https://jsbin.com/

Variables

Declare, then initialize in 2 statements:

```
var x;
   x = 5;
   console.log(x);
```

Or declare and initialize in one statement:

```
var y = 2;
   console.log(y);
```

Re-assign the value later:

```
y = 4;
   console.log(y);
```

Primitive Data Types

- **string:** an immutable string of characters:

```
var greeting = 'Hello Kitty';
var restaurant = "Pamela's Place";
```

- **number:** whole (6, -102) or floating point (5.8737):

```
var myAge = 28;
var pi = 3.14;
```

- **boolean:** Represents logical values true or false:

```
var catsAreBest = true;
var dogsRule = false;
```

- **undefined:** Represents a value that hasn't been defined.

```
var notDefinedYet;
```

- **null:** Represents an explicitly empty value.

```
var goodPickupLines = null;
```

Strings

A string holds an ordered list of character:

```
var alphabet = "abcdefghijklmnopqrstuvwxyz";
```

The length property reports the size of the string:

```
console.log(alphabet.length); // 26
```

Each character has an index. The first character is always at index 0. The last character is always at index length-1:

```
console.log(alphabet[0]); // 'a'
console.log(alphabet[1]); // 'b'
console.log(alphabet[2]); // 'c'
console.log(alphabet[alphabet.length]); // undefined
console.log(alphabet[alphabet.length-1]); // 'z'
console.log(alphabet[alphabet.length-2]); // 'y'
```

Objects

```
var obj = {
  name: "Carrot",
  "for": "Max",
  details: {
    color: "orange",
    size: 12
  }
}
```

Array

```
var a = new Array();
a[0] = "dog";
a[1] = "cat";
a.push("parrot");
a.length; // 3
```

OR

```
var a = ["dog", "cat", "parrot"];
a.length; // 3
```

Fun fact

`array.length` isn't necessarily the number of items in the array.

Example:

```
var a = ["dog", "cat", "parrot"];

a[100] = "koala";

a.length; // 101    ---OMG!!!
```

Fun fact 2

```
var x = "Volvo" + “16”;

var x = "Volvo" + 16;

var x = "Volvo" + 1+6;
```

What Happens?

Functions

Functions are re-usable collections of statements.

First declare the function:

```
function returnMyName() {
    console.log('Hi Aleksander!');
}
```

Then call it (as many times as you want):

```
returnMyName();
```

Interactive:

https://repl.it/classroom/invite/CSUTVb0

http://bit.ly/2iKJyBP

3.
Resources

Useful resources

https://jsbin.com (write and execute JS online)

https://jsfiddle.net/ (JS, CSS and HTML playground)

https://developer.mozilla.org/en-US/docs/Web/JavaScript/A_re-introduction_to_JavaScript (a re-intro to JS)

Thanks!

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