CS74.42A Game Development

Fall 2018 ~ Ethan Wilde   *Week 2*
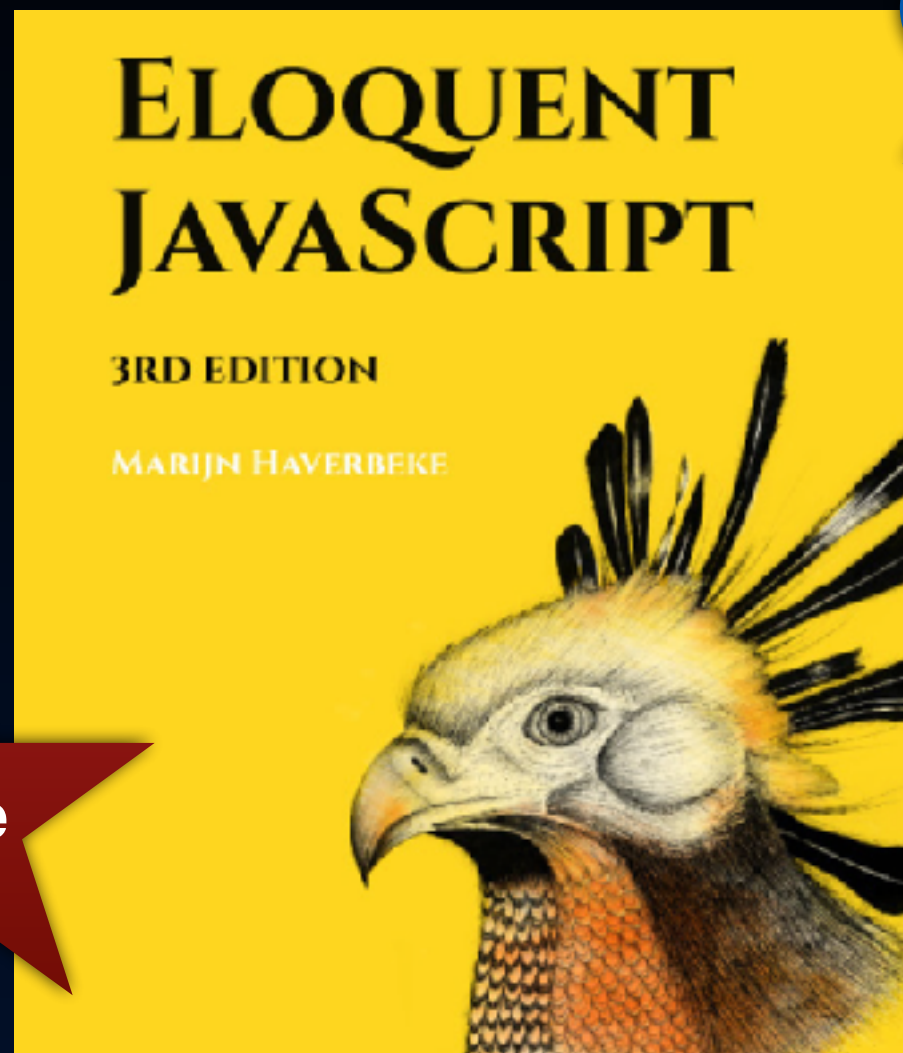
SANTA ROSA
JUNIOR COLLEGE

Welcome

- Textbooks

- Course Outline

- Ways to Think About Code

- Programming Concepts

- Signing Up for Code Combat

- More About JavaScript

- Get Going Learning to Code

Textbook: JavaScript

Textbook: Phaser Game Engine

An Introduction to HTML5 Game Development with Phaser.JS
Travis Faas, CRC Press, 2016
ISBN 978-1-138-92184-9 print
ISBN 978-1-315-31921-6 ebook

Course Outline

1 World of Game Development	10 Physics, Particles + Effects
2 Play a Game, Learn to Code 1	11 Midterm Review / Draft GDD
3 Play a Game, Learn to Code 2	12 Prefabs + Classes / Build Sys
4 Intro to JavaScript + Systems	13 Final Project: Design Game
5 Browser-Based Games	14 Adv Development Techniques
6 Working with Sprites + Controls	15 Build + Playtest Sprint 1
7 Level Maps, Atlases + Tiles	16 Build + Playtest Sprint 2
8 UI + Sound	17 Build + Playtest Sprint 3
9 Simulating the Physical World	18 Final Exam (online)

Get all of the details in the complete syllabus on Canvas.
Weeks 11-17 include extra credit coverage of Unity3D.

Ways to Think About Code
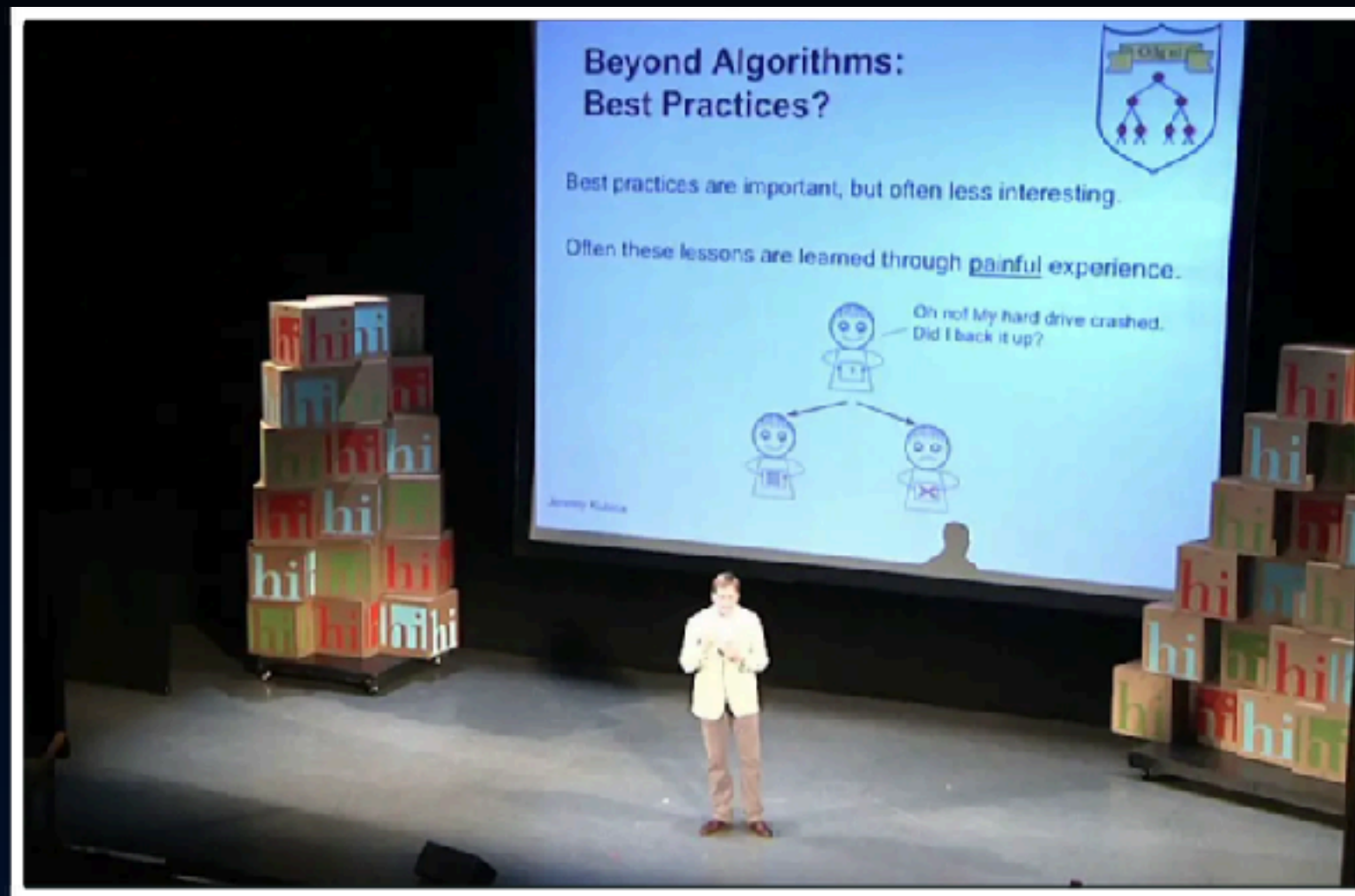
Computational Fairy Tales – Jeremy Kubica

https://vimeo.com/70188494

Ways to Think About Code

Programming Concepts

What We Will Learn in Code Combat

"Introduction to Computer Science"

Programming Concepts

What We Will Learn in Code Combat

Basic Syntax

Number

Comments

Boolean

Indentation

Variables

Object and Method

Argument

Primitive Data Types

Parameter

String

While Loops

Programming Concepts

Basic Syntax

Every programming language has its own specific syntax. We need to pay close attention to syntax for code to be properly recognized by the computer.

hero.moveUp();

Programming Concepts

Basic Syntax

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hero.moveUp();

syntax example:
semicolon is end of line character
in JavaScript!

Programming Concepts

Not everything in the code are written for the computer. Comments are only for human eyes. They help explain what the code does. In JavaScript commentary is preceded with two slashes:

// A comment message for people

Programming Concepts

Comments

Not everything in the code are written for the computer. Comments are only for human eyes. They help explain what the code does. In JavaScript commentary is preceded with two slashes:

// A comment message for people

single-line comment in JavaScript

Programming Concepts

Indentation

In JavaScript, statements can have different indentation (tabs) or indicate how they are structured. Having the correct indentation is extremely important for readability for human eyes.

```javascript
while (true) {
        // code block to be executed
}
```

Programming Concepts

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```
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}
```

we use tabs or spaces to make our code easier to read

Programming Concepts

Object and Method

Object is a thing; method is what we can do with this thing. In JavaScript, When you see a dot, on the left you will find an object, on the right side, a method or property.

hero.moveUp();

Programming Concepts

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object   *method*

Programming Concepts

Primitive Data Types

When computer process data, it needs to know what type of data it is: three primitive datatypes are shared across virtually all programming languages: string, number, Boolean.

Programming Concepts

String (Primitive Data Types)

A string is the data type that represents a string of characters. In JavaScript, strings are represented by anything found inside quotes.

"text"

Programming Concepts

Number (Primitive Data Types)

Number is the data type that represents integer or floating number.

1.25

Programming Concepts

Boolean (Primitive Data Types)

Boolean is the data type that can only be True or False.

true

Programming Concepts

Variables

A variable is a container that stores a value. It is called variable because more often than not its value can change by assigning new value.

x = "text";

Programming Concepts

Argument

Argument is the information passed into a function/ method in order to specify what the function does. In JavaScript, arguments are found inside the parentheses after a method/function and separated by commas.

hero.moveUp(2);

argument

Programming Concepts

Parameter

Parameter defines the input of a function/method that it takes from its caller. Parameters and arguments need to correspond to each other.

```
function moveUp(steps) {


};

hero.moveUp(2);
```

Parameter is variable in the declaration of function. Argument is the actual value of this variable that gets passed to function.

Programming Concepts

Parameter

Parameter defines the input of a function/method that it takes from its caller. Parameters and arguments need to correspond to each other.

function moveUp(steps) {

parameter

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hero.moveUp(2);

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Programming Concepts

While Loop

A while loop is used to repeat actions without the player needing to write the same lines of code over and over. In JavaScript, the code that is looped must be inside of a valid block of code after the *while* statement.
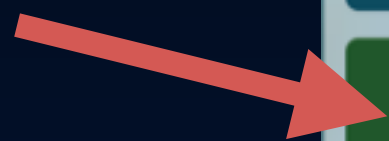
```javascript
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Signup for Code Combat

Classroom Edition:

I'm a Teacher

I'm a Student

Click →

codecombat.com

Signup for Code Combat

Create Student Account

Enter your Class Code

SkyLazySilly ✓

You're about to join:

CS 74.42A

Ethan Wilde

**Enter
this code**

Back

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Already have an account? Sign in

Signup for Code Combat

https://codecombat.com/students?_cc=SkyLazySilly

More About JavaScript

"A Brief JavaScript Demo"

Using Cloud 9

https://c9.io/login

What to Do Next

- **Reading + Watching + Doing**

  - Create your Student Code Combat account at <u>codecombat.com</u>

    - *https://codecombat.com/students?_cc=SkyLazySilly*

  - Complete "Introduction to Computer Science" levels (FREE ONLY)

  - Read *HTML5 Game Development with Phaser.js*, Chapter 1

- **Homework**

  - **Assignment 2: Play a Game, Learn to Code, Part 1**

  - Homework due to Canvas by **11:59pm Wed 9/5**

- **Canvas Site**

  - All materials available there

  - ***canvas.santarosa.edu/courses/33387***