Book Proposal – Create your first Web Game

Summary

The book is about creating Web games using HTML5, CSS3, and JavaScript. It is assumed that the reader has never programmed before, and that they know little to nothing about HTML, CSS, and JavaScript.

The book will show children that are curious about programming, that it is fun, and not hard. It will give them the initial information and confidence to take on projects of their own.

There will be three parts to the book. The first part is where the basics are covered, the second part will contain longer examples that are explained, and can be used as a cookbook of code you want to serve in a Web game, the third and last part will be about packaged applications like Chrome apps.

I don't want the book to be too big, so I am aiming for about 200 pages.

Questions this book will answer are:

- How do I get started? What tools do I need?
- How do I make things happen in response to user actions?
- How do I keep the game responsive?
- How can I make sounds?
- How can I animate things?

Examples of projects: Shuffling a deck of cards, render cards, a ringing bell, 15-slide puzzle, memory game, exploring ballistic physics, animated 2D character.

Outline

Introduction

A description of what it means to develop a web application, and a short description of the 3 parts; HTML, CSS, and JavaScript, and how they play together (DOM).

Install CDE

Draft submitted

The Chrome Dev Editor will be used throughout the book for examples. This

chapter will explain how to install it, and the basic usage.

Part 1 – The basics

The first of 3 parts. This part will describe the basics of HTML, CSS, and JavaScript, this is only meant to be covering the basics, more advanced topics will be covered in part 2.

HTML5

Draft submitted

This chapter will describe the structure of a web page, web addresses, links, the most used and useful elements, and forms. There will be examples that the reader can enter into CDE and try out.

CSS

Draft submitted

Here we look at CSS and how it can be used to set the style of the page with font, color, layout, and there is a discussion of units and scaling.

Examples will show the reader what effect different settings have.

JavaScript

Draft submitted

The basics of the JavaScript language. This chapter will not discuss the interaction with the web page, but focus on the language structure and built-in functions, and objects. The examples in this chapter will use the “console.log” method to show results.

DOM

Here I look at how JavaScript can be used to interact with the web page. There will be information about how to find elements, how to add them, how to detect user actions, and how to change the CSS style using JavaScript, by adding and removing classes or setting properties directly.

Part 2 – Project work

In this second part, the focus will be on applying the information from the first

part. As needed the information from the first part will be recapped, and expanded. More details will be provided and additional features of HTML, CSS, and JavaScript will be explained.

A deck of cards

I will go through how to shuffle a deck of cards, and present them. Here is the first use of the canvas element, and the progress element. It will show how we can keep the game responsive while doing a longer operation.

Memory game

Classic memory game where you have to flip pairs of tiles.

A ringing bell

We will create an animated bell, that will swing back and forth while ringing when we click it.

Basic Slide 15 Puzzle

Here I will go through the HTML, CSS, and JavaScript to develop a full but very primitive game; the “15 Slide Puzzle”. It shows how to layout the game board, respond to user actions, and find, and modify HTML elements.

It will be using the canvas element for rendering.

Sudoku

We will create a sudoku game.

Exploring ballistic physics

A simple canon game where you can adjust the angle, and the initial velocity.

100 meters hurdles

An animated character will jump over hurdles. The speed will be adjusted with the right and left arrow and jump with the up arrow.

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Part 3 - Getting it out there

In this third part, I will discuss how to get the web game into the hands of users.

Setting up a hosted web site

We will look at how you would make the game available on you own web site hosted with a provider such as GoDaddy.

Package Chrome Application

The structure of the Chrome app archive file, with the resources of the web app, and manifest files.

Uploading Your Application

Finally we will upload the finished application to the Google Web Store. This chapter will show how the reader can make their own game available to users, and even start making money.

Audience

The book is aimed at younger readers ages 11 to 14, but will also be useful to students in high school. It will enable teachers who are not programmers to teach programming, which is a growing demand in schools.

According to the “Digest of Education Statistics” [http://nces.ed.gov/programs/digest/d12/tables/dt12_037.asp] there are about **11 million** student in 6'th through 8'th grade in the US. If the book will be sold to just 1 in 1,000 students, it would be **11,000 copies**. I think that is a very conservative goal.

Assuming that the ratio of the target age group to the total population in the US (3.5%) is true for the World at large, there should be an additional audience in UK, Australia, Canada, South Africa, Ireland, New Zealand, and Jamaica of **3.8 million** students based on count of English first language residents in those countries.

Market trends

A recent article in “Education Week” suggests that computer science teaching in schools are on the rise and that it may move from elective into mandatory curriculum.

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[http://www.edweek.org/ew/articles/2014/02/26/22computer_ep.h33.html]

A non-profit called “code.org” launched in 2013 focuses on advocating computer science education in schools. It is backed and supported by partners such as Amazon, Apple, Google, Facebook, etc. [http://code.org/about/partners].

Competition

“Programming Chrome Apps” O'Reilly. January 10, 2015. I think this book is aimed at adults though.

ISBN-13: 978-1491904282

Price: $32.37

“Getting StartED with Google Apps” May 28, 2010. Aimed at adults.

Price: $28.08

“Google Apps: The Missing Manual” June 3, 2008. Not the same target. It is aimed at using Google Apps from Google.

ISBN-13: 978-0596515799

Price: $29.16

“HTML5 Game Engines: App Development and Distribution” April 28, 2014

Price: $36.02.

Who am I?

My name is Palle Cogburn. I currently work as Lead Software Engineer for Dassault Systemes in the BIOVIA brand in the Bend, Oregon office (http://3ds.com/biovia). I have developed software since I was about 13 years old. Writing good code is fun for me, and I love mentoring and teaching. I teach Computer Science as an elective for Morning Star Christian School in Bend Oregon where two of my children go.

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I was fortunate enough, when I was 13 years old and started getting interested in computer science, to have an amazing mentor; my older brother. Because I got a good start, and didn't get exposed to dogmatic traditional teaching from the start, but rather an experimental and playing approach, I still to this day at age 47 look forward to each new programming challenge.

I was born and raised in Denmark. After technical high-school with electronics as my line, I spent one year as an intern at Bang&Olufsen (http://www.bang-olufsen.com/en) in their instrument department. I then took a two year project-oriented education by The Danish Government in telecommunications (Danish NTA). It gave me my first job working as a systems engineer on the national telephone switch in Copenhagen. While working there I received extensive training in switch technology in and out of the country. The next three years I took a business degree in Information Technology at the Copenhagen Business College and worked on the team that created the first GSM network in Denmark. Since then I have worked for companies such as Ericsson, Nokia, Quest Software, and a number of smaller companies. For a three year period I was the co-founder and partner in a small telecommunications consultancy company that did work for Nokia, Ericsson, Telia, and others.

What brought me to The United States was a project for a Danish company to develop and implement a network surveillance system for T-Mobile's GSM network. I stayed because I met my wife here.

I have much to do with children on a daily basis as a Sunday school teacher on occasion, as computer science teacher for middle-schoolers, as parent for both biological, foster, and adopted children. I have four biological children, two adopted, and I have lost count of how many foster children have come through our home.