HNRS 2200
COGITATIONS ON COMPUTATION
Honors Nature of Science, Technology, & Mathematics
Spring 2021

Assignment 0311

Based on our discussion last week and after a little processing, here is the framework for our next technical assignment. Read on for details…

Background Reading

In addition to the Khan Academy HTML/CSS links on the course website, this assignment will require a little more advancement in some "pure" JavaScript programming features. These are introduced within the now-familiar Khan Academy drawing environment, and this assignment transfers that knowledge to the web: take note of their lessons on *arrays* and *objects*.

For general web programming and reference, I've come to rely on the Mozilla Developer Network for details, sample code, and the occasional tutorial:

https://developer.mozilla.org

What to Do: "Queries & Stories"

Although possessing a parallel title to the prior technical assignment, the intent here isn't for you to do *both* of these things; instead, pick one.

Queries

Develop a web program within CodePen that implements a quiz-like game. Multiple-choice may be the most straightforward thing to do but we aren't locked down to that. But I think it's fair to say that the format of this program will be to navigate through a range of questions, have the user supply an answer, and the program keeps track of some kind of score based on how the user does.

Stories

Develop a web program within CodePen that implements a choose-your-own-adventure-like story. At each step, the user is presented with a portion of the story and is asked to make a choice at the end. As with the quiz-like game, direct multiple-choice may be the most intuitive but other types of decisions are possible. It's probably fair to say here that the user's reward is the entertainment provided by a fun, engaging tale.

The Importance of Content

You might observe the mechanics of these programs will be largely the same, independent of the questions available or the actual story being told. How can we structure our code such that we can express the creative content independently of the operations and functions that drive the story or quiz? Ideally, our programs should be organized such that we can "swap out" the questions or paragraphs without changing the main "engine" code in order to change the quiz/story that the user sees—and spoiler alert, the key to this is to learn how to use *arrays* and *objects*.

Note how, in the bigger picture, this is a distillation of what e-books and DLCs in games do: they have separated the content from the program such that new material can be downloaded/added without requiring a change to the main programs themselves (e.g., e-book readers, the core game application—and, in a sense, even the web itself).

What to Submit

Since this is some new and uncharted territory, let's build some flexibility into what to submit on the due date. Let's *aim* to have a finished program by March 11, but depending on how your forays go, we can adjust *how finished* that is. We'll do a gut-check on where things stand after we get back from spring break.

How to Submit It

Work on your programs in one or more CodePens as needed. For example, you might want to have one or more "sandbox" CodePens where you try things out and then transfer stuff to another CodePen which represents the final product. Whichever way you work, submit the *final* link to Brightspace. No harm in submitting the link early: I'll just see what's there as of the due date.