# *Web Programming II (420-C20-HR)*

# *Assignment 1 – Splash Page and Framework*

Date assigned: February 1, 2016

Date due: Test Cases February 8, 2016 – Review with me in lab

Completed Assignment: **February 15, 2016**

**Overall Objectives**

These assignments are part of a large, final assignment which will demonstrate the learning objectives for the overall course. There are 4 individual assignments and one final, group assignment that will make up the assignments for the course.

The overall assignment is to build a one person casino made up of 5 or 6 individual games such as: blackjack, craps, roulette, slots, baccarat, poker dice, three-card poker and video poker. The user (player) gets to start with a sum of money and play the games against the computer. Each game has different limits and different pay outs. The idea is to build the foundations of the casino in the individual assignments and then put them together in the final assignment.

There will be groups in the end and multiple casinos will be built to compare and contrast.

The four individual assignments will be as follows:

1. Assignment 1 (this assignment): Set up the basic rules of the game. This will not include any graphics or fancy interface, but serves to try and understand how to program the rules using JavaScript;
2. Assignment 2: Create and validate the form for the user information and use this information as part of the game play. Add some simple graphics to the game;
3. Assignment 3: Start adding graphics and animation to the game and store the player’s winnings and basic information so that they can come back to the game if they stop;
4. Assignment 4: Use JavaScript libraries to add animation to the games; create an animated splash page for your casino.

**Basic Rules for Assignments**

1. You MUST keep all the formatting for your code in an external CSS file. Uses classes and ids whenever possible and employ good naming standards. This will come in very handy when completing the final assignment. I STRONGLY recommend using a template (DWT in Dreamweaver) so that, when the assignments are put together, applying the templates is easy.
2. We will use a “mobile first” design philosophy. The games must be able to play on mobile phones, tablets and desktops. They will likely behave slightly differently on each of these platforms. You are welcome to use bootstrap for the interface development.
3. Your JavaScript should be put into functions wherever possible and all functions should be kept in external files and linked to the html file that is using it.
4. This is to be taken professionally. Part of learning in this program is to learn to be a professional in the field. Make sure you take that into consideration.

**Learning Objectives**

Upon successful completion of this assignment, the student will be able to:

* Create a JavaScript program which models the rules of the assigned game
* Test that the rules work in various conditions

To do:

1. Create a folder named YourUserName\_C20\_A01\_Casino1.
2. In this assignment you will produce a very simple page that shows that your program works under all possible conditions. There is no requirement for interface design in this assignment. This assignment is about making sure the basic game rules are working. This means a lot of testing.
3. Meet with the other two people creating the same game as you. Discuss what types of “business rules” are needed for your game. There are questions at the end of the assignment to think about when considering what the rules are. Also refer to item 5 of the assignment.
4. On your own, think of a name for your casino (be creative). Create a page named game.html with a header and footer and fields to display the person’s name, phone number, postal code and amount of money remaining. Note: for this assignment you do not have to display the information about the user. You just need to provide the lay out and space for the information to be displayed. You should put in “dummy” data to make sure it looks okay. The page should also contain the name of your casino (nicely formatted) on the page and the name of the game they are playing (nicely formatted).

You do need to think about what you want your game to look like. You need to think of colour scheme, etc. Set the page up for mobile first design. You may use bootstrap if you wish.

1. On your own, create functions to implement the business rules you have come up with for the game. This includes, but is not limited to:
2. How the user will indicate his selections for the game. Sometimes that is just a bet, and sometimes there are multiple things required.
3. How the game will be initialised? For example, Blackjack uses 4 decks of playing cards…how is that deck going to be created? How are the bingo cards going to be generated?
4. How will the game be played? The computer has to do something (spin the slots, spin the wheel in roulette, roll the dice in Crown and Anchor, etc)
5. How will winning be determined?
6. How will winning be paid out?

Think in terms of designing for efficiency and robustness. How do you test for all the different winning combinations? How do you know you are not missing winning combinations? How can you put common code together in modules?

1. Determine the test cases to show that your game works. For part of this you will want to force specific winning conditions to make sure you are paying out the right amount. For part of this you will also want to test that you are randomly generating the correct information for your game.
2. As you/after you implement your game rules, run the test cases on the game. This can be done in multiple ways. You can use console.log (or warn or error) to display the inputs and then output the results or you can display the results on your page. You can also use console.assert to test you values.
3. You should implement your test cases in a separate JavaScript script that will call the functions of your game to test them.
4. I would like to review your test cases with you next Monday, February 8. This will be worth 5% of the mark.

**How you will be marked**

You will be marked base on the following criteria:

* The review of your test cases.
* The thoroughness/completeness of your test cases
* The look of your initial page (game.html)
* The runnability of your test cases
* The working of the game rules

**To submit**

When you have completed the assignment, zip the YourUserName\_C20\_A01\_Casino1 folder and save it to the Moodle drive for the course.

*Some questions to try and answer in initial design*

1. *How will the user get “set up” to play the game? How will bets be made? Is there other information needed to be input by the user before the game can be played? Can the user make multiple bets for different conditions?*
2. *How will the computer “prepare” the game? How will it create the playing “environment”; that is, the table, the cards, the wheel, the dice, etc (whatever is needed for your specific game)?*
3. *How will the computer “initiate” the game? That is, deal cards, spin the wheel, roll the dice, etc.*
4. *How will winning conditions be determined? Are there ways of combining how it is done? How about multiple simultaneous winning conditions?*