**MİS 233.01**

**WEB BASED APPLICATION PROGRAMMING**

**Project 1**

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**Project can be found at this address too:**

<https://coaltunbey.github.io/russian-draughts/>

***Introduction***

We’ve asked for coding a russian checkers game with html-css and javascript.

The first requirement was a checkers table so i’ve built one with html tables. Then coloured it with CSS. And there was a need of checkers pieces. So i’ve browsed to an online checkers website and saved their red and white pieces to my laptop. Then used these images in my project.

Reader should first take a look at russian checkers rules and maybe watch some videos from tournaments in order to gain a better understanding of what russian checkers is.

***Tool Description***

I think for this project, there is no need for any specific tool. I’ve writed all of my submitted project in a text editor called ‘Sublime Text 3’. Therefore, there is no requirement other than a text editor and a browser. In this case, browser is both compiler and executer and it takes the html-css-javascript codes and gives an output to user.

Besides all of that, i’ve used some libraries in order to ease my job:

-CSS-Bootstrap for some built-in style rules.

-Jquery for shorten javascript and easier usage.

***Problem Specification***

The clear definition of the given job is : implementing a working example of russian checkers game in javascript.

First the coder needs to create a checkers table and then insert pieces to table with javascript in order to manipulate them easily. Then the coder needs to take into account the rules of russian checkers as general while writing code.

For example, checkers is a two-men game and because of this, coder needs to think about the game sequence. And should ban a player to make two moves once and seek for player turn.

Another example is the coder should prevent the logic of the game. Her/his code should not suggest an empty cell for player to move when there is an enemy which can be conquered.

***Algorithm / Program Design***

I’ve followed a waterfall design for this project i can say. I’ve progressed step by step.

First i’ve created a checkers table with HTML.

Then coloured it with CSS.

Then inserted pieces with javascript.

Then defined id’s for each cell.

Then calculated all possible moves for each piece.

Then calculated if there is any enemy around the piece that we are about to move.

Then recalculated my suggestions, took into account enemy positions.

After all of these steps, i’ve noticed that i had forgot the most essential thing in my program: the rule says that “WHITE STARTS”.

And i’ve turned back to the lines that i previously wrote and fixed some bugs there. This bug fix phase took around 4 hours to me.

***Time Reporting***

I’ve spent around 14 hours while doing this project. The most time consuming part was appling the rules of checkers. Table creating and styling was easy but calculating each possible move for a piece and the conquering situations challenging.

***Instructor Feedback***

I can say that the assignment was fun. But it was a little bit challenging. I’ve coded about 400 lines and have spent nearly 14 hours for reaching a working output but i still couldn’t fulfill the whole requirements of the project and because of this, i feel uncomfortable.

I think the project was too long for the given amount of time.

***Conclusion***

While writing code for this project, i can honestly say that i’ve practised a lot of javascript and jquery’s built-in functionalities. And i think that bring a confidence to me about the languange called “Javascript” because i’ve seen that i can build something with it.

So from my point of view, the assignment was fun and teached a lot.

***I also published my project at github :***

<https://coaltunbey.github.io/russian-draughts/>

***References***

I’ve mostly used StackOverFlow and w3school. Some of the topics that i’ve had a look at :

<http://stackoverflow.com/questions/19337761/detect-if-array-has-only-null-values-in-it>

<http://stackoverflow.com/questions/2422946/javascript-check-for-not-null>

<http://www.w3schools.com/jsref/jsref_eval.asp>

<http://stackoverflow.com/questions/1100622/javascript-if-statement-for-text-between-two-tags>

<http://www.w3schools.com/jsref/jsref_concat_array.asp>

<http://www.w3schools.com/bootstrap/bootstrap_buttons.asp>

<https://bootstrapbay.com/blog/bootstrap-button-styles/>

<http://stackoverflow.com/questions/2235622/can-i-set-variables-to-undefined-or-pass-undefined-as-an-argument>

<http://stackoverflow.com/questions/19235345/javascript-typeerror-cannot-read-property-style-of-null>

<http://stackoverflow.com/questions/14398840/check-whether-a-div-contains-image-or-not>

<https://api.jquery.com/has/>