CSC309 Individual Project Proposal

Le Rong Shi

1 Description

Name of Library: XiangQi.js

XiangQi is a very popular Chinese strategy board game that is similar to chess in many ways such as board size, number of units as well as general rules of the game. My proposed JavaScript library, XiangQi.js, is intended to allow web developers to embed XiangQi into their website for various purposes such as showcasing game strategies for educational purposes, or powering a fully working XiangQi game on the website (see more details in Features section). I believe that the proposed library can improve general population's familiarity with XiangQi itself as websites can use it to create a fully functional and custimizable XiangQi board on their website with possibly a single JavaScript function call.

2 Features

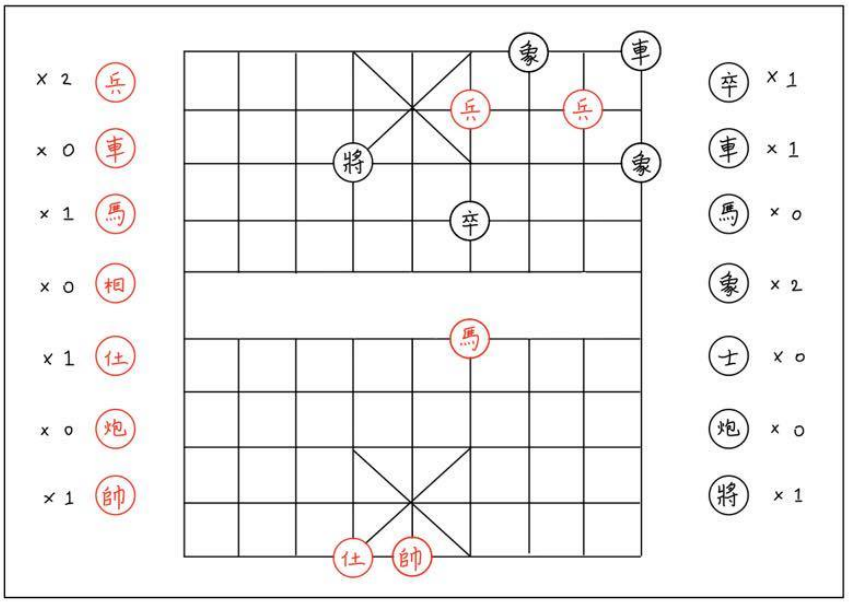
The most important feature of the library is the actual XiangQi board itself along with all the game units. The library itself will provide a form of JavaScript object that maps the visual element of the board with the state the of game board (i.e. where each game pieces is located on the board). This enables various other features such as allowing website users to modify the embedded game board which will immediately reflect the changes to the JavaScript object mapping. The mapping also enables another feature which is game board unit tracking, which will be visually displayed at each side of the board to assist with informing the website user about current state of the game beyond just the units on the board. The state of the board displayed on the website can also be downloaded in several forms (most likely JSON). A theme system will also be implemented to allow the developers to choose the looks of the game board to be embedded into their websites.

3 Use Cases

As mentioned in the first section of the proposal, one of the use case of the library could be showcasing game strategies. Using the game state mapping system implemented in the library, developers can create their own state of the board and pass into the API for display. The boards can be made static which allows developers to create a slideshow of different states of the game to showcase every move in the strategy. The modification feature of the game board allows developers to create a fully functional and playable XiangQi game with just a few extra components such as turn tracking and board state rule checking, alongside various API calls to the library to grab current game board state. The game state download feature enables the users to save the state of the game board for future uses such as game review, etc.

4 Mockups

The images below are drawn mockups of what the XiangQi.js would generate on the website. The upper image is a single game board (ideally a single JavaScript call or single HTML element) that can be placed inside a "div" either through JS DOM manipulation or HTML tag. The image under it is a what I believe the website using the library can look like. The mockup describes the look of a website that showcases multiple game strategies (see use case section).


x 2 兵
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x 1 馬
x 0 相
x 1 仕
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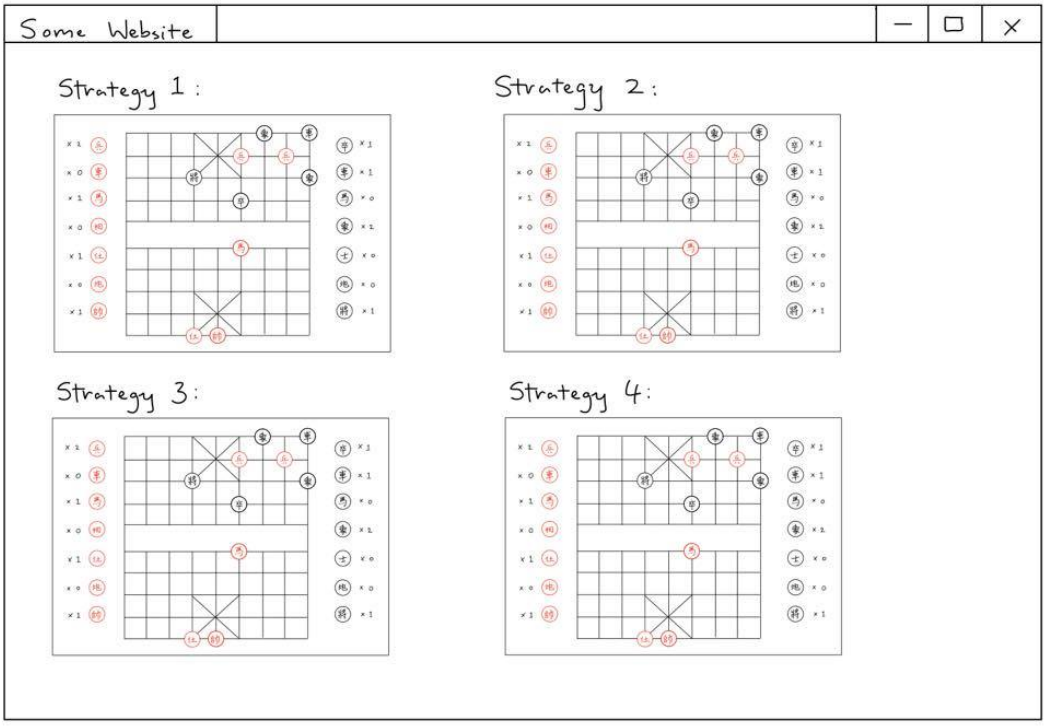
Some Website
Strategy 1 :
Strategy 2 :
Strategy 3 :
Strategy 4 :