Assignment – Space Jump

Working individually students are required to design, develop and test a solution to fulfil the Space Jump specification detailed below. It should be noted that the assessment of the assignment will focus on the technical qualities in using PHP and associated technologies and not on the game play. Submission instructions can be found in the submission arrangements section below.

Space Jump Specification

Space Jump will be based on the very well-known Childrens board game Snakes and Ladders. The aim of the game is to be the first player to land on the final square of the board while taking turns to roll a die (random number between 1 and 6) to progress through the board.

Game Constraints

1)  The board should be visually represented by a grid of 6 by 6 squares on a web page.

2)  Each square on the board should be identified by a number from **1 to 36.**

3)  There should be two players who will take alternate turns to roll a **single 6 sided die.**

4)  The board will consist of wormholes and blackholes, a wormhole will take you

closer to the final square and a blackhole closer to the starting square.

5)  There should be a fixed number of three wormholes on the board each with an

entry and exit square, any of these will move a player closer to the end goal.

6)  There should be a fixed number of two blackholes on the board each with an entry and exit square, these will move a player closer to the start of the board.

7)  The starting and ending locations of both wormholes and blackholes are to be determined can be fixed, but random would be nice to include. The final

locations of wormholes and blackholes should not result in an infinite loop.

8)  Wormhole and blackhole locations are not to be revealed until a player lands

on their corresponding entry squares.

9)  Player 1 and Player 2 should be able to enter their name before starting the game and these names used on the board to represent a players current position.

10)  PHP Sessions should be used to maintain the current state of a game in the event of an interruption to the page.

11)  A dB table would allow for the game to be saved and restored.

12)  A leader board feature could be implemented in a dB table to hold the following information for each player: number of games played, won, lost and quickest win. The leader board should be ranked by a players win/lose ratio which should also be displayed. The leader board would be displayed on the same page as

the app when requested by the players.

13)  A game can be reset at any point and restarted.

14)  To end and win the game, a player turn must land exactly on the final square, otherwise their position should remain stationary until their next turn.

Technical Constraints

1)  PHP served-based code, game state, sessions (it is not intended that the solution focuses on using client-side code for the majority of the app)

2)  MySQL for persistence

3)  AJAX to facilitate a single page app

4)  JSON for packaging of client/server message

5)  Docker for local hosting

Test Cases  
A suitable range of test cases should be identified, tested, and shown in the vodcast.

Table

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