

\*\*\* Shirley Hastier / July 20, 2020 \*\*\*

# Dots and Boxes Proposal

## What is Dots and Boxes?

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Dots and Boxes is a pencil and paper game for two players. It was first published in the 19<sup>th</sup> century by French mathematician Edouard Lucas. The game starts with an empty grid of dots, the grid can be of any size between 3x3 dots and up to 5x5 dots preferred. Players will take turns to connect two dots with an horizontal or vertical line, if a player can close a 1x1 box, it earns one point and takes another turn to play. The game ends when no more lines can be placed. The winner will be the player who was able to accumulate more points. I want to develop it, because I like it and I used to play it at School.

## Wireframe

<https://github.com/shastier/Project-1-Game-Dots-and-Boxes/issues>

## Initial thoughts on game structure

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- Design different sizes of screen fixed grids with dots.
- Implement on mouse over & on mouse out events to draw the vertical and horizontal lines between available empty dots.
- Allow the current user to keep playing once it has closed a box.
- Extend the game by allowing multiple games with different grids sizes on the same section and keep record of game's state.
- Come up with a very nice and compelling game design.

## Phases of Completion

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- a. Presentation screen design and collect user's information.
  - Include brief description section and how to play.
  - Once all initial information is entered by user, display wireframe b.
- b. Time to play!

- Display selected grid size on screen.
- Notify user's turn to play.
- Show line of possible line options on mouse over and mouse out events.
- c. Other player turn to play.
  - Update player's name on page top section.
  - Use a different color for the next player line choices.
  - Update board game and got to section b.
  - Repeat steps b-c until a box is closed.
- d. Once a box is closed, update top description to show: "Player x closed a Box!"
  - Display player x initials inside its closed box.
  - Allow same player to keep playing and selecting a new line. If that includes close a new box, it's completely correct game's behavior.
- e. Once all boxes are closed, display results.
  - Tied Game.
  - Player x won!
  - Give options:
    - o Play. Will keep counter of current game state. Offer options for grids of different sizes, not necessary the same that was just used.
    - o Restart. Reset game status to its original state.
- f. Results section.
  - Show a table with results for each player and the size of grids used on each game.
  - Include total points at bottom.
  - Keep options to play and restart game at top.

## Links and Resources

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[https://en.wikipedia.org/wiki/Dots\\_and\\_Boxes](https://en.wikipedia.org/wiki/Dots_and_Boxes)