

## Group Project Design

I've drawn a (very) rough design of the components needed in our gameplay so everyone has an idea of what the game looks like and how to start implementing it!

I am planning to create these objects using Unity:

Gameboard: Tilemap object

Squares: Tiles which will represent cells in the grid, and the numbers above the columns/rows.

Buttons: Button Game Object

Pop-ups: UI Canvas Game Object

Will be using the Game Object Tilemap to represent the board.

Will use UI Canvas Game Object to create the pop-ups.

16 x 16 board

40 mines

Random number of cols & rows reveal the number of non-mine squares

2

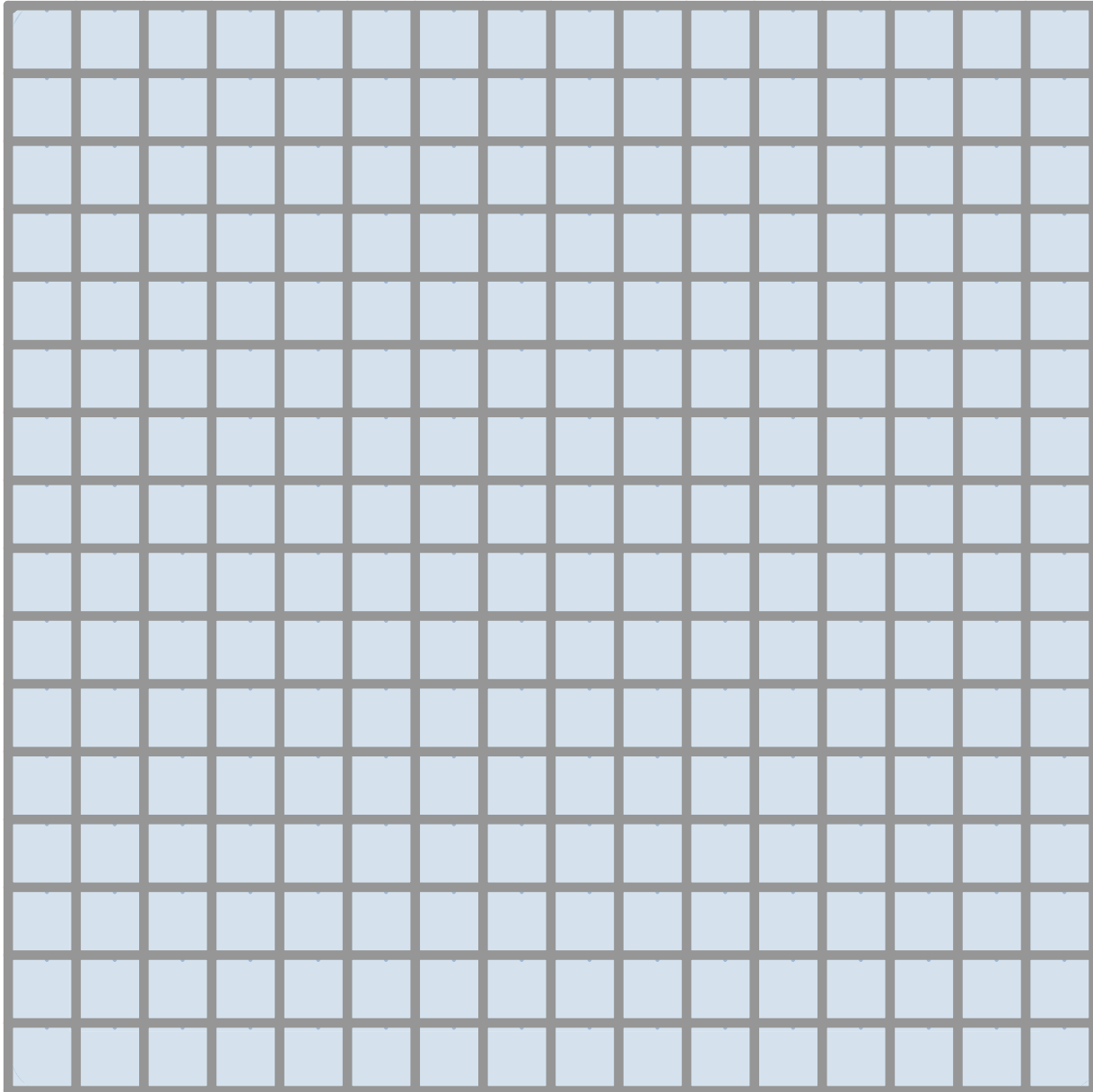
1 2

Basic start board view

2 7 1 5

5 6 2 2 3

6  
7  
4  
5



Once the squares are revealed:  
(real board will include flags)

1  
2  
7 4  
2 2  
13 2 16 4 3


← how many consecutive non-mine cells in the column

4 5 3  
4 2 7  
16

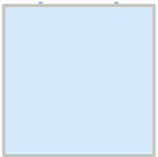
●	●	2			2	●	2	?	●	?	?	?	1		
●	●	?		?	?	●	?	?	?	?	?	?	●	?	
●	?	?		?	●	?	?	●	?		?	?	?		
?	?			?	?	?	?	?	?		?	?	?	?	
											?	●	●	2	
	1	1	1		1	2	2	?			?	?	●	2	
	1	●	1	1	2	●	●	?		?	?	?	1	1	
	1	1	1	2	●	6	4	?		?	●	?	1	1	
				3	●	●	●	?		?	?	?	●	1	
			1	3	●	●	●	?			?	●	2	1	
	1	2	3	●	5	●	4	?		?	?	?	1		
	2	●	●	2	3	●	2			?	●	?	1	1	1
	3	●	3	2	2	2	1	?	?	?	?	●	1	1	●
●	3	2	2	1	●	1		?	●	?	?	?	1	1	1
	2	●	1	1	1	1		?	?	?					
	1	1	1												

● = mine

Squares & gameplay - each type of square will be a Tile with different properties

- Numbered squares will be labelled 1-8
  - ↳ diagonal squares will be classed as adjacent
- In the 'Picross' columns and rows:
  - ↳ all squares start blank
  - ↳ numbered squares are  squares once clicked
  - ↳ empty squares are empty once revealed
  - ↳ mines remain - if clicked, end game
    - can be flagged as with regular columns

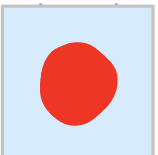
Square types:



Hidden - once clicked, the tile underneath will be revealed.



Numbered - how many mines are adjacent to it  
1-8 of these - all just reveal number when clicked



Mine - once clicked, game is over  
40 of these on the  $16 \times 16$  grid?



Empty cell - when clicked, floodfill takes place



? cell  
replaces all numbered cells in the 'Picros'  
rows and columns (number is not revealed  
during gameplay)

Buttons needed:

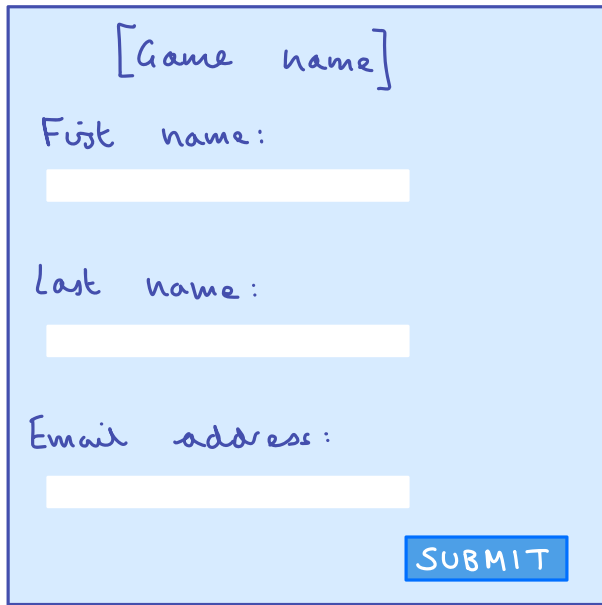
Information

pop-up  
→

Button will be in  
the corner of the  
screen during the  
entire gameplay.

How to play:

## First Screen:



[Game name]

First name:

Last name:

Email address:

SUBMIT

This screen will come up before the game starts

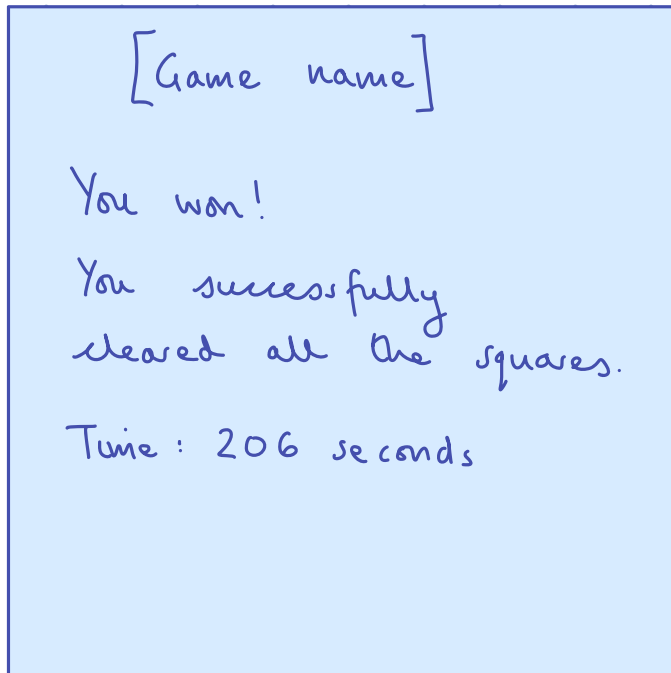
- can be easily changed depending on what data needs to be collected.

Screen closes when the player presses submit, game shows the user how to play

- game only starts when the user presses the start button.

START!

## End Screen:



← and whatever other  
info we need to tell  
the user.

