

MINESWEEP+

Aaron Gokaslan
Aravind Elangovan
Clayton Sanford
Phuc Anh Tran

WHAT?

Your classic, beloved Minesweeper...plus some. Featuring three new game modes: Layers, Territories, and Timer and three new board shapes: triangles, hexagons, and rectangle mismatch. Up to four teams of up to four players (human or AI) can play. With novel play options and a sleek web interface, we present: MINESWEEP+ (name pending).

BUT WHY?

This game is first and foremost for lovers of Minesweeper and other puzzle games. But the pace of gaming has changed since the days of classic Minesweeper. Players are more competitive and seek thrill from their entertainment. They want fast-paced gaming that is challenging but with a low learning curve. They want to play against their friends and not just against the computer. MINESWEEP+ is the modern adaptation of a classic game, with different play modes to suit both the stalwart veterans of old Minesweeper gameplay and the new generation of puzzle game players.

Competitive multiplayer is a huge factor in video game enjoyment.

- Vorderer, Peter, Tilo Hartmann, and Christoph Klimmt. "Explaining the enjoyment of playing video games: the role of competition." *Proceedings of the second international conference on Entertainment computing*. Carnegie Mellon University, 2003.
- Weibel, David, et al. "Playing online games against computer-vs. human-controlled opponents: Effects on presence, flow, and enjoyment." *Computers in Human Behavior* 24.5 (2008): 2274-2291.
- "the user's feeling to play against an opponent likely evokes a social-competitive situation that should be especially capable to engage and to involve the user"
- "Participants who played against a human-controlled opponent reported stronger experiences of presence, flow, and enjoyment."
- Multiplayer competitive games (CoD, LoL, Battlefield, DoTA, CS, etc) have huge followings and remain relevant for years at a time while single player games tend to be forgotten quickly despite initial popularity.
- Chess is a classic competitive game that has existed for millenia.

By adding competitive and fast-paced aspects to minesweeper, we can turn it from something you do when you're extremely bored at your computer into something that people might seek out as a fun game to play.

SURVEY RESULTS

Responses: https://docs.google.com/spreadsheets/d/1mLcc9-fnFRs5vdPvw2GqJxr_S0QY4l9fhLNkq1avQt8/edit#gid=878232694

Summary:

<https://docs.google.com/a/brown.edu/forms/d/1M8rn3FG9e0seRAPv4k-47qrnGeSEkRNc3m2pcXd3Nuo/viewanalytics>

- Most respondents had played Minesweeper a few times, but are not avid players
- As such, there is moderate interest in an improved Minesweeper
- Most important features, in descending order: different map shapes, competing against other players, competing against computers, 3D minesweeper, modifiable themes
 - This informs us of which order to focus on the additional features
- A clear majority of respondents (69%) prefer competitive Minesweeper over cooperative
 - If we need to choose how to allot our resources between the two, we should focus on the competitive mode
- Feasible suggested ideas include:
 - Music and sound effects
 - A single player story mode
 - The ability to create custom maps
 - Add themes to make the game seem less lifeless and using animations for the same purposes
 - Make the game more dynamic by adding specific challenge rounds

MENU SCREEN

Main screen

List of games currently forming. You can host a game or join a game.



Choosing to host a new game takes you to the setup page, where you can set the game specs

minesweep+

HelpAbout

Room name:

Player name:

Play mode

☒ Classic ☐ Layers ☐ Territory ☐ Timer

Mine density: Number of lives:

Board

☒ Default ☐ Triangle ☐ Hexagon ☐ Rectangular

Dimensions: x

Teams

Number of teams: ☐ 1 ☒ 2 ☐ 3 ☐ 4

Players per team: ☐ 1 ☒ 2 ☐ 3 ☐ 4

Host Game

Classic Mode

Teams race to complete a simple Minesweeper board. Each team has the same board setup, and the a team wins if it finishes the board first or its opponents run out of lives.

Joining a game prompts you for your name. If the game is full, an alert will notify you.

minesweep+

HelpAbout

Games:

LAYERS: lol (1/4 players)

TERRITORY: xxxxx (1/8 players)

CLASSIC: !337 only (1/4 players)

TIMER: bronies (1/2 players)

CLASSIC: tri hipsters (1/4 players)

CLASSIC: tokyo ffa (1/16 players)

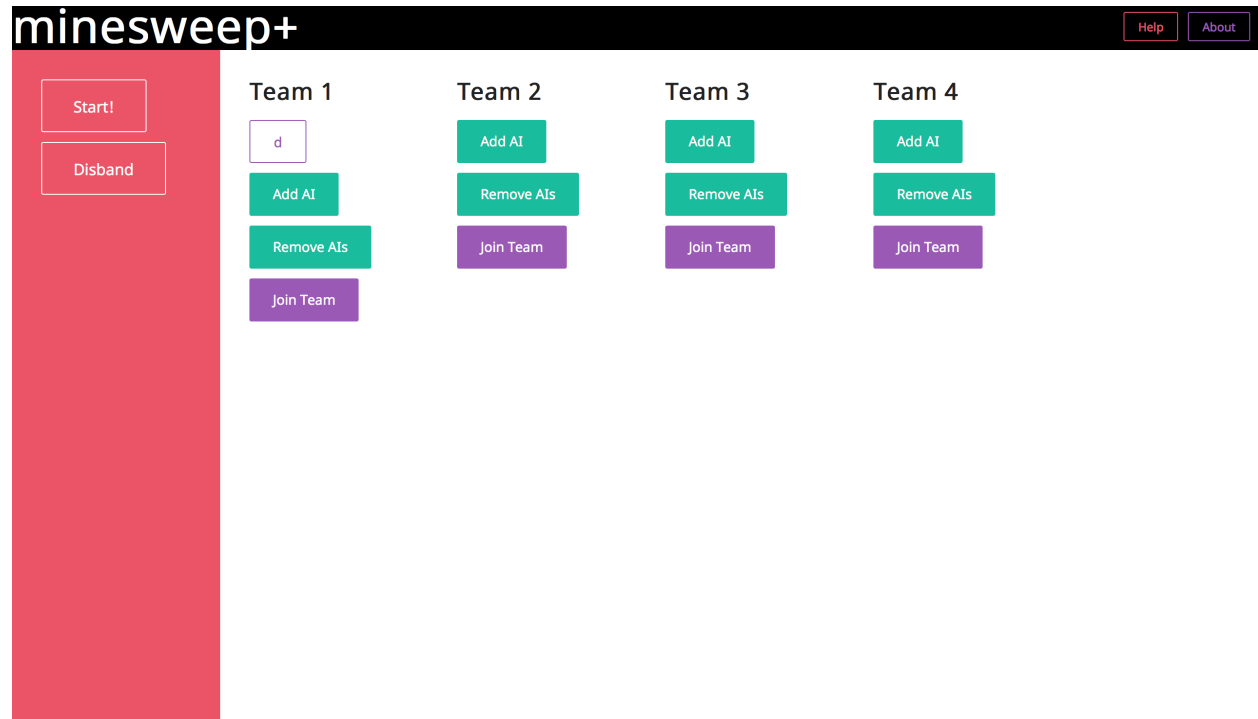
Host New Game

Enter your player name:

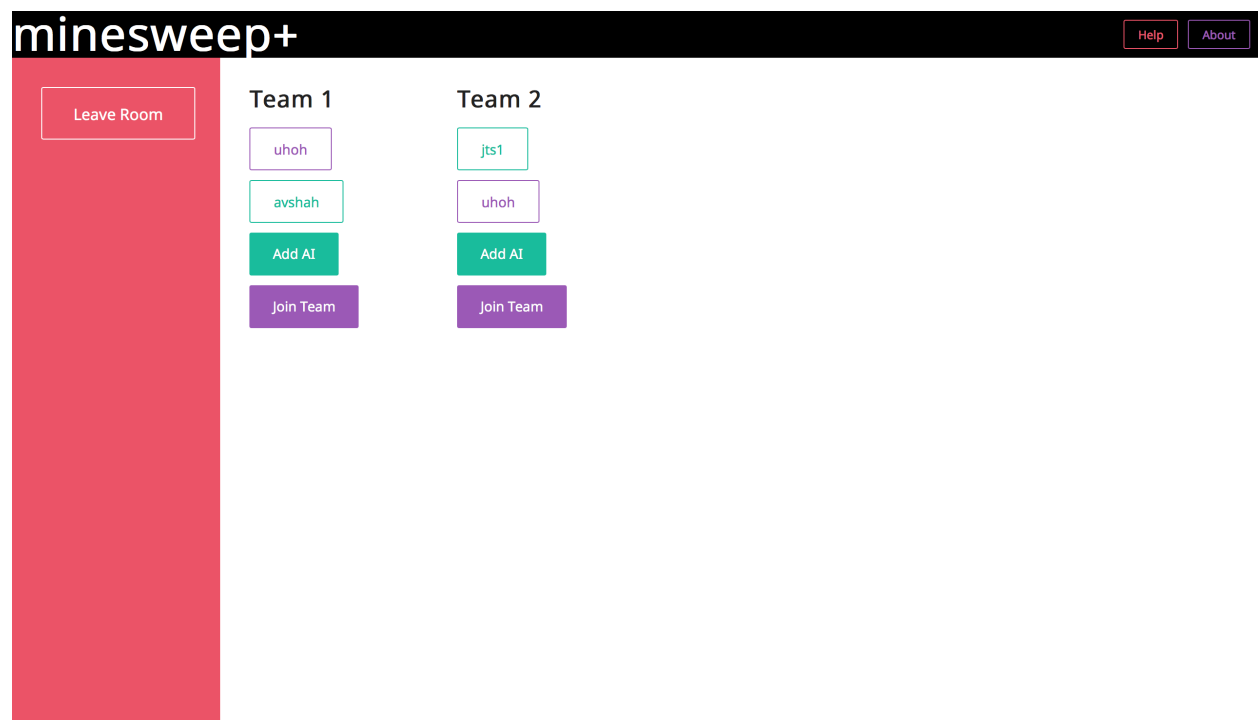
Let me play!

Nvm

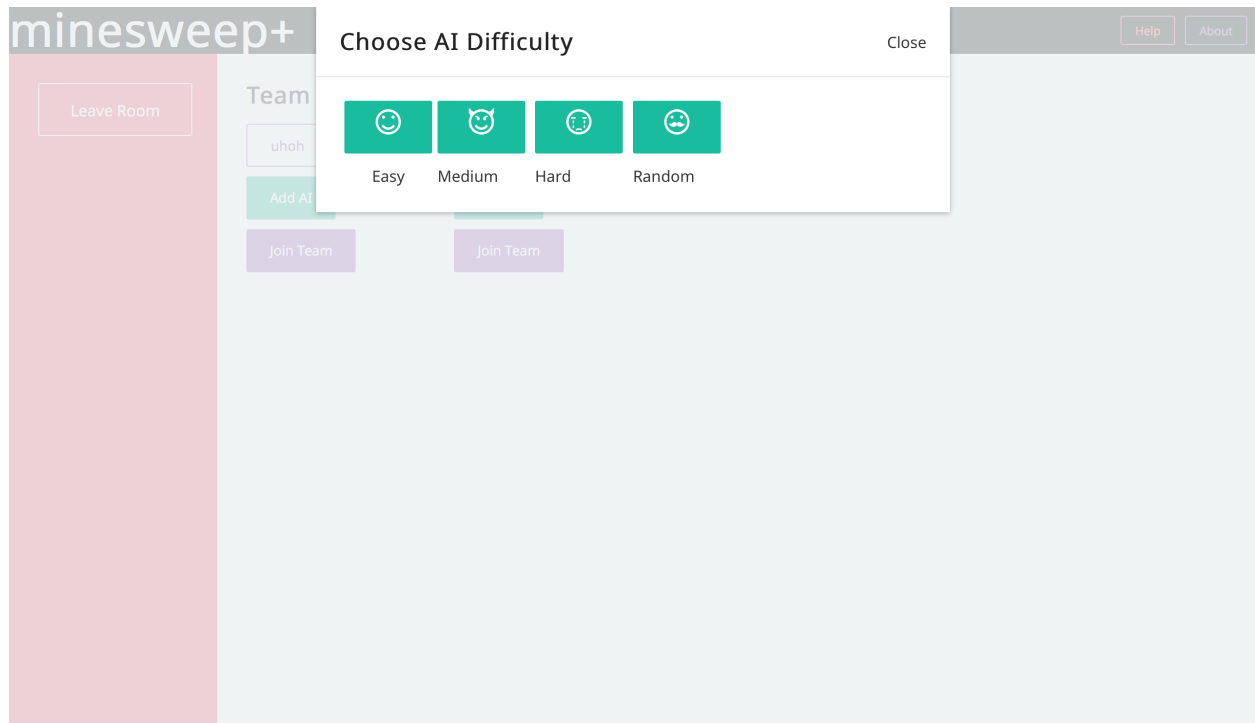
After setting up a game to host or entering your name to join a game, you end up on the team formation page



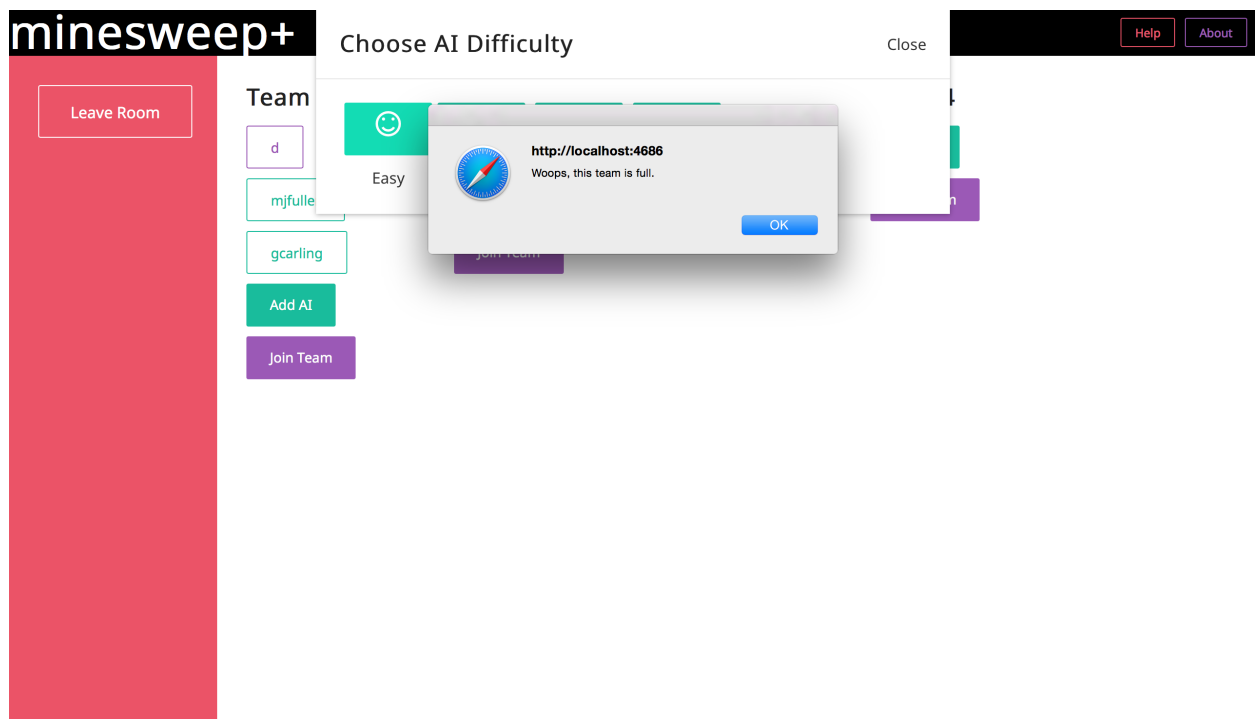
Hosts can start and disband the game, as well as remove AIs. Other players can leave the game, but can only add AIs or switch teams. They cannot remove AIs.



Adding an AI lets you choose its difficulty.



And of course, you cannot add an AI if the team is full.



After all teams have the correct number of players, the host can start the game

minesweep+

Mines Remaining: 10

Team 1

3

Team 3

3

Team 4


3

Team 2

2

minesweep+


2





3


1


Mines Remaining: 9


Team 1


2


Team 3

3

Team 4

3

Team 2

2

GAME MODES

Classic Mode (screenshot above)

- Standard game of Minesweeper except that multiple people work on a board
- First team to finish the board wins
 - If a team loses all lives, they lose the game
 - FINAL SUDDEN DEATH has no extra lives

Walkthrough

1. Each team is show their own copy of the same board. Players play minesweeper as normal, clicking or marking gray squares. Team members all play at the same time.

- Left-clicking a square selects it for exploration.
 - If it is a mine, it explodes.
 - Team loses a life.
 - If it is a number representing mines around it, the number is revealed.
 - If it has no mines around it, all the numbers around it are revealed.

4. The first team to complete the board wins and ends the game.

- Winning team gets win screen
- Losing team gets TOUGH LUCK screen

5. If a team loses all its lives, they lose and end the game.

- Winning team gets win screen
- Losing team gets mine explosion

Stack'd (Layers) mode

1. Same gameplay as standard - everyone plays at the same time.

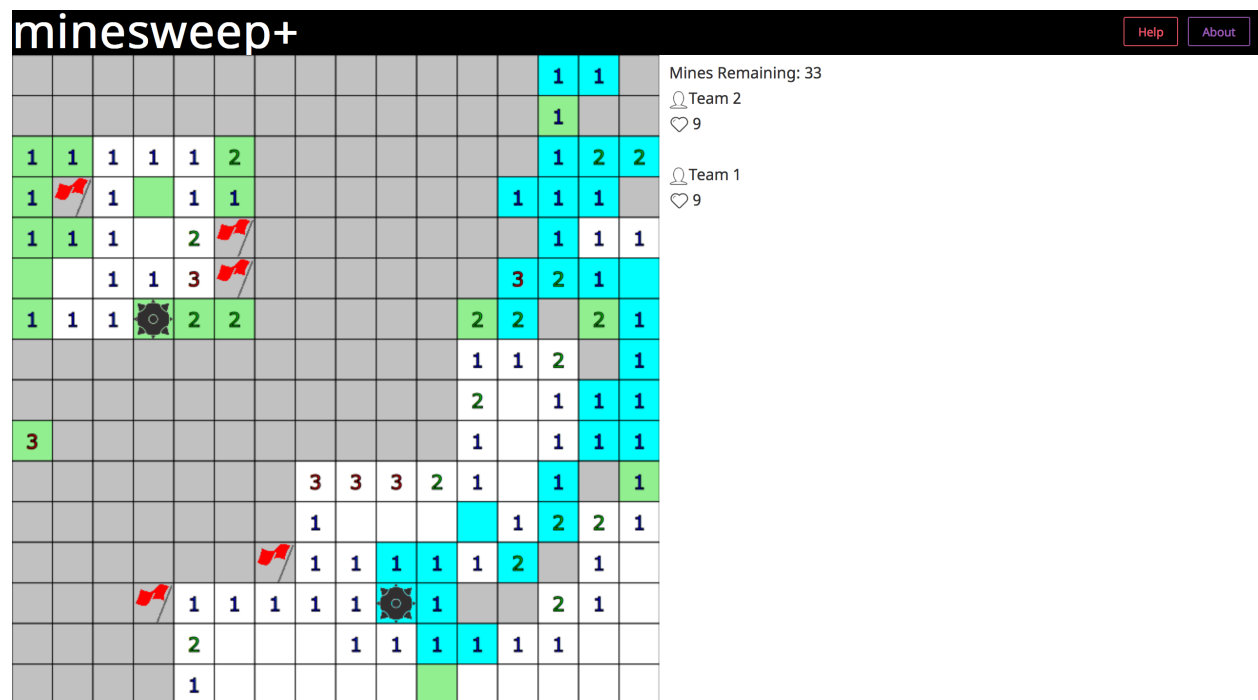
2. Has X number of boards on top of one another. Each team has the same set of boards in different order.

3. First team to finish wins.

4. If a team runs out of lives, they lose.

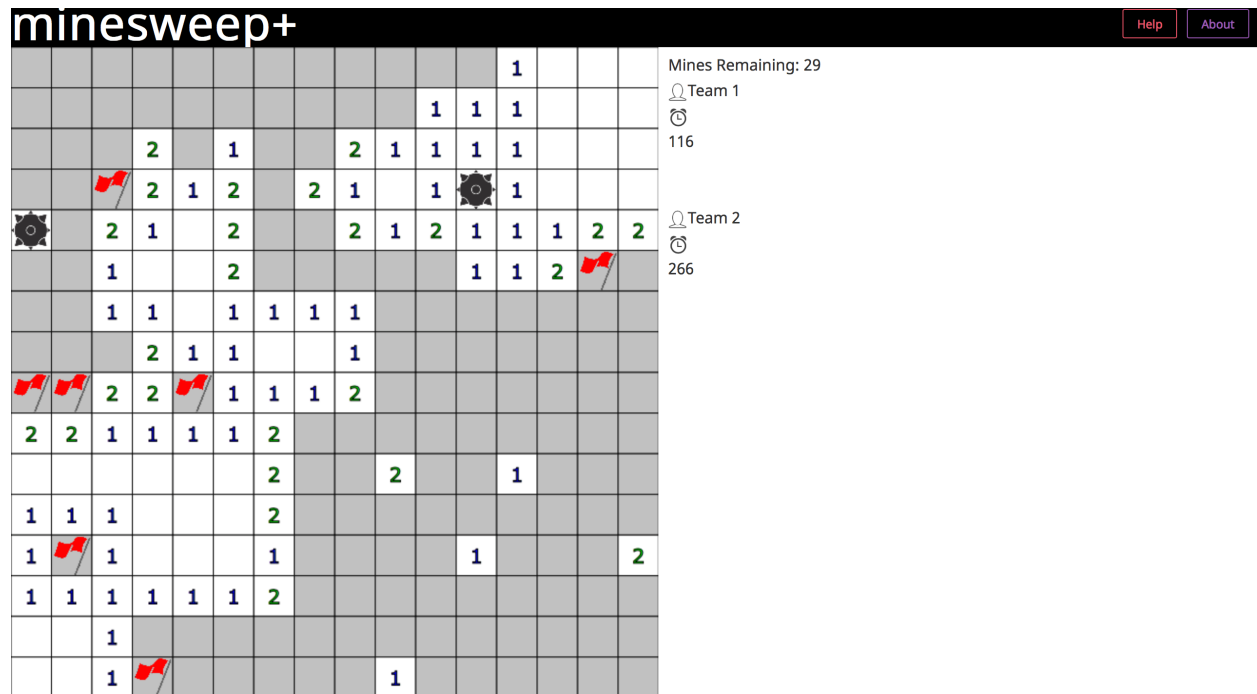
Territory Mode

1. All teams play on the same board.
2. All players play at the same time.
 - Non-mine spaces become the team's color. Only the space clicked is earned, not all spaces around it.
 - A mine space removes a life from the team.
3. The team with the most territory at the end wins the game. If a team runs out of lives, they lose automatically.
 - Winner gets a congrats screen.



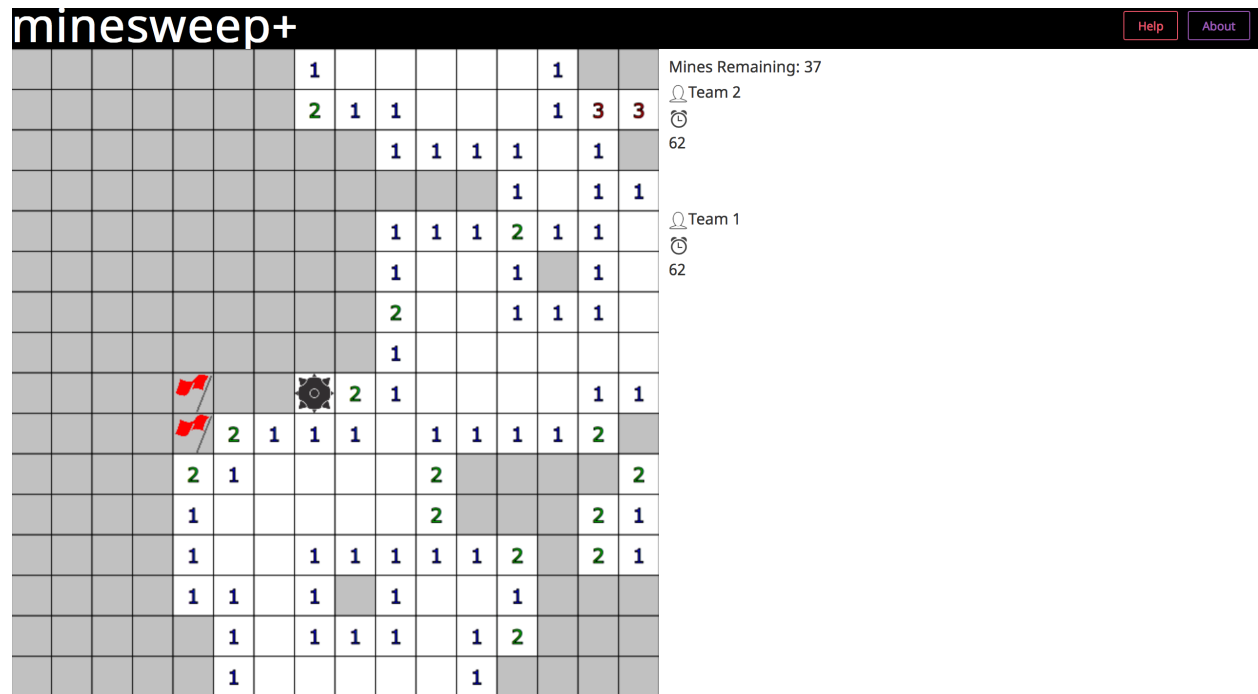
Timer mode

1. Each team starts with 60 seconds. Players play as normal.
 - A non mine space adds more time to the team's clock
 - A mine space removes time

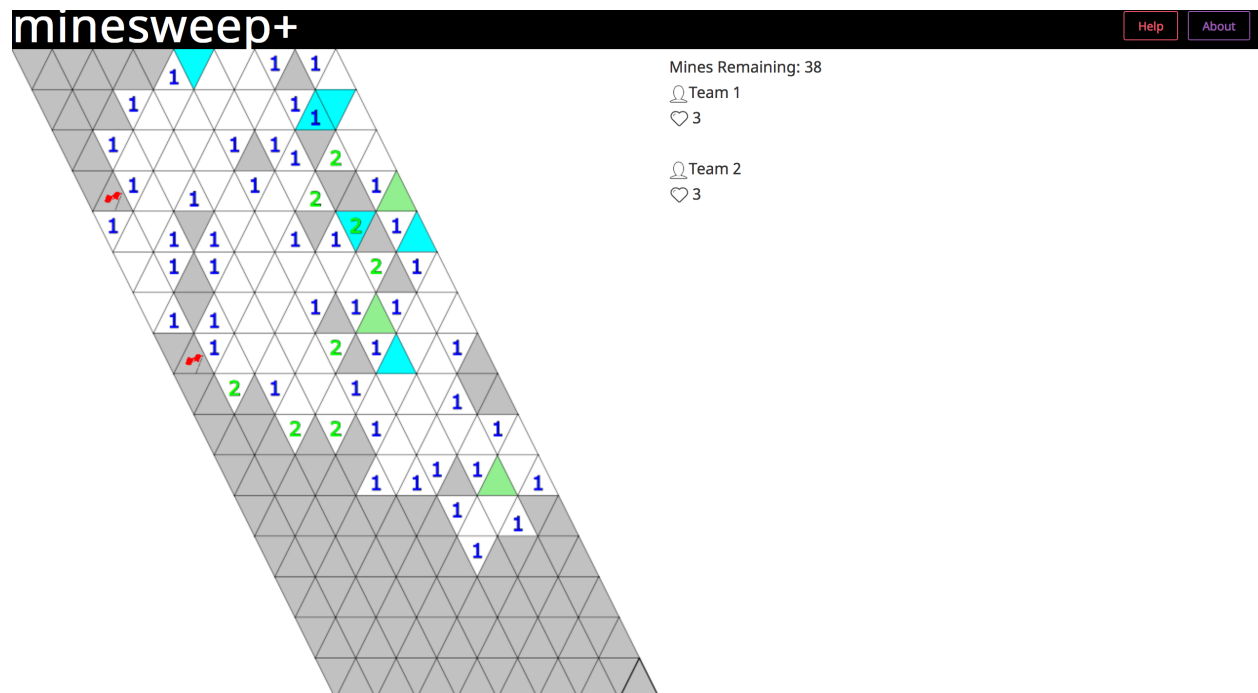


2. Team with the most time remaining when the board is finished wins. If a team runs out of time, they lose automatically.

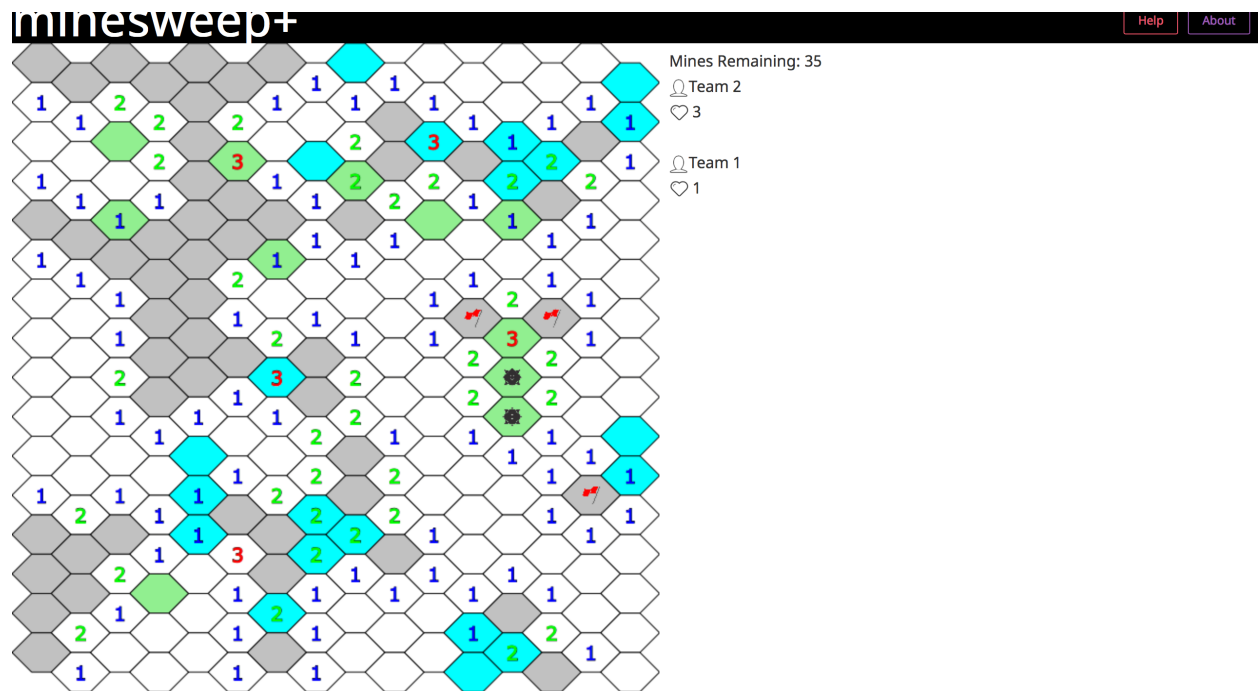
Classic



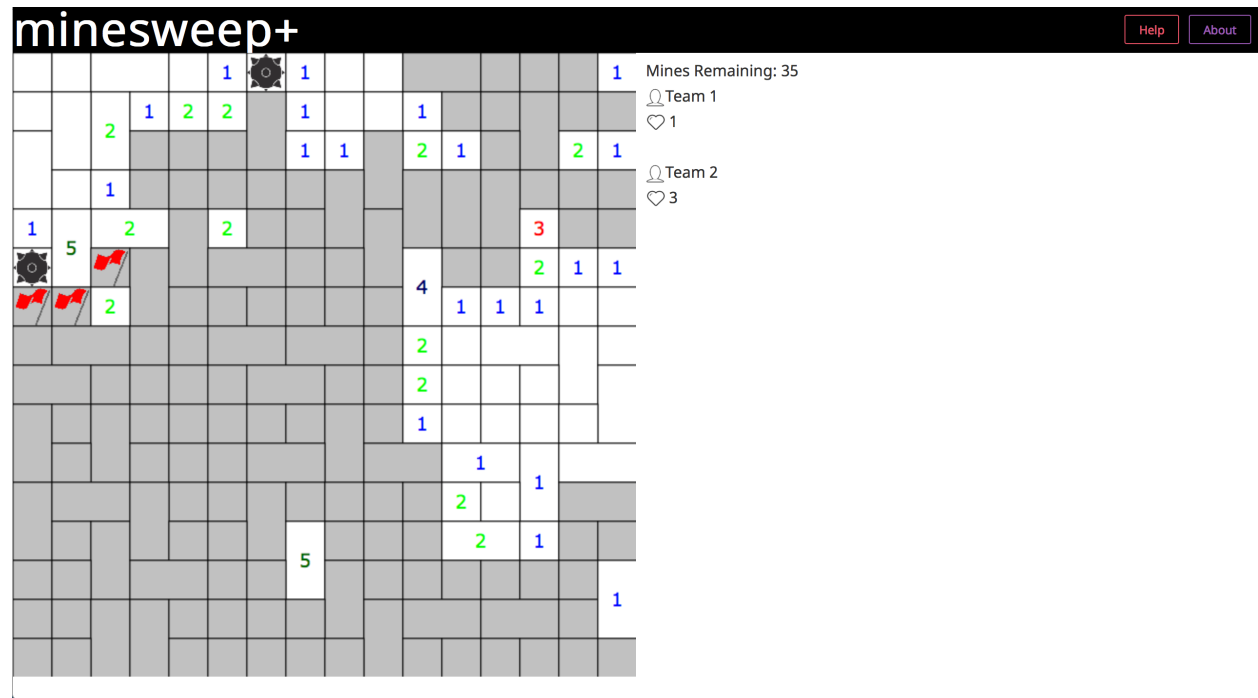
Triangles



Hexagons



Rectangle mismatch



GRADING

Requirements for an 'A'

- 4+ game modes outlined in their document
- 4+ different board types
- a sophisticated AI that can play every game type
- all competitive modes can be 1v1 or team v team
- all collaborative modes can be single-player or team-based
- game runs very well, no bugs or anything that affects user experience

Requirements for a 'B'

- 3+ game modes
- square/rectangular boards, but no tessellations
- AI is simple and can play every game type, OR AI is complex but can only play some game types
- competitive modes are either 1v1 or team v team
- collaborative modes are either single-player or team-based
- some minor bugs that may affect menus, but not gameplay

Requirements for a 'C'

- 2 or fewer game modes
- AI is naive for all game types
- only the basic minesweeper board
- bugs that affect gameplay / portions of the game are unplayable