BattleBots for New Players

Mackenzie Power

Haotian Ma

Ryan Tetland

William Revell

Mitchel Kovacs

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BattleBots Introduction

BattleBots is a team based robot fighting game that takes place in an arena shaped like a giant hexagon made up of smaller hexagon spaces. Each player can be either human or AI and starts with three robots on their home hex. The home hex corresponds to the player's colour and is located at one of the corners of the hexagonal arena. Red being at the far left and going clockwise is followed by orange, yellow, green, blue and purple. The game can be played in three different modes, 2-player with red and green used, 3-player with red, yellow and blue and 6-player mode with every home hex being used. Each team of robots consists of a scout, a sniper and a tank each with very different stats. The scout has 2 sight range, 3 movement, 1 health and does 1 damage, the sniper has 3 sight range, 2 movement, 2 health and does 2 damage and the tank has 1 sight range, 1 movement, 3 health and does 3 damage. The game is completed over several turns first each player must move their scout, then after each team has gone every sniper will get a turn and then finally every tank. This is repeated until the game ends, if a robot is destroyed then on its turn a player will move the next alive robot on the team. On a players turn they may move the robot up to it's movement stat using the WEDXZA keys on the keyboard to move one hex at a time, where W makes the robot go up and left, E makes it go up and right, D makes it go right, X makes it go down and right, Z makes it go down and left, and A makes it go left. The player may also shoot an opposing robot by clicking on it, if it is within range the robot will take damage. Once all the desired actions have been completed the user can click the end turn button to end their turn. Winner is decided when all opposing robots have been destroyed.

Game Navigation

For optimal performance it is suggested that BattleBots is run on a Linux computer, or through tuxworld. When the game is started, it will initially take the players to the main menu.

Main Menu

The main menu has three buttons on the screen labelled continue, help, and quit. The player can use the mouse and click on any of these buttons to navigate to the corresponding panels. The help button brings up a pop up screen which explains the basic rules of Battlebots. This help option is available on most screens for player convenience. The quit button immediately exits the game, and the continue button takes the player to the game properties panel.
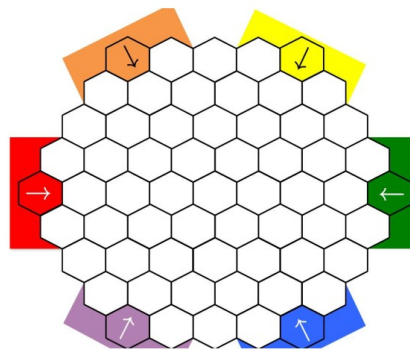
Figure 1: Main Menu. This image shows what the main menu for the game looks like. The three buttons shown will navigate to different parts of the game

Help Panel

The help panel contains in depth rules on how the game works, and can be exited by clicking the x in the top right corner of the pop-up. When accessed, the help screen will show up on a separate window which can be kept through the whole game for easy access.

Help

- With two players, red and green are used, and the board has 5 spaces on a side. With three players, red and yellow and blue are used, and the board can have 5 or 7 spaces on a side. With six players, all colours are used, and the board has 7 spaces on a side. The colours are assigned randomly.

- All robots enter in their home space, facing along the arrow.

- Any number of robots, including ones from opposing teams, can occupy the same space.

- A turn begins with Red team playing its robot with greatest movement; then orange plays its robot with greatest movement, ..., finally blue plays its greatest-movement robot -- this completes one round. Then a second round is played where Red plays its next-highest movement robot, then orange, ..., up to blue. Then a third round where Red's lowest-movement robot plays, ..., finally blue's lowest-movement robot plays. Thus, every robot gets one play per turn, and fastest robots move first.

- Note that, Red's highest-movement robot might not be its scout, because that robot might be dead.

- If a team does not have a robot to play during a round, skip to the next colour.

- A play consists of moving, shooting, and moving again. It costs no movement point to turn to face any direction, and one movement point to enter a space. If a robot runs out of movement points, it cannot move any further during that turn. Different robots have different movement amounts. At the end of every turn, robots regenerate their movement points -- i.e. they can move again next turn.

- Robots can only see and shoot at robots in range. As they move, new spaces become visible.

- Shooting at a space means selecting a range and direction causes the shooting-robot's attack-rating to be subtracted from the health of all robots in that targeted space. If a robot's health drops to (or below) zero, the robot is dead and removed from play. Until a robot is dead, its movement and damage ratings are unimpaired. Note that range=0, direction=0 is valid.

- If more than one team's robots are still alive, another turn starts with Red's highest-movement robot.

- If only one team's robots are still alive, that team wins the game

- For controlling the robots to move: Keys A-left. D-right. W-top left. E-top right. Z-bottom left. X-bottom right.

- For shooting enemy robots, you just need to simply mouse click which robot you want to shoot within your robot's attacking range

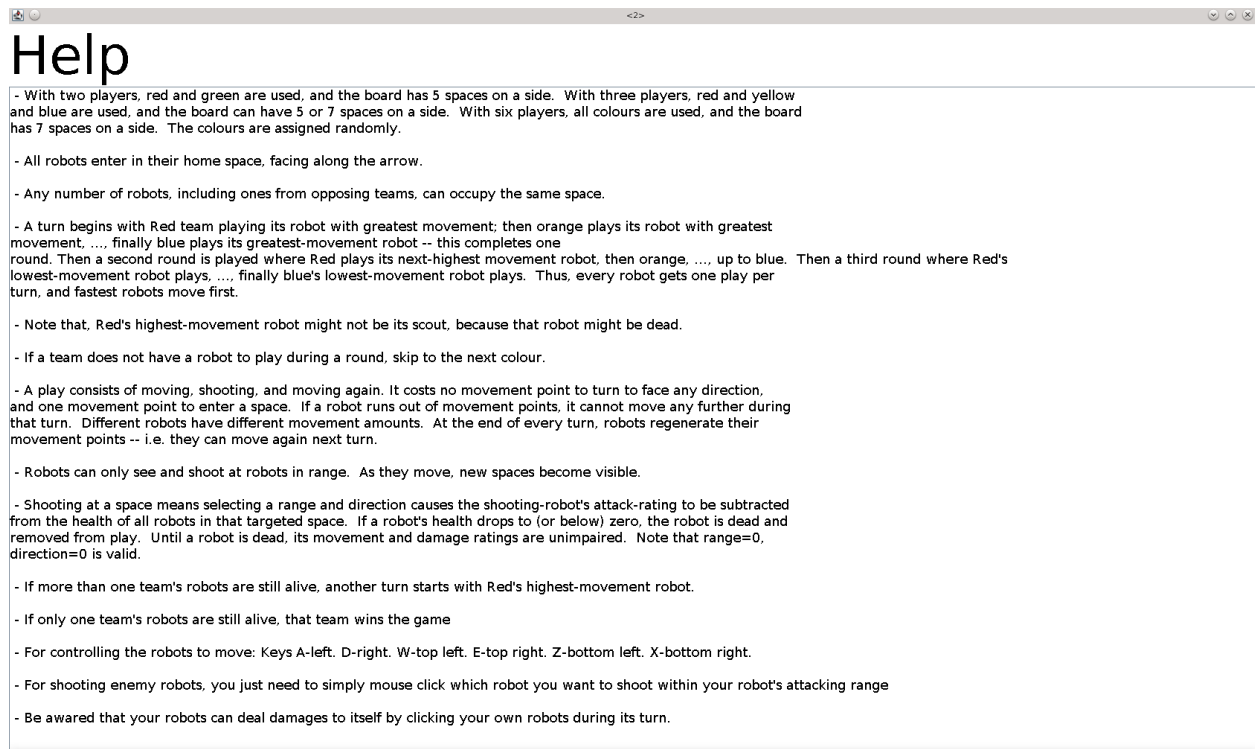- Be awared that your robots can deal damages to itself by clicking your own robots during its turn.

Figure 2. Help screen. This screen is brought up in a new window whenever a 'Help' button is accessed. All rules listed in this section come straight from the 'Game Description' document given in the CMPT370 moodle page for the course this game was designed for.

Game Properties Panel

The Game Properties panel contains three sections, the number of players, the number of humans and the board size, as well as three buttons: back, continue and quit. Under the number of players section there are three options 2, 3 and 6 with a corresponding radio button for each allowing the player to choose the number of teams in the game. The number of AI section has 6 options between 0 through 6. The user can only select the options that correctly correspond with the number of players chosen. For example, if 3 players were initially selected then only the options of 0 through 3 will be accessible for the user to select from. Options 4 through 6 will be greyed out and disabled. Finally, the board size section will be automatically set to 5 if it is a 2 player game or 7 if it is a six-player game, otherwise if it's a three player game the user is given the option of a 5 or 7 hex size board. The back button takes the user back to the main menu, whilst the quit button exits the game. Selecting the continue button takes the user to the team selection panel.

Game Properties

How many teams will be playing?

How many humans will be playing?

Board length on each side?

○2
◉3
○6

◉0 (AI simulation)
○1 ○2
○3 ○4
○5 ○6

◉5
○7

Continue   Back   Quit

Figure 3. Game Properties screen. This Screen allows the user to select how many teams, human players, and board size for the game. The user is allowed to continue the game with the current selection of players; go back to the main menu, or exit the game.

Team Selection Panel

The team selection panel itself contains three separate sections. In the top left is the robot stats section which lists all the important statistics such as kills, wins and games played for each robot in its corresponding column. Initially, the game will have two different teams on display and available for selection. Underneath the robot stats section is the team selection section where the user can click a check box next to any teams they desire to play in the next game. On the right of the screen is the team creation section, here the user can edit any existing robot by selecting them on the left with their corresponding radio button or use the retire button to remove them from the library. A specific robot can be selected and then have its name changed through the update button. A robot's class and team cannot be updated and changed. By editing a robot's name, that robot will have all of it's stats reduced back to zero. The player can also create robots by selecting 'New Robot' and can create that robot with a new team name, a new robot name and type by clicking add-Robot to add the robot to the library. There are three navigation buttons, quit exits the application, back takes the user to the game properties panel, and continue takes the user to the game panel. If no robots or not enough robots are selected before selecting continue, then generic default robots will be created for play.

Team Selection

Figure 4. Team Selection screen. This screen displays the current stats for each robot currently stored in the game and allows the user to update them, create new ones, and select which robots they want to play with. When ready, the player can continue to the game, go back to the properties screen, or quit the game.

Game Panel

The game panel is the screen that the actual game is played on. In the middle of the screen is the hexagonal arena. On both the left and right sides of the screen the robot health for each robot on each specific team is displayed therefore the user can keep track of any damage dealt or taken. On the left bottom corner, there are 3 buttons the quit-game button, help button and the end turn button. The help button displays the rules pop-up, the quit-game button takes the user to the stats panel, and the end turn button ends the current robots turn. Above the buttons is the current robot turn tracker which displays the team and type of the current robots turn. When a winner is decided, the player is taken to the victory screen.

Team Red
Scout Health: 1
Sniper Health: 2
Tank Health: 3

Team Yellow
Scout Health: 1
Sniper Health: 2
Tank Health: 3

Current Turn: RED SCOUT

Help
End Turn
End Game

Team Blue
Scout Health: 1
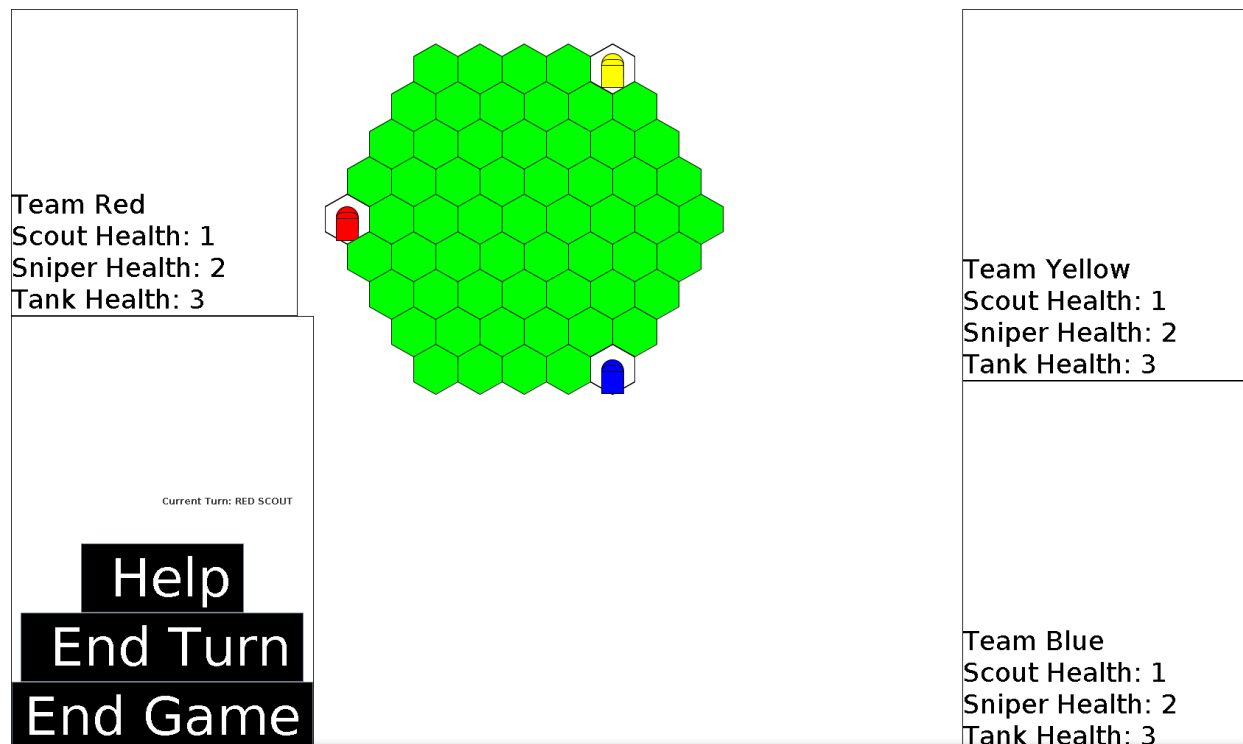Sniper Health: 2
Tank Health: 3

Figure 5. Game screen. This screen is where the game is played. The current health condition for each robot is displayed on the sides. As usual, the user has the option to bring up the help menu. They can also choose to end their turn (or a robot AI's turn) and also end the game prematurely.

Victory Screen

The victory screen appears after the game is over displaying the winning team, here a player can click the play again button to be taken to the stats panel. The quit button exits the application.

Figure 6. Winner screen. Simply displays the winner of the game. The user can choose to play again or exit the game.

Stats Panel

This is the final panel of the game and displays a table containing each robot in the game with their updated statistics. The user can either click the quit button to exit the application, or the play again button which navigates the user to the games properties panel.

Final Statistics

Team	Class	Name	Matches	Wins	Losses	Executions	Lived	Died	Absorbed	Killed	Moved
Drone	JackOfClasses	Default	1	2	0	1	0	1	1	0	8
Drone	JackOfClasses	Default	1	3	0	1	1	0	0	0	24
centralizersscout	Scout	A7	6	2	3	1	1	5	6	0	23
Drone	JackOfClasses	Default	1	2	0	1	0	1	2	0	6
Drone	JackOfClasses	Default	1	3	0	1	1	0	0	0	13
centralizerssniper	Sniper	A7	6	2	3	1	1	5	7	0	25
Drone	JackOfClasses	Default	1	2	0	1	0	1	3	0	6
Drone	JackOfClasses	Default	1	3	0	1	1	0	0	0	8
centralizerstank	Tank	A7	6	2	3	1	1	5	7	0	20

Play Again   Quit

Figure 7. Final Stats screen. This screen will display the final statistics for each robot. User has the option to play again or quit the game.