

GUI/Gameplay testing document,

Group 1

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The tables in this document are used to depict our testing methodology for 'untestable' parts of our program. This includes all of the graphical user interface and large amounts of basic gameplay behavior. Due to the way our program is set up - in a collection of 'states' - we have split these tables up per state. The following states will be documented: the start, settings, game over and game states.

Per state, the tables depict the following: an action taken, the expected result - that is, the required behavior, whether the result was correct, and the unexpected result if it was not.

Game state

This is the state in which the main game is running. The actions undertaken here are all either part of the gameplay, or the pause menu.

Action taken	Expected result	Result correct?	Unexpected result
Player presses/holds right movement key	Player sprite moves to the right	Yes	
Player presses/holds left movement key	Player sprite moves to the left	Yes	
Player presses fire key	Player sprite fires a laser-like weapon	Yes	
Player presses fire key with instant powerup	Player sprite fires a very fast laser-like weapon	Yes	
Player presses fire key with vine powerup	Player sprite fires a very slow laser-like weapon, that sticks to the ceiling and stays until hit by a ball.	Yes	
Player presses pause key while the game is unpaused	The game pauses	Yes	
Player presses pause key while the game is paused	The game shows a countdown timer, before unpausing	Yes	
Ball hits wall	The ball's X-direction is reversed.	Yes	
Ball hits floor	The ball's Y-direction is reversed.	Yes	
Ball hits ceiling	The ball is destroyed	Yes, although this is hard to test without modifying levels.	
Ball hits closed gate	The ball's X-direction is reversed.	Yes	

Ball hits opened gate	The ball passes through the gate.	Yes	
Ball hits player without shield powerup	The player dies.	Yes	
Ball hits player with shield powerup	The ball passes through the player.	Yes	
Ball hits coin/powerup	The ball passes through the coin/powerup.	Yes	
Laser hits ball (large enough)	The ball is destroyed, two smaller balls appear in it's place unless it gets too small, the player gains scorepoints.	Yes	
Laser hits ball (too small)	The ball is destroyed, the player gains scorepoints.	Yes	
All balls are destroyed	The level ends.	Yes	
Player walks against wall	The player cannot walk further in the direction of the wall.	Yes	
Player walks over coin	The player gains scorepoints.	Yes	
Player walks over shield powerup	For the next few seconds, the player has an active shield. A counter is shown in the top-left corner.	No	Sometimes, the pickup disappears, but the shield fails to appear.
Player walks over instant powerup	For the next few seconds, the player has an instant laser.	Yes	
Player walks over vine powerup.	For the next few seconds, the player has a vine laser.	Yes	
Player walks over a weapon powerup while another is active	The current weapon powerup is replaced by the new one.	Yes	
Player dies with more than 1 life remaining	The level, score, balls and player location are reset and the player respawns.	Yes	
Player dies with 0 lives remaining	The player is dead and the game switches to the gameover state.	Yes	
The level ends, and is not the final level	The countdown goes quicker, while the player gains extra scorepoints. Afterwards, the next level is loaded.	Yes	

The level ends, and is the final level.	The countdown goes quicker, while the player gains extra scorepoints. Afterwards, the game switches to the gameover state.	Yes, although this is hard to test	
Scorepoints are gained	A small floating number indicating the scorepoints appears in the screen, and the player's score increases.	Yes	
In multiplayer....	The names player_1 and player_2 float above, respectively, players 1 and 2.	Yes	
In multiplayer, if both players have a shield powerup...	Two countdown numbers are shown below one another in the top-left corner of the screen, for players 1 and 2.	Yes	
The escape key is pressed	The game is paused/unpaused, depending on the state. The tiny light in the bottom-left corner is switched.	Yes	
The game is paused	There are menu buttons: return, main menu and exit. All the interactions for main gameplay are disabled.	Yes	
The game is unpaused	A counter is shown for 3 seconds, after which the game continues running. A tiny light in the bottom-left corner is switched on.	Yes	
The return button in the pause menu is pressed/held.	The game unpauses	Yes	
The main menu button in the pause menu is pressed/held.	The game switches from the current state to the startstate.	Yes	
The exit button in the pause menu is pressed/held.	The game exits.	Yes	

Start state

This is the state in which the main menu screen is running. The actions undertaken here are all part of the graphical user interface.

Action taken	Expected result	Result correct?	Unexpected result
The player presses/holds the 'Play 1-player game' button	The game switches to the gamestate, starting in level 1, with only 1 player.	Yes	
The player presses/holds the 'Play 2-player game' button	The game switches to the gamestate, starting in level 1, with 2 players.	Yes	
The player presses/holds the 'Options' button	The game switches to the settingsstate.	Yes	
The player presses/holds the 'Exit' button	The game exits.	Yes	
The player hovers the mouse over any of the available buttons.	The button in question is highlighted.	Yes	

Settings state

This is the state in which the settings menu screen is running. The actions undertaken here are all part of the graphical user interface.

Action taken	Expected result	Result correct?	Unexpected result
The player presses/holds the 'Return' button	The game switches to the startstate, showing the main menu.	Yes	
The player presses one of the available player sprites (first player)	The sprite is selected and highlighted. This is the sprite that represents the player in the game state, and player 1 in multiplayer.	Yes	
The player presses one of the available player sprites (second player)	The sprite is selected and highlighted. This is the sprite that represents player 2 in multiplayer.	Yes	

Game over state

This is the state in which the game over menu screen is running. The actions undertaken here are all part of the graphical user interface, or the saving of highscores.

Action taken	Expected result	Result correct?	Unexpected result
The player has died too many times	A message is shown, informing the player the game is over.	Yes	
The player has finished all the levels	A message is shown, informing the player he has completed the game	Yes, but this is hard to test	
The player, having entered a name in the text bar, presses the enter key	The name, along with the player's highscore, is saved and then displayed in the highscores list to the right. The 'Save highscore button' changes to text informing the player of a succesful save.	Yes	
The player, having entered a name in the text bar, presses/holds the 'Save highscore' button	The name, along with the player's highscore, is saved and then displayed in the highscores list to the right. The 'Save highscore button' changes to text informing the player of a succesful save.	Yes	
The player presses/holds the 'Play again?' button	The game switches to the game state, where the player's location, lives, level and score have all been reset.	No	This has caused unexpected behavior in some rare instances, where the player had either teleported, had 0 lives, or had retained their previous score.
The player presses/holds the 'Main menu' button	The game switches to the start state, and in the background the player's location, lives, level and score have all been reset	No	This has caused unexpected behavior in some rare instances, where, later on, the player had either teleported, had 0 lives, or had retained their previous score.
The player presses/holds the 'Exit' button	The game exits.	Yes	