LUNARX User Manual

**Introduction**

LunarX is a game of precision and focus played upon a computer screen meant for the pure entertainment and enjoyment of the player. LunarX was originally inspired by the online game know as *Moon Lander*. The objective of the game is to properly land a rocket on a rugged surface. The game has combined a simplistic view with rather complex game attributes to maximize the player experience. A new experience will be born out of every round due to the random terrain generation. No round will be like another; the game will be ever changing. This game’s intention is to allow the player to have countless hours of fun and enjoyment all within a simple yet elegant game.

**Game Description**

As a player, the main goal will be to safely land the rocket on one of the indicated landing zones. Although this may seem simple, don’t be fooled; many obstacles and constraints stand in the way of a perfect landing.

For one thing, the rocket has certain constraints including limited fuel and a compliance to gravity constant. On the other hand, the terrain which the rocket must land upon is randomly generated requiring the player to adapt to a different environment every time.

With the obstacles and constraints in mind the player must control the thrusters of the rocket and the direction it faces to make the rocket safely land on one of the indicated landing zones. Note that when the rocket gets close enough to the landscape, the screen will zoom into that section of the terrain. The following are requirements for a safe landing upon a landing zone:

1. The rocket must have a vertical velocity no greater than 60 m/s.
2. The must be perpendicular to the landing zone so that the bottom of the rocket lands flat.
3. All of the rocket must land within the landing zone; even if a small part of the rocket is outside of the landing zone it will not be a valid landing.

Every time the rocket has a safe landing on one of the landing zones the player’s points will increase by a certain amount. The amount of points the player receives depends on the what the displayed amount of points flashing under the landing zone.

If the rocket does not happen to meet any of these requirements when landing upon a landing zone or it simply collides into another part of the terrain, then the rocket will explode. Whether the rocket explodes or lands properly the rocket will reset its position if there is still fuel remaining. When the fuel runs out, the game will be over.

At the top of the screen there will be various information to help the player better control the rocket and to enhance the experience. On the top left is the amount of points the player currently has. Also on the left side is the amount of the fuel that will keep decrementing when the player uses the thrusters. On the top right hand side is the altitude of the rocket from the zero height. Also on the right is the horizontal and vertical velocity to help the player better control the motion of the rocket.

**How to Run**

If you are using a system running Mac OS X, double click on the file “run.command” in the “deploy” folder. Otherwise if you are using a system with Microsoft Windows, double click on the file “run.bat” in the “deploy” folder.

**Controls**

Once the game has opened up, to start the game, the player has to click the spacebar when prompted by the screen. Once the rocket has been set in motion it is up to the player to control the rocket’s movement. The right and left arrow keys will serve to rotate the rocket to the right and left. Keep in mind that the rocket will not rotate past the point where the rocket is horizontal. The up arrow key is the toggle for the thrusters. In whatever direction the rocket is facing at the moment, the up arrow key will turn on the thrusters indicating a force in the specific direction the rocket is facing. Note that the up arrow key will only turn on the thrusters as long as fuel is still available. The table below highlights the keyboard controls to play the game:

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| **Keyboard Symbol** | **Purpose** |
| ../../Desktop/imgres.jpg | Press the spacebar to start the game at the beginning of each round. |
| ../../Desktop/237280-Keyboard_up-512.png | Press up arrow to activate thrusters |
| ../../Desktop/237280-Keyboard_up-512.png | Press right arrow to rotate the rocket to the left. |
| ../../Desktop/237280-Keyboard_up-512.png | Press the left arrow to rotate the rocket to the right. |

**System Requirements**

* Keyboard with arrow keys, Mouse
* System with Mac OS X or Windows or Linux
* Java Version 7 or up, and appletviewer
* No less than 128 MB of RAM
* 1MB minimum storage space for installation