Abstract
This documentation describes the game of KSpaceDuel version 2.1
Chapter 1

Introduction

**Game Type:**
Arcade

**Number of Possible Players:**
Two

The idea behind KSpaceDuel is simple, but addictive. Each of two possible players controls a satellite spaceship orbiting the sun. As the game progresses players have to eliminate opponent’s spacecraft. As soon as the opponent’s satellite is destroyed, the remaining player wins the round.
Chapter 2

How to Play

**OBJECTIVE:**
Destroy the opponent’s satellite, while keeping the own one in tact.

KSpaceDuel loads directly into the game mode; however, the action does not start until either player makes the first move.

**NOTE**
If the opponent’s satellite is controlled by the built in artificial intelligence, game action does not start until the human player makes the first move.

In KSpaceDuel you control the ship’s rotation, acceleration, and weaponry. Your satellite is constantly drawn towards the sun by gravity. You have to adjust the rotation and acceleration of your ship to make it stay on course.

**NOTE**
Approaching the sun too close causes the satellite to explode.

In the same time you have to monitor the opponent’s movement and use your weapons consisting of bullets and mines, to destroy the enemy spacecraft.

**NOTE**
Your own weapons are as harmful to your satellite as they are to the enemy one.
Chapter 3

Game Rules, Strategies and Tips

3.1 KSpaceDuel Game Screen Overview.

• The top of the playing area is occupied by the menubar and toolbar.
• The central part of the KSpaceDuel screen is the playing area.
• On the left and on the right sides of the playing area there are the Red Player’s and the Blue Player’s information screens.
• The top box on the information screen represents the ‘Hit Points’ of the spacecraft.
• The middle box on the information screen represents the battery power.
• The bottom box on the information screen shows player’s number of wins.
• The bottom of the playing area is the status bar.
The KSpaceDuel Handbook

3.2 Default Shortcuts

The following table contains the default shortcuts for KSpaceDuel.

<table>
<thead>
<tr>
<th>Action</th>
<th>Red Player</th>
<th>Blue Player</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotate Left</td>
<td>S</td>
<td>Left arrow</td>
</tr>
<tr>
<td>Rotate Right</td>
<td>F</td>
<td>Right arrow</td>
</tr>
<tr>
<td>Accelerate</td>
<td>E</td>
<td>Up arrow</td>
</tr>
<tr>
<td>Shot</td>
<td>D</td>
<td>Down arrow</td>
</tr>
<tr>
<td>Mines</td>
<td>A</td>
<td>Ins</td>
</tr>
</tbody>
</table>

**NOTE**
To change these keys, please refer to the *Game Configuration* section.

3.3 Rules

3.3.1 About Energy Points

- Each player controls one ship.
- The ships can rotate, accelerate, shoot and set mines.
- Each ship has a limited amount of energy required for rotation, acceleration, shooting and setting mines.
- Each ship has a limited amount of energy.
- Ships absorb solar energy required for the ship’s operation. The amount of energy the ship gets depends on the distance from and the direction to the sun.

**NOTE**
A ship gets more energy near the sun and less energy near the border. It gets the full amount of energy if the sun shines directly on the solar panels and less or even no energy if the sun shines at an angle to the panels or at the other side of the panels.

3.3.2 About Bullets and Mines

- Bullets fly around the sun just like a ship does.
- Mines have an amount of energy to stay at the same position. When the energy is spent, the mines collide with the sun and disintegrate.
- The closer to the sun the mine is set, the more energy it needs to stay in place.
- Mines can be destroyed with bullets.
- By default each ship has 5 bullets and 3 mines.
3.3.3 About Hit Points

- Collision with own bullets, or enemy bullets or mines decreases the hit points.
- If two ships collide then the weaker ship is destroyed and the hit points of the stronger ship are decreased by the amount of the hit points the weaker ship had.
- If the ship’s amount of hit points goes to zero then ship explodes.
- If a ship collides with the sun it is destroyed regardless of the amount of hit points remaining.

3.3.4 Powerups

From time to time powerups appear on the play field.
There are four different powerups:

- **Mine**
The maximum number of mines is increased.

- **Bullet**
The maximum number of bullets is increased.

- **Energy (yellow or green sphere)**
Player’s energy increases.

- **Shield (red or blue sphere)**
Player’s hit points increase.
Chapter 4

Menu Items

**Game → New (Ctrl+N)**

Starts a new game of KSpaceDuel.

**Game → New Round (Ctrl+R)**

Starts a new round, at the current level.

**Game → Pause (P)**

Pauses and unpauses the game.

**Game → Quit (Ctrl+Q)**

Quits KSpaceDuel.

**Settings → Configure KSpaceDuel...**

 Opens a configuration dialog which lets you define many settings of the game, refer to the chapter Game Configuration for further information.

Additionally KSpaceDuel has the common KDE Settings and Help menu items, for more information read the sections about the Settings Menu and Help Menu of the KDE Fundamentals.
Chapter 5

Frequently asked questions

1. *I want to change the way this game looks. Can I?*
   No. At this moment KSpaceDuel features only one theme.

2. *I have made a mistake. Can I undo?*
   No. KSpaceDuel does not have an ‘Undo’ feature.

3. *I cannot figure out what to do here! Are there hints?*
   No. KSpaceDuel does not have a ‘Hint’ feature. However, if you carefully read through the Game Rules, Strategies and Tips section you shouldn’t have this problem.

4. *I have to quit the game now, but I am not finished yet. Can I save my progress?*
   No. KSpaceDuel does not have a ‘Save’ feature.
Chapter 6

Game Configuration

6.1 Game Keys

KSpaceDuel has a default set of keys to control the game. For a list of default keys see the section entitled Default Shortcuts.

Keys can be configured by selecting the Settings → Configure Shortcuts... menu item.

This will bring up a dialog box which lets you configure all hotkeys, including the keys used for steering the space ships, for firing bullets, and for laying mines.

You can see that each player (Red and Blue), has 5 keystrokes corresponding to Rotate Left, Rotate Right, Accelerate, Shot, and Mines.

When you are finished configuring your keys, you should click on OK to apply your changes.

If you want to restore the default keys, simply click on the Default button once. To make these changes permanent, press OK.

If you want to abandon the changes you made, and return to your previously selected keys, simply click Cancel, and your changes will be lost.

6.2 Game Configuration

All game settings of KSpaceDuel are configurable.

If you want to change the game settings, simply select the Settings → Configure KSpaceDuel... menu item.

This will bring up a dialog box with two pages, labelled General and Game. The first page is rather simple, the second one has seven tabs across the top.

Settings are collected in different configurations. You can choose from several pre-defined configurations.

If you choose the Custom configuration, you can define all settings for yourself.

NOTE
If you have not selected Custom, you will not be able to make any changes to these options.
When you are finished altering the options, you should click on OK to apply your changes. If you want to restore the default, simply click on the Default button once. To make these changes permanent, press OK. If you want to abandon the changes you made, and return to your previous options, simply click Cancel, and your changes will be lost.

The settings are:

### 6.2.1 The General Page

**Hit Points**

This section contains two sliders allow you to define the hitpoints for each of the two players; you might want to decrease the hitpoints for a player to give that player a handicap.

**Refresh time:**

Time between two screen refreshes in milliseconds. All other settings are independent of the refresh time.

**Red Player**

In this section you can define whether the red player gets controlled by the AI, and also choose the skill level of the AI for this player. Just experiment with the different skill level to find one which fits you.

**Blue Player**

This works the same as the options for the Red Player section described above.

### 6.2.2 The Game Page

Here you can select a custom setting set from a drop-down list. Then use the tabs to customize the settings a bit more.

**General tab**

**Game speed:**

Controls the speed of the whole game.

**Bullet tab**

**Shot speed:**

The speed of bullets.

**Energy need:**

The amount of energy needed for one shot.

**Max number:**

The maximum number of bullets a player can have on the screen.

**Damage:**

The number of hit points damage done when a bullet hits a ship.
The KSpaceDuel Handbook

Life time: The maximum life time of a bullet.
Reload time: The time a ship needs to reload a bullet.

Mine tab

Mine fuel: The amount of fuel on a mine.
Energy need: The amount of energy needed for laying a mine.
Activate time: The time a mine is inactive.
Damage: The number of hit points of damage done when a ship hits a mine.
Max number: The maximum number of mines a player can have on the screen.
Reload time: The time a ship needs to reload a mine.

Ship tab

Acceleration: Acceleration of the ships.
Energy need: The energy needed to accelerate a ship.
Rotation speed: The speed at which a ship rotates.
Energy need: The energy needed to rotate a ship.
Crash damage: The number of hit points damage done when two ships collide.

Sun tab

Sun energy: The strength of the sun. The higher the value, the quicker ships will be recharged.
Gravity: The strength of the gravitational pull of the sun.

Start tab

Position X: and Position Y: The ships position at the beginning of a new round. The ships start at opposite sides of the sun.
Velocity X: and Velocity Y: Velocity at the beginning of a new round.

Powerups tab

Appearance time: Maximal time between the appearance of two powerups.
Life time: Maximal life time of a powerup.
Energy amount: Amount of energy a player gets from an energy powerup.
Shield amount: Amount of hit points a player gets from a shield powerup.
Chapter 7

Credits and License

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