June 19, 2012

Super Slider

Game Design Document

Daniel Schenker

D.A.Schenker@gmail.com

Super Slider

# Introduction

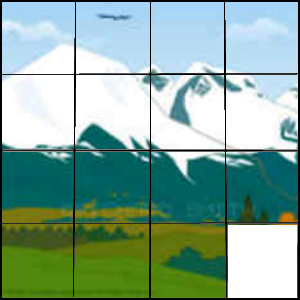
Super Slider is a slider picture scramble puzzle. The game consists of a square grid in which all the tiles of the grid make up a picture, with one tile missing. The goal of this game is to rearrange the tiles to recreate the picture after scrambling it. This is why there must be one tile missing, so that the tiles have room to move, since the player cannot lift tiles up, but may only slide them.

# In Depth Explanation

## *Playing Field*

The game is played on a square grid of any size (determined by the difficulty level chosen), with equal-sized tiles which form a complete picture, with only the bottom right tile missing, to allow for tile movement. Every tile, therefore, is able to move to any place on the grid.

Example of a 4x4 playing field with 15 tiles that are sorted:



## *Gameplay*

The puzzle is scrambled by randomly sliding around tiles until the original image is not clear. The user must then slide puzzle pieces around to recreate the original image. The amount of tiles on the grid is determined by a difficulty setting. A higher difficulty setting means more tiles.

## *Mechanics*

The user may also slide more than one tile at a time, which would cause multiple tiles to slide in the same direction towards the free space.

## *Control*

The player plays the game using the mouse to click on tiles, which then push the tiles towards the free space, if the move is possible.

# Potential Features

## *Playing Field*

Background - The game allows you to choose from a variety of images as the puzzle image, or choose your own image from the user’s hard drive.

Grid Size – The grid can be comprised of a non-square shape. Examples include rectangles, and any other shapes that have no dead ends (i.e. every tile must be able to reach every tile on the grid).

## *Mechanics*

Reusability - Another advantage to this game is that the core mechanics can easily transfer over to other puzzle games, thus allowing for easy additional content. For example, using the sliding mechanic, it would be very easy to implement a car escape game in which the player must slide around obstacles in order to get a car (tile) to escape from a single hole on the edge of the playing grid.

## *Control*

The player can use the keyboard arrow keys to control tile movement as well as the original mouse control. When a direction is pressed, whatever tile that is closest to the free space moves into the free space.

## *Scoring*

The player can choose whether to have a timer that counts up or a countdown that counts down to a time limit, which determines the score, while subtracting points from the total for each move used. The choice to penalize the player for every move by reducing their score can also be turned off as well.

# Design Choice Reasoning

The reason I chose to implement the picture puzzle scrambler as the main game is due to the fact that the levels can be generated (scrambled) randomly, while other potential designs such as the car escape require me to manually make each level, thus taking a lot of time away from programming the game itself.

# Design Motivations

This game acts as a learning project for me, to get better at both programming and game design. This will be my first C++ game which incorporates graphics. I hope that in creating this game, I will learn two main things. First of all, this project focuses on the areas in programming that I am new in, such as graphical and overall game architecture, as opposed to gameplay, physics, artificial intelligence and pathing, because I would like to not fall behind in any area of my programming, while my strengths continue to rapidly grow. Secondly, since I love puzzles, this means that I will enjoy programming this game.