GAME PROPOSAL "CROP CIRCLES"

AUTHOR: Steve Baer
DATE: November 14, 2001
## INDEX

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview</td>
<td>2</td>
</tr>
<tr>
<td>Story Line</td>
<td>2</td>
</tr>
<tr>
<td>Game Play</td>
<td>2</td>
</tr>
<tr>
<td>User Interface</td>
<td>3</td>
</tr>
<tr>
<td>Game Play Area</td>
<td>4</td>
</tr>
<tr>
<td>World View</td>
<td>4</td>
</tr>
<tr>
<td>Accelerator Controls</td>
<td>4</td>
</tr>
<tr>
<td>Other GUI Controls</td>
<td>4</td>
</tr>
<tr>
<td>Characters</td>
<td>5</td>
</tr>
<tr>
<td>Spaceship (Hero Object)</td>
<td>5</td>
</tr>
<tr>
<td>Martians (Rescue Objects)</td>
<td>5</td>
</tr>
<tr>
<td>Enemy Objects</td>
<td>5</td>
</tr>
<tr>
<td>Additional features</td>
<td>6</td>
</tr>
</tbody>
</table>
The following is a proposal for a 2D computer game named “Crop Circles”. The document describes the basic aspects of the game. This includes how the game would operate and appear, and the major components that make up the game. This proposal is in response to Kelvin Sung’s request for proposal on November 7, 2001.

OVERVIEW

Crop Circles is a two dimensional video game designed to work on Win32 compatible computers. It is assumed that these machines will also have graphic cards with openGL capability. The game’s final delivery date is December 17, 2001 (just in time for the Holiday rush.)

STORY LINE

It’s New Years Eve on Mars. After a night of celebration, someone came up with the brilliant idea of taking some spaceships to earth and making crop circles (Martians like to make crop circles and laugh at the confused earthlings.) This joyride ended up not being such a great idea because most of the Martians were very intoxicated and crashed their ships.

It is your job to collect the stranded and hung over Martians before they are swept up in tornadoes, caught by the FBI for extensive testing, or killed by some other danger of earth.

GAME PLAY

A player control’s his/her spaceship around a 2-D rectangular world with the goal of collecting Martians. A level is complete when all the Martians have either been collected or killed by enemy objects. Each new level contains more Martians along with more and faster enemies.
Crop Circle’s user interface is contained on a single Win32 window with four main components as discussed below. The viewports shall have a padding of 5 pixels to provide for distinction between their boundaries.
Game Play Area
The game play area is an openGL viewport showing a zoomed in portion of a level’s world. The spaceship is to always be visible inside this viewport. As the spaceship nears the edge of the game play area, the portion of the world that the game play area focuses on will adjust (pan).

- **Size**: area will resize to fill what is available in the top left portion of the application’s window.
- **Position**: top left corner of application window
- **Aspect Ratio**: 1 to 1 width to height aspect ratio.
- **Scale Factor**: Initially shows 10% of the world’s width and height. Zooming on the world view will adjust this scale factor.

World View
This is a viewport that shows the entire level’s world. A square drawn on the world view represents what the player sees in the game play area. This acts as “radar” for the user to view Martians and enemies that are outside of the game play area. Pressing and moving the left mouse button over the world view will allow for zooming of the game play area’s bounds. Holding the left mouse button down and moving left will zoom in on the world while moving right will zoom out on the world. Zooming on the game play area is always centered on the space ship.

- **Size**: 250 pixels x 250 pixels
- **Position**: to the right of the game play area
- **Scale Factor**: Show 100% of the level’s world

Accelerator Controls
The Accelerator controls are a small set of controls for adjusting the appearance, size, and location of the space ship’s accelerators (see character description). The scale and position of the accelerators are adjusted by the slider controls. The accelerators may be represented as circles or squares by selecting the appropriate radio button. The player controls the speed of the rotation by pressing the ‘F’ and ‘S’ buttons.

Other GUI Controls
This box displays the current score, number of lives left, and the current level. A message box also displays any other important information. This set of GUI controls also contains a pause and quit button.
CHARACTERS

Spaceship (Hero Object)
The user controls the movement and speed of the spaceship. Pressing the keyboard’s arrow keys controls the ship’s direction. Ship speed is adjusted with the ‘F’ and ‘S’ keys.

The ship graphically shows how fast it is traveling with accelerator objects. These are small colored circles or squares that rotate at a speed proportional to the user set speed. The small colored circle’s are under the user’s control. They can be scaled and translated to different positions on the spaceship. They can be displayed as circles or squares. This is discussed in greater detail in the user interface section of the proposal. This fulfills the requested independent component transformation requirement.

When the spaceship reaches the edge of the level’s world, it shall bounce and change directions. Collision with enemy objects will destroy the spaceship. Destroying three spaceships will end the game.

Martians (Rescue Objects)
There are multiple Martians scattered throughout the world that your spaceship must attempt to collect. A player earns 100 points for every Martian collected. A Martian is collected when a collision occurs between the hero object and the Martian object. Martians may also be destroyed by colliding with any of the enemy objects described in the next subsection.

Enemy Objects
Enemy objects travel along random paths on the 2D world. Enemy objects will destroy Martians and spaceships upon collision. Two proposed enemy object characters are as follows.

Tornados – A common sighting in the fields of wheat where crop circles are created. The rings of the tornado move while the tornado travels along its destructive path.

Police Car – The men in black are always chasing Martians around for experiments in their secret labs. Catching an actual spaceship would mean a huge Christmas bonus.
ADDITIONAL FEATURES

- Each level will have a background texture showing an actual crop circle.
- Sound effects will be provided for object collisions and level changes.
- Players will have the ability to save their current game state and reload it to continue playing at a later date.