

# Final Project Proposal – Daniel Kiepfer

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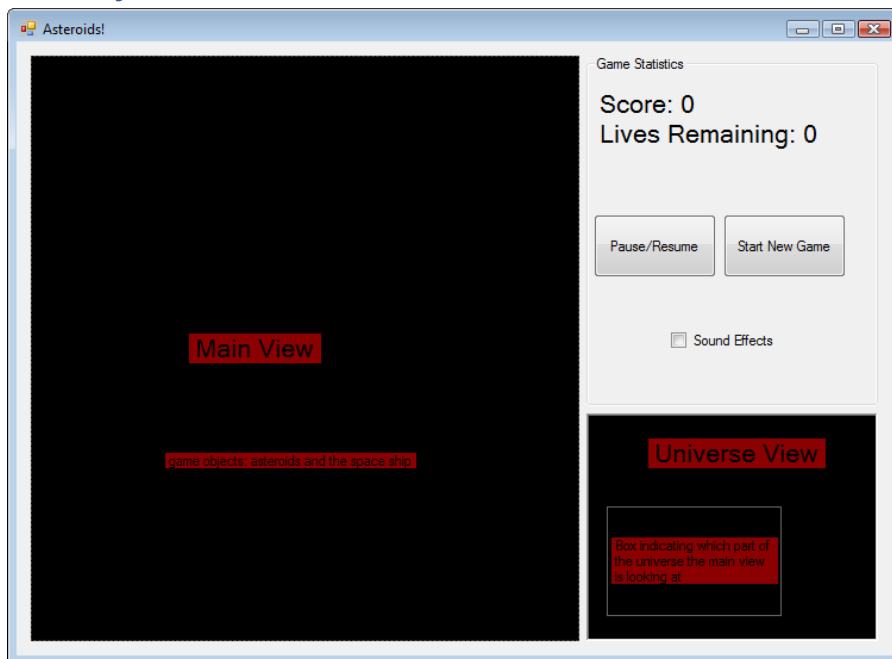
## Functional Specification

My program will be a simple copy of the popular computer game, Asteroids. The user will control a space ship which will be able to fire bullets at regular intervals. The space ship will exist in the confined world, along with a number of asteroid objects.

The user will be presented with a large, “game” or “main” view of a subsection of the universe. On the lower-right corner of the GUI window, another view will show a zoomed-out version of the universe, indicating which subsection of the universe the main view is looking at.

The user can pause a game and resume it again. He/she can also start a new game, regardless of whether one has already been started. Games are played in one of two possible difficulty levels. The user will begin the game with 4 lives. Once all the lives have been lost, the game ends, and the final score is reported. Asteroids will bounce off each other. The ship and asteroids will bounce off the edges of the world.

## GUI Layout



## Specifics of User/Hero Interaction

The user will control the direction the ship is facing with the left and right arrow keys, and will control its thrust with the up arrow key. The universe will dampen the speed of the ship, so if the user doesn't hit the up arrow key for a while, the ship will come to rest. The user will fire a bullet from the ship by hitting the space bar.

## Other Object Interactions

If a bullet or the ship hits an asteroid, the asteroid will break into 4, smaller asteroids. If a bullet or the ship hits a smaller asteroid, the asteroid will go away. If, on the other hand, the ship hits an asteroid, it will blow up, resulting in the user losing one of his/her lives within the game.