Developing an iPad Game: Brogguts

Rendering (OpenGL) and Graphics

- Objective-C vs. C (Quartz vs. OpenGL)
- Layered particle engine rendering stars, sparks, specks, etc.
- Matrix operations drastically improve “dirty” image speeds

Figure 1 - Proxy sprites filling in before the artist was hired

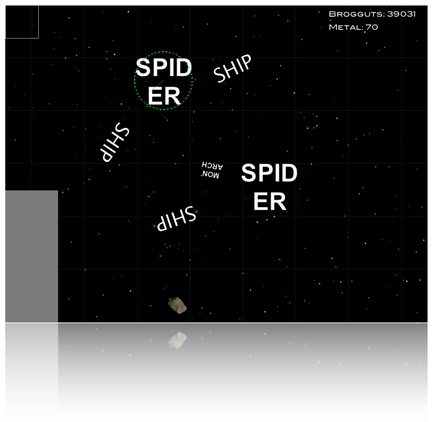
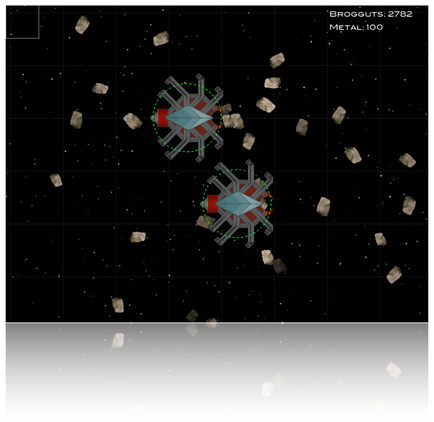


Figure 2 - Sprite drafts and dynamic layered rendering



An Introduction

Brogguts is the main focus of an independent study for COMP 194 at Tufts. It is required to see the project through the entire development process, from design to distribution. Given my history (and hopeful future) with game design, this project has been invaluable to understanding the complexity of the development process.

What is it?

Brogguts is a real time strategy game being developed for the Apple iPad by Foster Lockwood.

Touch Interface and Unit Selection

- Touch screen ≠ mouse and keyboard
- Finding natural control mechanisms
- Choosing which actions to make automatic (attacking, chasing, etc.)

Figure 3 - Two fingers being dragged to select any ships within the shape

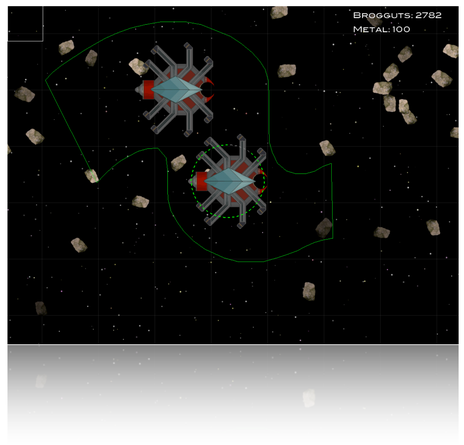
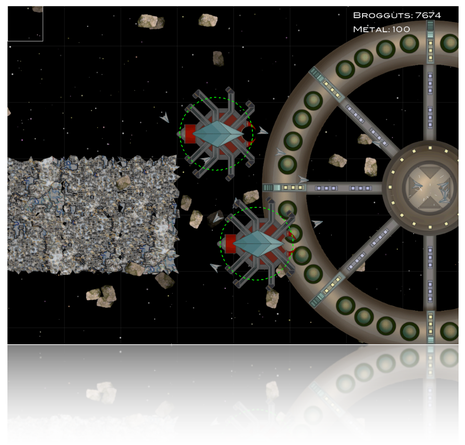


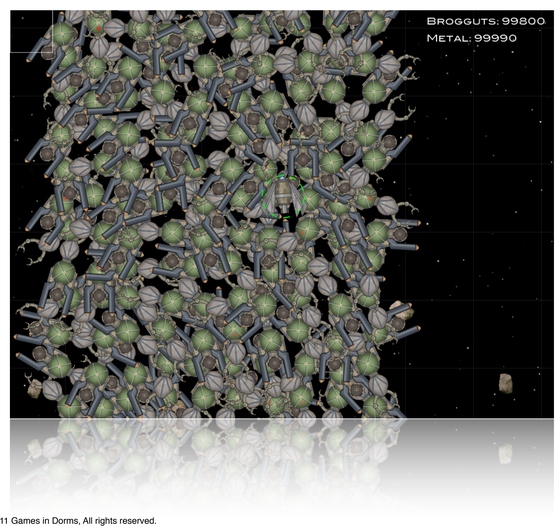
Figure 4 - The two selected ships are attacking an enemy base station



Object Collision and Updates

- Spacial collision detection
- Radial effect collision detection
- A* (A star) pathfinding
- Offscreen objects are only updated if necessary

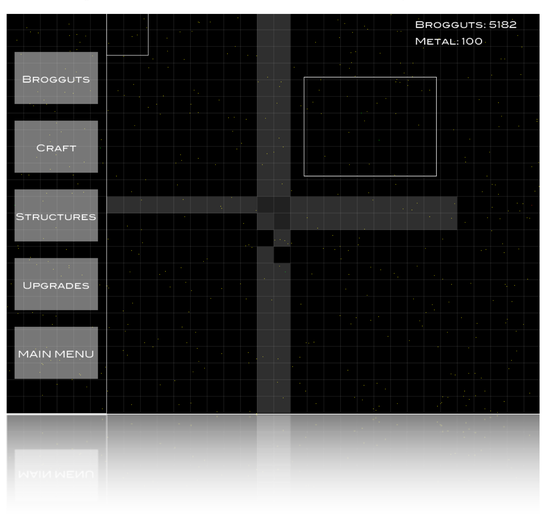
Figure 5 - A stress test of the collision, updating, and rendering engines



UI and Menu Interface

- Essentially rebuilt the Apple UIKit framework using OpenGL and C.
- “Tap and Drag” seemed to be the most natural gesture to create units
- Overview map similar to popular RTS games

Figure 6 - The sidebar is shown on the left, in addition to the map overview



Work-in-Progress and Coming Spring 2011

- Beta testing has already begun (please ask if you are interested, and have access to an iPad)
- No iPhone support, too little screen real estate.
- Full multiplayer support (through Apple’s Game Center)
- Map creator and editor (Both Mac and iPad versions)
- Campaign/BaseCamp challenge levels
- *Brogguts* will be on the iPad App Store by the end of May 2011
- More games after this one!

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As of 04/09/11, all images, text, and gameplay represent unreleased material.