

# HAXXIT

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DESIGN DOCUMENT  
VERSION 0.5  
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## **VERSION HISTORY**

### **Version 0.1 – April 26, 2013**

- Initial draft of the document.

### **Version 0.2 May 7, 2013**

- Second draft: Updated game time, more realistic AI implementation, and more mock up graphics showing what we envision for our art assets.

### **Version 0.3 May 15, 2013**

- Third draft: Added in unit types and abilities, win conditions, and AI overview

### **Version 0.4 May 22, 2013**

- Fourth draft: Created a table to house all variable unit data for game balancing, current in game art

### **Version 0.5 June 10, 2013**

- Fourth draft: Struck out save/load, updated unit tables, added in final art assets, updated table to match new page numbers

## GAME OVERVIEW

### Game logline

Fight to take back the Internet!

### Gameplay synopsis

In Haxxit, you are an agent of the Electronic Liberation Front (ELF) which has tasked itself with taking down the evil Sentient Autonomous Network Traffic Analyzer (SANTA) in a series of turn-based battles in which programs fight for control of servers.

## GAME DETAILS

### Description

The user picks a character to be from the Electronic Liberation Force and as that character travels to different Servers within "the Internet". The player will have Programs they have acquired that will help them to attack the Enemies within each Server. The Server levels will also have Silicoins that players can collect in order to acquire more Programs. In some Server levels the objective will be to collect the Data node instead of defeating all the Enemies. When the player "hacks" (in other words defeats) enough Server levels the player will be able to access the main AI boss. When the main AI boss is defeated the player wins, but can still replay past Server levels.

### Game genre?

Strategy (turn-based/grid-based)

### Is this single-player or multiplayer game?

Single

**Is this 2D or 3D?**

2D

**Where does the game take place?**

The game takes place in the future inside a network system/grid called the Internet. Players traverse a map comprised of Servers (which are thought of as our game levels). Servers are connected and presented in a tree-like graph structure.

**What do I control? How many characters? Can I use vehicles?**

Within each Server level, the user spawns and controls different Programs he or she has. The player moves the Programs to collect Silicoins, collect Data Nodes, or try and attack Enemies.

**What is the main focus?**

The main focus (or overall objective) is to hack and relinquish control of (most of) the Servers from the AI. Within each Server, the main focus is to either eliminate all the enemies or gather the Data Node(s).

**How long the game lasts? Or how long game matches last?**

Server levels last 4-5 minutes. ~~Server levels last typically 5-30 minutes.~~

Game will last 8-10 minutes. ~~Game will last two to five hours.~~

**Comparison**

*Spybot:*

Spybot is our game's current predecessor and main influence. Our game will have a different story and will allow users to undo actions.

*Fire Emblem*

Fire Emblem's mechanics and objectives are similar but is more fantasy based where as our game is more technology and science-fiction based.

*Shining Force*

Shining Force's mechanics and objectives are similar to Fire Emblem but again the story is more fantasy based. Also, their graphics are outdated.

### **What is unique?**

Our game will have enemies that are challenging enough to engage our players.

~~Our game will have more advanced and intelligent enemies.~~ The Enemy's movement patterns and attacks won't always be the same. Enemies will prove more challenging as the difficulty increases. Our game will have an extensive undo support system.

### **Why create this game?**

We wanted to create a game different from the standard, over-produced first person shooter. While our team members play and enjoy these kinds of games, we wanted to create a game where the pacing was a little bit slower and it involved the player to think critically.

## **Audience, Platform, and Marketing**

### **Target Audience**

Turn based strategy fans of all ages and genders.

### **Platform**

The platform we intend our game to be available on is Windows PC.

Three reasons why people would buy this game:

1. Different level schematics and unpredictable enemy movements present an intellectual challenge and various ways to beat a level.
2. Appropriate for all ages.
3. Something different than First Person Shooters.

### **Top Performers**

Other top selling games in the same market as us are Sid Meier's Civilization V, Leviathan: Warships, Might & Magic: Heroes VI, and Unity of Command. (Amazon.com)

### **Feature comparison**

While the movement and attack feature will be similar to that of other games, in our game, our undo feature will prove to be what sets us apart. We will allow users to not only undo their movements but also undo their attacks. We believe this will be useful and valuable for when players make quick decisions and wish they would have better a different choice.

## **FEATURE SET**

### **General features**

During the main screen (when players are traveling through the Internet) players can check inventory and also look to other areas on the map.

~~Players can save and/or exit the game.~~

### **Multiplayer features**

None.

### **Level Editor**

Players cannot customize their own levels.

### **Gameplay**

From the overworld the player can choose a available server node which will take them to a server map. When the player is on a server map they are shown their spawn points and the spawn points of the enemies on the map. The player then can pick spawn points and choose to spawn a unit they have a template for, as



long as spawning that unit does not put the player over the spawn weight for the map.

Each unit will have a spawn weight number and each map will have a spawn weight total. The user will only be able to spawn a total number of units equal to or below the spawn weight, even if there are still spawn points open on the map. This is done for map balancing to ensure at the later stages of the game the play can't just spawn several high power units and sweep the map.

**UNITS:**

Name	Size	Movement	Attack	Ability	Cost	Weight
Player Programs						
Trojan	1	3	2 Range 1	-	750	20
Hacker	4	2	2 Range 1	-	500	20
Sniper	2	2	1 Range 2	-	250	10
Sniper 2	3	3	2 Range 3	-	1000	30
MemMan	3	3	-	Add/Remove Nodes	500	10
Trojan 2	1	7	3 Range 1	-	1500	20
Hacker 2	5	3	3 Range 1	-	1250	30
Enemy Programs						
Sentry	3	1	1 Range 1	-	50	5
Watcher	1	0	1 Range 3	-	700	15
Swarmer	4	3	2 Range 1	-	600	20
Brawler	4	5	3 Range 1	-	2000	25
Santa	25	4	4 Range 1	-	9000	100

~~Bug—Simple Melee Unit, has 1 life, 5 move, and a melee attack that does 2 damage~~

~~Hack—Advanced Melee Unit, has 4 life, 4 move, and a melee attack that does 2 damage~~

~~Slingshot—Simple Ranged Unit, has 2 life, 3 move, and a ranged attack with range 2 and does 1 damage.~~

~~Harpoon—Advanced Ranged unit, has 3 life, 3 move, and a ranged attack with range 2 and 3 damage.~~

~~Patch—Basic Support Unit, has 3 life, 4 move, no attack but can heal unit or remove/add map nodes.~~

#### **ENEMIES:**

~~Bruiser—Simple Enemy Melee Unit, has 4 life, 1 movement and a melee attack that does 2 damage~~

~~Sniper—Simple Enemy Ranged Unit, has 2 life, 2 movement and a ranged attack with range 2 and damage 1~~

During a players turn they can select a unit and move it around the map a number of spaces equal to the units speed. At any time during the players turn, they can choose to have a unit attack and enemy unit if its attack is within range of any spaces occupied by an enemy unit. Having a unit attack makes it so that it can no longer be moved this turn.

#### **MOVING:**

A player moves a unit by selecting that unit then selecting an open space around it. This can be done a number of times equal to a units move. A unit can only move into an open space, if there are no open spaces around it, the unit will be unable to move.

#### **ATTACKING:**



programs' commands, the AI will decide upon a behavior for its own programs for the turn. Example behaviors include AttackNearest (an aggressive strategy when it thinks it has a chance of overwhelming the player), flee (a defensive strategy when the player is assessed as more powerful than the AI), or defend (when there is a data objective node on the map which the AI wants to prevent the player from reaching).

Before determining each AI program's actions for the turn a list of possible actions will be generated. In order to do this a list of nodes from which the program can attack enemy programs will be generated based on the range of the AI program's available commands and the positions of each node in each enemy program.

Likewise, if the AI is adopting a defensive/supportive strategy, it will determine positions from which it can aid its own programs using support commands based on those commands' ranges and the positions of all its other programs' nodes.

After all of the valid command use locations are found, the AI will use an AStar pathfinding algorithm to determine the length of the path from the current program to get to those command use locations (if it exists). After this has been done and the paths have been stored for each command all of the available options will be prioritized.

Commands will be prioritized first based on availability this turn (IE: if the program has enough moves left to reach the command use location). Secondly, commands with higher strengths (IE: number of enemy nodes to be deleted by attack or

number of friendly nodes to extend) will be prioritized over those with lower strengths. Lastly, commands with greater ranges will be prioritized so as to maintain safer distances from enemy programs. If it is not possible for a command to be issued this turn, the AI program will simply move towards the nearest potential command use location so that it may be close enough to issue a command on a subsequent turn. If no paths to potential command use locations are available then the AI will defer its turn to other programs.

**UNDO:**

At any time during the players turn they can undo any of the actions they have taken during their turn. The undo works in reverse order of the actions the player has taken that turn, so the undo moves from most recent to least recent.

~~A mini map button will be present in case the map extends beyond the view of the screen. The user can click on the mini map button and explores other areas of the level.~~

A help button on the Server level screen can be clicked and will give users information on what the objective is, the rules of the game, and a legend showing what the spawn points, Silicoins, and Data nodes look like.

**WIN CONDITION:**

The player wins the level by fulfilling the objective of the level. There are one of two objectives types, clear the map of enemies or retrieve all data nodes. If the win conditions are met the level immediately ends and the user is shown a screen telling them they have won and showing them how many silicons they earned for

winning. Then they are taken back to the overworld and can select a new server to hack or a shop to go to.

**LOSE CONDITION:**

The player loses a level when all of their units are destroyed by the enemy units.

## THE GAME WORLD

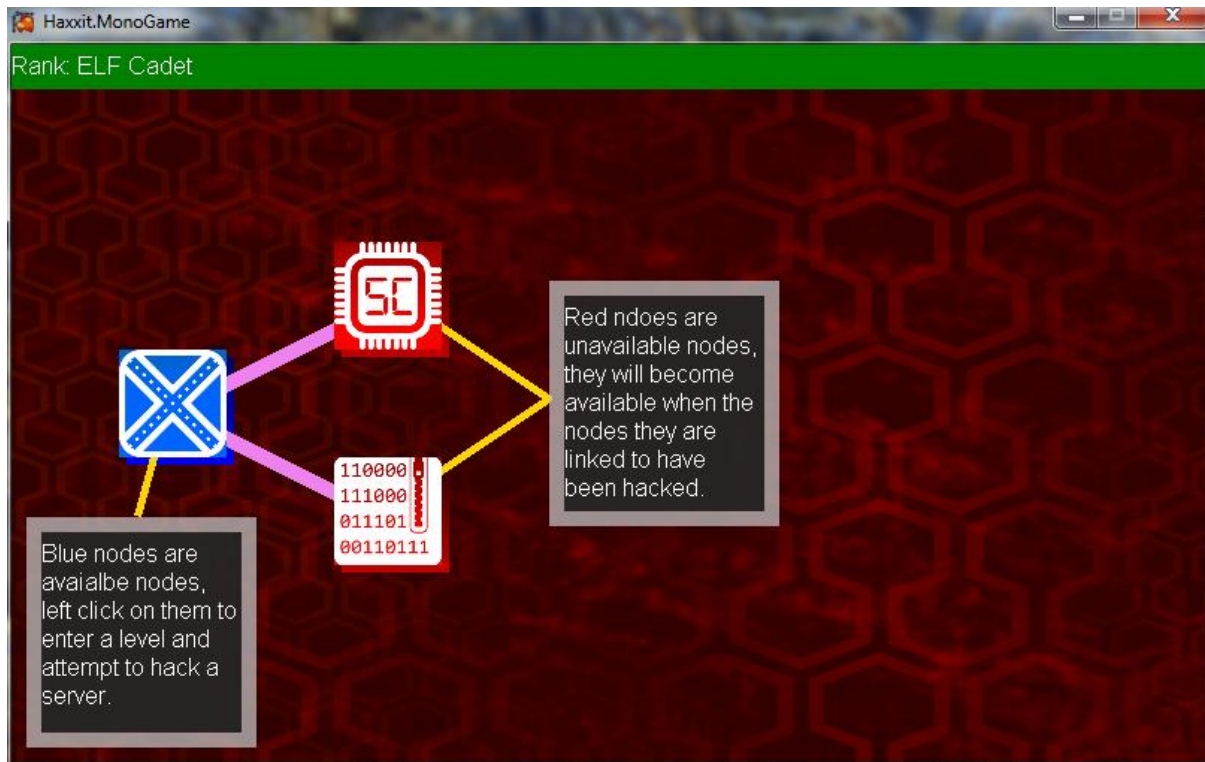
### Overview

The main portion of the game takes place inside the Internet that the AI has taken over.

### Key locations

All the servers represent the key locations in the game. There are several different types of servers:

- ~~—————~~ *Ghost servers* — Servers that can be seen on the server selection page, but are unavailable until the requirements for that server are met and no data can be seen for them except for how to make them available.
- *Secret servers* — Servers that are invisible on the server selection page until all requirements are met to unlock them. Any servers underneath a secret server are also invisible, even if they are ghost servers.
- *Available servers* - Servers that have their access requirements met and are available to be hacked, but have not been hacked yet.
- *Hacked servers* - Servers that have been hacked at least once.
- *Shop servers* - Servers that contain no maps, but instead have program templates that are available for purchase using the credits earned from hacking other servers.



This is how the user navigates the game world

### Travel

Players move to different Server levels based on if the conditions have been met to access that level. Players either select the level to access it directly or move using the arrow keys. Each proceeding level they land on will light up (or do something to show the player they can access the level). If the player cannot access the level they will not be able to move onto it or select it. A message will be displayed to the user listing the set of requirements that need to be met or order for the player to access that server.

### Scale

Normal scale.

### **Objects**

Besides the Programs, Enemies and potential Data Nodes there won't be any items or objects within the Servers. Besides the different types of Servers themselves there won't be any items or objects on the map.

### **Year**

2029

## **CAMERA**

### **Overview**

The camera will be looking down at the map when the player is in the Network Grid or looking down at the level when the player is within a Server. When a player is on the map the camera will follow the player or if the player wants to view other areas an option to move the camera view will be available. During the levels the camera will be static except if the player clicks on the mini map button and wants to explore other areas of the level that aren't in the screen view.

## **GAME CHARACTERS**

### **Overview**

The player is a member of the Elite Liberation Front and can choose from a list of individual team members.

### **Character creation**

Player cannot create a character. The characters will be pre-defined.

### **Enemies and monsters**

The main enemy is the AI associated with S.A.N.T.A.



On each map there will be different enemies each with specific movement and attack characteristics.

## USER INTERFACE

### Overview

The user interface for the main internet map and the Server levels will be minimal.

### Details

The user will see a portion of the Internet while the options to save/exit will be at the bottom. Ability to move the camera to view other areas of the map will be arrow like keys (up, down, left, right) and based on which key is pressed the view will be moved accordingly.

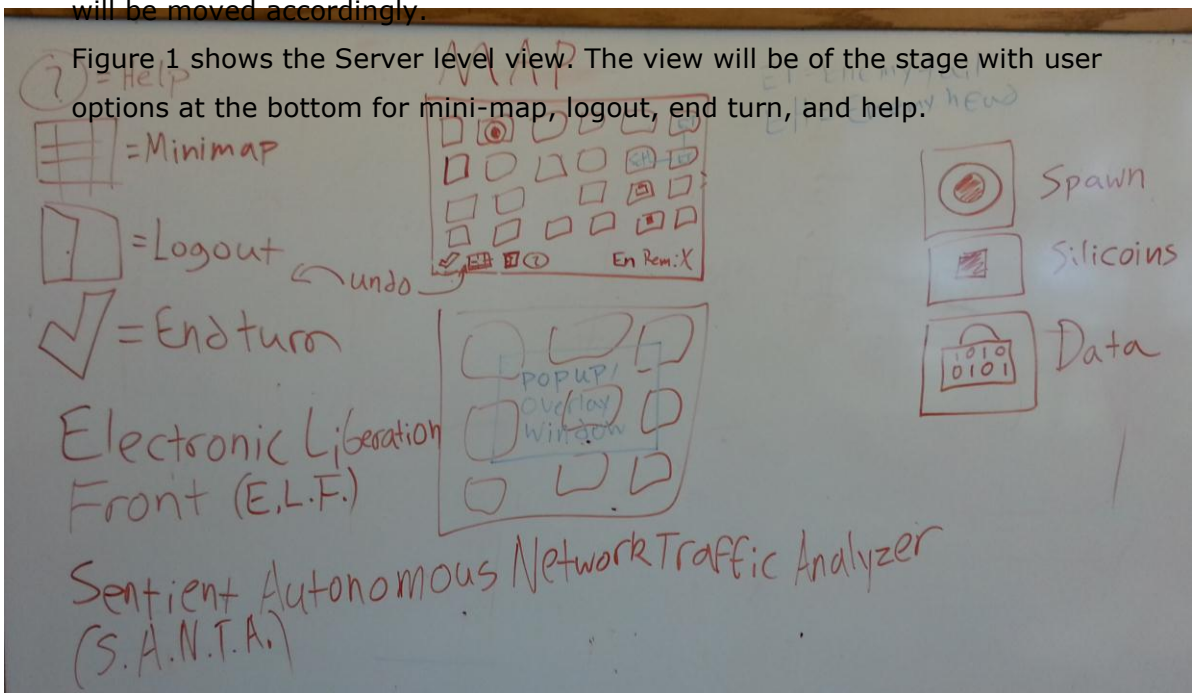
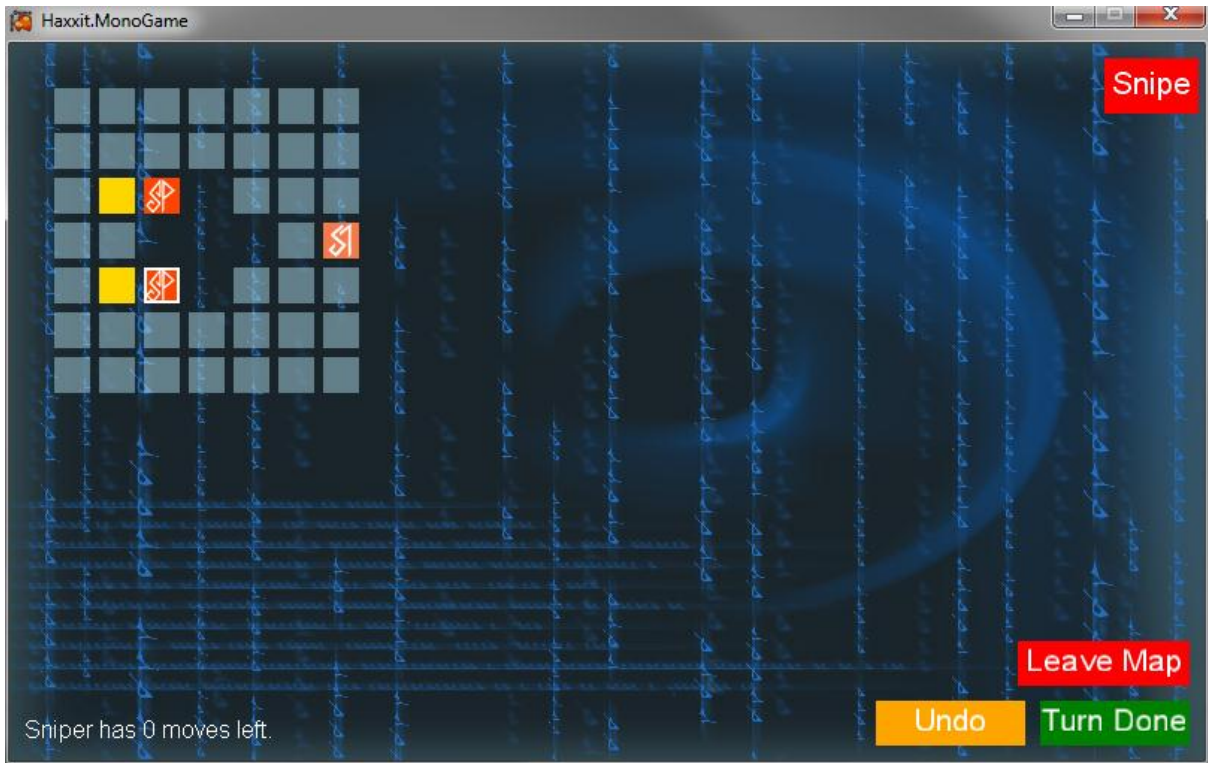
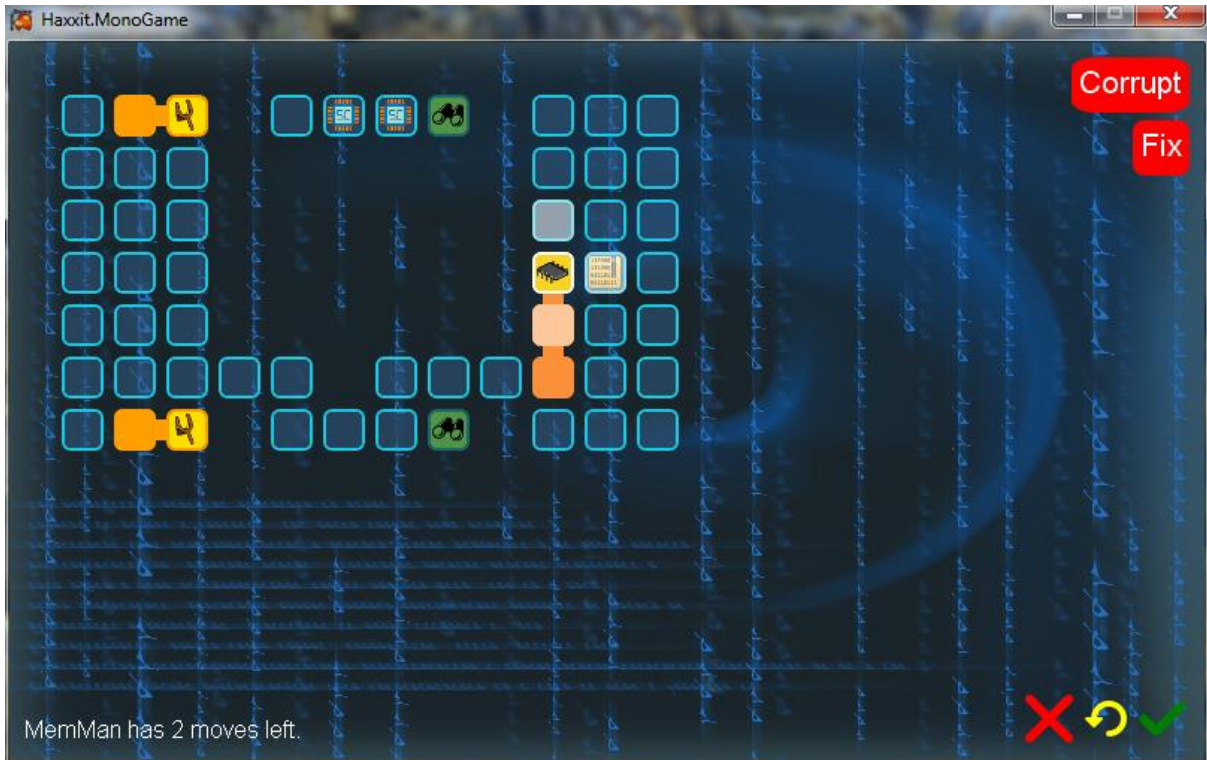


Figure 1: User Interface for Server level.



Current design of server interior



Final design of server interior

## OBJECTS

### Overview

The objects within our game will be the Servers, Programs and Enemies.

### Weapons

Weapons are not necessarily separate entities within our game although the Programs and Enemies will have specific attacks.

### Items

Silicoins will appear in Servers and will occupy a tile.

Data briefcase (representing the Data Node) will appear in certain Servers and will occupy a tile.

## **MUSIC AND SOUNDS EFFECTS**

### **Overview**

Since the game is grid and strategy based with not much animation the background music will be prevalent but the sound effects won't be as prevalent.

### **Music tracks**

While the player is on the Internet map background music will be playing. The music background for each Server level will be different. Music background for every shop Server will be the same, but different than the other Server levels.

### **Sound effects**

The player selecting a Server to access, the player unable to access a Server, the player collecting a Silicoin, the player moving a Program, Enemy movement, the player attacking an Enemy, Enemy attacking the player, confirmation of the player turn, Enemy destroyed, player losing all life within the Server, and the player successfully hacking the Server (meaning all Enemies defeated and/or Data Node collected) will all produce a different and unique sound effect.

## **ART**

### **Overview**

We have "employed" an artist to create images/textures for each of our game elements while the members in the group will try to contribute as much as we can.

### **What kind of style will be used in the game?**

The style that will be used in the game will be cartoon.

### Needed building models

The servers within the Network Grid will be the closest thing to our “buildings”. One image/texture will be used for available, ghost, hacked and secret servers. The available server images will have no transparency. Ghost servers or unavailable servers will have the same image as the available Server but will be slightly transparent. Secret servers will have the same image as the available servers but the player won’t be able to see them until specific requirements are met. Hacked servers will have the same image of available servers but in a different color so the player can easily see that they’ve accessed and hacked the server at least once. Shop servers will have a unique image. Figure 2 shows a mock up sketch of what the Server selection screen will look like.

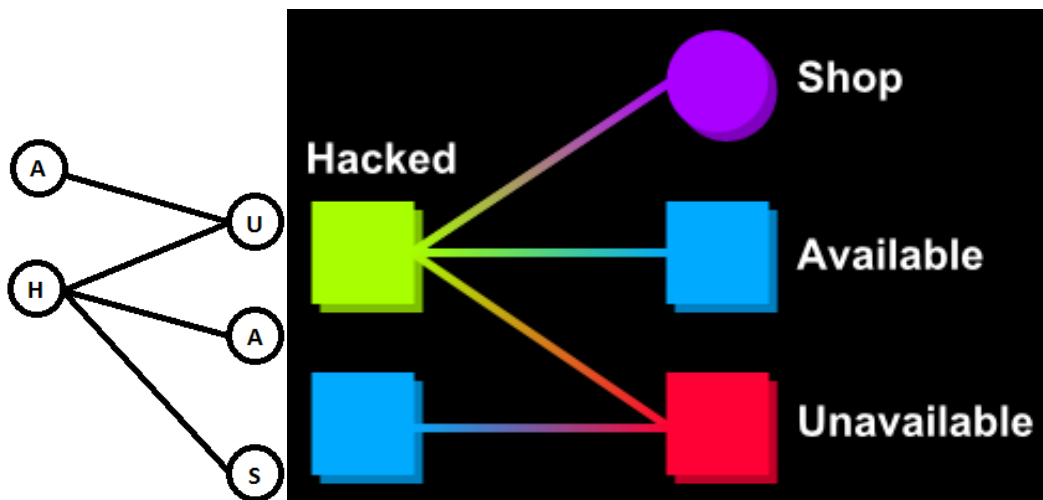
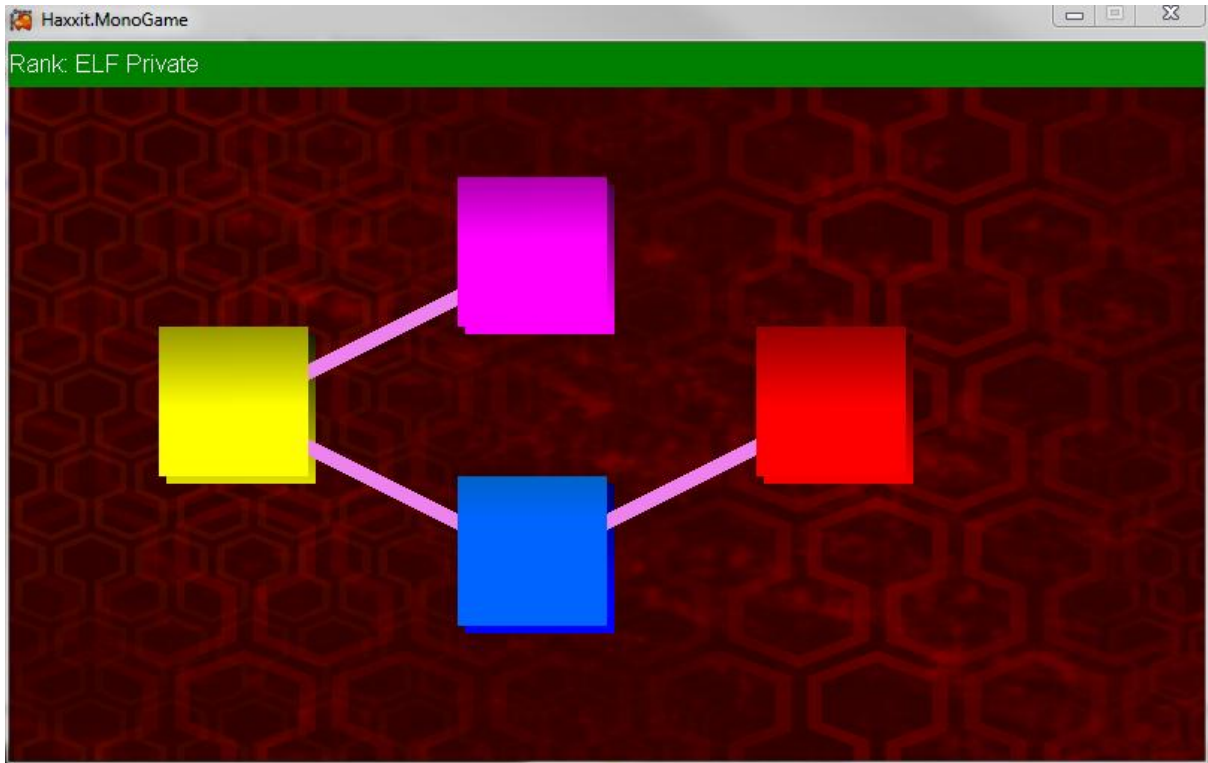
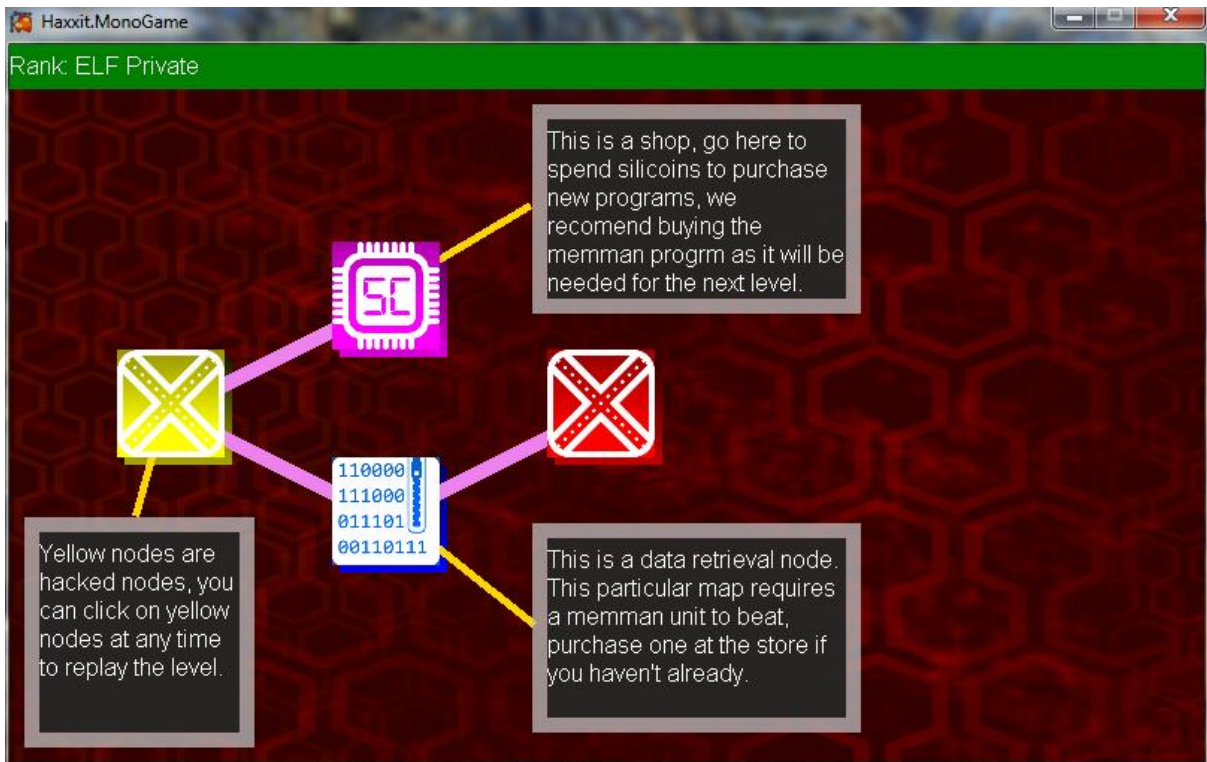


Figure 2: Server selection screen. A is for the Available nodes, U is for the Unhacked/Unavailable nodes, H is for the Hacked nodes, and S is for the shop node.



Current layout of server overworld in game.

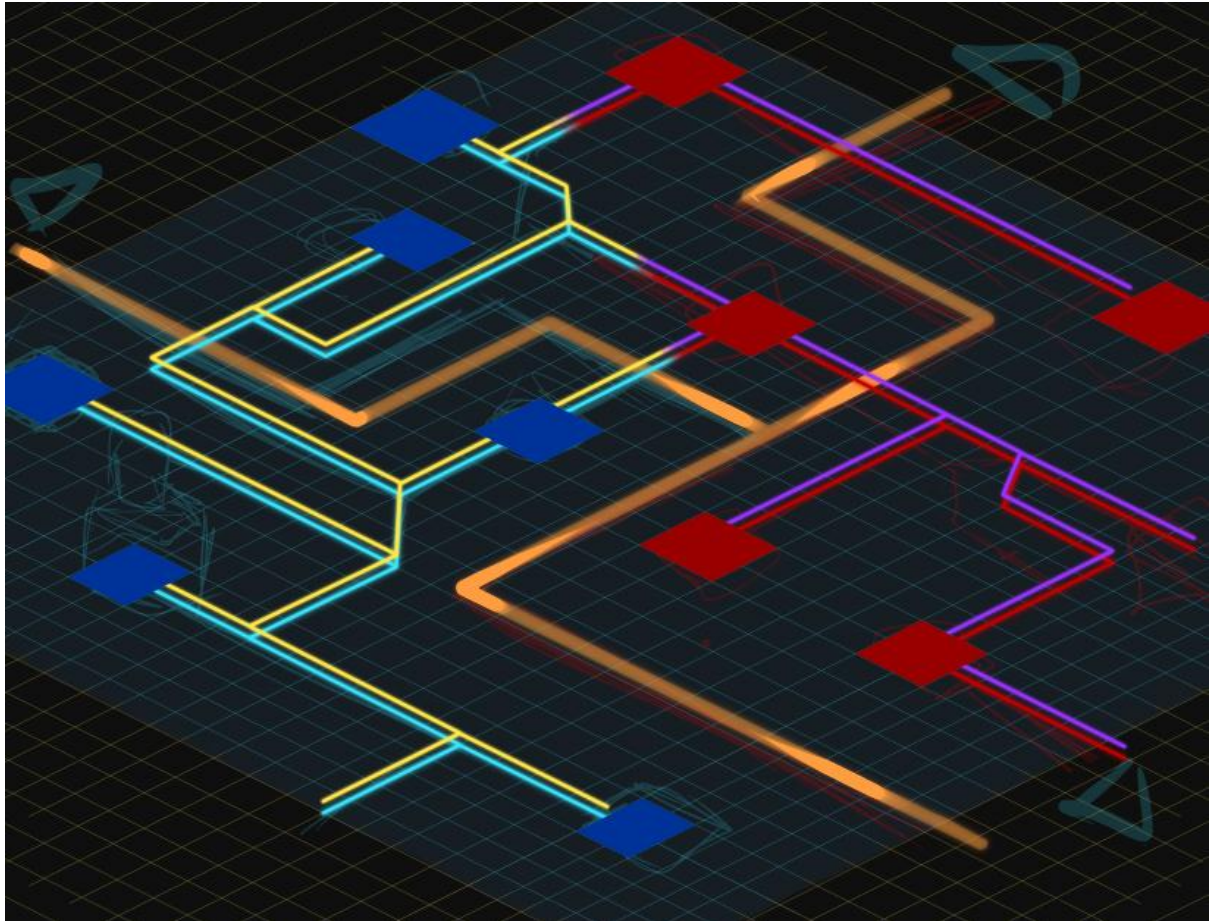




Final layout of server overworld in game.

### Scenery models

Background images will be legally obtained pictures relevant to our story.



Grid tiles will be square png images. Available grid tiles will be a square image with a color and a basic texture. Corrupt nodes will be a different square image and with more of an interesting texture than the available nodes. Unavailable nodes will be the same image of the available nodes but a different shade and/or color so the user knows they can't move onto that grid tile. Figure 3 shows the basic look and feel of the grid.



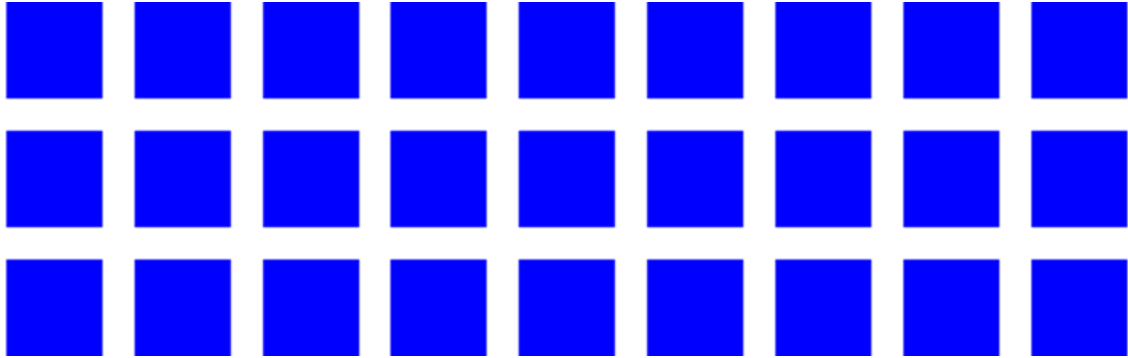


Figure 3: Grid layout with available nodes (blue squares) shown.

Silicoins will have a specific image associated with it and will be on a grid tile (i.e. drawn on top of so the user sees the spawn point within the grid tile). Figure 4 shows the image will plan on using for our Silicoins.



Figure 4: Silicoin Image

Spawn points will be an image of a circle inside a filled circle. The spawn point image will be inside the appropriate grid tiles (i.e. drawn on top of so the user sees the spawn point within the grid tile).

Data will be a png image of a briefcase with 0s and 1s inside it.

### Character models

Since the player's character within the game doesn't interact with anything specifically the character model will be their mid to upper body in a frontal view.

### Other

**Programs:** Programs will be one instance of an image. No animation or multiple images per enemy needed. Grid tiles that are connected to the movement and

health of the programs will be a different color of the same tile image with smaller rectangles of the same color, located accordingly to the left, right, top, and/or bottom of the grid tile, to show the connection of the program's occupied Grid tiles.

**Enemies:** Enemies will be one instance of an image. No animation or multiple images per enemy needed. Grid tiles that are connected to the movement and health of the enemies will be a different color of the same tile image with smaller rectangles of the same color, located accordingly to the left, right, top, and/or bottom of the grid tile, to show the connection of the enemy's occupied Grid tiles.

Figure 5 shows the basic look and feel of the Programs and Enemies.

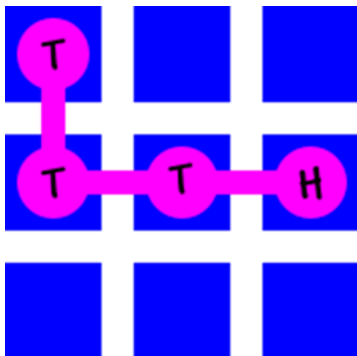


Figure 5: Player's Program depicting where head node is (shown as an H) and the tail nodes (shown as Ts).

## SINGLE-PLAYER GAME

### Overview

The player travels through the Network grid and "hacks" Servers in order to relinquish control of the internet from S.A.N.T.A.

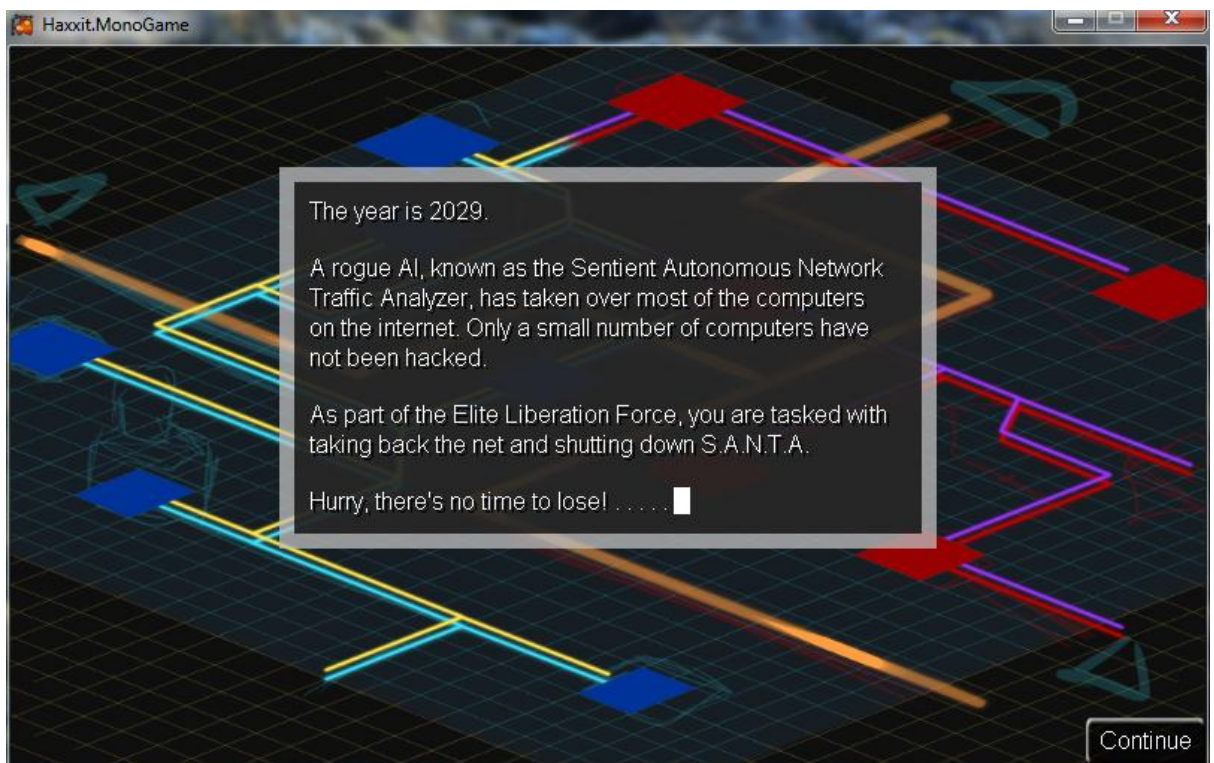
### Details

The Player acquires programs from various shop servers within the Network Grid. The player can then use the programs within the available Servers to attack

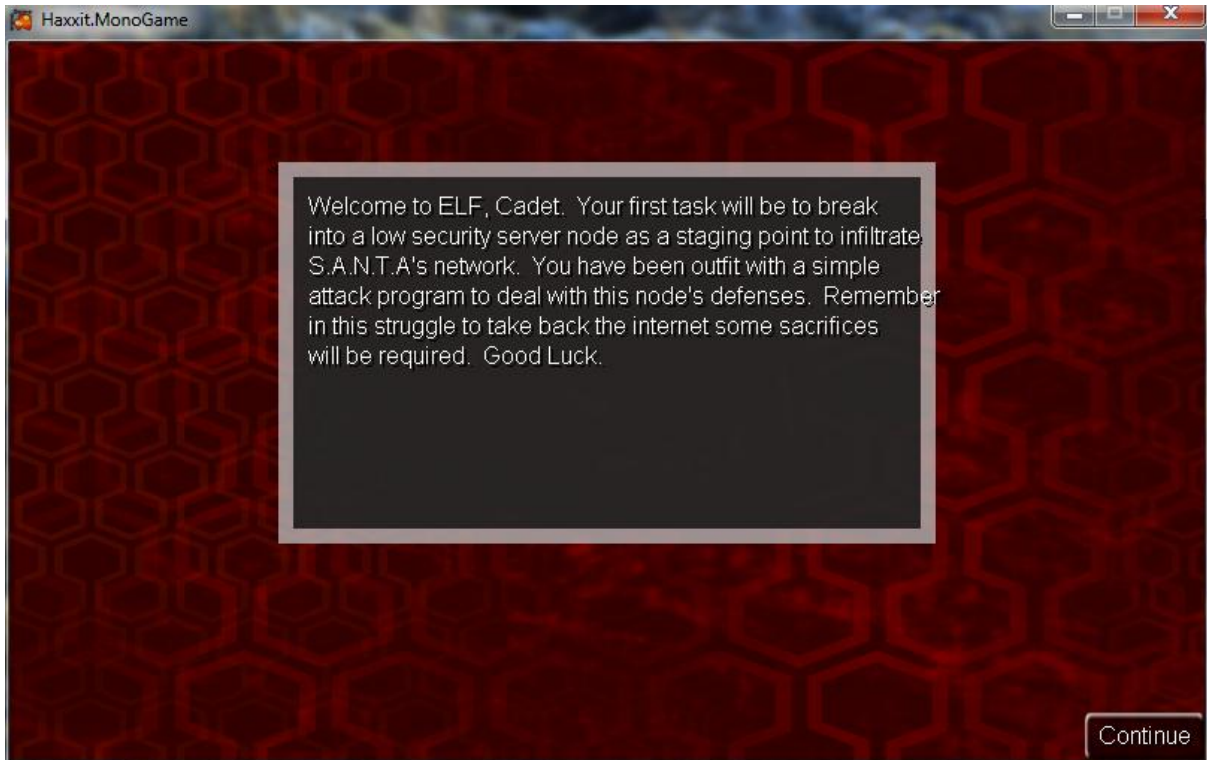
enemies and/or assist in gathering the data node. Defeating all the enemies and/or gathering the data node means the Server has been released from the control of S.A.N.T.A. As the player progresses through the game he or she can upgrade their inventory (programs) and gain access to more Servers. Servers will be available once the Player meets a certain criteria (i.e. other specific Servers have been hacked, a specific program has been acquired, etc.). Once enough Servers have been hacked the player can access the Server node that the main AI is occupying.

## Story

Sometime in the future, an AI has taken over most of the computers on the internet. Only a small number of computers have not been hacked by the supercomputer. The player is part of an elite hacker squad, called the Elite Liberation Force, and is tasked with taking back the net and shutting down the rogue AI program.



How story is conveyed in game



How story is conveyed in game

### **Victory conditions**

The player has to hack a certain number of servers before access to the final boss AI. Once the final boss AI is defeated the player has officially beat the game but can still go back to servers that have been re-taken by SANTA.

Within each server the player wins or beats the level when all enemies are defeated and/or all data nodes are captured.

## RESOURCES & LINKS

### Links to related resources

[http://www.amazon.com/Best-Sellers-Video-Games-PC-Turn-Based-Strategy/zgbs/videogames/11006471/ref=zg\\_bs\\_nav\\_vg\\_4\\_229609](http://www.amazon.com/Best-Sellers-Video-Games-PC-Turn-Based-Strategy/zgbs/videogames/11006471/ref=zg_bs_nav_vg_4_229609)

This link lists the current best-selling Turn Based strategy games.