

Agent P: Infiltration

“You have 10 minutes. Save the Earth.”

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Version: 1.0

The logo for the game "Agent P: Infiltration" is displayed in a bold, italicized, sans-serif font. The text is rendered in a dark gray color with a subtle gradient and a slight shadow effect, giving it a three-dimensional appearance. The letters are closely spaced, and the overall style is reminiscent of a classic action movie title.

(Game Logo)

Executive Summary

Agent P: Infiltration(AP:I) is a space themed stealth game in which the player controls the main character, Agent P, to infiltrate layers of guarded areas in an alien spacecraft in order to reach a control room to redirect the missile targeting earth.

The game is challenging and engaging since the player would be required to avoid enemies and detection devices AND advance to next level under a time constraint.

The games also elevate common stealth game to a next level by giving player a clear goal (redirect the missile) to motivate the player to think and play efficiently.

Overview

Agent P: Infiltration is a 2D top-down stealth game with the story set in a spacecraft. The game will be developed using the programming language C++ and library SFML; therefore, the game should be played on Personal Computers, with the supported operating systems being Linux, Windows, and MacOS.

The game is intended to be played by casual video game players aged 10 and up, due to the potential violence may occur in the game (the main character being attacked by enemies). The game has a number of levels and should be completed within a time limit, therefore it is ideal for students and young adults who have busy schedules and would like to play without committing a lot of time. The game is set in a futuristic alien spacecraft, appealing to players who are interested in Sci-fi and space adventure games.

The game plays like Monaco meets XCOM. Monaco is a top-down view stealth game in which the player controls a character with a certain expertise to break out of a building. XCOM is a 3D Sci-fi strategy game with a storyline of human preventing aliens from invading Earth. XCOM serves as a theme and story inspiration rather than motivating game mechanics. The game theme is also inspired by many other pieces of science-fiction media such as Star Wars and Metroid.

Related Games 1: Monaco

Date: 2013

Genre: Stealth, Action

Developer: Pocketwatch Games

In Monaco, players work to perform heists and commit robberies. Monaco involves stealth and outwitting enemy AI, which will be an integral part of our own game. Because of this, we can look at Monaco and learn from their mechanics and incorporate certain features into our own game. In addition, Monaco is also a top-down game, like our own, and can inspire how we make our game art. Monaco's theme is different than ours, however. Ours will be a sci-fi game with aliens.

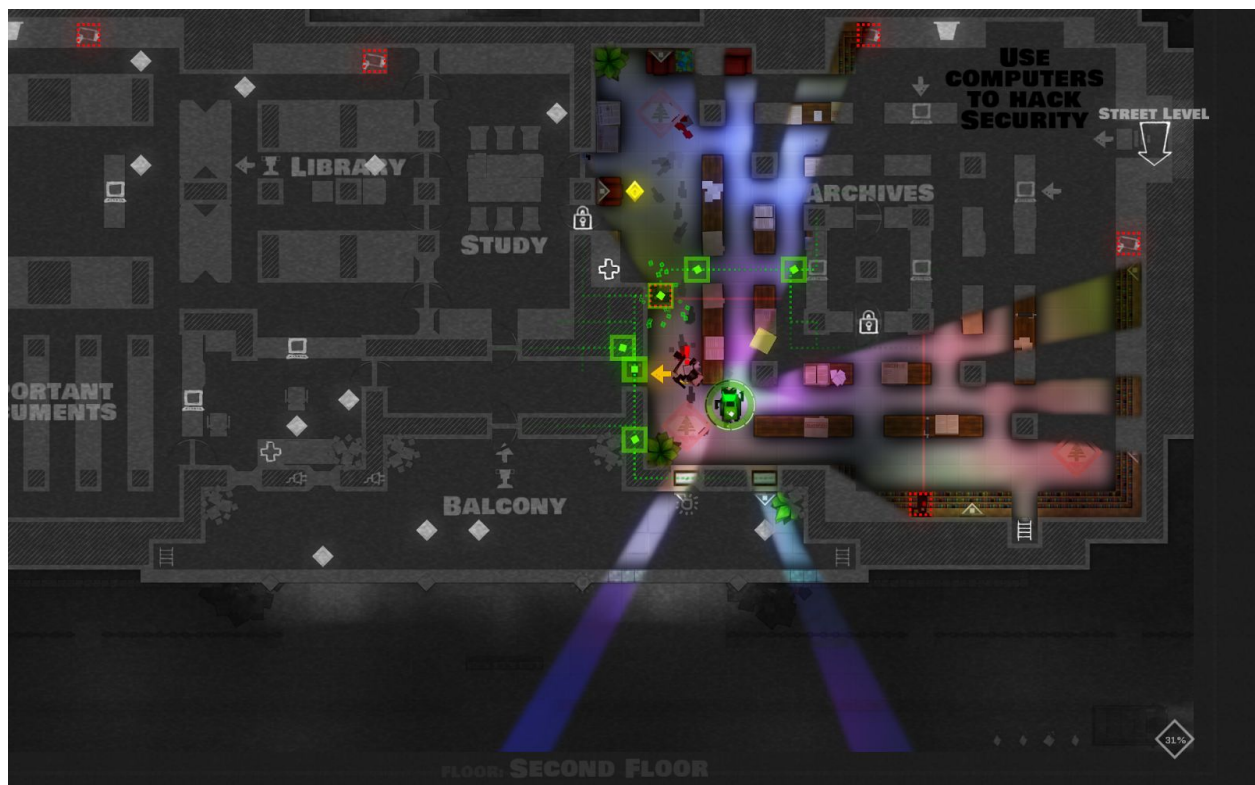


image:<http://criticalindiegamer.com/wp-content/uploads/2013/05/Monaco-Whats-Yours-I-s-Mine-2.png>

Related Game 2: Metroid

Date: 1986

Genre: Action-Adventure

Developer: Nintendo

Metroid is a Sci-Fi game about attacking an alien stronghold and killing the aliens within that partially inspires our game's theme. While our theme is similar, the mechanics and game objective will be very different. The similarity in theme may be reflected in our game art.



Image:

http://atelier.inf.unisi.ch/~dalsat/sai/projects/2015/media/images/games/metroid_screen.jpg

Related Game 3: Stealth Bastard

Date: 2012

Genre: Stealth, Platformer

Developer: Curve Digital

Stealth bastard is a 2D platform game with a heavy emphasis on stealth. The main character in Stealth Bastard meets instant death if spotted by an enemy. Our game will have a very similar mechanic, with enemies being very dangerous. Our game will have ways to deal with enemies, but encounters with enemies will still be very much something that players will want to avoid.



image: https://s.candybanana.com/images/60f2/stealth_bastard_deluxe_1.jpg

Related Game 4: XCOM: Enemy Unknown

Date: 2012

Genre: Turn-based, Tactics

XCOM is a tactics game about commanding a force of soldiers on missions to fight against alien attackers. The game has a focus on positioning, weighing of probabilities, and general analysis of a tactical situation. Our game will take inspiration from the theme of repelling an alien attack, and lightly from the gameplay element of examining the state of a 2D playing field and determining what actions should be taken.



image: <http://www.mobygames.com/images/shots//632506-xcom-enemy-unknown-plays-tation-3-screenshot-inside-alien-base.jpg>

Player Composition

A player that enjoys playing the game will have some characteristics listed below

- Age 10 and older: the game may contain some sensitive contents such as violence, shooting, hacking.
- Enjoys Sci-fi, space, alien themed games, movies, or shows
- Enjoys single player games: the game does not support multiplayer setting
- Accepts violence, but not excessive violence: the game requires players to stealth rather than fight; being overly exposed to enemies will result in failure
- Likes patterns and observation: the AI objects in the game will move and act in certain patterns; observation of these patterns and using the surroundings to the player's advantage are the keys to beating levels
- Enjoys playing games on personal computers: the game runs on Linux, MacOS and Windows
- Has either minimal or extensive free time: the game is relatively small and simple; even if a player have a busy schedule, the game could still be played during short spans of leisure time
- Has either minimal or extensive disposable income: the game is free for users who know how to access it

Example player profile:

John Doe, a 16-year-old high school student living with parents in a suburb in Richmond, VA. Male, single, all disposable income comes from working in a fast food restaurant over the summer. During the school year, John has many classes to take and is a member of three clubs. He plays video games mostly at night, after finishes all his homework or during breaks between homeworks. John has a Chromebook for personal use, he does not own a gaming console. 3D games tends to heat up his laptop very quickly. He hangouts with high schools friends but they do not bond via video games. He is a fan of Star Wars and spy movies.

World

In the near future, humans have made contact with aliens from a planet in outer space. Unfortunately, the contact wasn't pleasant. The tension between humans and the aliens is high. It seems that war could happen any day. Agent P is a spy from the planet Earth, his role is to hide in an alien spacecraft that carries a very destructive missile, gather highly classified intelligence information and periodically send them to Earth to aid the human side. One day, Agent P received an emergency message from Earth. It turns out that humans found out that the aliens are planning a secret missile attack targeting a critical location on Earth. Though the human HQ attempts to inform Agent P as soon as possible, due to an unexpected network error, by the time Agent P received the information, it is only 10 minutes before the missile being launched from the spacecraft. Agent P must infiltrate layers of heavily guarded spacecraft regions in order to reach a secret room, where he can have the opportunity to redirect the missile to stop the attack.

Characters

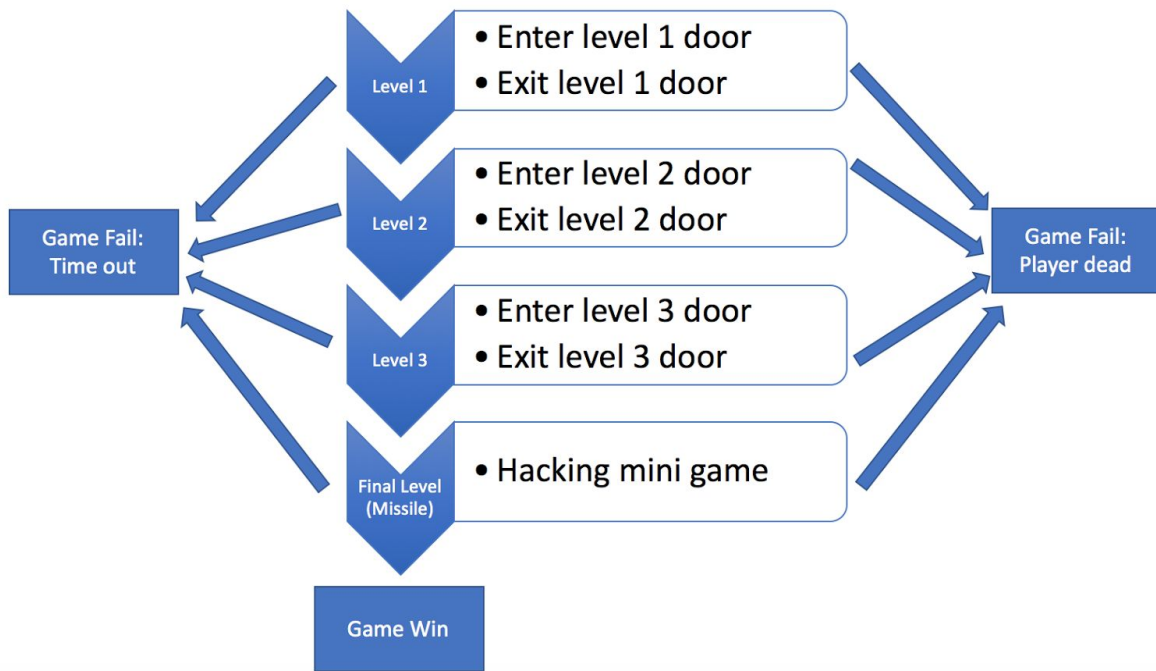
Agent P: Once a computer science professor, Agent P was recruited into a clandestine intelligence organization as part of an effort to combat the new alien threat, which was discovered to use certain familiar algorithms in their security systems. A risky mission managed to get him into the incoming alien craft, but he will need all of his immense cunning and decision-making ability to survive and stop the attack.

Enemy alien type 1: The inferior alien subclass is known as Type-1, which exhibits an animalistic level of intelligence and presents minimal threat to human infiltrators.

Enemy alien type 2: The superior alien subclass is known as Type-2, which exhibits a near-human level of intelligence and presents a significant threat to human infiltrators.

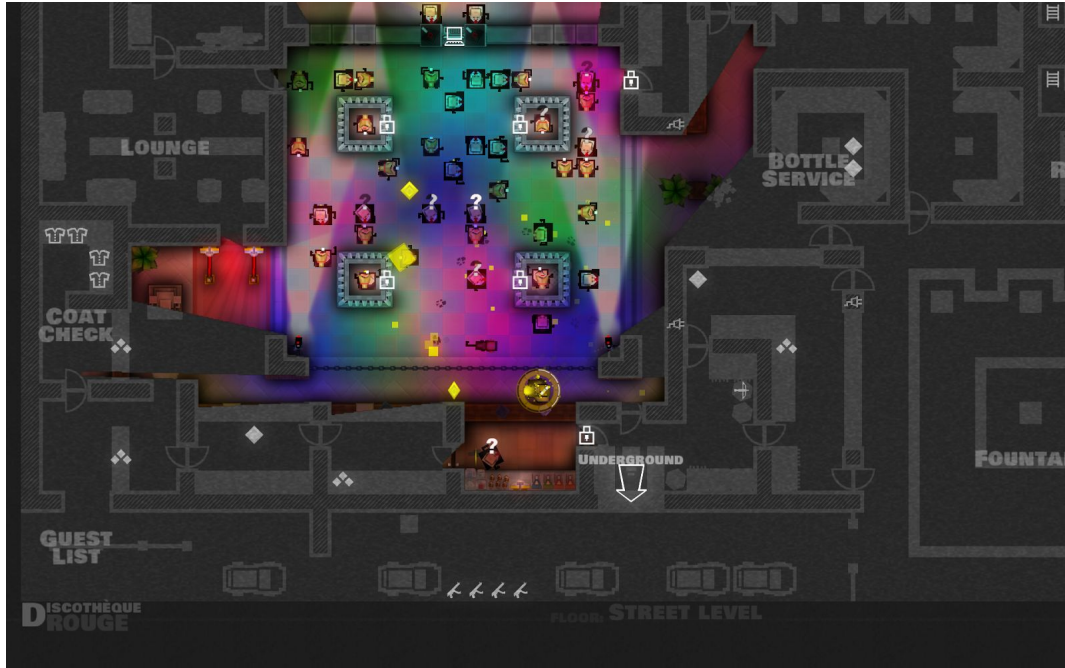
Progression Graph

Game plot graph:



Art Direction

Below a some of the arts that we took considerations and inspirations when creating the game:



Monaco:

http://www.monacoismine.com/images/screenshots/the_pickpocket.jpg



Stealth Bastard:

<http://media.steampowered.com/steamcommunity/public/images/items/209190/16220df59f595d7e643a7b4992fb1d08ba8bc257.jpg>



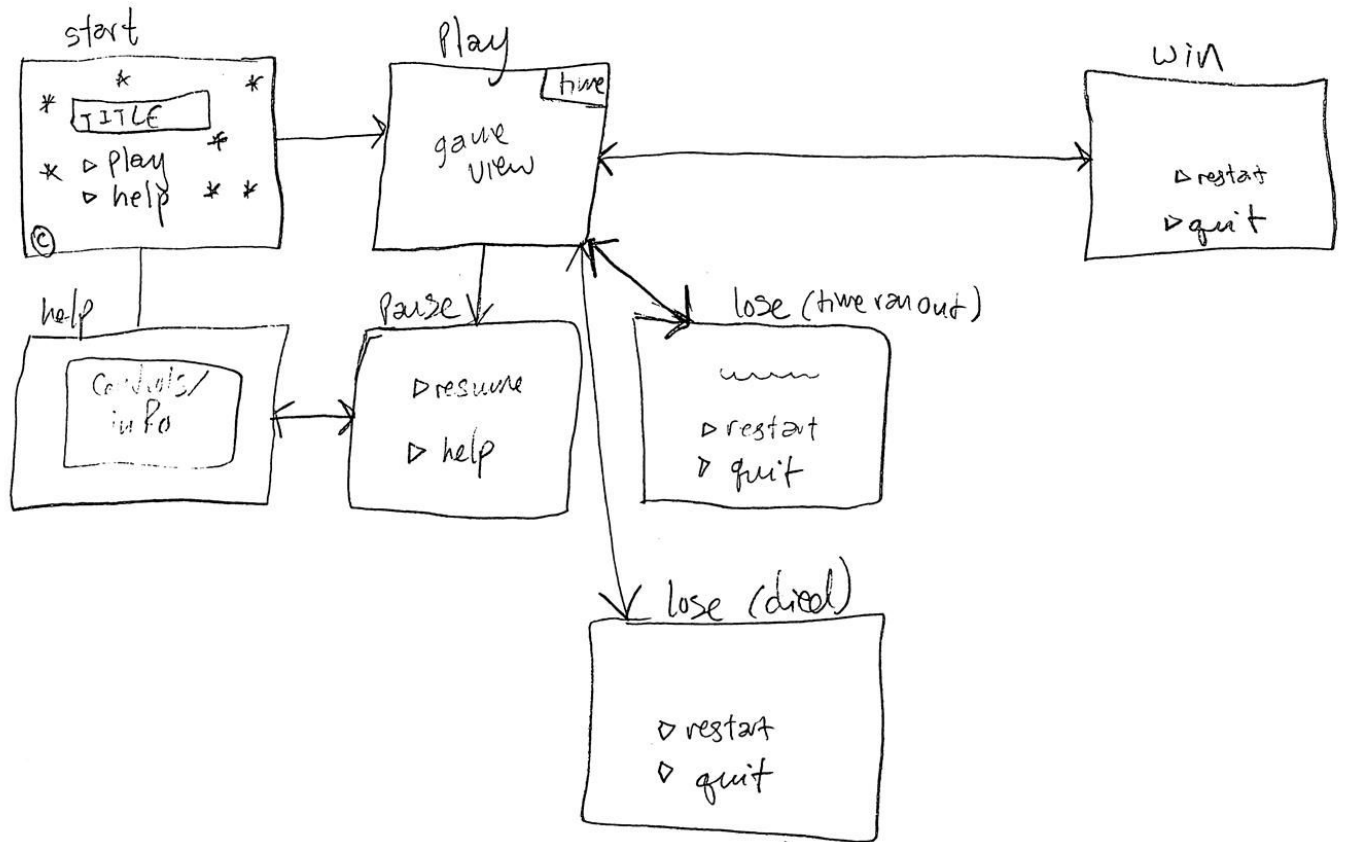
XCOM:

<http://cdn.segmentnext.com/wp-content/uploads/2016/02/XCOM-2-Avenger-620x349.jpg>



X-Men: Wolverine Tokyo Infiltration

UI Storyboards



Software Architecture

The code will be organized into view and logic components. The views will include the primary player game view, which will require communication with the logic in order to render the level map and actors. It will accept player input and report it to the logic. The logic will have variables for the game state such as remaining time, and data structures for holding the loaded level map and actors. The actors will exist as dynamic objects, falling into an object-oriented hierarchy. The logic will deal with interactions between these objects, as well as with the level map, such as collisions and calculations for line-of-sight.

For storing and loading levels, we would use a grid system for static objects such as walls in the game map, which is read from an xml file. In this way, the static level layouts could be easily created and exist consistently in the same locations. The map files also may include information on dynamic objects, to be placed in a loaded level. Dynamic objects, like enemies and interactive objects, would have varied properties, which would affect their behavior and rendering.

Moving objects would be the superclass of character and enemy, which would inherit certain methods involving movement and other mechanics that both the player controlled character and enemy would utilize. The enemy class would then be the superclass of different types of enemies, would inherit properties of the enemy class but then also involve more of their own specific mechanics.

Controls

The user will use keyboard to control the main character. The game will be fully playable without the use of mouse.

Use the key W,A,S,D to move around on the map

Use spacebar to perform action such as hacking the cameras and lasers

Use the key F to dash through an area

Level Design

- The game should have at least 3 levels of stealth game and a final hacking game (completion of which will let the character redirect missile and ultimately win the entire game), depending on the development time available
- Level 1 should be a tutorial level (but still have time constraints to fit the story), with tutorial messages showing on the screen.
- As the user progress through levels, the difficulty increase as the maps gets bigger and the number of enemies, cameras, and lasers on the map increase.
- For each map that contains cameras and lasers that could permanently prevent the character from progress, a device (such as computer) has to be present in the map to allow the character to hack the cameras and lasers so that the game could continue.
- The maps will be hard coded to prevent dead spots
- The patterns of enemy aliens will be hard coded so that stealthing is possible
- The final hacking game will be displayed in a way that the character is facing a screen.
- Since a stealth game is all about observing patterns, the final hacking game should be a mini game that challenges player's pattern recognition capability to fit the context

Mechanics Analysis

Space

- Two-dimensional, continuous space
- Character can walk around on the map, the boundary of the space is the boundary of a specific region or the edge of the spacecraft.
- Outside of the spacecraft is the space with stars

Objects

- Agent P: main character, protagonist, controlled by player
 - State:
 - Alive: the character's health bar is not empty, the object can move around on the map, perform actions, progress to the next level
 - Injured: the object does not have full blood
 - Dead: the object was attacked by AI, the health bar is empty, the object doesn't move
 - Dashing: the object moves quickly toward a direction
- Enemy alien type 1: primitive type of enemy, mobile, causing minimum damage, moves slowly
 - State:
 - Idle: the object is not aware of the main character, wandering on the map following a certain pattern
 - Alerted: the object is aware of the main character and moves towards the main character
 - Attack: the object attacks the main character, causing limited damage
- Enemy alien type 2: more advanced type of enemy, mobile, can cause more damage, moves quickly
 - State:
 - Idle: the object is not aware of the main character, wandering on the map following a certain pattern
 - Alerted: the object is aware of the main character and moves towards the main character
 - Attack: the object attacks the main character, causing significant damage
- Tools: door access code, medical box
 - State:
 - Available: the object could be obtained by the main character, it may hidden from the player

- Unavailable: the object is used by player and disappeared from the map
- Cameras: immobile, have line-of-sight
 - State:
 - Active: the camera is on, if the character walk into the line-of-sight, enemies will be alerted
 - Disabled: the camera is disabled by the character, walking into the line-of-sight will not alert the enemies
- Lasers: immobile, character having contact with the laser will alert the enemy
 - State:
 - Always active: the laser is always on, player has to disable the laser to gain access to move on
 - Partially active: the laser is sometimes on, having a “reload time”, with gives the character opportunities to move on without being detected
 - Disabled: the laser is disabled by the character, walking into the line-of-sight will not alert the enemies

Actions

- Moving: the character moves around on the map
- Avoidance: the character moves around, with enemies, cameras or lasers nearby but without alerting the enemy
- Hacking: the character attempts to disable cameras or lasers, or gain access to doors
- Unlocking: the character needs to obtain an access code from a device on the map in order to gain access to a door and progress to next level

Rules

- In each level, the character needs to gain access to a door in order to progress to the next level
- For each level, the character needs to complete the level under a time limit (e.g. 3 minutes) in order to advance. If the character runs out of time, the game ends
- If the character dies before running out of time, the game ends
- In most of the cases, the player needs to control the character to avoid being detected by the enemy, camera, or laser, in order to reach the goal
- Certain cameras and lasers are hackable, but hacking things will take time

Skills

- Physical skill: the game challenges the player's physical skill of controlling the keyboard as the player moves the character around the detection devices and dangerous enemies
- Mental skill: the game challenges the player's observation skill and analytical skill since the player needs to observe the character's surroundings and find the most efficient path to complete the game

Schedule

October 3: Design Document version 1.0 complete

October 10: Get Git to work, game mechanism design finalized. Game window, start menu complete, art asset development in progress

October 17: Main character setup, level 1 map complete and displays properly. Character can walk around on the map

October 24: Intermediate demo ready. enemy setup, enemy displayed on the screen, enemy have line-of-sight, basic art complete. Create compilable version for demo

October 31: Add more maps and levels to the game, finish AI functions in enemy, enemy can walk around on the map and perform actions

November 7: Climax scene/Missile scene complete, bonus game to “redirect missile” finishes. Time constraint added

November 14: Intermediate demo ready. Create compilable version for demo

November 21: Adding bonus ability and tools to the game: dashing, sneaking, special weapon, etc. Create intro, outro, cutscenes.

November 28: finish testing and debugging all functionalities, art asset finalized (if modified)

December 5: Final demo ready

Changelog

2017-10-02: v1.0, Initial design doc created.