

# Atropos

*A Prototype Space-Drama Game for Four Exciting Players*



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## Philosophy

Science fiction presents an amazing, complex world that is often filled with adventure and epic characters, yet most science fiction games fall short; too often they are reduced to twitch shooters or fairly redundant role playing games. *Atropos* is a fresh take on the science fiction game genre, and combines the best aspects of action simulations and story based role playing games to create a space-drama that more closely matches the world of science fiction.

Guided by a human agent, who acts like the GM of traditional, story telling RPGs, *Atropos* places players into organic experiences; instead of selecting from preset phrases and actions, players must act out what they want to do, using voice communication with avatars controlled by the GM in addition to the simulator elements of the physical “ship” they will be using.

## Predecessors

Although it was not a direct influence, the game *Façade* embodies what the drama aspect of *Atropos* aims to achieve. Although *Façade* uses actual artificial intelligence instead of the human agent of *Atropos*, the end result is the same: natural communication much more relevant than pre-selected dialogue.

Another accidental influence of *Atropos* would be any story telling RPG like *Dungeons and Dragons*: far from action based, games like D&D focus on story, intelligence, and creative solutions to problems. They also, unlike most computer games, are run by humans, adding a unique organic touch and allowing for infinitely more possibility.

The game is also thematically influenced by the re-imagined “Battlestar Galactica” series, which we feel presents a fairly “realistic” view of space combat and exploration. By borrowing general concepts from this and other popular science fiction material, we hope to create a world that feels familiar to players, helping to pull them into the game and give them bearings from which to operate.

## Target Audience

The more we discussed *Atropos*, it became clear that what we envisioned closely resembled a style of gaming known as “live action role playing”, or LARPing. Combining physical spaces and interaction with “in-character” pretense, LARPs have always been somewhat obscure. Thus, as with most non-mainstream games, it is not expected that *Atropos* will enjoy a large target audience.

We anticipate to primarily attract male / masculine players who enjoy science fiction, although the game is by no means limited the single gender. Although the game will most likely attract players of any age, it is highly likely that the game will benefit *greatly* from mature players, much like any other “serious” game.

## **Introduction and Story**

*Atropos* has no story by default; it is, at its base, a framework for adventures, much like the aforementioned story RPGs. The general guiding principle, however, is that players will pilot a small craft of their own through stories and missions crafted by the GM and then “played out” in game. If played over multiple sessions, the stories would interweave, bringing back past enemies and allowing the players to make a visible impact in the universe.

Our trial mission required the players to destroy a radioactive asteroid that was inbound for a space colony; after destroying the asteroid, players were ambushed by the pirate Captain Nagel, who would sabotage their ship’s power and demand their surrender.

## ***Post-Installation Impact***

*As of writing, not much has come from Atropos; we have not been offered jobs on account of it, although I might have a better chance of getting in to CMU’s graduate program if I were actually to apply. In my mind, however, it all went very well; the drama-game framework appears to be workable and somewhat innovative – as it turns out, they use something like it at Disney for a few of their attractions. It is likely that I will be making another large scale simulation game, possible with live-drama aspects, sometime in the near future.*

## **Delivery System and Interface**

*Atropos* is an “installation game”, whereby it is played in a physical space that resembles the ship the players are “piloting”. All human-game interfacing is done through simulated computer and radar displays, with gratuitous switches, analog meters, and flight controllers. Communication with GM characters is done through audio equipment and the main screen (when applicable).

- The GM has a standard, high resolution screen, which displays information about the players, NPCs, objects, and the overall status of the game. They also have a keyboard with shortcut keys, allowing them to control different avatars and trigger special effects.
- The command officer has a voice communication headset / handset to talk to avatars, a personal information screen to supply him with tactical information, and has main control over the large, projection screen in front.
- The tactical officer has a console with a radar monitor, switches to configure range and scan type (physical, electrical, biological, and radiological), and controls and gauges for controlling the lasers.
- The navigation officer has a console with a radar monitor, switches and dials for entering FTL jump information, meters for the overall ship power, and flight controls.

Included with the actual control interfaces are “game artifacts”, such as manuals, post-it notes, and other mementos that act to both enhance the play-space and help the players learn how to interact with their environment and use their equipment.



*The Interior: Inspiration and Actual Product*

## User Interaction

Each player has their own UI, as they each have their own physical interface.



*User Interface: Command Officer.*



*User Interface: Tactical Officer.*



*User Interface: Game Master.*

## World / Level Design

Due to the fact that space is largely empty, most of the world is empty. However, there will be a galaxy map, which players will FTL jump around to get from scene to scene. In the place of levels, players simply play on a small location of the world map. Thus, much like with MMORPGs like *World of Warcraft*, it's possible to travel across the entire galaxy at conventional speeds; it would simply take an inexorable amount of time. Specific locales can be configured by the GM with objects such as asteroids or space stations.

## Visualizations

All visualizations consist of radar screens, computer screens, or “video feeds” of characters that players are currently interacting with. They are kept simple but detailed as to clearly convey information to the players. As we are slightly weak in both development and implementation of “insane graphics” typical of modern games, this graphical style works in our advantage and will undoubtedly help us meet our strict time requirements.

## Music and Sound Design

Although there is no music, sound effects play an important role in *Atropos*. In addition to setting the tone, sound effects are important for conveying non-visual information to the players, such as alarms, explosions, or even something more ambient, such as strain on the ship. With access to a large sound library, we had little trouble locating the sounds we needed.

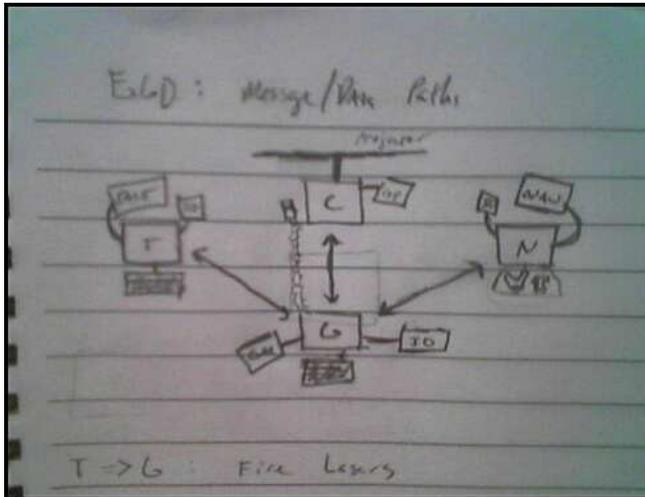
## Rules and Gameplay

As *Atropos* is primarily a framework, the rules and gameplay have an element of transience to them. However, there are some basic actions that players can and will have to take, which essentially define the game:

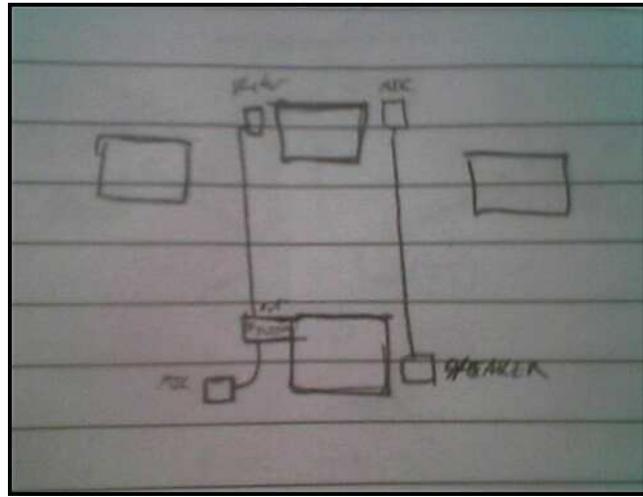
- **Weapons:** Players may fire weapons, both kinetic and energy, at any object or other ship that they can target with their systems. As the purpose of the game isn't necessarily blow up everything in sight and kill the players if their reactions aren't quick enough, combat will be somewhat slow and subject to the more important elements, such as story. Weapons must be fired in conjunction with navigational maneuvers, as issues such as range and weapon angle come into play.
- **Scanning:** Much like in D&D, players must take the initiative to search for potentially hidden things, hence the existence of multiple scan modes. The default scan, physical, picks up "solid" objects, and acts as the normal eyes of the ship. Electromagnetic, biological, and radiological scans can detect running electronic systems, living organisms, and radiation, respectively.
- **Navigation:** The navigation officer will be required to steer the ship both in and out of combat situations. "Normal" activities, such as dodging debris and docking, will compliment more "extreme" situations, like combat, requiring the navigator to coordinate with both the tactical officer and the command officer. The navigation officer must also plot FTL jumps, a slightly strategic process requiring a course to be charted.
- **Communications:** Players may be contacted by or may initiate contact with both targets (such as a ship within range) and on known frequencies (such as the players' home base or the "government emergency frequency"). When in communication with characters (controlled by the GM), players will be shown the characters' avatars and be able to directly communicate with them, replacing mundane cut scenes with interactive content.
- **Information Streams:** A core principle that drives *Atropos*'s team based gameplay is the concept of independent information streams. Each player is given a unique source of information and has a unique job; if they do not communicate their to each other and work together, they will quickly fail.
- **Creativity:** Players are encouraged to attempt creative solutions to problems; instead of simply destroying the enemy, players are free to attempt to capture them or even join them.

## System Architecture

*Atropos*, as it currently stands, is set to run on four machines: one for each player, with the GM's being the "server". Most, if not all, of the code will be written in python, with basic game input and output being done through the pygame library. All computers will be networked together and connected using the pygamenet network framework, written by Zach Barth. All custom hardware will be connected via the zIOboard, a simple digital/analog input/output board created by Zach Barth. Audio will directly link the GM to the command officer, with a physical mute switch for the command officer and a digital voice modification filter for the GM.



Overall system layout.



Voice system layout.

## Implementation and Production Timeline

	2/25	3/4	3/11	3/18	3/25	4/1	4/8
<b>Zach</b>	Specification	Hardcore Coding	Hardcore Coding	Interface Construction	Set Integration	Set Integration, Testing	Final Touches
<b>Ken</b>	Owned by VV	GDC + Scenario Design	Art and Sounds	Set Design + Art and Sounds	Set Construction	Set Construction, Testing	Final Touches

## References

Façade - <http://www.interactivestory.net/>  
 Dungeons and Dragons - [http://en.wikipedia.org/wiki/Dungeons\\_&\\_Dragons](http://en.wikipedia.org/wiki/Dungeons_&_Dragons)  
 Battlestar Galactica - [http://en.battlestarwiki.org/wiki/Main\\_Page](http://en.battlestarwiki.org/wiki/Main_Page)

## Problems and Solutions

- Because *Atropos* was designed for longer games, ranging from thirty minutes to an hour in length, it seemed that many players had a difficult time with the sharp learning curve. With brilliant feedback from Katie Salen, however, we began doing “flight checks” – by asking players to charge their lasers, they instantly understood that lasers had to be charged and learned how to do it, something that came in handy throughout the scenario. Thanks to the drama-game infrastructure, we were able to work this in seamlessly and without effort, something that without a doubt saved our game from being near-unplayable.
- When it came time to deploy our hardware, it wasn’t fully functioning; it took us over an hour to realize that one of our keyboards was causing the Tactical Officer’s keypad, rendering him unable to accept or send hails, along with targeting missiles. We also had problems with the laptop that we borrowed from the VCC, something else we were unable to resolve until about an hour in when we switched it with my laptop.
- Surprisingly enough, I think the feature everyone hated the most was that we provided them with more information than they needed, in the form of the *ARS-24 FTL Drive Manual*. Acting as a game-artifact, I intended for it to increase the “reality” of the ship, and perhaps provide information in the form of a heavily highlighted and marked page informing players that they could enter a coordinate and hit Enter to engage the FTL drive. Although reading the book wasn’t necessary by any means, everyone seemed to have clung to the notion that we were absurd to require our players to read a 20 page manual. From this I have learned what I feel is a valuable lesson: be careful when giving players extraneous information.
- Throughout development of *Atropos*, a reoccurring issue between myself and Ken was whether or not the Command Officer would get bored. While he believed that the CO needed more controls to twiddle, I anticipated more analytical, tactical, and role-playing action for the position. Unfortunately for myself, I think that Ken was mostly right; most players who played the position of the CO were unable to fulfill the role that it required. I found myself guiding most of the conversations that I had with players, with very few people even asking me questions when they didn’t understand something. I think this problem, much like that of the learning curve, could be easily fixed by simply changing the actions of the GM, such as asking more questions that demand answers and reactions from the players.