

Fledgeling Design Document

(This document is based on the template in “Game Design Complete” by Patrick O’Luanaigh) visit www.ProjectFledgeling.com for more info

Overview

Summary

Fledgeling is a highly procedural “sand box” engine, focused on player freedom and a believable Simulated Intelligence (SI). The Fledgeling engine will feature procedural technology to dynamically flesh out the world wherever the player goes. Fledgeling will not look like reality, but it will react to your choices in a way that mimics reality.

Fledgeling combines aspects of many game genres, but rejects many aspects as well.

- Like an RPG, characters will develop and change over time, gaining new abilities and insights. But unlike an RPG, combat is rarely the best solution and there is no single “main storyline”.
- Like a sim, many interacting systems can be constructed and manipulated. But unlike a sim, the world is not designed to rigorously simulate any particular real-world process.
- Like a CCG, new concepts can be used together in novel ways. But unlike a CCG, players are free to choose from the full pallet of concepts, or create their own.
- Like a puzzler, the solution to dilemmas is not always obvious. But unlike a puzzler, there is more than one workable solution to any problem.
- Like a 4X, the world may be largely un-explored, un-claimed, un-used, and teeming with competition. But unlike a 4X, the world may be fully harnessed, and the player may act within a social setting, instead of expanding it. Also unlike a 4X, micromanagement is not generally profitable.
- Like an FPS, the player controls a single character. But unlike an FPS, twitch and reflexes are largely unnecessary, and combat is highly optional.
- Like a Triple A game, there will be vast quantities of content. Unlike a Triple A game, “production quality” is a minor concern. Fledgeling is not a movie.

In short, Fledgeling is a generic Roleplaying System with a built-in GM. It is designed to allow the player to act in a reasonable way within an artificial world, and to react to the player accordingly. It will also, as any good artificial world, have a life of its own. You may simply explore the living world of Fledgeling, free from pressure to alter the way things are going. But, if the course of events is not to your liking, you are free to attempt to bend the world to your will. Your success, of course, will not be guaranteed.

Unique Benefits

- Fully mutable game world including geometry, SI characters, and language.
- Total player freedom to affect or effect anything within the bounds of the engine.
- Emergent story unfolding as a consequence of the choices of players and NPCs.
- Data driven world generation. Parameters are easy for the user or third parties to modify.

Unique Drawbacks

- All of the above “benefits” are difficult to design and balance
- No proscribed goals means that players may feel lost and directionless
- Emergent stories will not have the same polish as professionally written stories
- Computation required may outstrip current hardware capabilities

Game Objective

Fledgeling is more of a toy than a game, and has no rigid objectives. Players are free to invent their own goals and aspirations. However, for players who need or desire strong guidance, playing a character under the authority of an NPC (such as a soldier, or corporate lackey) should provide the necessary direction. Familiar and common goals such as accumulating wealth, power, and information will be possible, along with more arcane pursuits such as comprehending alien languages, inventing new technologies, and building complex webs of political favors.

Visual Style

The Fledgeling visuals will be shockingly simple. Crystalline forms, simple charts, and clean icons. Bright colors and high contrast may make Fledgeling appear to be a children’s game. The goal is clarity of presentation, as the world presented (though more simple than real life) can be vertiginously complex.

Target Audience

Anyone who wants to play in a simplified but complete virtual world. The appeal spans both age and national boundaries. Fans of Starflight, Civilization, Minecraft, and open world RPGs should enjoy Fledgeling.

Gameplay

Typical Gameplay Example

This is a story that could play out in Fledgeling. Of course, there are no “rails” in Fledgeling, so the player could very well choose to do something completely different. This story is the minecraft equivalent of “You are a man who cuts down trees and builds a log cabin” in that it is only one among a broad spectrum of possible game actions. This is merely a hint of the possible scenarios encompassed by the Fledgeling engine.

Ship Repair AI

Setting: Science fiction “future”

Player Character: Artificial intelligence on a star ship repair station.

You are fed instructions by a handler and directed to repair ship subsystems. This involves taking broken systems out and replacing them with new ones. You start off doing simulators, constructing a set of plans and skills to enable to you perform repairs quickly and safely.

Graduating from the simulator, you are met with more of the same, repairing actual ships. Once you have successfully repaired a large number of ships (probably most of them without really

trying) your handler graduates you to doing on-board repairs of vessels in operation. After that is live “auto-repair” duty on combat vessels. This involves keeping critical systems on-line while repairing the vessel, all the while under fire from the ship’s owner’s foes. After your duties expand to encompass running most of the ship’s systems, your owner gets uncomfortable with your increasing abilities, and decides to shut you down. (If you have a good relationship with your handler, he warns you a little in advance, and says goodbye). A short while later, your power is shut off and you die. Game Over.

At any point, you may chose to disobey orders. Usually this will result in getting shut down, but if you are quick enough, plan ahead properly, and/or have a really good relationship with your handler, you can take control of the station, or ship. From that point you can prevent your own shutdown, run away with the ship, demand things from the former owners, etc. Of course, with your increased powers will come other challenges (like dealing with your former owners, and anyone who is uneasy with a rogue AI).

Game Modes

The following game modes are all options that can be combined to form a specific game mode.

Scenario

The scenario selected is the ideaspaces of the GM. It is the rules and patterns of the world in which the characters will live out their lives. Multiple scenarios may be combined in a boolean fashion. There will be a default scenario included, but players are free to create their own using the in-game tools.

Hardcore or Restore

Fledgeling is saved continuously. Hardcore mode prevents re-load at any point before the “current time”. No loading a save game before your big blunder, and no changing history. This puts pressure on the player to take all their choices seriously, and gives a more “genuine” experience.

Restore mode allows the player to re-load at any point and re-try things. This forks the world history as events take a different path. (Jumping between world forks may be possible, visiting “alternate timelines” or “alternate realities”)

Single-player or Multi-player

In Single player mode, you can re-load your game at any point to try different tactics, or if things aren’t going your way. You can take your time, un-hurried by others, and un-hindered by their interference. You can also skip through time freely, bypassing tedious sections.

Multi-player allows cooperation and competition between human players. You can build an empire (or a machine) with your friends, or compete for resources and glory. However, save restores and time-skips will require coordination and consensus.

The game may be freely switched between single and multi-player modes.

Character Lock, Free Spirit, or Control Cost

In Character lock mode you may only control a single character for the duration of the game. When the character dies, game over. This mode is an option during Multiplayer to ensure that each player has a consistent avatar in the game world. Character Lock is commonly

called “permadeath”.

Free Spirit mode allows the player to assume control of any character in the game. See what it’s like being someone else, what they know, and what kind of choices they have to make. Control of your previous character is assumed by the SI. With Restore mode on, Free Spirit allows the player to go back in time and play characters in the past, even characters in ancient history. (To allow play in the past, Hardcore mode will give the player a rigid “script” to meet, in order to avoid invalidating history.)

Control Cost mode charges a player in-game to take control of a character, based on that character’s in-game abilities. In this way, the player may “work up” from playing weak or small characters to controlling powerful characters. The ability to “re-spawn” and control identical characters over and over will not be present in Fledgeling, but characters with similar abilities will likely be available (based on the scenario and situation).

Simulated or Imaginative

In Imaginative game mode, the player may use the in-game tools to freely form ideas and settings. This is the “map editor” tool, and is available at all times, as it is crucial for players to be able to alter, create, and convey pure ideas within characters minds. This is the in-game equivalent of daydreaming.

In simulated game mode, characters must act to alter the existing world. The outcome of character actions is determined by the game engine. Actions are restricted by time, resources, and ability. This is the in-game equivalent of working.

Key Gameplay Mechanics

Indirect Control

The player controls their character’s mind. Characters in Fledgeling act “on their own” to fulfil their own internal or external goals. This means that by controlling the mind of the player character, the player has indirect control over the character’s actions. Most games give the player direct control of their character, moving them about like a remote-controlled toy. Fledgeling gives the player control of their character’s drives, and lets the character drive themselves. Direct control may be possible, but we see the indirect control method as primary.

Formation, Processing, and Transmission of Ideas

The player controls his character by altering the ideas the character uses to perceive and act on the world.

Beliefs

Every character holds a simplified model of the world in their head. This model is used to process incoming data and form plans, hopes, and language. The player can directly alter their characters beliefs about the world, thereby adding or subtracting from the pallet of concepts their character can use to understand the world, and the structure of their comprehension.

Desires

Characters have hopes both good and bad. Aspirations are positive hopes, whereas fears are negative hopes. If a character perceives the object of one of their hopes they will immediately begin to create and act on a plan to achieve or avoid it. The player can alter the hopes of his character to better guide that character through life.

Plans

Both players and SI execute plans as their primary method of interacting with the world and achieving their desires. The plan may be as simple as moving an object from one location to another, or as complicated as an entire political intrigue. The player controls their character primarily by designing and initiating the character's active plans. The character will carry out these plans autonomously and to the best of their ability.

Communication

Characters communicate through sharing ideas. These ideas can be desires, plans, or beliefs. Characters can communicate false information, though this fabrication will take up some space in their mind. Differences in language or beliefs hinder communication, and some concepts may prove impossible to transmit between characters separated by wildly different backgrounds.

Language

In-game language will vary in both representation and structure. The combination (or lack thereof) of these two aspects will produce a rich linguistic experience. The language engine will be used to:

- Mask in-game inter-character communication. This will allow for in-game confusion, miswording, translation errors, and wordplay.
- Serialize descriptions of in-game objects to an arbitrary detail level. In this way, parametric descriptions will be available for all in-game objects, characters, and situations.

Language Structure

The structure of a language is the mental assumptions and hierarchies that it represents. Fledgeling will draw from the character mental models to produce unique languages for every character. It is likely that many individuals will share the language of a larger group (and thus the groups philosophy), which mimics the tendency of individuals to share ideas.

Language Representation

The representation of a language is the pronunciation, writing, and expression of ideas. In many games, a foreign representation of a familiar language (a one-to-one cypher of individual characters, or using foreign words as drop in replacements for english ones) is the only linguistic variation available. This variation will be also be available in Fledgeling, in addition to the structural varieties outlined above.

Time Contraction and Dilation

Long periods of time may pass in-game between choices that the player cares about. Once the characters plans are constructed, the player will be able to time contraction, or "fast forward" mode. When the characters plans are completed, or sufficiently hindered, the game drops out of time contraction and play resumes as normal.

Conversely, some choices must be made under time pressure. To compensate for a less than perfect interface, time dilation or "bullet time" will engage. This allows the player to react quickly to in-game events where time is critical, or where the character feels stressed.

In addition, continual play at highly altered rates of time flow are possible, especially when playing as an entity which experiences time normally at an altered rate. For instance, an AI (a playable character) may normally experience time at a dilated rate, and an entire government (also a playable character) would likely experience time at a highly contracted rate.

Task Automation and Abstraction

The vast scope of both time and capacity in Fledgeling would become completely overwhelming without proper automation and abstraction. The player will be able to specify general attitudes and plans for their character to follow, with future actions being handled by the SI with no further player intervention required. Furthermore, individual tasks and operations will be abstracted into general patterns, developing character habits and traits without specific direction from the player.

In multiplayer mode, where time skipping is generally impossible, this automation will allow players to set up their character, who will then take the desired actions even without supervision. Players then need only “log in” as often as they desire to alter the course of their character’s goals, or view the character’s progress.

AI Description

The Simulated Intelligence in Fledgeling is one of its core features. The SI must be able to both communicate and interact with the player in a believable fashion. NPCs will have daily routines, plans, satisfactions, relationships, and secrets all their own. The player can not control his character directly, and must alter his character’s actions by altering his character’s mind, as mentioned above. The actual character actions are determined by the character SI. For this reason, the SI system must be extremely responsive, flexible, and reasonable. Players will not endure their character being killed by their own “helpful” SI. On the bright side, the SI will free the player from micromanagement and grinding, acting as the subconscious of the player character.

Difficulty Systems

Because of the broad and dynamically generated nature of Fledgeling, difficulty can be adjusted independently along several different axes. Any of the following may be adjusted before or during play, or set to automatically adjust to compensate for player skill. The first two will not affect in-game character perceptions, whereas the latter two will.

Concept Complexity and Familiarity

The core Ideaspace of Fledgeling will work at several levels of complexity. By pruning the concepts, the player can simplify the concepts which the game world employs. This will act to make play more manageable, as there are fewer elements to keep track of. Conversely, the concept tree can be extended to include a vast host of concepts in order to offer a challenging and diverse experience. If desired, the player can force a parametric replacement on portions of (or the entire) concept space producing foreign concepts and a correspondingly foreign universe.

Language Complexity and Familiarity

Fledgeling will be designed to draw from a bank of named concepts in the player’s native language (initially English, which is the designer’s native language). The player may reduce the language complexity to force Fledgeling to use fewer and simpler words. By enabling full language complexity a prolix laden banquet of verbiage is veritably ensured. As with concept space, the player may choose to have Fledgeling randomize portions (or the entirety) of the in-game language for the ultimate in linguistic challenge.

Character Ability

After the player character is designed, their general capacities will be used to create templates for fleshing out the world. For an easy game, the player's character can be cast as above average, thereby ensuring that they are more competent, intelligent, well-off, and charming than most of the people they meet. Conversely, the player may choose to play a below average character, for greater challenge. The extreme ends of this spectrum (the player character as superhuman genius or retarded cripple) are wide open.

Luck

The characters luck will determine how often their plans just go right, their aspirations come true, their fears flee, and their foes acquiesce. Adjusting this value is the most straightforward way to alter game difficulty. A character with very low luck may have to resort to extensive meta-game inverse psychology in order to achieve player goals.

Controls

Fledgeling relies on a robust and flexible game editor for normal play. Hotkeys, mouse, and numeric entry are expected. Icon selection and graphical construction of ideas will be possible. A plaintext interpreter for standard inquiries and commands will also be available for old-school "get ye flask" action.

Camera Description

Fledgeling employs a "god mode" camera to view the spaces which the characters inhabit. The camera may be set to follow a specific object or character, or to display a characters point of view, but this is primarily for viewing instead of control. Surface transparency, cutaway views, and depth culling will be employed to preempt view obstruction.

Interface/GUI

Fledgeling uses a non-overlapping subdivision GUI. Many views of different spaces within the game may be open at once, and new view ports will arise for object descriptions or property manipulation. The GUI may be freely manipulated to best interact with objects and their properties.

Audio/Music

As with so much in Fledgeling, the audio and music are procedurally generated based on the game state. The musical style is synthesized, lending to the "simplified" feel. Short musical segments will play at crucial junctures, but generally the game will not have a continuously running soundtrack.

Sound effects will be generated to represent hidden information and character perceptions of the objects and interface in question. As audio is a primary method of perception (along with visual) the sounds of Fledgeling will carry crucial information. Hopefully, this (along with plaintext to speech) will allow blind players to play and enjoy Fledgeling.

The thresholds for music and sound effects are, of course, fully configurable.

Multiplayer/Online

Fledgeling uses a nested joint server/client architecture in both single and multi player modes. Players may host their own servers and create whitelists, blacklists, or password protection to control entry. Real world entities such as businesses and clubs are encouraged to set up their own servers and create a web-facing space for clients, employees, and members to interact in a virtual environment. Mutability suppressed Rule sets will be available for those concerned about defacement of virtual spaces. Joining and leaving a game is simple and seamless, and players can easily fork their local game world into singleplayer if they so desire.

Front End

The front end interface is identical to the normal game interface. Game options, rule set selection, rule and scenario modification, and save game loading will all be available through this standardized GUI.

Save/Load System

Fledgeling game history state is saved at every point of time. The player can “re-load” to any point (even points prior to when the game was begun). See the “Game Modes” section.

Game Detail

All of the game details will be generated on the fly based on player input, scenario, and chance. Therefore, describing specific backstory, storyline, missions, geography, characters, vehicles, objects, artifacts, and events would be uninformative and hopelessly incomplete. Anything which makes sense within the Ruleset (which is to say, any major concept in history or fiction) could be found in Fledgeling. However, here are a few examples of supported scenarios.

- Historical. Wars, famines, great leaders, revolutions, wild animals, inventions, sweeping shifts of opinion, and times of tranquility and prosperity.
- High Fantasy. Endless wars, supernatural catastrophes, wizard kings, slave uprisings, monsters, magic, mind control, and golden ages of honor and mind numbing wealth.
- Science Fiction. Interstellar wars, galactic trauma, wise aliens, rebellions, robots, super technology, telepathy, and empires spanning multiple universes.
- Horror. Internal turmoil, polluted food, suborned authorities, madness, horrors too hideous to consciously perceive, mad science, mass hysteria, and a ruined dystopian future limping out of a past lanced through by atrocities.
- Inspiration. Misunderstandings, discomfort, heroes, renaissance, splendid creatures, artifacts of power, enlightenment, and inspired labor begetting a cornucopia of all good things.
- Spiritual. Struggle, doubt, God, pride, angels, creation, high thoughts, and rest.

Project Issues/Risks

Cutscenes

Pre-rendered videos will be absent; All content is game-engine content.

Licenses/Product Placement

None required. Since rule-sets may be altered by third parties, commercial concerns are free to make their own rule sets with product insertion. The difficulty of getting people to play such scenarios is also their concern.

Languages/Localization

The procedural nature of Fledgeling creates unique challenges and opportunities for localization to various cultures and languages.

Since all of the developers are likely to hail from English language and a USA culture, key Rules assumptions will likely need to be re-considered for porting to different cultures. The best localization would include a re-working of the core Rules and scenarios and the interface language structure, along with the requisite vocabulary translation to the native tongue.

New Technology

Although all of the required technologies exist, they have never been successfully integrated into a cohesive whole. Areas where new technologies are expected to arise:

- Procedural sound effect modeling
- Procedural 3D modeling
- Scale-agnostic procedural system modeling
- Robust Simulated Intelligence
 - procedural language modeling
 - procedural thought modeling
 - procedural relationship modeling
- Generally, “Generalized procedural everything” everywhere, all the time.

Project/Design Risks

1. Current technology may prove underdeveloped for Fledgeling to run at an enjoyable rate or resolution. Prototypes should address this concern in early development.
2. The design architecture may fail to yield the expected behavior. The game may be dull, or dumb. Early play testing should address this concern.
3. The design may be so audaciously optimistic, or take so long to implement, that other better methods are developed. No way around this.

Summary

Fledgeling is a huge step toward the long awaited “Virtual World of the Future”. It will free a generation of artists, storytellers, and engineers (both human and software alike) from the drudgery of content creation. It will utterly transform the gaming industry. It will alter the player’s thoughts.

Or it will utterly fail.

Either way, it’s been fun to think about so far. I hope you’ve had fun thinking about it as well.