

2 - Detailed Project Description



Executive Summary

Genre

Turn-based tactical combat.

Core Gameplay

The player controls a small group of characters that must battle through various interactive environments. All player-controlled characters, enemy characters and neutral characters take turns to act according to predefined rules (explained later in this document).

Comparable Games

To better understand the type of gameplay that Incubator Games is aiming for with Trudy's Mechanicals we suggest watching gameplay from *XCOM Enemy Unknown* and *Final Fantasy Tactics*.

Setting

The game is set in a Steampunk-themed post-apocalyptic world where the only remaining humans survive aboard a flying ship – the titular Trudy. Trudy is full of wondrous contraptions that riddle every nook and cranny, but the sprawling vessel has a less glamourous side as well. Its denizens live in a rigid class system where members of the bottom class, the Mechanicals, undergo industrial alterations that allow them to perform various jobs that are either unsavoury or downright dangerous.



The player embarks on a journey that takes them throughout Trudy in an effort to subvert and topple the oppressive ruling class. Along the way, they'll discover the origins of the dirigible itself, the true motives of the individuals who control it, and what really lies below the toxic clouds.



Playable Characters

The player will be able to control a number of Mechanicals throughout the campaign. The main three are Darius, Renatus and Valerjan.

Darius is the son of a disgraced noble who works in the punch-card libraries hoping to rediscover long-lost histories and sciences. Renatus is a former military leader turned Gladiator following the deaths of his children in the line of duty. Valerjan is a young mercenary in the squalid underbelly of Trudy who spends all his earnings keeping his aunt's iron-lungs operational.

The Denizens of Trudy

Visuals

Trudy's Mechanicals is a 3D game presented in an isometric, top-down view with perspective. Its backgrounds utilize megatextures for maximum detail and are hand-drawn in a subdued, painterly style to contrast with the characters. The characters themselves are 3D models brought to life by expressive animations and higher-contrast textures. Finally, various particle and shader effects provide the most contrast and further visual flair. The interface is framed via various theatre-like props, as if the whole game was taking place on a stage. This means that the menus, buttons, etc., are all presented as somewhat worn paintings on wooden panels hanging from off-screen scaffoldings.

Executive Summary

Audio

The music and sound effects reflect the industrial nature of the game world and the Steampunk aesthetic, utilizing once-popular instruments such as accordions and harpsichords. Further ambience is added with sound samples such as keystrokes, the turning of gears, the rumblings of engines, etc.

Controls

The user interface of Trudy is first and foremost intuitive, featuring large buttons with clear icons and descriptions that do not need to rely or extraneous popups. The amount of windows and confirmation dialogues is heavily streamlined, providing as quick and unobtrusive a path to the gameplay as possible.

Campaign

The Hub

The hub is a 3D map with various large buttons superimposed over it that allow the player to access different elements of the game. The player always returns to the hub following any mission or scripted event.

Story Missions

Trudy's Mechanicals consists of 30 + story missions that are played in a linear order. The player can access the story missions one after another provided certain

prerequisites have been met (e.g., the player has accumulated enough gold from the previous missions).

Each story mission is a specific battle with a predetermined set of player units and enemies.

Unit Types

The game will have 3 categories of units each with a different numbers of specific unit types: Standard (12 + types of units), Hero (3 + types of units), Boss (3 + types of units).

Platform

PC using a custom engine built on top of SDL (http://www.libsdl.org/). The attached tech demo uses this engine.

Demographic

Males 15 to 45

Development

14 months

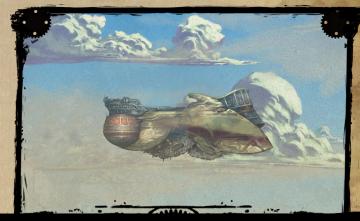
Budget

\$296,316 total (\$150,000 from Incubator Games, \$146,316 from OMDC)





The Automatons never rebelled, like some had feared, but their coal-burning engines brought on a slow catastrophe.



Their exhausts blighted the skies and eventually brought death. The quick and the resourceful survived by boarding an airship named Trudy.



The faltering dirigible sailed above the toxic clouds, assimilating sky-bound flotsam.



Trudy grew, and its Mechanicals persevered.



FRUDY'S MECHANICALS

Campaign Overview

Trudy's Mechanicals is split into three main acts, each one consisting of roughly 10 individual story missions. The first act introduces all the main characters and the beginning of their struggle against the nobles. The second act focuses on the escalating conflict with the military and the upper class, and its culmination. The third act deals with the fallout of the successful coup and the restoration of Trudy itself.

Prologue

The prologue takes place during the culmination of Act II. It shows a single Mechanical making his way across a war-torn Aerie, the home of the nobles. Despite all the fighting, his aim is to reach the University Library in order to record the events leading up to this point. Upon his arrival at a giant typewriter, he begins to narrate saying that he won't necessarily be liked for what he's done, and perhaps even less for what he still must do.



Act I

A seamless transition opens up the first act showing the same character and setting as the prologue, but in a more pristine condition. Darius, the Mechanical at the typewriter, is introduced as a filing clerk who works in the punch-card Library. Using his elongated fingers he operates the immense machinery, but he

is soon tasked with using his tools to defend the Aerie from an Air Whale assault. The series of battles against the beast are successful, and at their culmination Darius is rewarded with a promotion at the University.

Secretly displeased by how the fighting put the Mechanicals on the front lines, Darius makes a covert deal with the Homunculi, a group of bioengineered Automatons. In exchange for the classified data Darius can now access, the Homunculi trade him a printing press allowing the Mechanical to start an underground newspaper and air his grievances to a larger public.

The Homunculi themselves work tirelessly to keep Trudy operational, yet they are

largely despised for their appearance and apparent lack of emotion. Partly due to this fact, they also reach out to Renatus, an old Gladiator who used to be a respected general in Trudy's military. They hire him as a bodyguard by sponsoring his ascent through the ranks of the Gladiators.

As Renatus battles in the arenas of the Warrens, a ramshackle collection of buildings where most of Trudy's denizens reside, he struggles to come to terms with the deaths of his children.

He blames the conscription for forcing them into peril, and the Homunculi mention that his newfound celebrity status could help him change this public policy. To do so, they arrange to interview him for Darius' newspaper.

Renatus also accompanies the Homunculi as they reach out to Valerjan, a young fighter for the Underworld's Peacekeepers Guild.



Campaign Overview

The Underworld resides at the bottom of Trudy and is home to most of its Mechanical population. Due to this it's also largely ignored by Trudy's police force, which has resulted in the Peacekeepers Guild filling the void.

Valerjan constantly struggles to keep replacing his aunt's iron lungs; air canisters that provide her Mechanical body with oxygen. The Homunculi offer to aid him in the task in exchange for help with distributing Darius' newspaper. Valerjan agrees, and with time grows disgusted at how mercenary the guild has become. Mechanicals simply use it to take out hits on other Mechanicals, and no one is made any safer.

The Homunculi eventually provide Valerjan with a blueprint for a custom breathing filter – extracted from the University Library by Renatus – and even go so far as to offer aid in overthrowing the head administrator of the Peacekeepers Guild; the guild had always ignored the Homunculi pleas in the past, and they see great opportunities in its resources.

Eventually Valerjan comes to control the Peacekeepers Guild, and the three main characters are brought together by the Homunculi. A plan is hatched to help address the dire needs of Trudy's citizens: Darius will write a direct plea to the nobles, Valerjan and his Peacekeepers will infiltrate the Aerie to spread it around, and Renatus will echo its sentiments following a gladiatorial battle in the nobles' arena. The scheme is executed perfectly, but it sadly falls on deaf ears.





Act II

Undeterred by their initial setback, the group decides to increase the reach of Darius' newspaper. They excavate a collapsed and infested section of the Underworld in order to start a paper-reed plantation and an inksquid farm. These raw resources allow Darius' newspaper to be produced on an even larger scale, and his first article centers on the discoveries he made in the classified section of the University. Namely he exposes Trudy's secret past as a prison ship, named after its warden Trudacious the Third, and the common techniques that were once employed to keep the inmates complacent – the same techniques now being used on Trudy's citizens.

Meanwhile, Renatus takes over the training of the Peacekeeper mercenaries while Valerjan leads them in a guerrilla war against corrupt constables. These conflicts are never deadly, but the nobility finally responds with overwhelming force. Being familiar with military tactics, Renatus sees this coming and prepares the group for a counterattack – instead of being crushed, the rebellion lashes out in much stronger force.

Renatus attacks the Sleepless Forge, and industrial factory that recycles all of Trudy's materials, in order to cripple the military's supplies. At the same time, Valerjan leads a siege on a power generator in the Aerie, successfully

Campaign Overview



disabling it and casting the nobility into darkness. When the blackout is finally fixed, the nobles discover that Darius has released a new issue of his newspaper documenting the brutal violence that was exerted in the hopes of stamping out the dissidents.

The group uses this changing of the tide to campaign against the nobles, encouraging numerous industry leaders to launch a strike in protest. Eventually the populace agrees and a day is set for Trudy to sit perfectly still. For the nobility, this is the last straw.

They see the ship as a tightly integrated unit that relies on all its systems functioning at peak efficiency, and the strike as an extremely dangerous endeavour tantamount to open sabotage. Consequently the response of the nobles is to unleash the full military brunt on the strikers, resulting in chaotic fighting taking place all around Trudy.

Darius, Renatus, and Valerjan all storm out into the field to engage the greatest military threats. Eventually they destroy the monorail battleships and turret platforms circling the Trudy, and Darius rushes away to record the day's tragic events as shown in the prologue.

Act III

Following the aftermath of the revolution, the Homunculi gather the group to provide further revelations pertaining to Trudy. They explain that part of the reason for their help in the coup was that they have long suspected the ship to be steerless. This is something they've now confirmed after being able to investigate the military facilities. The actual controls for the ship seem to have been long paved with living habitats and must still reside in the Clockwork Labyrinths.

The labyrinths have been sealed away centuries ago after a mechanical virus ravaged the area. What was once a modular storage and delivery system for the prison had turned into a death trap, its Automaton servants becoming hostile and its very walls shuffling on random patterns. Despite the risks, the group decides it's necessary to investigate them and prepare for the journey.

Along the way into the core of the Clockwork Labyrinths, the group encounters a traveling compartment housing an ancient Automaton. The machine explains that Trudy has been on autopilot since its ascent so that it would keep safely away from an artifact called the Cleansing Tower. This tower was built by surface-dwellers long ago to help combat the pollution, but it had not worked as intended. Intrigued by these discoveries, the Mechanicals persuade the lone Automaton to lead them into Trudy's navigational chamber where they discover the coordinates to this ancient machine.

Eventually the group and Trudy's citizens agree that its first charted course should be the tower itself. The Homunculi assemble an engineering staff that might repair

Campaign Overview



whatever went wrong with the ancient machine, and the Mechanicals get ready to secure the location once the ship arrives.

As Trudy approaches the tower, the immense structure is seen stretching for thousands of meters down to the surface. Parts of it are unmoving, extending giant air balloons that help to stabilize the structure, while other segments slowly rotate around and suck in the toxic atmosphere. The Mechanicals board the tower and fight its bizarre machine guardians, desperately searching for some sort of a control system. Eventually they stumble across an elderly Automaton caring for a small garden.

The gardening bot explains that his master was a great engineer who designed the tower as a last effort to clean the skies. Unfortunately he was also a paranoid soul who purposefully left minor errors in his blueprints so that they could never be properly integrated in case of theft.

The grandiose project took so long to complete that the engineer perished before its construction could be finished. Wishing to maintain his garden in the face of an oncoming disaster, the gardening bot decided the only way to do it would be to complete his master's work. He tasked numerous Automatons with the job, but tragically followed

the blueprints' directions including the errors. The end result was a machine that did not filter the toxins but made them worse instead.

Horrified the group attempts to shut down the tower's system, battling its giant sentinels in the working segments. Eventually all of the tower's defenses are toppled and the Homunculi manage to correct the minor glitches in the filtering systems. The tower begins to spin yet again, but this time purifying the atmosphere as it was intended.

Epilogue

The final scene takes place aboard Trudy with the group discussing the Descent Vote. Every citizen aboard the ship cast their opinion on whether the whole should risk returning to the surface or sticking to a life in the skies. The characters debate whether they'll want to descend individually if the populace decides to keep the ship afloat, but eventually agree to abide by the vote and aid in Trudy's governance.

The slips are finally tallied, and in a surprisingly close decision the people decide to descend. Darius then walks outside to make the pronouncement, letting the player manually click down on the descend button. A cinematic then plays showing Trudy drop through the clouds as the credits start to roll.



Gameplay

Overview

Every mission in the game is played as a turn-based battle on a 3D map. The battles are always fought between two sides: the player's team, colour-coded as blue, and the enemy's team, colour-coded as red. Neutral units are colour-coded as green and can also participate in battles, and even switch "alignment" joining the player's team or the enemy's team.

The teams consist of up to six units each, with each unit taking a turn one at a time. The order of the units is determined by their quickness attribute regardless of which team the unit is on. This means that one team could potentially get multiple turns in a row if its units are quicker than those of the opposition. If two teams share the same



unit, the player's team always goes first, followed by the enemy's team, and finally by any neutral characters. When all of the units on-screen have completed their turn, the game counts this cycle as one round.

It's possible to quit or restart any battle at any time without suffering any penalties. This is meant to encourage experimentation and limit potential frustration, which is further alleviated by an "undo" button. This button rewinds the battle by one turn every time it's pressed, including the turns of enemies and neutral units, allowing the player to restart the battle from a specific point and try a different tactic.

Game-saving is automatically performed after every battle, and can also be manually initiated from the hub's application menu.

Setup

Missions are most often played with a predetermined set of units, while arena battles allow players more freedom in choosing their team. When selecting units, players must fill one mandatory hero slot, which is free, and four to five standard unit slots that cost money. The amount of standard slots that need to be filled are varied, so it's possible to enter some missions with just one hero unit, others with one hero and a few support units, and others still with a full team consisting of a hero unit and five support units.

Each standard unit has a different price associated with it, and that price goes up for an upgraded version of that unit. All missions have a monetary reward associated with them as well, allowing the player to pick and choose a team that can tackle the battle while maximizing profits. In addition, it's possible to take on missions with zero money as unit costs are only calculated after a successful completion of a battle. In these cases, the only handicap is that the player can't spend more money on hiring units than the monetary reward of the mission itself. There is no penalty for failing missions.

Gameplay

Types

There are different types of battles with varying goals. These are split between regular battles and arena battles, and various goal types are listed below.

Regular Battles

All non-arena battles are fought as a free-for-all without any specific rules. These missions revolve around a single goal, and the only loss conditions are the death of a hero unit or the death/knockout of all player units.

The different goals are as follows:

- Domination Defeat every single enemy unit.
- **Termination** *Defeat a specific target enemy.*
- Sabotage Destroy a specific prop or props in a map.
- Extraction Retrieve resources or units from a map.
- Bulwark Defeat all oncoming enemies while protecting a prop or unit.

Arena Battles

Arena battles are spectator events that are affected by an off-screen crowd and a specific set of rules. This mechanic is represented by a special bar with two icons on each end: the player's icon on the left and the enemy's icon on the right.

As certain actions are performed, both icons move around on the bar and grant potential bonuses. Positive actions that move the icons closer to the center are offensive based, such as attacking or killing an opponent. Negative actions that move the icons to the ends of the bar are defensive-based, such as healing or running away from an enemy.

Bonuses are granted as the icons move closer and closer to the center of the bar. These include friendly units being healed and enemy units being damaged by the crowd. When the middle of the bar is reached, a turret operator opens fire on the enemy team and the icon automatically drops back closer to the edges of the bar. In addition, the turret operators will randomly blow up props and resupply the ammo of units in order to keep up the pressure to fight.

A different arena is present in the Underworld, Warrens, Forge, and the Aerie, with each one containing a different layout and props/interactive components/turrets. However, all of the arenas might present specific challenges such as:

- Carnage Defeat all enemies
- **Havoc** *Obtain/destroy more props than the enemy.*
- **Suppression** *Defeat enemies indirectly by using only the on-map props.*
- **Domination** *Knock all enemies off of a suspended platform.*

Maps

All maps are constructed in 3D with a single "floor," meaning the architecture avoids multiple stories in a single map. Some rooms or map segments are also only revealed after opening up a new pathway, e.g., a gate is unlocked



Gameplay

or a side of a wall is blown out to reveal an area that wasn't previously seen, but there is no fog-of-war and all present units and props are always visible.





Different units possess different ways of traversing the maps, with some being able to climb steep slopes, leap over gaps or onto high ledges, or simply fly around. Units also take additional damage if they're attacked with abilities that push them into walls or make them fall from heights, and they can instantly die if thrown into bottomless pits.

Most missions take place on a single

map, although it's possible to transition from one distinct map to another in the middle of a mission. During these sections, every player unit must move to an exit point. When the unit reaches an exit point, it disappears allowing other units to follow its path. When all the units have exited the map, the transition to a new one takes place. By default map transitions do not allow players to heal their units or recruit new ones, but upgrades can eventually allow for both.

Camera

The typical size of a map is meant to be just a bit larger than the screen size, allowing the camera to move around and provide some dynamism to the scene without requiring the player to constantly scroll around. At the beginning of every unit's turn, the camera moves to center on that unit, giving it extra significance while providing an additional indicator as to which unit is currently active.

It's possible to manually zoom the camera in and out, and this also happens automatically whenever a unit speaks during a cutscene, uses an ability that pops up a critical-hit minigame, or uses a prop that pops up a hacking

minigame. Once the event ends, the camera automatically transitions to its default zoom level.

Finally, it's also possible to rotate the camera by 90 degree increments. This allows the player to view the level from 4 different angles, ensuring that no unit or prop is inaccessible behind the level's topography due to the camera angle. This rotation can also be scripted into a mission, automatically taking place at certain events.

Al & Unit Behaviour

All enemy units in the game have a prioritized list of actions that serves to dictate how the unit behaves in battle. This makes each unit a unique challenge to fight, and it also enhances that unit's personality.

Gameplay

Example: Ravagers are mechanically gifted and prioritize entering turrets where possible, Corsairs always seek higher ground and target other units with long-range attacks, and Excavators are greedy and will forego attacking an enemy if it means obtaining some loot.

To further accentuate these personalities, all units randomly respond to events in the battle via small, comic-book like balloon pop-ups that contain a short bit of text. These balloons are non-blocking and quickly disappear, but give something of an inside into the units as characters.

Example: Ravagers scream "It burnsssss!" whenever they're hit with a heat-based attack, the unhinged Koscheis laugh maniacally whenever a unit is overkilled (either on their side or the enemy's), and Automatons perpetually mutter to themselves about technical specs and what kind of abilities they're about to use.

Tutorials & the Codex

Tutorials appear in-game during story missions via a small button that slides into view. The events that initiate this are fully scripted, but the button is non-intrusive and can be ignored, or completely turned off. Clicking the button brings up the codex in the tutorials tab and automatically selects the most recent tutorial. This is usually a 1-3 panel illustration that shows a specific game concept, accompanied by some text.

The codex itself consists of four main tabs:

• Lore – information on the setting populated by in-game events, including lots of optional cutscenes/missions. This tab might have to be split up based on its eventual size.

• Campaign – a list of all the units and upgrades the player has unlocked, and the current state of the overall campaign and the player's progress through it.

• Tutorials – a list of all the game's possible tutorials.

• Profile – the player's achievements, total play time, and various other game-statistics.

Each tab is taken up by a content pane, with a scrollable topic list off to its right. Topics in the list do not appear until they're prompted to by in-game events, and each topic gets a "new" tag beside it that stays there until it's clicked.

Walkthrough

The following is a detailed walkthrough of the first mission – The Airwhale Assault. Darius finds himself in the Aerie's university typing on a giant punch-card typewriter when a speaker announces that Trudy's heading into a storm. Scavenger Birds are dropping from the sky and any Mechanicals present in the Aerie are being drafted into defending the populace.



Phase 1: Darius, Mechanic, Butler Bot, 2 Constables vs. 4 Scavengers

Darius arrives in an open courtyard with a Mechanic and a Butler Bot and spots two Constables engaging a group of Scavengers. The player doesn't actually control the Constables – they are neutral-friendly units – but they dispense tips on how to help them out and how to best use them in the future.

Walkthrough

Round 1.

The Constables get their turns first, using their Staff Shot abilities to fire energy projectiles at the ravenous birds. The first hit kills an already damaged Scavenger, while the second damages another. Darius then uses his tentacle fingers to pull in a third, undamaged Scavenger so that it's in melee range, while the Mechanic decides to wait until the end of the round before acting.



The three Scavengers get their turn next, one swooping up into the air and damaging a Constable with its Dive ability, another Pecking its dead comrade to restore its own health, and the third Pecking Darius who pulled it in.

The round ends with the Butler Bot using his Grasp ability to pin down a Scavenger and the Mechanic healing the damaged Constable.



Walkthrough

Round 2:

With the Scavenger being crushed by the Butler Bot's Grasp, a Constable rushes in to finish off the immobile enemy with his Staff Swipe ability. The second Constable uses his Staff Shot on the same Scavenger as last time, making sure that its Pecking does not fully restore its health.



Darius begins his turn with the passive Life Force ability healing him for some of the damage he took. He then pulls in the Pecking Scavenger that the Mechanic stuns with his Shock ability. The other Scavenger Swoops into a toxic cloud – which poisons regular units – to escape the assault, while the Butler Bot resupplies the Constables' ammunition for the Staff Shot attacks.

Walkthrough

Round 3:

The Constables both concentrate on the Scavenger in the toxic cloud with their Staff Shot attacks, severely damaging it, and Darius finishes off the bird by slamming into the bird with his Grappling Shot ability. Although Darius takes some damage in the cloud, he'll be healed by his Life Force ability, so the Mechanic simply re-stuns the final Scavenger while the Butler Bot eliminates it with his Grasp attack.

Phase 2: Darius, Mechanic, Butler Bot, Constable, summoned Constables vs. Airwhale, summoned Jelly Mines.

When the first phase of the battle ends, the Constables order everyone to press ahead, opening the gate and rushing to the edge of the floating island. Upon arrival, the skies darken and the Airwhale suddenly descends. The massive beast immediately opens its mouth to use the Devour ability, sucking in the lead Constable. The remaining Constable is left terrified and wants to flee, but Darius stops him. The Constable then joins the group as a controllable unit, and the Mechanic suggests hacking a local station to use a Gatling Turret.



Walkthrough

Round 1:

The Constable takes a Staff Shot at the Airwhale, but it does negligible damage. As suggested, the Mechanic tries to improve the group's firepower by hacking a nearby turret, and Darius – having no offensive ability that can reach the massive beast – hops in. The Butler Bot finishes the player's turn by using his Smoke Screen ability to cover himself and the Constable, shrouding the area in a dark cloud that prevents the units within from being directly targeted.



The Airwhale then takes its turn, launching two schools of floating jelly-mines from its blowhole. Since neither school can target the Butler Bot and the Constables, they both home in on the turret and the Mechanic, with one school reaching the destination and causing heavy damage with its explosive death.

FRUITIS MECHANICALS

Walkthrough

Round 2:

A new Constable enters the playfield, leaping atop the whale's head using his jetpack and attacking the beast's blowhole so that it cannot keep releasing Jelly Mines.



The original Constable and Darius then decide to try a new tactic by attacking the individual gasbags along the whale's body. The gas bags are fragile and puncture easily, venting the buoyant gasses that keep the large beast afloat. The Mechanic then does his best to repair the turret, while the Butler Boat leaves his own Smoke Screen to attack or at least divert the other school of jelly mines.

When the Airwhale finally gets its turn, it uses an Inhale attack that damages and slows the Butler Bot and the Constable, dispersing the Smoke Screen in the process. Not only that, but the ability successfully refills the Airwhale's gasbags and keeps it afloat. The jelly mines then home in on the damaged Butler Bot, destroying it and themselves in a violent explosion. The upside of the Butler Bot's death is that his passive Resupply ability showers all friendly units in ammo upon his demise, effectively allowing the Constables to keep using their Staff Shot attacks.

Walkthrough

Round 3:

The Constables continue to focus on the whale's airbags, one by using his Staff Shot while the other – still on top of the beast's airbags – bashes them with a Staff Swipe.. The Airwhale dips dangerously low, and Darius takes the risk of staying in the turret to target the last airbag. The attack is successful, and the Airwhale drops below the floating island and retreats, the Constable on its back rocketing to safety just before the beast's descent.

