

Dakhma

The Story of a Lonely Space Janitor



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1. Overview

1.1 Theme, Setting & Genre

Dakhma is a science-fiction psychological horror game, set in an industrial facility on a distant planet; it aims to deal with themes of loneliness, grief and automation.

1.2 Basic Pitch

In *Dakhma*, the player is challenged to live the life of an industrial worker, isolated from society. In taking on the role of the station janitor/attendant, the player is meant to initially experience the mundane, repetitious nature of their character's job. As time progresses and the player finds themselves experimenting with other activities on the station, their environment begins to change. As the familiar surroundings and associated activities destabilize, the game becomes less about fulfilling the needs of the station and more about self-discovery and survival.

1.3 Target Demographics

1.3.1 Platforms

Dakhma is intended for release on multiple platforms, with digital distribution in mind where available. The primary platforms are listed here in priority order:

1. PC (Windows, Linux, OS X)
2. Home Consoles (PS4, XB1)
3. VR (Vive, Oculus)

Mobile markets are not likely to be considered unless considerable demand is made by consumers as the game is intended to be played on a dedicated platform.

1.3.2 Markets

As mentioned above, the game is not meant to be a ‘casual’ experience as it is a narrative-driven game which requires graphical detail and mechanical elements that mobile games cannot currently support. The intended market is, therefore, more experienced game-players; so long as the player has basic knowledge of how to traverse virtual worlds, they will be at ease playing *Dakhma*. A more niche market the game is hoped to capitalize on is fans of the ‘walking simulator’ genre and the associated ‘independent’, ‘art-house’ sector of gaming culture. That said, the game has been built with mainstream sensibilities in mind - and is meant to occupy an adjacent space (in terms of appreciation and popularity) to games such as *L.A. Noire* by Team Bondi and *Spec Ops: The Line* by Yager Development - which push the envelope in terms of design but remain firmly in the ‘AAA’ sphere.

1.3.3 Identities

Inclusivity is at the heart of the project; *Dakhma* is intended to be accessible to people of any ancestry, colour, disability, gender, national origin, race, religion or sexual orientation. The only characteristic that might restrict a player is age, as it is likely that rating agencies will advise warnings for alcohol and drug use/references, violence, language, partial nudity and suggestive themes.

2. Narrative

2.1 Storyworld & Setting

The year is 2462 AD, and humanity is spread wide and thin. Corporations serve a vital role in supporting blossoming colonies across the gulf of space. At the edge of colonised space, the tendrils of industry extend outward to capitalize on untapped resources. At these distant and remote facilities, skeleton crews maintain the automated platforms that suck worlds dry.

Dakhma takes place entirely on a lonely world of industry, Caldarium-519, where Morrus Heavy Industries is continuing the old Earth tradition of deepwater drilling. A massive mechanical platform, MHI-282, moves across the surface of the planet on a lonesome journey across the ‘Leather Sea’ - whose deadly plasma depths contain useful isotopes.

2.2 Characters

While the story of *Dakhma* is concerned with a very insular, personal focus, there are a smattering of characters which impact the story, detailed below.

2.2.1 Riley

Who exactly the character is that the player inhabits is up to the person controlling them. The name ‘Riley’ is the default name, which can be replaced by the player with their own. Riley is a lonely figure, trying to lose themselves in work to hide from the stresses of a distant home.

2.2.2 DANA

For the virtual assistant DANA (Duan-Zhou Artificial Neuron Array), avoiding cliché and subverting the expectations of an AI character will be a core design goal. DANA, whose gender is configurable in-game, acts as a guide to both the player and the player character, offering what it considers genuinely helpful advice. This advice, however, is not guaranteed to be sound.

2.2.3 Payton Warr

The mysterious Payton Warr is never seen - only mentioned in the address lines of emails. As the player's immediate superior, Warr is the only source of human contact for the player, albeit only in written form. The player occasionally receives messages from Warr, which they can respond to - and occasionally get a response.

2.3 Plot

The player takes on the role of a glorified janitor and learns what the lonely job entails. It is up to the player to discover why they would put themselves in such a position, along with its consequences. At first, the various tasks seem menial and unsatisfying - but after a couple repetitions of the routine, things start to go awry. Switches you thought you pulled are unactivated; repairs scheduled already made; strange whispers from the depths of the station. As things get more and more out of hand, the station falls into disarray, along with your perception of reality. As the tedium of repetitive work gives way to psychological horror, the player is confronted with a loss of control that they must try to restore. These unusual happenings can take the form of auditory or visual hallucinations, loss of time and interference with bodily functions. Are these strange events caused by the isolation, or something more sinister?

2.4 Thematics & Mindset

The overriding feeling of the game will be loneliness and isolation; from that first emotional engagement, all other thematics bleed. In this world, the player does not act out a power fantasy, but instead attempts to remain calm and collected in the face of psychological threats. As detailed in '4.3 Flow', *Dakhma* will play directly with boredom and anxiety to create a purposefully unsettling experience for the play. Additionally, the game will touch on themes of grief and automation, among others - depending on how far and in which direction the player explores the narrative. Secrets buried in documents and objects reveal more and more of the dark tone, further adding to the unsettling feeling.

3. Mechanics

3.1 Core Mechanics

The mechanical focus of the game changes as the narrative progresses. At first, the player is instructed to perform various menial tasks - framed as mini-games and environmental interactions. These functions are detailed below in '3.1.1 Gameplay Loops' and are consistently available throughout the course of the game; however, the player will be subtly directed to access other mechanics in response to the unfolding of the narrative.

3.1.1 Gameplay Loops

There are three mechanical loops which the player engages in - all aimed at giving them a different sense of engagement, with varying levels of 'fun' involved.

Switches are the most basic level of interaction - and the first activity the player takes part in. These can be literal switches and buttons or more complicated mechanisms that the player must interact with that, most of the time seemingly do nothing to very little. It is their task to locate and activate the randomly chosen switch they are instructed by DANA to use.

Exploration is likely the second activity the player engages in, once they become bored of the mundane 'switch' loop. The station is large and parts are hidden from the player, but revealing additional spaces for environmental storytelling. This is the most engaging aspect of the game - and the most content-rich.

Acid-throwing tasks are a more conventionally appealing task that DANA dispenses. The station suffers from a kind of mould growth that creeps through the corridors. The player is instructed regularly to take up an acid-thrower to aggressively burn away the infestation; this also plays into the narrative - hallucinogenic spores giving the player one possible explanation for their predicament.

3.1.2 Challenges/Puzzles

At certain points, the player must perform repairs or other technical challenges to progress - for example, unlocking new rooms. In place of actually having the player learn circuitry, in-game puzzles with believable aesthetics will provide a 'minigame' aspect to play.

Besides the more literal puzzles, the player will engage with the literary puzzle of the complex, maze-like narrative and attempt to figure out the depth and meaning of it.

3.1.3 User Skills

For the most part, the game asks players not to complete physical or mechanical challenges but psychological ones. Besides mastering the skills required to traverse and examine their environment and perform basic tasks, the player has to remain steadfast in the wake of the horror elements.

3.2 Secondary Mechanics

The secondary mechanics described here are not the focus of the game, but exist to support the world in various ways.

3.2.1 Movement

The player controls their character in first-person and the language of movement should be recognizable to players of the first-person-shooter genre. In addition to free-look, directional movement is unlimited around the three-dimensional environment. Movement may occasionally be 'hijacked' by the engine to make it more difficult or confusing for the player to move by slowing their speed or reversing the controls.

3.2.2 Physics

The planet on which the game takes place is ostensibly Earth-like in its size and gravity. However, to set the player slightly ill-at-ease and produce a sense of otherworldliness, the gravity will fluctuate occasionally, but remain normally set fractionally lower. This means that generally objects will fall

slower more slowly, but occasionally move independently of the player's interactions with them.

Days are also shorter on Caldarium-519, giving a narrative explanation for the way the game compresses the day/night cycle to more play-friendly time periods.

3.2.3 Objects

Environmental storytelling will be a major part of the gameplay - learning more about the character through interpretative means will, hopefully, endear the player to their character and increase immersion through osmosis. Objects can be examined and rotated in 3D space, à la *Gone Home* and sometimes interacted with further with the 'use' key.

3.2.4 Actions

The player is required to perform a handful of actions which, while not as mechanically engaging, affect their experience. These actions, usually considered gameplay aspects in survival games, are mostly to do with self-care: eating, drinking, sleeping, dressing and washing. The player is not required to do any of these things - even, for example, failing to put on a biohazard suit despite direct commands to. However, naturally these actions will inhibit the player in various ways and will require the player to monitor these invisible meters, attending to them when prompted to (or not).

Other optional actions include accessing computer terminals to send and receive messages and explore files, turning on lights, reading documents, interacting with office ornaments and other similarly mundane activities.

3.3 Play Options

These extradiegetic mechanics describe the functions of the shell that encapsulates the game.

3.3.1 Menu/Settings

The menu system is, of course, required to be user-friendly, but also to be aesthetically consistent. In the first instance, the menu will allow the player to

customize their experience in terms of extradiegetic options such as graphics quality, field of view, colour blind options, etc. The player is able to access the menus at any time by pausing the game and some options will have an effect on the gameplay in real time.

3.3.2 Replayability & Saving

The player's journey through the gameworld can likely be completed in one sitting but for the sake of player ease of use, a save system will allow them to exit the game and resume progress later. This process would be seamless: the player simply quits the game, rather than being required to click through menus to perform a 'save' action. Additionally, the proposed save system would not allow players to revert their progress other than to restart the game from the very beginning.

Generally speaking, the game will have little replay value other than as a revisit; but this is the intended outcome due to the nature of the narrative.

4. Gameplay

4.1 Level Structure

The game takes place on a single, sprawling, continuous level - which can be explored by the player as they progress through the narrative by completing various mechanical challenges. Locked doors halt access into restricted areas until the player can find a way around them.

4.2 Progression

The narrative of the game is progressed through two means: physical movement through the base and mechanical means (see 3. Mechanics).

4.2.1 Walkthrough

Because *Dakhma* is not a strictly linear, the following description is to be understood as a possible sequence of events, featuring most-to-all the beats that a player might encounter. It is, essentially, a simulation of a playthrough.

The player wakes up, a matter of months into their stay on Caldarium-519. This is indicated to them via an in-game display which also instructs them, in a tutorial-like sequence, to wash, get dressed, eat and drink, then get to work. During this sequence, DANA introduces itself and the player begins to learn a little about their world. Upon completing their first task, which DANA aids the player in performing, they are free to roam their limited surroundings until nightfall, when they are prompted to return to bed.

This first 'day' is then repeated for as many times as it takes for the player to make some kind of variance or execute their assigned task incorrectly. It is here that the narrative turns toward horror - after the player is familiar with their environment and what is expected of them. The game then begins purposefully confusing and misdirecting the player by having the station direct them to repeat tasks already completed or undoing their work. While DANA and other other systems they are used to remain the same, the way the player should start to interact with them differently in reaction to the new stimuli. Essentially, an entropic process begins wherein as the player tries more and

more to understand or change their situation, they make it worse - with each attempt to resolve the threat, a new one arises.

Eventually, the player is confronted with a station that has completely fallen apart and, with any luck, they have too. By this point, the player should have unlocked all or most of the doors to other sections of the base and discovered the heart of the base: the nuclear generator that powers it. If the player has not already found an alternative way out of their predicament (i.e: walking out the airlock), they can attempt to shut the base down, to their own peril.

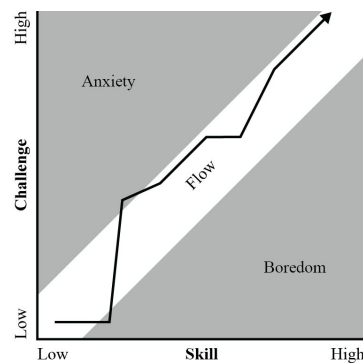
4.2.2 Challenges Of Importance

In the beginning of the game, the player is not challenged much at all - only by challenging the systems of the game does meaningful interaction become revealed. As the game progresses, they are given choice to continue pursuing a narrative thread - exploring a specific area of the base, for example - at the risk of their further complicating their situation.

The final challenge involves the player in a simple two-door choice; the two endings to the game are physically separated. This decision, whilst not especially significant on its own, defines how the player's choices affect the story: in every instance, they are punishing themselves.

4.3 Flow

The flow of *Dakhma* is purposefully designed to favour anxiety over boredom, but plays with both sides of the flow channel, as defined by Csikszentmihalyi. An illustration of the intended experience can be seen below.



Dakhma seeks to challenge the conventional approach to flow, moving closer to anxiety than boredom, but not so much that players are turned away.

5. Artistic Style

5.1 Visual Design

Being a work of science fiction, *Dakhma* can bring together the Fantastic and the Real; drawing on a wealth of existing cultural artefacts for inspiration and direction. Therefore, the creative team will need to strive to create a fresh and appealing aesthetic style.

5.1.1 Art Direction

Being set in a single location, the core goal of the art direction for *Dakhma* will be to create a unique, comfortable and believable sense of place. The need to create a corporate but not unfriendly atmosphere is critical to the narrative. Aesthetically, the station itself is intended to be found in the middle-ground between two traditions of science-fiction: the gritty and lived-in universe versus sleek and futuristic one. While *Dakhma* comes down more on the *Star Wars* side of the *Wars/Trek* dichotomy of design sensibility, it is intended to imitate less dramatically-styled storyworlds such as *The Expanse*, *Firefly* or the reimagined *Battlestar Galactica*. This trend towards for-television universes reflects the environments in *Dakhma* are meant to be experienced over-and-over again - they should be recognizable, but avoid becoming set pieces. In fact, design direction from theatre should be considered and respected; much like a stage set, it should be small, consistent and malleable. The player should, at first, be at ease with their surroundings, which can be established with familiar artefacts from Earth - after all, this is a person's home. Extra care should be taken, however, that the *mise-en-scène* does not alienate the player: the aim is to make them feel like they themselves are living there rather than inhabiting a character who lives there.

It should also be noted that while the station reflects human design sensibilities, the outside world, which can be accessed by the player, does not. The alien world beyond the airlocks should be dramatic and unwelcoming, prompting the player to feel safe in their starting environment.

5.1.2 User Interface

The word is minimal. Because the game involves no direct threat, the player will not require a health bar or any other life-measuring statistic; danger will be indicated through a combination of animation and visual feedback. This approach exemplifies the approach that will be taken with user interface: tactile and diegetic, rather than relying upon extradiegetic information

5.2 Audio Design

In terms of audio design, efforts will be made to distinguish the game from other science fiction, where generally audio takes a backseat. We will look to films such as *Arrival* and games like *Gone Home* for their ability to use recognizable sounds to meaningfully create atmosphere.

5.2.1 Music

At this stage in development, extradiegetic music is not being considered for feature in the game - owing to the tradition of social realism in film. The fear is that music might artificially increase tension or heighten emotion - something which is to be left to the mechanics of the game.

However, that is not to say that music will not feature in the game at all - one of the objects the player can interact with will be an in-game sound system. A selection of licensed or original music may play through the speakers at a localized location and be heard from afar in other parts of the station. Music, then, is meant as a comfort to the player, rather than as a design element to be used against them.

5.2.2 Dialogue

The only voiced character in the game will be DANA - who advises the player at various points in the narrative, or engages with the player when interacted with. There will need to be two separate voice actors for the character - as its 'gender' can be re-assigned with an in-game menu. By default, it will be a female voice.

5.2.3 Sound Effects

Sound effects will play a big role in establishing a sense of place. From the moment the player wakes up until the moment they complete the game, sound effects should serve to remind them that they are alone in an industrial environment on an alien planet.

The overriding sounds of the level will be the wind and rain of the outside environment, the ambient hum of computers. Everpresent will be the sound of the drills which bore down below the station, vibrating up into the structure.

Additionally, there will be occasional distorted, alien sounds to unnerve the player, alongside recognizable 'Earth' sounds such as dog barks and street commotion during hallucinatory segments.

5.3 Influences

The game takes inspiration from and is influenced by a number of sources. Primarily, the game follows in a tradition of narrative-focused games started by *Dear Esther*; however, that is not the only influence. *Dakhma* draws on a wealth of inspiration; some of the sources are listed below.

Солярис / Solaris (1972), film by Andrei Tarkovsky

Solaris is one of the most important touchstones for the game in terms of narrative and thematics. Tarkovsky's first foray into science-fiction strips away many of the tropes and expectations of science fiction to tell a meditative, human-centric story of emotional crises against a distinctly Soviet science-fiction backdrop. The slow pace and tone of the film are an exact match for the opening chapters of *Dakhma*.

Firewatch (2016), game by Campo Santo

The influence *Firewatch* has on *Dakhma* was, at first, minimal - but as this project has developed, the similarities have become more apparent. The two games share a sense of isolation and questioning of one's own mind - but the player is firmly placed in the boots of a pre-generated character. *Dakhma* is intended to take a route narratively and thematically that *Firewatch* feigned in order to pull a narrative twist.

Gone Home (2013), game by The Fullbright Company

The Fullbright Company set the standard for environmental storytelling with their landmark game - which dealt with very different themes, but using a similar game structure. The way the player is directed around the house (a single level), guided to discover certain information and unlock new rooms without any extradiegetic prompting is the reason this game is so influential.

Viscera Cleanup Detail (2015), game by Runestorm

Mechanically, *Viscera Cleanup Detail* is the closest comparison for the core gameplay loops introduced at the start of *Dakhma*. For a 'clean 'em up' game which requires players to perform janitorial duties in the aftermath of a bloodbath, the gameplay is surprisingly engaging - something which we intend to expand upon and exploit.

5.4 Uniqueness

The unique selling point of *Dakhma* is to be found in its design philosophy - which has been crafted to combine the effects of gameplay with narrative to create a psychologically stimulating experience.

Additionally, the game is something of a narrative rarity - few games actively try to deceive the player through mechanics *as well as* narrative.

6. Technical Aspects

6.1 Asset Breakdown

The following is a list of expected assets that will be required to build the basic game. It is not a complete list, but serves as the basis for a series of more thorough checklists to be developed by each department in further documents later in the development process.

6.1.1 2D

- Textures
 - All 3D Models
 - Environment
 - Station
 - Metals
 - Windows
 - Wiring
 - Outside
 - Skybox
 - Water
 - Posters
 - Photographs
 - Computer Screens
 - In-game HUD

6.1.2 3D

- Level Design
- Props
 - Living Areas
 - Bed
 - Cabinets
 - Desk
 - Tables
 - Chairs
 - Industrial Equipment

- Reusable
 - Clutter
 - Mugs
 - Stationery
 - Papers
 - Waste products
- Objects of narrative interest

6.1.3 Audio

- Diegetic music
- Dialogue
 - DANA
 - 'Daemons'
- Sound Effects
 - Environment
 - Wind
 - Rain
 - Drilling
 - Button Presses
 - Computers
 - Movement
 - Footsteps
 - Jump
 - Interactions

6.1.4 Systems

- Animation
 - First-person viewmodels
 - Environment
- Dynamic
 - Mould growth
 - 'AI' controller for player misdirection
 - Emitters for smoke/sparks

6.1.5 User Interface

- Menu Systems

- Graphics Options
- Crosshairs

6.2 Engine

Unity provides a great basis for the type of game *Dakhma* is intended to be, having been used by independents and professionals alike. It provides a versatile workspace, capable of generating complex 3D environments with physics shading - a basic requirement. On the technical side, the native C# and Javascript support, along with the in-built asset store, and pipeline tools will allow for the import of additional assets. Moreover, Unity can provide player analytics and performance reporting which will be helpful in the beta-testing stage, along with collaboration and cloud tools which will suit a small team. Some features of the engine, such as multiplayer, we will not make use of - but once the engine license is acquired, the development team will be able to use it for future projects.

6.3 Control Input

The game will support, at the very least, keyboard and mouse input. Support for console controllers and Valve's Steam Controller rank just below, and is intended to ship with the game on release.

The controls that the player will have access to are as follows:

- Directional Movement
- Freelook
- Pick Up Object
- Rotate Object
- Use Key
- Jump
- Crouch
- Sprint

7. Infrastructure

7.1 Team

The development team will be purposefully kept small to ensure unity of direction and understanding. This aim will also be aimed at keeping costs low as a salary may not be possible from the get-go. New staff will, of course, be brought on as necessary for specific tasks.

Necessary team members that will need to be recruited for the project to begin basic development are as follows:

- Programmer
- 2D/3D Artist
- Narrative Editor

Optionally, we may choose to hire additional staff such as:

- Additional Programmers
- Additional Artists
- Audio Engineer
- Musicians
- Localisation Specialists
- QA Testing Manager
- Voice Actors

Essentially, the size of the team is dependent upon the success of the initial development and interest from consumers. It should be expected, at least in the beginning stages of the project that each team member is adaptable to different or multiple roles.

7.2 Monetisation Model

Dakhma would adopt a simple paid-premium model; retailing for approximately £10-15. It is expected, however, that the game could support pre-orders (see ‘7.3.3 Marketing’). Pre-orders would be the ideal method of sourcing financial support during development.

7.3 Costs

7.3.1 Licenses

As of the start of the project, no licenses are required beyond the intended engine, Unity. It is likely that open-source libraries will bolster in-house creative efforts, but if specific assets are needed that cannot be created by a member of the team they will be sought on a royalty-fee basis.

7.3.2 Hardware

Because the game is firstly intended to be available on PC, the range of hardware that *Dakhma* needs to function on is vast, given the almost-infinite number combinations of CPUs, GPUs and motherboards. This prepares us for the eventual porting of the game to consoles and other platforms. *Dakhma* will not require a high-end PC to run, but it is not intended to be so low detail that it can be played on mobile devices - so the latter will likely never be a consideration.

7.3.3 Marketing

Release will be exclusively through digital means - with distribution arrangements being sought from online storefronts such as Steam, Humble Bundle, GOG, Gamersgate, Green Man Gaming and Itch.io. In addition, we would ideally release the game independently on the game's dedicated website. This strategy essentially relies on establishing a large range of options for consumers and generating word-of-mouth.

To generate interest, the development team would aim to publically and interactively chart progress. This would include video-diaries and technical demonstrations of their work. There is also potential for an alternate reality game to be built around the game - which would need to be executed closer to the release date to ensure interest does not wane. Tiered pre-orders with increasing rewards would also augment this approach. Special care would have to be taken to not step beyond the bounds of capability if pre-orders are offered: for example, extra license keys should be accounted for and managed. Any pre-order benefits must also not impact the experience of the game to its detriment (e.g.: alternate skins, new modes). Respect for the customer and their experience would be key.

Early-access, demos, and other methods of early release should be avoided because it would compromise the integrity of the experience. Pre-release copies may be given to organisations for review, and educational institutions such as colleges and universities would be entitled to a free copy post-release.

7.3.4 Localisation

Localisation will be a secondary goal, but an important one. While the game will be designed with English-speaking audiences in mind, the lack of any localisation effort would greatly diminish returns and the overall artistic message. Therefore, the proposed translation languages - selected based on data from *Ethnologue* - are as follows:

- Arabic
- Bengali
- Chinese (Mandarin)
- French
- English (US)
- German
- Hindi
- Italian
- Japanese
- Korean
- Portuguese
- Russian
- Spanish
- Turkish

Because *Dakhma* relies largely on non-verbal, visual storytelling, translations of in-game written articles such as documents, signage and detailing will be the bulk of the work, with voice-acting for the single voiced character likely costing the most financially. Translation of non-game elements such as menus, game options and subtitles, will be prioritized.

2.3 Predicted Schedule

The game is set for a flexible, targeted release in 2020, with an estimated 3-4 years of development time. The pre-production stage is expected to last until the end of 2017; this process will involve the recruitment of additional programmers, artists and other key production staff.

Production will take up the majority portion of the development time - around two years, granted there are no complications. During the production stage, marketing will begin and, towards the end, negotiations with distributors.

The final year will primarily be dedicated to beta-testing, polishing and marketing leading up to the release of the game. The game will then likely need to be patched and monitored for at least six months post-release.