RAWHIDE

Design Document

Group members

Mads Caspersen (macae06@itu.dk)
Hans Petter Ellingsen (hpellingsen@itu.dk)
Christoffer Holmgård Pedersen(holmgard@itu.dk)
Kristian Helle Jespersen (megalomania@itu.dk)
Kenni Skafte Mortensen (kn9@itu.dk)
Morten Toxværd Nielsen (tox@itu.dk)

1 Table of Contents

2   Introduction

This design document is a revised and edited version of an online *Wiki* design document that was used during the production of *Rawhide*. We have found, from previous experience that an online updatable version of the design document is, by far, the best way to express the vision, and convey the most important aspects of the game to the different departments of the production.

This document covers the vision and premise behind *Rawhide*, the technical premise for the production, artwork, sound, gameworld, characters, gameplay, user interface, playtests and marketing.

Some chapters have comment boxes, either explaining how and why certain design elements were not implemented in the final game, or commenting on the particular section in general.

The design document is primarily modeled after *Tim Ryan's The Anatomy of a Design Document* (1999) where focus is on the design document as a mean for the producers to express the vision of the game to the production team. The initial wiki design document featured a short and to the point design document, much like what *Ryan* describes*:* "In broad terms, the purpose of documentation is to communicate the vision in sufficient detail to implement it" (Ryan 1999, p1).

We have modified *Ryan's* document to better suit our particular game and production process, cutting down on such areas as marketing and budgeting and concentrating on areas as art, sound and gameplay. This design document is hence a tool and a source of inspiration for the production team, rather than a technical bible describing all aspects of the production in detail.

3   Game overview

Rawhide is a team based multiplayer game, played from a first person perspective, with cow herding mechanics, intended for 4 to 16 players on the PC.

3.1   Vision / overview

The vision of *Rawhide* is to create a hilarious team based game of cowboy competition set in hell, featuring interaction with and control of semi-autonomous computer controlled cows and bulls. The key aim of this project is to provide a game that provides the basic elements for players to have a fast-paced, tactical, emergent playing experience. We want players to laugh and cry out in surprise while doggedly trying to win the game.

The game will have the frenzy of a *Quake II deathmatch* – without guns, but with team tactics and lots of bizarre humor in appealing visual and auditive style.

3.2   Premise

Sentenced to an eternity of cow herding in a fiery hell, cattle thieves compete in an eternal power struggle to be the devil's favorite cowboy. After seeing their horses ride off into the horizon at the gallows, the cowboys set out on foot to gather the fire grazing cattle.

3.3   Platform and technology

The game will be developed for the PC platform using *Half Life 2: Source* as the game engine of choice. Included in *Half Life 2: Source* are different tools i.e. the *Hammer* Editor, which will be used to create levels. Amongst other tools we will use are *3D Studio Max* for character modeling and *Ableton Live* for sound engineering.

3.4   Target audience

The target audience is approximately 15-35 years old, both casual and hardcore gamers. Players who already know *Half Life 2* and/or are familiar with the first person shooter genre are the primary target audience.

3.5   Goal of the game

The object of the game is to venture out into the area of shared conflict, the prairie, pasture or canyons and move as many cows from the shared area to one's ranch as possible while trying to thwart the opposing teams' effort toward the same goal.

The idea is that players move out on foot from their ranch. In the area of conflict they have to try to capture either individual cows or an entire herd. The cowboys have several tools to accomplish this goal, some they carry from game start and some they can pick up as power-ups dispersed through the level.

If players capture a lone cow they can mount it and ride it back to the ranch scoring points. They can also use the cow as a weapon, trying to ram players of the opposing team. The cow is difficult to control, moves very fast and cannot be stopped before the player reaches the ranch. Mounting a cow implies risk since the player cannot use many abilities while on the cow and if the player crashes he or she 'dies' having to wait till a new spawn opportunity arises.

If players capture the leader of a herd, he or she can control the herd much like a lone cow, with the exception that it is much more difficult to control, but it is also a much more potent weapon and a larger opportunity for scoring points.

With these basic pieces the game should facilitate multiple tactics and team cooperation, allowing for creative and surprising gameplay.

The mechanics and balancing of the game will be centered on the design of abilities, power-ups and level design. For a preview on abilities and power-ups, see below.

4 Game characters

The game characters play one of the most important parts in the game - both as narrative tool but also as the players' interface to the gameworld. The cowboy avatars provide the player with the feel and setting that also affect the way the player interprets the gameworld.

4.1 Cowboys

The player's avatar is a cattle thief sentenced to a fiery hell to gather cattle eternally.
Hunched forward as if worn down by the sentence put upon them, they initially move on foot using the classic first person shooter keyboard and mouse mapping as found in *Half Life 2.*

W	forward	**Mouse**	camera angle
A	left	**Mouse wheel**	toggle weapons
D	right	**Left mouse key**	fire weapon
S	back	**Right mouse key**	aim weapon
Shift	increase speed/run fast	**E**	use/mount
Space	jump		

4.2 Cows

Grazing the barren plains of hell the cattle are scattered throughout the playing field at one or more strategic points to force confrontation between the different teams. The same controls apply to the cow but the movement becomes somewhat different, faster and harder to turn than when walking.

Comment on mounting

For technical reasons, the final version of the mounted cowboy changes the point of view from first person to third person to avoid the camera from being placed inside the head of the cowboy. Additionally this turned out to add to the fun factor of the game. The controls were also tweaked a lot to get the right feel in terms of not having a fluent control of the cow.

5   Abilities and power-ups

This is a list of the power-ups that we would like to implement in the game. They are prioritized after the importance they have for the gameplay, so the higher the priority, the more important it is to get this feature in the game. Be aware that we do not expect all power ups to make it to the final game, as we do not know how hard or easy they will be to implement in *Source*.

Priority and type	Name	Positive effects	Negative effects
1 - Ability	**Horse mount**	Faster speed	Hard to control Possible damage on crash Can be lassoed No weapons (except lasso)
2 - Ability	**Cow mount**	Faster speed Can return a cow to the enclosure Drop manure (slow effect)	Hard to control Possible damage on crash Can be lassoed No weapons (except lasso)
2 - Ability	**Bull mount**	Faster speed Leader of the pack Create stampede Drop manure (slow effect)	Hard to control Possible damage on crash Can be lassoed No weapons (except lasso)

Comment on Horse- and bull mount

The horse was later merged with the cow, in order to reduce the amount of modeling needed. The Bull was removed from the game when we realized that we did not have time to finish the AI needed for the herding mechanic.

2 - Ability	**Lasso**	Dismount Opponent	

Comment on Lasso

The Lasso was originally meant to be in the game, but we realized that it would be too time consuming for our programmers to create a weapon in *Source* from scratch, so we later replaced it with a modified version of the crossbow from *Half-Life 2*. The main change was that the damage from the crossbow bolts was reduced and that it was capable of knocking players off cows. It was the plan to replace the graphics of the crossbow with a slingshot to make it match the art style of our game. But this was never done due to time constraints – this is one of the last polishing jobs, that we feel our game really lacks.

3 - Area of Effect	**Slow**	Slows opponents	Slows friends
3 - Area of Effect	**Haste**	Increases movement rate	Makes controls fuzzier.
4 - Precise	**Carrot tag**	Makes nearby herds stampede towards tagged player.	Help Opponent gather cows
5 - Area of Effect	**Grow**	Throw players/cows and rocks Damage opponents Create/remove obstacles	Can't move in the narrow corridors Possibly damage friends
5 - Area of Effect	**Shrink**	Can take shortcuts Harder to hit Can be thrown by friend Takes no fall damage	Can be thrown by opponent No weapons (except lasso) Takes extra damage from collisions with cows and herds.

Comment on Remaining list of power-ups

These power-ups were an original part of the gameplay in an effort to make the game differentiate itself from classic multiplayer shooters like *Counter-Strike* and *Unreal Tournament* and to provide for interesting gameplay. But due to time constraint and our initial troubles with a steep learning curve in learning *Source*, these mechanics were dropped. We decided to focus on the mount cow, lasso and herding AI.

The following power ups were never meant to be in the game, they are only a result of our initial brainstorm. They are kept here for reference, in case we need additional power ups or mechanics to balance the game.

6 - Area of Effect	Reverse control	Opponents controls are reversed, thus harder to control	Might affect team-mates
7 - Area of Effect	Dynamite	Disperse cows (stampede) Yield damage	Friendly fire
8 – Item	Place cross/garlic	Create a block for all players. (momentarily)	
9 – Ability	Fists	Small amounts of damage to opponent. Knocks back, providing the ability to push opponents into fiery pits	
10 – Item	Slow trap	On collision, reduces movement for a limited time.	
11 – Item	Catapult trap	Catapults opponent	Possible friendly fire
12 – Self	Polymorph dog	Disperse cows (stampede) + better control than dynamite	Takes more damage Fuzzy controls

Comment on Remaining list of power-ups

As mentioned above, these power ups where never meant to be in the game. And as soon as we realized that the amount of code and scripts we could steal from *Half-Life 2* was very limited, all of these power-ups were immediately dumped. The only one that returned later was the *Fists* power-up, which we considered implementing in the form of a branding iron after the first formal playtest. Since our testers complained that they felt disempowered when they ran out of ammo or were trying to help a friend on a cow from being dismounted by opponents.

6   Gameworld / environment

The narrative of the game calls for a setting in hell, it should, however, also match the art style from the concept art and match the setting of cowboys and cows. In order to do this, low-res textures and low-polygon displacements should be used. The playable part of the level should be inspired by the Wild West to match the agents in the game. Then skyboxes, lights, sounds and different props should be used to give the world a nether feel.

Comment on Gameworld / environment

The time needed to model and texture the cow and cowboys turned out to take most of our artists' time. So they did not have time to also model props for our level like cactuses, signs and bushes. The signs were made directly in *Hammer* and we decided not to use any props from *Half-Life 2* as these did not match the style of our game level. As a result the levels lack some details and are pretty barren. But we feel that the details of the canyon walls make up for this.

6.1   Level design

The game will involve a lot of transport via cows; either a single cow or an entire herd so the levels should cater the sense of speed. It is also important that the levels help balance the different power ups. Shortcuts only usable by the *small* power-up should be added and narrow corridors should be used to constraint players with the *grow* power-up. The first level we create will be a maze of canyons, this will make it possible to limit players with the *grow* power-up and make shortcuts for the players with the *small* power-up. The canyon theme has a certain western feel to it. It will be possible for the players with the *grow* power-up to be able to see each other as they will be higher than the surrounding mountains. A sketch of one such level can be seen in Figure 1 – Level sketches. This level contains a combined area for spawning players and collecting the cows. Single cows will be placed on the small green dots to ease the players transport to the herds depicted by the big green circles. The single cows should respawn 30 seconds after having been removed to make sure that transport is always available. The yellow line, in the leftmost drawing, depicts a shortcut only usable by small players.

Figure 1 – Level sketches
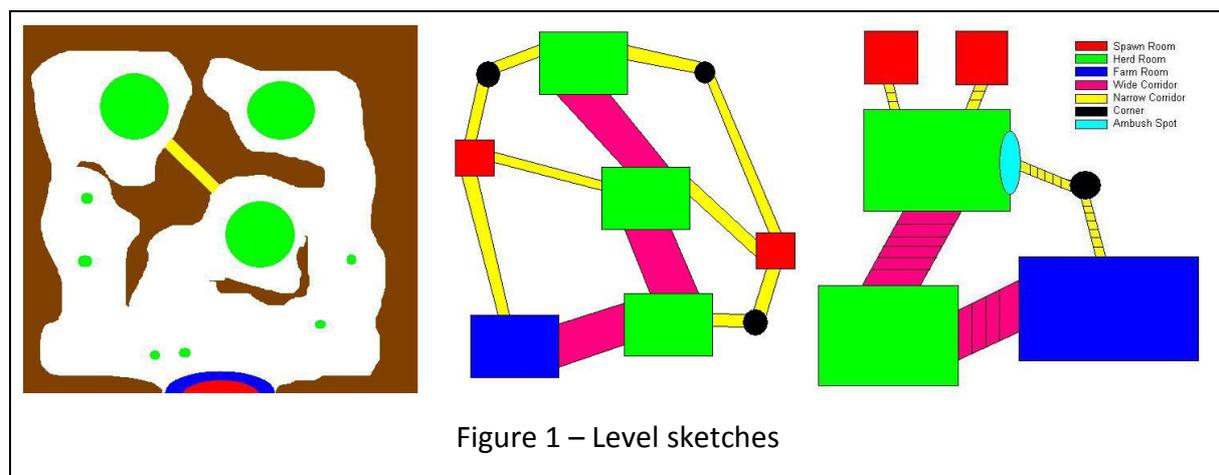
> ### Comment on Level design
>
> The original level design was based on incorporating all of the buffs or at least the buffs we hoped to get in our finished product. After few weeks with *Source* we realized, that most of our power-ups would not make it into the game, but we stuck with our original idea of a canyon, though we shifted our focus to making the level compatible with our remaining mechanics: *Crossbow*, *cow* and *herd*.
>
> This resulted in the design seen in the middle of Figure 1 – Level sketches, which was designed for an 8 vs. 8 player game. With herds placed in the three green rooms and single cows respawing at the blue room (farm) and red rooms (spawn). We also decided to design the level as rooms connected by corridors instead of one huge map, since the latter is not a fruitful approach in *Hammer*. This shift is discussed in detail in our process report.
>
> With one month left of production, we realized that we would not be able to finish the AI needed for herds, and decided to let one level designer continue on the huge map, and another start on a smaller the 2 vs. 2 map, *Devils Canyon* - depicted to the right on Figure 1 – Level sketches. The main reason for this was that without the herd mechanic, single cows would be the only source for scoring points in the game, and thus could not be used for transport in the same way any more. We also figured that the audience would get a better feel of our game on a small level, since we could not expect them to go out and find 15 co-players.
>
> An in depth analysis of how *Devils Canyon* was made can be found in the process report.

7 Artwork

The artwork in *Rawhide* is based on a combination of comic, humor and a spoonful of creepiness. It should draw inspiration from the visual style of widely known movies, such as *The Nightmare Before Christmas* and *Corpse Bride*, both by director *Tim Burton*.

Figure 2 - Artwork examples from Nightmare Before Christmas and Corpse Bride

Unique artwork and models are going to be used throughout *Rawhide*, in order to give it its own distinct look and feel. There should be as little of the original assets left in the game to make it stand out as its own independent game. The following is a non-exhaustive list of assets required in the game:

- Cow model and texture.
- Cowboy models and textures.
- Ranch (old wooden shed).
- Weapon models and textures (lasso).
- Power-up models and textures.
- Environment textures in general.

The sketches below were made early in the idea development and exemplifies where *Rawhide* is going at, in regards to its visual style.
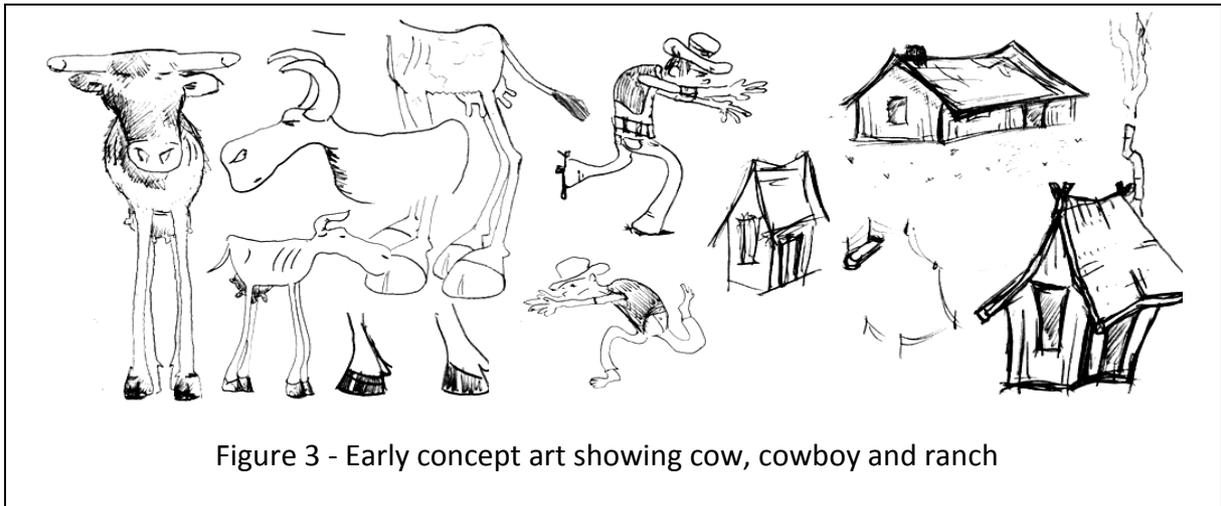

Figure 3 - Early concept art showing cow, cowboy and ranch

Comment on Artwork

Only the cow and cowboy models were ever finished and put into the game. It turned out modeling took far longer than we had ever imagined, maybe due to the high standards we set for from the start. At the same time we had difficulties making the models work properly inside the game, which set us back several times during development.

Weapons and power-ups were skipped overall due to time limitations, but we succeeded in creating the ranch directly inside the *Hammer* level editor, instead of in *3D Studio Max*, which saved us a lot of time.

8   User interface

The game interfaces include the actual in-game user-interface as well as all intro movies, startup screens and menus. The style of these elements should fit into the overall theme, presented and explained in the Artwork section above. Some of the interface assets are:

- *Valve* intro movie (replace with own .avi or remove completely).
- Background image for startup, menus, etc.
- Replacement of existing menu buttons with new ones.

With regards to the in-game user interface, the original *Half-life* 2 interface should be removed and a new one should be designed and implemented. Some of the visual feedback presented in the UI is:

- Team score.
- Health.
- Ammunition/bullets/rocks left.

9   Sound effects and music

As with the visuals, the game should feature new ambient sounds, sound effects, speaks and music. Since the setting is that of cowboys, cows and herding, music should be inspired by the country-western music genre, which might also add an additional comic effect. Similarly, the style of sounds should also have a comic aspect to them. The exact choice of sounds and speaks, which will be added into the game, will be decided upon as we get to it. The look and feel of the cowboy and cow models will help us decide on this.

10 Playtesting

Formal playtesting of the game should be done in three stages as the development process proceeds: basic mechanic/prototype testing, in-game in-depth mechanic testing and final testing. This strategy of formal testing should be supplemented by continuous informal testing and evaluation and user-Interface testing. As testing moves through the outlined phases, increasing effort should be devoted to acquiring external and, preferably, 'fresh' test subjects. This approach is adapted from *Fullerton et al.* (2004, pp198-200) to this particular game.

Test phase	Test Focus	Test subjects	Methods
Prototype/mechanics (Foundations)	Are the basic mechanics functional? Can they be balanced? Do they hold the potential of being fun in combination with the technology available for the production?	Members of the development team, primarily the design group.	Paper prototyping, using turn-taking, boards and tokens.
Mechanics in-depth (Structure/Formal details)	Do the implemented core mechanics of the game provide fun, or can they be made to do so? Do the individual mechanics facilitate fun gameplay – should they be changed, scrapped or should new ones be added?	1. Members of the development team. 2. Other development teams. 3. External playtesters.	The game running on the engine proper. Verbal and bug reports from developer testing. Observation of and semi-structured group interviews with external playtesters. Bug-reporting.
Final testing (Refinement)	What kind of tuning do the mechanics require? How do players evaluate the premise, visuals, sounds and 'feel' of the game? Are there unsolved usability issues that must be addressed?	External playtesters.	Observation of and semi-structured group interviews with external playtesters. Qualitative survey. Bug-reporting.

Given the time frame and scope of the project some leniency is given toward the separation of the testing of structure and formal details of the game and the externality of playtesters. This is due to 1) the time-consuming nature of arranging of playtests and 2) the double roles of team members that prohibit a dedicated testing team.

Since the game is a multiplayer game, interview-sessions will be conducted in groups to facilitate the discussion of player interaction issues and experiences. This decision can seem controversial, as the literature generally recommends one-on-one interviews for in-depth analysis. However in this case it is the evaluation of the QA-group that priority should be given to shed light on the player-player interaction over a single player's experience. Therefore individual interviews should be down-prioritized and only performed if time permits. User-interface testing should be integrated into the general playtesting during the latter two phases and performed through observation and asking players to think aloud as they play.

> ### Comment on Playtesting
>
> Two formal playtests were conducted with friends of the development team as external playtesters. Though using completely strange/external playtesters would have been optimal, these sessions produced very valuable feedback and pointed to previously unnoted design issues. Please see the process report for formal playtest reports.

11 Marketing

This game is of course a product of a university course. Should this game be launched as a commercial product, using the current technology, the only platform of distribution would of course be *Steam* by *Valve Inc*. Given the limited scope of the game, and the absence of single-player features, the game could probably retail at the *Steam* online store at a price of $10-20 - like the vastly popular *Counter-Strike*[1] multiplayer game or the critically acclaimed indie-game *DEFCON* by *Introversion Software* (www.steampowered.com, accessed May 18th, 2007). On-line distribution (also known *as Electronic Software Distribution*) is becoming an increasingly important channel of distribution and fits smaller game productions very well (Moore, 2006, p241(p674)).

Using the marketing models established by blockbuster publisher *EA Games* as described in *21st Century Game Design*, the primary segments for a game like *Rawhide* would be male 'hardcore gamers' and 'cool gamers' aged 14-35. Hardcore gamers are characterized by in-depth knowledge about the products available and often by highly competitive play styles (Bateman & Boon, 2006).

This fits a competitive, team-based multiplayer game as *Rawhide* very well. It is very probable that members of the hardcore gamer groups should be in possession of the *Half-Life 2* game, which is a prerequisite for playing *Rawhide*. A cautionary note should be appended though, as the visual and auditive style of *Rawhide* may alienate some of the younger, more immature members of the hardcore group, especially if they at the same time belong to the 'testosterone' group of gamers as described by the *Ihobo Audience Model*. The testosterone group is highly fixated on content, and it has a very low tolerance for games that do not exhibit a high degree of classical male stereotypic content.

It has been observed that the hardcore group can be 'polarized' to unanimously embrace one certain title. If polarization of the hardcore group is reached, sales can typically reach as high as 500,000 copies of a triple A title for any given world region (USA, Europe, Asia) (Ibid., pp21-23). Statistics for game modifications such as *Rawhide* are not available, however, so this can serve as a guideline at best.

In addition, the hardcore gamers often function as advisors and authorities for 'cool gamers', who are swayed by the evaluations presented by the hardcore gamers (Ibid., pp19-21). If *Rawhide* should manage to be endorsed by the hardcore gamers it should be expected to gain access to the cool gamer segment as well. The cool gamer does not invest the same large amount of time in games as the hardcore gamers, but typically buys some or all of the top-ten games of any given year. The *EA Audience Model* lends no suggestions as to what levels of sales can be reached in the cool gamers segment by endorsement from the hardcore segment, so sales expectations are hard to assess for this segment.

---

[1] *Counter-Strike* used to be a free modification for *Half-Life*, and still is, but can now also be purchased as a stand-alone game from *Valve Inc.'s Steam* online store.

The access to the above mentioned segments will of course be directly dependent on the marketing efforts directed towards *Rawhide*, which in turn would be dependent on agreements with *Valve Inc.* according to their policies and marketing firms.

12 References

Books

Fullerton, Trace, Swain Christopher, & Hoffman Steven. *Game Design Workshop.* San Francisco: CMP Books, 2004.

Bateman, Chris & Boon, Richard. *21st Century Game Design.* Massachusets: Charles River Media, Inc.

Movies

South Park: Bigger Longer & Uncut. Directed by Trey Parker. Produced by Paramount Pictures. 1999.

The Nightmare Before Christmas. Directed by Henry Selick. Produced by Tim Burton. 1993.

Corpse Bride. Directed by Tim Burton. Produced by Tim Burton. 2005.

Website

Ryan, Tim (1999) The Anatomy of a Design Document. <last accessed 5.21,2007>
http://www.gamasutra.com/features/19991019/ryan_01.htm

Valve, Inc (2007). Welcome to Steam. <last accessed 5.18,2007>
http://www.steampowered.com/v/index.php