HUMAN HARVESTERS

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1. GAME DESCRIPTION

FORMAL ELEMENTS

Key: [x] indicates that *x* is a parameter to be tuned

GOALS
The goal is to be the 'last man standing', by being the only ghost in the game that still has life force remaining. We may also introduce another game mode where the game ends after a fixed amount of time: in that case the goal is to be the ghost with the most life force still in the game.

RULES

SETTING AND NAVIGATION: LIGHT AND DARK

- The game takes place in a **dark cave** and because of that, the field of view is limited.
- The players carry a **lamp**, which illuminates the area around them but also makes the players visible to the other players and NPCs.
- The position of the other players or NPCs is unknown by the players at the beginning of the game. The **light of the lamps** of the other players allows you to see them. The **dim light of souls** allows you to see humans. If another player is in possession of a lot of life force, you are also able to see him by the souls he is carrying.
- Some points in the game have natural light and the NPCs are attracted to those points.
- Players can become invisible. This turns off the player's lamp. Even if the player is in an area illuminated by another player, he stays invisible.

HARVESTING AND COMBAT

- It is possible to harvest life force from humans. Humans are defenseless and controlled by computers. They can only be harvested when approximated in a stealthy fashion: if they notice that a ghost is going to harvest them, they can run away. Draining life from a human takes some time, making the attacking ghost vulnerable to other ghosts.
- It is possible to steal life force from opposing ghosts, which are controlled by other players, by attacking them. The advantage the attacking ghost has over the ghost that is under attack is the element of surprise.
- Attacking a player gives the other player a brief warning period ([0.3] seconds), during which they can "quickstep" (quickly move to the left or to the right) to avoid the attack.
- If a ghost is attacked while they have [one or more units] of life force remaining, they will loose [50%] of their life force.
- There are two possible game modes:

1. Life force leeches from players as time passes, and when a player's life force reaches zero, he is removed from the games.
2. The duration of a game is fixed: the player with the most amount of life force at the end of the time period wins.

POWER-UPS

- Some NPCs have a characteristic glow on them. They provide power-ups when their soul is drained for the first time. Below are four possible power-ups.

Name	Description
2xSoulEnergy	The player gets twice as points when draining from NPCs or killing other players
2xStealth	The player can remain hidden for twice as time
2xSpeed	The player moves and drains energy twice as fast
Light Explosion	The whole level get's illuminated for a couple of seconds and everyone can see the position of every other NPC or player, except those who have the 2xStealth power-up

- The player can store the 4 possible types of power up.
- The player can activate and combine the 4 possible types of power up.

PLAYER ACTIONS

Button	Function
[START]	Pauses the game and shows the controls
[Left stick]	Moves the player around
[Right stick]	Rotates the camera
[Shoulder buttons - LT,RT]	Quickstep to one side or the other. Used to avoid attacks
[A]	Harvest Human: drain energy/devour soul of NPC
[B]	Attack Ghost: attack/drain souls from opposing player
[X]	Use power-up
[Y]	Toggle stealth mode (by switching lamp on/off)
[D-PAD]	Switch between power-ups.
[Trigger buttons - LB,RB]	Possibly, special attacks in combination with the "kill button". For example, holding both of them or pressing some combination before the final hit could modify its effects.

PLAYER ABILITIES

Name	Description	Goes into	Duration	Cool-down	Notes

		effect (seconds)	(seconds)	(seconds)	
Stealth	Makes player invisible to other players and humans on the map	Instantly	[10]	[30]	[decrease player speed while in stealth mode]
Harvest Human	Drain life force out of a human	Instantly	[5]	[0]	[Player is vulnerable to attack while harvesting a human], [if player interrupts harvesting, he must start over next time]
Attack Ghost	Drain life force out of opposing player. [If ghost has no life force, eliminates player.]	Instantly	[2]	[0]	[A player who is successfully attacked but is not destroyed will reappear somewhere new on the map.] [A player who is successfully attacked will have [50%] of their life force drained and given to the attacking player.]
Quickstep	Step sideways quickly to avoid an Attack Ghost attack	Instantly	[0.5]	[5]	
Flare	Reveals invisible ghosts on the map	[5]	[10]	[30]	Flare will be implemented based on play-testing – it is a balancing tool to be used as needed

RESOURCES

- The most important resource is **life force**. Life force is represented in two forms: pure life force and life force in the form of humans. Pure life force is life force that is already harvested.
- Another resource is the **ability to stealth**. This ability has some cool-down time – meaning that once used, a player must wait a certain period of time before using it again – and thus it is considered a resource.
- **Quicksteps** and **Flares** also have cool-down times, so are also resources to be used.

- **Power-ups**, as described above in 'Rules', can be used strategically once acquired.

CONFLICT

As the game progresses, *x* life-force units are removed from the player every second. In order to survive, a player will need to collect more life force than his opponents, or steal life force from the other players.

BOUNDARIES

The game takes place in a closed cave. Because of this, the walls of the cave and the elements/structures inside of it (rocks, pillars, walls) are the boundaries of the game.

OUTCOME

The winner of the game is the last ghost still standing. In an alternative game mode, which is limited in time and does not necessarily go on until all but one ghost is dead, the winner would be the ghost that has the most life force at the time the game ends.

DRAMATIC ELEMENTS

CHALLENGE

The sneaking up on other players without getting noticed requires skill. In order to know when it's safe to harvest a human's life force, you need to know then there are other players around.

PLAY

Players can use controls as outlined in the 'Player Actions' section of the formal game description, but their actions don't really have consequences for the story or progression of the game.

PREMISE

Players control very evil souls, the only ones who are capable of entering earth for an extended amount of time. The goal of the evil souls is to destroy the world, but unfortunately moving around freely on earth is very energy-consuming. Evil souls need a constant supply of life force to sustain themselves on earth, and even more to become really strong.

STORY & PREMISE

Satan has been planning an attack on earth for a long time. Some places on earth are close to hell. The cave where the game takes place has been haunted as long as can be remembered, and is the point on earth closest to hell. Satan has learned how he can open a

portal from hell to this cave. After almost an eternity of preparation, his four most evil spirits are finally capable of entering earth trough it. In order to be able to reach places that lie further from hell, these four very evil ghosts need to gather much more strength: strength that can only be obtained by harvesting human life force. Only one evil spirit can become strong enough to leave this cave. It's all evil ghosts for themselves.

There is no story progression throughout the game.

CHARACTER

Satan himself is not capable of entering earth, as this would immediately be noticed by the Super Best Friends. He therefore releases his two, three or four strongest minions onto earth. You, the player, control one such minion. Satan takes no pity on the weak: after taking over earth, the strongest soul will operate as Satan's right-hand on earth, whereas the other ones will suffer eternal pain as a result of their failure.

There is no character development throughout the game.

WORLD BUILDING

The 'world building' in our game is limited to the basic story outlined above.

DRAMATIC ARC

As there is no story or character progression, there is no dramatic arc in our game.

CONCEPT ART

SPLIT-SCREEN PLAY
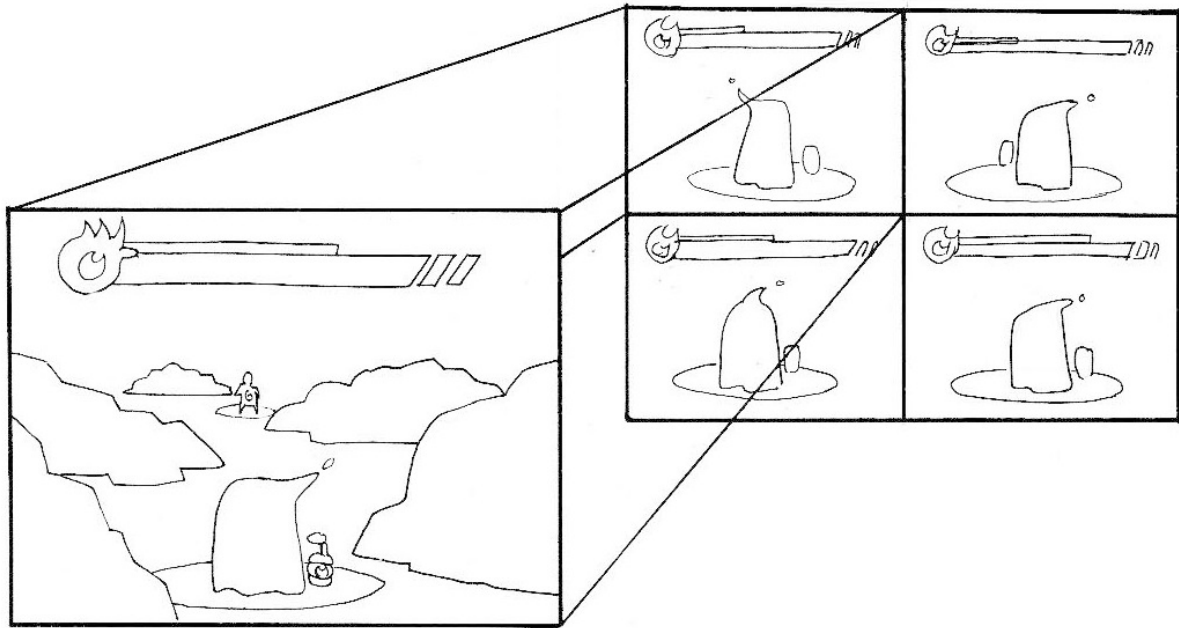
Four players, each with their quarter of the screen. Each player has a meter at the top indicating their life force and remaining power-ups. Players view their ghost in third-person view.

HUMAN HARVESTING
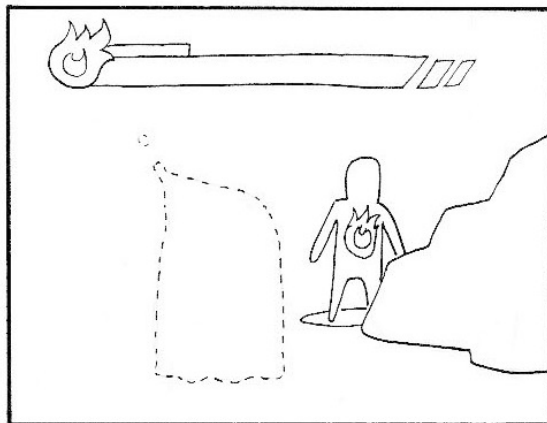
Left panel: A player, using their stealth ability to be invisible, approaches a human, who glows with the light of his soul.
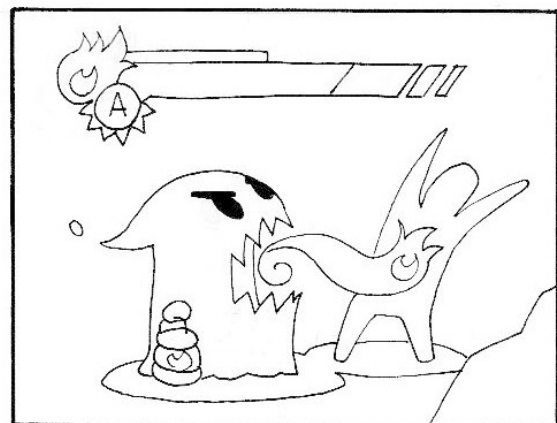
Right panel: The player taps A to become visible, and starts harvesting the human. The player's ghost becomes visible (stealth mode is disabled) immediately as this happens, and the player must remain visible, and vulnerable, throughout the human-harvesting process.

ATTACK GHOST
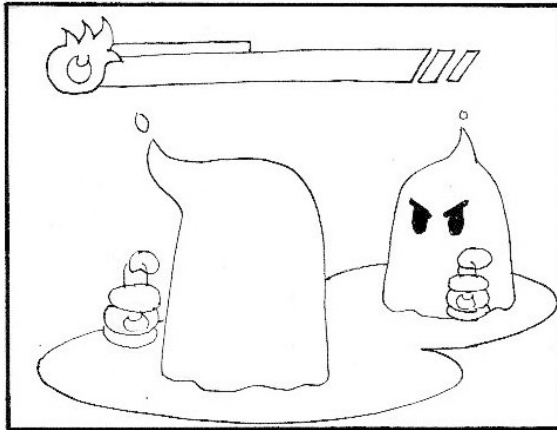
Left panel: Two rival ghosts (players) approach one another.
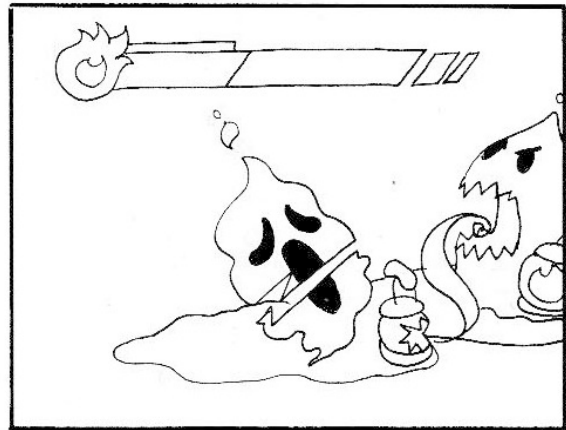
Right panel: The opposing player taps B to attack the current player. The current player was successfully attacked, so [50%] of his [TODO] souls/life force have/has been drained. He will soon reappear at another location on the map.

2. "BIG IDEA" BULLSEYE

3. DEVELOPMENT SCHEDULE

GROUPED BY TARGET

FUNCTIONAL MINIMUM
1) Player has an Avatar that can move.
2) Player can kill other players
3) Player re-spawns when dead (if game mode allows them to)
4) Map exists
5) Ambient light

LOW TARGET:
1) Map has obstacles
2) Light mechanism for invisibility with time limit in place
3) Humans are on the map
4) Players can consume humans

MEDIUM (DESIRABLE) TARGET:
1) Texturing
2) Game menu / GUI etc.
3) Basic sounds
4) Basic shading/lighting (deferred rendering)
5) Animated avatars
6) Humans have actual models
7) Background music (not necessarily self-composed)
8) humans do stuff (attack, run away)

HIGH TARGET:
1) Possibility for random maps
2) Multiple abilities with the corresponding effects (power-ups)
3) Advanced stuff on map (water etc.) and effects for abilities
4) Advanced lighting/shading (e.g. reflection simple built-in shader / phong shading)
5) Advanced sounds
6) Advanced textures
7) Bump mapping

EXTRAS:
1) AI for XBOX players
2) Gaming between XBOXs (no split screen)
3) Controller rumbles when enemy invisible ghost is near

CALENDAR

What	Who	By when	How long ("days" assumes having lectures on that day)
Physical prototype	All	20 March	4 hours
Tutorials and research	All	20 March	10 hours each
Functional minimum			
Player has an Avatar that can move	Max, Jonathan, Nicholas	20 March	Few hours for movement, few hours for camera
Player can kill other players	Max, Jonathan	27 March	1 day for action, several to add in the attacks
Player re-spawns when dead	Max, Jonathan	3 April	Few hours
Map exists	Nicholas, Andres	27 March	1-2days
Ambient light	Nicholas, Andres	3 April	Unknown
Low target			
Map has obstacles	All	3 April	1-3 days
Light mechanism for invisibility with time limit in place	Nicholas, Andres	3 April	1-2 days
Basic shading/lighting	Nicholas, Andres	17 April	1-2 days

(deferred rendering)			
Humans are on the map	All	3 April	1-2 days
Players can consume humans	Max, Jonathan	10 April	1-2 days
Desirable target			
Interim report and demo	Andres for demo, Jonathan on report	17 April	1 day for presentation, demo preparation throughout
Texturing	Nicholas, Andres	17 April	1-2 days to make textures, another 1-2 to make sure they are loaded and applied
Game menu / GUI etc.	All	10 April	Unknown
Basic sounds	Max	24 April	Unknown
Animated avatars	All	17 April	Several days
Humans have actual models	All	17 April	Several days
Background music (not necessarily self-composed)		24 April	Unknown
Alpha release and report	Andres for demo,		
High target			

Possibility for random maps	Nicholas	Several days
Advanced stuff on map (water etc.) and effects for abilities	Andres, Nicholas	Unknown (target not yet specified enough)
Advanced textures	Andres, Nicholas	1-2 days
Bump mapping	Andres, Nicholas	2+ days
Multiple abilities with the corresponding effects (power-ups)	Max, Jonathan	
Advanced lighting/ shading (e.g. reflection simple built-in shader / phong shading)	Andres, Nicholas	
Advanced sounds	Max	
Humans run away (AI)	Jonathan	1-2 days (without animation). If we include animation another day or 2
Playtesting	All	1 day for preparation
Playtest presentation	All	1 day for presentation
Public presentation	All	1 day for video editing, 1 day for report
Conclusion chapter	All	1 day for report

DEVELOPMENT FLOWCHART

13 March--

Player has an Avatar that can move

20 March--

Map exists

Player can kill other players

27 March--

Ambient light

Player re-spawns when dead

Light mechanism for invisibility with time limit in place

Map has obstacles

Humans are on the map

3 April--

Basic shading/lighting (deferred rendering)

Game menu / GUI etc.

Players can consume humans

10 April--

Texturing

Animated avatars

Humans have actual models

17 April--

Start balancing

Basic sounds

Background music (not necessarily self-composed)

24 April--

4. ASSESSMENT CRITERIA

INCORPORATES "LIGHT VS. DARK"

You should notice that light vs. dark plays a key role in the game's core gameplay.

COMPETITIVE

There should be satisfaction in eliminating another player, and pain in being eliminated.

INTUITIVE

The gameplay and concepts should be simple to grasp. The mechanics should not be overly complex or require lengthy explanations, help, or tutorials. This ease of use should make moving around and performing the basic actions simple.

BUILDS TENSION

Stealth should be important -- you should be motivated to be sneaky.

APPENDIX A – CHANGES ADDED BASED ON FEEDBACK

FEEDBACK FROM COLLEAGUES

- Put **shadow-mapping** farther back in schedule because of difficulty / performance issues (with complex lighting)
- Added **deferred-rendering** to desirable target because of availability of XNA tutorials on the subject and projected performance advantages

FEEDBACK FROM INSTRUCTORS

- Added explicit sections for **cool-down** for each ability (because this was not clear before and questions were raised about it)
- Removed **rumbling** because feature did not make sense with regard to sneaking / avoidance
- Put **power-ups** into high target as they are not core to gameplay
- Exactly specified **abilities** in table so that details are clear
- Ghost vs. ghost **combat** rethought and specified

FEEDBACK FROM GAME DESIGNERS

- Attacking a player doesn't kill him, he will **lose a % of his souls**
- An attacked player **re-spawns** somewhere new (to prevent counter attacks and prolonged combat)
- Ghost vs. ghost **combat is quick** instead of prolonged – the emphasis is on stealth
- Human AI is limited to avoidance – speed of avoidance is a parameter
- **Game balancing** has been given a time slot in the schedule
- Harvesting humans is now riskier because a player is **vulnerable** throughout the process
- The loading screen will have a **how to play / controls graphic**