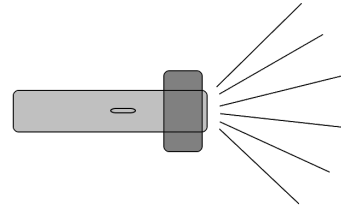


Lightguard - pre-production Game Design Document



Updated: January 31st, 2021

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1. Game definition - mission statement

It's 7:45PM. The protagonist, called A Nightguard Named Hank, who is a security guard in a police office, finds himself short before starting his night shift. All dressed up and equipped with a flashlight he starts his first round. The guard's main goal is to survive the night shift up till 06:00AM, surviving and defending hordes of burglars, farmers and other unsatisfied civilians. He will do this by using and combining items that can be found in the '*Lost & found*' cabinet/box. Nice to have: to add gameplay variety, the protagonist can also resolve puzzles in certain sections of the police office (solving a puzzle adds new stuff in the lost and found box).

2. Core gameplay

Getting ready:	3rd person -> player enters building through main entrance
Start game:	after player picks up flashlight and interacts with L&F box
Per wave:	defend, by fighting of the wave of enemies
Enemy behavior:	they have a close combat basic weapon to damage player (aka baton, pitch fork, purse; depending on type of enemy) + they can try to steal the L&F box
Win condition:	survive all waves until 06:00AM
Lose condition 1:	Enemy escapes with lost and found box
Lose condition 2:	Player loses all their health

How to defend?

- A. Pick-up items from the lost and found box, and aim + throw them at enemies
- B. Nice to have: Solve straight forward puzzles in certain areas of the building, solving them will result in getting a new special item in L&F box
- C. if you run out of items, you can use your 'baton' / basic weapon (close combat)

Items:

Items can be combined, if done properly, resulting in a better / more effective item. You can pick up items that have been thrown earlier, until they hit an enemy.

2.1 Main game view.

Reference shot, mainly for camera angle/ low poly 'cartoonish' style:



The player will always look down at the police office building, which is divided into a number of sections. Like the spawn position/ guards office, hallway to main game area, the varying game areas and the 'puzzle rooms'.

By minimizing UI we can maximize fun gameplay.

2.2 Core Player activity

- ** get items from lost and found box
- ** combine items: by having object A in one hand and trying to pick up B with another hand. If it's not combinable, object B will replace object A (A drops on floor); *one object at a time* (no inventory, K.I.S.)
- ** walk around the police office building
- ** fight of the hordes of enemies: throw items at enemies OR close combat (prevent enemies from damaging OR taking away the L&F box)
- ** decide which 'area' in the building needs most attention (more enemies etc.)
- ** no manual camera movement (K.I.S.)
- ** Nice to have: solve puzzles to add more items in lost and found box

2.3 Controls

Supported HIDs: keyboard + game controller

Control scheme:

Action	Keyboard	Game controller
Player movement	WSAD	Left thumb stick
Aim items at enemy	Mouselook	Right thumb stick
Confirm / shell menus	Enter key	Start/ select button
Interact	F	A button
Throw item	LMB	B button

2.4 UI: HUD

Included elements:

- time in game world (between 7:45PM and 06:00AM)
- wave counter, time per wave?
- player health
- lost & found box state
- nice to have: pictogram of current object in hand (sprite)

2.5 References

Miami hotline: https://www.youtube.com/watch?v=2n_BinoS1Ug

'Waves', Suicide Squad: <https://www.youtube.com/watch?v=Weya-MLnAGY>

3. Contextual gameplay

This chapter describes lower level details of the gameplay, game mechanics and functionalities within the game.

3.1 Shell menu

** background image (2d art, K.I.S.)

** menu only available during real gameplay, options: *new game, continue, quit*
Optional: leaderboard

3.2 Gameplay mechanics

* Player movement, XZ (no jumping)

* Player looking around/ turning moves the flashlight target (lookAt)

* Player picking up items

** Player combining items

* Player throwing objects at NPCs

** Nice to have: player solving puzzles to add more items in the lost & found box

* NPCs arriving through windows/doors of the building

* NPCs trying to steal the lost and found box

* NPSs trying to attack you with their close combat basic 'weapon'

* After a wave is survived; we show the player a straight forward message;

3.3 Level design

1 main map/ Police office building, including:

guard office

several gameplay areas where you will defend/battle the enemies

enough logical entry points for enemies

the overall layout should make sense for a big police office (maybe prison cells too?)>

Nice to have: *several puzzle rooms for the 'mini games' rewarding you special items*

3.4 Asset list

Type	Desc	MVP	'Full game'	Ready
Scene with meshes	Main map, in a Unity scene, 2 puzzle rooms	X		Josh
Scene with meshes	Main map, in a Unity scene, 4 puzzle rooms		X	Josh
Mesh	The protagonist - PH	X		Cris
Mesh	The protagonist		Same	Cris
Mesh	Lost and found box	X	Same	Cris
Mesh	NPC model(s); 1 at minimum	X	X	Cris
Meshes	5 'lost and found items' for in the box	X		Cris
Meshes	Another 5 'lost and found' items		Not done	Cris
Meshes	More props in police office		Not done	Cris
Meshes	Close combat weapon player	X		Cris
Meshes	Flashlight	X	Same	Cris
Meshes	Close combat weapon per enemy type	X		Cris
Sprites/HUD	Health icon + 'bar'	X	X	Josh
Logics + meshes	2 puzzles 'fitting' the puzzle rooms		Not done	Cris+Josh
Logics + meshes	create/ mix 2 combinable items		Not done	Cris+Josh
Sound	Looping background sounds (rain)		X	Bobby
Sound	FX: pick-up item	X	X	Cris+Bobby
Sound	FX: throw item	X	X	Cris+Bobby
Sound	Item collides with player/NPC	X	X	Cris+Bobby
Sound	Item collides with environment	X	X	Cris+Bobby
Sound	Random 'voice overs' with smart		Not done	?

	remarks by protagonists			
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3.5 Nice to haves

- * DONE: more than 1 enemy type
- * random voice overs/ speech by protagonist
- * bigger map+ add puzzle rooms
- * a lot more than 5 different items -> **defines the game's humor!**
- * leaderboard; logics based on state of building
- * difficulty level; changing some parameters like speed of waves, amount of enemies etc.

Even nicer to haves:

- * context sensitive background music
- * procedurally generated map layout (spawning, not fixed)
- * multiplayer co-op: spawn multiple players in guard's office at start

3.6 Attacking with items

- * Hit Enemies > Enemy dies, 1 item hit is enough OR 2 close combat hits
- * Attack will be AOE on impact with the enemy. This will make it a bit easier to use and also have less need for a lot of items. And can have more enemies
- * When an item hits an enemy from being thrown, it (item) will be destroyed

3.7 Defending with items

- * Items will be able to be used to defend a particular area (or the entire box) until destroyed.
- * When an item is placed for defense, it will be able to be picked back up at any time as long as it has not been destroyed.
- * Once destroyed, the item will be gone.

3.8 General logics/mechanics

- * If the box gets taken, enemy will walk away with it until gone (lose condition 1)
- * The player will have to hit the enemy to retrieve the box back.
- * When the player gets close to the box, they will be able to interact with it to get an item.
- * If the player is not holding an item, they will be able to use their batton to attack the enemies.

* If the box does not contain its max amount of items, it will slow replenish items; 1 every x seconds.

4. Technical design documentation

4.1 Main assumptions

- * dev 'framework': Unity
- * code repository: Github
- * **IMPORTANT:** a Unity scene file does not support multi-user; make clear agreements; create sandbox for gameplay testing, real level/scene design etc.
- * C# for scripting (not JavaScript)
- * 3D models/ meshes created/exported in FBX format
- * only protagonist + NPCs have animations (rigid bodies) ->

4.2 Core classes & dependencies

<N/A - on the fly Robert/Leroy>

4.3 Helpers/ libraries

The following helpers/libraries are used in the overall project:

<N/A - on the fly Robert/Leroy>

4.4 Coding standards

Yeah right? It's a 48h Game Jam; hack away!!!

- *Use roslynator for code formatting to avoid code conflicts.*

- *Methods order*

- *Unity methods*

- *public methods*

- *package private methods*

- *private methods*

4.5 Tools & versions

Unity 2020.2.2

VSCode with Roslynator plugin

Animation: <https://www.mixamo.com/#/>

Blender (2.83)

Audacity 2.4.2

5. Game requirements / criteria (QA)

Criteria	Passed MVP	Passed full game
As a player I can startup the game, spawning at main building entrance		
As a player I can enter the new game by picking up flashlight in guards office on table and interacting with L&F box (not without flashlight)		
As a player I can walk around the building, including guard's office and main game areas (and n2h puzzle rooms)		
As a player I can see the environment using my flashlight (rest of environment is darker but somewhat visible)		
As a player I can pick-up items		
When I throw an item and it hits an NPC, enemy dies and item is no longer usable		
When I throw an item and it doesn't hit an enemy, NPC stays alive + item can be reused		
I can kill an NPC by hitting him with baton when I don't have any throwable item	Not implemented	
I lose health when NPC hits me in close combat (-10%?) + I get pushed back		
Loose condition 2 working (player dies)	Unbalanced	Balanced
Win condition can be achieved (shown game world time = 06:00AM)	Unbalanced	Balanced
The game provides at least 2 waves of enemies (until 6AM)	Unbalanced	Balanced
I hear sound when: <ul style="list-style-type: none"> - Picking up item - Throwing item - Hitting NPC with item - Hitting environment with item 		

I hear 'voice overs' when: <ul style="list-style-type: none"> - Starting in 'lobby' - Picking up flashlight - Interacting L&F box w/o flashlight - Interacting L&F box w flashlight 		
I can see time passing by from 20:00 up till 06:00 during gameplay (5min for testing?)		
I can pause the game, start a new game or quit the game during gameplay (not during 'lobby' gameplay?)		
When I lost or won the game, I can either quit normally or start a new game		
Tweaked AI - pathfinding	N/A	
As a player I can combine items	N/A	
The game provides enough waves to keep gameplay interesting & challenging	N/A	Balanced
NPCs will at some point try to take the L&F box away	N/A	
NPCs can be stopped from stealing the L&F box by hitting them with the baton or thrown item. Box respawns to org position and NPC dies.	N/A	
Loose condition 1 working (L&F box taken away by NPCs)	N/A	Balanced
NPC will decide if they throw their close combat weapon and/or follow the player	N/A	
All obvious bugs fixed	N/A	

6. Team & major milestones

Who	What
Josh 'who wants more AAA studios in NL' Bryan	Game design, UX, art, level design (modelling)
Cris 'wannabe AAA game producer' Kop	PM, QA, modelling, sound, little bit of development
Leroy 'throw me anything in Unity' Korterink	development
Robert 'Bobby' 'o Connor	development, sound

Major milestones:

GDD finished 'enough' (80%)	Thursday 0:00	All
Working Github workflow + shared Unity project -> Leroy/Robert(/Cris/Josh)	Friday 19:00	Robert/Leroy
MVP assets done	Saturday 15:00	Josh/Cris
Working prototype of core mechanics (PH assets)	Saturday 15:00	Robert/Leroy
Working MVP	Saturday < 2AM	All
All assets done	Sunday 11:00	Josh/Cris/Robert
Full game done excl. co-op multiplayer	Sunday 13:00	All
QA + bug fixing before upload deadline	Sunday 13-16:00	Cris + dev
In parallel: try to add co-op multiplayer	Sunday 13-16:00	Josh + dev

7. Risk analysis & rules of play

Risk	Measure
Working on 'different games'	The GDD is leading; living doc throughout the whole Jam
WFH communication	Open hangout during 'core times'; Discord (Fr 17:00 - 0:00 or later) (Sat 09:00 - 0:00 or later) (Sun 09:00 - 17:00ish)
Focussing on nice to haves	Finish prototype, then MVP, then the rest.
Get 'overworked'	Shared dinner in meet <?> chit chat
Dehydration	Drink your favorite alcoholic and non-alcoholic beverages every now and then :)

Rules of play

- * Nothing is wrong
- * It's a Game Jam, we won't get fired if we don't finish it, would suck though :)
- * Give everybody a chance to shine
- * if you're stuck; ask for help or Google -> GGJ Discord has Unity experts and more
- * timelines are short; be open/ transparent if you're stuck or in trouble with timings. We'll fix it together
- * take your rest if you need to; don't be ashamed and shout