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# **Theory and Practice of Game Design and Development**

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## 1. Info about your Game, Game Development Team, your role and lessons learned

The *short* trailer for the game can be seen [here](#).

The game binaries for Linux, Mac, and Windows can download from [here](#), please download the entire folder that is needed for your platform.

### 1.a Your game?

Nightmare Hotel

### 1.b GameDev Team

FrandsGames

### 1.c Team members

Jens Jakúp Gaardbo, Fredrik Dam Hansen, Simon Frandsen, Daniel Kartin, Søren Skouv

### 1.e Common vision

Stealth Goblin Action.

### 1.f Your role

I primarily worked with Game design, level design, programming, 2D art, and animation. [394]

### 1.g Lessons Learned

1. Commit often, and write better commit messages.
2. A hacky solution is still a solution.
3. Getting everything put together in the end, takes longer than initially thought.

## 2. Description of your game

### 2.a Gameplay genre

The game is an action(p.475, Fullerton 2018) adventure(p.480, Fullerton 2018) platformer(p.261, Fullerton 2018), with a 2D side view(p.261, Fullerton 2018). It is mostly an action game due to the twitch reaction gameplay of the movement and “combat”(p.261, Fullerton 2018).

### 2.b Player type(s)

The game caters to the Explorer due to the way you can explore the different rooms of the level[p.104]. But it also caters to the Collector, as you can pick up items(p.104, Fullerton 2018).

### 2.c Player engagement

It engages the player in way of Challenge, because of the rising sense of tension, from the introduction of the light, then the enemy and then more than one enemy(p.39, Fullerton 2018). The premise of being a small goblin should also create engagement(p.45, Fullerton 2018).

### 2.d Formal elements

The number of players is 1(p.58, Fullerton 2018), it is a single player versus the game(p.59, Fullerton 2018). The game only has one role, being the goblin(p.58-59, Fullerton 2018). The objective is escaping(p.69-70, Fullerton 2018). Procedure is pressing Play from the main menu, with a mouse(p.74, Fullerton 2018). Core loop is moving around, avoiding light and enemies, and throwing boxes(p.74, Fullerton 2018). Resolving actions are dying from the light or an enemy, and winning by escaping(p.74, Fullerton 2018). Rules restricting action, player can go through walls(p.79, Fullerton 2018). Rules determining effects, if player in light too long, or touched by enemy, dead(p.79-80, Fullerton 2018). Shadow is a resource, like special terrain, player uses shadow to avoid light(p.83, Fullerton 2018).

#### Conflict

- Obstacles: The light areas, and the navigation(p.86, Fullerton 2018).
- Opponent: Enemies(p.86, Fullerton 2018).
- Dilemmas: Choices of player, like wait in shadow or jump into light for movement(p.86-87, Fullerton 2018).

## 2.e Dramatic elements

The challenge should emotionally engage the player, as the it should remain balanced between frustration and boredom(p.98-99, Fullerton 2018). The game allows for exploration and collecting items, something that should lend it towards the Explorer and Collector player types(p.104, Fullerton 2018). The goblin character should be able to be identified with by a player, due to him being trapped in the building, and many people have experienced that, which should allow for them to internalise the “story”(p.108-109, Fullerton 2018). [97]

## 2.f System dynamics

### Objects

Includes the player, the boxes, the key, the door, the enemy, the rooms(p.130, Fullerton 2018).

### Properties

- Player: location, holding an object or not, alive(p.130, Fullerton 2018).
- The Boxes: Being held, location(p.130, Fullerton 2018).
- The Key: Being held, location(p.130, Fullerton 2018).
- The door: location, locked/unlocked(p.130, Fullerton 2018).
- The stairs: location(p.130, Fullerton 2018).
- The rooms: location, lit, object contained within(p.130, Fullerton 2018).
- The enemy: location, attacking or not, dazed or not(p.130, Fullerton 2018).

### Behaviours

- Player: moving, jumping, going in and out of ventilation shafts, picking up object, throwing objects(p.131, Fullerton 2018).
- The Boxes: physically move around, be picked up, be thrown(p.131, Fullerton 2018).
- The Key: physically move around, be picked up, be thrown(p.131, Fullerton 2018).
- The Door: be unlocked, and activated(p.130, Fullerton 2018).
- The stairs: be activated(p.130, Fullerton 2018).
- The rooms: be lit or unlit(p.130, Fullerton 2018).
- The enemy: Start/stop attacking, get dazed, idle.

## **Relationships**

Player can pick up objects, and throw them, thus changing their location in the world(p.131-132, Fullerton 2018).

The enemy activates attacking when a player is near, and stops if player goes too far away(p.131-132, Fullerton 2018).

The stair allows for the player to go up and down between floors(p.131-132, Fullerton 2018).

The door allows for unlocking if the key is thrown at it, and allows for ending the game if the player activates it(p.131-132, Fullerton 2018).

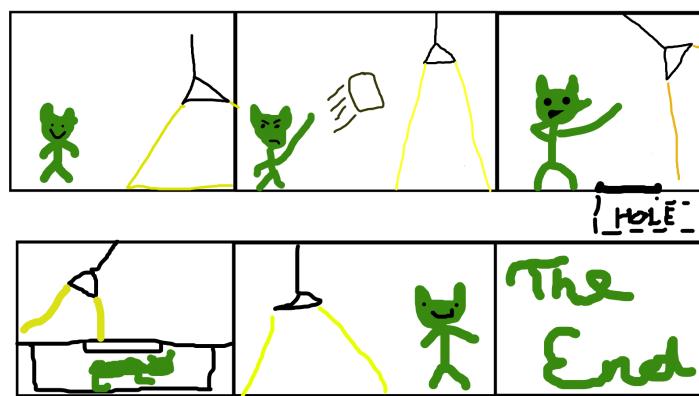
### 3. Documentation of the Physical Prototype Game Design process

#### 3.a Concept

I can't find any other concept images than this final box art cover, and a crudely drawn digital storyboard. The concept is at this point about a goblin who gets disturbed in his sleep from humans moving into his hotel, and then tries to scare them away.



**Figure 1:** Final concept image



**Figure 2:** Crudely drawn storyboard

### 3.b Physical prototype

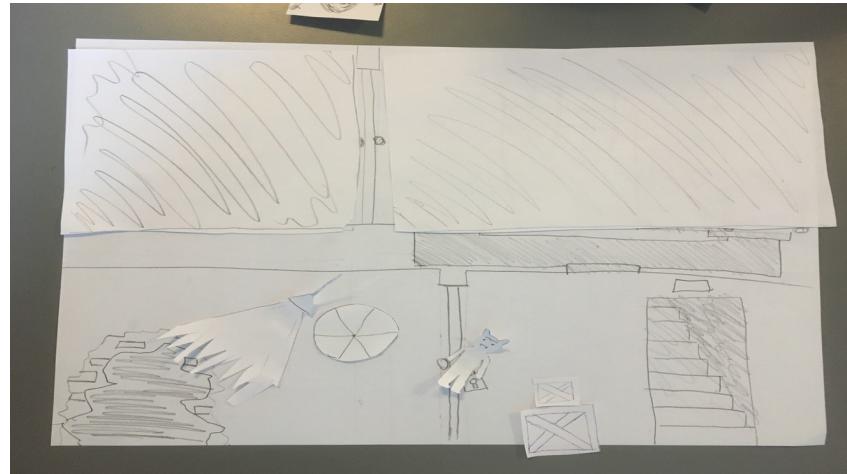
We made the physical prototype using paper, because it is fast to iterate(p.203-204, Fullerton 2018). We used some paper with darkness drawn on to simulate that the rooms were unlit, and nothing was visible in there.



**Figure 3:** First room



**Figure 4:** Second room with stairs and key



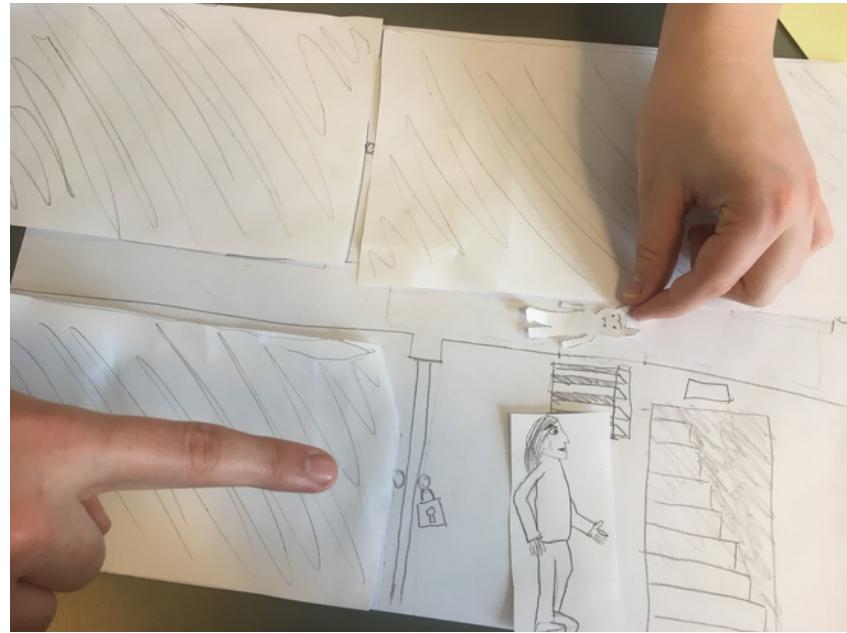
**Figure 5:** Fourth room showing ball throwing and light interaction.

### 3.c Playtest

We didn't tell the tester much else than their controller function (p.281, Fullerton 2018). This was to see how enemy the player interaction worked out, and how the mechanics of the light hitting the player worked.



**Figure 6:** Showing how the tester interacted with the prototype, and being on fire.



**Figure 7:** Showing the tester hiding from the enemy in the ventilation.

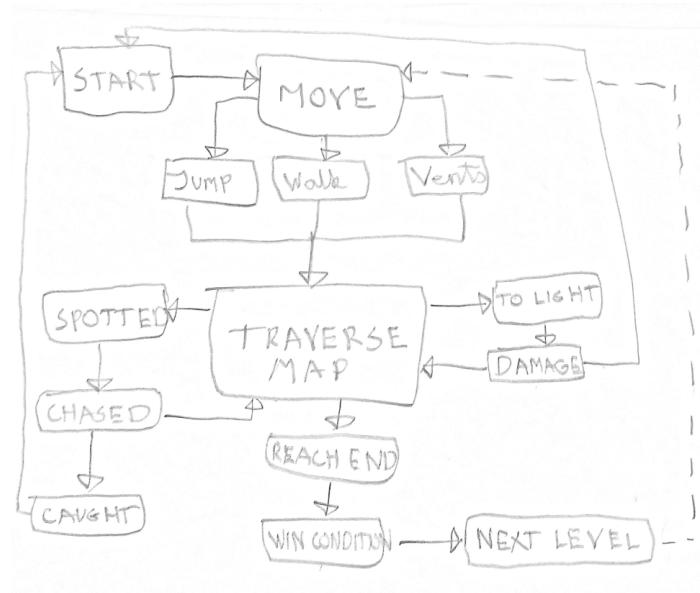
### 3.d The Playcentric method

Following the playcentric approach, allowed for iterating upon the concept, using paper prototyping to test. Drawing up the concepts beforehand, and then testing it on the players allowed us to experience what an actual player would do in a gameplay situation(p.12, Fullerton 2018).

## 4. Documentation of the Digital Game Development process

### 4.a Flowchart

Making this flowchart was beneficial to the degree that it allowed us to map out every function and option that a player had, while taking it into account for the rest of game's systems[451].

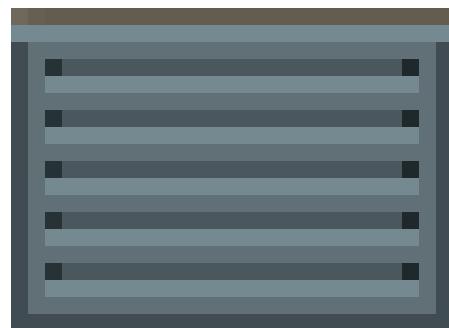


**Figure 8:** Flowchart showing the flow of the entire play.

### 4.b Assets



**Figure 9:** The player sprite, drawn in aseprite



**Figure 10:** The ventilation sprite, drawn in aseprite



**Figure 11:** The enemy sprite, drawn aseprite

#### **4.c The process**

#### **4.d Playtest**

#### **4.e The Playcentric method**

## 5. Documentation of your Game Implementation

### 5.a

Link to playable binaries for Linux, Mac, and Windows can be found [here](#).

### 5.b

The entire project is hosted on [github](#), the zipped (un-imported) project is around 36.9 MB.

### 5.c

For creating this game, we decided on using the Godot engine, it is an open source engine that allows for quick development of both 2D and 3D games. The graphics pipeline of Godot is OpenGL, and the physics engine is a modified version of box2D called Godot physics. Programming is all done inside the Godot editor. We used Aseprite and Piskel for the pixel art.

## 6. Your own evaluation of your team's game

Criteria for score	Score (0-5 stars)	Own explanation of choosing that score (why that score? -your OWN arguments based on the literature, with links to page numbers)
a) How well did you make an engaging game, and why?	3	
b) How well did you make a fun game, and why?	3	
c) How well did you make a unique and innovative game, and why?	3	
d) How well did you make a balanced game, and why?	2	
e) How well did you make a internally complex game, and why?	1	
f) How well did you playtest, and why?	3	
g) Total Score of the above(a-f) (Result: 0-5 full stars)		

### 6.h Player experience evaluation

## 7. Pitching and Publishing your game

### 7.a One word

### 7.b Elevator pitch

[497]

### 7.c Publish your game

QA/Polish [428] Agile Project Planning [433]

## Bibliography

Fullerton, Tracy. 2018. *Game Design Workshop: A Playcentric Approach to Creating Innovative Games.* AK Peters/CRC Press.