DIS+VISIBLE

THE UNIVERSITY *of* EDINBURGH

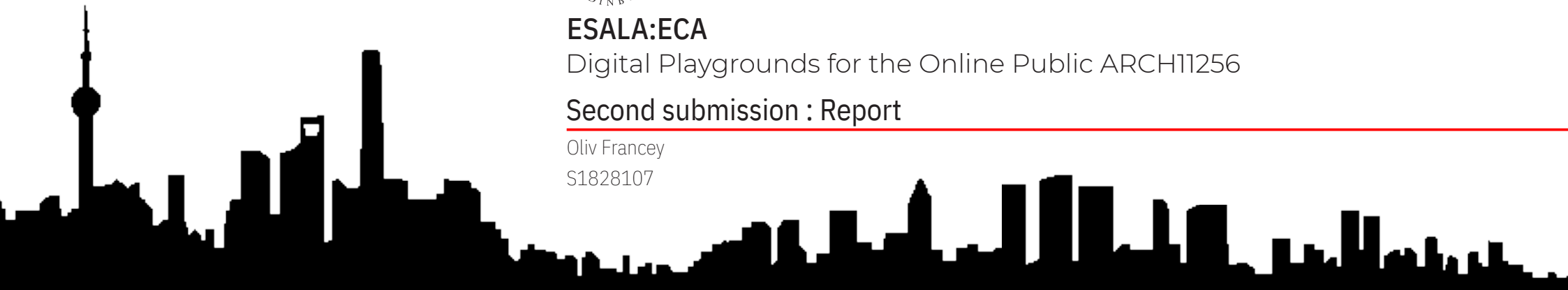
ESALA:ECA

Digital Playgrounds for the Online Public ARCH11256

Second submission : Report

Oliv Francey

S1828107



The•Project

[IN]•VISIBLE is a **two-dimensional [2D] platform video game**. It is based on the **ubiquity of Closed Circuit Television [CCTV]** cameras in large cities and how people feel and behave in relation to them.

The game is playable on **Windows** and **macOS**.

Figure 01: Screenshot of the Shanghai level

Game•link

https://gamejolt.com/games/in-visible/603686

Screencast•link

https://media.ed.ac.uk/media/t/1_ltsj0etk

Submission • 1 • recap

The objectives of the first submission focused on **research** and **prototyping**. The main focus of the research was the **ubiquity of CCTV** in cities and how **people would react** differently to its presence. I chose to work with **four cities** (levels) which were chosen according to the **number of CCTV cameras** present in their territory, and for their easily **recognisable panorama**.

The main inspirations for the project are **1984** by George Orwell, the film **Brazil** by Terry Gilliam and the Ubisoft **Watch Dogs** game franchise.

Submission • 2 • goals

The aim of the second submission was to provide a **playable game** reflecting the information gathered during the research.

To **achieve this goal**, I created a lot of **sprites** – graphic assets – to create the 4 levels (complete list in appendices).

Each city also has its **own level design** which features a different number of cameras based on actual statistics (Bischoff, 2020).

Finally, I have to **develop** and **code** all the **mechanics** of the game and the interface to make the game **playable and enjoyable**.

The Game

A game can be broken down into **four basic elements** (Schell, 2020): **Mechanics**, **Story**, **Aesthetics** and **Technology**.

Mechanics

Goal

The goal of the player is to **complete all the levels** (cities) **with each character**. To get a better score, they need to reach the end of the level **as quickly as possible** and with **the anxiety gauge as low as possible**.

Cameras

Cameras are the **main mechanic** of the game. First of all, **their number changes** depending on the level at which the player is playing. In addition, they are the ones which **will detect the player**. There are **three types** of cameras: **static** cameras, **mobile** cameras (with a predefined path) and **active** cameras (which will follow the person of interest).

Anxiety

The character's **anxiety gauge** shows the player how the **character is reacting** to the game. Depending on the character being played, **it may increase or decrease** when in the eye of the cameras.

If the gauge **reaches its peak**, the character falls unconscious and the **level is over**.

Figure 02: In game screenshot that shows the anxiety bar and the pixelation of the display when the anxiety gets too high.

Randomly Generated Characters

One of the **most important** things about playable characters is that they are **randomly generated**.

For each character, **four characteristics** are combined randomly: the **name**, the **visual**, the **behaviour** in front of the camera and the **skill**. This mix of features not only changes **the way each level will be played**, but it also makes **the game more replayable**.

Figure 03: Characters creation menu

Story

Strictly speaking, there is **no story** in this game. But the objective of this project is to transcribe the results of the research carried out at the beginning of the project. Therefore, we can consider that **each combination of character and city is a micro-story itself**.

Aesthetics

The **whole game** was **visually** and **audibly** designed like an **old game**. I tried to maintain this line with every step of creation or integration.

Menus & UI

As suggested to me in the **first submission feedback**, the entire **user interface [UI]** and **menus** have been designed in **a pixel art style**. I created **icons** and the **anxiety bar** to help the player find their way around during the game phase.

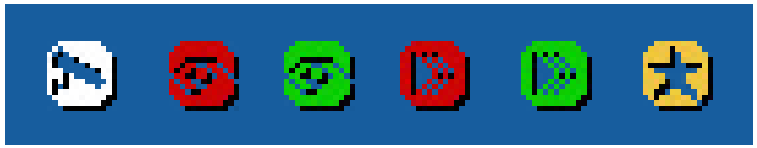


Figure 04: CCTV, behavior and skill icons

Levels

Each city (level) has its **own sprites** that represent the city itself, but they are **similar enough** to **prevent** the player from **getting lost** from level to level. To allow the player to complete a part of the more difficult city-character combination, I had **secret passages** in some levels.

Characters

The **four characters** have different **hair**, **skin**, and **clothing colours** to make them differentiable, but they **don't give any information** on **age** and **gender**. The same goes for first names which can be assigned to any character.

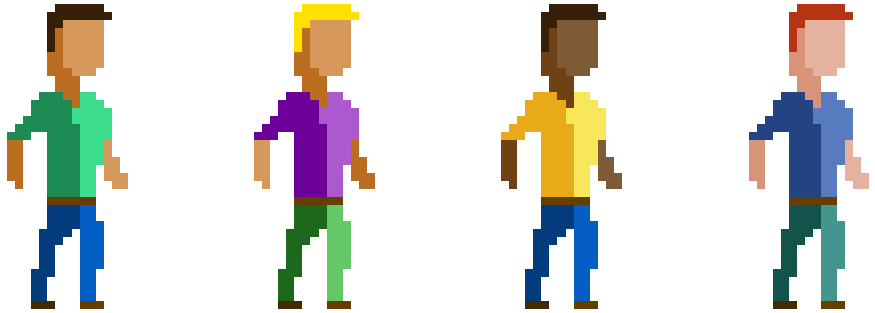


Figure 05: The visual of the 4 characters

Music

The music in the game is **chiptune music** that perfectly matches the graphic style of the game.

The songs were composed by **Edward Shallow** and are available under a **Creative Commons license** at:
https://freemusicarchive.org/music/Edward_Shallow/Hippodichotomous

Technology

All **sprites** were created **pixel by pixel** in **Adobe Photoshop**.

The game was developed on **Unity** (ver. 2020.3.2f1) and the scripts are encoded in **C#** (c sharp). In addition to everything I coded, I used **Unity Standard Assets** and 2 external codes.

Triangulator (https://wiki.unity3d.com/index.php/Triangulator), from the Unity documentation, which helped me **create irregular** camera vision **cones** and **Pixelation** (https://assetstore.unity.com/packages/vfx/shaders/fullscreen-camera-effects/pixelation-65554) which allows me to **pixelate the view** when anxiety gets too high.

Alpha and Beta Tests

Five people have tested the alpha and beta versions of the game. Despite the small number of people, I try to have a **differentiated panel of people**. Two are **casual video game players**, one is a **hardcore gamer** and the last two are **game developers**.

During both phases of testing, they pointed out **errors in graphics** and **gameplay** to me.

The **main problem** that was almost unanimously reported was that depending on the level and the character, the **game was too easy or too difficult, if not impossible**.

This might be a **real problem** for a **commercial game**, but in the case of this project I thought it **perfectly reflected** what was **the basis of the project**, which is how different people react to different situations, always referring to the presence of cameras in cities.

In a way, my game is more of a **serious game**. It fulfils certain points presented in Katryna Starks' excellent article on serious game design (Starks, 2014), in particular **knowledge**, **goals** and **outcome expectations**.

What might appear to be a problem was in fact proof that the project had partially achieved its goal.

Future • development

To further advance this project, I would like to add these features:

- A **score reward** system to give more importance to the score
- Create **more different sprites** for the characters
- Work on **sound design** to add **foleys**
- Add **special items** or **skill** mechanics (**hiding**, **camera jammer**, **disguises**, etc.)
- Focus more precisely on the development of the project towards **serious gaming**

Reflective • observation

As Fiona J. Doloughan suggests in her article (Doloughan, 2002), it is sometimes **complicated to explain or analyse an artistic project** and its evolution **with standard scientific methods or words**.

In my opinion, the best way to have a look at the evolution of my work and a **self-evaluation** is to **compare the different versions** of the projects at key moments.

For that, I kept **all the versions** (12 in total) and even left the alpha and beta versions of my game accessible on Gamejolt (link on the first page).

By comparing the different builds of my game, I realise how much **my approach** to managing 2D and a platformer **has evolved**. I was able to **acquire knowledge** about the management of pixelated elements and their creation. I had never worked with this graphic style.

One of the **crucial points** of the project **that scared me** was the **level design**. If **not well thought out**, the whole game can **fall apart**. But as I talk about in the section dedicated to tests, the fact that some testers found levels too simple or too hard depending on the character used, confirms that for this game, which tends to be a **serious game**, my l**evel design was good**.

To conclude, I can say that the different aspects and techniques used in this project perfectly **complement the knowledge** acquired during my **first 5 modules** and that **I now feel more than ready to complete my final project**.

Word count: 1278.

References

CCTV cameras? Retrieved from https://www.comparitech.com/vpn-privacy/the-worlds-most-surveilled-cities/

Doloughan, F. J. (2002). The language of reflective practice in art and design. Design Issues, 18(2), 57-64.

Schell, J. (2020). The art of game design : a book of lenses(3rd edition. ed., CRC Press (1 volume)).

Starks, K. (2014). Cognitive behavioral game design: a unified model for designing serious games. Frontiers in psychology, 5, 28.

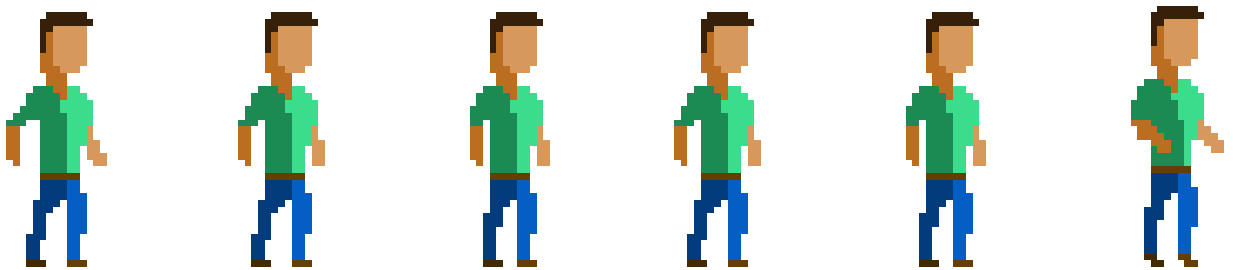
Appendices

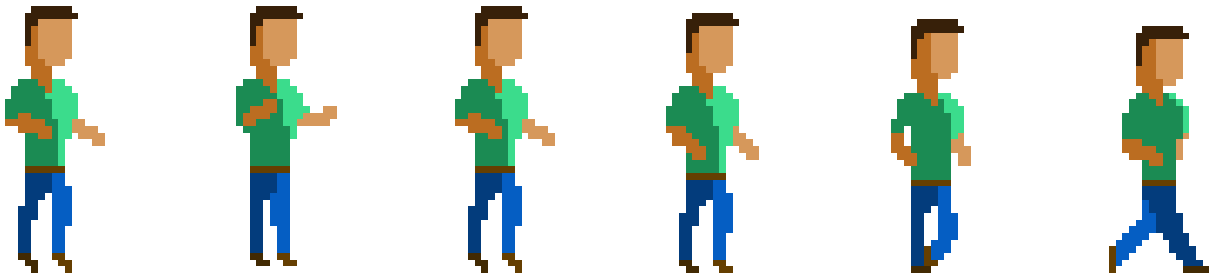
Sprite catalog

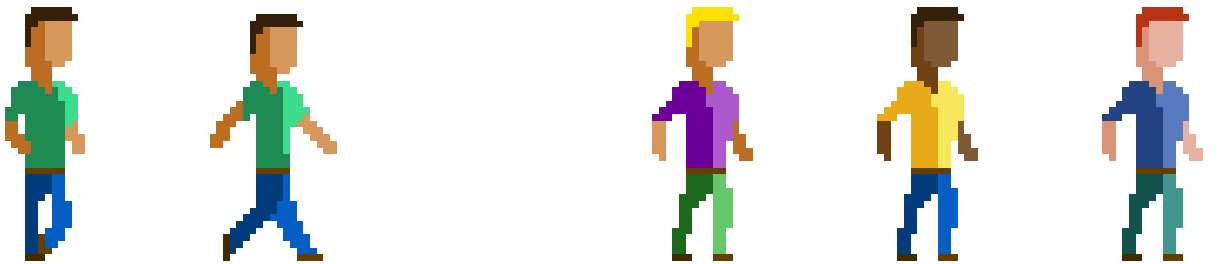
Backgrounds

Cameras

Characters







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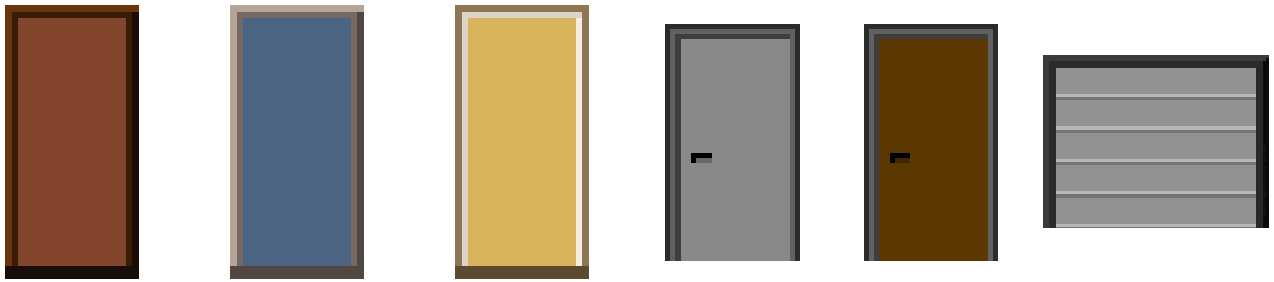
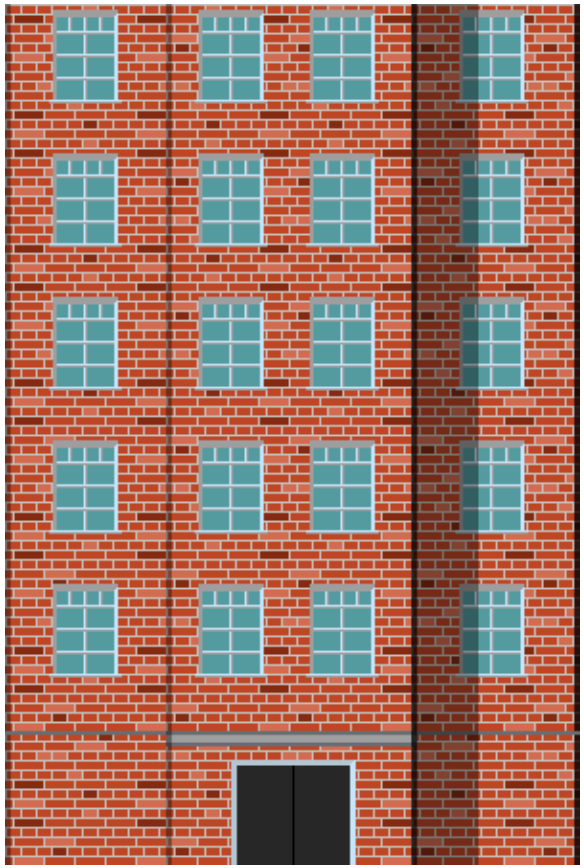
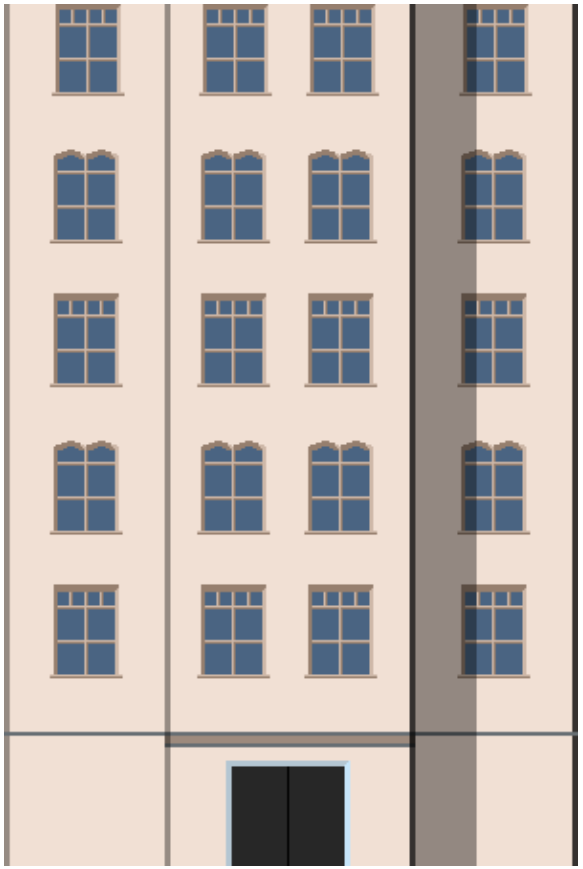
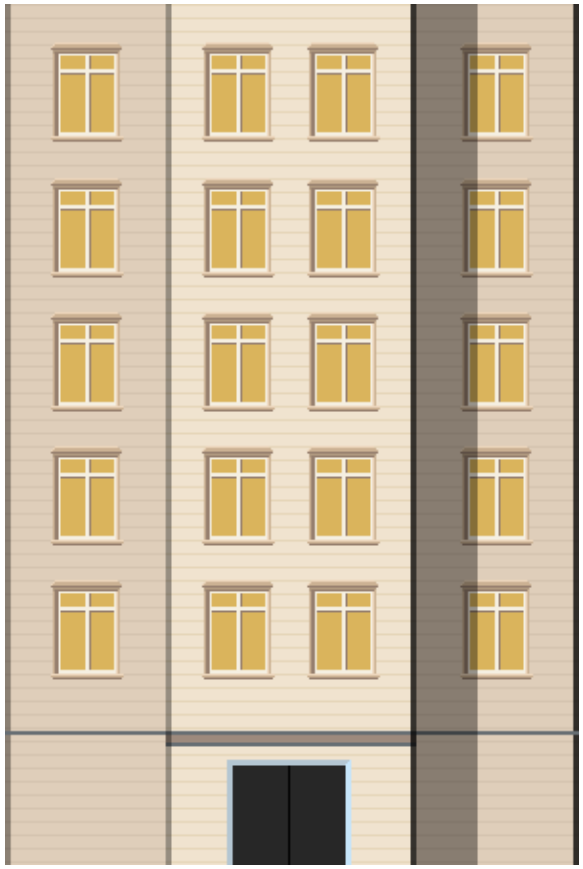
Doors

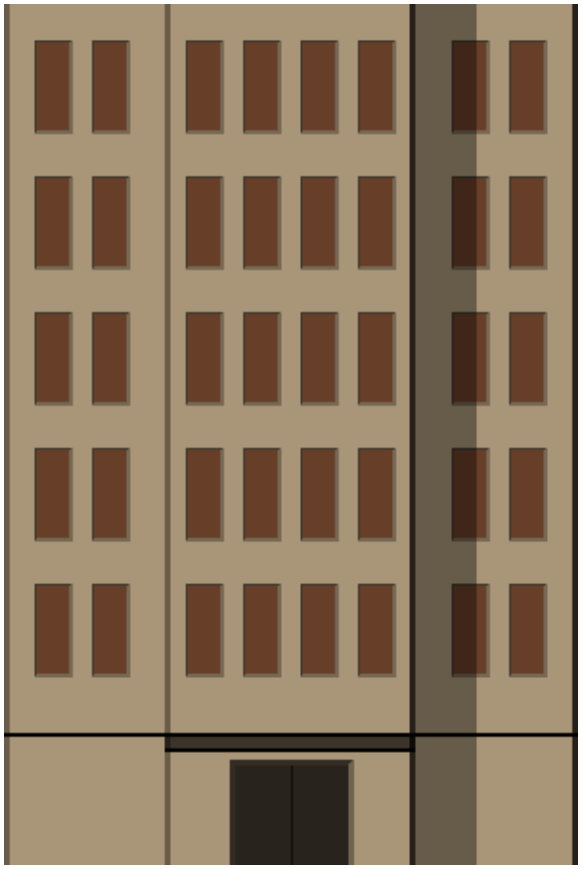


Buildings

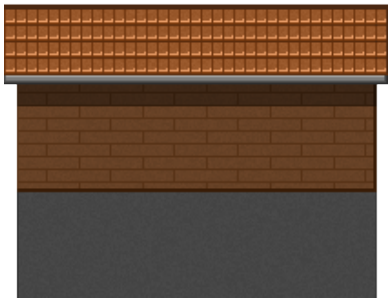


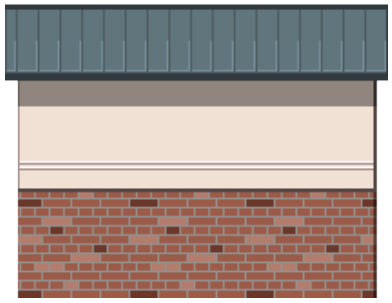






Houses





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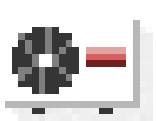
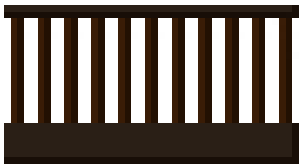
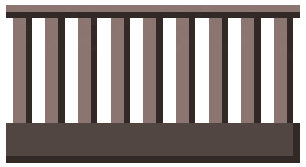
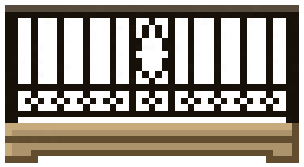
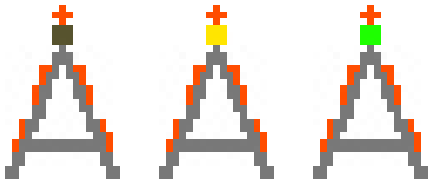
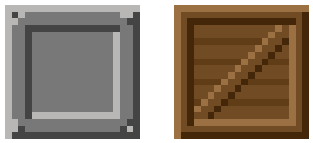
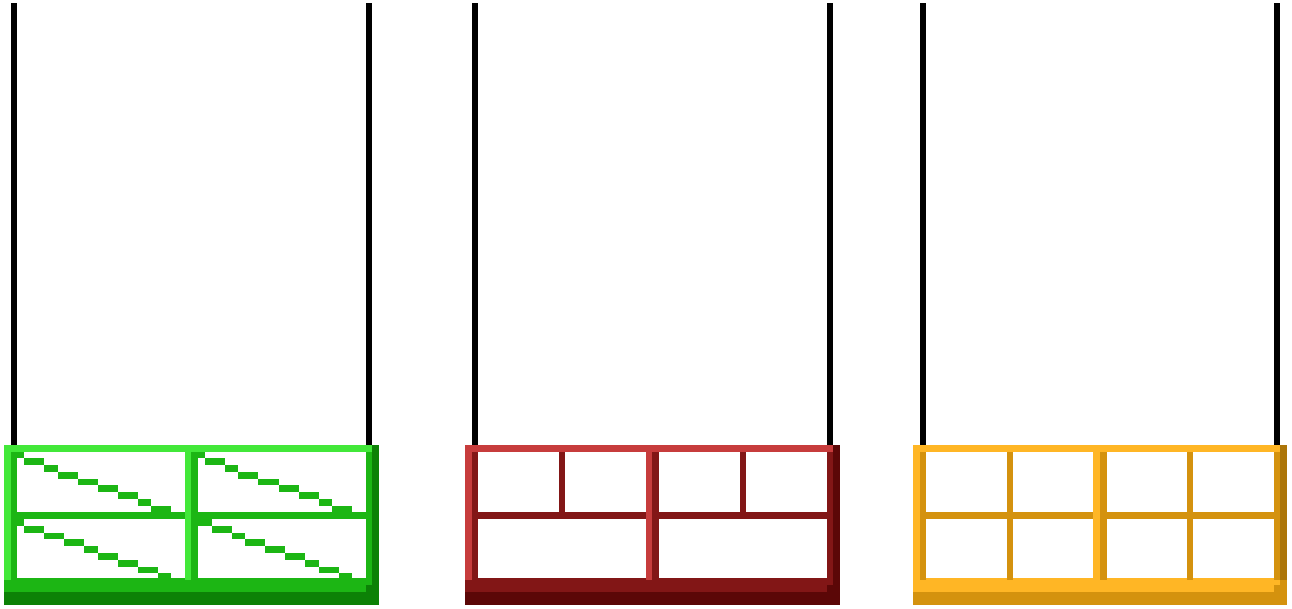
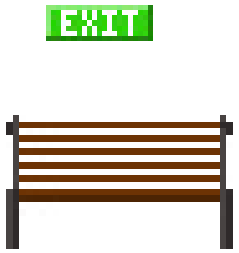
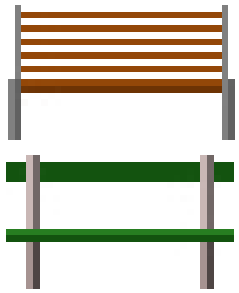
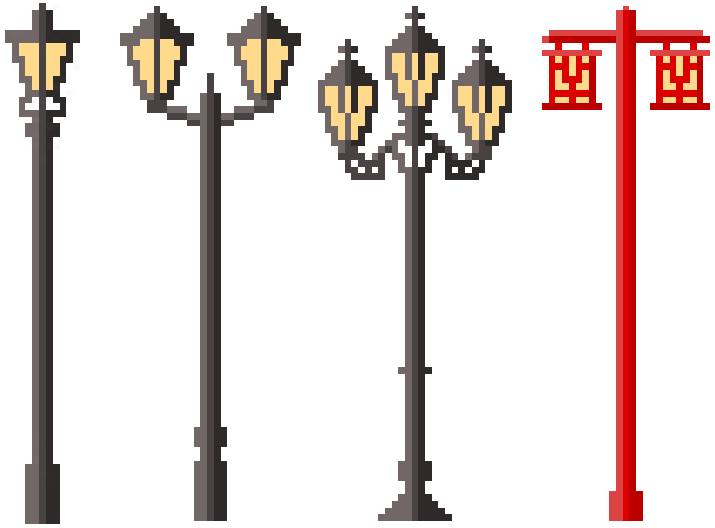
Platforms

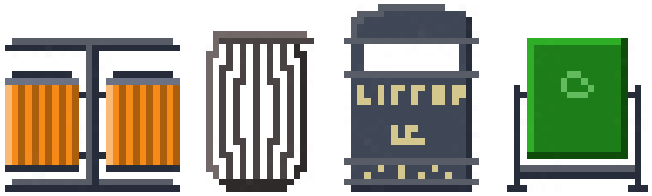








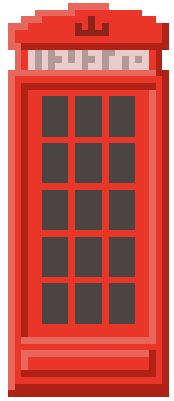
Streets











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