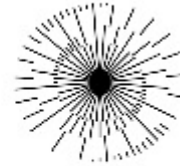




UNIVERSITY OF SILESIA  
IN KATOWICE



POLISH NATIONAL AGENCY  
FOR ACADEMIC EXCHANGE



GAME LAB

▲ Hochschule Harz  
Harz University of Applied Sciences

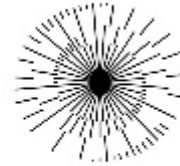
# Harz University of Applied Sciences GERMANY



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GAME LAB

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## Mentor: Dominik Wilhelm

### STUDENTS TEAM

Mayuri Iwata (Art / Animation)

Takuma Wabiko (Code / Tech)

Dominik Wilhelm (GD / Music)

## WORKING TITLE: **Simplicity**

**Platform:** Smartphone/Tablet, PC

**Engine:** Unity

## CONCEPT

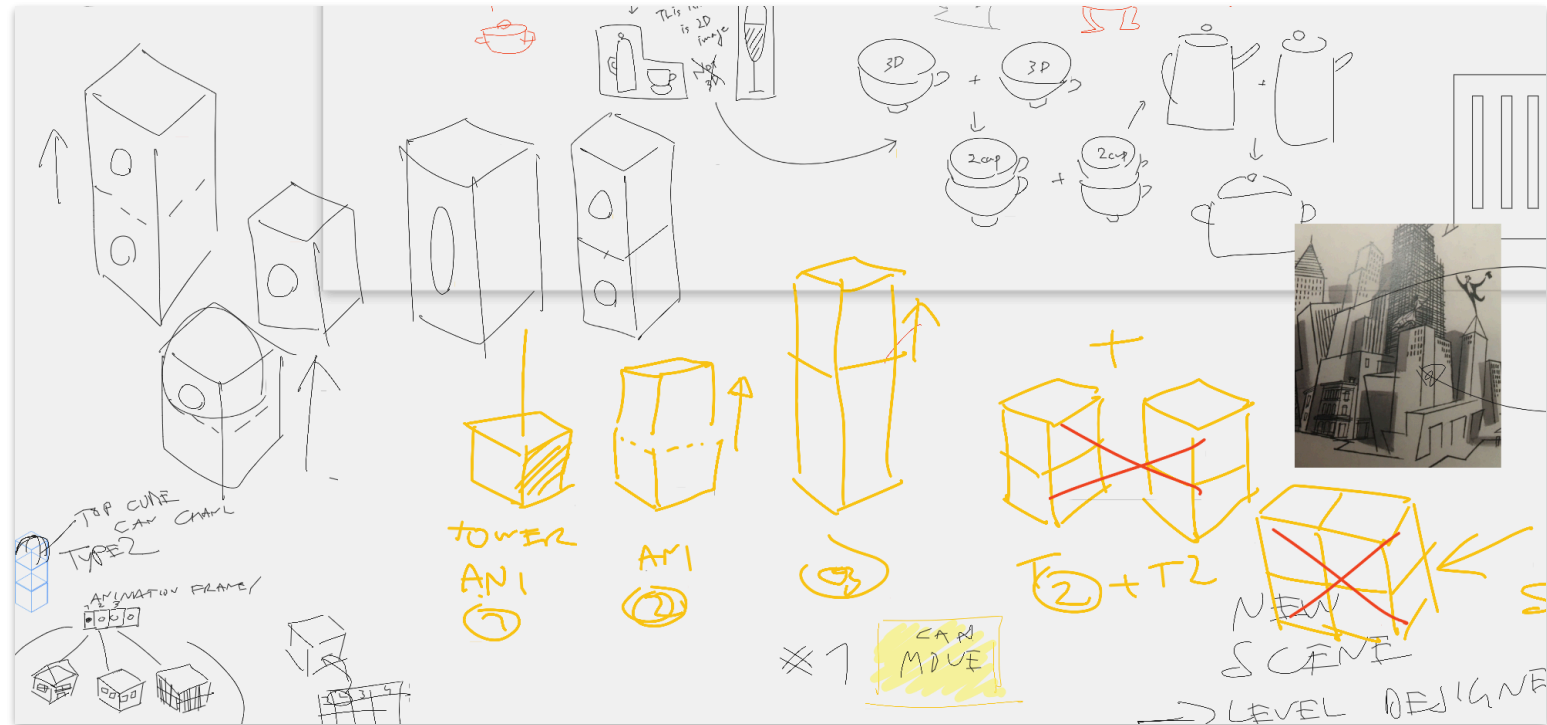
### **Simplicity of Complexity: "SIMPLI-CITY"**

Based on the original idea of a minimalist game concept that can be scaled up easily and provide emergent gameplay experiences, we started to create a spatial puzzle game with the core mechanics of sliding & merging blocks on 3-axis to create increasingly larger and higher building types.

The game should evoke a setting of "bright utopia vs. mystery" which was inspired by contrasting vintage architecture illustrations of "Archigram" and their optimism of technological advancement with the loneliness of empty cities, decaying commercial zones and the unfulfilled promises of technology.

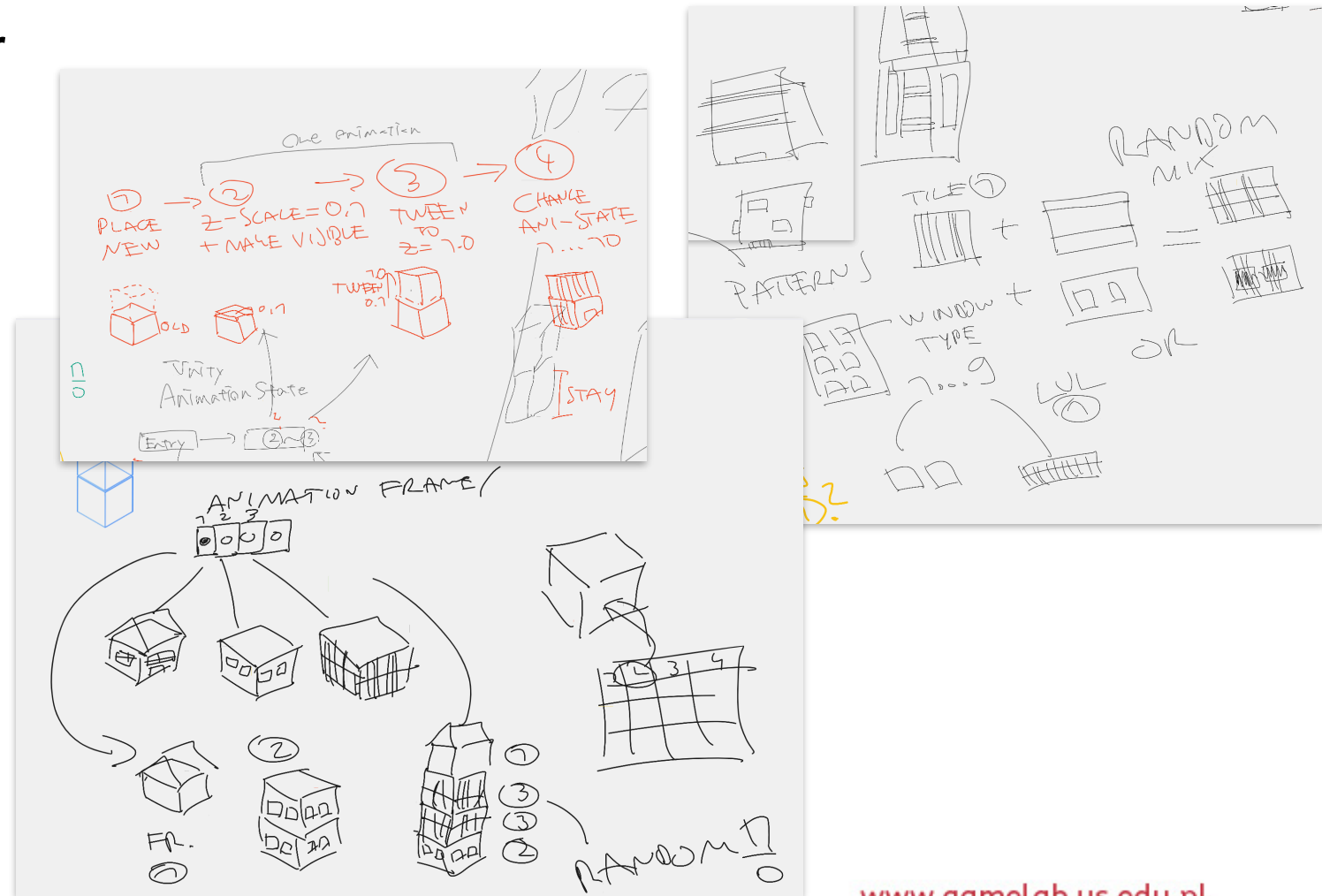
## Developing the game concept further

Collaborative sketching of how the block merging system can work on different axis.



## Developing the game concept further

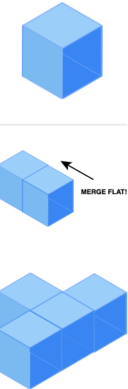


System for changing animation states of individual blocks to create a huge variety of building types.



## Developing the game concept further

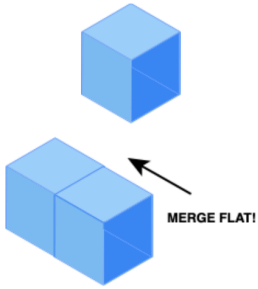
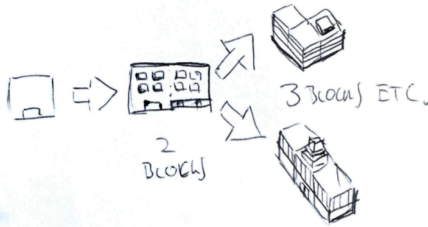

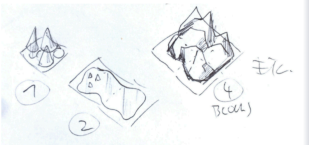

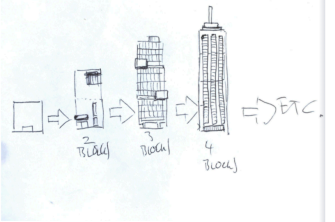
Defining rules, behaviours and themes of various block merge types.

GAMELAB: Simplicity / Game Design / Block Types

Block Type	Description	Can Slide?	Merge Behaviour	Merge Rules	Color Concept	Design Theme	Comment
 <p>TYPE_1</p>	<ul style="list-style-type: none"> <li>blocks connect <b>Horizontally</b> with TYPE_1 and TYPE_1-BASE, so TYPE_1 can have many different shapes (for example like TETRIS pieces...)</li> </ul>	YES	HORIZONTAL MERGE	<ul style="list-style-type: none"> <li>Merge with TYPE_1-BASE (and TYPE_1? -&gt; to be decided!)</li> </ul>	TYPE_1 COLOR	<ul style="list-style-type: none"> <li>lower building Type like                             <ul style="list-style-type: none"> <li>like residential buildings</li> <li>shops</li> <li>high schools etc.</li> </ul> </li> </ul>	
 <p>TYPE_2-BASE</p>	<ul style="list-style-type: none"> <li>Always <u>size 1x1!</u></li> <li>Connecting 2 base blocks of</li> </ul>	YES					
 <p>TYPE_2</p>	<ul style="list-style-type: none"> <li>blocks merge <b>VERTICALLY</b> with TYPE_2-BASE, so the FLOOR area of TYPE_2 will stay in size 1x1 -&gt; BUT it will grow in HEIGHT</li> </ul>	YES	VERTICAL MERGE	<ul style="list-style-type: none"> <li>Merge with TYPE_2-BASE</li> </ul>	TYPE_2 COLOR	<ul style="list-style-type: none"> <li>like a SKYSCRAPER!                             <ul style="list-style-type: none"> <li>Office buildings</li> <li>Hotels</li> <li>minimal, "Bauhaus", Modernist architecture style</li> <li>skyscrapers</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Skyscrapers save space when planning a real city - you can have many people and offices on a very small ground area...</li> <li>-&gt; this block type helps to <u>make space</u> in the level. (Get rid of TYPE2-BASE blocks by merging them into Skyscrapers)</li> <li>this VERTICAL block type makes the level architecture more interesting -&gt; a finished level will have</li> </ul>

## Developing the game concept further

Defining rules, behaviours and themes of various block merge types.





<p>TYPE_1</p> 	<p>TYPE_1-2</p> <ul style="list-style-type: none"> <li>• 2 Blocks merged</li> </ul> <hr/> <p>TYPE_1-3</p> <ul style="list-style-type: none"> <li>• 3 Blocks merged</li> </ul> <hr/> <p>TYPE_1-4</p> <ul style="list-style-type: none"> <li>• 4 Blocks merged</li> </ul> <hr/> <p>TYPE_1-5</p> <ul style="list-style-type: none"> <li>• 5 Blocks merged</li> </ul> <hr/> <p>TYPE_1-6</p>	<p>Examples:</p> 
<p>Block Type</p> <p>TYPE_0</p> 	<p>Sub Types</p> <p>TYPE_0-1</p> <ul style="list-style-type: none"> <li>• 1x1 block obstacle</li> </ul> <hr/> <p>TYPE_0-2</p> <ul style="list-style-type: none"> <li>• 2 Block obstacle</li> </ul> <hr/> <p>TYPE_0-3</p> <ul style="list-style-type: none"> <li>• 2 Block obstacle</li> </ul> <hr/> <p>TYPE_0-4</p> <ul style="list-style-type: none"> <li>• 4 Block obstacle</li> </ul>	<p>Examples:</p> 
<p>Block Type</p> <p>TYPE_2</p> 	<p>Sub Types</p> <p>TYPE_2-2</p> <ul style="list-style-type: none"> <li>• 2 Blocks merged</li> </ul> <hr/> <p>TYPE_3-3</p> <ul style="list-style-type: none"> <li>• 3 Blocks merged</li> </ul> <hr/> <p>TYPE_4-4</p> <ul style="list-style-type: none"> <li>• 4 Blocks merged</li> </ul> <hr/> <p>TYPE_5-5</p> <ul style="list-style-type: none"> <li>• 5 Blocks merged</li> </ul> <hr/> <p>TYPE_4-4</p> <ul style="list-style-type: none"> <li>• 4 Blocks merged</li> </ul>	<p>Examples:</p> 



# Art

Visual research, moodboards and concept sketches.

<p><b>TYPE_2</b></p> 	<p>like a SKYSCRAPER or High-rise buildings</p> <ul style="list-style-type: none"> <li>• Office buildings</li> <li>• Hotels</li> <li>• minimal, "Bauhaus", Modernist architecture style skyscrapers</li> </ul>	<p>Small highrise buildings (2 blocks height)</p>  
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Block Type	Design theme	Visual Research
<p><b>TYPE_0</b></p> 	<ul style="list-style-type: none"> <li>• <u>FIXED</u> block / <u>cannot move</u> or <u>merge</u></li> <li>• design ideas for this block type: <ul style="list-style-type: none"> <li>◦ nature (trees, parks)</li> <li>◦ sacred places like shrines, temples, churches</li> <li>◦ mountains</li> <li>◦ etc.</li> </ul> </li> </ul>	  

# Art

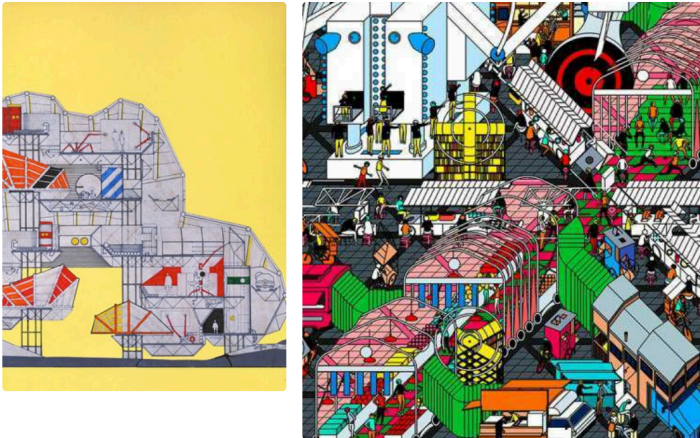
## Art Concept

We shared some art that we thought might be helpful.

- "Rhapsody of Steel", "Pigs is Pigs"...some simple, quiet art
- Realistic, watercolor building art by the Japanese

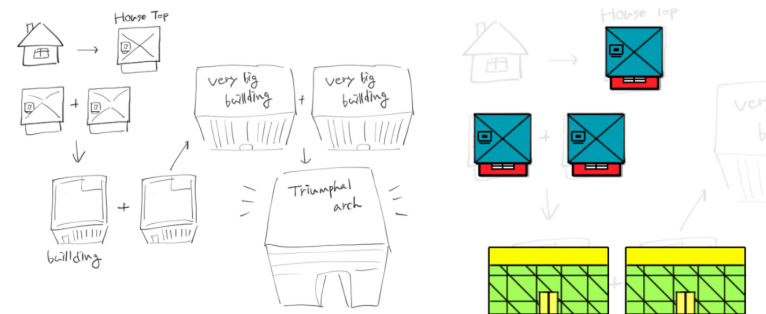
...etc

From among them, I chose the concept of "Archigram" art style.



## Objects Sketching

Then I focused on the aerial photos and did some light sketching.

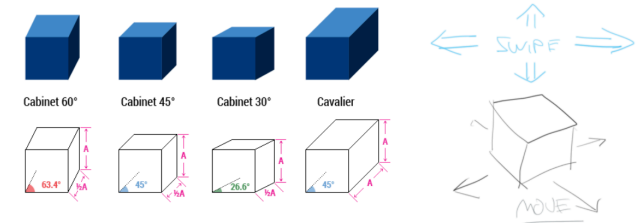


## Objects Angles

Mr. Dominik focused on the angles of the horizontal surfaces of the house.

I came up with the idea of isometric angles.

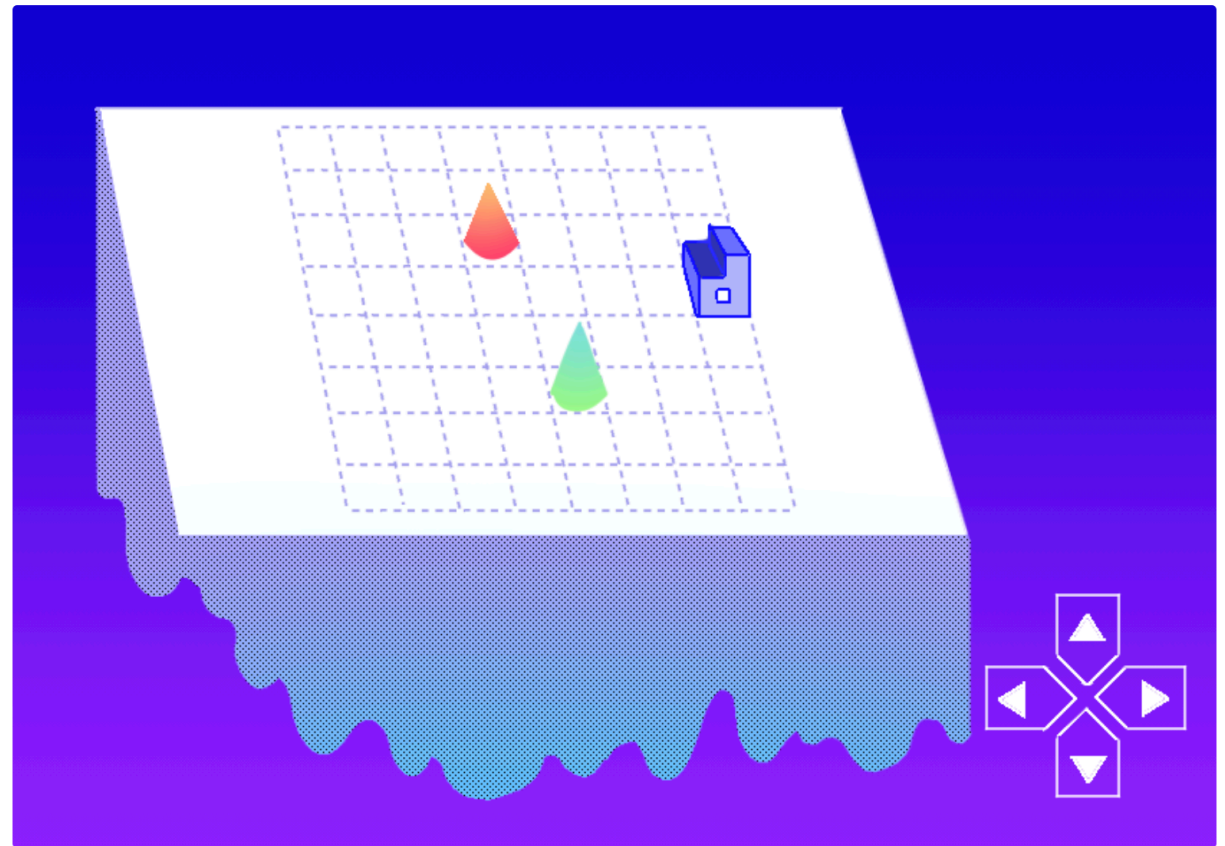
(It may be difficult to do because the swipe direction and the angle at which the object moves are different.)



## Art

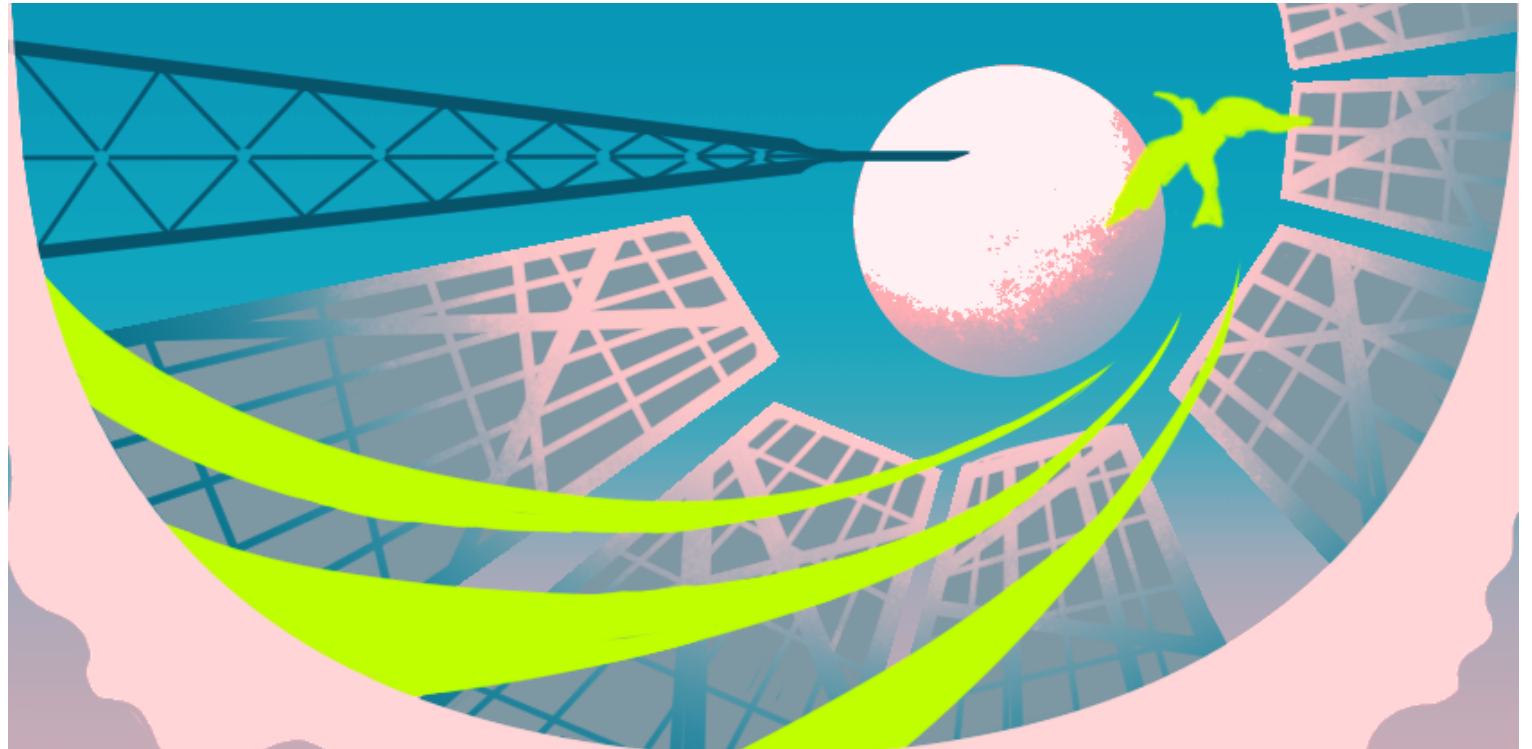
Iwata-san created various concept artworks to explore different visual styles and moods.

Color Image Test



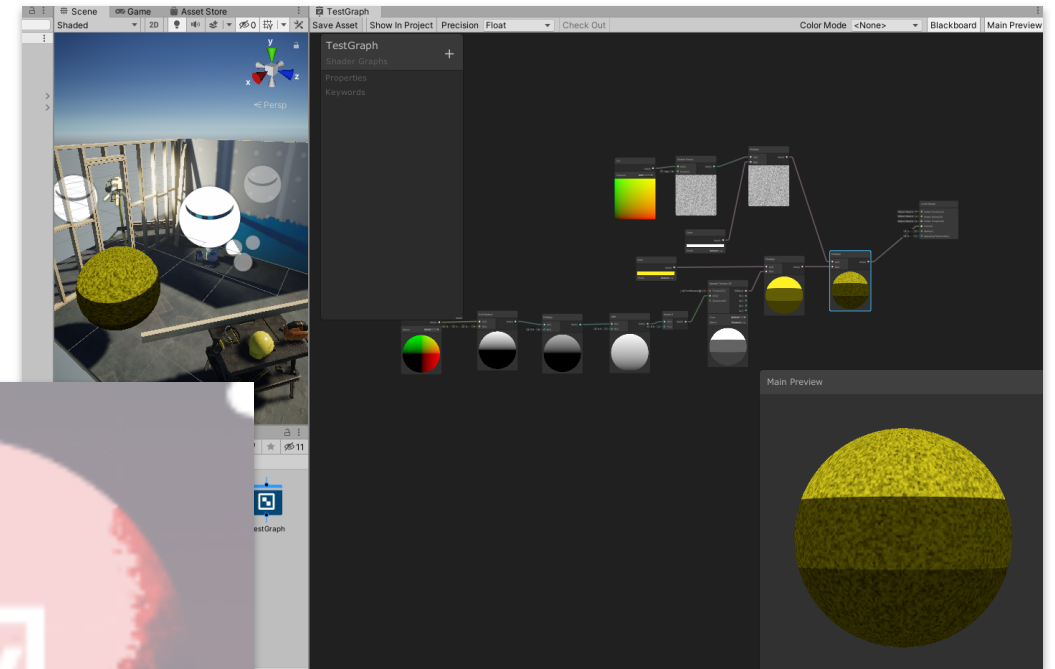
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## Art

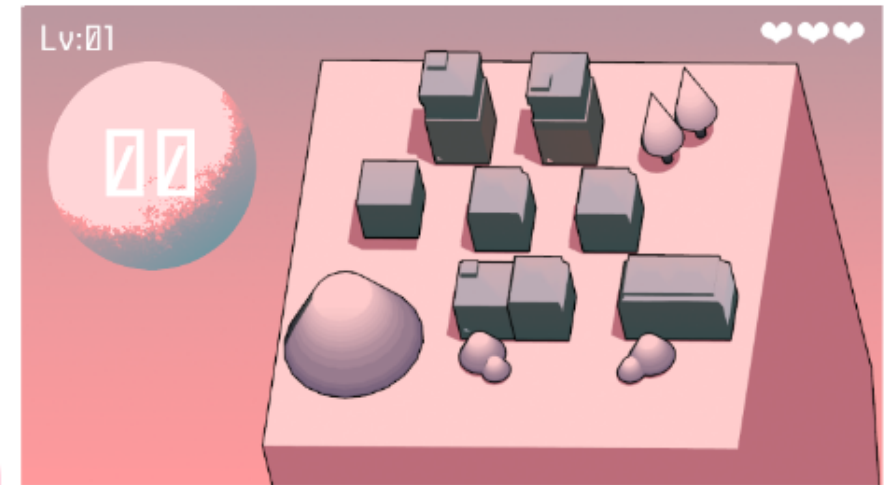
Iwata-san explored working with the Unity Shader Graph to recreate the visual style she developed in her art concepts.



## Art

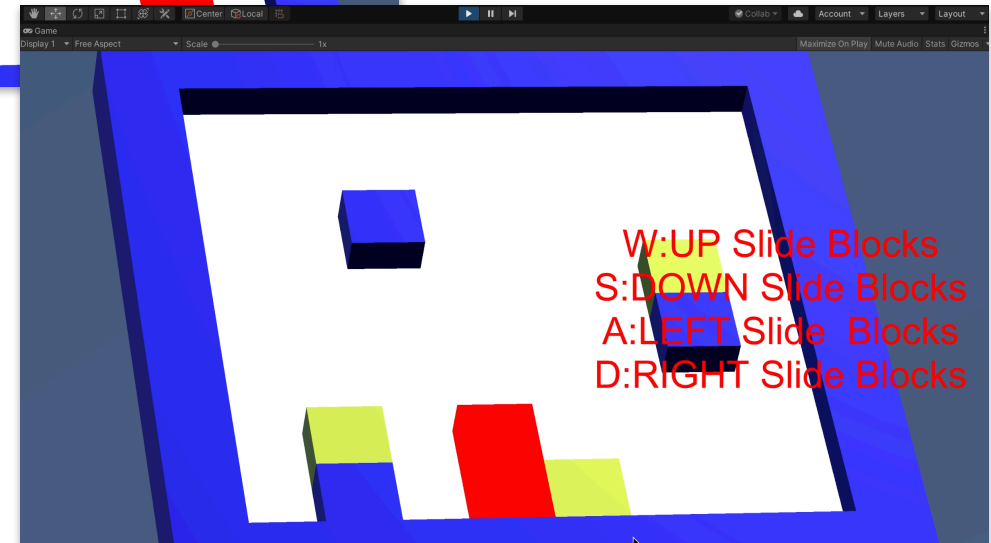
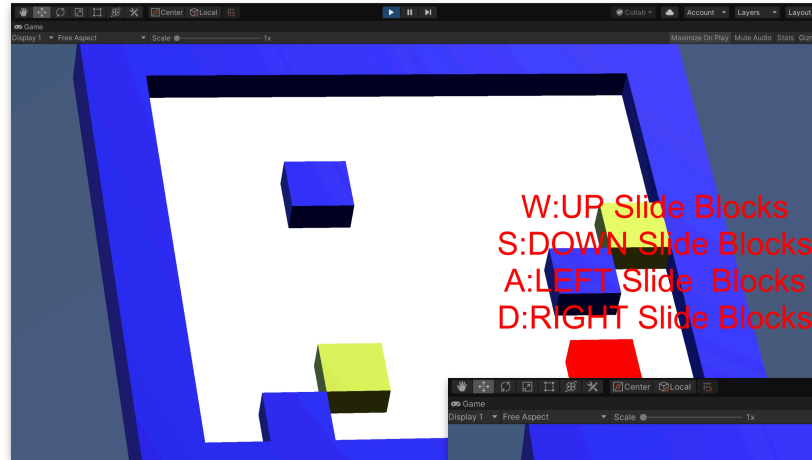
Iwata-san explored working with the Unity Shader Graph to recreate the visual style she developed in her art concepts.

Number of times the player can slide things



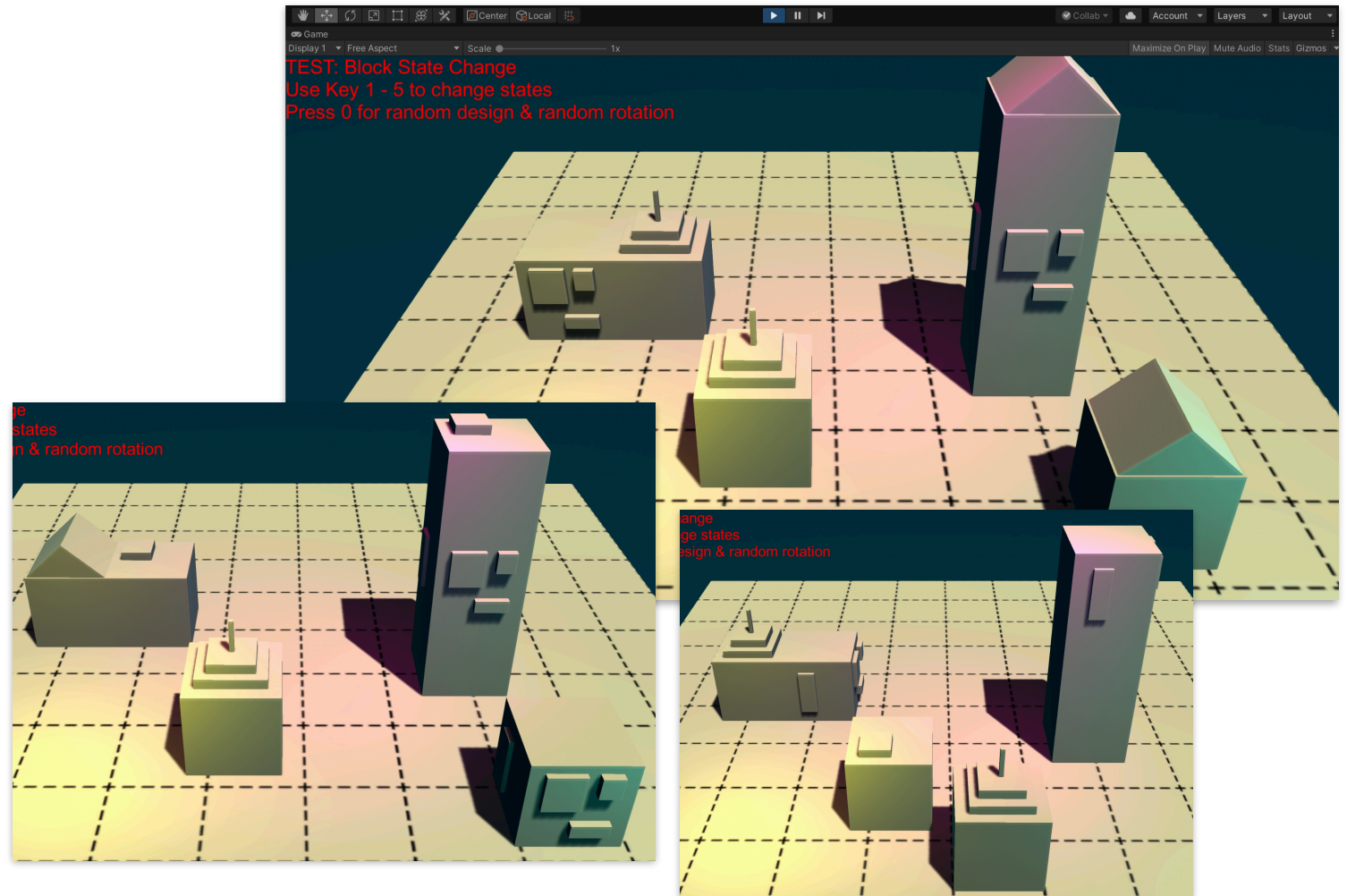
## Digital Prototyping

Wabiko-san created a first prototype of a basic block sliding & merging system.



## Digital Prototyping

Test environment for dynamic building change system.





## PARTNERS

- Benemérita Universidad Autónoma de Puebla



- Tokyo University of Technology, School of Media Science



- LUCA School



- University of Ostrava



- School of Art at Northern Illinois University



- Harz University of Applied Sciences

