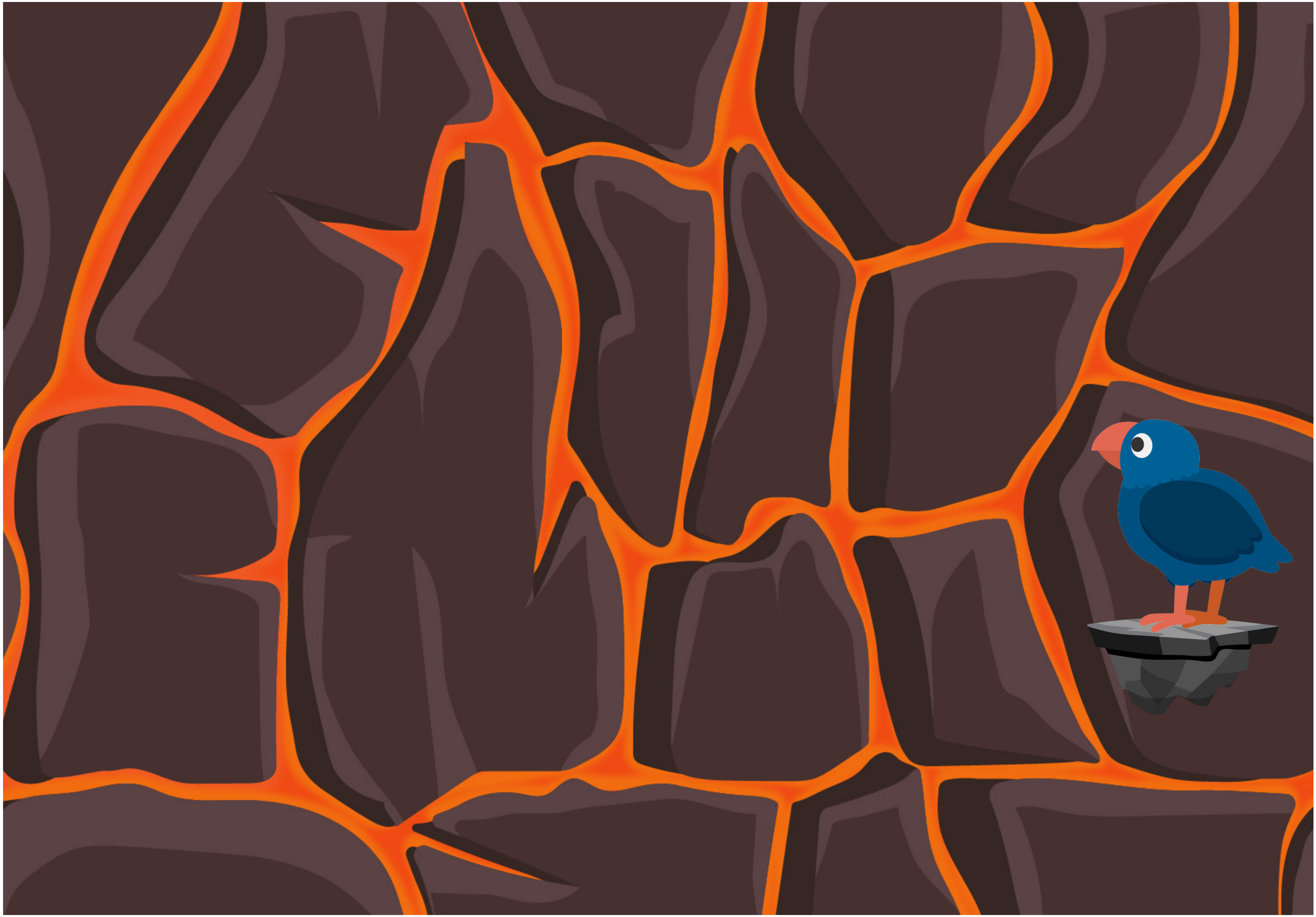
INDIVIDUAL REPORT

PAP 2 / BMD3R1

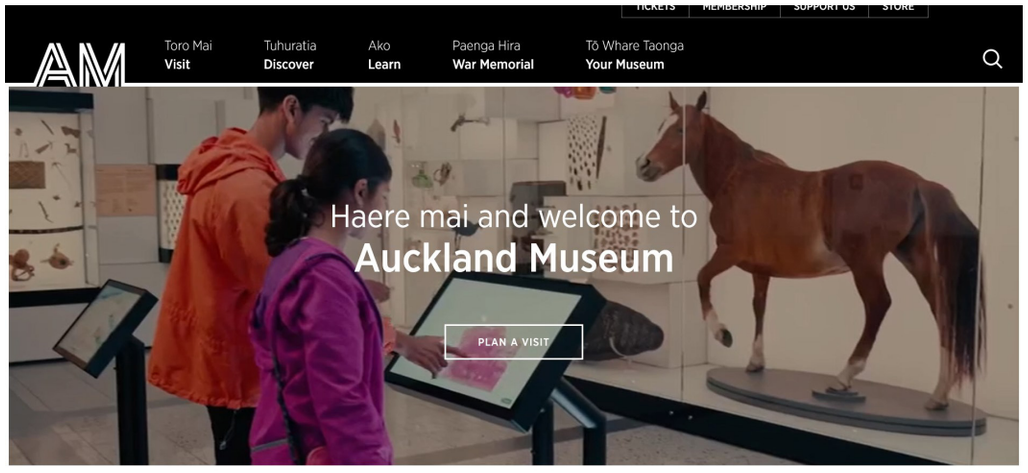
ZAK ALEXANDER

16/ 06 / 25



CONTENTS.

THE BRIEF.



Open weekdays from 10AM - 5PM.
Open Saturdays, Sundays, and public holidays from 9AM - 5PM.
Open late every Tuesday evening until 8.30PM.

Auckland museum wanted an online experience of their weird and wonderful exhibit. Something that keeps their audience engaged even after visiting the exhibition, or for people who are physically unable to visit it in person.

What solution can be created that keeps these conditions in mind, stays true to the exhibition, but is also something new and interesting that their target audience resonates with.

DESIGNER PROFILE.

Interactive Researcher
UX/UI designer
Lead Programmer

Miharo went through a lot of changes. Our team had equal roles throughout the design and development phase with everyone taking bits and pieces of different work. I branched out into illustration and animation for this project, creating a lot of the menu illustrations and game assets.

METHODOLOGY.

1. RESEARCH

EXHIBITION & DEMOGRAPHICS

2. PLANNING

IDEATE, REFINE, VISUALISE, CONCEPT

3. BRANDING

COLOURS, FONTS, UI ASSETS

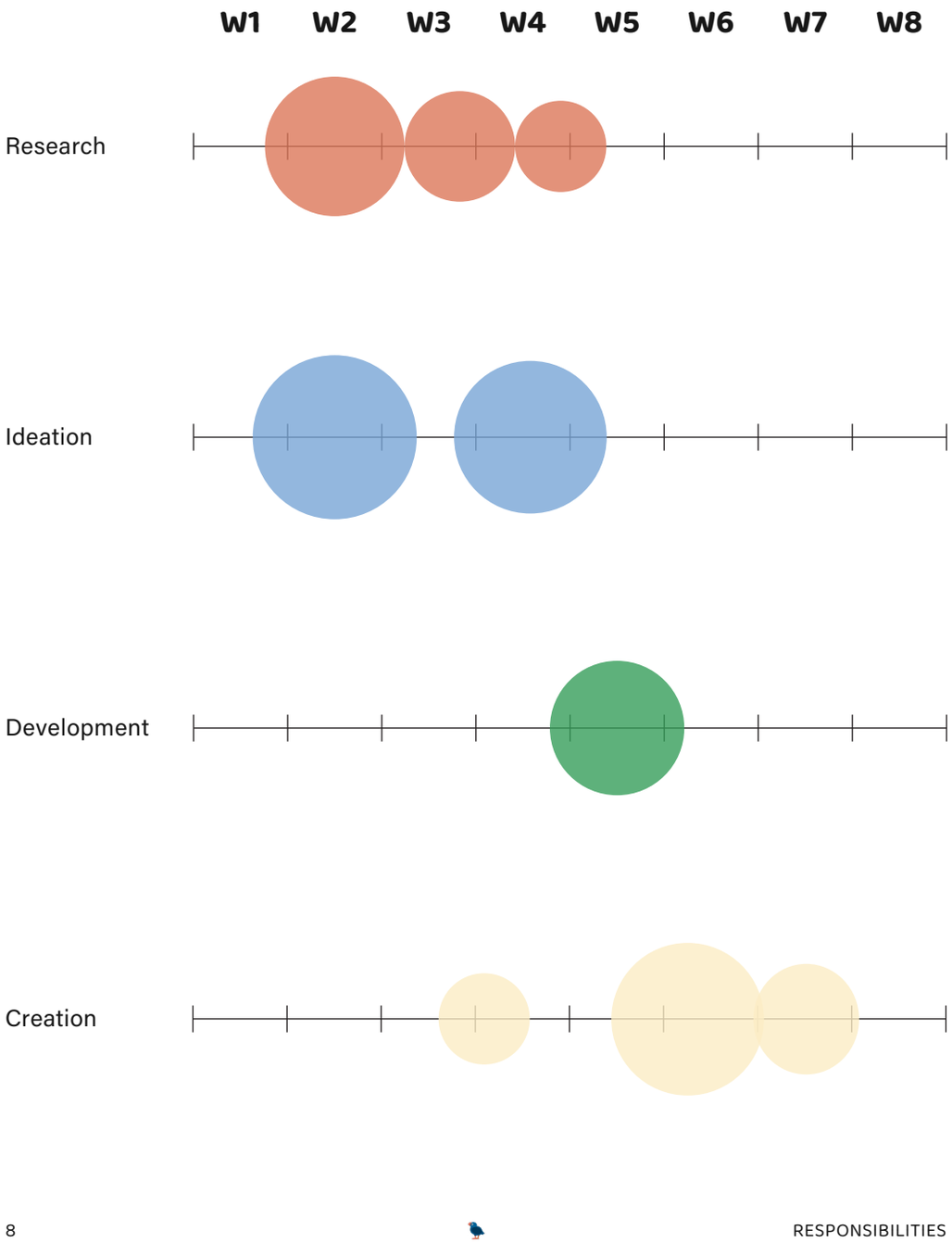
4. DEVELOPMENT PLANNING

PRODUCTION TIMELINE, REQUIREMENTS, STRUCTURE

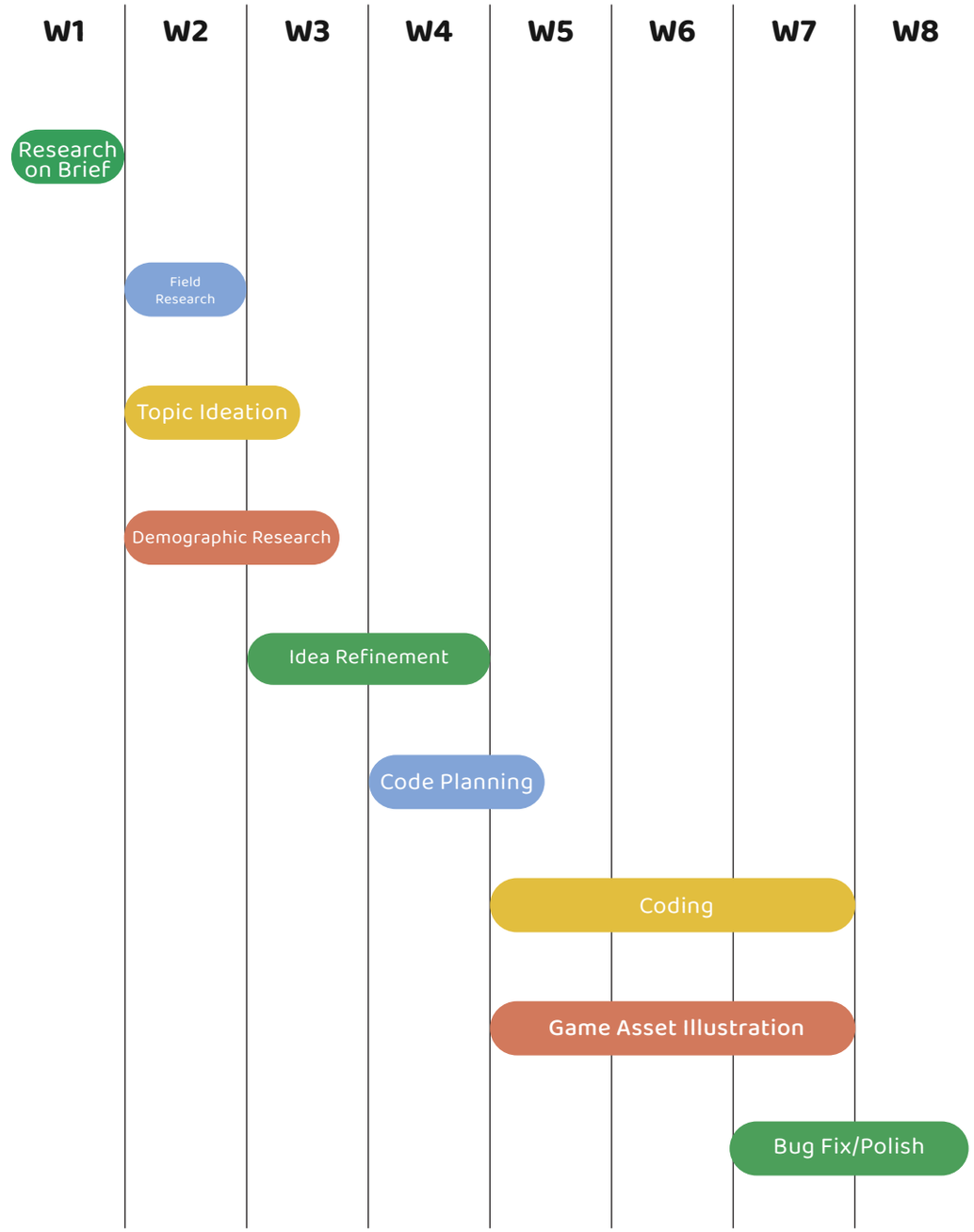
5. PRODUCTION

ILLUSTRATE, CODE, TEST

WORKLOAD.

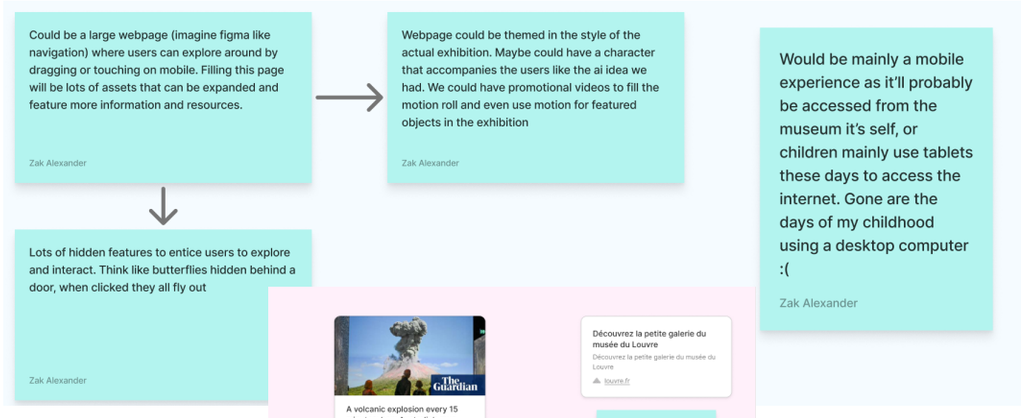


TIMELINE.

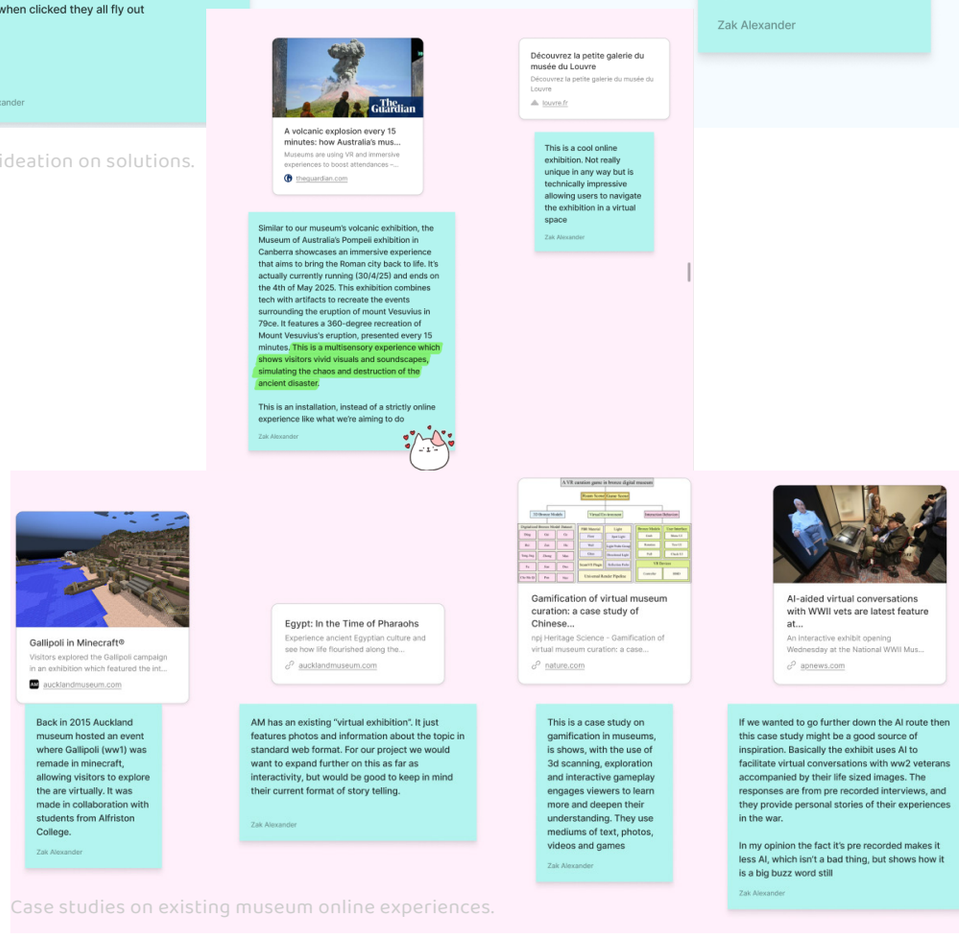


INITIAL RESEARCH.

To build a foundation for our project we researched Auckland museum and did case studies on what other museum's online experiences were like.



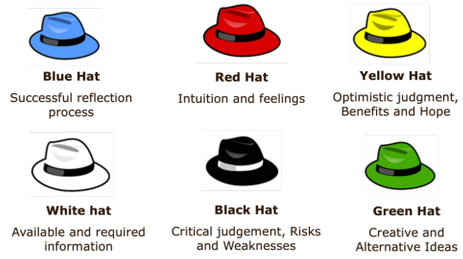
Initial ideation on solutions.

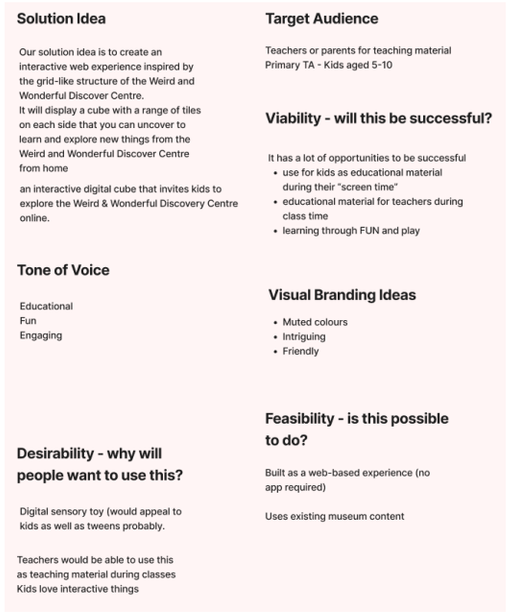


Case studies on existing museum online experiences.

IDEATION.

The team used the "6 thinking hats" technique to hone in and define our idea.





Asking ourselves questions on the viability of the idea.

6 thinking hats process.

DESIGNING FOR KIDS

As the target audience of this project is kids, it's important we make sure we take into account how to design for them.

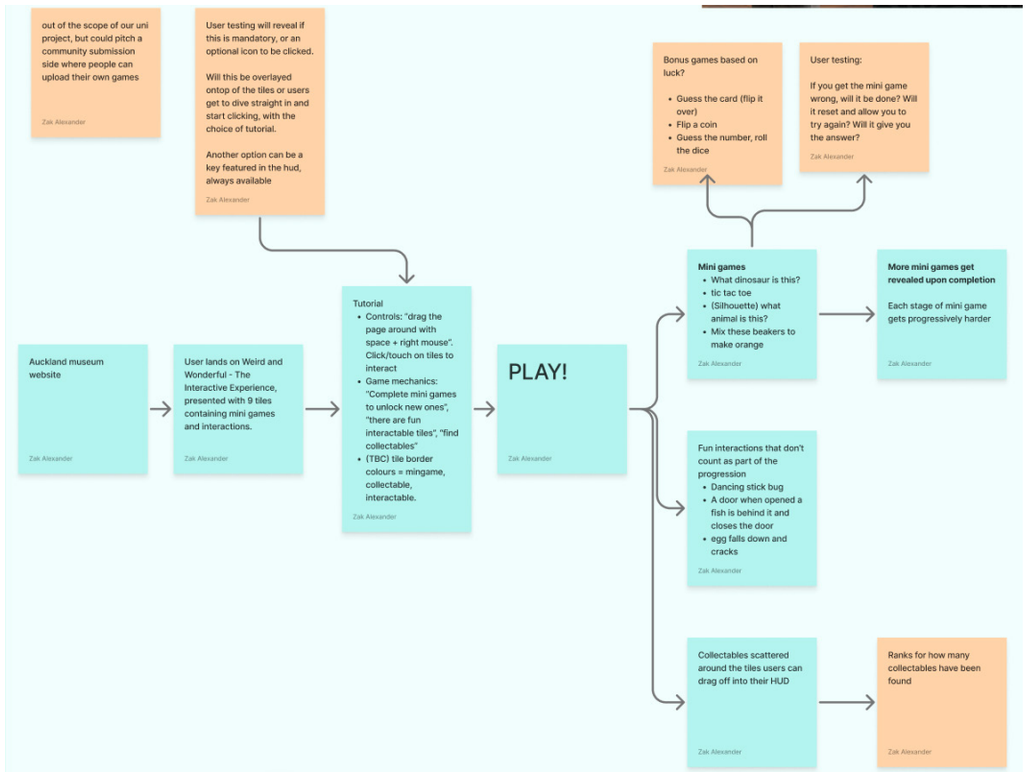
Research on colour theory, font and UI designs for children.

Bilham, J. (2022, July 5).
Primary and secondary education. (2024).

FIRST CONCEPT.

The first version of our idea was an interactive webpage covered in dynamic tiles. These tiles were inspired by the exhibition's compartment based design. Inside these tiles would be a range of fun mini games.

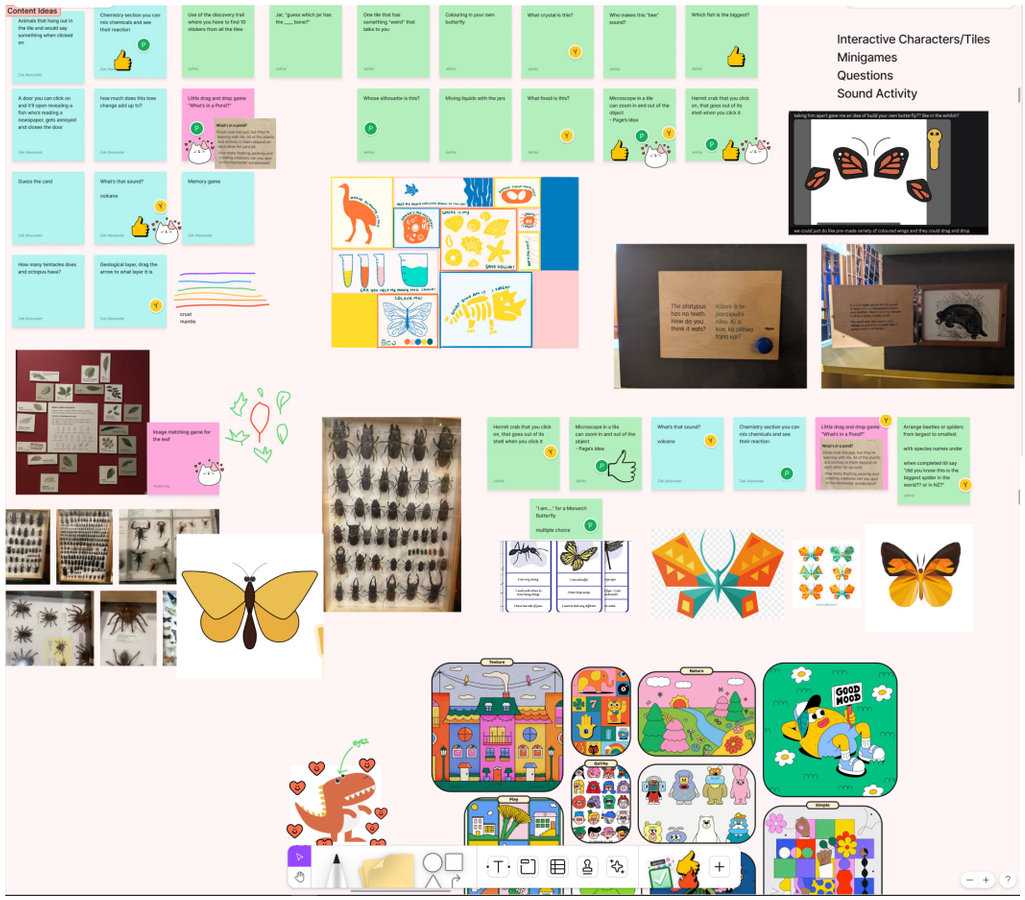
First visual concept of the tile based game experience - by Jefritz.



Userflow/sitemap of the experience.

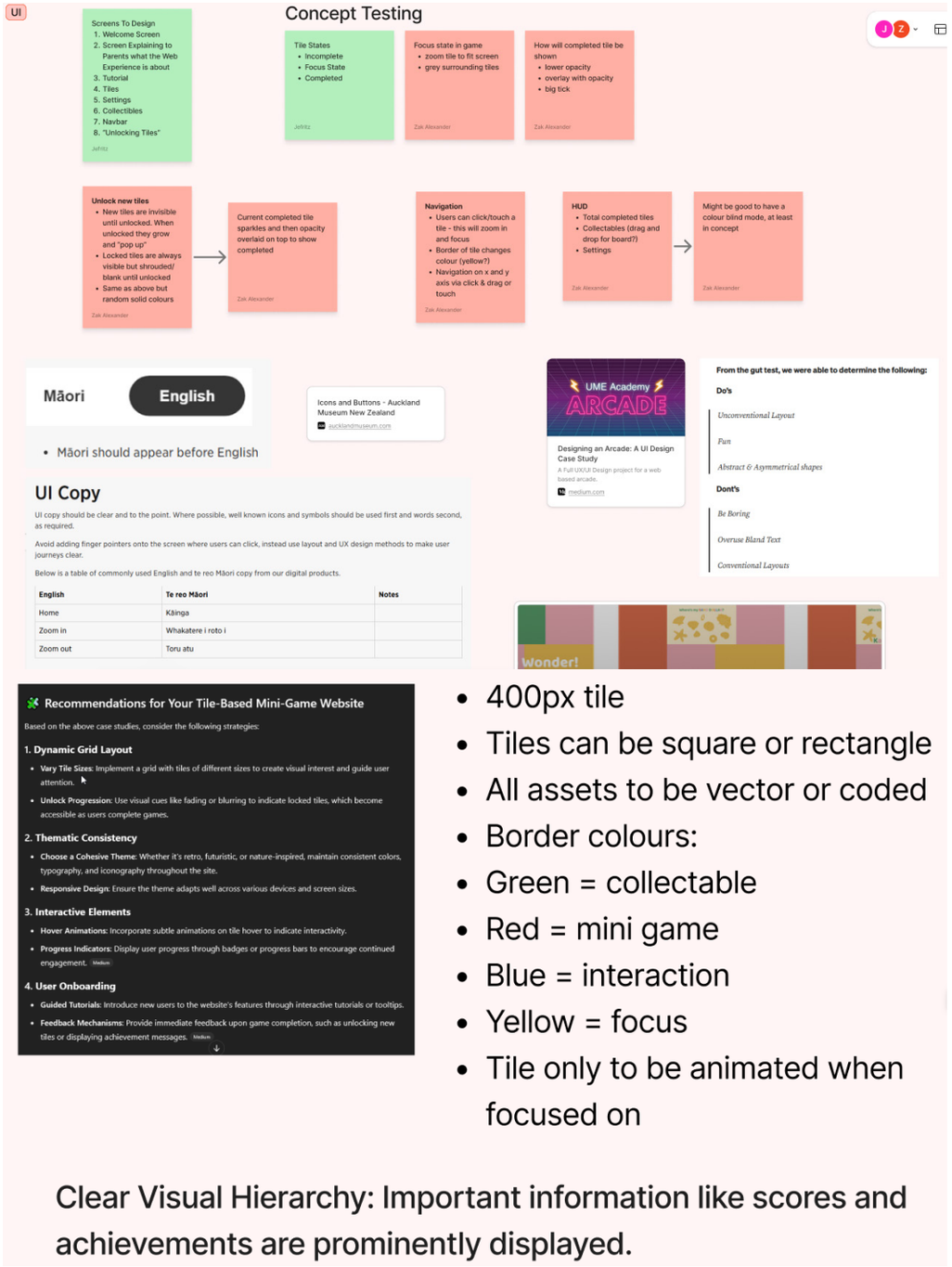
MINI GAMES.

We decided to keep the scope realistic, so we aimed at implementing a small amount of games to prove the concept and allow it to be expanded on later.

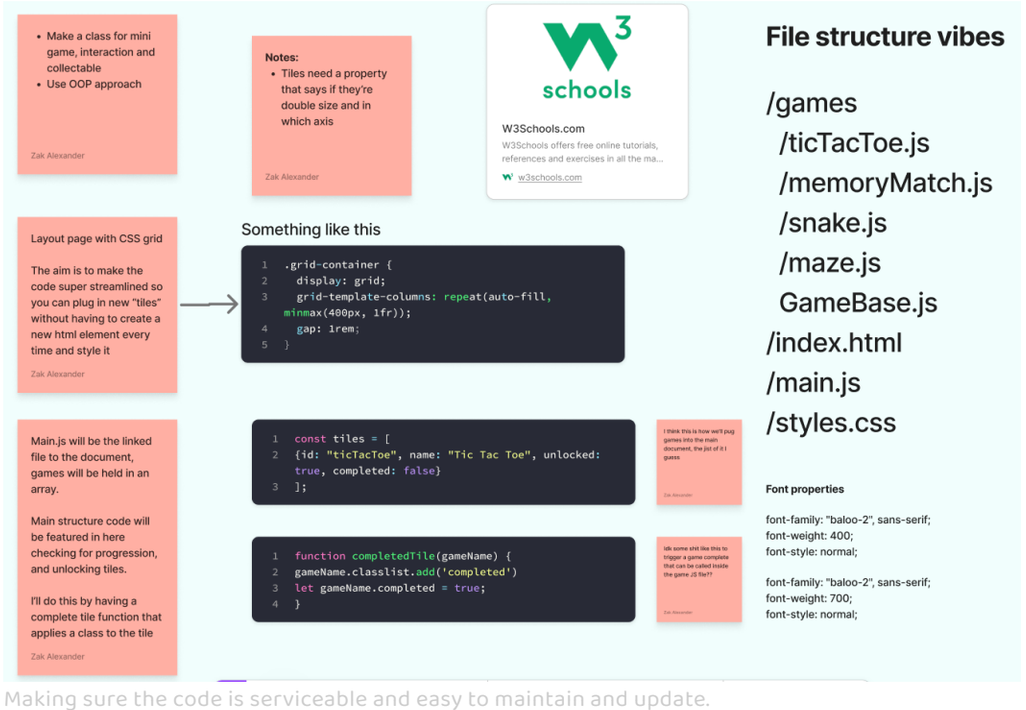


Game ideation and visual theme research.

USER INTERFACE.

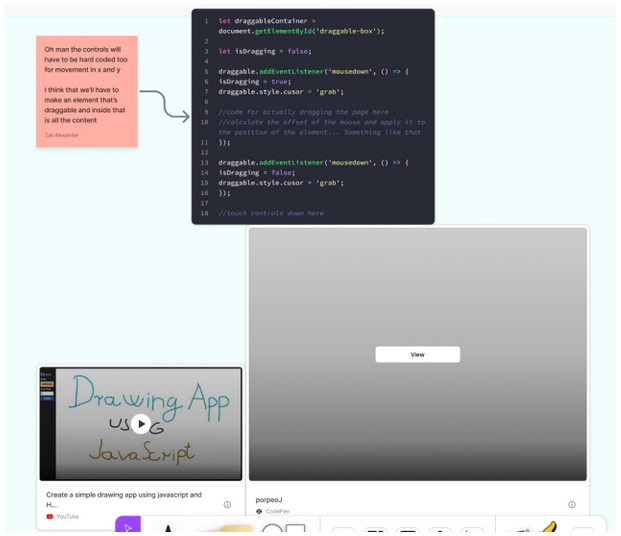


CODE PLANNING.



Making sure the code is serviceable and easy to maintain and update.

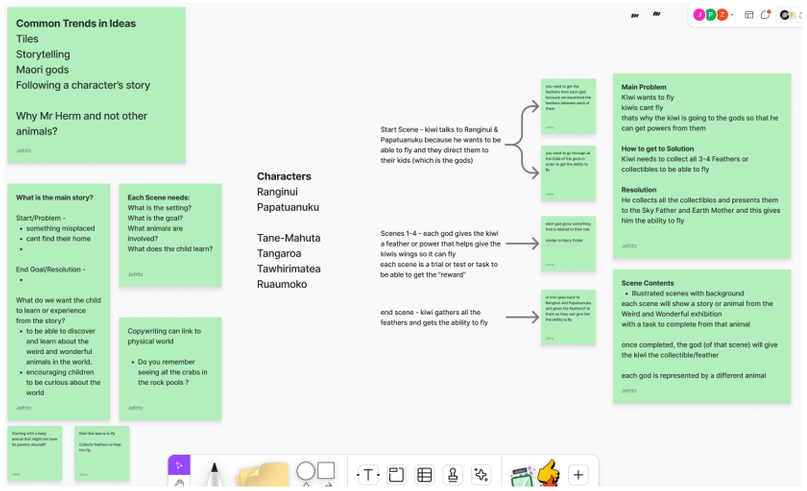
It was important to market our idea as something that is dynamic and easy to update as the museum's needs evolve. We aimed to achieve this with an object oriented programming approach, allowing the ability to plug new games in.



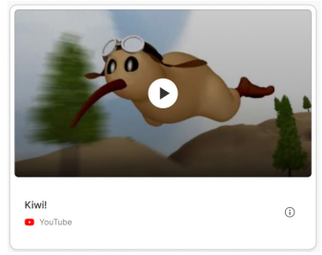
Coding warm up and snippet research. porpeoJ. (2021).

FEEDBACK.

After presenting we were given praise and feedback. They liked the idea but wanted a more narrative approach and to incorporate Maori into the game.



Creating a storyline for the game.

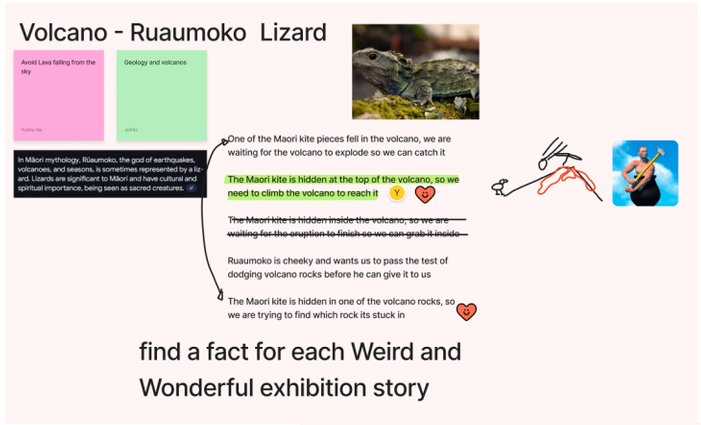


"Kiwi" - 2006 was about a kiwi wanting the ability to fly, this was the inspiration for our idea.

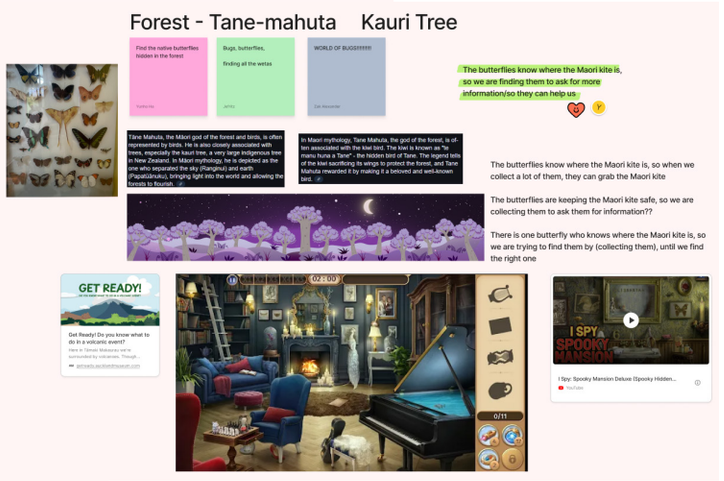
Permedi, D. (2006)

Level ideation and storyline - it was important that this was replayable.

REDEFINING GAME.



Volcano Climb



Wispy Forest

Ocean Run

GAME VISUAL STYLE.

We did a huge amount of experimentation on visual style before we settled on the final one. We knew we wanted to do bright, vector based illustrations as they're a good format for web and kids love bright colours!

Below are Jefrtiz illustration experiements.

Forest background - dropshadow effect.

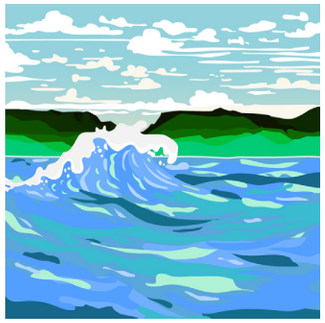
Forest background - grain effect.

Forest background - stroke/outline effect.

Forest background - gradient effect.

ILLUSTRATING GAME.

After finalising our narrative, characters, games and visual design we can start to make things! I've never thought of myself as much of an illustrator but decided to try my hand at illustrating some of the game assets.

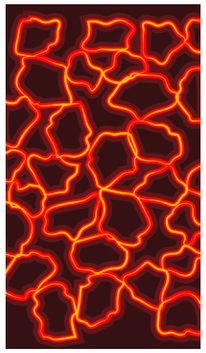


Ocean Run - level icon.

Volcano Climb - level icon.

Wispy Forest - level icon.

Volcano Climb Backgrounds

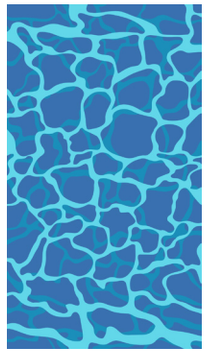


No depth.

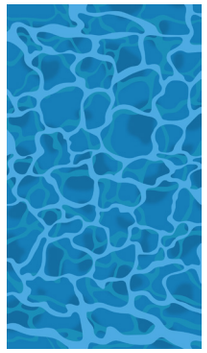
Doesn't look like lava.

Final background.

Ocean Run Backgrounds

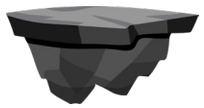


Bad contrast to characters.



Final background.

Broken platform.

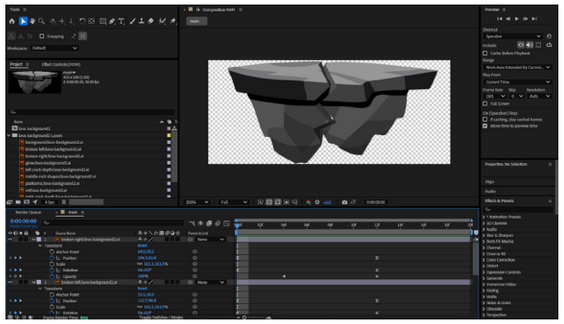


Platform.

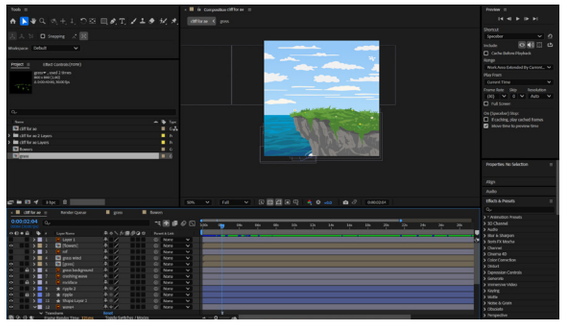
End cutscene main menu icon - cut from final.

Tranquil hangout spot for takahe - main menu.

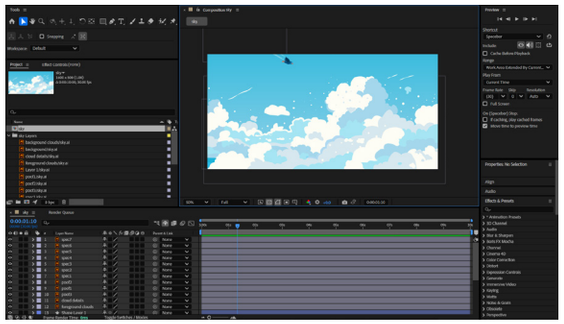
ANIMATION.



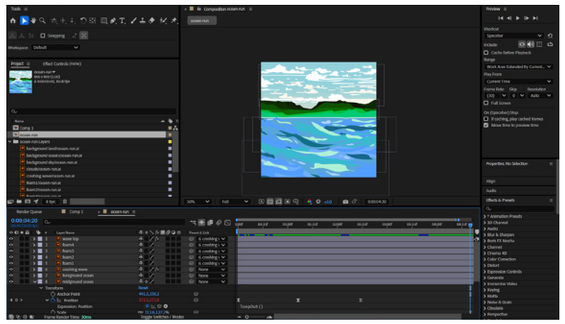
Broken platform.



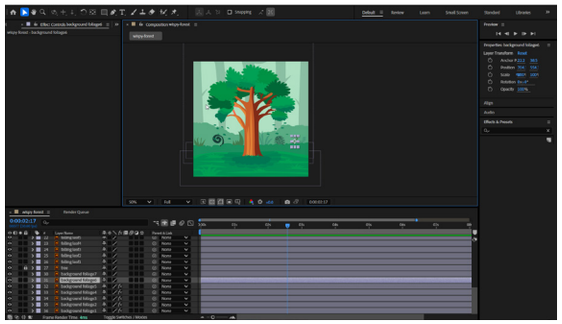
Takahe hangout spot.



Final cutscene menu icon.



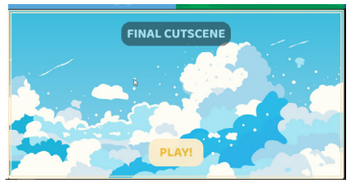
Ocean run.



Wispey forest.

CODING MAIN MENU.

First main menu version.



Hover function (plays animation).

Animation plays on center.

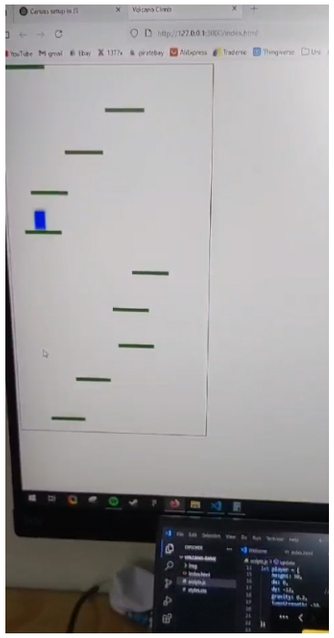
Refined menu based on team's UI (For mobile).

```
//allow final cutscene to be watched

if (forestLevelCompleted && oceanLevelCompleted && volLevelCompleted) {
    console.log('game finished yay')
    finalCutsceneIconunLocked.style.display = 'block';
    finalCutsceneIconLocked.style.display = 'none';
    finalCutsceneSelect.style.pointerEvents = 'all';
    finalCutsceneSelect.addEventListener('click', () => {
        cutsceneContainer.style.display = 'flex';
        cutsceneContainer.style.opacity = '1';
        firstCutsceneVideo.style.display = 'none';
        finalCutsceneVideo.style.display = 'block';

    });
}
```

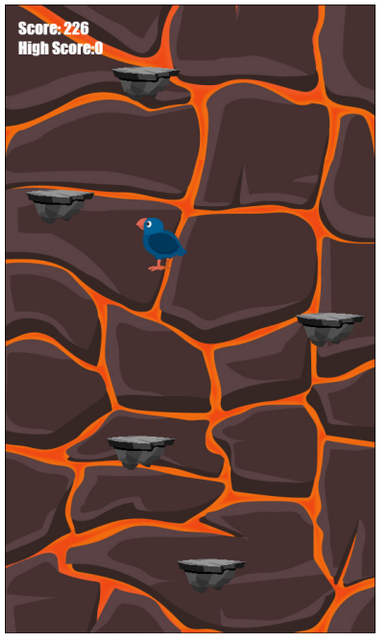
Game progression checks if all levels are completed to allow final cutscene to be played.

Kite piece feature on main menu when level complete.

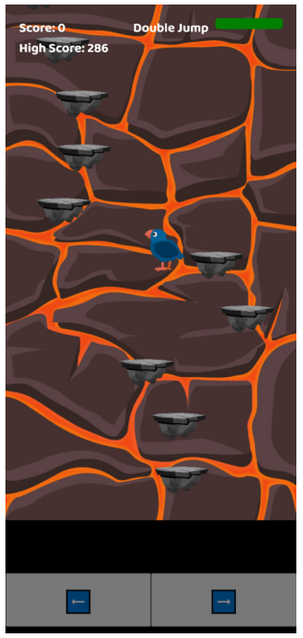
CODING VOLCANO CLIMB.



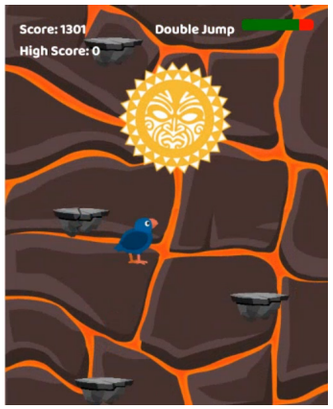
Creating gameplay with rectangles.



Platforms and looping background.



Double jump feature and mobile controls.

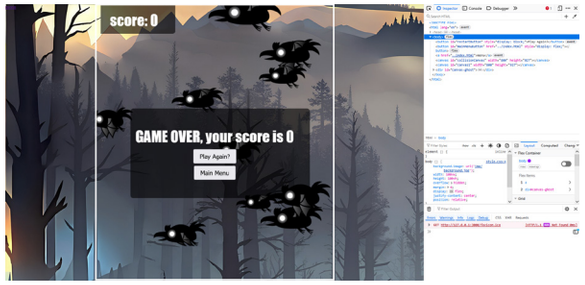


Kite piece presented at score 1300 and level complete variable becomes true.

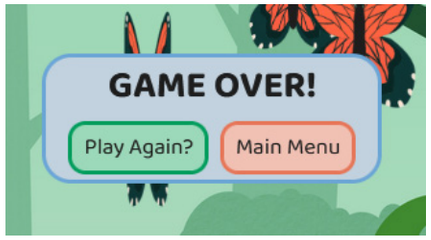
```
const kitePiece = document.getElementById('kite-head');
const storedLevelCompleted = JSON.parse(localStorage.getItem('volLevelCompleted'));
let volLevelCompleted = storedLevelCompleted || false;
```

Using localStorage to send level complete flag and score to main menu.

CODING WISPEY FOREST.



I made this point and shoot game before, the code base was perfect for Wispy Forest.



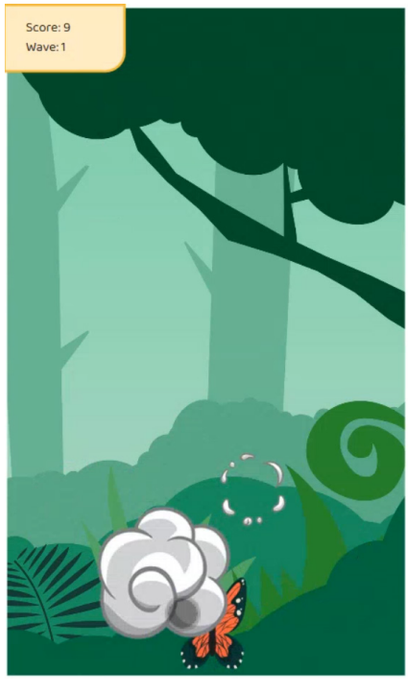
Styled game over menu.

```
this.x -= this.directionX;
this.y += this.directionY;
```

This is what controls their direction.

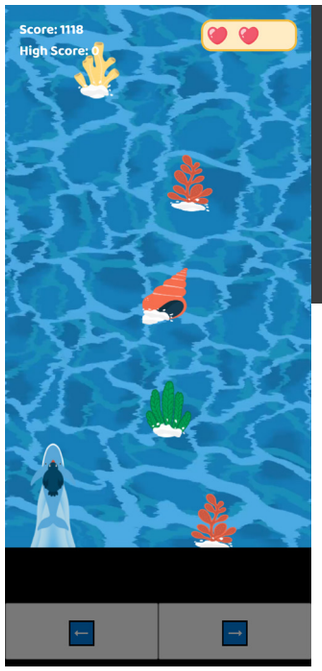
Butterfly animation spritesheet.

Final game.



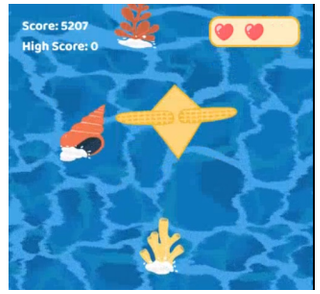
Final game animation.

CODING OCEAN RUN.



Gameplay.

Page's illustrations I added some seafoam to.



Kite piece collected at 5k score.

```
function generateCorals(count) {
    const newCorals = [];

    const randomImage = coralImages[Math.floor(Math.random() * coralImages.length)];
    for (let i = 0; i < count; i++) {
        let x = Math.random() * (canvas.width - 100);
        let y = -i * 200;
        newCorals.push({ x, y, width: 80, height: 100, image: randomImage });
    }
    return newCorals;
}
```

This is what choses a random image of coral/shell.

Ocean run's code base is volcano climb in reverse (same function to place platforms is used to place coral).

TUTORIAL & DIALOGUE.

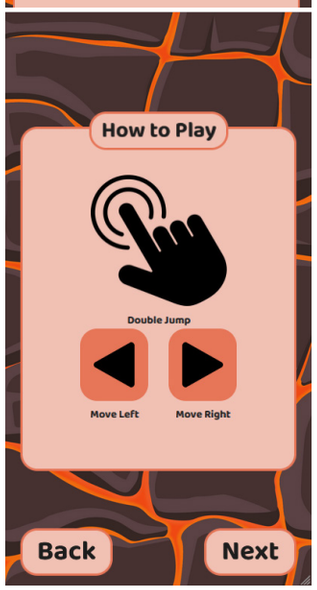
I made 2 files which handle tutorials on all levels. This approach cut down on code repetition.

Seperate tutorial files.

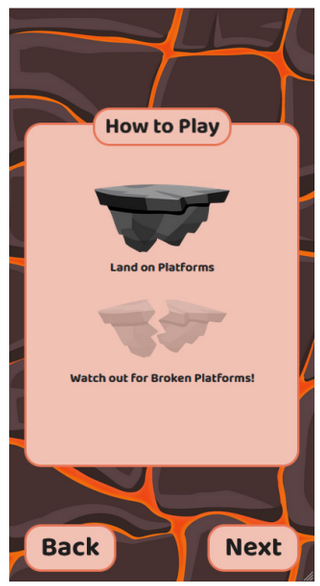
Working sound controls.

Dialogue screen with Takahe.

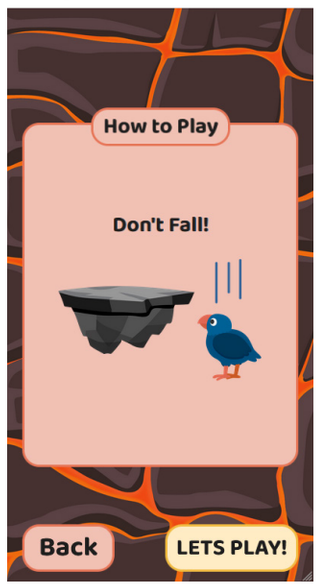
Dialogue screen with God.



Controls (for mobile & desktop).

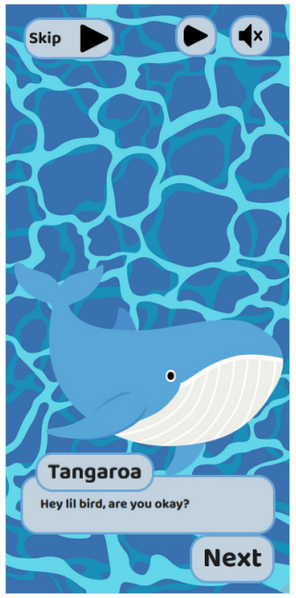


How to play screen.

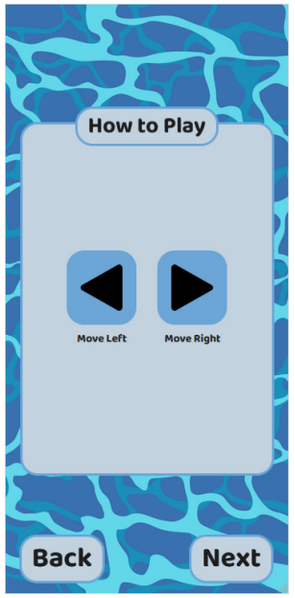


How to play screen (2).

TUTORIAL & DIALOGUE (2).



Ocean god.



Ocean tutorial (1).

Ocean tutorial (2).

Forest god.

Forest tutorial.

OUTCOME.

REFLECTION.

It was hard to have to go back so many steps based on initial feedback, it was frustrating. But good practice for the real world when clients expectations and requirements change. I continued to hone my coding ability and even branched out into other disciplines like graphic and motion design! The team worked well together and shared a common ambition but was also dynamic and flexible as the goals changed. We also did well to not get beat down from feedback and managed to present something visually and technically impressive in week 8.

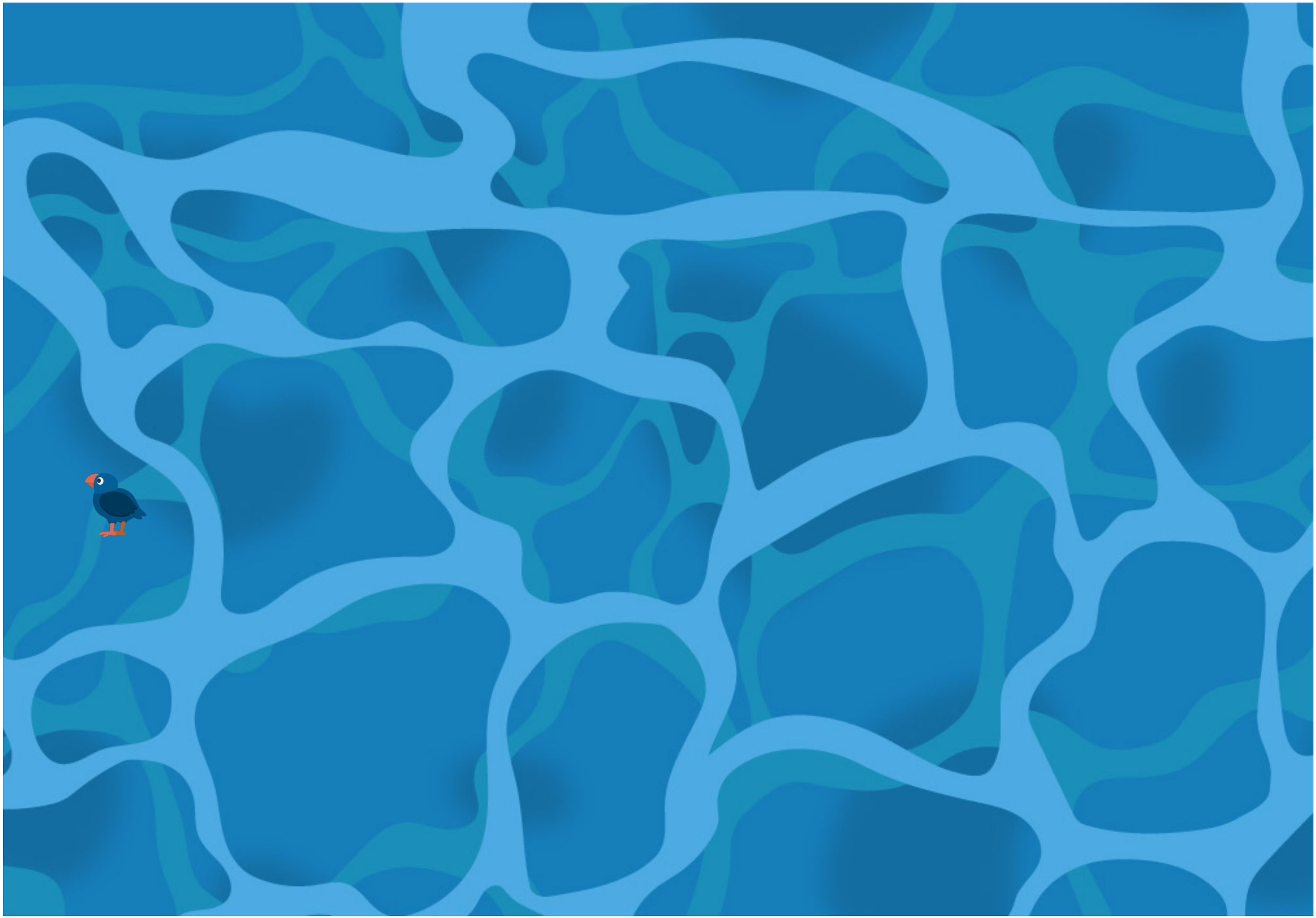
REFERENCES.

Bilham, J. (2022, July 5). 8 Things To Consider When Designing For Children. Raw Studio. https://raw.studio/blog/designing-for-children/

Primary and secondary education. (2024). Govt.nz. https://www.education.govt.nz/our-work/about-us/education-new-zealand/our-education-system/primary-and-secondary-education

porpeoJ. (2021). Codepen.io. https://codepen.io/javascriptacademy-stash/pen/porpeoJ

Permedi, D. (2006). Kiwi! [YouTube Video]. In YouTube. https://www.youtube.com/watch?v=sdUUx5FdySs



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