

# **Human-Computer Interaction**

## **Final Project Proposal**

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## **Project Name: PawPedia**

### **Description of Prototype**

*PawPedia* is a fun educational website where kids can learn about animals and its kingdom. The website will contain educational pages filled with pictures of the different types of animals and some fun facts about them. It will also have quizzes and a game for kids to engage with. These activities are dedicated to implementing a better understanding of the animals living alongside humans and the importance of taking care of them for young minds. Pawpedia is dedicated to advancing the Sustainable Development Goals of the United Nations, specifically, Quality Education (No. 4), Life Below Water (No. 14), and Life On Land (No.15). We aim to educate kids from an early age while being fun and engaging, hence spreading awareness of the importance of conserving our ecosystem.

### **Main Features**

#### **1. Educational Pages:**

Each type of animal will have a dedicated page on our website providing factual information. The different types of animals will be mammals, fishes, invertebrates, birds, reptiles, amphibians, and prehistorics. These pages will be curated specifically for kids, hence we will aim to have concise information for easy learning, focusing only on the important details.

#### **2. Interactive Challenges:**

- **Quiz 1 (Fill in the Blanks):**

The first quiz is for the user to fill in the blanks of questions given that are related to animals. They will only advance to the next question if they get the question right.

- **Quiz 2 (Multiple Choice Quiz):**

The second quiz will be multiple choice questions. The questions will give characteristics about an animal and the user has to guess what type of animal it is. They will only advance to the next question if they get the question right.

- **Minigame:**

This feature will add some fun to our website, in which children will be playing a guessing game. Based on the types of animals they

have learned, they will have to guess which type of animal is shown in the picture correctly. The picture given will be cropped to make the game more challenging for them.

## **Problem Analysis**

### *Introduction*

Our project involves the 3 SDG's by the United Nations, which are SDG No. 4 Quality Education, SDG No. 14 Life Below Water, and SDG No. 15 Life On Land. In hopes of improving our educational sources, Pawpedia provides a platform for kids to specifically learn about animals both on land and water. It is crucial to learn about biodiversity and its importance for its support of all life on earth.

### *Problem*

Based on research from the UK, 83% of children ages 5 to 16 can't identify a common wildlife bumblebee. In the survey, it is also mentioned that from their results, 26% of children said they had little or no interest in nature. This raises concern for our world and the generation we're raising as it should be understood that learning about animals is crucial especially when children are still developing their traits and behaviours. Learning and interacting with animals help us develop positive traits such as empathy, respect, responsibility, and stewardship. In a survey conducted by Kate Howlett, over 400 children were asked to draw their local park or garden and label all the animals there. However, it was found that the children's drawings did not reflect the makeup of the natural world very well since most of the drawings only contained one mammal and one bird and a third of the drawings contained no invertebrates at all. When asked to name the creatures they'd drawn, the children were far less able to give detailed information about insects and other invertebrates. Often, they were only able to give names for mammals or birds, leaving the smaller animals and invertebrates unmentioned. With only a small view of the animals that live around them, it is expected that it would be hard for them to also learn about how to take care of the environment for the living things that live with us in this world which raises more than just concern.

### *Solution*

We aim to build a bridge to those young minds, providing an accessible, engaging, and interactive educational site that focuses on the biodiversity of animals, including land and aquatic animals. Lesser-known animals such as invertebrates may be introduced in a unique and summarized way, which kids could easily browse through without feeling bored. While doing so, we hope to have them develop a feeling of empathy and respect towards wildlife, hence feeling the need to protect biodiversity. This is important as maintaining biodiversity means protecting our earth from global warming, or extinction. To conclude, through this approach, we hope to grow a generation that appreciates nature and is willing to preserve it.

### *Implementation*

To implement this solution, a website can be created with several engaging features that teach children more about animals and wildlife. These features include a page that provides general educational information regarding certain types and species of wildlife, as well as several gamified features like educational games/quizzes about animals to keep children engaged and entertained while learning. Our website, *PawPedia*, offers a space where children can foster curiosity and empathy towards wildlife. Through the creation of this website, we aspire to educate children about wildlife, as per the 4th SDG, as well as inspire children across the globe to protect and value wildlife, as per the 14th and 15th SDGs.

## User Persona

# USER PERSONA



### About Me

- Name: Blake
- Age: 6
- Occupation: Student
- Language: English
- Location: City Area

### Personality

Blake is a curious and active 6 year-old who loves to learn about new things. She wants to learn more about the things around her.

### Characteristics

Literacy	<div><div></div><div></div><div></div><div></div><div></div></div>
Imagination	<div><div></div><div></div><div></div><div></div><div></div></div>
Curiosity	<div><div></div><div></div><div></div><div></div><div></div></div>
Attention Span	<div><div></div><div></div><div></div><div></div><div></div></div>

### Interests

- Children's Books
- Games
- Painting
- Animals (mainly cats and dogs)
- Cartoons

### Frustrations

- Things that are monochrome or not colorful enough
- Overly complicated apps or website
- Boring content

### Goals

She wants to discover new things that aligns with her interests. She also wants to be able to express her creativity through things that she can interact with while also having fun and feel accomplished.

### Motivation

- Love for fun and creativity
- Desire to learn more

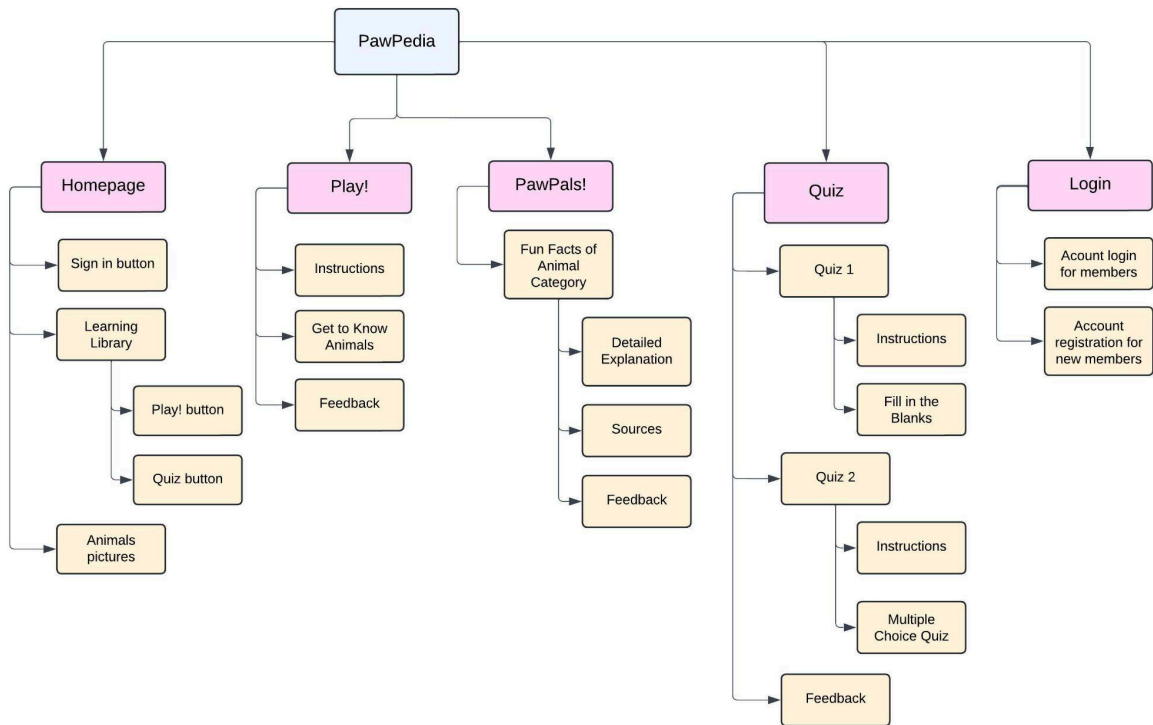
### UX Needs

- Visually appealing
- Colorful
- Interactive
- Simple navigation
- Easy to understand

### Devices

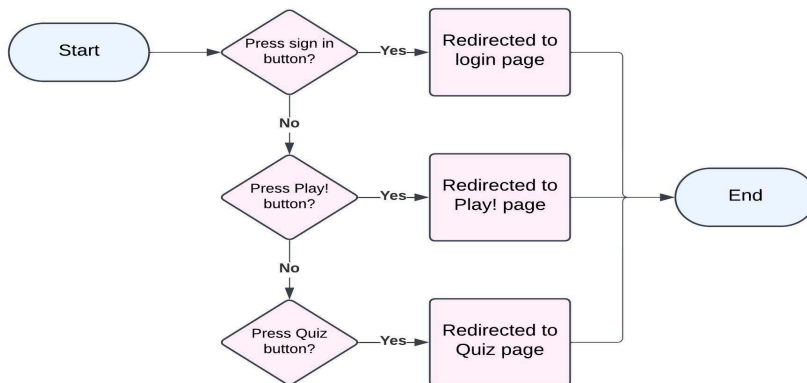
- Tablet
- Home computer
- Parents' laptop
- Parents' phone

## Information Architecture

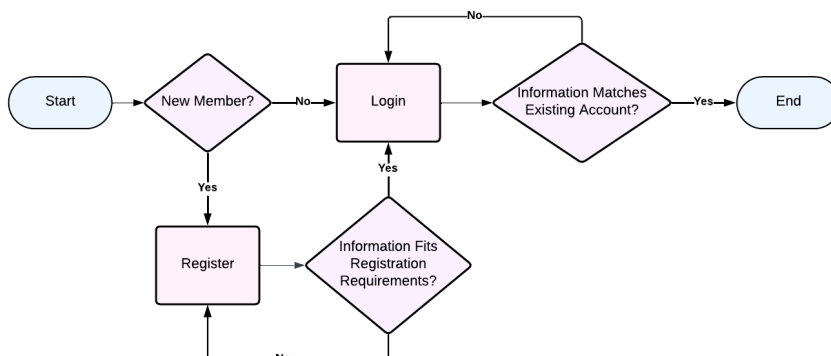


## Task Flow

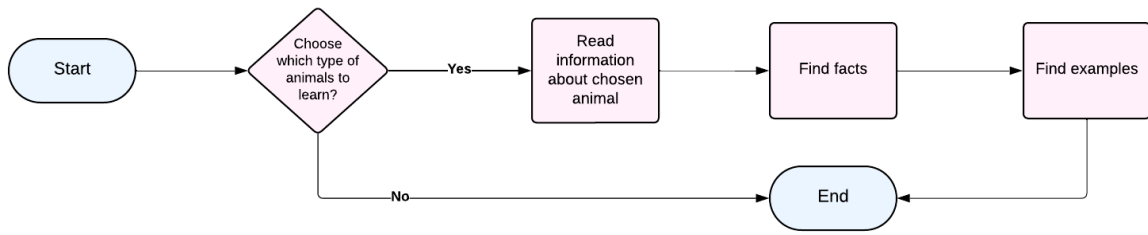
### • HOME PAGE



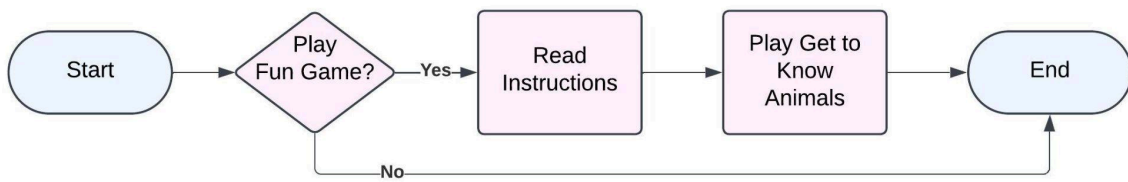
### • LOGIN PAGE



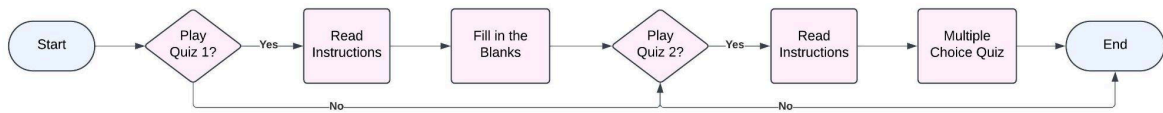
- PAWPALS! PAGES



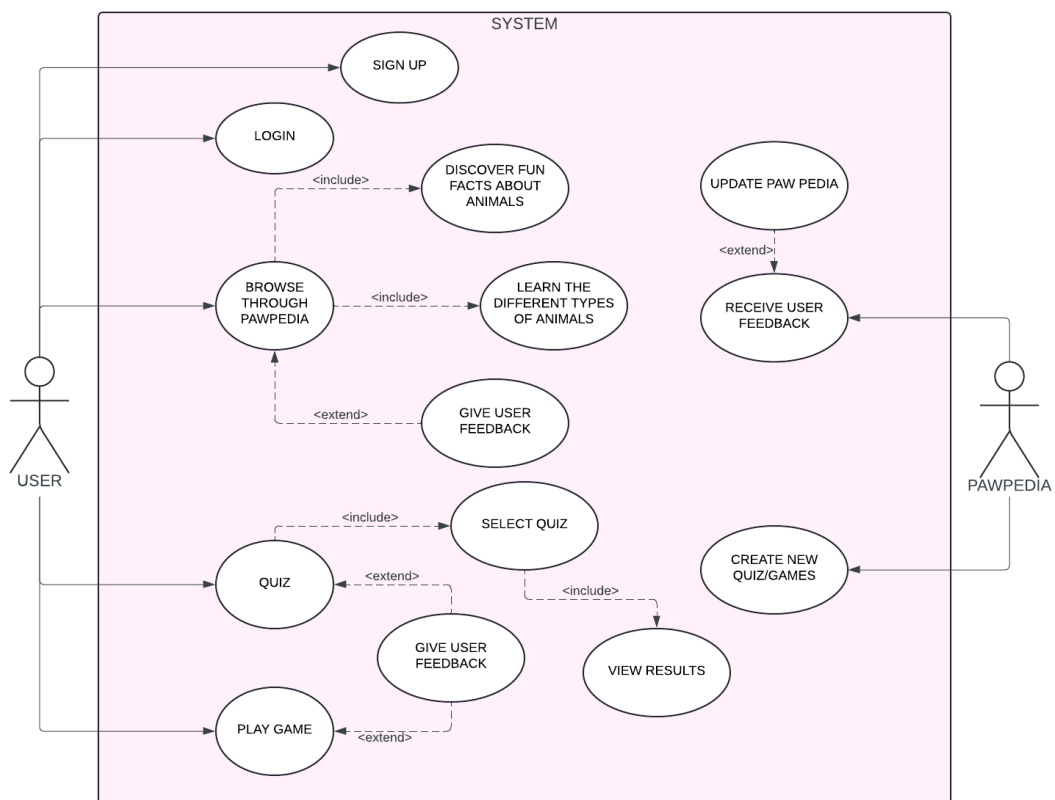
- PLAY! PAGE



- QUIZ PAGE



## Use Case Diagram [Pawpedia]:



## Storyboard

### HOME PAGE & PAW PALS

WHAT TWO GO WILD IS THAT?

A SITE TO LEARN ABOUT ANIMALS !!

BIRDS ARE SO COOL!

Lila sees many animals in the park and wants to learn about them.

She browses the PawPedia website. (Home Page)

Curious about birds, she clicks to learn more about them. (Paw Pals Page)

SO MANY ANIMAL TYPES!

I KNOW SO MUCH MORE ABOUT ANIMALS NOW!

She explores new animals and animal types she didn't know before.

Lila enjoys discovering more about animals.

### LOGIN & QUIZ PAGE

I WANT TO TEST MY KNOWLEDGE ON ANIMALS!

HERE, USE MY EMAIL ADDRESS!

OKAY MOM!

NEED TO LOGIN NOW...

Lila wants to make sure she remembers important animal facts.

She registers for an account with the help of her mom. (Login Page)

She then logs into her newly made account.

I'LL DO THE TEST QUIZ.

I CAN DO THIS!

YAY!!

She picks a quiz to test her knowledge with. (Quiz Page)

She completes the quiz and then submits it for her results.

Lila is confident about her newfound knowledge about animals!

### PLAY! PAGE

I'M KIND OF BORED.. I WANT TO PLAY A GAME.

OH! THERE'S A GAME HERE!

YAY!!

Lila is a little bored and feels like playing a game.

She discovers that there's a page to play games in the website.

She completes the first level of the game.

WOAH I'M ALREADY LEVEL 10!

WITH THIS, I'LL LEARN SOMETHING NEW ABOUT ANIMALS EVERYDAY!

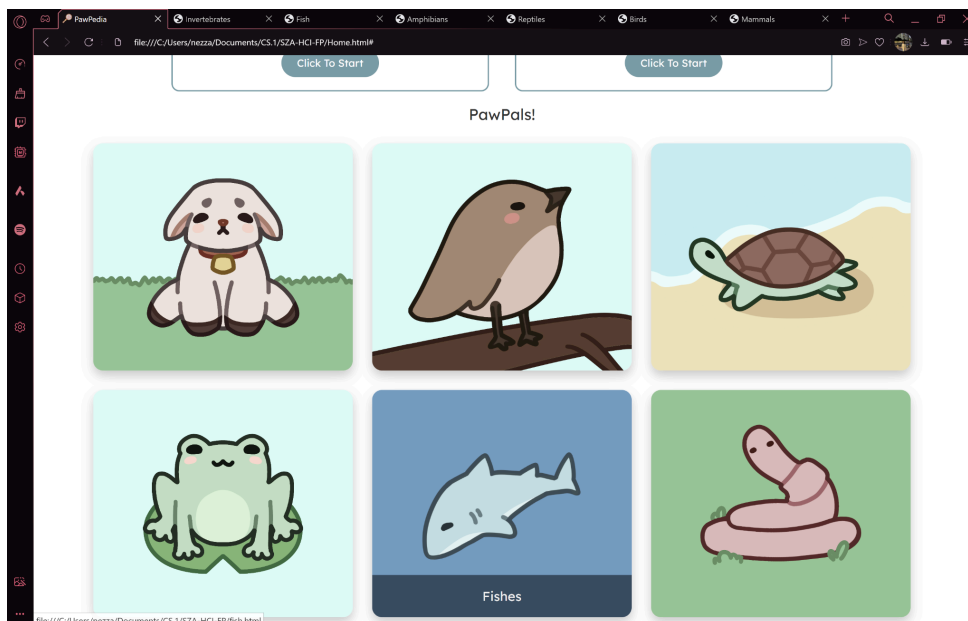
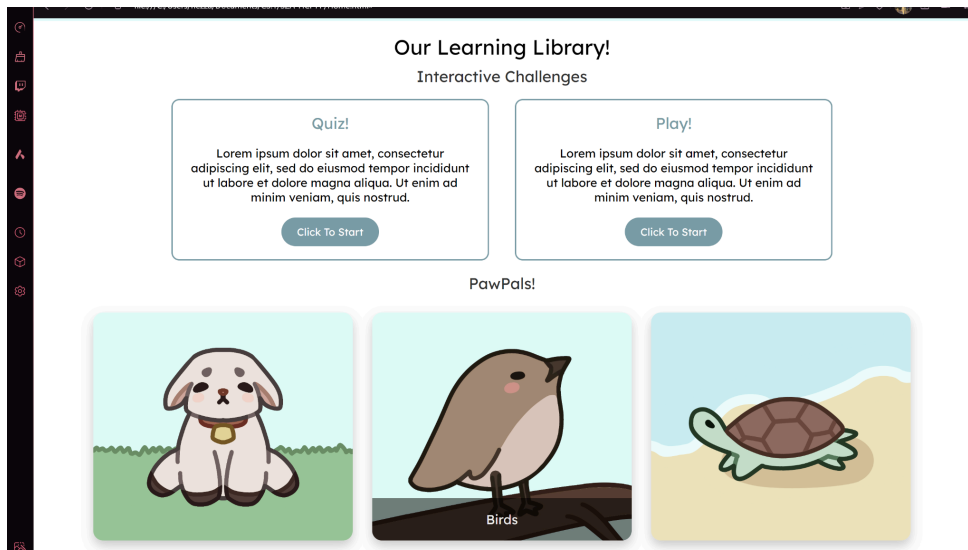
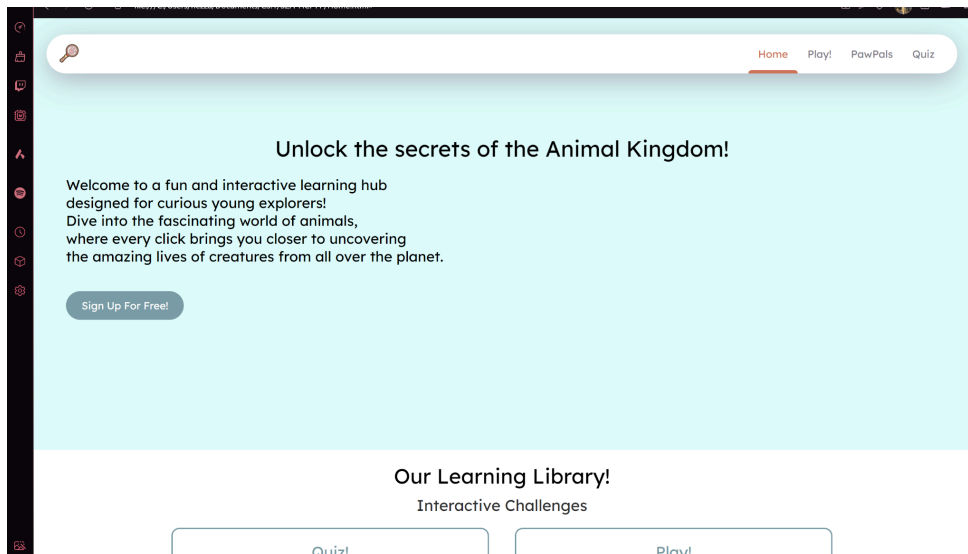
She progresses fast and is eager to play and learn more.

She's excited to continue to play and learn simultaneously!




## Prototype

### 1. Home page (High fidelity)



## 2. Login Page (Low fidelity)

 HOME PLAY! PAWPALS QUIZ

1



REGISTER A NEW ACCOUNT

EMAIL ADDRESS

CREATE PASSWORD

REGISTER

ALREADY HAVE AN ACCOUNT?

 HOME PLAY! PAWPALS QUIZ


LOG IN ACCOUNT

EMAIL ADDRESS


PASSWORD

LOGIN

### 3. Quiz Page (Low fidelity)



# HOME PLAY! PAWPALS QUIZ



## QUIZZES

### FILL IN THE BLANKS

INSTRUCTIONS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

ATTEMPT

### GUESS CHARACTERISTIC

INSTRUCTIONS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

ATTEMPT

🔍 HOME PLAY! PAWPAWS QUIZ

1

FILL IN THE BLANKS

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① EXAMPLE QUESTION

YOUR ANSWER

② EXAMPLE QUESTION

YOUR ANSWER

③ EXAMPLE QUESTION

YOUR ANSWER

④ EXAMPLE QUESTION

YOUR ANSWER

🔍

HOME PLAY! PAWPALS QUIZ

1

GUESS CHARACTERISTICS!

1

EXAMPLE QUESTION

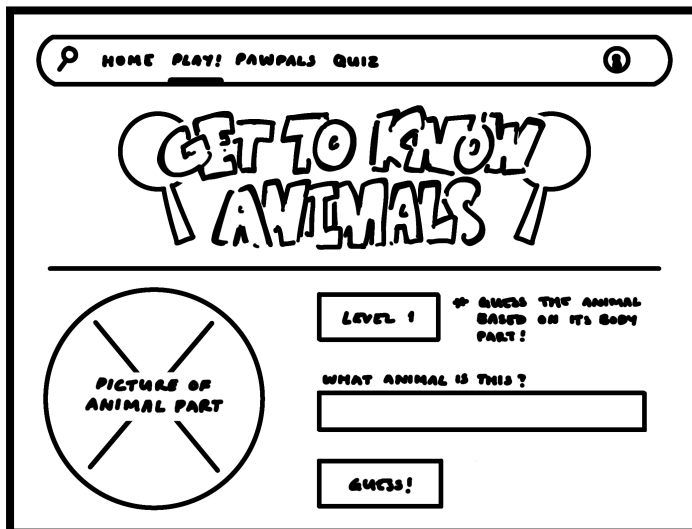
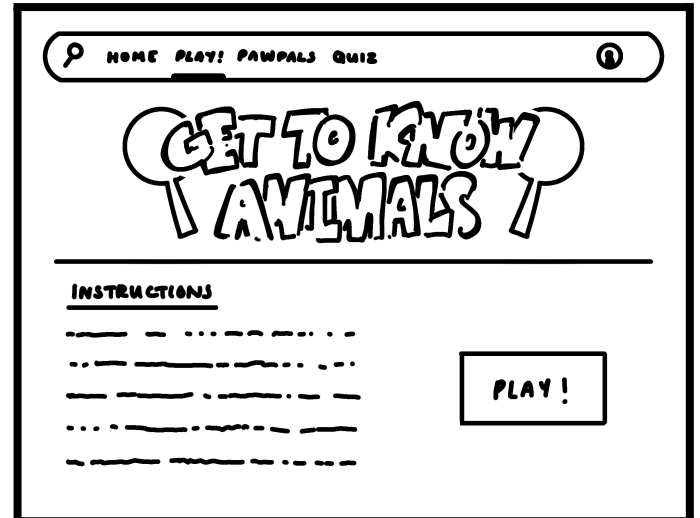
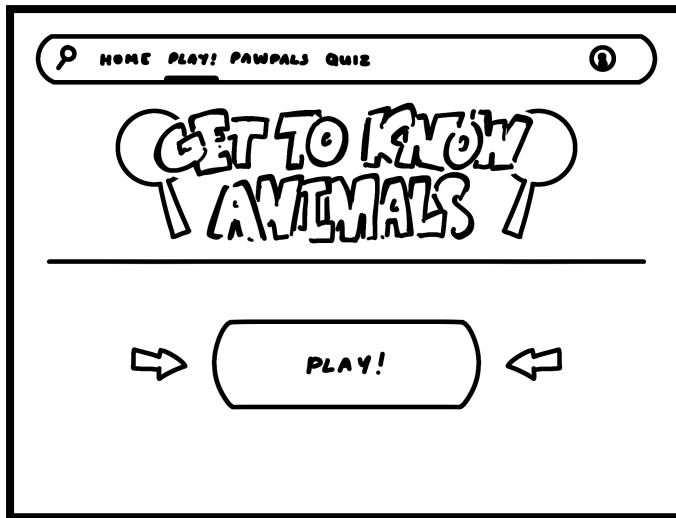
OPTION 1

OPTION 2

OPTION 3

OPTION 4

#### 4. Play! Page (Low fidelity)



GitHub Link: <https://github.com/nezwko/SZA-HCI-FP>

GDRIVE LINK: [HCI FINAL PROJECT.mp4](#)

<https://drive.google.com/file/d/1P-OPa27tF2Usw-Q7YY4HYIT9qJuRarUS/view?usp=drivesdk>

## **Plan of Usability Testing**

Main objectives:

- Observe the accessibility of the website for kids of age 6 to 12.
- Identify possible usability issues with navigating through the website.
- Analyze the engagement of our main features, which are the educational pages, quizzes, and our minigame.

Target Audience:

- Kids Aged 6 to 12

The usability testing will involve kids around the age of 6 to 12 with varying digital literacy. We will be recruiting 8 to 10 participants to attend the testing which will take one hour. Parental consent will be needed, and one guardian will be required to be present to assist each of their kids in case of emergencies. The test will be moderated and the kids will be guided throughout the process. During the testing, the website will be introduced and they will have a brief walkthrough of the website. After that, the kids will be asked to complete tasks, this will ensure they can access the different features themselves. The task will include browsing through every different type of animal page, accessing the quiz, and also trying to play the game. This will take about 30 minutes. After this, they will be given 10 minutes to give their feedback on whether or not it is hard to use the website. This way we will be able to understand from a child's perspective about our website, and hence enhance it to make it more kids-friendly.

Once the testing is done, the results of the testing will be evaluated to bring a better version of the website.

## Results from Usability Testing

With the help of friends and family, after we have implemented the usability testing, these are the results that have helped us gain a more suitable output for children to use. The results are shown in the table below.

User Category	Opinions	Outcomes
Nevan Age: 8	<ol style="list-style-type: none"><li>1. Social media icons are too small for him to see</li><li>2. Little to no drawings to visualize animals</li></ol>	<ol style="list-style-type: none"><li>1. Icons are enlarged, when hovered it will also provide immediate user feedback by simply making it slightly larger.</li><li>2. More hand-drawn drawings are implemented in the website</li></ol>
Khansa Age: 9	<ol style="list-style-type: none"><li>1. Game and Quiz is too confusing because the instructions is too concise</li></ol>	<ol style="list-style-type: none"><li>1. An instruction page is being made with further details of explanation, keeping the words simple</li></ol>
Akira Age: 12	<ol style="list-style-type: none"><li>1. Information is too little (Only showing the features is not enough for an information page)</li><li>2. Real pictures of the animals also needs to be shown</li></ol>	<ol style="list-style-type: none"><li>1. More information added (Introduction, habitat, etc.)</li><li>2. Photo Gallery is provided</li></ol>
Overall	<ol style="list-style-type: none"><li>1. Design needs to be minimalistic, yet fun for kids to see</li></ol>	<ol style="list-style-type: none"><li>1. Improvement in UI design, keeping everything neat and tidy without unnecessary elements that may distract one's eyes</li></ol>

## Evaluation:

[https://docs.google.com/document/d/12deB93r7sE\\_kBYF5NzsrDKScWtYEJTKvQMmjPb1qD6I/edit?usp=sharing](https://docs.google.com/document/d/12deB93r7sE_kBYF5NzsrDKScWtYEJTKvQMmjPb1qD6I/edit?usp=sharing)

## References

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<https://www.weforum.org/stories/2019/09/children-are-forgetting-the-names-for-plants-and-animals/>
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<https://www.zoolabuk.com/post/why-learning-about-animals-is-crucial-for-the-primary-age-child>
- Kate Howlett. (2024, March 14). *Children have a skewed view of the natural world – but it doesn't have to be that way.* The Conversation.  
<https://theconversation.com/children-have-a-skewed-view-of-the-natural-world-but-it-doesnt-have-to-be-that-way-209093>

