A dark blue vertical bar on the left side of the page. A blue arrow points to the right from the bar, containing the date.

2022-5-30

# Website Implementation

DECO1400

Several thin, curved lines in dark blue and light grey originate from the bottom left and curve upwards and to the right.

Han Xiao

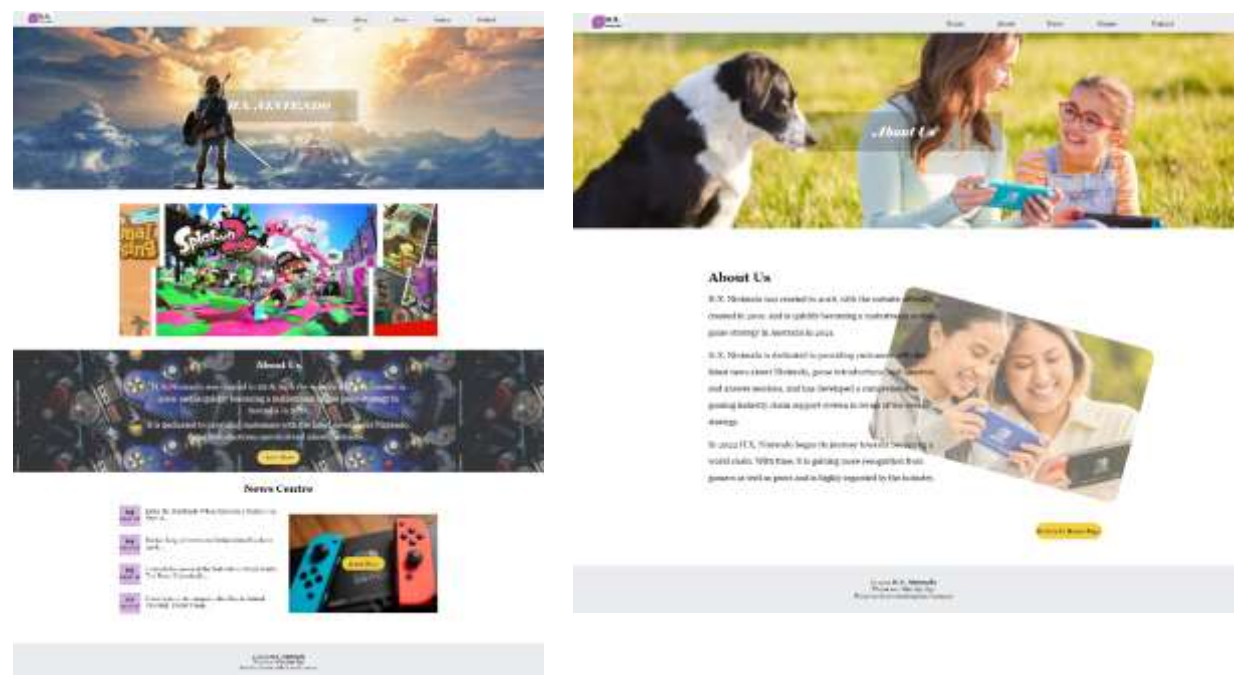
s4691585/ the University of Queensland

## Summary of Implementation

The purpose of the report is to build an interactive informational website on the topic of Nintendo games and to represent and reflect on the production process as well as to evaluate the final website based on Nielsen usability heuristics. The main content of this website includes an introduction to the website, hot news, gaming tips and online information.

HTML, CSS and JavaScript are used to develop the website, HTML is used to build the basic structure of the website, CSS is used to control the representation, formatting and layout. JavaScript is used to control the behaviour of the elements, i.e., to create dynamic and interactive web content (Cox, 2021).

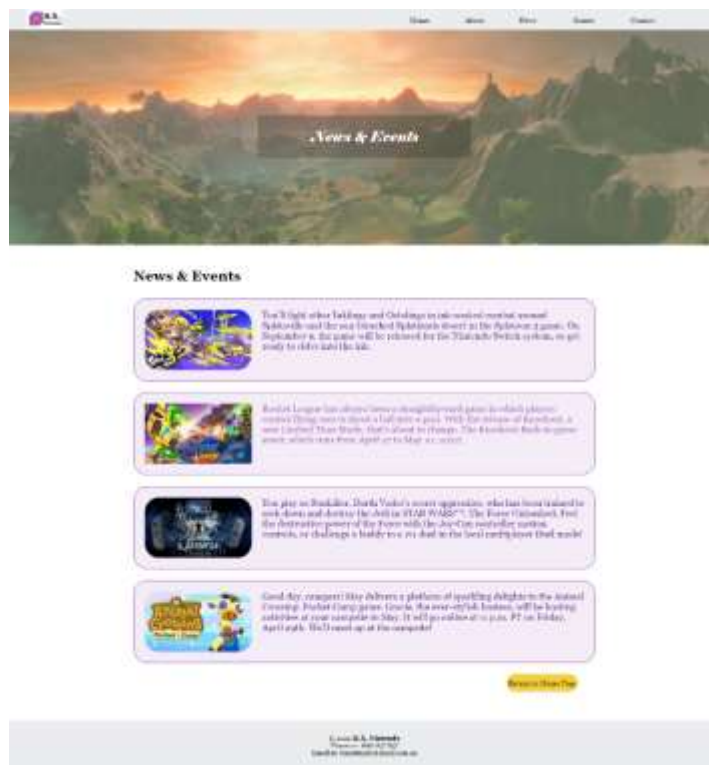
Below is a screenshot of the website and a description of the features and functions used in the build process. (See appendix Part A for the full web pages)



(Figures 1 & 2: Screenshots of the website's homepage and 'About Us' webpage)

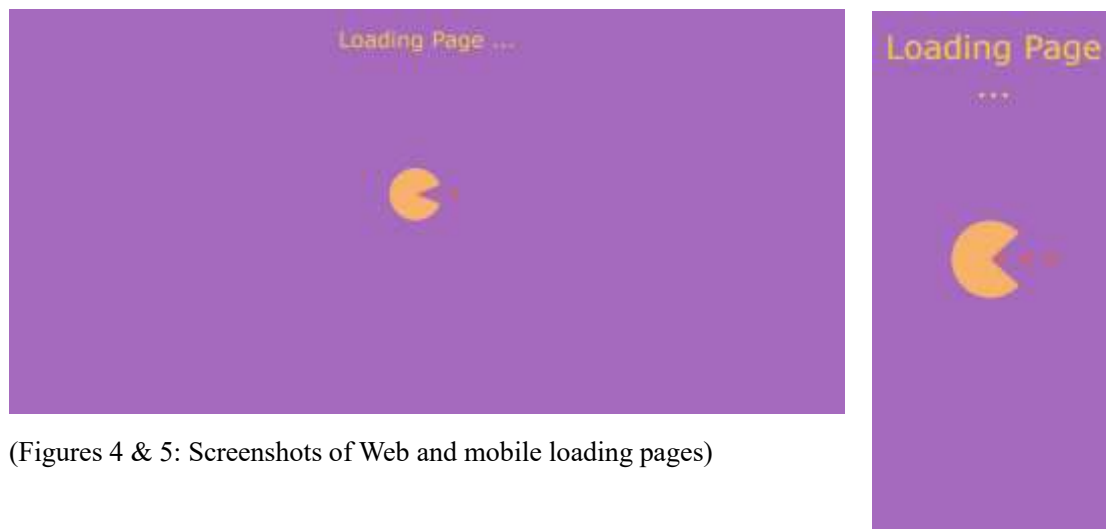
The header, poster and footer section of the website are structured in a similar way on each page. The logo can be used to go back to the home page and each page also has a button to go back. The colour of the title font on the poster has been changed from black to white compared to the high-fidelity prototype to increase visibility. the footer is marked with information about the site.

The home page is the first page visitors see when they load the URL. The homepage is created an introductory section to some of the main pages and hyperlinked to the corresponding pages to learn more, making it easier for visitors to understand the pages and providing guidance. The homepage is built using JavaScript to create Carousel figures (See appendix Part B for detailed JS code).



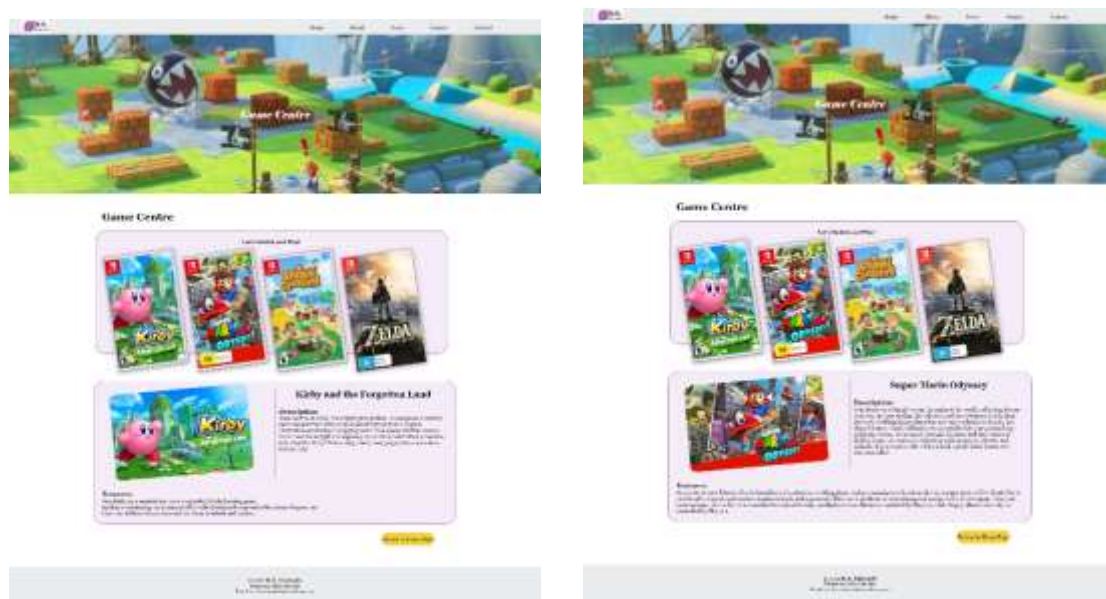
(Figure3: the screenshot of the 'News & Events' webpage)

On the news and events page, the `@keyframes` Rule of CSS is used to specify animation code that causes all news boxes to appear in a gradual slide when the webpage is opened. Also, 2D Transforms of CSS are used to make photos become larger as the cursor slides by. (See appendix Part B for detailed CSS code)



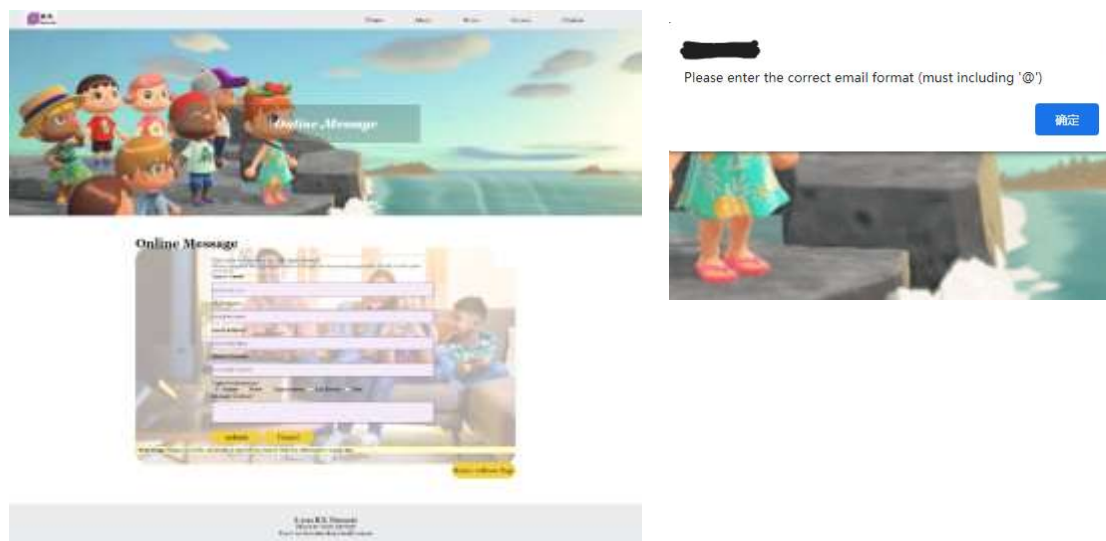
(Figures 4 & 5: Screenshots of Web and mobile loading pages)

A loading page with a game theme exists on the 'Game Centre' page. The runtime and display conditions are set using JavaScript, as well as being adapted on mobile. Increased interactivity with the audience and interest in the site. (See appendix Part B for detailed JS code).



(Figures 6 & 7: Screenshots of Switching of game introduction cards on the 'Game Centre' webpage)

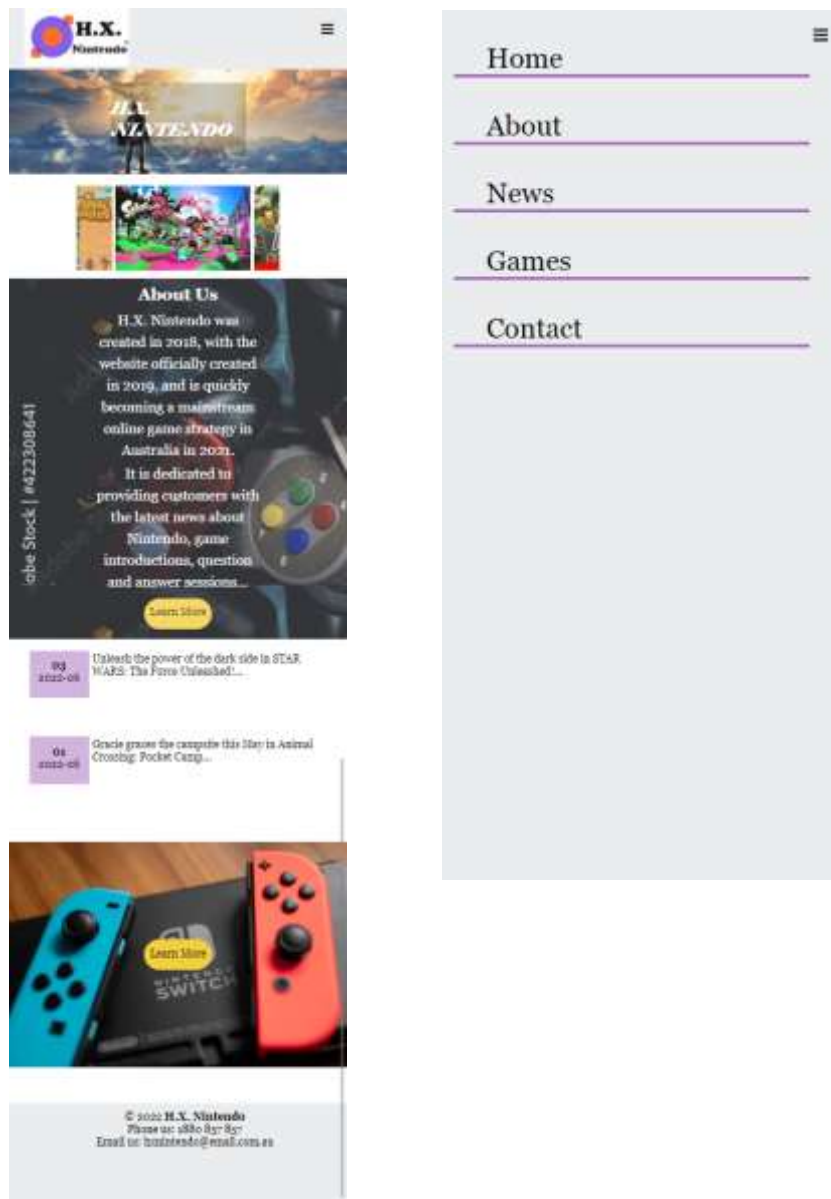
The 'Game Centre' webpage uses JavaScript for fully reversible high-fidelity prototype descriptions, i.e., the ability to switch between the game card sections below by clicking on the images of the game in the menu, figures 7 and 8 show the effect of the function. (See appendix Part B for detailed JS code). In contrast to the high-fidelity prototype, the website adds a banner to the game menu section, adding to the uniqueness of the website.



(Figures 8 & 9: Screenshots of 'Online Message' webpage and pop-up features)

JavaScript is used to manage the information filled in on the 'Online Message' page. Firstly, setting the text box that cannot be empty and prompting the viewer by adding a red '\*' symbol via HTML and CSS. JavaScript is then used to set up pop-ups for each text box that is empty, specifically the emails are managed in a format that is neither empty nor formatted. (See appendix Part B for detailed JS code) Figure 9 shows an example of a pop-up window, other examples of pop-up windows can be found in

Appendix Part C. Compared with the high-fidelity prototype, the "Cancel" button is added. When the button is pressed, all filled-in content is cleared.



(Figures 10 & 11: Screenshots of the mobile home page and mobile navigation menu)

Media query (@media rule) is a CSS technique introduced in CSS. It is used to build responsive websites, allowing the website to change its appearance and functionality to make it suitable for all device screen sizes. On this website, if the browser window is 768px or smaller, its appearance will be changed accordingly. (See appendix Part B for detailed CSS code)

The mobile navigation menu is placed on a mobile device, as shown in Figure 11, and functions in the same way as the menu bar of a web page, i.e., it is used to jump pages. The other web pages are placed in Appendix Part A and they all change depending on the screen size of the device.

## Challenges Faced

I encountered a few challenges during building the website. Firstly, the design expressed in the high-fidelity prototypes could not be implemented quickly and successfully due to a lack of familiarity with the knowledge. As a result, a lot of time was spent in the debugging phase. Secondly, some of the functional designs in the high-fidelity prototypes could not be implemented, such as the 'next' button which is used to switch to the next game introduction card on the 'Game Centre' page. Thirdly, I tried to add two buttons to the rotating image on the homepage to change the direction of the rotation, but this was not possible. Fourthly, the sliding image area and moving navigation menu on the homepage sometimes have a delay and need to be refreshed by the browser for reasons unknown and need to be improved where possible.

## Lessons Learnt

There are some lessons learned from the build. Firstly, by writing the code to build the website, my proficiency in HTML, CSS and JavaScript has increased dramatically. Secondly, I was able to find and modify bugs much faster by using the browser's inspection function and using it to debug the code. Thirdly, I learned much new knowledge by searching and practicing, such as Pseudo-elements, moving navigation menus, creating loading pages, etc.

## Evaluation Based on Nielsen's Usability Heuristics

Nielsen's Usability Heuristics is a useful program that allows websites to avoid major usability flaws (UX24/7, 2014). By evaluating the final website, nine of Nielsen's usability heuristics were used and the tenth heuristic (Help and documentation) was not implemented.

When a button or hyperlink was selected on the site, the colour of the button or font changed and the shape of the cursor changed to that of a hand. When an input box was selected, the cursor changed to an I-beam cursor. This used the first Nielsen usability heuristic, 'system state visibility', where the form of the mouse changed depending on the element selected, thus providing appropriate feedback.

Considering that the main audience of the website is teenagers and young adults, I did not use overly academic language but a second-person narrative to increase immersion and interaction. I used more graphic expressions, and background images behind the text and the addition of rotating images made the site look more colourful and interesting. This followed the 'system to real-world match' approach, using language that was familiar to the user and thinking from their perspective.

Users can select any page they want to go to from the menu bar and the mobile navigation menu in accordance with the principle of "user control and freedom". At the

end of each page, there was a button to return to the home page and a click on the website logo to return to the home page. It gave the user freedom of control and a better experience.

For the inspiration of "consistency and standards", external consistency was achieved due to the layout and functionality of the website, which was similar to most information websites, such as the structure of the header and footer, information boxes, posters, etc. Internal consistency was achieved through the use of a popular logo, which consisted of a geometric shape and brand name, ensuring that my UI was predictable and learnable. They also conformed to the second heuristic and are easily understood by the target audience.

Firstly, users were provided with formatting inputs in the "Contact Us" section. They prompt the user and prevent errors from being generated. Secondly, when an error was entered or some information is ignored, an alert window would pop up to report the error. These followed the 'error prevention' and also the ninth Nielsen usability heuristic – 'helping users identify, diagnose and recover from errors'.

Menu bars, mobile navigation menus and buttons were created with semantic names, following the principle of "recognition rather than recall", making information visible and easily accessible.

At the end of each webpage, there was a button to return to the home page and the logo of each page could be clicked to return to the home page. On the 'Online Message' webpage, the 'Clear' button allowed for quick emptying of the filled-in information. They followed the "flexibility and efficiency of use", increasing the flexibility of the site and offering the user more options to speed up the process.

The layout of the web pages was uniform, including similar header, footer and poster sections. The background was uniformly white, the buttons were all yellow and the information boxes are purple. The overall look was clean and tidy, allowing users to easily focus on important information without unnecessary elements distracting them. This followed the 'aesthetics and minimalist design'.



## Conclusion and Future Work

The aim of the report was to build an interactive and informational website on the topic of Nintendo games, showcasing and reflecting on the production process. The website was successfully implemented as a high-fidelity prototype of web design and improvements were made to its functional and cosmetic aspects. Ultimately, I discussed my usage and understanding of HTML, CSS and JavaScript through screenshots of the website, summarised the challenges, experiences and lessons learned, and finally evaluated the final website based on the Nielsen usability heuristic.

There are still some limitations in the construction of the website that I need to improve in the future. Firstly, Nielsen's usability inspiration number 10 has not been implemented, which is 'help and documentation', and I will add a short tutorial or tip box when the site is opened. Secondly, the hyperlinks of the information box on the 'News & Events' page were not fully utilised for time reasons and I will use them to develop more pages. Thirdly, the "next" button on the 'Game Centre' page in the high-fidelity prototype was not set and I will learn more about JavaScript to implement it. Fourthly, the posters are not clear enough, I will introduce HD images. Fifthly, I will use more browsers to verify the viability of the website.



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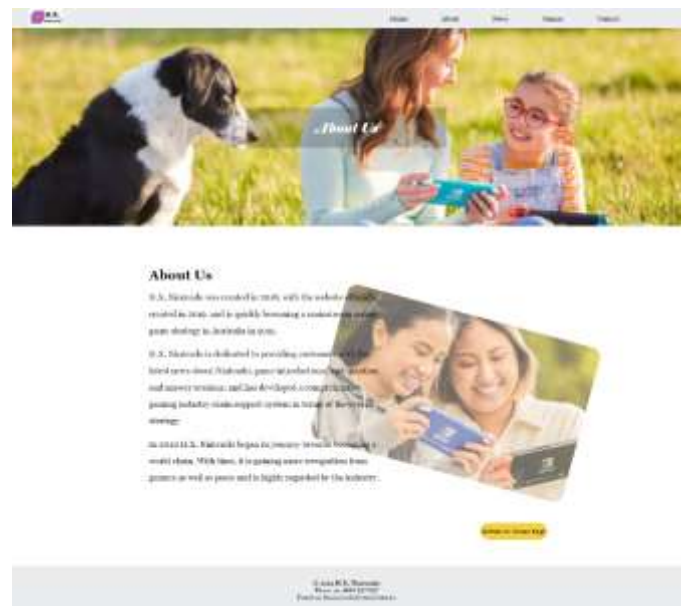
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## Appendix

### Part A - Screenshots of the Website





## News & Events



You'll fight other siblings and siblings-in-law (weekend combat arena) (Saturday) and the non-blooded Squirrels desert in the Squirrel 2 game. On September 9, the game will be released for the Nintendo Switch arena, so get ready to dive into the fun.



**Bucket:** Longue has always been a straightforward property which always earned 50kg more to than a full ton a goal. With the removal of bucket, it now earned 100kg more. That's almost no change. The bucket built as game event, which runs from April 27 to May 30, 2000!



You play as Darth Vader, Death Vader's secret apprentice, who has been trained to seek death and destroy the Jedi in STAR WARS™: The Force Unleashed. Feel the destructive power of the Force with the Joy-Con controller's motion controls, or challenge a buddy to a one-on-one in the local multiplayer Duel mode!



Good day, cowboy! May delivers a plethora of spilling delights to the Annual Crossing: Pocket Camp game. Great, the cow-eggs! horses, will be hosting activities at your campsite in May. It will premiere at 11 pm PT on Friday, April 20th. We'll meet up at the campsite!

**Submit to: Human Factors**

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Kluwer Online B.V.  
Type set by Thomson Digital, Inc.



### Game Centre

Leaf's Weekly and Daily



### Kirby and the Forgotten Land

**Description:**

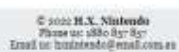
**Descriptions:** Pale-colored with white, tan, yellow, pink, grayish, and yellowish to orange mottled markings. White underparts. Smooth skin. Dorsal to brown to blackish—less shiny, overlapping scales. Two rows of scales, each increased and less to eight and complete (very rudimentary). A few subventral scales. No dorsal fin. White. Tail a deep brown and presents for a somewhat flattened tip.

**Keywords:** *Self-esteem, self-esteem threat, self-esteem threat effects, self-esteem threat effects on self-esteem, self-esteem threat effects on self-esteem, self-esteem threat effects on self-esteem*

**Features:**  
 • Adds K&N's new 2-stage filter to the revolutionary oil pleating design.  
 • Features a low-bypass, semi-permanent filter with dual-sized pores and takes three times longer to clog than the ability of other two and two-thirds inch filters and spinners.

**Software to Manage ITM**

Class: 2.2. Networks  
Page no: 288/300  
Find on Internet: <http://www.cisco.com>







## About Us

H.X. Nintendo was created in 2018, with the website officially created in 2019, and is quickly becoming a mainstream online game strategy in Australia in 2021.

H.X. Nintendo is dedicated to providing customers with the latest news about Nintendo, game introductions, and question and answer sessions, and has developed a comprehensive gaming industry chain support system in terms of the overall strategy.

In 2022 H.X. Nintendo began its journey towards becoming a world chain. With time, it is gaining more recognition from gamers as well as peers and is highly regarded by the industry.

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Email us: hxnintendo@email.com.au



## News & Events



You'll fight other Inklings and Octolings in ink-soaked combat around Splatville and the sun-bleached Splatlands desert in the Splatoon 3 game. On September 9, the game will be released for the Nintendo Switch system, so get ready to delve into the ink.



Rocket League has always been a straightforward game in which players control flying cars to shoot a ball into a goal. With the release of Knockout, a new Limited Time Mode, that's about to change. The Knockout Bash in-game event, which runs from April 27 to May 10, 2022!



You play as Starkiller, Darth Vader's secret apprentice, who has been trained to seek down and destroy the Jedi in STAR WARS™: The Force Unleashed. Feel the destructive power of the Force with the Joy-Con controller motion controls, or challenge a buddy to a 1v1 duel in the local multiplayer Duel mode!



Good day, campers! May delivers a plethora of sparkling delights to the Animal Crossing: Pocket Camp game. Gracie, the ever-stylish hostess, will be hosting activities at your campsite in May. It will go online at 11 p.m. PT on Friday, April 29th. We'll meet up at the campsite!

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## Game Centre

## Let's Switch and Play!



## Kirby and the Forgotten Land

## Description:

Take control of Kirby, the mighty pink puffball, and explore a mystery environment filled with abandoned structures from a bygone civilization—including a shopping mall?! Use enemy abilities such as Sword and Ice to fight and explore your environment! What adventure is in store for Kirby? Take a deep breath and prepare for a once-in-a-lifetime trip!

## Features:

Join Kirby on a magical trip via a wonderful 3D platforming game.  
Explore a fascinating environment filled with abandoned ruins and relics from a bygone era.  
Copy the abilities of your foes and use them to attack and explore.

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## Game Centre

## Let's Switch and Play!



## Super Mario Odyssey

## Description:

Join Mario on a big 3D voyage throughout the world, collecting Moons to power up your airship, the Odyssey, and save Princess Peach from Bowser's wedding plans! Mario has new moves thanks to heroic, hat-shaped Cappy, which will make you reconsider his conventional run-and-jump action. To progress through the game and find tonnes of hidden items, use captured cohorts as such monsters, objects, and animals. If you want to play with a friend, simply hand them a Joy-Con controller!

## Features:

As you try to save Princess Peach from Bowser's nefarious wedding plans, explore amazing new locations like skyscraper-packed New Donk City to your heart's content, and run into familiar friends and opponents. There are a plethora of entertaining and unexpected ways to engage with your surroundings. Give a Joy-Con controller to a friend to enjoy multiplayer with: Mario is controlled by Player 1, while Cappy, Mario's new ally, is controlled by Player 2.

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**H.X. Nintendo**

## Online Message

You are welcome to ask questions! Please complete the steps below and we'll reply to you as soon as possible, thank you for your attention!

**Family Name\***

**Given Name**

**Email Address\***

**Mobile Number**

**Type of information\***  
☒ Games ☐ Price ☐ Improvement ☐ Job Search ☐ Else

**Message Content:\***

**Warning!** Please check the information carefully to ensure that the information is accurate.

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## Part B - HTML, CSS and JavaScript codes

```
//https://www.html5lib.com/canvas/movingimages/ps id from 101.1000 top right bar about online collection system.html
// set the ul element and append a set of identical images to it (to make it seamless)
let ul = document.querySelector('.movingSlides ul');
ul.innerHTML = ul.innerHTML + ul.innerHTML;
// get all li elements and .btn elements
let lis = document.querySelectorAll('.movingSlides li');
let btns = document.querySelectorAll('.btn');
// span per scroll (default scrolls to the left)
let spa = -2;
// calculate and set the total width of ul
ul.style.width = lis[0].offsetWidth * lis.length + 'px';

// scrolling function:
function move(){
  if(ul.offsetLeft < -ul.offsetWidth/2){
    // determine if the picture is finished, restart when finished
    ul.style.left = '0';
  }
  if(ul.offsetLeft > 0){
    // determine if the picture is finished when walking to the right
    ul.style.left = -ul.offsetWidth/2 + 'px';
  }
  // set the offset position
  ul.style.left = ul.offsetLeft + spa + 'px';
}

// timer to execute the move function every 30 milliseconds
let timer = setInterval(move, 30);
```

```

animation-name: newsShow;
animation-duration: 4s;
position: relative;
}

/*https://www.w3schools.com/cssref/cs
@keyframes newsShow {
  from {left: 20%;}
  to {left: 0%;}
  0%{opacity: 0;}
  100%{opacity: 1;}
}

```

```

//https://codepen.io/timothyguo/pen/KdzJrv
//Loading page
function loading(){
  // Enter the page load three seconds
  setTimeout(showPage, 3000);
}

function showPage(){
  // Display loading page
  document.getElementById("loadPage").style.display = "none";
  document.getElementsByClassName("pageContainer")[0].style.display = "block";
  document.getElementsByClassName("headerContainer")[0].style.display = "block";
  document.body.style.backgroundColor = "white";
}

```

```

//The different div elements are selected in turn to be shown and the others are hidden.
//game card 1
function selectGame1(){
  document.getElementById("game1").style.display = "block";
  document.getElementById("game2").style.display = "none";
  document.getElementById("game3").style.display = "none";
  document.getElementById("game4").style.display = "none";
}
//game card 2
function selectGame2(){
  document.getElementById("game1").style.display = "none";
  document.getElementById("game2").style.display = "block";
  document.getElementById("game3").style.display = "none";
  document.getElementById("game4").style.display = "none";
}
//game card 3
function selectGame3(){
  document.getElementById("game1").style.display = "none";
  document.getElementById("game2").style.display = "none";
  document.getElementById("game3").style.display = "block";
  document.getElementById("game4").style.display = "none";
}
//game card 4
function selectGame4(){
  document.getElementById("game1").style.display = "none";
  document.getElementById("game2").style.display = "none";
  document.getElementById("game3").style.display = "none";
  document.getElementById("game4").style.display = "block";
}

```

```

function test1() {
  //Reading data from the text boxes
  let familyName = document.getElementById("familyName").value;
  let email = document.getElementById("emailAddress").value;
  let comment = document.getElementById("comment").value;

  if(familyName.length == 0){
    //Determine whether family name is empty
    alert("Please fill your family name");
  } else if(email.length == 0){
    //Determine whether email is empty
    alert("Please fill your email");
  } else if(email.indexOf("@") == -1){
    //Determine whether the email format is correct (contains @ or not)
    alert("Please enter the correct email format (must including '@')");
  } else if(comment.length == 0){
    //Determine whether comment is empty
    alert("Your comment is null");
  } else {
    alert("submit successfully");
  }
}

function deleteText() {
  //Set the value of each text box to empty
  document.getElementById("familyName").value = "";
  document.getElementById("givenName").value = "";
  document.getElementById("emailAddress").value = "";
  document.getElementById("mobileNumber").value = "";
  document.getElementById("comment").value = "";
}

```

```

//Set a switch to initialize to false
var showMenuFlag = false;
function openMenu() {
  //Each call to this function will set the 'not' value of showMenuFlag
  showMenuFlag = !showMenuFlag;
  if(showMenuFlag) {
    //Display menu bar(block), close other div elements
    document.getElementsByClassName("logo")[0].style.display = "none";
    document.getElementsByClassName("pageContainer")[0].style.display = "none";
    document.getElementsByClassName("homeMenu")[0].style.display = "block";
  } else {
    //Close menu bar, display other div elements
    document.getElementsByClassName("logo")[0].style.display = "block";
    document.getElementsByClassName("pageContainer")[0].style.display = "block";
    document.getElementsByClassName("homeMenu")[0].style.display = "none";
  }
}

```

```

@media screen and (max-width: 768px) {
  html{
    height: 100vh;
  }
}

```

## Part C - High-fidelity models and pop-ups

