



Design Report

Website Design & Implementation Assessment

Introduction to Web Design (DECO1400/7140)

Semester 1, 2019

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Part A

Introduction

WitchyCandy.com is a website educating 5-12-year-old kids about healthy candies and desserts and is based on the fiction *Hansel and Gretel*. Before viewing the website, it is recommended to set your computer to 100% screen zoom for laptops, 150% screen zoom for UQ computers, use chrome browser, and shrink the screen width to 500px for mobile.

From this website, audiences could expect fun facts of eating healthily, which is categorized into “About Us”, “Health Tips”, “Sweets & Dessert”, “DIY Ideas” and “Decorate Your House”.

Audience could also help the witch to add candies into her candy house. In addition, there are 10 hidden candies which the website hasn’t introduced on the surface, but they can find and know the fun facts of them anywhere, in any page.

Before launching the website, this design report is written for the web developer, to describe, justify as well as document the design and development decisions in the following aspects:

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Introduce Yourself

Hi there, I am Nicole, and I am currently studying Bachelor of Information Technology.

I am quite new to web design and development, so contents like developing persona table and drawing paper prototype from this course could help me to understand what it's like to be a web developer.

I like drawing, but obviously not good at professional graphic design. I like eating candies, but not as good as my cat in seizing them from humans with cuteness. I am instead rather good at logical programming, thus the degree in IT.

My learning strategy for this course will be practicing more programming as it will compensate my effort in graphical designing.

Getting to Know Stakeholders

Target Audience

For this website, the archetypal primary users have the common traits of

- **Basic Demographics:** Are around age 5-15 years old, basically kids and teens who are entertained by elements like graphics, animation and sound ([Pfoeffer, 2002a](#)).
- **Basic Demographics:** Likes to eat sweets. Hence, the website will have lots of graphics about dessert and candies, and uses a colour tone between pink, orange and red to stimulate a “sweet” sensation from users. ([Jantathai, 2014](#))
- **Context of use:** Want to improve health with desserts, so health tips would be helpful.
- **Goals of use:** Goal to find information about eating desserts healthily.

Secondary users may have the traits of

- **Tools & preferences:** Browse pages on desktop and mobile phones, children tend to use mobile phones to browse a website(), so a mobile version will be made.
- **Context of use:** Fear of having tooth decay when eating sweets.
- **Goals of use:** Goal to be entertained with mini games.

So, what implications do these audiences have for the design?

For Emma (Primary user),

- *An elementary student wants to **keep fit** and **don't want to have tooth decay** While eating sweets, so she would find Witchy Candy's "Diet desserts/candies", "Health Tips" pages helpful.*
 - *Other than that, she likes to **watch her mother making dessert**, so she would view the "DIY ideas" page for healthy DIY desserts recipes.*
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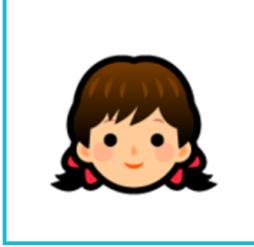
For Max (Secondary user),

- *An elementary student wants to find a dessert that **make him focus and get good grades in studies**, so the "Desserts for the Stressed" section in "Health Tips" page will be helpful for him.*
 - *Also, he likes to **play video games in his spare time**, so the hidden object game in Candy House will make him explore more in the website.*
-

Emma

Sweet **Nice**

Forgetful



"I like candies, but I don't want rotten teeth!"

Age: 8
Profession: Student
Interest: Cooking

Things to do in the website

- To find ways to eat desserts healthier
- To find recipe for healthy desserts to make with her mother
- To play the hidden object game in the website
- To decorate her Candy House in the website

Goals

- Wants to find the sweets she likes
- To eat healthily
- Find sweets that will make her smarter

Frustrations

- Don't want to have tooth decay when eating sweets
- Wants to keep fit when eating sweets

Bio

Emma is an elementary student who likes to try new sweets from the candy shops near her. In her spare time, she likes to watch her mother making after-dinner desserts.

Personality

Introvert	Extrovert
Analytical	Creative
Loyal	Fickle
Passive	Active

Preferred Channels

Social Media	Mobile
Email	Traditional Ads

Max

Studious **Curious**

Smart



"Huh...if there is a candy that can make me smarter."

Age: 8
Profession: Student
Interest: Video games

Things to do in the website

- To find ways to eat desserts healthier
- Find snacks that could make him focus
- Play the hidden object game in the website
- Decorate his Candy House
- Read some healthy tips

Goals

- Wants to get good grades in school
- To eat healthily
- Find sweets that will make him smarter

Frustrations

- Don't want to have tooth decay when eating sweets
- Too much sugar will make him unfocused

Bio

Max is an elementary student who studies hard to get good grades at school. In his spare time, he likes to play video games with friends.

Personality

Introvert	Extrovert
Analytical	Creative
Loyal	Fickle
Passive	Active

Preferred Channels

Social Media	Mobile
Email	Traditional Ads

Chosen Educational Content

I chose “Healthy Desserts” as the educational content of this interactive website due to its relation of the candy-theme from *Hansel and Gretel*.

“Healthy Desserts” will be an interesting and meaningful topic for children around age 5-15 yrs. old as **many children likes to eat sweets and snacks**. However, they are taught in school that **eating candies would cause a lot of health problems**. This website shows them that just because a food is sweet does not mean it is unhealthy, but certain actions like using dental floss after eating and picking the right food should also be taken before or after eating.

This website will also be helpful to parents too. It is because the health tips read by children could save their parents' time in lecturing them about how to eat healthily.

“Healthy Desserts” is suitable for an interactive website as the images of desserts and candies are relatively easy to draw or find on the Internet. Desserts also trigger a pleasant atmosphere of the user, so the sweet-loving children (our target audience) will be happy and willing to learn from the website even with few interactivities.

How will it be delivered through interactivities?

Open popup boxes to introduce each of the healthy desserts

“Sweets & Desserts” page allows users to open popup boxes to learn more about healthy desserts.

Health tips for behavioral good practices

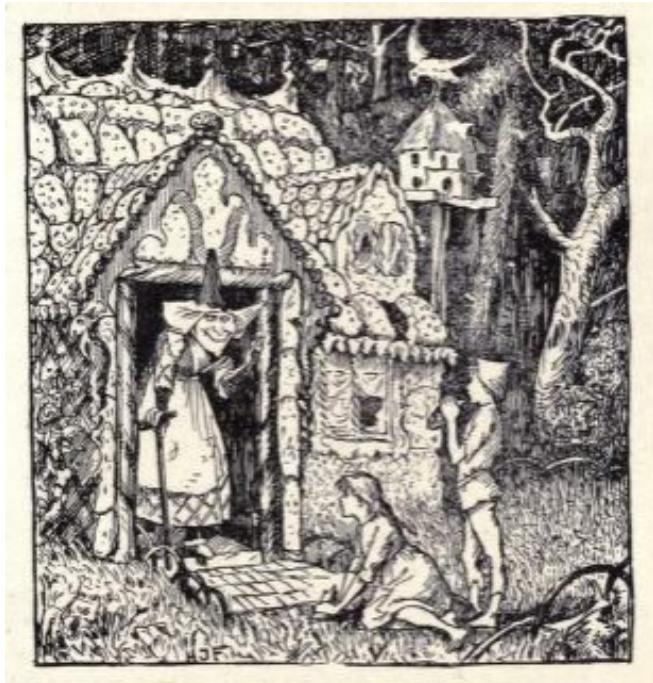
“Health Tips” page will give users tips to maintain a better diet and oral health while eating sweet food.

Do It Yourself!

“DIY Ideas” allow users to open up popup boxes and learn to make Some easy desserts themselves.

Chosen Story

I chose *Hansel and Gretel* as my story, which is roughly about a brother and sister escaping from a witch's candy house ([Lang, 1898](#)).



I choose this story to make an interactive educational website because it is a graphic novel quite well-known to children and their parents, our target audiences. Therefore, users can build a connection faster with the website. The story also has a dessert theme, which matches with the topic "Healthy desserts". As a result, I have made a unique story to link the original story with the "Healthy candies" theme:

"After the witch was burnt to ashes in the oven, Hansel and his sister Gretel discovered a treasure within the gingerbread house: healthy candies recipes the witch is trying to invent in order to stay healthy."

In the website, the following interactivity are related to the above concept:

Mini-game: Decorating your candy house

There is also a mini-game about decorating your candy house, which make use of the one in the story. It is suitable for children as it involves graphics and interactivities that is simple

Mini-game: Finding hidden candies

There is also a mini-game about finding hidden candies throughout the website, resembling the dessert-themed story.

The witch image in the home page

The witch is a reference to the witch in the story.

Hansel and Gretel in the "decorating your house" page

The brother and sister are the main characters from the story.

Navigation & Organisation

Card Sorting

2 closed card sorting has been implemented on 19/3 on week 4's tutorial, and I have received really valuable feedbacks from the two users. The activity aims to seek user's perspective on the website's information architecture.

Testing plan:

I pre-defined 5 groups of website content:

About Us, Health Tips, Sweets & Dessert, DIY Ideas and Decorate Your House

Then I ask them to put 20 other cards under these categories. (the 2 photos below).

I anticipated that ***Sweets & Dessert*** page will be most frequently used as children's(target audiences) main goal in this website is to look for information of the desserts than other pages.

Whereas ***About Us*** page will be the least frequently used page, since most of our target audience already know the story and the theme from just the images in the home page.

The questions I asked them are:

1. Why do you think “Info. of Sweets and Desserts” section should be placed under “Healthy Desserts & Candies”/“DIY Ideas” page?

User 1 gave an interesting point that the item “Info. of Sweets and Desserts” should be put into both categories, as for “DIY Ideas”, the user has to know the nutrients of the ingredients first before making the DIY.

Thus, I think that in the window of “Info. of Sweets and Desserts” section, **there will be a “related recipe” button which links to the respective DIY ideas/Introduction of the sweets, so it can link the 2 pages together.**

-
2. Why did you put “Real & Fake sugar” into “Healthy dessert and candies”?

User 2 responded that it doesn't seem like “Real & Fake sugar” is talking about a tip, as a tip is more behavioural, and this title sounds more like introducing an object.

However, I decide to keep the title “Real & Fake sugar” in “Health Tips”, as it will be clearer when I show the website visually.

For organisation systems, I will be using a **local navigation system**.

Since there are only 5 main categories, which is not too many, footer and supplementary navigation will not be applicable here. Universal navigation will be redundant for this website, as children are impatient to spend time on websites that has a complicated navigation system design (Pfoeffer, 2002b). Thus, local navigation will be enough to organize the content of this website.



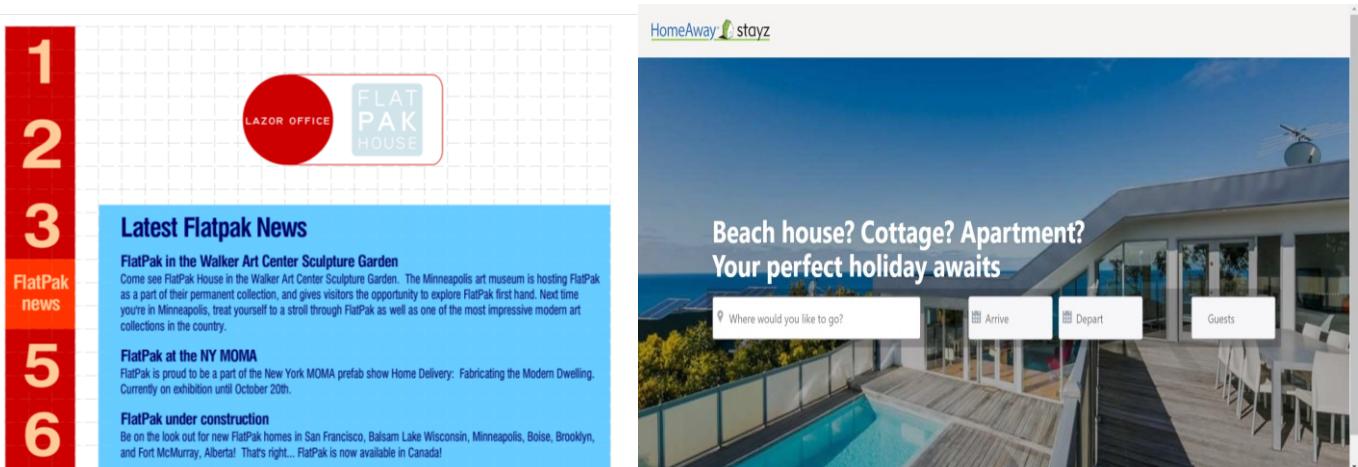
Figure 1 1st card sort



Figure 2 2nd card sort

Navigation Systems

I have learnt **elements of wayfinding, breadcrumbs** and different types of navigation systems. The presenter also said that in a search function, there are **user- and task- oriented** navigation which will make the searching **more customizable thus user-friendly**. She had also shown us with examples that a **too complicated or simple** navigation system is a bad practice in designing. Other than that, she uses [HomeAway.com](#) ([HomeAway, n.d.](#)) as a good example to show a **comprehensive** task-oriented navigation, and [flatpakhouse.com](#) ([flatpakhouse, n.d.](#)) as a bad example to show a **mysterious and unclear** navigation system.



The image shows a side-by-side comparison of two navigation systems. On the left, a mobile application interface for 'FlatPak' is displayed. It features a vertical sidebar with large numbers 1, 2, 3, 5, and 6, and a section titled 'FlatPak news'. Below this are three news items: 'FlatPak in the Walker Art Center Sculpture Garden', 'FlatPak at the NY MOMA', and 'FlatPak under construction'. At the top of the screen are icons for 'LAZOR OFFICE' and 'FLAT PAK HOUSE'. On the right, a screenshot of the 'HomeAway' website is shown. The page has a header 'HomeAway stayz'. Below it is a large image of a modern beach house with a pool. Overlaid on the image is the text 'Beach house? Cottage? Apartment? Your perfect holiday awaits'. At the bottom of the image are input fields for 'Where would you like to go?', 'Arrive', 'Depart', and 'Guests'.

In response to the guiding questions, I think UQ navigation is the most effective when searching ways to classrooms (among other options “Navigation signboards” and “google map”).

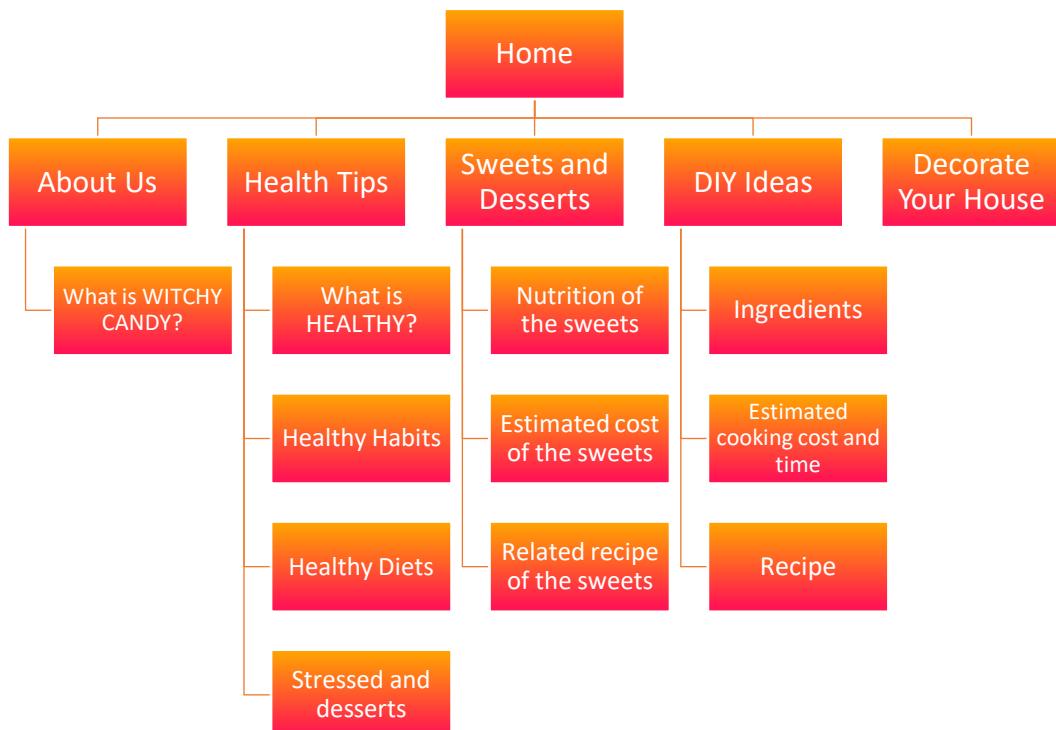
This is because UQ navigation use an arrow, whereas Google map use a circle to indicate your location and direction, in this case Google map’s circle is quite confusing for knowing which direction I am in. Navigation Signboards are not mobile enough for searching classrooms, for example we cannot guarantee every corner of the university has a signboard for direction, but UQ navigation app can be used as long as you have a phone.

For the second question, inside the Edges of the “digital city”, Paths separate Districts and Landmarks, while Nodes connects Paths together.

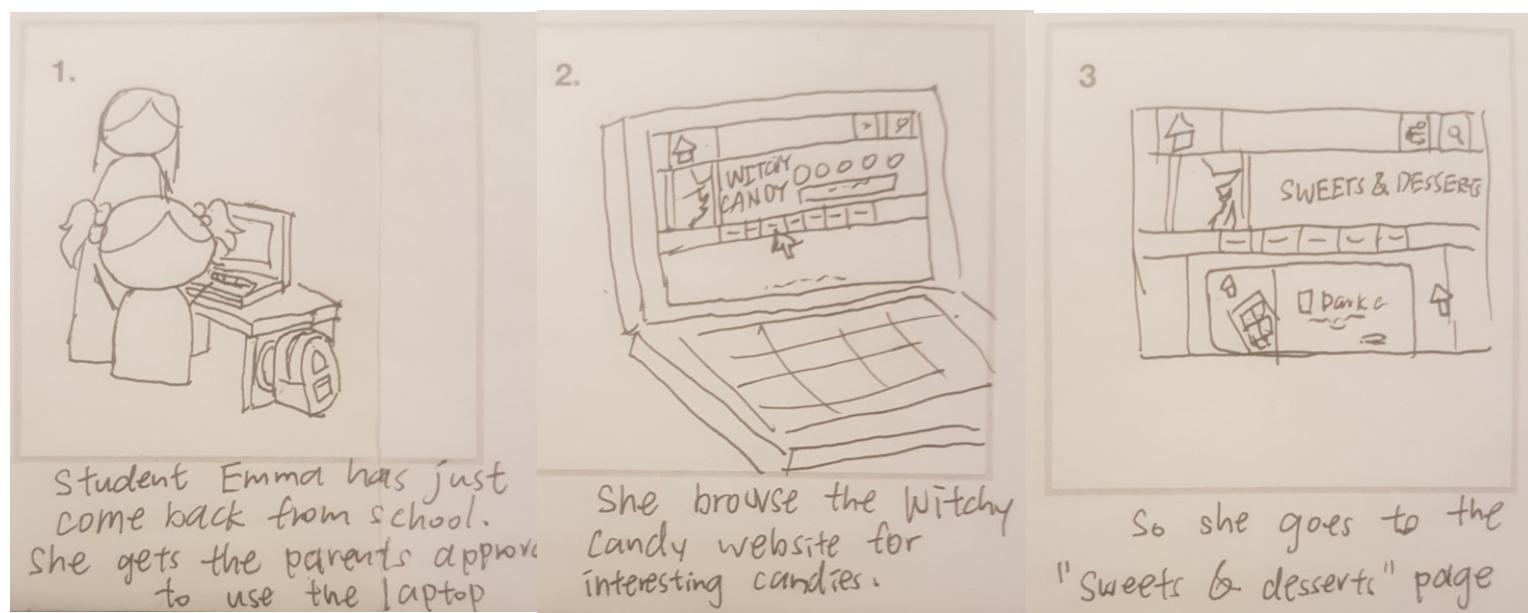
For the website, I would use the **ambiguous task-oriented navigation system** I have learnt from the discussion to let the user search for desserts. For instance, instead of just word searching, users could filter the results by other variables such as the level of sweetness and level of healthiness.

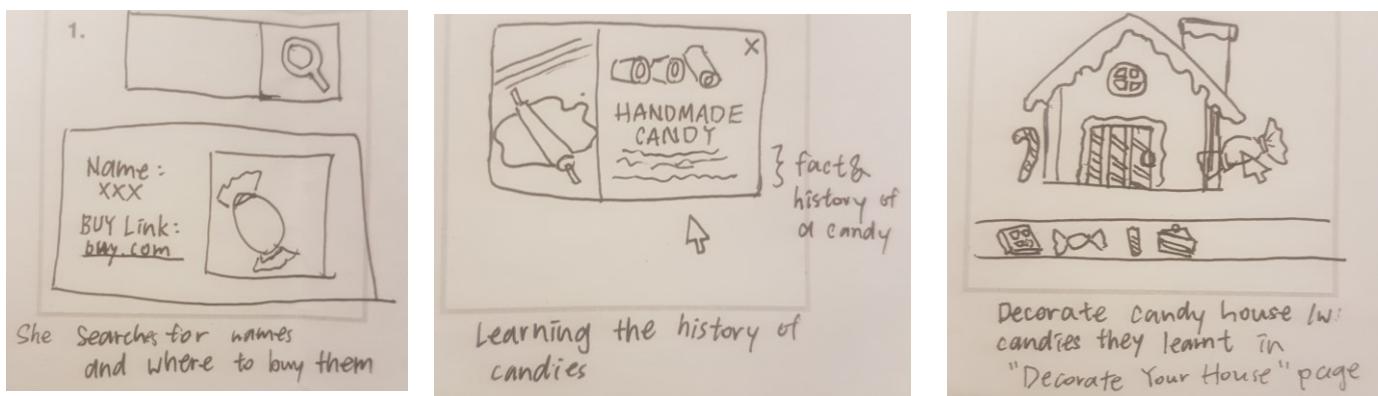
Site Map

Here is the information architecture of the website content presented as a site map.



Story board for Emma:





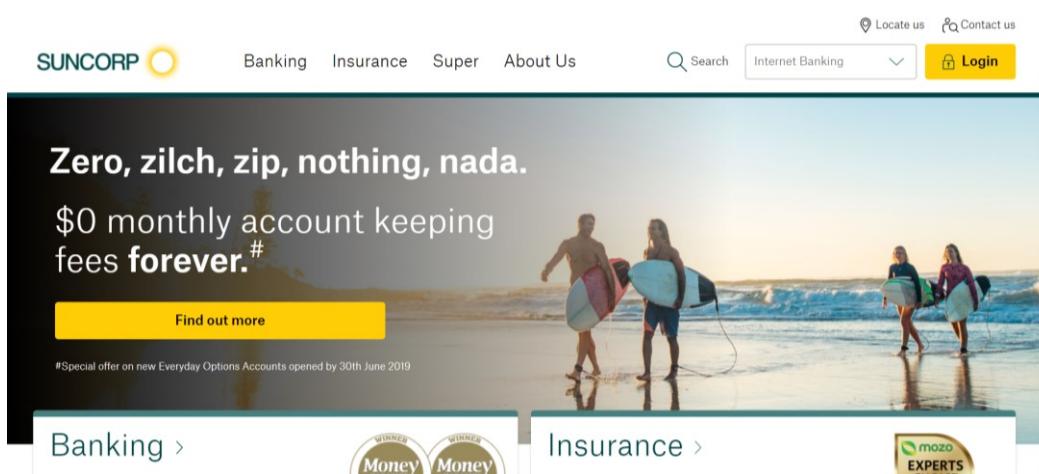
Visual Organisation

In the discussion, the presenter mainly used [Suncorp.com](#) ([Suncorp, n.d.](#)) as an example to show that the yellow and deep green colour gives users a **positive and joyful impression**, and the usage of **a balanced colour** tone make users feel more comfortable.

The organization of the elements of the website is **simplistic** (e.g. the buttons and texts are not packed tightly together) but still look like it has a rich content.

Apart from that, the **size of texts is varied in terms of its importance**. For instance, the website uses the bold “Zero, zilch, zip, nothing, nada.” slogan to makes it stand out more than the other elements.

For the guiding questions, I think size of texts is the most important in distinguishing and emphasizing important elements as textual information are mostly what users will eventually look for, compared to color usage and other factors.



In my website, I would use different sizes of texts with CSS's font-size property to show the level of importance of each information. For example, I'll use bigger text-size to **emphasize the page title of the website** (see wireframe and paper prototype), and smaller sizes for **subtitles**, like the “Dark Chocolate” subtitle is smaller than “Sweets and Dessert” page title.

Other than that, a bright orange colour tone is used in the upper section of my website, which is a high contrast to the chiffon and white colour tone in the lower section. This allows

users to distinguish the page topic and navigation bar from the web content. It also helps them to focus on the necessary content they are looking for (The main goal of our target audience is to look for dessert information, not the page title and search bar).

I have also used **horizontal lines** to separate between articles in the “Health Tips” page, so that users can navigate through tips more conveniently.

Interactivity & Functionality

To demonstrate the functionality of the website, 5 wireframes and the according annotations are shown below. (Item lists, Article page, Recipe lists, Decorate, Search) **feedbacks**, source material, **audience**, **design principles** annotations are labelled in different colors



The wireframe shows the Candy Craft homepage with the following annotations:

- Home button**: An annotation pointing to the home icon in the top left corner.
- Filter and Search button**: An annotation pointing to the search and filter icons in the top right corner.
- Local navigation with CSS flexbox**: An annotation pointing to the horizontal navigation bar at the bottom of the page.
- Hidden candies**: An annotation pointing to a small icon in the sidebar.
- Users could find hidden candies throughout the webpages. (CSS positions absolute)**: A green annotation describing the use of absolute positioning for hidden content.
- Image**: Annotations pointing to the background image and the candy icons in the header.
- CANDY CRAFT**: The main title of the website.
- HEALTHIEST OF CANDIES**: A sub-section title.
- RECOMMENDED DESSERTS**: A section title for a list of desserts.
- Dessert Name**: A column header for the dessert list.
- (Dessert description)**: A label for the text below the dessert names.
- Add the candies to favorite (deleted, see p.19)**: An annotation pointing to a heart icon.
- Related recipes**: An annotation pointing to a lightbulb icon.
- Read More...**: An annotation pointing to a link in the dessert list.
- 8 / 15**: An annotation pointing to a progress bar indicating 8 out of 15 items.
- Image**: Annotations pointing to the image placeholder in the dessert list.

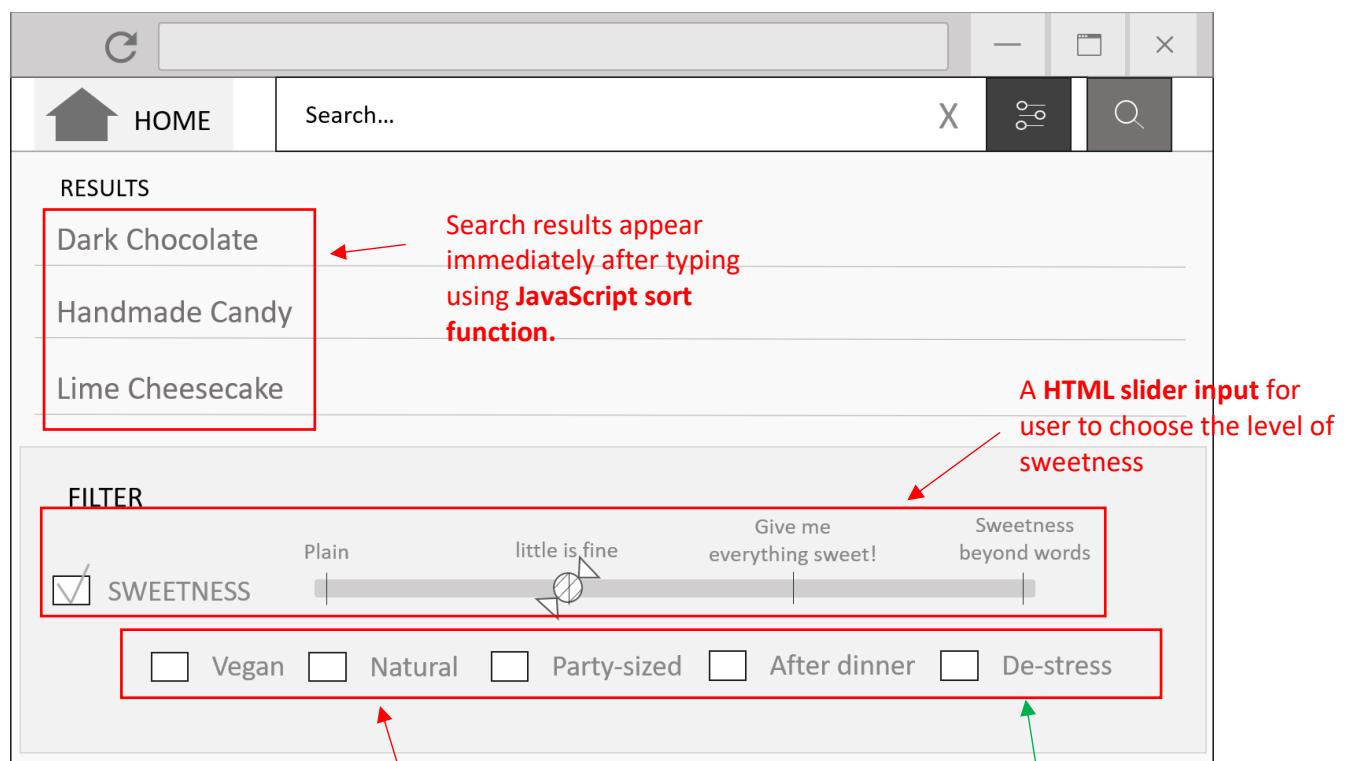
Vertical navigation for user to scroll to the tips they wanted. (JavaScript scroll function)

The page title is "HEALTH TIPS". The navigation bar includes "About Us", "Health Tips" (which is highlighted), "Sweets & Desserts", "DIY Ideas", and "Your Candy House". A sidebar on the left contains a "List of tips" with items: TIP 1, TIP 2, TIP 3, TIP 4, and TIP 5. The main content area shows "1. TIP 1" and "1. TIP 2", each with a "Tips description paragraph". An image is shown on the right, and a progress bar at the bottom right indicates "8 / 15".

Paragraph about the tips. using semantic HTML like sections, headers and articles.

The page title is "DIY Ideas". The navigation bar includes "About Us", "Health Tips", "Sweets & Desserts", "DIY Ideas" (which is highlighted), and "Your Candy House". The main content area features a "Recipe Name" section with icons for cooking time, cost, and ingredients. A callout box notes: "There will be estimated cooking time, cost and ingredients, for users like Emma, who like to cook with her mother." An image is shown above the recipe name, and a progress bar at the bottom right indicates "8 / 15".

Users can click on the cell to learn more information about the steps of the recipe.



Final Updates

This section covers the final and major changes that are made with feedbacks received from tutors, classmates during consultations, since they are not covered in the design activities.

- Filter box is removed** since the number of items to search for is very small, I found that the search function is enough to make users navigate easier. In other words, the filter function is redundant. I instead replace the button with contact button, which adds trustworthiness of the website.
- The unlocking of new candies in the decorating mini-game is removed** due to technical difficulties.
- Navigation bar in the decorating mini game is removed** as some feedback indicate that it may distract the users during the game.

Paper Prototyping

During week 6 tutorial, I have conducted a user-centered test with 3 classmates, and they have provided concrete feedback pertaining to the designing of the layout. The test aims to improve the information organization, flow and functionality of the website.

User-centered testing plan

I have asked the users to

- DO: Find the respective recipe for the sweet "Dark Chocolate" without going to the "DIY Ideas" page from navigation

WATCH: fluency of users using cell's top-right buttons in "Sweets & Dessert" page

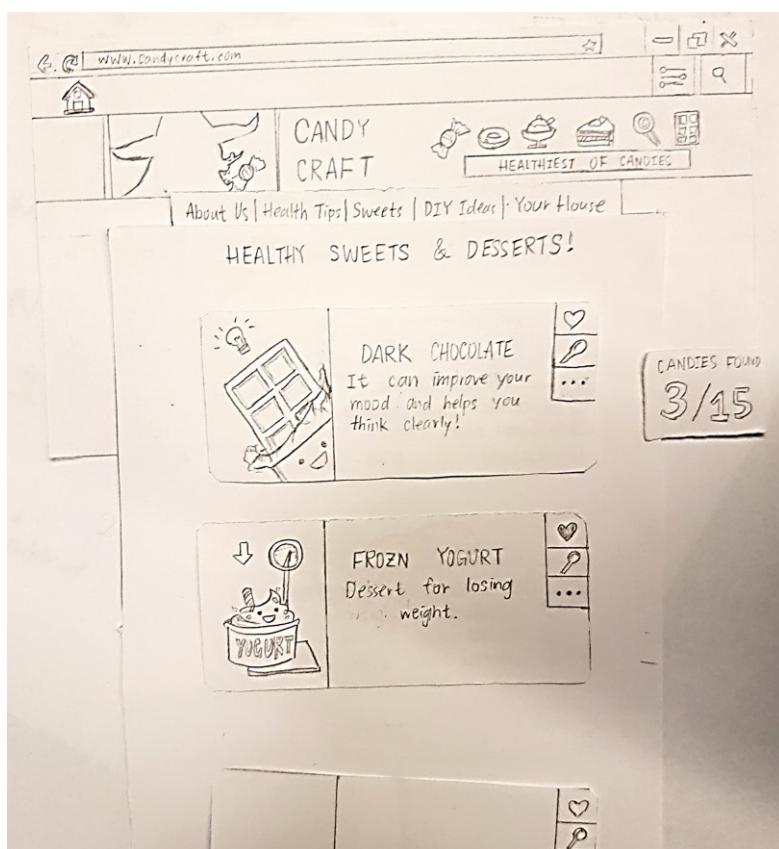
ASK: "What makes you think the 'spoon button' can/cannot show you the 'related recipes'?"

- DO: Find the candy house and decorate it.

WATCH: How user read the visual organization of the "decorate your house" page.

ASK: "From 1 for '100% will play again' to 5 for 'will not play again', how do you rate this mini game?"

Photos:



- DO: Return to home page

WATCH: If they are frustrated in distinguishing the "Decorate your house" button from the home button

ASK: "Why do you find it hard/easy to go to the 'Home' page?"

- DO: Find all the hidden candies in the webpage

WATCH: whether they understand that there are hidden candies in other pages.

ASK: "Which element(s) in the page makes you think there are candies in other pages?"

- DO: Find extra information of a sweet in the "Sweets & Dessert" page

WATCH: If users can click on the "..." button.

ASK: "What makes you think this button/element gives the extra information?"

Low fidelity functional prototype: home page

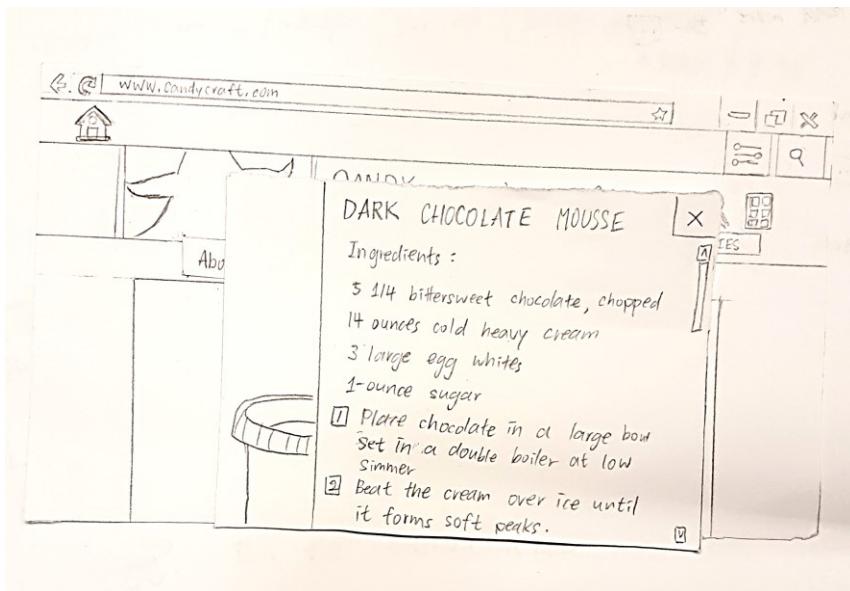


Figure 3: User successfully finished the first test.

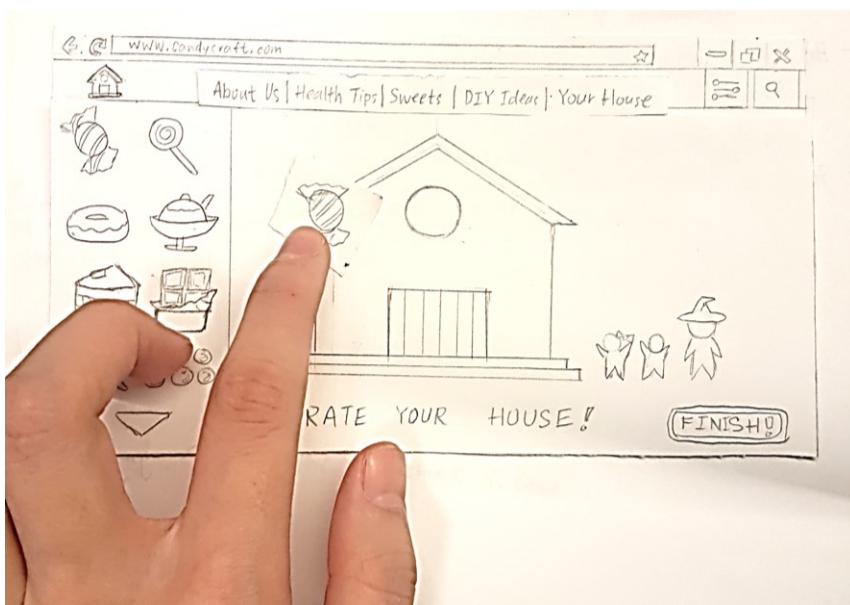


Figure 2: User Performing second test: decorating the candy house.

Feedback:

- All the users have suggested that in the small cells, the taskbar at the top-right is better to be changed, either to a “Read more...” link to store all the extra information, or make the cell a button to open up a larger window for all information. The former one will be taken.
- Some suggested that the home icon should be deleted, so it would not be confused with the “Decorate your house” button, we manage to agree that adding a “Home” text near the home icon would resolve the problem.

Part B

Aesthetics

Style Guide

Aesthetics mainly comprises of Vision, Hearing, Touch, Taste and Smell, other factor that affect judgement of aesthetics may include fashion, symbolism, danger, sentiment. It contributes to users experience in a way that it portrays personality and experience of using the website.

My design intention is to **stimulate an emotion perception of sweet and joyful environment** to let user engaged in browsing healthy desserts. It could also portray an **energetic personality** of the website.

To do this, I used orange(#F35E22) as base color, along with other warm color tone as additional colors, to deliver a “**sweet and delicious**” impression to users ([Jantathai, 2014](#)). This relates to the website theme of sweets and desserts. Pink, pale amber and brown are also used as **contrast** to distinguish between the information architectures of the website (e.g. active nav button uses light amber, non-active uses #980505).

The Garamond font that I will be using for navigation/smaller title could **create a “sweet” outlook to suit the dessert-theme**. The thin Nunito font used in the main title and other article titles makes the website **look simplistic and readable**.

Other than that, I used a low-poly and cartoon style to make the background and images. This makes the background look more 3D and appealing to children (target audience).

Visualise (with contextual examples):



Text Treatments

Page Title and smaller titles (e.g. title in every ‘Health Tip’)

Font: Nunito, Serif (as fallback font)

Type-family: Sans-serif

Weight: **Bold** Letter-spacing: -2px

SWEETS & DESSERTS

1. Use Dental Floss 

Navigation

Font: Garamond, Serif (as fallback font)

Type-face: ‘EB Garamond’

Weight: *Italic* Type-family: Roman

Sweets & Desserts

DIY Ideas

Cell Texts (UPDATED after Aesthetic user testing)

Font: ‘Helvetica Neue’ for title, ‘Open Sans’ for description

Type-face: ‘Open Sans Condensed’

Type-family: ‘Sans-serif’

Size: 23px for title, 18px for description

Weight: **Bold for title**, normal for description

 Dark Chocolate

It can improve your mood, and helps you think clearly!

Image or icon treatments



Low-poly style



Cartoon (items with “doodles”)

Button/link treatments

“Read more” link on hover and visited: highlighted red and text color changes from red to white with a smooth transition of 0.4s.

Navigation button on active: background colour changes from reddish orange to pale orange, text colour changes from white to tea red with a transition of 0.4s.

Extra Explanations for the above Design

“Helvetica Neue” and “Open Sans Condensed” fonts are used as they have high x-heights to increase the legibility of the content displayed.

Extra Research: Aesthetics

Find examples for some of the following A '*good-looking'/ugly* website that **is effective/not effective** in promoting its product/content:

Example 1 'good-looking' website that is not effective: Willow Day Spa



"Good-looking": Layout looks clean, use tea and white base colour to create a tranquil atmosphere, so users are more likely to trust the website. It uses thin font and good font-size to distinguish the sections (e.g. title and their content). This makes it easier for the users to read.

Not effective: The navigation bar doesn't have background colour, which makes it difficult to locate. It doesn't have actual images to show the spa process, so makes it appear to be not trustworthy.

Suggestion:

1. Change background-colour from transparent to pale lime.
2. Add actual images to show the spa process
3. Add animated willows on the two-sides of the website to make the website less bland(have a personality)

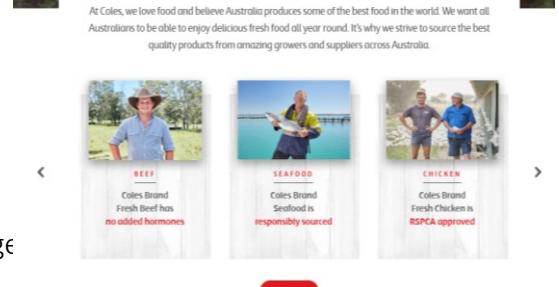
Example 2: 'good-looking' website that is effective: Coles

"Good-looking": The background uses a gif, making it more eye-catching. The use of theme colors (white and red) instead of putting every colour on the page.

"Effective": It uses a question to help users explore pages other than the product browsing page (with a "Learn more" button). The navigation bar looks clean and concise for users to navigate.

Suggestions:

1. The search bar, on focused, can have a drop down filter, letting users to choose from the categories. This makes them easier to navigate to the product page
2. Add a section showing the latest catalogue, as users tend to look for sales in catalogues before buying groceries.
3. Add an about us page instead of just having a text about it in the home page(show trustworthiness)



Example 3: An 'ugly' website that is not effective in promoting its product: Gates n Fences



"Ugly": The spacing of elements are too small that they are packed tightly together. The design does not have a base color and color scheme which will contribute to website's "personality". There is no title or contrast in text to identify what each section is about, lead to an unclear information hierarchy.

Not effective: The navigation bar has a list of buttons extended to the bottom of the page, which makes users feel tired navigating through pages. There are walls of words which lead to unclear website content delivery. The search bar is at the side of the page, making users difficult to navigate.

Suggestion:

1. Choose a metal color scheme (silver, brown and black) to suit the gate and fences theme, like applying it to the background, text blocks. It creates a distinct personality.
2. Use a big dropdown menu to classify all navigation buttons into categories.
3. Add titles in each section, and make them bold and capitalized, like "**ABOUT US**" for the first section.

Example 4: An 'ugly' website that is effective in promoting its product: Chemist Warehouse

"Ugly": The layout looks messy, elements are packed tightly together. The navigation bar has the same color as the top bar (no contrast), making it harder to locate. The navigation bar items are too many for users to choose.

"Effective": Make use of high contrast and vibrant colors, like bright yellow with red, to make eye-catching sale labels ("1/2 price"). It uses a big text to show the slogan of the store "WE BEAT EVERYONE'S PRICES", making their business value obvious.

Suggestions:

1. Replace the navigation bar with a pale-yellow big dropdown menu and put in all the categories in the original navigation bar, so the users can navigate through webpages more easily.
2. Put the links in the top-right corner near the dropdown menu, so that users can locate all necessary information in one place.
3. Make a close button for the side advertisement box, so that users would not feel like the store is hard-selling their products.



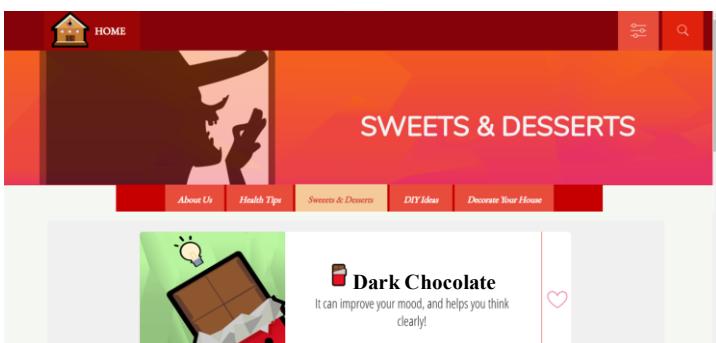
Aesthetics User Testing

In week 9, an aesthetic user testing is conducted with 3 users, and gather valuable feedbacks regarding the aesthetics.

Testing Plan: The feedback I expected to get is as follows:

- “Should add cold colours in the contents to make the website less dull”, since I uses mostly warm colours throughout the website. (e.g. image of dark chocolate uses green)
- “The banner in the home page looks big enough”, or it’s height should be stretched to full screen.

Screenshot of mock-ups used for this test:



The feedback I got is as follows:

- 1. “**Looks kind of empty in the tool bar**, would suggest putting something like a logo.” For this feedback, I also think it is necessary to be consistent in reminding users what website’s brand name is. However, since I have already put a logo image on the left of the tool bar, so I will just **put a text logo in the middle**.
- 2. In the cells, **the font used in the title(Times new roman) doesn’t match with the one used in the description(Open Sans)**. I changed the fonts of the title from Times new Roman to **Helvetica Neue** (for explanation see p.21 bottom part).
- 3. “**The shape of the navigation bar looks a bit short**, it makes the side areas of the website’s overall shape look uneven, like vertically.” About this feedback, I decided to **extend the navigation bar to full width**.
- 4. The expected feedback “The banner in the home page looks big enough” is given, however all 3 users did not think the website should not add too much cold colours as it lead to limited colour contrast to distinguish the elements in the page. (e.g. distinguish the cell image from the navigation bar)

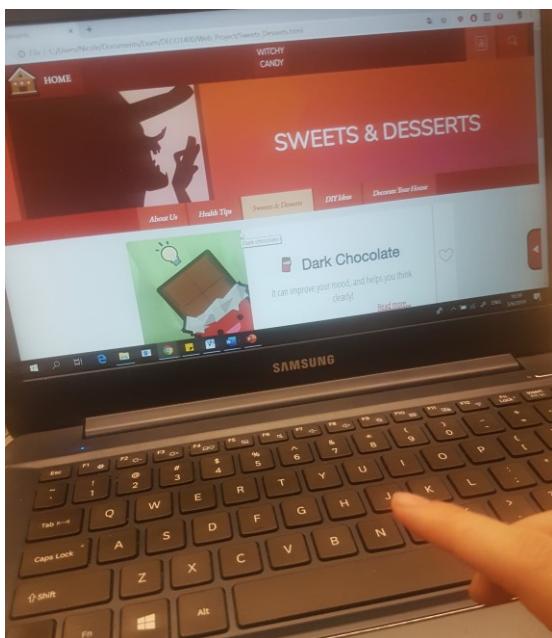


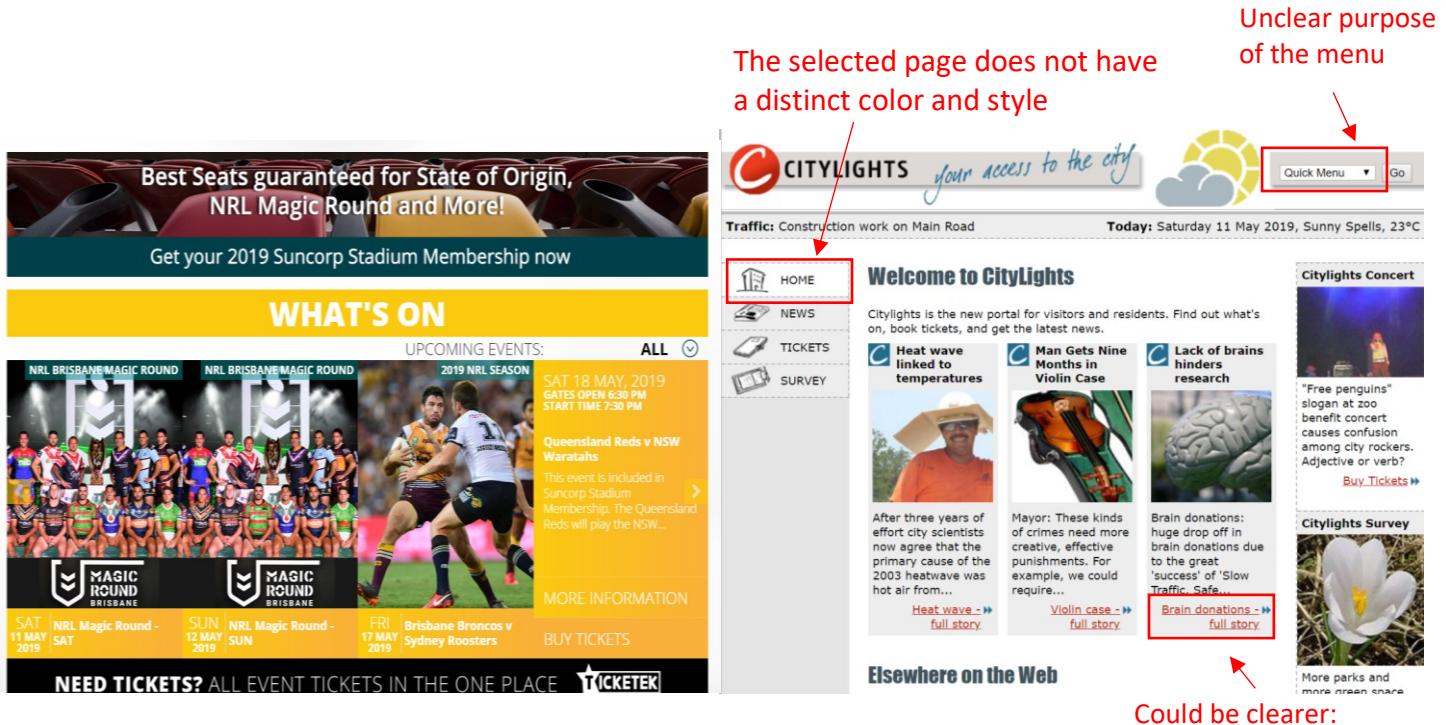
Figure 5 User2 gave other feedbacks after I tried to change according to her feedbacks.

Website Implementation



Accessibility

I have learnt that for a website to be accessible, it should be **perceivable**, **operable**, **understandable** and **robust**. The presenter used Suncorp Stadium (**Suncorp Stadium, n.d.**) as an example to show how a website does **well in being operable** and mediocre in being understandable (e.g. in the orange vertical drop-up menu on the left, the text and button colour **failed to show which button the user is hovering on**). He also used Citylights.com (**Web Accessibility initiative, n.d.**) as a bad example to show website accessibility, the red rectangles are the answers to the guiding question.



The selected page does not have a distinct color and style

Unclear purpose of the menu

Could be clearer:
"Click to see full story"

Suncorp Stadium Website:

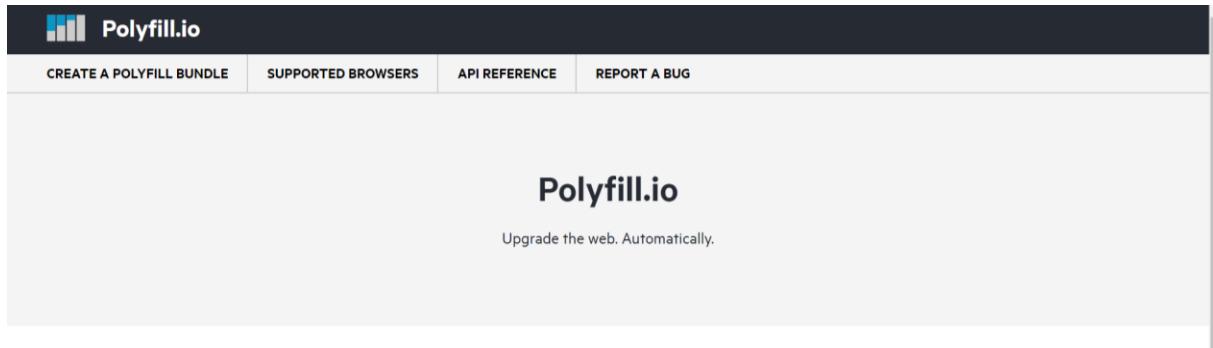
- Header:** Best Seats guaranteed for State of Origin, NRL Magic Round and More!
- Call-to-action:** Get your 2019 Suncorp Stadium Membership now
- Section: WHAT'S ON**
 - Upcoming Events:** ALL
 - Image:** NRL BRISBANE MAGIC ROUND
 - Text:** SAT 18 MAY, 2019 GATES OPEN 6:30 PM START TIME 7:30 PM
 - Text:** Queensland Reds v NSW Waratahs
 - Text:** This event is included in Suncorp Stadium Membership. The Queensland Reds will play the NSW...
 - Buttons:** MORE INFORMATION, BUY TICKETS
- Footer:** NEED TICKETS? ALL EVENT TICKETS IN THE ONE PLACE TICKETEK

Citylights.com Website:

- Header:** CITYLIGHTS your access to the city
- Call-to-action:** Quick Menu Go
- Section: Welcome to CityLights**
 - Menu:** HOME (highlighted with a red box)
 - Links:** NEWS, TICKETS, SURVEY
- Content:**
 - Heat wave linked to temperatures**
 - Man Gets Nine Months in Violin Case**
 - Lack of brains hinders research**
 - After three years of effort city scientists now agree that the primary cause of the 2003 heatwave was hot air from...**
 - Mayor: These kinds of crimes need more creative, effective punishments. For example, we could require...**
 - Violin case - full story**
 - Brain donations - full story**
- Section: Elsewhere on the Web**
 - Free penguins slogan at zoo benefit concert causes confusion among city rockers. Adjective or verb?**
 - Buy Tickets**
 - Citylights Concert**
 - More parks and more green space**

Graceful Degradation & Progressive Enhancement

From the group discussion, I learned that not all devices are designed equal, so a website with graceful degradation should **support old browsers**, at least **with basic functionality**. The presenter used Polyfill.io as a bad example since the website has a lot of play buttons that tries to help blind users to listen to the web content, but there are too many buttons for them to click on.



The screenshot shows the Polyfill.io homepage. At the top, there's a navigation bar with links for "CREATE A POLYFILL BUNDLE", "SUPPORTED BROWSERS", "API REFERENCE", and "REPORT A BUG". Below the navigation, the main heading "Polyfill.io" is displayed with the tagline "Upgrade the web. Automatically." underneath it.

What is Polyfill.io?

It's a service which accepts a request for a set of browser features and returns only the polyfills that are needed by the requesting browser.

Why do I need it?

There are lots of differing browsers and browser versions in use throughout the world, each one has a slightly different set of features to the rest. This can make developing for browsers a difficult task. The latest versions of the popular browsers can do lots of things which older browsers can not – but you may still have to support the older browsers. Polyfill.io makes it simpler to support differing browsers by attempting to recreate the missing features with polyfills: You can make use of the latest and greatest features in browsers which support them and

(As I cannot access to the exact webpage, I could only show screenshot of the main page)

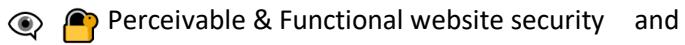
In response to the guiding questions, in order to include graceful degradation and progressive enhancement, **HTML should have fall back**, like including few other “back-up” fonts in case the first one doesn’t work. **CSS should have cascade to** resolve style conflicts. In addition, **size-scaling** could be used to scale the webpage to fit different devices using *media max-width* function in CSS.

In my website, I combine HTML and CSS with JavaScript in the following interactivities:

- Mini game: decorating candy house
I used jQuery to make the HTML content of the “FINISH!” button changed to “CONGRADULATIONA!” after the user has finished the game.
- Fullscreen search dropdown:
I used JavaScript to make the CSS height attribute change from 0% to 100%.
- “Like” button in “Sweets & Desserts”: change background image with jQuery.

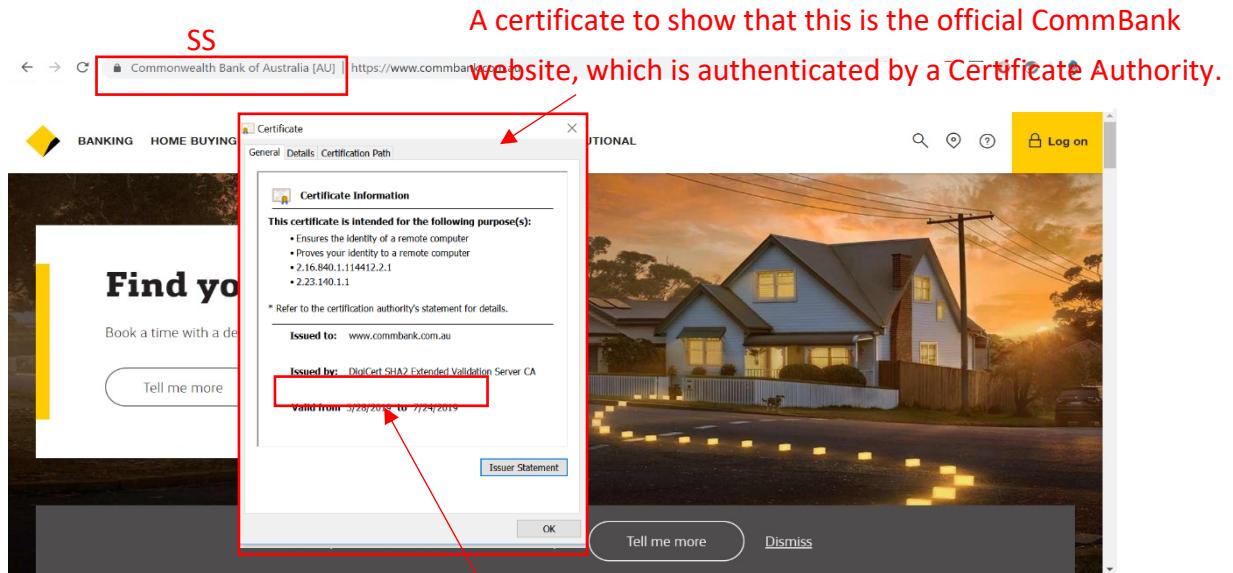
Security & Privacy

Secure website should have



1. SSL (Secure Sockets Layer)

“SSL establishes an encrypted connection between two Internet points”



An expired SSL certificate will force the website to show a page that says “your server connection is not safe”.

An **unencrypted** website is vulnerable to tampering. If someone is sitting between you and the website, they could modify the data the website is sending to you, or modify the data you’re sending to the website, executing a man-in-the-middle attack. The stolen data might be sold or used in ad-targeting. On January of 2018 PokéMon Go was running into expired SSL cert problem, **making the website offline and lead to half an hour service outage (Patrick, 2018)**.

2. Third-party payment gateway



Credit card information is stored securely on the online payment gateway



The gateway could help **authenticating the purchase**, some online stores choose to process payments themselves , which make the website easier to be hacked.

3. Use password to secure users’ account

```
<input pattern = "[0-9a-fA-F]{4,8}" type="password" inputmode="numeric" minlength="8" autocomplete required>
```

■ <https://bumblebeelinens.com>

4.

Professional Design

Succeeds:

- Appears trustworthy by including social proof
- Has contact details for reference in the home page
- About/contact pages easy to find
- Has valid SSL certificate
- Copyrighted recently (meaning the website has the most updated product information)
- Clean design

Fails/Improvement:

- Missing physical address
- Missing store hours (store hours indicates that the store has a fixed operation schedule)
- Popups showing another buyers' status (Marketing interruptions)
- Hidden shipping cost
- Not enough information and customer reviews to guarantee product quality (could include a longer description and a star-rating system)

Guiding Question 1:

What do you think is involved in website security? Have you ever come across a situation that you doubt a website is a fraud/fake?

Guiding Question 2:

Which of the below security measures do you think is the most effective in protecting your personal details? What other security measures can you think of?

- Payment gateway
- Robot Test/CAPTCHA
- Credit Card/Password masking (e.g. card no.: XXXX-XXXX-XXXX-8958)

Privacy

From the discussion, I learnt that there are privacy policy. The presenter uses The Courier Mail as an example to show how a news website present its privacy policy. For example, using **list-view** and **bold font** for easier navigation. **Cookies** are used to facilitate log-in process, remember the choices and actions we did in the previous visits of the website. It is also the key tool to **collect user's personal information**. The information collected are often used to deliver ads that are more relevant to the user's interests or pain points.



News Corp Australia Privacy Policy

Last updated: 19 February 2019

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3. HOW DO WE USE YOUR INFORMATION?
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6. HOW CAN YOU OPT OUT?
7. OTHER IMPORTANT INFORMATION FOR YOU
8. HOW YOU CAN CONTACT US
9. LIST OF INCLUDED COMPANIES

1. INTRODUCTION

In response to the guiding questions, I think private content will be my photo albums, the personal (non-business) contact details and posts shared with friends only. When a website ask me the permission to access personal information, I would usually decline, however the website is trustworthy and personal information is a must, then I will accept.

Other than that, a news website's privacy could be improved through updating or informing users the privacy policy of their website monthly. For instance, the website could put the updated privacy policy in the home page and notify the subscribers of their news through e-mail. I think a website should track their users' behaviors for target-advertising especially if they are running a business. They have the corporate responsibility to ensure quality content and experience of the website. On the other hand, the website, if money transactions or copyrights are involved, will have the responsibility to protect the collected information. It is because the cost of losing the financial information is high. Lastly, I will protect my digital fingerprint by enabling ad-block when surfing the Internet.

Hi-Fi User Testing

During week 13 tutorial, I have conducted a hi-fi user test with 3 classmates, and they have provided concrete feedback pertaining to the designing of the layout.

The test will let users to use the draft version of the website on a laptop firsthand, so as to evaluate its usability, functionality, overall user experience etc..

Hi-fi User testing plan

I have asked the users to

1. DO: Find the benefits for the sweet “Dark Chocolate”
WATCH: fluency of users using cell’s “Read More” link
ASK: “What makes you think the ‘spoon button’ can/cannot show you the ‘related recipes’?”
2. DO: Find the candy house and decorate it.
WATCH: How user play the “decorate your house” page.
ASK: “From 1 for ‘will not play again’ to 5 for ‘100% will play again’, how do you rate this mini game?”

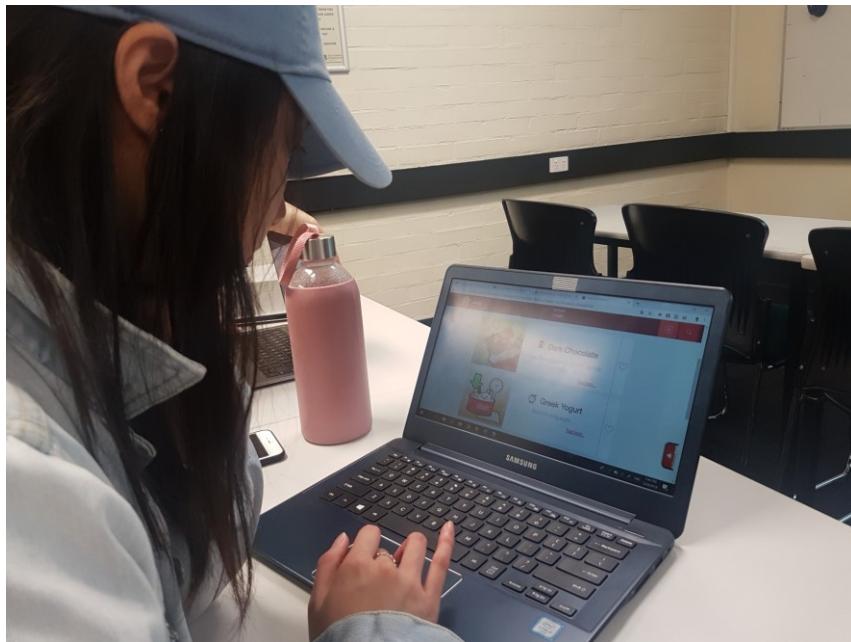


Figure 4 User 1 performing hi-fi user testing.

3. User3 in task 3, suggests changing the “Thank you for your support” text in contact information window, since users haven’t really supported the website yet when they are just looking for contacts. Therefore, **I changed it to “We are looking for feedbacks!”**

Design Report for Website Design & Implementation Assessment

3. DO: Find the contact information
WATCH: If they understand the meaning of the icon in the contact button.
ASK: “Why do you find it hard/easy to find the contact information?”
4. DO: Find all the hidden candies in the webpage
WATCH: whether they understand that there are hidden candies in other pages.
ASK: “Which element(s) in the page makes you think there are candies in other pages?”
- . DO: Find a health tip in this page.
WATCH: If users can search with the search function.
ASK: “From 1 for very difficult to use, to 5 for very easy to use, how do you rate the search function?”

Feedbacks

1. User 1 rated 4.5 for the hidden candies mini-game and suggests **adding a reset button** for the user to play again. It makes the flow of the mini-game smoother. Thus I added a reset button.
2. User 2 rated 4 for the search function and suggest adding a text beside the result titles to show that the search returns items that has the word. It makes the function more understandable for users, so I added a text near the search results.

Conclusion

In conclusion, the interactive website WitchyCandy.com is successfully created from scratch, thanks to the help and feedbacks from tutors, the lecturer and testing users.

There are several researches and tests conducted, to support and modify the website design decisions. The design process started with a **research on the target audience**. In the lecture, I have learnt concepts such as primary/secondary users, basic demographics and context of use. It clarifies the users' requirements for later decisions.

The process is furthered with a **discussion** and **card sorting test**. They contributed mainly to my sitemap, story board, and decision of a local navigation for navigation systems. Through another **discussion about visual organization**, I decided to adjust the font sizes, colours and horizontal separators to distinguish the importance of the basic elements in the website (Title, web contents, articles etc.).

After that, **paper prototypes** and **5 wireframes** are made to finalize the brief information architecture, interactivity and functionality of different webpages. In order to make it more user friendly, **paper prototypes tests** are conducted with 3 users and received feedbacks (Home button and “Read more” link).

In addition, **discussions pertaining to accessibility, graceful degradation progressive enhancement, security and privacy** helps me better understand how to maintain long term quality of a website. (SSL certificate, fall back fonts etc.)

Finally, **aesthetics** and **hi-fi user test** are conducted with 3 users each to receive feedback on the aesthetics of the website. The feedbacks have contributed to the overall and final design (fonts combination in title and their description, usage of colour in toolbar and navigation bar buttons, reset button in mini-game)

After 13 weeks of effort, the design process is finished and a complete website is born.

Course Reflection

During the course, I found that my strategies has changed from programming-focused, to everything-focused. It may because the website is for kids, so colours and art styles are as important as functionality in creating a learning atmosphere.

Other than that, I find the design theories are much more useful than sole programming. Unlike computer systems, website must rely on readable GUI to present information. Not only the GUI has to be comprehensible, but it should also be professional enough to attract them.

If I had the chance to redo the project, I will draft out the website on an A4 paper first and mark all the requirements on this one paper. It is because I found that the requirements of this assignment are spread across the course page, from weekly tutorial practical pages, to the assignment brief page. Therefore, after few weeks, I have to keep going back and forth to pages to check whether I have met all the requirements. However, this could also be a chance to reflect on my ability to organize the learning materials, and apply this strategy in future courses.

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