Module Code & Module Title

CS5004NI Emerging Programming Platforms and Technologies

Assessment Weightage & Type

30% Individual Coursework

Year and Semester

2019-20 Autumn / 2020-21 Spring

Student Name: Ashok Lama

London Met ID: 20048836

College ID: NP01CP4S20119

Assignment Due Date: 5th May

Assignment Submission Date: 3rd May

I confirm that I understand my coursework needs to be submitted online via Google Classroom under the relevant module page before the deadline in order for my assignment to be accepted and marked. I am fully aware that late submissions will be treated as non-submission and a marks of zero will be awarded.

Table of Contents

Table of Figures

Table of Tables

1 Introduction

This is the second coursework of the module “Emerging Programming” and it covers 30% of the entire module. This coursework requires to build the XML, CSS, and Schema for the gift store in London. The gift store model contains the proper detail of the store like name, address, telephone number, URL, and logo. The gift store model contains three sections. The first section contains the header of the page. The second section contains the store description and product list, and last section contains the footer of the page. The tree diagram of the store is built before the development of the store model.

The header contains the page navigator and cart and user profile section. The cart section lists the product added to the cart inside the dropdown menu. The profile of the user contains the setting for the user to modify their account and manage their products. The cart has the feature to remove the added product ad go to the cart page. The user profile contains the user details like account information, wish lists, orders, and new offers. The footer section contains the shortcut links for the customer services and contacts. Footer contains the short brief of the store and the contact details regarding the policy of the store. The footer also contains the social network links of the footer.

The content section of the page contains the description of the page and the products list. The description section contains the slider and the store info. The store info contains the location, contact details, store description, and the logo of the store. The slider contains the new offers and the best deals of the store. The products section contains the product list along with their image and product specification. The product has the detailed specification on the right and the product preview on the left. The product can be either purchased or added to cart or added to the wish lists.

2 XML Document

XML (Extensible Markup Language) is a markup language which is like HTML but designed for storing and transporting data being self-descriptive. XML file has the .xml extension and the XML document contains the main root tag which contains all the elements. XML does not have any pre-defined tag all the tags is user defined. XML does not do anything, but it acts as a medium for data sharing without losing any data since it stores data in plain text.

2.1 List of Data

For building this store model many elements and attributes are used. The elements mostly used are complex type element in the store model. The elements used and attributes are listed below with their name type, data type, occurrence, use, default value, and fixed value.

2.1.1 List of Elements

List Of Elements	Element Type	Element Data	Occurrence
Lumrey_store	Complex Type	Child Element	Only once
Store_heading	Complex Type	Child Element	Only once
heading_logo	Simple Type	Empty Element	Only once
Heading_link_container	Complex Type	Child Element	Only once
Heading_link	Complex Type	String	One or more
Heading_info	Complex Type	Child Element	Only once
basket	Complex Type	Child Element	Only once
Basket_logo	Simple Type	Empty Element	Only once
Basket_total	Simple Type	Positive Integer	Only once
Basket_drop_content	Complex Type	Child Element	Only once
Basket_item	Complex Type	Child Element	Zero or more

Cart_image	Complex Type	Empty Element	Only once
Cart_product_name	Simple Type	String	Only once
Cart_remove_button	Simple Type	Empty Element	Only once
Go_cart_button	Simple Type	String	Only once
User_profile	Complex Type	Child Element	Only once
User_image	Simple Type	Empty Element	Only once
User_drop_content	Complex Type	Child Element	Only once
Drop_item	Complex Type	Child Element	One or more
Drop_icon	Complex Type	Empty Element	Only once
Store_description	Complex Type	Child Element	Only once
Description_heading	Simple Type	String	Only once
Description_para	Simple Type	String	Only once
Description_button	Simple Type	String	Only once
contacts	Complex Type	Child Element	Only once
address	Complex Type	Child Element	Only once
Address_icon	Simple Type	Empty Element	Only once
telephone	Complex Type	Child Element	Only once
telephone_icon	Simple Type	Empty Element	Only once
Social_contacts	Complex Type	Child Element	Only once
contact	Complex Type	Empty Element	One or more
slider	Complex Type	Child Element	One or more
Slider_image	Complex Type	Empty Element	Only once
Slider_heading	Simple Type	String	Only once

Slider_para	Simple Type	String	Only once
Slider_btn	Simple Type	String	Only once
Store_products	Complex Type	Child Element	Only once
product	Complex Type	Child Element	One or more
Product_image	Simple Type	Empty Element	Only once
Product_preview	Complex Type	Child Element	Only once
Preview_icon	Simple Type	Empty Element	Only once
Product_wishlist	Complex Type	Child Element	Only once
wishlist_icon	Simple Type	Empty Element	Only once
Buy_button	Simple Type	String	Only once
Add_cart_button	Simple Type	String	Only once
Specification_container	Complex Type	Child Element	One or more
Discount_option	Complex Type	Child Element	Zero or one
Specification_question	Simple Type	String	Only once
Specification_answer	Simple Type	String	Only once
Discount	Simple Type	String	Only once
Discount_rate	Simple Type	String	Only once
Prev_btn	Simple Type	String	Only once
Next_btn	Simple Type	String	Only once
page	Simple Type	Non-negative integer	Only once
Discount_rate	Simple Type	String	Only once
Footer_logo	Simple Type	Empty Element	Only once
Footer_description	Simple Type	String	Only once

Section_heading	Simple Type	String	Only once
Section_lists	Complex Type	Child Element	Only once
Section_list	Simple Type	String	Only once
Contact_us	Complex Type	Child Element	Only once
Footer_details	Complex Type	Child Element	One or more
Footer_icon	Complex Type	Empty Element	Only once

Table 1: List of Elements

2.1.2 List of Attributes

List of Attributes	Data type	Default	Fixed	Use
status	Boolean	false	-	Optional
cartProduct	String	-	-	Required
content	String	-	-	Required
Place	String	Top	-	Optional
position	Positive integer	-	-	Required
Medium	String	-	-	Required
Icon	String	lumrey		Optional
email	Boolean	false	-	Optional
product	String	-	-	Optional

Table 2: List of Attributes

2.2 Tree Diagram

The structure of an XML document is self-descriptive. An XML tree is the result of it forming a tree structure. The tree structure makes describing an XML document simple. A tree structure is made up of root (parent) elements, child elements, and so on. Starting at the root, traversing all successive branches, sub-branches, and leaf nodes is relatively simple. For the coursework XML document, the tree diagram is made.

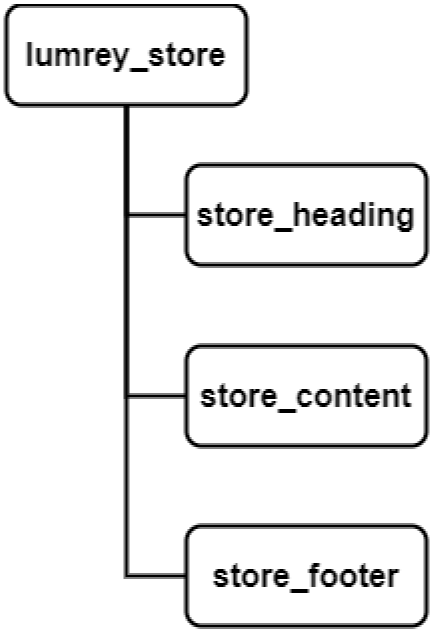


Figure 1: Tree Diagram of the XML document

Since the XML document is very big so the tree diagram is further break down into three parts, they are store_heading, store_content, and store_footer. The tree diagram of child element inside these elements are listed below:

2.2.1 Store Heading Tree diagram

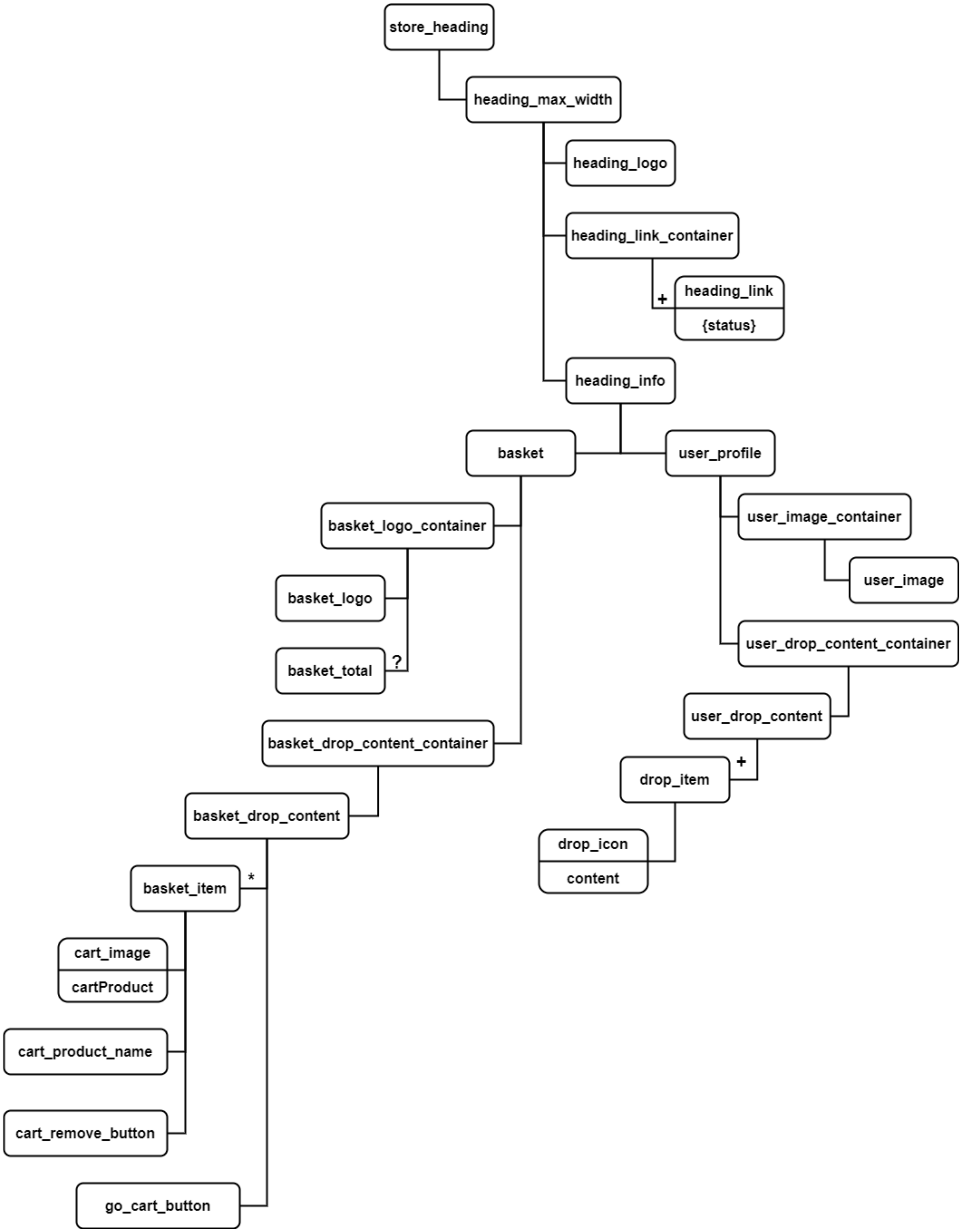


Figure 2: Store Heading tree diagram

2.2.2 Store Content tree diagram

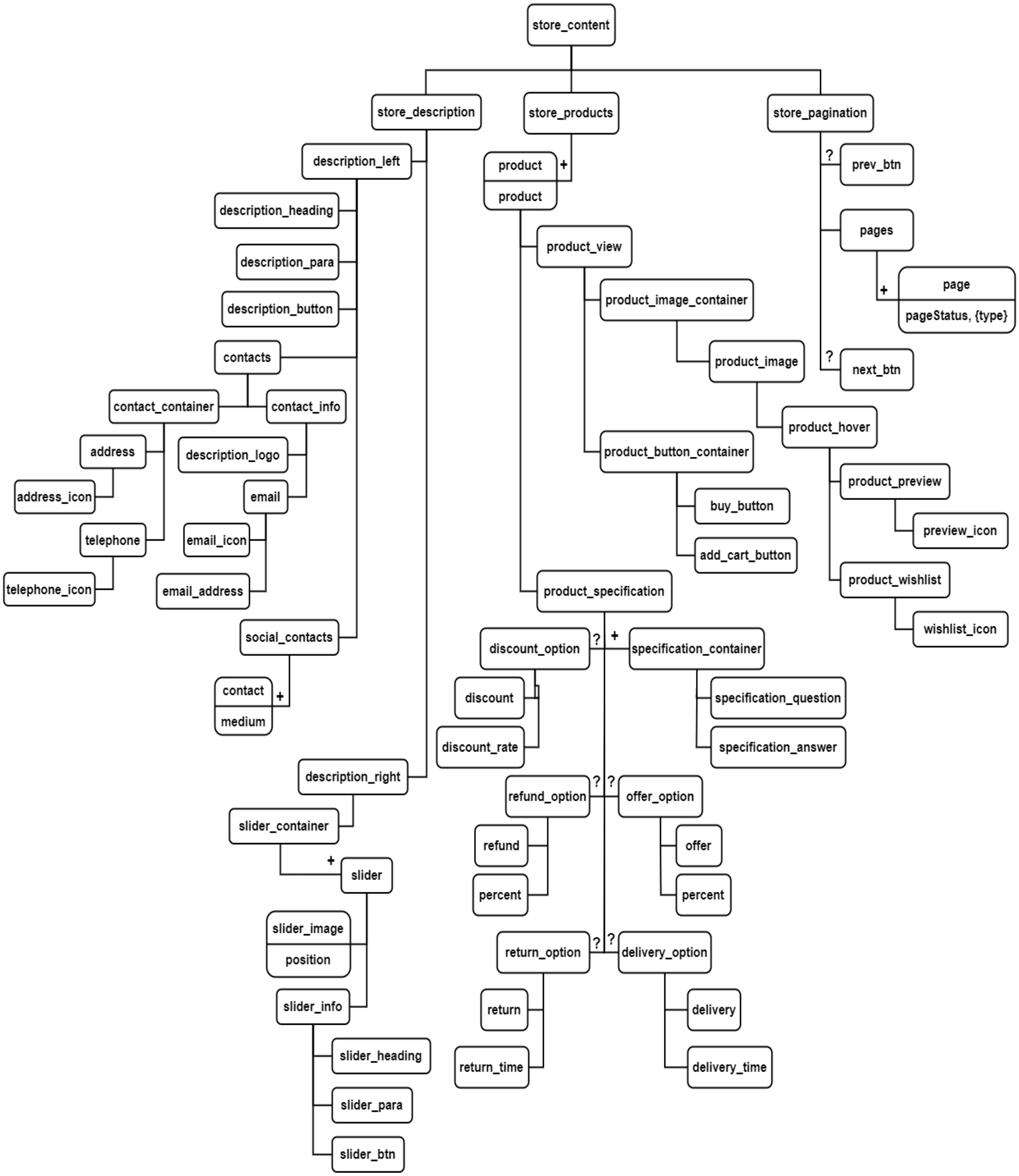


Figure 3: Store Content Tree diagram

2.2.3 Store Footer tree diagram

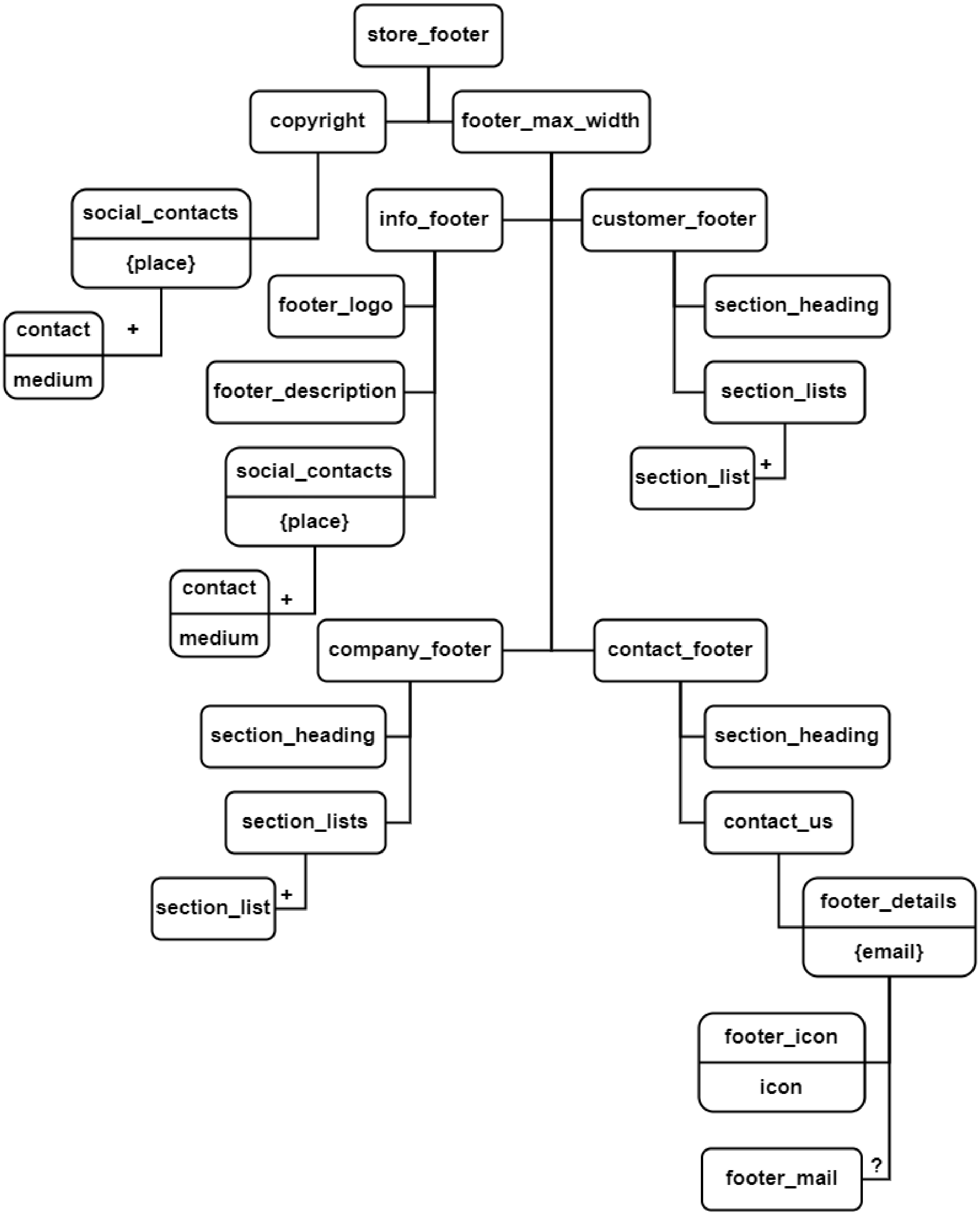


Figure 4: Footer Tree diagram

2.3 XML Code

```xml
<?xml version="1.0" encoding="UTF-8"?>

<?xml-stylesheet href="./catalog_20048836.css" type="text/css"?>

<lumrey_store xsi:noNamespaceSchemaLocation="catalog_20048836.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <store_heading>
        <heading_max_width>
            <heading_logo/>
            <heading_link_container>
                <heading_link status="active">Home</heading_link>
                <heading_link>About us</heading_link>
                <heading_link>Services</heading_link>
                <heading_link>Contact us</heading_link>
                <heading_link>Checkout</heading_link>
            </heading_link_container>
            <heading_info>
                <basket>
                    <basket_logo_container>
                        <basket_logo/>
                        <basket_total>3</basket_total>
                    </basket_logo_container>

                    <basket_drop_content_container>
                        <basket_drop_content>
                            <basket_item>
                                <cart_image cartProduct="myntra" />
                                <cart_product_name>Myntra Digital Gift Card 20% off discount in any product</cart_product_name>
                                <cart_remove_button/>
                            </basket_item>
                            <basket_item>
                <cart_image cartProduct="bigBazar" />
                <cart_product_name>Big Bazaar Gigital Gift Card Rs 20,000 free purchase</cart_product_name>
                <cart_remove_button/>
              </basket_item>
              <basket_item>
                <cart_image cartProduct="archies" />
                <cart_product_name>Archies Physical Gift</cart_product_name>
                <cart_remove_button/>
              </basket_item>
              <go_cart_button>Go To Cart</go_cart_button>
            </basket_drop_content>
          </basket_drop_content_container>
        </basket>
        <user_profile>
          <user_image_container>
            <user_image/>
          </user_image_container>
          <user_drop_content_container>
            <user_drop_content>
              <drop_item>
                <drop_icon content="user"/>
                My Profile
              </drop_item>
              <drop_item>
                <drop_icon content="wishlist"/>
                Wishlists
              </drop_item>
              <drop_item>
                <drop_icon content="order"/>
                Orders
              </drop_item>
              <drop_item>
                <drop_icon content="offer"/>
                Offers
              </drop_item>
              <drop_item>
                <drop_icon content="setting"/>
                Setting
              </drop_item>
              <drop_item>
                <drop_icon content="logout"/>
                Logout
              </drop_item>
            </user_drop_content>
          </user_drop_content_container>
        </user_profile>
      </heading_info>
    </heading_max_width>
  </store_heading>
  <store_content>
    <store_description>
      <description_left>
        <description_heading>Lumrey Gift Store</description_heading>
        <description_para>We are the top seller of the gift cards. We provide the best deals in every product we sell. Having the customer satisfaction is our main motto. We aim to provide the best service for all customer. We are one of the best store for shipping and delivery.</description_para>
        <description_button>Learn More</description_button>
        <contacts>
          <contact_container>
            <address><address_icon/>Kathmandu, Nepal</address>
            <telephone><telephone_icon/>+977 1234 5678</telephone>
          </contact_container>

          <contact_info>
            <description_logo/>
            <email><email_icon/><email_address>moktashok@gmail.com</email_address></email>
          </contact_info>
        </contacts>
        <social_contacts>
          <contact medium="facebook" />
          <contact medium="instagram" />
            <contact medium="twitter" />
            <contact medium="whatsapp" />
            <contact medium="tiktok" />
          </social_contacts>
        </description_left>
        <description_right>
          <slider_container>
            <slider>
              <slider_image position="1" />
              <slider_info>
                <slider_heading>Amazon Black Friday Sale</slider_heading>
                <slider_para>
                  Here the black friday sale get your best deals at every emazon product. Grab all the products for reasonable and best quality at amazon.
                </slider_para>
                <slider_btn>Explore ></slider_btn>
              </slider_info>
            </slider>
            <slider>
              <slider_image position="2" />
              <slider_info>
                <slider_heading>Christmas Thanks Giving</slider_heading>
                <slider_para>
                  No wait for Black Friday sale grab all the products in lumrey gift store for reasonable price. This is the offer for the christmas grab your gifts for christmas Merry Christmas.
                </slider_para>
                <slider_btn>Explore ></slider_btn>
```

```
                </slider_info>
              </slider>
              <slider>
                <slider_image position="3" />
                <slider_info>
                  <slider_heading>Black Friday Sale</slider_heading>
                  <slider_para>
                    Enjoy your one day sale in lumrey Store. Get all the deals at the reasonable prices. Get your best deals for today and get the 25% cashback for every online purchase.
                  </slider_para>
                  <slider_btn>Explore ></slider_btn>
                </slider_info>
              </slider>
            </slider_container>
          </description_right>
        </store_description>
        <store_products>
          <product product="product1">
            <product_view>
              <product_image_container>
                <product_image/>
                <product_hover>
                  <product_preview><preview_icon/> Preview</product_preview>
                  <product_wishlist><wishlist_icon/> Wishlist</product_wishlist>
                </product_hover>
              </product_image_container>
              <product_button_container>
                <buy_button>Purchase</buy_button>
                <add_cart_button>Add to Cart</add_cart_button>
              </product_button_container>
            </product_view>
            <product_specification>
              <specification_container>
                <specification_question>Name : </specification_question>
                <specification_answer>Netflix Gift Card</specification_answer>
              </specification_container>
              <specification_container>
                <specification_question>Brand : </specification_question>
                <specification_answer>Netflix</specification_answer>
              </specification_container>
              <specification_container>
                <specification_question>Type : </specification_question>
                <specification_answer>Digital</specification_answer>
              </specification_container>
              <specification_container>
                <specification_question>Validity : </specification_question>
                <specification_answer>6 Months</specification_answer>
              </specification_container>
              <specification_container>
                <specification_question>Maximum User : </specification_question>
                <specification_answer>4</specification_answer>
              </specification_container>
              <specification_container>
                <specification_question>Accepted For : </specification_question>
                <specification_answer>Bill Payment</specification_answer>
              </specification_container>
              <specification_container>
                <specification_question>Delivery : </specification_question>
                <specification_answer>Netflix Account</specification_answer>
              </specification_container>
              <specification_container>
                <specification_question>Denomination : </specification_question>
                <specification_answer>$ 120</specification_answer>
              </specification_container>
              <discount_option>
                <discount>Discount : </discount>
                <discount_rate>25%</discount_rate>
              </discount_option>
```

```
      </product_specification>
    </product>
    <product product="product2">
      <product_view>
        <product_image_container>
          <product_image/>
          <product_hover>
            <product_preview><preview_icon/> Preview</product_preview>
            <product_wishlist><wishlist_icon/> Wishlist</product_wishlist>
          </product_hover>
        </product_image_container>
        <product_button_container>
          <buy_button>Purchase</buy_button>
          <add_cart_button>Add to Cart</add_cart_button>
        </product_button_container>
      </product_view>
      <product_specification>
        <specification_container>
          <specification_question>Name : </specification_question>
          <specification_answer>Itunes Gift Card</specification_answer>
        </specification_container>
        <specification_container>
          <specification_question>Brand : </specification_question>
          <specification_answer>Apple</specification_answer>
        </specification_container>
        <specification_container>
          <specification_question>Type : </specification_question>
          <specification_answer>Physical</specification_answer>
        </specification_container>
        <specification_container>
          <specification_question>Validity : </specification_question>
          <specification_answer>1 Year</specification_answer>
        </specification_container>
        <specification_container>
```

```
          <specification_question>Maximum User : </specification_question>
          <specification_answer>1</specification_answer>
        </specification_container>
        <specification_container>
          <specification_question>Accepted For : </specification_question>
          <specification_answer>Apple Product</specification_answer>
        </specification_container>
        <specification_container>
          <specification_question>Delivery : </specification_question>
          <specification_answer>Home</specification_answer>
        </specification_container>
        <specification_container>
          <specification_question>Denomination : </specification_question>
          <specification_answer>$ 50</specification_answer>
        </specification_container>
        <offer_option>
          <offer>Offer : </offer>
          <percent>25% Cash Back</percent>
        </offer_option>
      </product_specification>
    </product>
    <product product="product3">
      <product_view>
        <product_image_container>
          <product_image/>
          <product_hover>
            <product_preview><preview_icon/> Preview</product_preview>
            <product_wishlist><wishlist_icon/> Wishlist</product_wishlist>
          </product_hover>
        </product_image_container>
        <product_button_container>
          <buy_button>Purchase</buy_button>
          <add_cart_button>Add to Cart</add_cart_button>
        </product_button_container>
```

```
</product_view>
<product_specification>
  <specification_container>
    <specification_question>Name : </specification_question>
    <specification_answer>Google Play</specification_answer>
  </specification_container>
  <specification_container>
    <specification_question>Brand : </specification_question>
    <specification_answer>Google</specification_answer>
  </specification_container>
  <specification_container>
    <specification_question>Type : </specification_question>
    <specification_answer>Digital</specification_answer>
  </specification_container>
  <specification_container>
    <specification_question>Validity : </specification_question>
    <specification_answer>7 Months</specification_answer>
  </specification_container>
  <specification_container>
    <specification_question>Maximum User : </specification_question>
    <specification_answer>2</specification_answer>
  </specification_container>
  <specification_container>
    <specification_question>Accepted For : </specification_question>
    <specification_answer>Playstore Purchase</specification_answer>
  </specification_container>
  <specification_container>
    <specification_question>Delivery : </specification_question>
    <specification_answer>G-Mail</specification_answer>
  </specification_container>
  <specification_container>
    <specification_question>Denomination : </specification_question>
    <specification_answer>$ 50</specification_answer>
  </specification_container>
```

```
        <refund_option>
          <refund>Refund Policy : </refund>
          <percent>70% cash back</percent>
        </refund_option>
      </product_specification>
    </product>
    <product product="product4">
      <product_view>
        <product_image_container>
          <product_image/>
          <product_hover>
            <product_preview><preview_icon/> Preview</product_preview>
            <product_wishlist><wishlist_icon/> Wishlist</product_wishlist>
          </product_hover>
        </product_image_container>
        <product_button_container>
          <buy_button>Purchase</buy_button>
          <add_cart_button>Add to Cart</add_cart_button>
        </product_button_container>
      </product_view>
      <product_specification>
        <specification_container>
          <specification_question>Name : </specification_question>
          <specification_answer>Roblox Card</specification_answer>
        </specification_container>
        <specification_container>
          <specification_question>Brand : </specification_question>
          <specification_answer>Roblox</specification_answer>
        </specification_container>
        <specification_container>
          <specification_question>Type : </specification_question>
          <specification_answer>Physical</specification_answer>
        </specification_container>
        <specification_container>
```

```
          <specification_question>Validity : </specification_question>
          <specification_answer>11 Months</specification_answer>
        </specification_container>
        <specification_container>
          <specification_question>Maximum User : </specification_question>
          <specification_answer>1</specification_answer>
        </specification_container>
        <specification_container>
          <specification_question>Accepted For : </specification_question>
          <specification_answer>Game Purchase</specification_answer>
        </specification_container>
        <specification_container>
          <specification_question>Delivery : </specification_question>
          <specification_answer>Home</specification_answer>
        </specification_container>
        <specification_container>
          <specification_question>Denomination : </specification_question>
          <specification_answer>$ 50</specification_answer>
        </specification_container>
        <delivery_option>
          <delivery>Delivery Time : </delivery>
          <delivery_time>3 Days</delivery_time>
        </delivery_option>
      </product_specification>
    </product>
    <product product="product5">
      <product_view>
        <product_image_container>
          <product_image/>
          <product_hover>
            <product_preview><preview_icon/> Preview</product_preview>
            <product_wishlist><wishlist_icon/> Wishlist</product_wishlist>
          </product_hover>
        </product_image_container>
        <product_button_container>
          <buy_button>Purchase</buy_button>
          <add_cart_button>Add to Cart</add_cart_button>
        </product_button_container>
      </product_view>
      <product_specification>
        <specification_container>
          <specification_question>Name : </specification_question>
          <specification_answer>Amazon.com eGift Card</specification_answer>
        </specification_container>
        <specification_container>
          <specification_question>Brand : </specification_question>
          <specification_answer>Amazon</specification_answer>
        </specification_container>
        <specification_container>
          <specification_question>Type : </specification_question>
          <specification_answer>Digital</specification_answer>
        </specification_container>
        <specification_container>
          <specification_question>Validity : </specification_question>
          <specification_answer>2 Months</specification_answer>
        </specification_container>
        <specification_container>
          <specification_question>Maximum User : </specification_question>
          <specification_answer>1</specification_answer>
        </specification_container>
        <specification_container>
          <specification_question>Accepted For : </specification_question>
          <specification_answer>Online Payment</specification_answer>
        </specification_container>
        <specification_container>
          <specification_question>Delivery : </specification_question>
          <specification_answer>G-Mail</specification_answer>
        </specification_container>
```

```
            <specification_container>
              <specification_question>Denomination : </specification_question>
              <specification_answer>$ 50</specification_answer>
            </specification_container>
            <return_option>
              <return>Return Policy : </return>
              <return_time>Within 3 Days</return_time>
            </return_option>
          </product_specification>
        </product>
      </store_products>

      <store_pagination>
        <prev_btn>Prev</prev_btn>
        <pages>
          <page>1</page>
          <page pageStatus="active">2</page>
          <page>3</page>
          <page type="continue">...</page>
          <page>10</page>
        </pages>
        <next_btn>Next</next_btn>
      </store_pagination>
    </store_content>

    <store_footer>
      <footer_max_width>
        <info_footer>
          <footer_logo/>
          <footer_description>
            Lumret Gift Store is the Nepal's top gift store which gives the user the best product in reasonable price.
          </footer_description>
          <social_contacts place="footer">
            <contact medium="facebook" />
            <contact medium="instagram" />
            <contact medium="twitter" />
            <contact medium="whatsapp" />
            <contact medium="tiktok" />
          </social_contacts>
        </info_footer>
        <customer_footer>
          <section_heading>CUSTOMER SERVICE</section_heading>
          <section_lists>
            <section_list>Customer Support</section_list>
            <section_list>Affiliate Program</section_list>
            <section_list>Blog</section_list>
            <section_list>Contact us</section_list>
            <section_list>Customer Care</section_list>
          </section_lists>
        </customer_footer>
        <company_footer>
          <section_heading>INFORMATION</section_heading>
          <section_lists>
            <section_list>Privacy</section_list>
            <section_list>FAQ</section_list>
            <section_list>Return and Refund Policy</section_list>
            <section_list>Terms and Conditions</section_list>
            <section_list>Careers</section_list>
            <section_list>About Us</section_list>
          </section_lists>
        </company_footer>
        <contact_footer>
          <section_heading>
            CONTACT US
          </section_heading>
          <contact_us>
            <footer_details><footer_icon icon="phone" />1-800-660-0464</footer_details>
```

```
                    <footer_details email="true"><footer_icon icon="mail" /><footer_mail>support@lumrey.store</footer_mail></footer_details>
                    <footer_details><footer_icon icon="location" />Nepal Kathmandu</footer_details>
                    <footer_details><footer_icon icon="time" />Mon-Fri, 9AM - 10PM</footer_details>
                </contact_us>
            </contact_footer>
        </footer_max_width>

        <copyright>
            Copyright © 2021 Lumrey Store Ashok Lama
            <social_contacts place="copyright">
                <contact medium="facebook" />
                <contact medium="instagram" />
                <contact medium="twitter" />
                <contact medium="whatsapp" />
                <contact medium="tiktok" />
            </social_contacts>
        </copyright>
    </store_footer>
</lumrey_store>
```

3 Schema

XML Schema Definition is another name for XML Schema (XSD). It is used to define and validate XML data's structure and content. The components, properties, and data types are defined by the XML standard. Namespaces are supported by the Schema element. It is comparable to a database schema, which explains how the data in a database is organized. It is like DTD, except it gives developers greater control over the XML structure. The XML schema language is a way of specifying constraints in XML documents.

```xml
<?xml version="1.0"?>

<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeFormDefault="unqualified"
elementFormDefault="qualified" >
    <xs:element name="lumrey_store">
        <xs:complexType>
            <xs:sequence>
                <xs:element ref="store_heading" />
                <xs:element ref="store_content" />
                <xs:element ref="store_footer" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>

    <xs:element name="store_heading">
        <xs:complexType>
            <xs:sequence>
                <xs:element ref="heading_max_width" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>

    <xs:element name="heading_max_width">
        <xs:complexType>
            <xs:sequence>
                <xs:element ref="heading_logo" />
                <xs:element ref="heading_link_container" />
                <xs:element ref="heading_info" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>

    <xs:element name="heading_logo" />

    <xs:element name="heading_link_container">
        <xs:complexType>
            <xs:sequence>
                <xs:element ref="heading_link" minOccurs="0" maxOccurs="unbounded" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>

    <xs:element name="heading_link">
        <xs:complexType>
            <xs:simpleContent>
                <xs:extension base="xs:string">
                    <xs:attribute ref="status" use="optional" default="false" />
                </xs:extension>
            </xs:simpleContent>
        </xs:complexType>
    </xs:element>

    <xs:attribute name="status" type="xs:boolean" />

    <xs:element name="heading_info">
        <xs:complexType>
            <xs:sequence>
                <xs:element ref="basket" />
                <xs:element ref="user_profile" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>

    <xs:element name="basket">
```

```
        <xs:complexType>
            <xs:sequence>
                <xs:element ref="basket_logo_container" />
                <xs:element ref="basket_drop_content_container" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>

    <xs:element name="basket_logo_container">
        <xs:complexType>
            <xs:sequence>
                <xs:element ref="basket_logo" />
                <xs:element ref="basket_total" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>

    <xs:element name="basket_logo" />
    <xs:element name="basket_total" type="xs:nonNegativeInteger" />

    <xs:element name="basket_drop_content_container">
        <xs:complexType>
            <xs:sequence>
                <xs:element ref="basket_drop_content" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>

    <xs:element name="basket_drop_content">
        <xs:complexType>
            <xs:sequence>
                <xs:element ref="basket_item" minOccurs="0" maxOccurs="unbounded" />
                <xs:element ref="go_cart_button" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>

```

```
<xs:element name="basket_item">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="cart_image" />
            <xs:element ref="cart_product_name" />
            <xs:element ref="cart_remove_button" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="cart_image">
    <xs:complexType>
        <xs:simpleContent>
            <xs:extension base="xs:string">
                <xs:attribute ref="cartProduct" use="required" />
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
</xs:element>

<xs:attribute name="cartProduct" >
    <xs:simpleType>
        <xs:restriction base="xs:string">
            <xs:pattern value="([a-zA-Z0-9])*"/>
        </xs:restriction>
    </xs:simpleType>
</xs:attribute>

<xs:element name="cart_product_name">
    <xs:simpleType>
        <xs:restriction base="xs:string">
            <xs:minLength value="5"/>
            <xs:maxLength value="200"/>
        </xs:restriction>
    </xs:simpleType>
</xs:element>

```

```
<xs:element name="cart_remove_button" />
<xs:element name="go_cart_button" type="xs:string" />

<xs:element name="user_profile">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="user_image_container" />
            <xs:element ref="user_drop_content_container" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="user_image_container" />

<xs:element name="user_drop_content_container">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="user_drop_content" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="user_drop_content">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="drop_item" minOccurs="0" maxOccurs="unbounded" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="drop_item">
    <xs:complexType mixed="true">
        <xs:sequence>
            <xs:element ref="drop_icon" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
```

```

<xs:element name="drop_icon">
    <xs:complexType mixed="true">
        <xs:attribute ref="content" use="required" />
    </xs:complexType>
</xs:element>

<xs:attribute name="content" type="xs:string" />

<xs:element name="store_content">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="store_description" />
            <xs:element ref="store_products" />
            <xs:element ref="store_pagination" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="store_description">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="description_left" />
            <xs:element ref="description_right" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="description_left">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="description_heading" />
            <xs:element ref="description_para" />
            <xs:element ref="description_button" />
            <xs:element ref="contacts" />
            <xs:element ref="social_contacts" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="description_heading" type="xs:string" />
<xs:element name="description_para" type="xs:string" />
<xs:element name="description_button" type="xs:string" />

<xs:element name="contacts">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="contact_container" />
            <xs:element ref="contact_info" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="contact_container">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="address" />
            <xs:element ref="telephone" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="address">
    <xs:complexType mixed="true">
        <xs:sequence>
            <xs:element ref="address_icon" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="address_icon" />

<xs:element name="telephone">
    <xs:complexType mixed="true">
        <xs:sequence>
            <xs:element ref="telephone_icon" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="contact_info">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="description_logo" />
            <xs:element ref="email" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="telephone_icon" />

<xs:element name="email">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="email_icon" />
            <xs:element ref="email_address" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="email_icon" />

<xs:element name="email_address">
    <xs:simpleType>
        <xs:restriction base="xs:string">
            <xs:pattern value="[A-Za-z0-9]+@+gmail+.com|[A-Za-z0-9]+@+yahoo+.com"/>
        </xs:restriction>
    </xs:simpleType>
</xs:element>

<xs:element name="description_logo" />
```

```

<xs:element name="social_contacts">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="contact" minOccurs="0" maxOccurs="unbounded" />
        </xs:sequence>
        <xs:attribute ref="place" />
    </xs:complexType>
</xs:element>

<xs:element name="contact">
    <xs:complexType>
        <xs:attribute ref="medium" use="required" />
    </xs:complexType>
</xs:element>

<xs:attribute name="medium">
    <xs:simpleType>
        <xs:restriction base="xs:string">
            <xs:maxLength value="30"/>
            <xs:whiteSpace value="collapse"/>
        </xs:restriction>
    </xs:simpleType>
</xs:attribute>

<xs:element name="description_right">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="slider_container" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="slider_container">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="slider" minOccurs="1" maxOccurs="unbounded" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="slider">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="slider_image" />
            <xs:element ref="slider_info" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="slider_image">
    <xs:complexType mixed="true">
        <xs:attribute ref="position" use="required" />
    </xs:complexType>
</xs:element>

<xs:attribute name="position" type="xs:positiveInteger" />

<xs:element name="slider_info">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="slider_heading" />
            <xs:element ref="slider_para" />
            <xs:element ref="slider_btn" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="slider_heading" type="xs:string"/>
<xs:element name="slider_para" type="xs:string"/>
<xs:element name="slider_btn" type="xs:string"/>

<xs:element name="store_products">
    <xs:complexType>
```

```
            <xs:sequence>
                <xs:element ref="product" minOccurs="1" maxOccurs="unbounded" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>

    <xs:element name="product">
        <xs:complexType>
            <xs:sequence>
                <xs:element ref="product_view" />
                <xs:element ref="product_specification" />
            </xs:sequence>
            <xs:attribute ref="product" />
        </xs:complexType>
    </xs:element>

    <xs:attribute name="product" type="xs:string" />

    <xs:element name="product_view">
        <xs:complexType>
            <xs:sequence>
                <xs:element ref="product_image_container" />
                <xs:element ref="product_button_container" />
            </xs:sequence>
            <xs:attribute ref="product" />
        </xs:complexType>
    </xs:element>

    <xs:element name="product_image_container">
        <xs:complexType>
            <xs:sequence>
                <xs:element ref="product_image" />
                <xs:element ref="product_hover" />
            </xs:sequence>
            <xs:attribute ref="product" />
        </xs:complexType>
    </xs:element>
```

```

<xs:element name="product_image" />

<xs:element name="product_hover">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="product_preview" />
            <xs:element ref="product_wishlist" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="product_preview">
    <xs:complexType mixed="true">
        <xs:sequence>
            <xs:element ref="preview_icon" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="preview_icon" />

<xs:element name="product_wishlist">
    <xs:complexType mixed="true">
        <xs:sequence>
            <xs:element ref="wishlist_icon" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="wishlist_icon" />

<xs:element name="product_button_container">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="buy_button" />
            <xs:element ref="add_cart_button" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="buy_button" type="xs:string" />
<xs:element name="add_cart_button" type="xs:string" />

<xs:element name="product_specification">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="specification_container" minOccurs="1" maxOccurs="unbounded" />
            <xs:element ref="discount_option" minOccurs="0" maxOccurs="1" />
            <xs:element ref="offer_option" minOccurs="0" maxOccurs="1" />
            <xs:element ref="refund_option" minOccurs="0" maxOccurs="1" />
            <xs:element ref="delivery_option" minOccurs="0" maxOccurs="1" />
            <xs:element ref="return_option" minOccurs="0" maxOccurs="1" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="specification_container">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="specification_question" />
            <xs:element ref="specification_answer" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="specification_question" type="xs:string" />
<xs:element name="specification_answer" type="xs:string" />

<xs:element name="discount_option">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="discount" />
            <xs:element ref="discount_rate" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="discount" type="xs:string" />
<xs:element name="discount_rate" type="xs:string" />

<xs:element name="offer_option">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="offer" />
            <xs:element ref="percent" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="offer" type="xs:string" />
<xs:element name="percent" type="xs:string" />

<xs:element name="refund_option">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="refund" />
            <xs:element ref="percent" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="refund" type="xs:string" />

<xs:element name="delivery_option">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="delivery" />
            <xs:element ref="delivery_time" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="delivery" type="xs:string" />
<xs:element name="delivery_time" type="xs:string" />

<xs:element name="return_option">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="return" />
            <xs:element ref="return_time" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="return" type="xs:string" />
<xs:element name="return_time" type="xs:string" />

<xs:element name="store_pagination">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="prev_btn" />
            <xs:element ref="pages" />
            <xs:element ref="next_btn" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="prev_btn" type="xs:string" />
<xs:element name="next_btn" type="xs:string" />

<xs:element name="pages">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="page" minOccurs="1" maxOccurs="unbounded" />
        </xs:sequence>
    </xs:complexType>
```

```
</xs:element>

<xs:element name="page">
    <xs:complexType mixed="true">
        <xs:attribute ref="pageStatus" use="optional" />
        <xs:attribute ref="type" use="optional" />
    </xs:complexType>
</xs:element>

<xs:attribute name="pageStatus" type="xs:string" />
<xs:attribute name="type" type="xs:string" />

<xs:element name="store_footer">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="footer_max_width" />
            <xs:element ref="copyright" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="footer_max_width">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="info_footer" />
            <xs:element ref="customer_footer" />
            <xs:element ref="company_footer" />
            <xs:element ref="contact_footer" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="info_footer">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="footer_logo" />
            <xs:element ref="footer_description" />
            <xs:element ref="social_contacts" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="footer_logo" />
<xs:element name="footer_description" type="xs:string" />
<xs:attribute name="place" default="top" type="xs:string" />

<xs:element name="customer_footer">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="section_heading" />
            <xs:element ref="section_lists" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="section_heading" type="xs:string" />

<xs:element name="section_lists">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="section_list" minOccurs="1" maxOccurs="unbounded" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="section_list" type="xs:string" />

<xs:element name="company_footer">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="section_heading" />
            <xs:element ref="section_lists" />
        </xs:sequence>
    </xs:complexType>
```

```
</xs:element>

<xs:element name="contact_footer">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="section_heading" />
            <xs:element ref="contact_us" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="contact_us">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="footer_details" minOccurs="1" maxOccurs="unbounded" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="footer_details">
    <xs:complexType mixed="true">
        <xs:sequence>
            <xs:element ref="footer_icon" />
            <xs:element ref="footer_mail" minOccurs="0" maxOccurs="1" />
        </xs:sequence>
        <xs:attribute ref="email" use="optional" />
    </xs:complexType>
</xs:element>

<xs:attribute name="email" type="xs:boolean" default="false" />

<xs:element name="footer_icon">
    <xs:complexType>
        <xs:attribute ref="icon" />
    </xs:complexType>
</xs:element>

```

```
    <xs:element name="footer_mail">
        <xs:simpleType>
            <xs:restriction base="xs:string">
                <xs:pattern value="[A-Za-z]+@+lumrey.store" />
            </xs:restriction>
        </xs:simpleType>
    </xs:element>

    <xs:attribute name="icon" default="lumrey">
        <xs:simpleType>
            <xs:restriction base="xs:string">
                <xs:whiteSpace value="collapse"/>
            </xs:restriction>
        </xs:simpleType>
    </xs:attribute>

    <xs:element name="copyright">
        <xs:complexType mixed="true">
            <xs:sequence>
                <xs:element ref="social_contacts" />
            </xs:sequence>
            <xs:attribute ref="place" />
        </xs:complexType>
    </xs:element>
</xs:schema>
```

4 Difference Between Schema and DTD

XML Schema and DTD is used for defining the elements, attributes, structure, and the occurrence. One of the biggest differences between schema and DTD is schema provides the more control in the xml structure compared to DTD. Some of the difference between the XML and Schema are listed below:

DTD	XSD
1. DTD (Document Type Definition) is derived from SGML syntax. The syntax is very different from XML which makes it difficult to understand.	1. XSD (XML Schema Definition) is written in XML. The syntax is quite familiar with the syntax of XML.
2. DTD does not support datatypes and namespace.	2. Schema supports both datatypes and namespace.
3. It has the less control over the XML document.	3. Schema provides superior control over the XML document structure.
4. It does not define the number and order of child element	4. It defines the order and number of child element.
5. It does not have secure data communication because the data can be misunderstood by the receiver.	5. Data communication is secure because the structure and data defining is very simple and understandable.
6. The user needs to learn new language since the syntax for DTD is completely different from the XML document.	6. User does not need to learn new language since the syntax is quite like the XML document.
7. It is not extensible.	7. It is extensible.

Table 3: Difference Between Schema and DTD

5 Testing

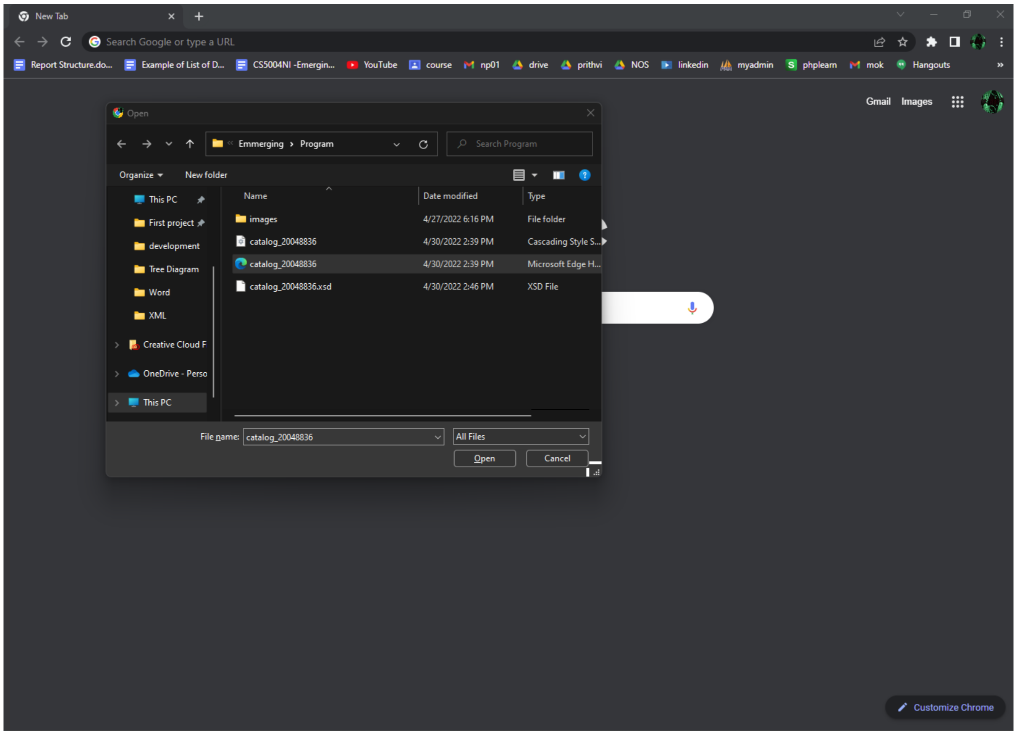
Testing is the process of finding the bugs or errors in the program buy running the program. This coursework was build using the XML, CSS, and XSD. In this testing phase the errors inside these documents are find and solved. Testing is a very important part of any program development because it helps to keep the program clean and clear without bugs and helps in error identification. Some of the testing done for this coursework are listed below:

5.1 Test 1 - Testing the XML runs without error and CSS is linked

Test No.	**1**
Objective	Testing the XML document runs without any error and CSS is linked.
Action	The XML document is opened in the chrome browser.
Expected Result	The XML document must run without any error and the design of the XML element must be same as defined in the CSS file
Actual Result	The XML document ran without any error and all the elements of the XML file was designed as defined in CSS.
Conclusion	The test is successful the program runs without any error and the CSS file was linked properly.

Table 4: Testing the XML file runs without any error and the CSS file is linked properly.

Output Results:

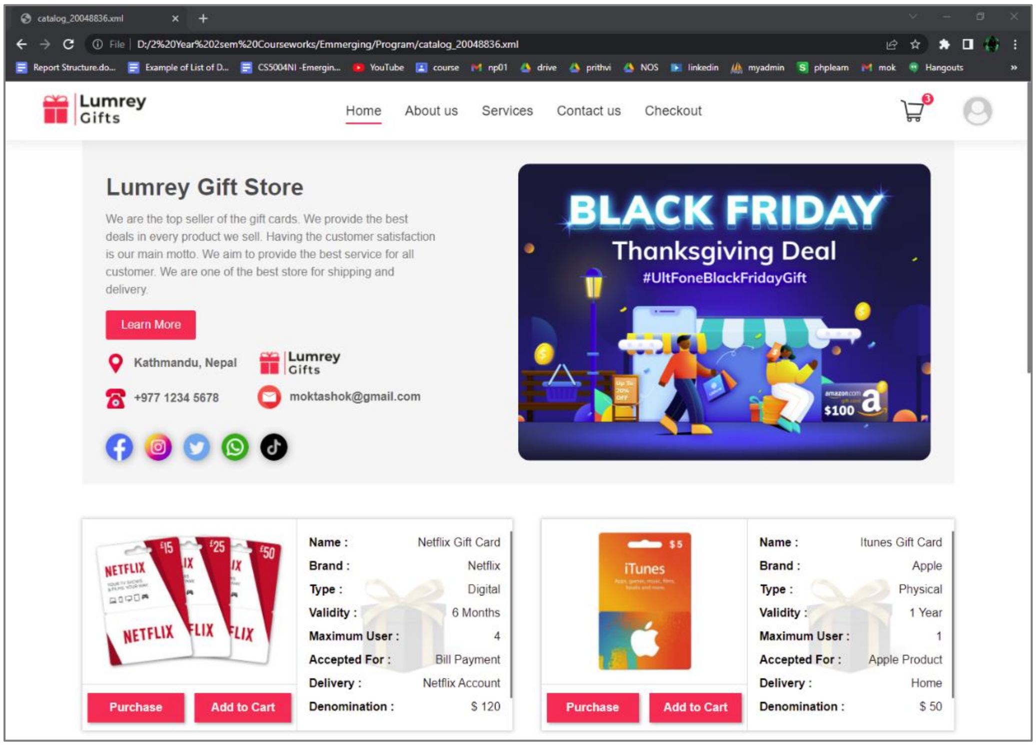


Name	Date modified	Type
images	4/27/2022 6:16 PM	File folder
catalog_20048836	4/30/2022 2:39 PM	Cascading Style S...
catalog_20048836	4/30/2022 2:39 PM	Microsoft Edge H...
catalog_20048836.xsd	4/30/2022 2:46 PM	XSD File

File name: catalog_20048836

All Files

Figure 5: Opening the file using chrome browser


catalog_20048836.xml
File | D:/2%20Year%202sem%20Courseworks/Emmerging/Program/catalog_20048836.xml
Report Structure.do... Example of List of D... CS5004NI -Emergin... YouTube course np01 drive prithvi NOS linkedin myadmin phpleam mok Hangouts
Lumrey Gifts
Home
About us
Services
Contact us
Checkout
3
BLACK FRIDAY
Thanksgiving Deal
#UltFoneBlackFridayGift
$100
Learn More
Purchase
Add to Cart
Purchase
Add to Cart

Lumrey Gift Store

We are the top seller of the gift cards. We provide the best deals in every product we sell. Having the customer satisfaction is our main motto. We aim to provide the best service for all customer. We are one of the best store for shipping and delivery.

Kathmandu, Nepal

+977 1234 5678

moktashok@gmail.com

Name :	Netflix Gift Card
Brand :	Netflix
Type :	Digital
Validity :	6 Months
Maximum User :	4
Accepted For :	Bill Payment
Delivery :	Netflix Account
Denomination :	$ 120

Name :	Itunes Gift Card
Brand :	Apple
Type :	Physical
Validity :	1 Year
Maximum User :	1
Accepted For :	Apple Product
Delivery :	Home
Denomination :	$ 50

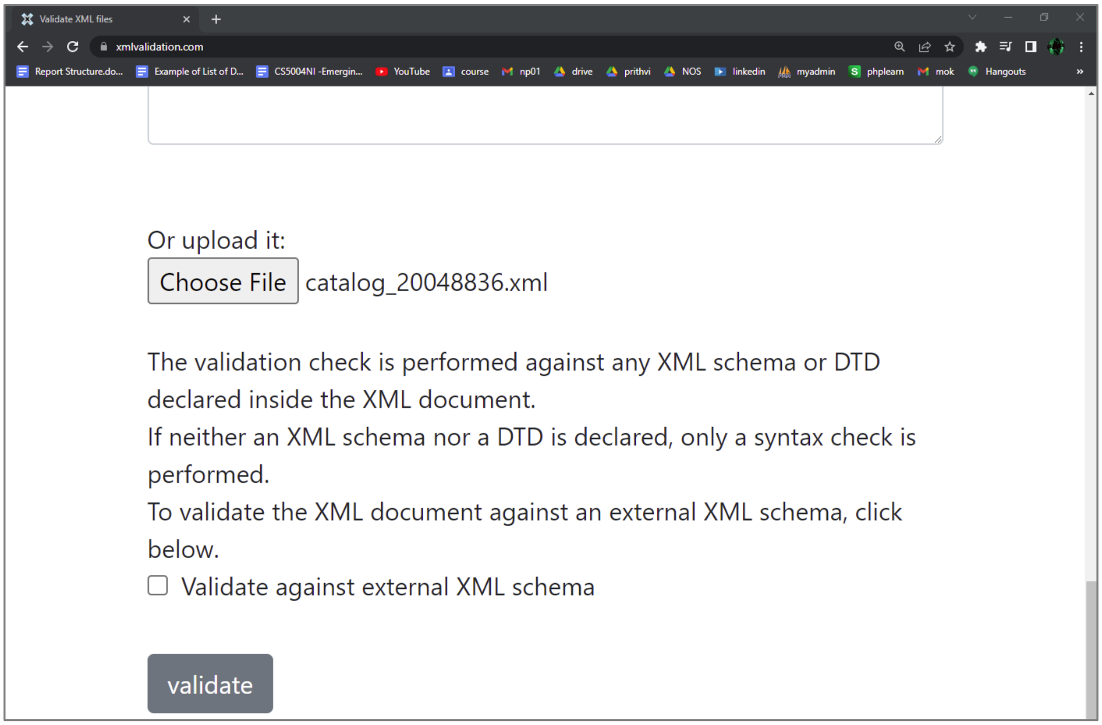
Figure 6: Running the XML file in Chrome browser

5.2 Test 2 – Validating the Schema file of the XML

Test No.	**2**
Objective	Testing the schema of the XML document is valid.
Action	For validating the Schema following steps were taken. ➔ First xmlvalidation.com website is browsed ➔ After the website is opened then the XML file is uploaded. ➔ After that the schema file is also uploaded.
Expected Result	The validation result must come with no error.
Actual Result	The Schema result came with no error
Conclusion	The test is successful the schema has no error.

Table 5: Testing the schema has no errors.

Output Results:



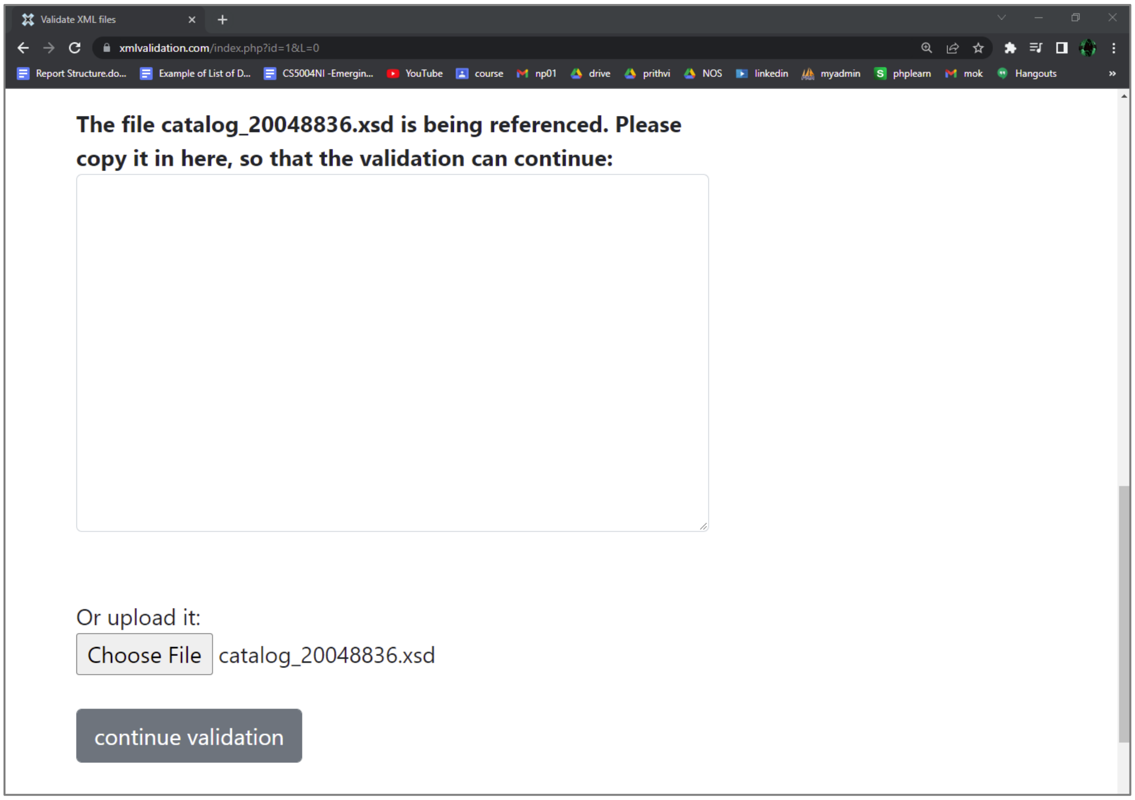
Or upload it:

catalog_20048836.xml

The validation check is performed against any XML schema or DTD declared inside the XML document.
If neither an XML schema nor a DTD is declared, only a syntax check is performed.
To validate the XML document against an external XML schema, click below.

□ Validate against external XML schema

Figure 7: Uploading the XML file in xmlvalidation.com

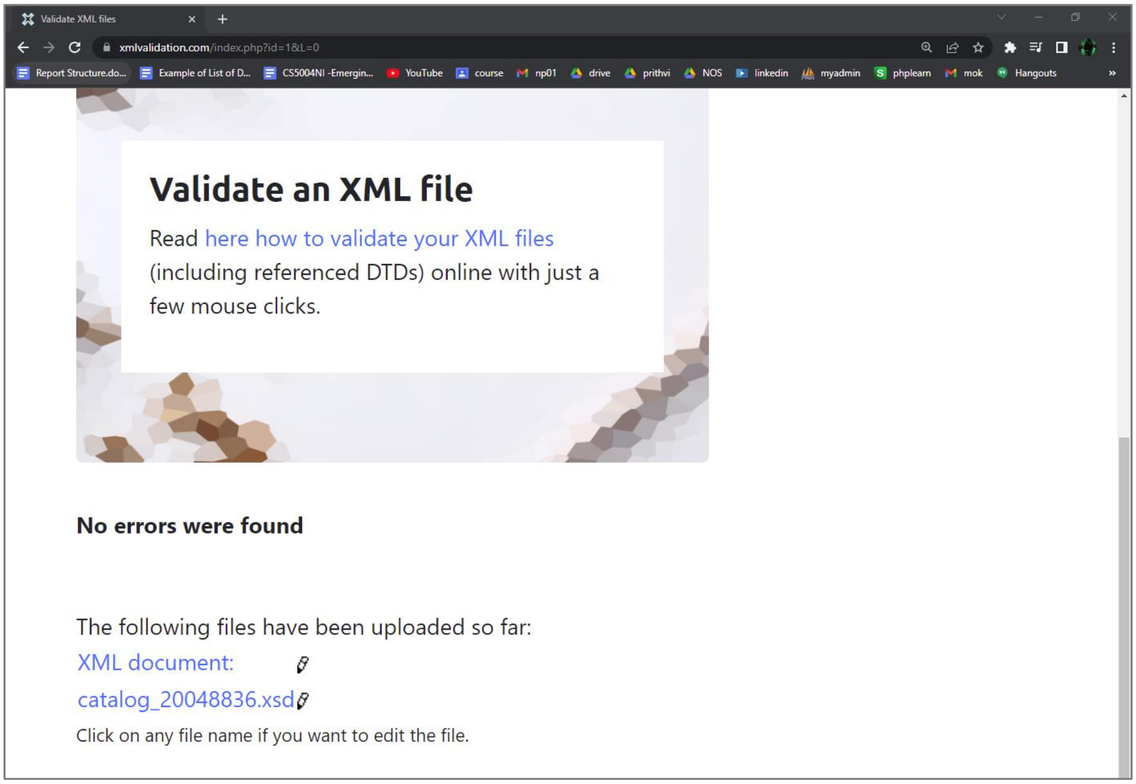


The file catalog_20048836.xsd is being referenced. Please copy it in here, so that the validation can continue:

Or upload it:

Choose File catalog_20048836.xsd

Figure 8: Uploading the Schema file in xmlvalidation.com



Validate an XML file

Read here how to validate your XML files (including referenced DTDs) online with just a few mouse clicks.

No errors were found

The following files have been uploaded so far:

XML document:

catalog_20048836.xsd

Click on any file name if you want to edit the file.

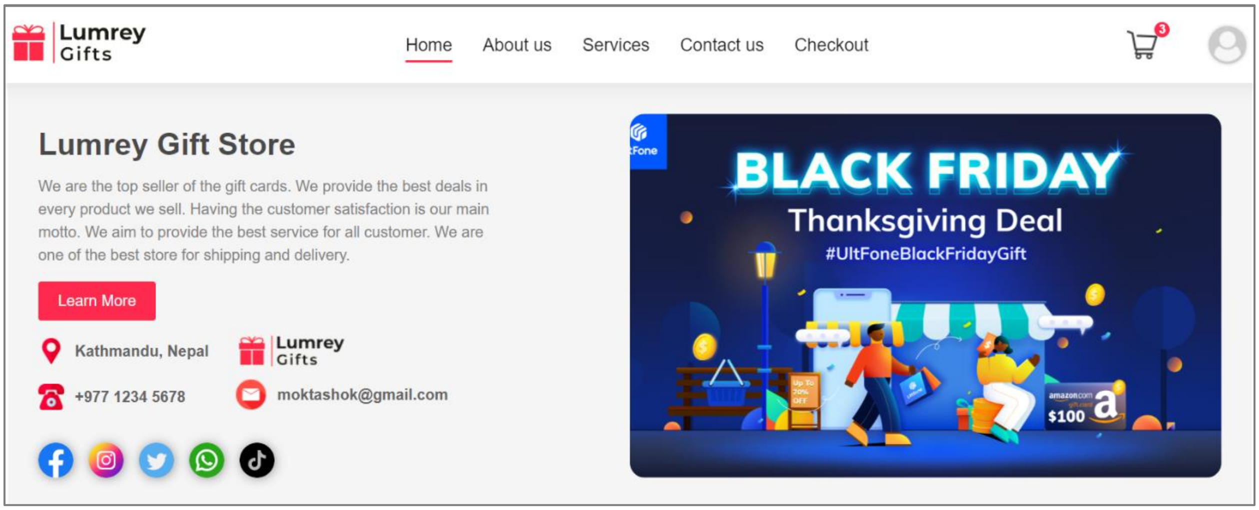
Figure 9: Validating the XML and Schema in xmlvalidation.com

5.3 Test 3 – Testing the slider stops and displays information when hover over it

Test No.	**3**
Objective	Testing the slider stops and displays information when hovered it.
Action	First the xml file is opened and then the mouse is hovered over the slider.
Expected Result	When mouse is hovered over the slider the information about the slider must be displayed and slider must stop.
Actual Result	The slider stopped and displayed the information about the slider when mouse was hovered over it.
Conclusion	The test is successful, slider works properly.

Table 6: Testing the slider hover behaviour.

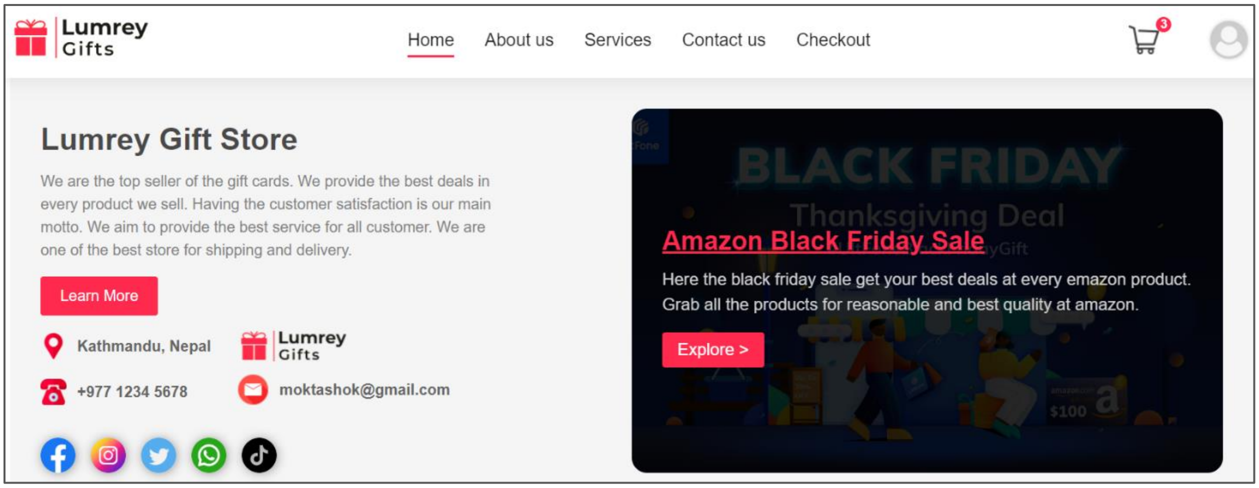
Output Results:



Lumrey Gift Store

We are the top seller of the gift cards. We provide the best deals in every product we sell. Having the customer satisfaction is our main motto. We aim to provide the best service for all customer. We are one of the best store for shipping and delivery.

Figure 10: Opening the XML document



Lumrey Gift Store

We are the top seller of the gift cards. We provide the best deals in every product we sell. Having the customer satisfaction is our main motto. We aim to provide the best service for all customer. We are one of the best store for shipping and delivery.

Learn More

Kathmandu, Nepal

Lumrey Gifts

+977 1234 5678

moktashok@gmail.com

Amazon Black Friday Sale

Here the black friday sale get your best deals at every emazon product. Grab all the products for reasonable and best quality at amazon.

Explore >

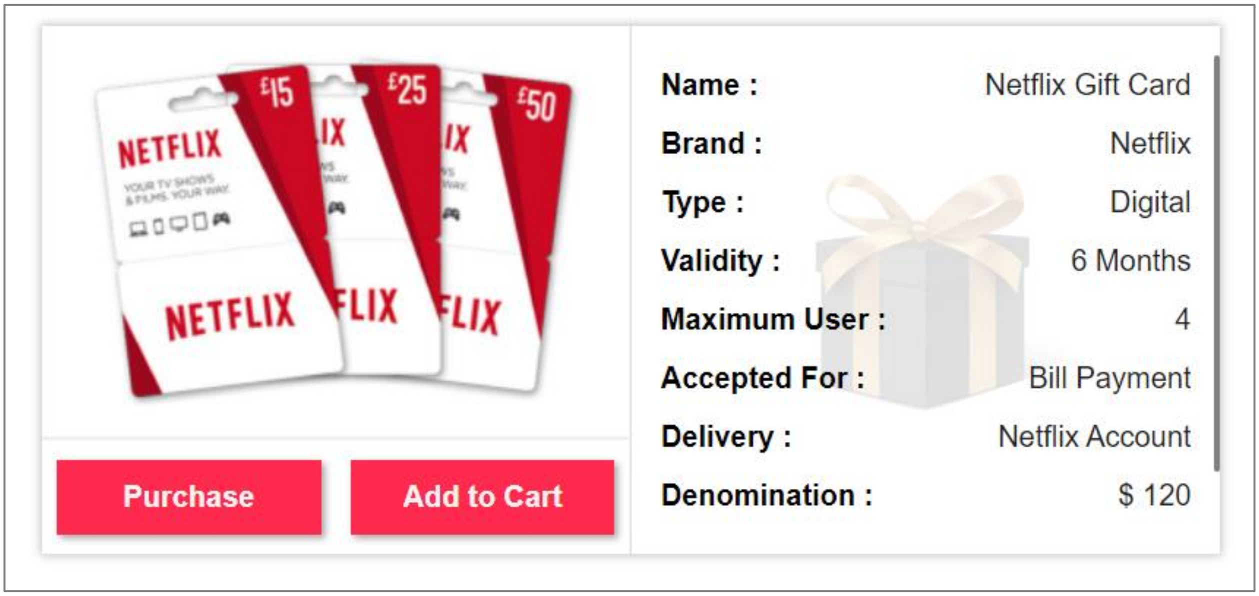
Figure 11: Hovering the mouse over the slider

5.4 Test 4 – Testing the product image when hovered

Test No.	**4**
Objective	Testing when product image is hovered the preview icon and wish list icon id displayed.
Action	First the XML file is opened and then the product image is hovered over the preview icon.
Expected Result	The product image must display the preview and wish list icon and when the icon is hovered the colour must be changed.
Actual Result	When the product image was hovered the wish list and preview icon were displayed, and the colour changed when the icon was hovered.
Conclusion	The test is successful the product image when hovered displayed the icon.

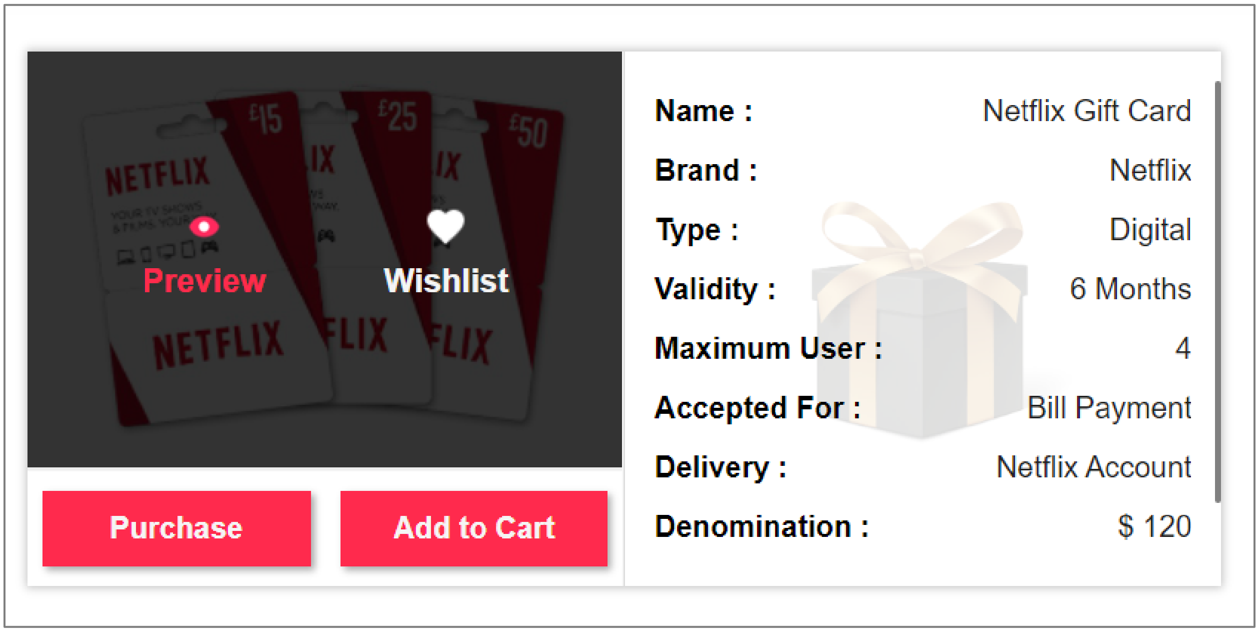
Table 7: Testing the product image when hovered.

Output Results:



Name : Netflix Gift Card
Brand : Netflix
Type : Digital
Validity : 6 Months
Maximum User : 4
Accepted For : Bill Payment
Delivery : Netflix Account
Denomination : $ 120

Figure 12: Opening the XML file and not hovering the product image



Name : Netflix Gift Card
Brand : Netflix
Type : Digital
Validity : 6 Months
Maximum User : 4
Accepted For : Bill Payment
Delivery : Netflix Account
Denomination : $ 120

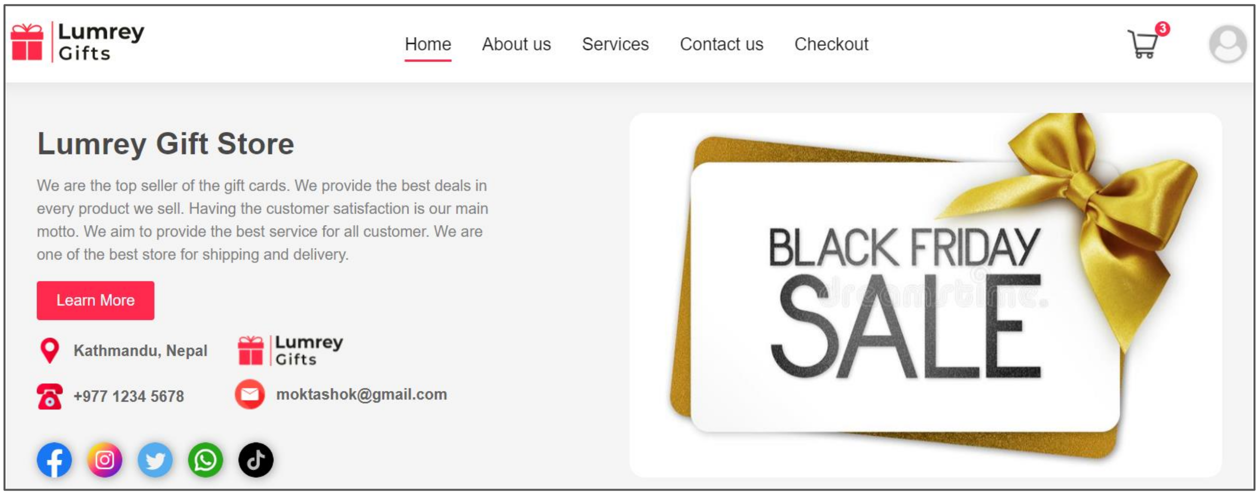
Figure 13: Hovering the product image and preview icon

5.5 Test 5 – Testing the cart and profile icon hover behaviour

Test No.	**5**
Objective	Testing the cart and profile icon hover behaviour.
Action	First the XML file is opened and then the cart icon is hovered, and the profile icon is hovered.
Expected Result	The dropdown content must be displayed when the cart icon and profile icon is hovered.
Actual Result	The dropdown content was displayed when the cart and profile icon is hovered.
Conclusion	The test is successful the cart and profile icon perform well.

Table 8: Testing the behaviour of cart and profile icon.

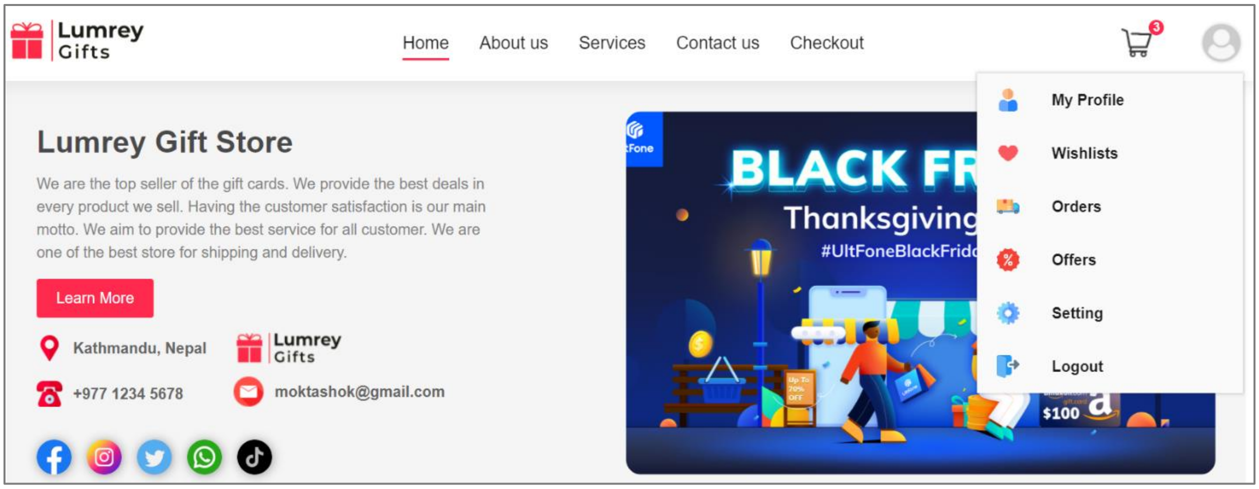
Output Results:



Lumrey Gift Store

We are the top seller of the gift cards. We provide the best deals in every product we sell. Having the customer satisfaction is our main motto. We aim to provide the best service for all customer. We are one of the best store for shipping and delivery.

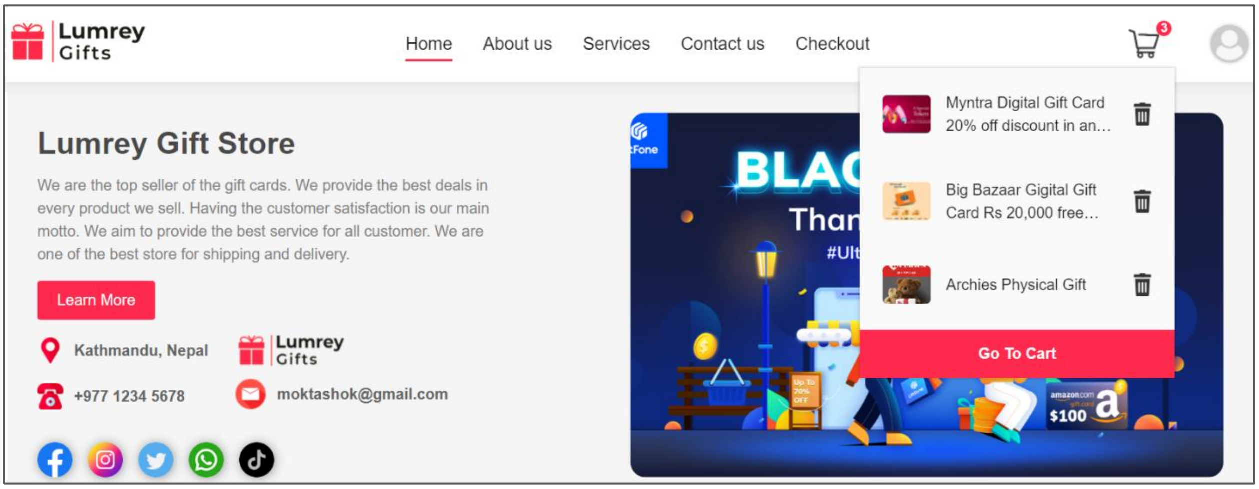
Figure 14: Opening XML file and not hovering the cart and profile icon



Lumrey Gift Store

We are the top seller of the gift cards. We provide the best deals in every product we sell. Having the customer satisfaction is our main motto. We aim to provide the best service for all customer. We are one of the best store for shipping and delivery.

Figure 15: Hovering the user profile icon



Lumrey Gift Store

We are the top seller of the gift cards. We provide the best deals in every product we sell. Having the customer satisfaction is our main motto. We aim to provide the best service for all customer. We are one of the best store for shipping and delivery.

Figure 16: Hovering the cart icon.

5.6 Test 6 – Hover behaviour of the texts

Test No.	**6**
Objective	Testing hover behaviour of the texts in the XML document.
Action	First the XML file is opened and then the shortcut links in footer and navigation link is hovered also the email are also hovered.
Expected Result	When the navigation link is hovered, the underline must come in the text and when the shortcut links are hovered the text colour must be changed. And when the email text is hovered the text colour must be changed, and underline must appear.
Actual Result	The navigation link was underlined when hovered and the colour of the shortcut link colour changed when hovered and the email text colour changed, and the colour changed when hovered.
Conclusion	The test is successful hover behaviour of the text was successful.

Table 9: Testing the hover behaviour of the texts

Output Results:

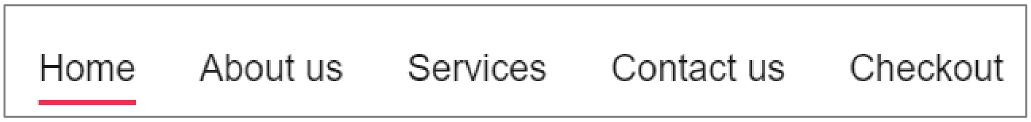


Figure 17: Not hovering the navigation links

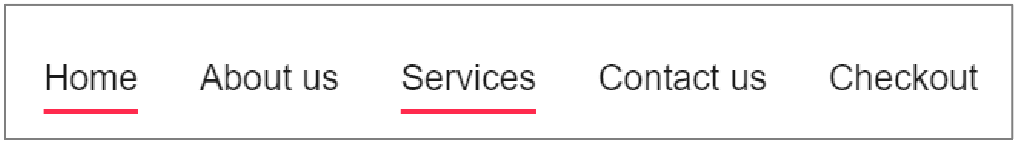
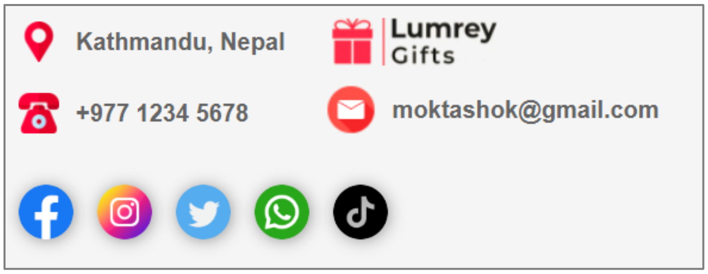


Figure 18: Hovering the “Services” navigation links



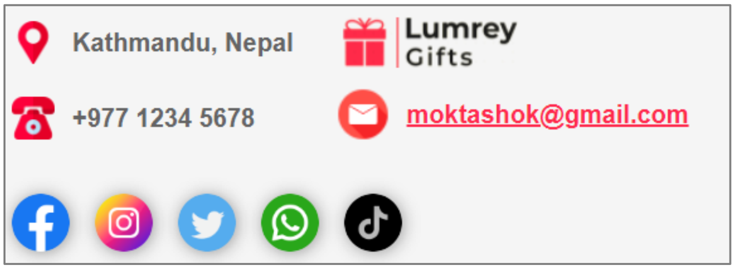
Kathmandu, Nepal

Lumrey Gifts

+977 1234 5678

moktashok@gmail.com

Figure 19: Not hovering the email text



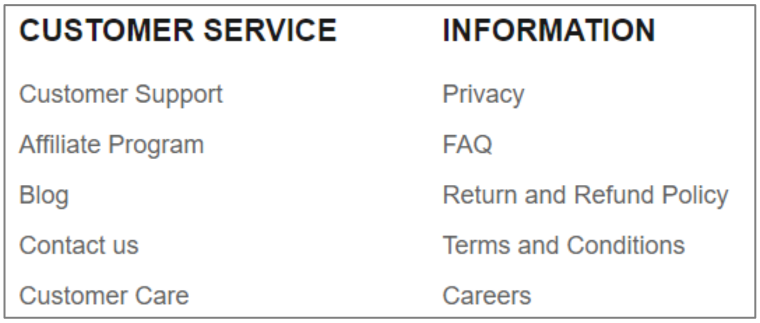
Kathmandu, Nepal

Lumrey Gifts

+977 1234 5678

moktashok@gmail.com

Figure 20: Hovering the email text



CUSTOMER SERVICE

Customer Support

Affiliate Program

Blog

Contact us

Customer Care

INFORMATION

Privacy

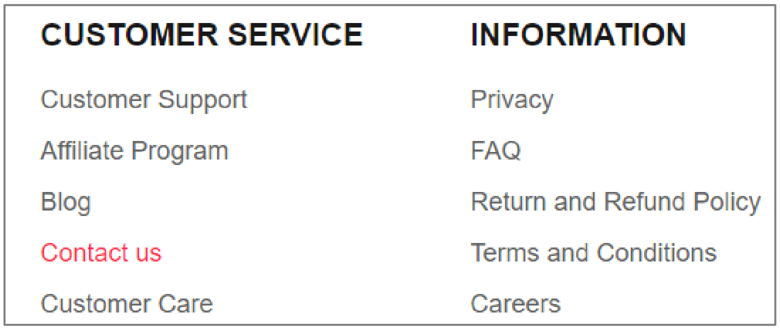
FAQ

Return and Refund Policy

Terms and Conditions

Careers

Figure 21: Not hovering the footer shortcut links



CUSTOMER SERVICE

Customer Support

Affiliate Program

Blog

Contact us

Customer Care

INFORMATION

Privacy

FAQ

Return and Refund Policy

Terms and Conditions

Careers

Figure 22: Hovering the "contact us" shortcut link

6 Coursework Development

The coursework was built using the proper plan and idea. Firstly, the store was divided into the three section i.e., header, body, footer. After that the requirement analysis was done and then the coursework's development was started.

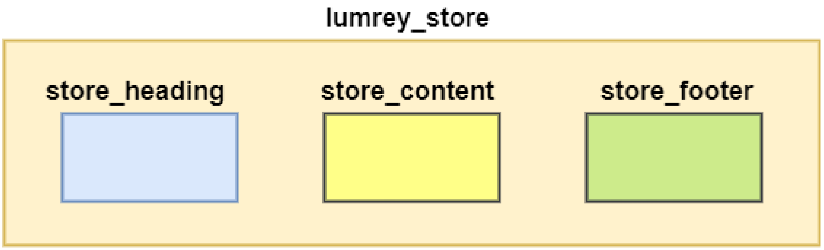


Figure 23: Phase 1 of development of coursework

After the requirement analysis was done the tree diagram of the store was made and according to the tree diagram the XML document was created. Firstly, the heading was made including the logo, navigation, and the cart and user account.

6.1 Heading Section Development

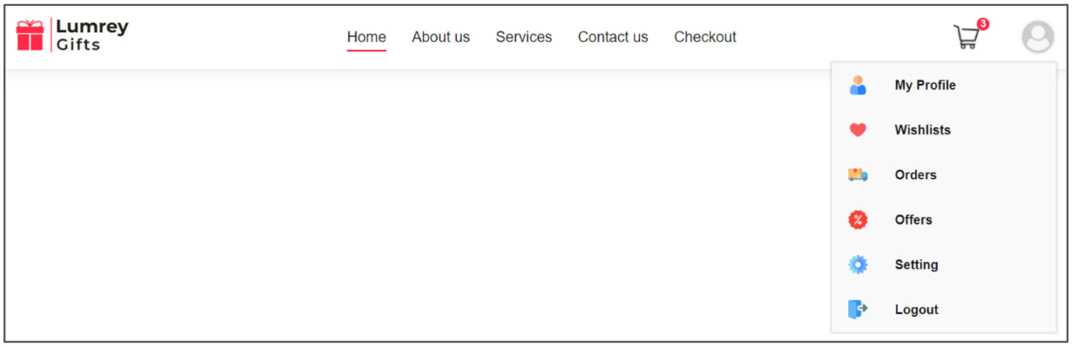


Figure 24: Making the heading with user drop menu

Firstly, the logo and navigation links of the store is displayed after that the user drop down menu is made. For user drop down menu the menu is kept hidden and the drop-down contents displays when the user profile icon is hovered. The drop-down content contains the icon and shortcut links and settings for user account and products. Initially, the drop-down content is hidden and after the user icon is hovered then it is displayed only when the cursor is hovering the drop-content and user icon else the drop-menu hides itself

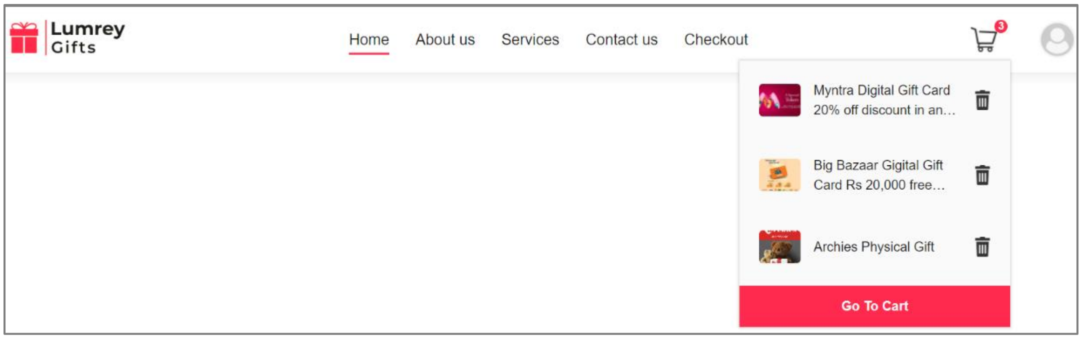


Figure 25: Making the heading with cart drop menu

After the user drop down content is made the cart drop down content was made. The cart drop-content is displayed when the mouse is over the cart icon and drop-content else the drop-content itself hides. The cart drop-content contains the product name, image product “remove” button and the “go to cart” button. The cart icon also displays the number of products in the cart at the top of cart icon.

6.2 Body Section Development

After the heading was built successfully the content of the store was made inside the “store_content” tag. The store content contains the three-section description, products and pagination.

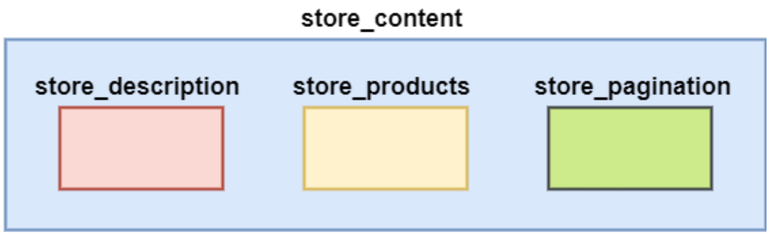
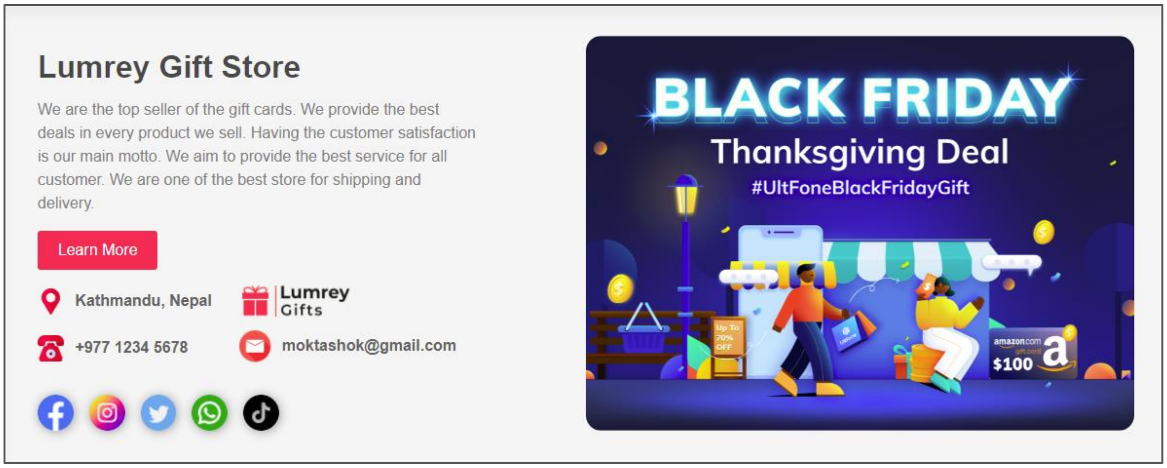


Figure 26: Design architecture of the store content

The “store_description” contains the description and brief about the store. The “store_products” contains the product of the store and finally, the “store pagination” contains the page number of the products. All three section are developed independently and the respective order.



Lumrey Gift Store

We are the top seller of the gift cards. We provide the best deals in every product we sell. Having the customer satisfaction is our main motto. We aim to provide the best service for all customer. We are one of the best store for shipping and delivery.

Learn More

Kathmandu, Nepal

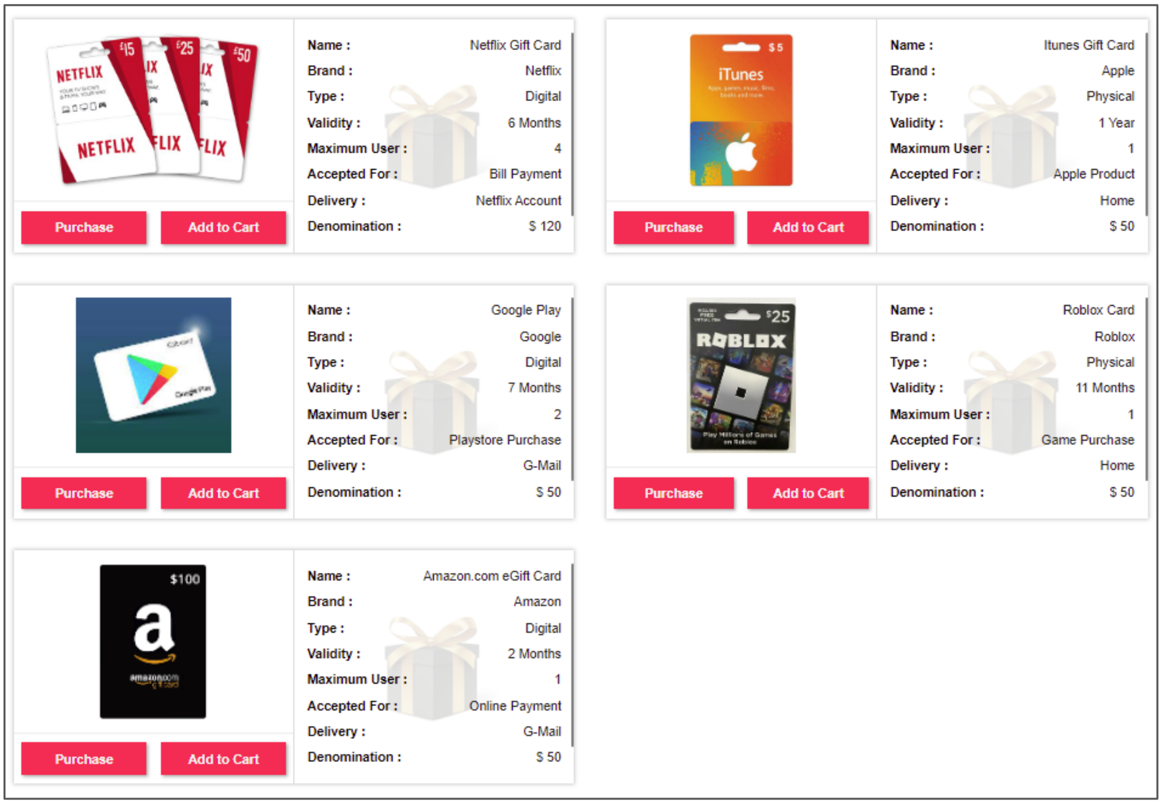
Lumrey Gifts

+977 1234 5678

moktashok@gmail.com

Figure 27: Description of the store

The description section contains further two sections. The first section contains the brief info of the store and the address, logo, telephone number, email address, social links, and store name. The second section contains the image slider. The image slider displays the information of that product when hovered. The best deals and new offerings are presented in the image slider.



Name : Netflix Gift Card
Brand : Netflix
Type : Digital
Validity : 6 Months
Maximum User : 4
Accepted For : Bill Payment
Delivery : Netflix Account
Denomination : $ 120

Purchase Add to Cart

Name : Itunes Gift Card
Brand : Apple
Type : Physical
Validity : 1 Year
Maximum User : 1
Accepted For : Apple Product
Delivery : Home
Denomination : $ 50

Purchase Add to Cart

Name : Google Play
Brand : Google
Type : Digital
Validity : 7 Months
Maximum User : 2
Accepted For : Playstore Purchase
Delivery : G-Mail
Denomination : $ 50

Purchase Add to Cart

Name : Roblox Card
Brand : Roblox
Type : Physical
Validity : 11 Months
Maximum User : 1
Accepted For : Game Purchase
Delivery : Home
Denomination : $ 50

Purchase Add to Cart

Name : Amazon.com eGift Card
Brand : Amazon
Type : Digital
Validity : 2 Months
Maximum User : 1
Accepted For : Online Payment
Delivery : G-Mail
Denomination : $ 50

Purchase Add to Cart

Figure 28: Store Products section development

The store products section contains 5 products. Each product contains two sections, one section contains the product image and purchase and add to cart buttons. When the product image is hovered the preview icon and the add to wish lists icon is displayed. The second section of the product contains the detailed specification of the product. The specification of the product contained name, brand, validity, number of users, etc.

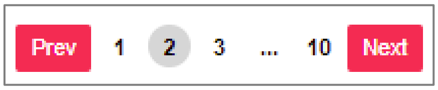
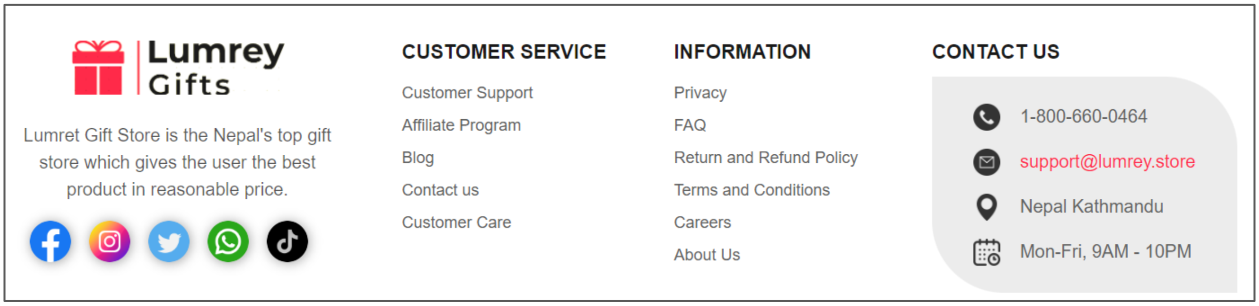


Figure 29: Pagination of the store content

The pagination section contains two buttons and some pages. The active page has the background colour. When hovered the buttons brightness are decreased and when the page number is hovered gray background colour is displayed.

6.3 Footer Section Development

The footer section was divided into two section and first section was further divided into four section and aligned in the same line using the CSS flex property. The second section of the footer is the copyright footer.



Lumrey Gifts

Lumret Gift Store is the Nepal's top gift store which gives the user the best product in reasonable price.

CUSTOMER SERVICE

- Customer Support
- Affiliate Program
- Blog
- Contact us
- Customer Care

INFORMATION

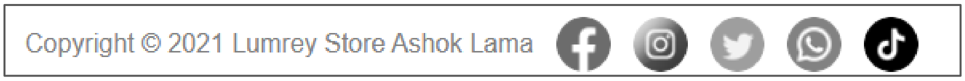
- Privacy
- FAQ
- Return and Refund Policy
- Terms and Conditions
- Careers
- About Us

CONTACT US

☎ 1-800-660-0464
✉ support@lumrey.store
Nepal Kathmandu
Mon-Fri, 9AM - 10PM

Figure 30: Footer development

The first section of footer was divided into four sections. The first section contains the brief information about the store and the second section contains the customer services and the third section contains the information about the store policies and final section contains the contact details of the company. All the section are aligned in the same line using the CSS flexbox property.



Copyright © 2021 Lumrey Store Ashok Lama

Figure 31: Copyright section development

The copyright section contains the copyright claim of the company. This section was made using the plain text and the Unicode of the copyright symbol and some social media links.

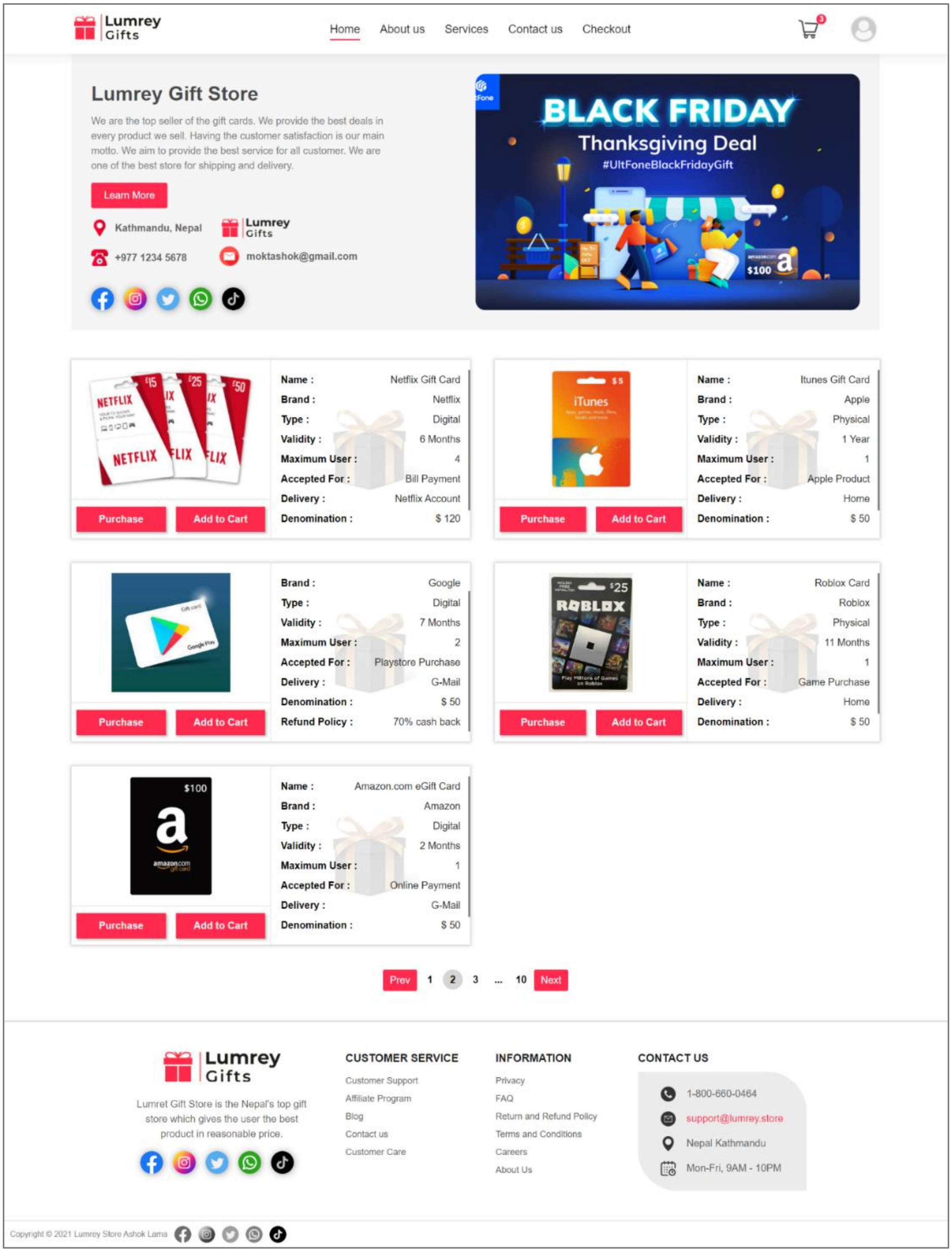
6.4 CSS Implementation

CSS (Cascading Stylesheet) describes the styles and the elements formatting in the scree. The CSS was linked in the xml file using the xml-stylesheet tag. All the components of the XML were styled using an external CSS. The most used CSS tools are listed below:

CSS Property	Use	Elements
Flexbox	Flexbox is used to make the proper layout for the components. It is mostly used for aligning the elements and justifying the contents. The flexbox is used to provide the row, column and both format layout using its direction and wrap property.	1. Store_content 2. Store_description 3. Store_pagination 4. Heading_max_width 5. Heading_link_container
Grid Layout	Grid layout is mostly used to make the custom layout for the elements. The grid template property helps to create the custom templates for the components.	1. Store_products

Table 10: CSS Elements used

Finally, all the parts were combined and the whole system model was created as shown below.



Lumrey Gift Store

We are the top seller of the gift cards. We provide the best deals in every product we sell. Having the customer satisfaction is our main motto. We aim to provide the best service for all customer. We are one of the best store for shipping and delivery.

Name :	Netflix Gift Card
Brand :	Netflix
Type :	Digital
Validity :	6 Months
Maximum User :	4
Accepted For :	Bill Payment
Delivery :	Netflix Account
Denomination :	$ 120

Name :	Itunes Gift Card
Brand :	Apple
Type :	Physical
Validity :	1 Year
Maximum User :	1
Accepted For :	Apple Product
Delivery :	Home
Denomination :	$ 50

Brand :	Google
Type :	Digital
Validity :	7 Months
Maximum User :	2
Accepted For :	Playstore Purchase
Delivery :	G-Mail
Denomination :	$ 50
Refund Policy :	70% cash back

Name :	Roblox Card
Brand :	Roblox
Type :	Physical
Validity :	11 Months
Maximum User :	1
Accepted For :	Game Purchase
Delivery :	Home
Denomination :	$ 50

Name :	Amazon.com eGift Card
Brand :	Amazon
Type :	Digital
Validity :	2 Months
Maximum User :	1
Accepted For :	Online Payment
Delivery :	G-Mail
Denomination :	$ 50

Lumrey Gifts

Lumret Gift Store is the Nepal's top gift store which gives the user the best product in reasonable price.

CUSTOMER SERVICE
Customer Support
Affiliate Program
Blog
Contact us
Customer Care

INFORMATION
Privacy
FAQ
Return and Refund Policy
Terms and Conditions
Careers
About Us

CONTACT US
1-800-660-0464
support@lumrey.store
Nepal Kathmandu
Mon-Fri, 9AM - 10PM

Copyright © 2021 Lumrey Store Ashok Lama

Figure 32: Store final complete model

7 Critical Analysis

This coursework is all about developing the model for an online gift store. During the development of this coursework lots of research were done. The research was done for the xml structure and CSS designs and Schema development. For XML, many websites and lecture learning materials were taken as a reference. For the CSS part many websites reference was taken for the design pattern of the website. For the development of header drop down the flipkarts website was taken as a reference.

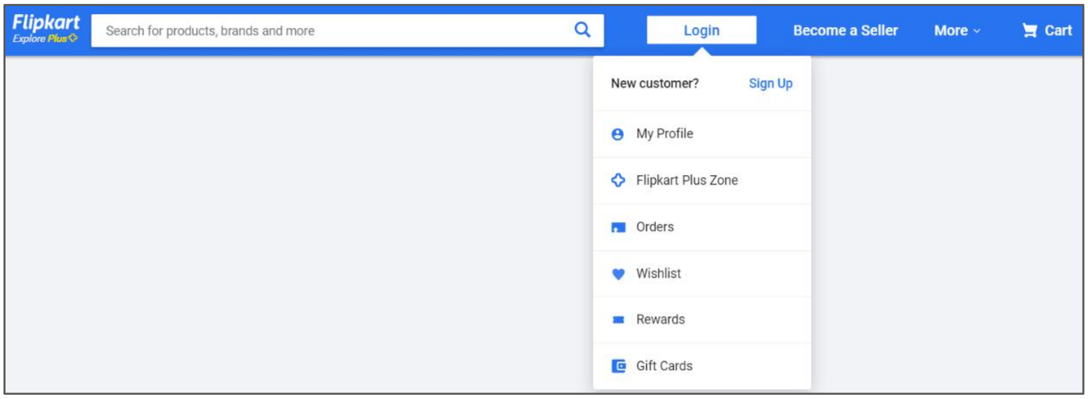


Figure 33: Heading drop down reference

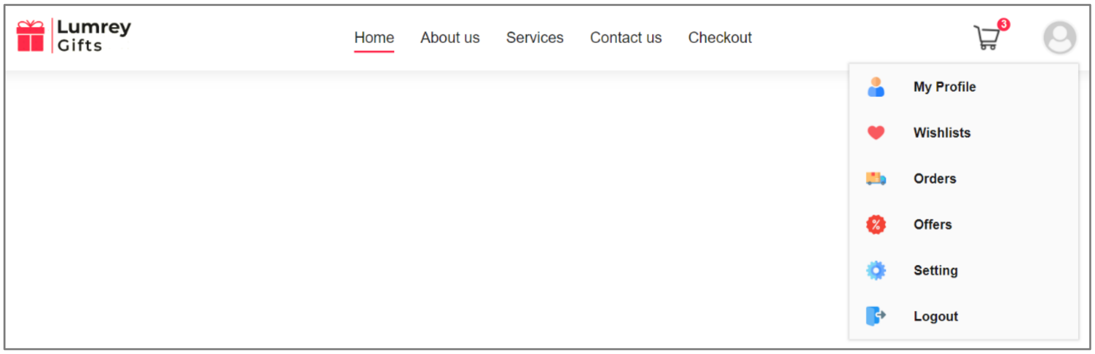
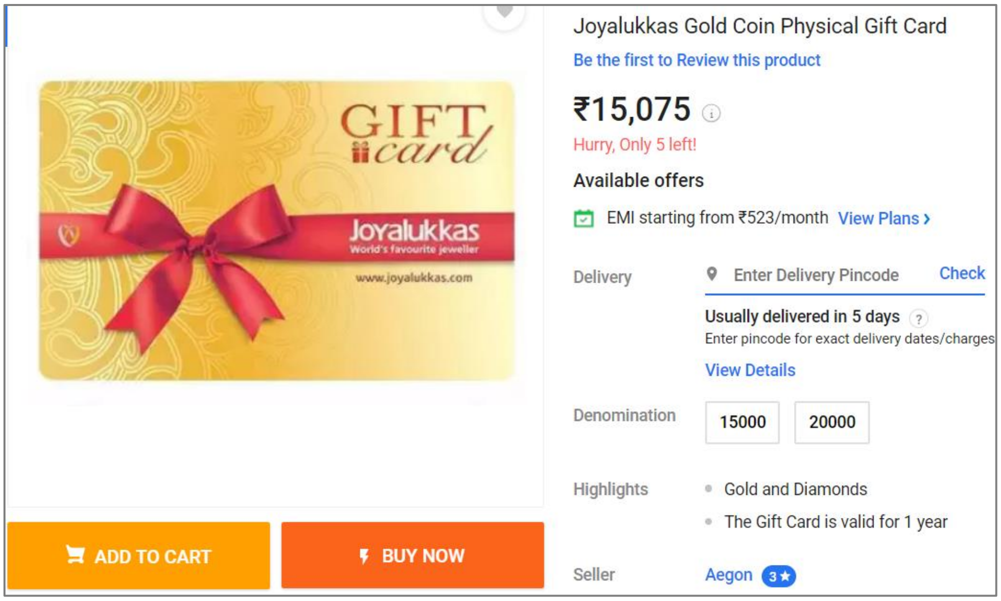


Figure 34: Heading made according to reference

And many other parts like product list was also inspired by the design of the flipkart product description. For the description of the store many websites were taken as a reference finally the description of the store was made combining all the websites ideas. The slider of description was inspired by the daraz store and description was inspired by the amazon design.



Joyalukkas Gold Coin Physical Gift Card

Be the first to Review this product

₹15,075

Hurry, Only 5 left!

Available offers

EMI starting from ₹523/month View Plans ›

Delivery: Enter Delivery Pincode Check

Usually delivered in 5 days ?

Enter pincode for exact delivery dates/charges

View Details

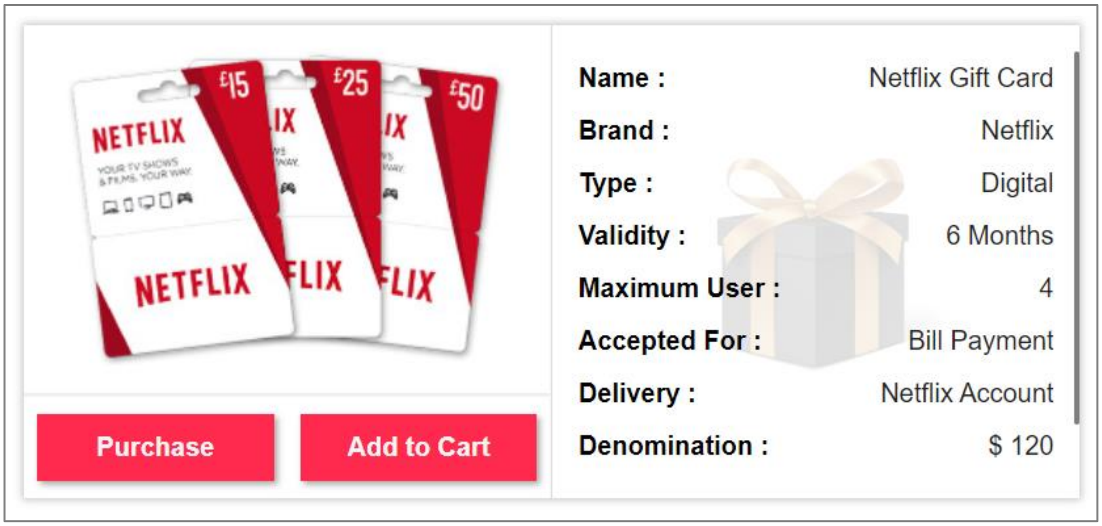
Denomination: 15000 20000

Highlights:

- Gold and Diamonds
- The Gift Card is valid for 1 year

Seller: Aegon 3★

Figure 35: Product listing reference



Name :	Netflix Gift Card
Brand :	Netflix
Type :	Digital
Validity :	6 Months
Maximum User :	4
Accepted For :	Bill Payment
Delivery :	Netflix Account
Denomination :	$ 120

Figure 36: Product listing referencing the design of flipkart

8 Conclusion

This coursework was very helpful for understanding the concept of XML and the uses of XML. After the coursework was completed the XML, Schema, CSS, testing, and many other things were learned. This kind of coursework helps in development of skills of the student. This coursework was very helpful for understanding the use of schema and CSS use scenarios in the XML. There has been a lot of difference in program development after this coursework because it increased the capability to interact with tutor and lecturer sirs and error handling and research ability was increased.

During this coursework I was satisfied with all the questions but if there was a small project including the PHP then the coursework would have been more effective because it would help in understanding the core concept of database and how the backend works. Even if there was the section for research in PHP or backend or cloud then the coursework would have been better which would be very useful and productive for the final year project. Everything in this coursework was very useful and informative but this coursework would have been more productive if certain topics were added.