



Academic Year	Module	Assessment Number	Assessment Type
S21	Human Computer Interaction (5CS020)	Task 3	Individual Report

## Design and Usability Testing Report

Student Id : 2050232  
 Student Name : Vishal Dip Neupane  
 Section : L5CG10  
 Module Leader : Sachit Tandukar  
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## Introduction

Gaming Sansar is the gaming ecommerce website I made for this project where users can buy various variety of games for pc, ps4 and xbox platform. The main purpose of this website is selling games in affordable prices with many discounts and offers daily with the customer service 24/7.

Altogether there are 4 pages in my website they are main home page, cart page, sign in page and register page. When user first visit this website, they see the main home page. Home page is the main page or part of this project where users are provided with various options and number of games. When you first visit the home page, you can see the website's logo on the left and a search bar on the right. Then you can see the navigation bar where on the left side are like the title of things that are in the home page like home, new arrivals, featured, gallery and best deals. When you click on any of them you are redirected to these sections inside of the home page which is really cool. Then on the right side of the navigation bar there are icons of the pages which are liked products, cart page and sign in page. Then you can see beautiful slider where you can see top trending games. Then on the new arrivals section you can see the list of recently added games. When you hover over the pictures of games you can see really cool animation and the like and cart icons appear over it and you can add those games in cart page or liked page. Then on the featured game section most popular game is featured. Then on the game gallery section various list of games are in it where you can select game according to their category. Then there is best deals section, newsletter section and finally footer of the website. On the cart page you can see the list of games which is added to cart along with their prices and the option to remove them from cart page. On the sign in page, you can sign in to your account which you already registered and then in the register page you can register your new account. I made every pages of the websites responsive as well.

## Design Process

### A. Wireframe

Before creating the website, I started to explore around various gaming ecommerce websites like Steam, Impulse, Microsoft Games, Origin, GOG, etc. I got inspired from all of these websites and created an imaginary website design in my head and tried to implement it in designing wireframes. Then I started to create wireframes using figma for my website. I created 3 wireframe designs for my home page, cart page and sign in page.



At the top of my wireframe design of home page I added a logo on the left side and search bar on the right side. Then there is a navigation bar consisting of the title of sections inside the home page on the left side and on the right side is the icons of the liked, cart and sign in page. Then I added a slider just below the navigation to make website look cooler. Then there are the various sections of the page and finally a footer of the page.

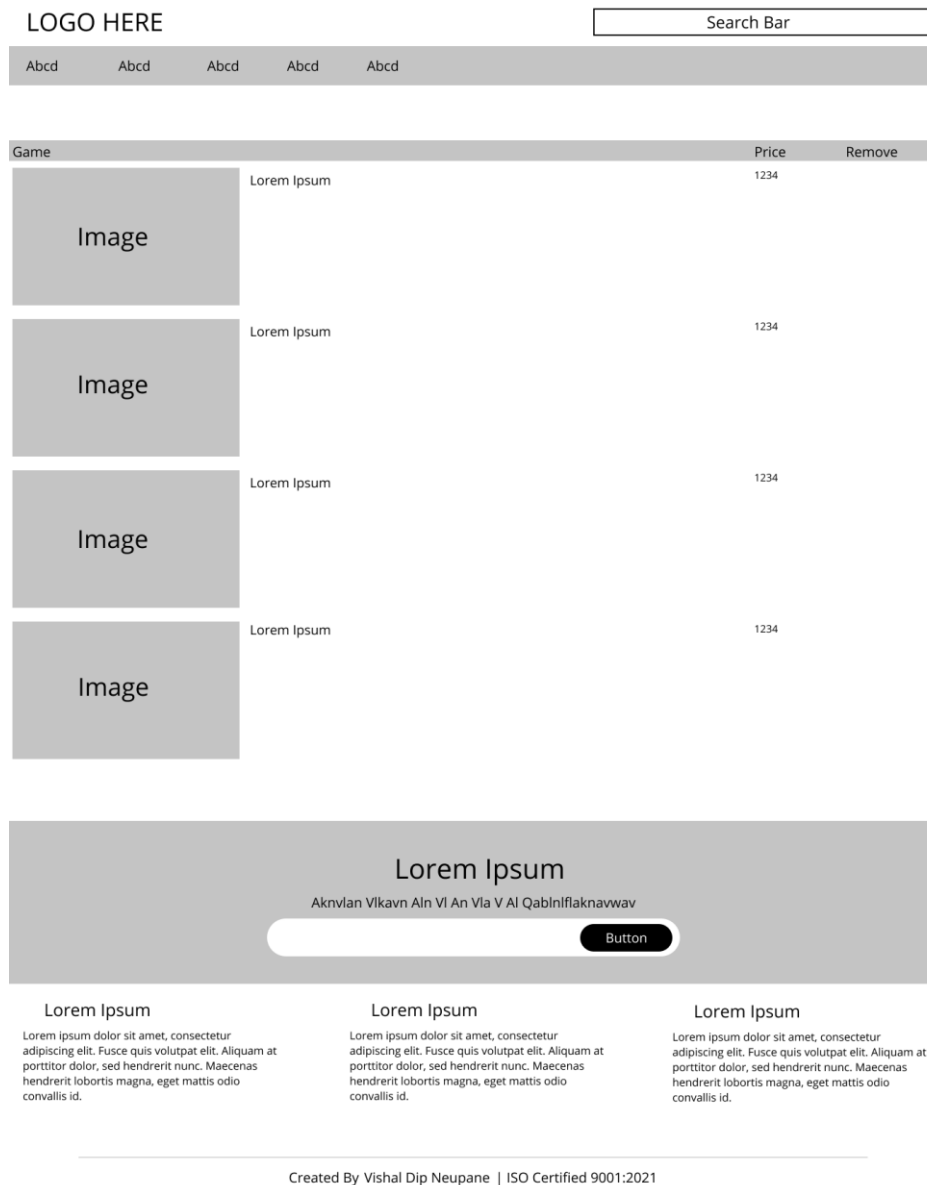


Figure 2 Cart page Wireframe

Then on the wireframe design of cart page, I made the header part as same as the home page so that the users won't be confused in this page. Then there is the list of the games that are kept in the cart along with their prices and option to remove it from cart. And finally the footer of this page is also as same as the footer of home page.

Logo Here

SIGN IN

Email Address

Password

☐ Remember Me [Register Here](#)

Sign In

*Figure 3 Sign in page Wireframe*

At last, I designed the sign in page of this website. I placed the logo on the top-left side of this page which is as same as home page and cart page. Then I designed the card inside this page where there is the form to fill up and finally a sign in button to successfully sign in to this page.

## **B. Design**

Before moving to the development part, I created the design of my homepage. I placed the image on the image position of the wireframe and tried color contrast for making website attractive. Then I also checked for the color contrast ratio to make it more accessible to the visitors. Below picture is the home page design after placing images and adjusting colors.



**CYBERPUNK 2077**  
Action Role-Playing Video Game  
Developed And Published By CD Projekt  
Rs.7999

New Arrivals

**Resident Evil Village**  
Rs 999/- Rs 1700/-

**Hood: Outlaws And Legends**  
Rs 490/- Rs 999/-

**Returnal**  
Rs 2300/- Rs 2600/-

**New Pokémon Snap**  
Rs 1499/- Rs 2000/-

**MLB The Show 21**  
Rs 4999/- Rs 6000/-

**Outriders**  
Rs 2500/- Rs 3000/-

Featured Game

**Fortnite**  
(500+) Reviews  
Fortnite Is An Online Video Game Developed By Epic Games And Released In 2017. It Is Available In Three Distinct Game Mode Versions That Otherwise Share The Same General Gameplay  
Rs 9999 Rs 12300 [Buy Now](#)

Game Gallery

All Action Horror Sports Adventure

**Assassin's Creed IV**  
1000

**Batman: Arkham Asylum**  
Rs 2000

**Alien: Isolation**  
Rs 3000

**The Walking Dead**  
Rs 4000

**Resident Evil 7: Biohazard**  
Rs 5000

**FIFA 21**  
Rs 1000

**Minecraft**  
Rs 1500

**NBA 2K21**  
Rs 2500

**Rocket League**  
Rs 3500

Best Deals

**The Elder Scrolls V: Skyrim**  
Greatest Skyrim Ever Had - Modern 1st Edition  
[Explore](#)

**Red Dead Redemption 2**  
Definitive Edition  
[Explore](#)

**Fast Delivery**  
We Do Fast Delivery In City Area Within 6 Hours, Whereas In Other Rural Areas It Might Take 24-36 Hours.

**24 X 7 Support**  
This Can Contact Us Through Telephone: +977 9133456789 or Email: [Contact.GamingSansar@gmail.com](mailto:Contact.GamingSansar@gmail.com) Anytime You Want.

**Easy Payments**  
We Accept Payment Via Bank Payments, Kc, Some Condition We Accept Head Cash As Well.

**5 Days Replacements**  
If You Receive Damaged Products You Can Return It Within 5 Days Otherwise It Won't Be Accepted.

**Newsletter**  
Enter Your Email Below To Receive Latest Offers And Discounts  
[Submit](#)

**Gaming Sansar**  
We are nepal's first gaming e-commerce website which is officially accepted by google and is verified. We provide almost all games for pc, playstation and xbox at reasonable price.

**Looking For Recommendations?**  
Sign in to view personalized recommendations  
[Sign In](#)  
Or  
[Register](#)  
and join Gaming Sansar for free

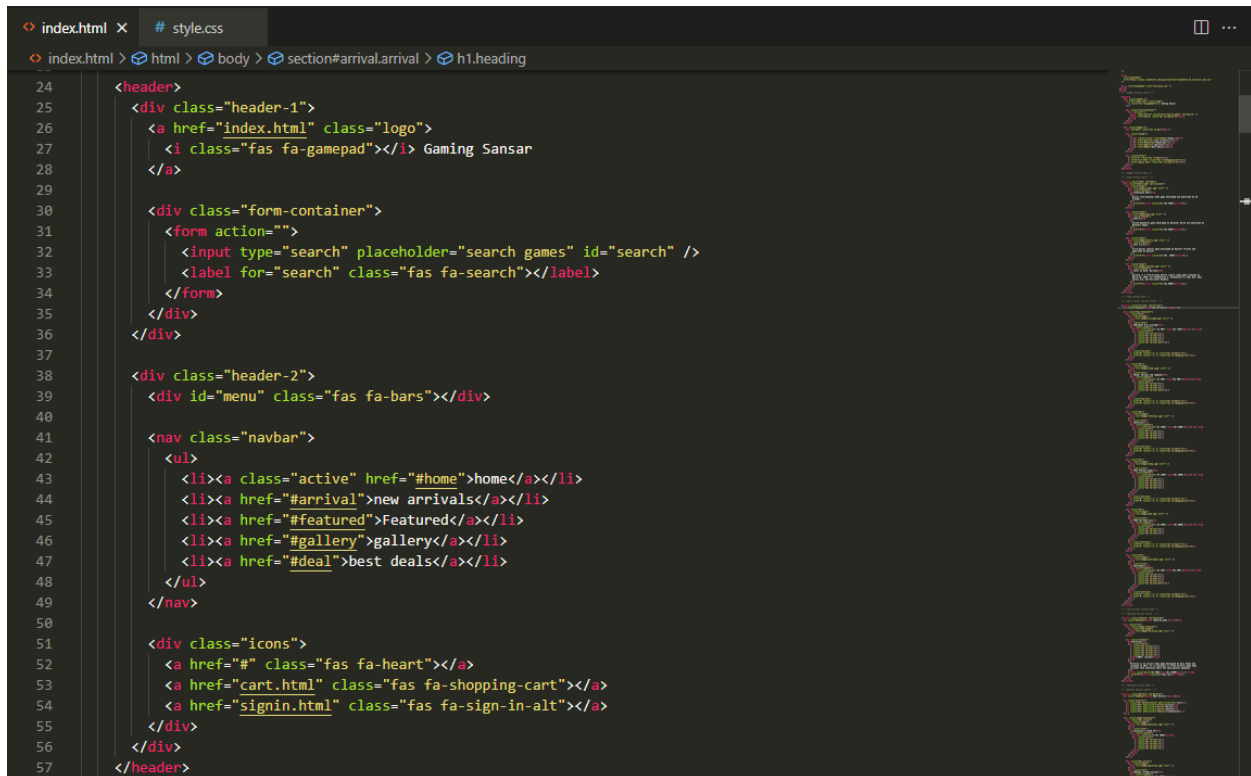
**Contact Us**  
Kathmandu, Balaju, Nepal - 12345  
+977 9123456789  
[contact.gamingsansar@gmail.com](mailto:contact.gamingsansar@gmail.com)

Created By **Vishal Dip Neupane** | ISO Certified 9001:2021

Figure 4 Home page Design

## C. Development

After creating the wireframe and design of the home page it was easier for me to work on the development of the website. I used HTML CSS and Java Script for the development of the website.

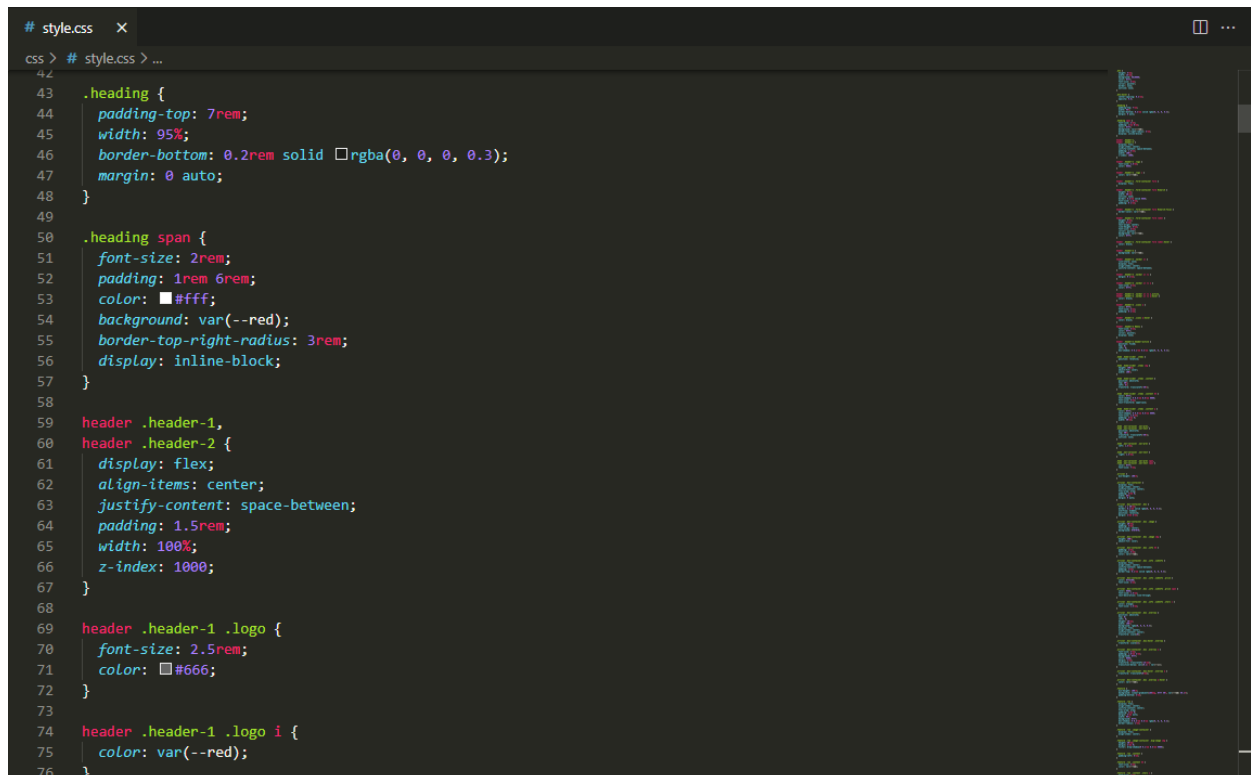


```

24 <header>
25   <div class="header-1">
26     <a href="index.html" class="logo">
27       <i class="fas fa-gamepad"></i> Gaming Sansar
28     </a>
29
30     <div class="form-container">
31       <form action="">
32         <input type="search" placeholder="search games" id="search" />
33         <label for="search" class="fas fa-search"></label>
34       </form>
35     </div>
36   </div>
37
38   <div class="header-2">
39     <div id="menu" class="fas fa-bars"></div>
40
41     <nav class="navbar">
42       <ul>
43         <li><a class="active" href="#home">home</a></li>
44         <li><a href="#arrival">new arrivals</a></li>
45         <li><a href="#featured">Featured</a></li>
46         <li><a href="#gallery">gallery</a></li>
47         <li><a href="#deal">best deals</a></li>
48       </ul>
49     </nav>
50
51     <div class="icons">
52       <a href="#" class="fas fa-heart"></a>
53       <a href="cart.html" class="fas fa-shopping-cart"></a>
54       <a href="signin.html" class="fas fa-sign-in-alt"></a>
55     </div>
56   </div>
57 </header>

```

Figure 5 Home page HTML code



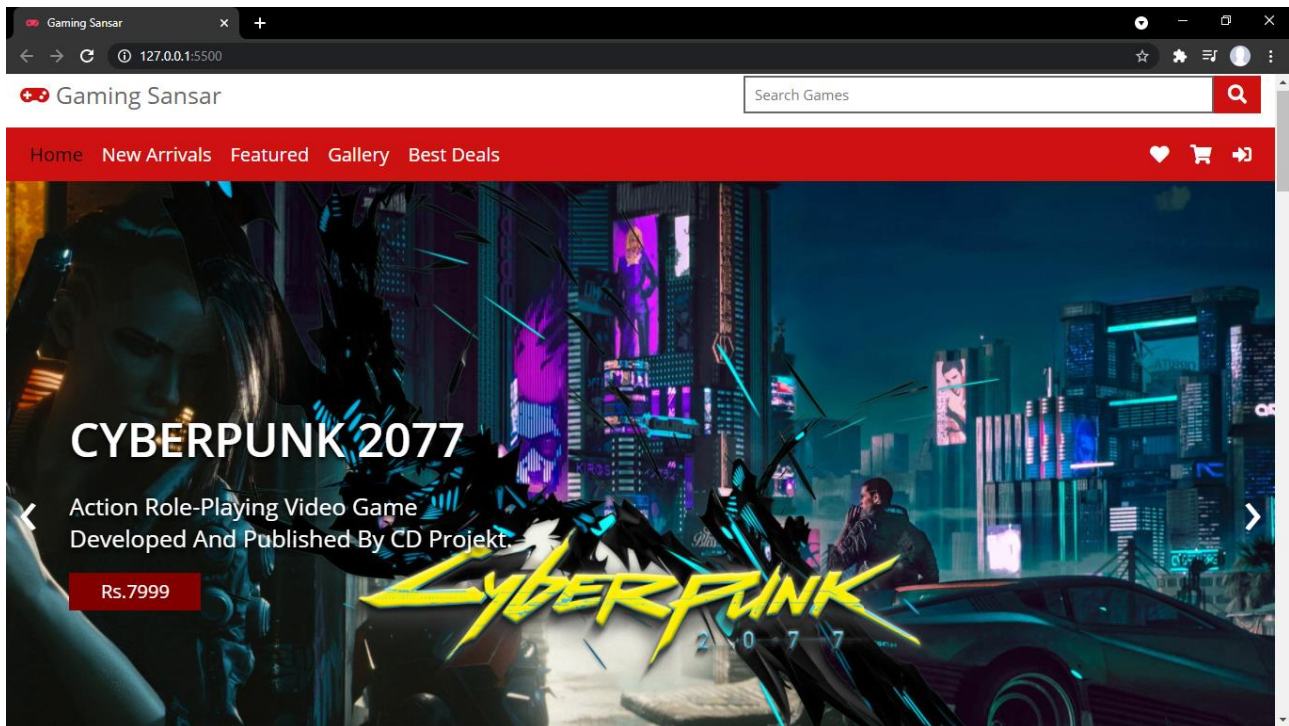
```

43 .heading {
44   padding-top: 7rem;
45   width: 95%;
46   border-bottom: 0.2rem solid rgba(0, 0, 0, 0.3);
47   margin: 0 auto;
48 }
49
50 .heading span {
51   font-size: 2rem;
52   padding: 1rem 6rem;
53   color: #fff;
54   background: var(--red);
55   border-top-right-radius: 3rem;
56   display: inline-block;
57 }
58
59 header .header-1,
60 header .header-2 {
61   display: flex;
62   align-items: center;
63   justify-content: space-between;
64   padding: 1.5rem;
65   width: 100%;
66   z-index: 1000;
67 }
68
69 header .header-1 .logo {
70   font-size: 2.5rem;
71   color: #666;
72 }
73
74 header .header-1 .logo i {
75   color: var(--red);
76 }

```

Figure 6 Home page CSS

I started coding strictly analyzing my wireframe and design of the website. I tried to make the development following the usability and accessibility. Above pictures are the HTML and CSS part of the home page.



*Figure 7 Home page Development*

After successfully coding HTML, CSS and javascript above picture was the final result of the home page. We can see the header part consisting of logo, search bar and navigation bar and slider just below it in the above picture.

# Evaluation and Testing

## A. Evaluation

We have two usability principles rules, one is Shneiderman's 8 golden rules and another one is Jakob's rule. Here, I evaluated my website based on Jakob's rule for this project. I evaluated my website with following ways.

### 1. Visibility of system status

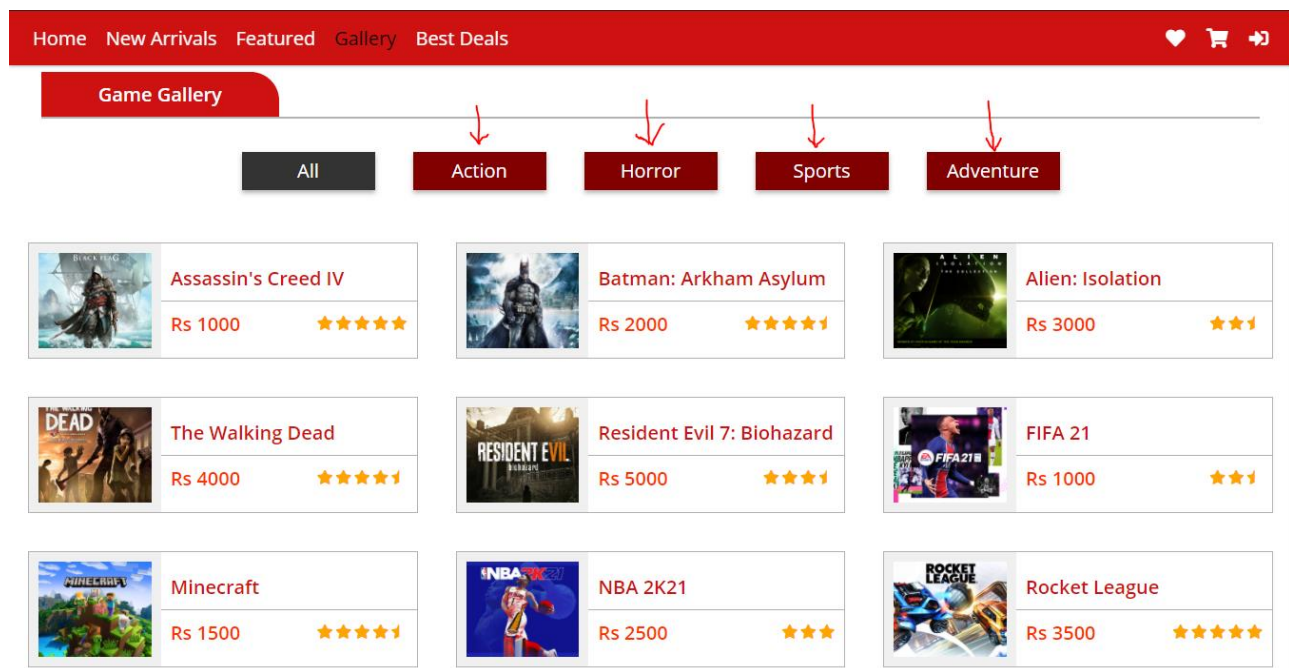


Figure 8 Categories shown in Game gallery

In the game gallery section of the home page, we can see I have provided various categories for the games so that the users can browse around the games based on the category they are in. This is one of the best examples of visibility of system status in my website.

## 2. Match between system and the real world

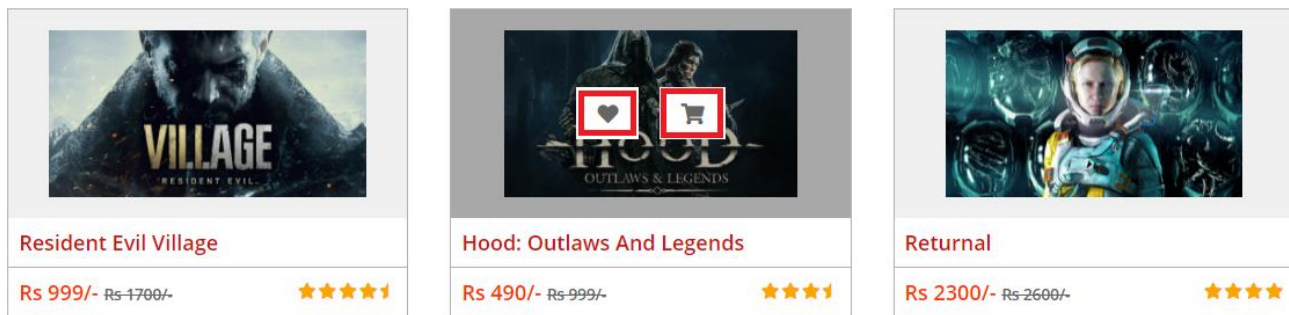


Figure 9 Products showing Like and Cart icon

In the above picture we can see that I have added the like and cart icon as the hover of the product picture. It matches to the real world as the love icon can be matches as the product which we like and the cart icon matches with the real life cart.

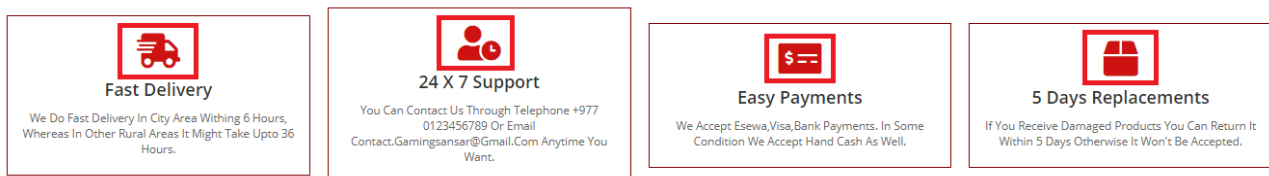


Figure 10 Icons showing the services of Website

In the above picture we can see that I have used various to showcase the services provided by my website which included the vehicle going full speed as fast delivery and others are also related to the real world.



### 3. User Control and Freedom






Game		Price	Remove
	MLB The Show 21	Rs.5000	
	Rocket League	Rs.4000	
	Outriders	Rs.3500	

Figure 11 Remove option in the cart page

As we can see in the above figure the remove option in the cart page gives users the control and freedom of the website. They can add the products whenever they want in cart page and they can remove it whenever they want as well.

### 4. Consistency and Standards



Figure 12 Headers section of home page

As other gaming ecommerce websites, Gaming Sansar also has the similar design as them. For example, the search bar is the top-right part of the website which can be simply seen by the users. Then there are the various titles as new arrivals, featured, galley and best deals which can also be found in other websites which maintains the consistency and standards of the website.

## 5. Error Prevention



Figure 13 Remove Icon in Product of Cart page

Whenever we make an error by mistakenly adding some games to the cart page, we can remove it by just pressing the trash icon. This helps to prevent the error made by users in the website.

## 6. Recognition rather than recall

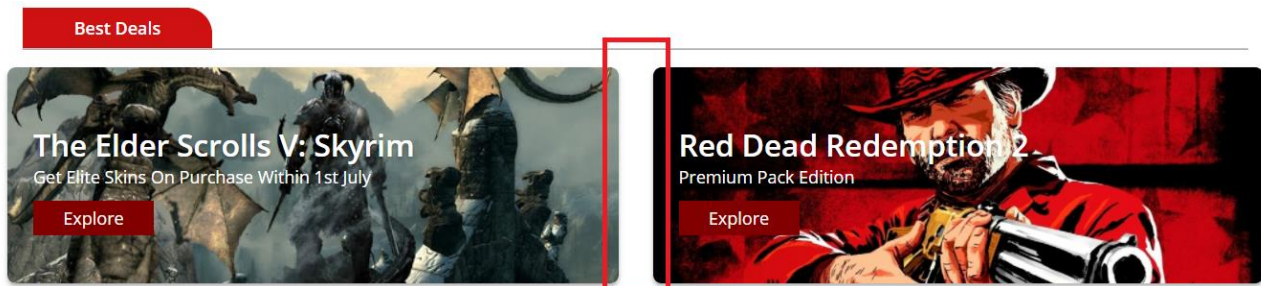


Figure 14 Margin between two Products

As we can see in the above picture, there is a margin between two products which helps the users understand that they are two different products.

## 7. Flexibility and efficiency of use

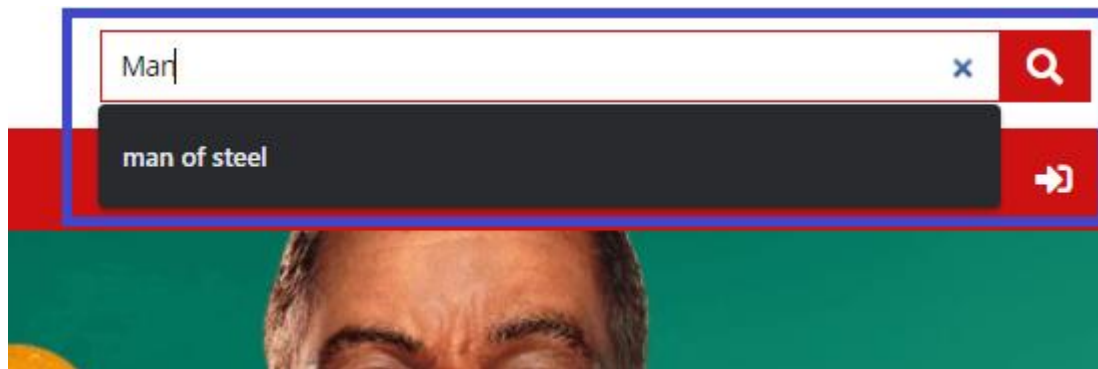


Figure 15 Recommendations in search bar

In this website, whenever users try to search for the games, the system shows the recommendation for the user making it easier for users to search for items. This helps to enhance user experience.

## 8. Aesthetic and minimalist design

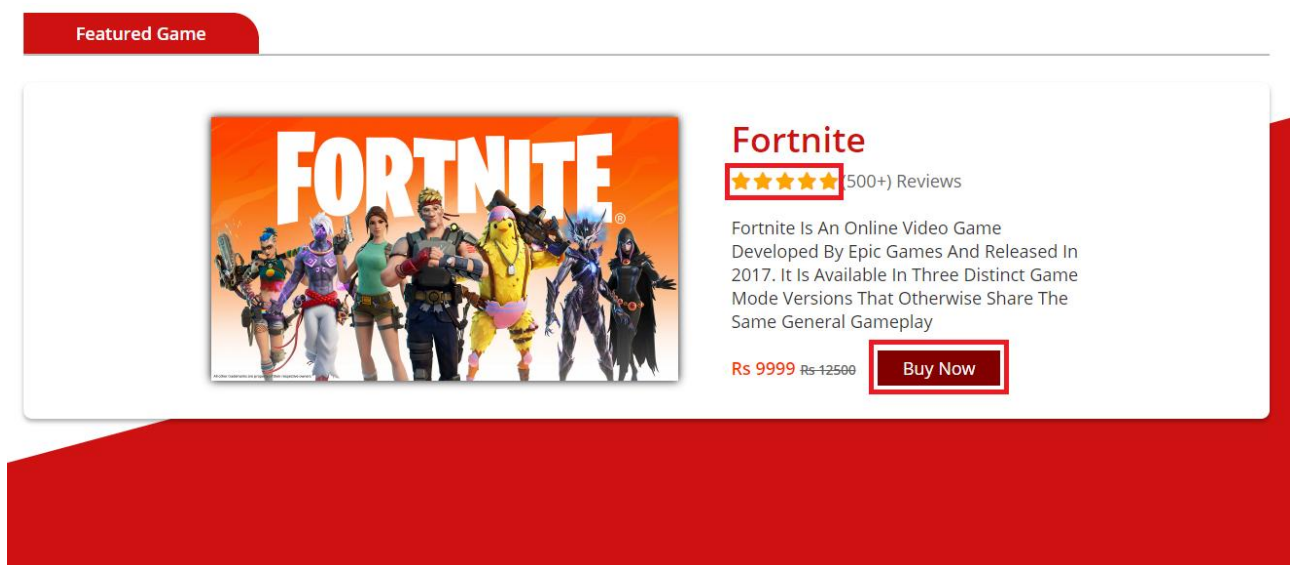


Figure 16 Examples of aesthetic and minimalist design

As we can see in the above picture, I have kept the design of the website as aesthetic and minimalist as possible. The text and colors used in text are simple and the button is also of the same color palette as the color of the title and main color of the website. I have used red color as the root or main color of the website so that it will look aesthetic. I haven't used multiple colors which doesn't match with one another.



## 9. Help users recognize, diagnose and recover from errors



Figure 17 Trash icon to remove product form the cart page

I have kept trash icon as the remove button for the games which are mistakenly kept in the cart page. This helps users recognize, diagnose and recover from the error user have made.

## 10. Help and Documentation

### Contact Us

 Kathmandu, Balaju, Nepal - 12345

 +977 0123456789

 contact.gamingsansar@gmail.com

Figure 18 Contact us section in footer

When working with the device, the users can encounter serious issues. At that point, the user should be able to contact the system's creator for assistance. In such situations, users can quickly contact the developers for assistance by dialing this phone number or sending an email.

## B. Testing

In order to improve the accessibility of my website, I have made some of the testing like color contrast checker in Figma and accessibility checking using lighthouse extension.

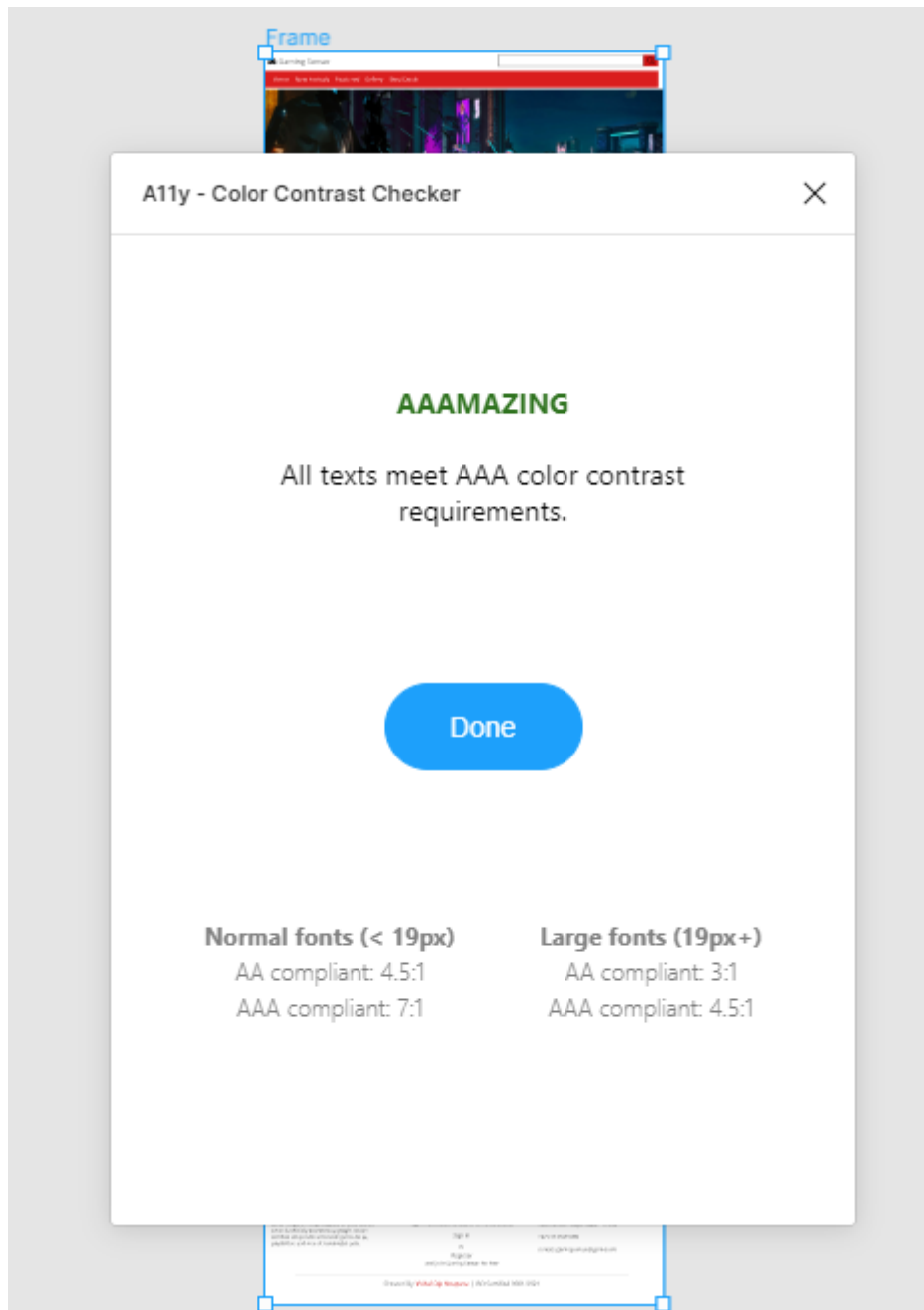


Figure 19 : Color Contrast test using A11y color contrast check in Figma

In order to measure the color contrast of the design, I used the Figma plugin A11y Color Contrast Checker, which produced the following results as shown above.

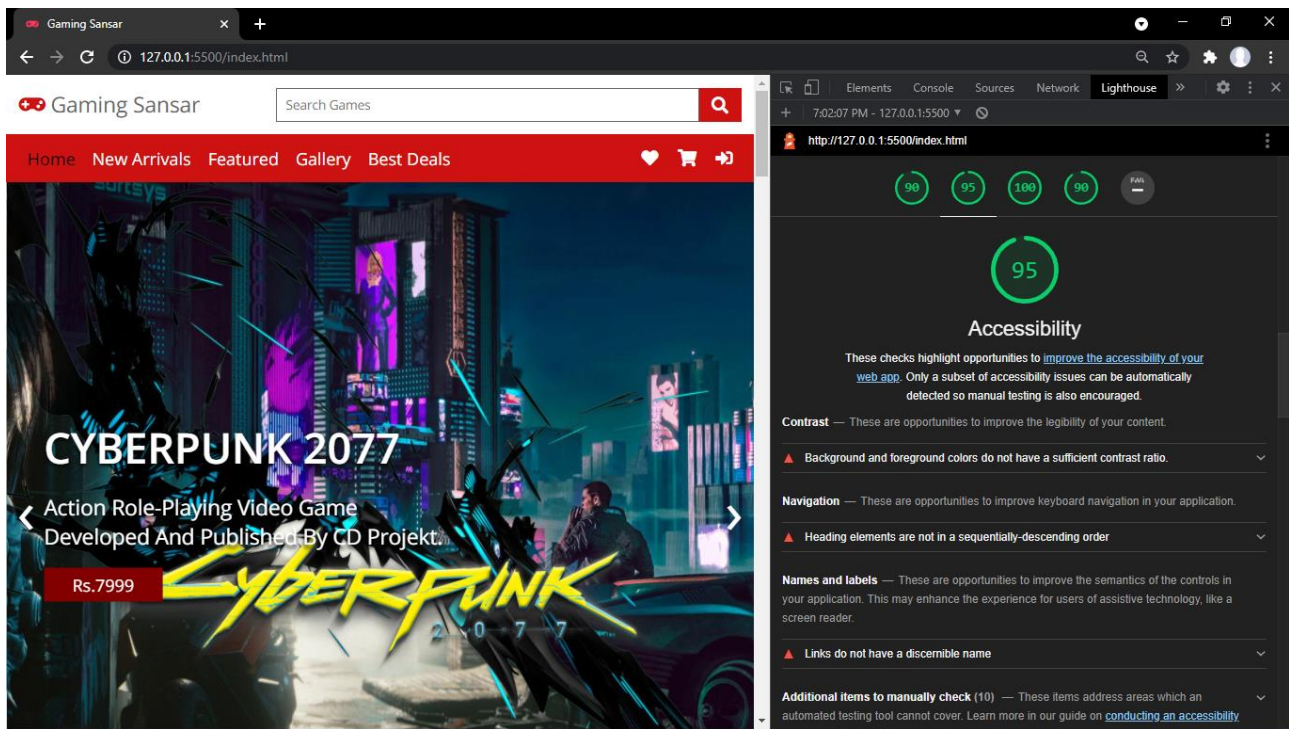


Figure 20 Accessibility testing using Lighthouse extension

Finally, I checked the accessibility of my website using lighthouse extension in google chrome whose result is shown above.

## Conclusion

Working on wireframe and design before actually going through the development of interface was very helpful to me. It was really beneficial to me, and I believe it saved me from making mistakes. Several times when planning the wireframe and architecture, I had new ideas for developing the gui. So, if I were specifically coding for designing an interface, it would be difficult for me to modify it from time to time, but because it was just a wireframe and design, it was much simpler for me to upgrade the wireframe and design anytime I had a new concept.

Jacob's usability law has improved the UI of this website. His guidelines helped me in fine-tuning the user interface. The website now tends to be simple, minimalistic, and simple to use. Following the experiments, I was able to improve the design's color contrast as well as the website's color contrast. And finally by checking the accessibility score using lighthouse extension I was able to improve the accessibility of my website which made the website look much more better.

# Appendix

## 1. Wireframes

### 1.1. Home page

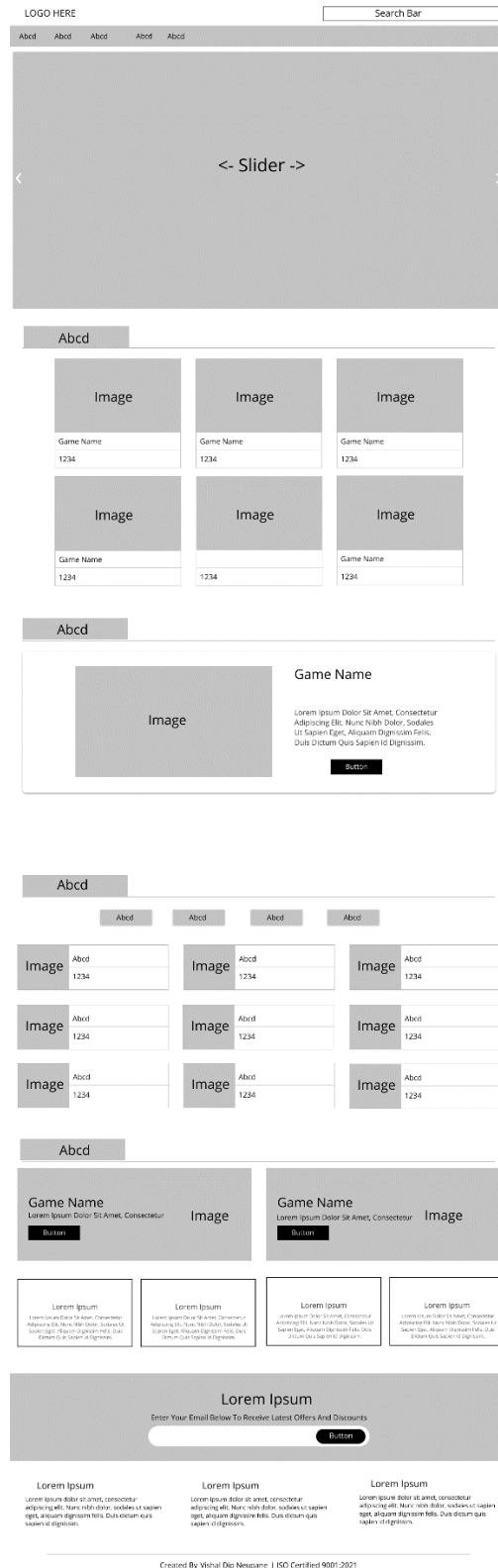


Figure 21 Wireframe of Home page

## 1.2. Cart Page

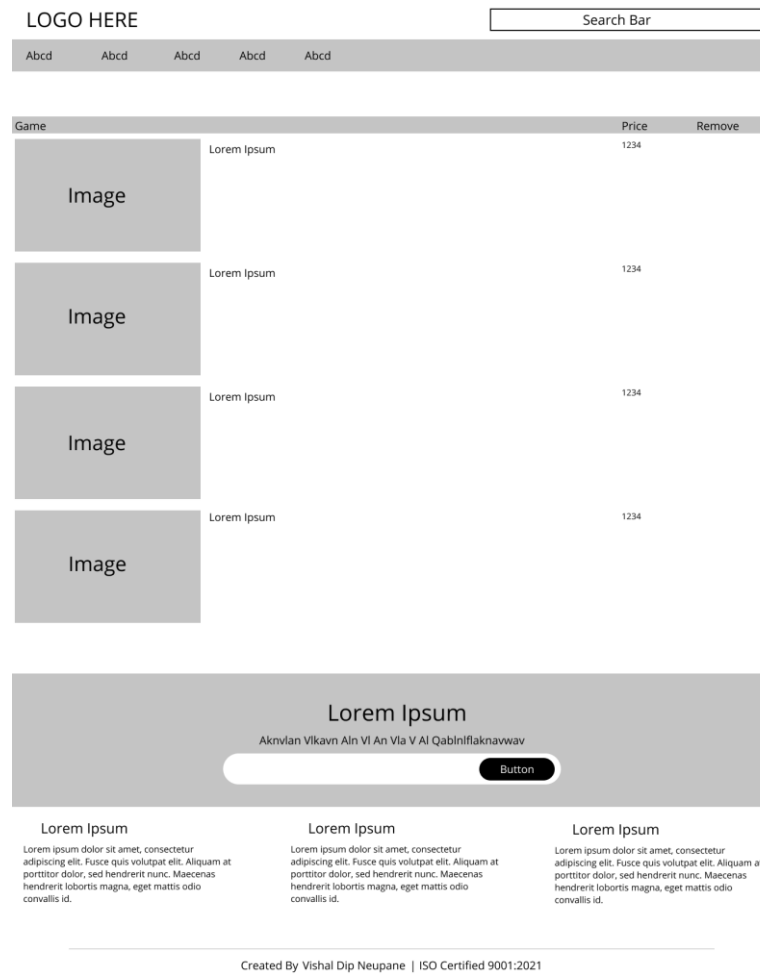


Figure 22 Wireframe of Cart page

## 1.3. Sign in Page

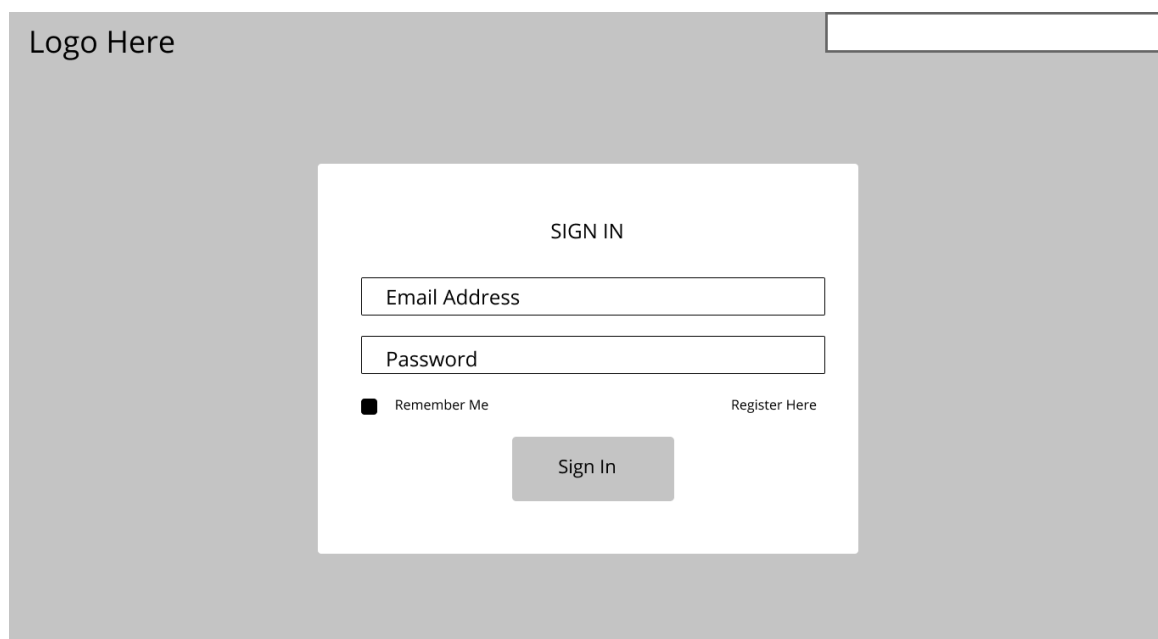


Figure 23 Wireframe of Sign in page

## 2. Design

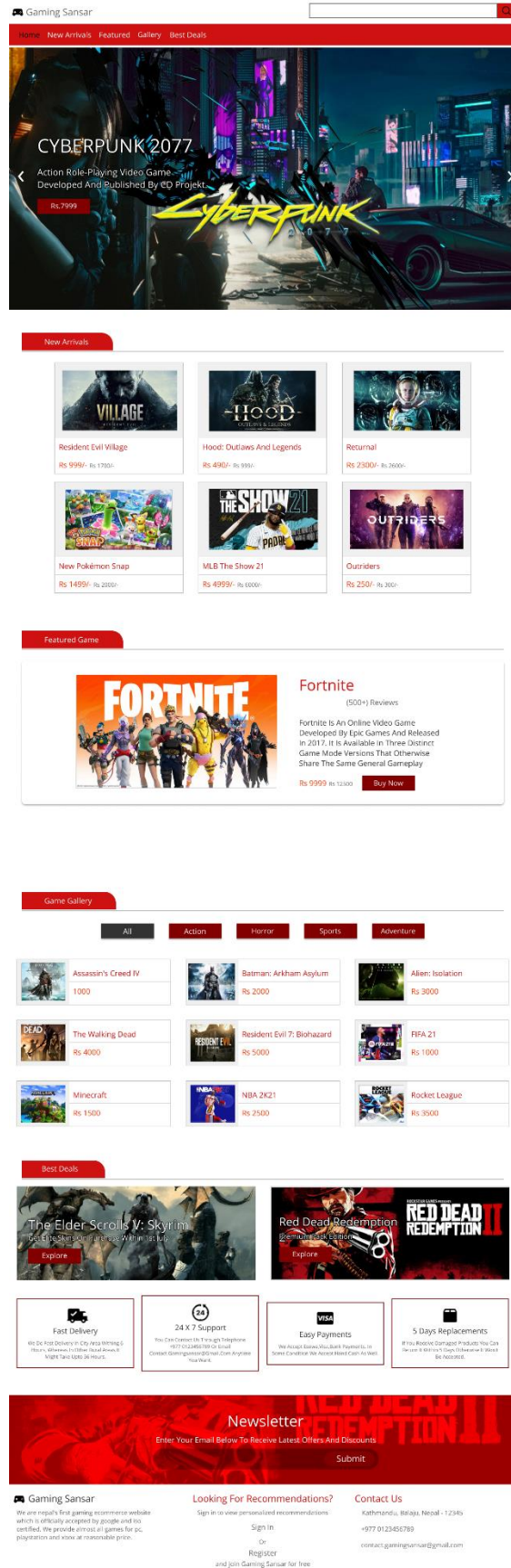


Figure 24 Design of Home page



### 3. Development

#### 3.1. Home page

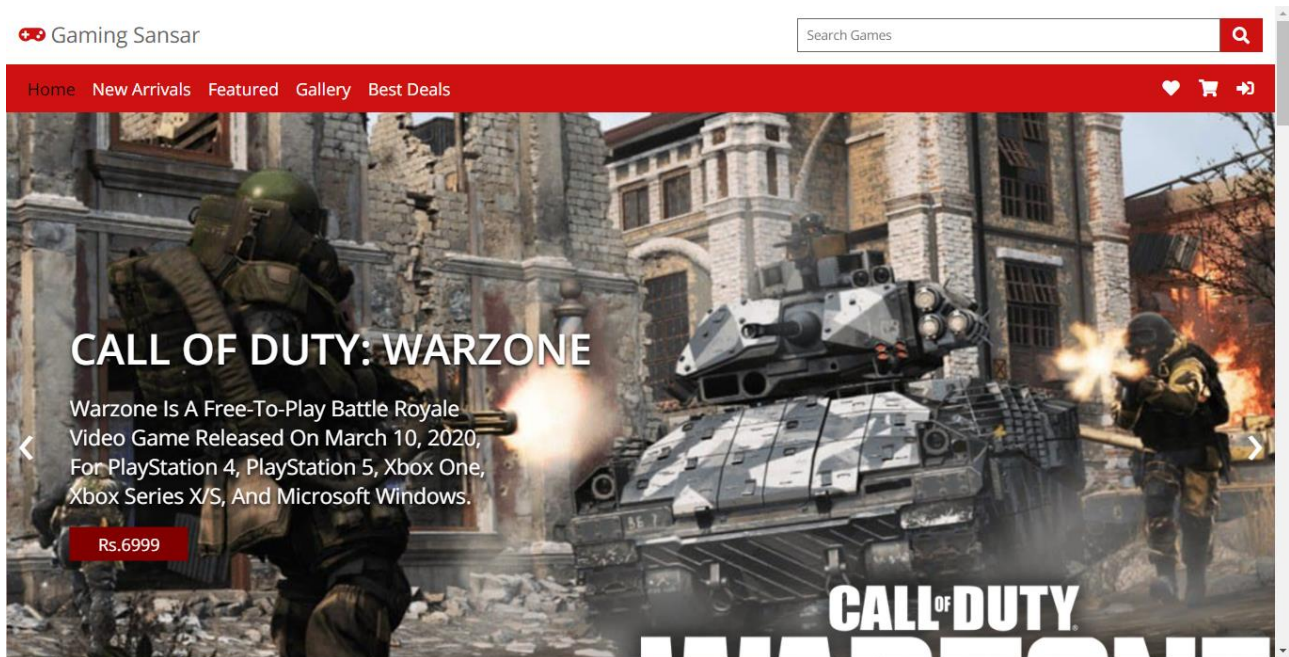


Figure 25 Development: Header and Slider of Home page

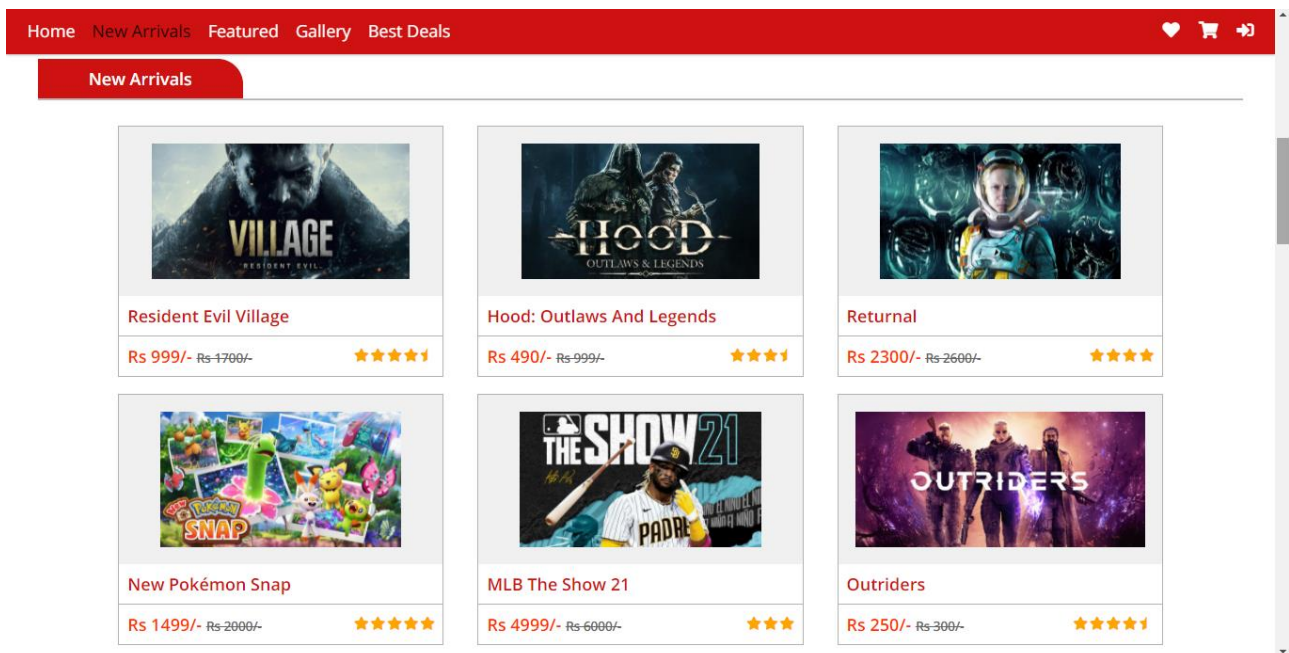


Figure 26 Development: New Arrivals section

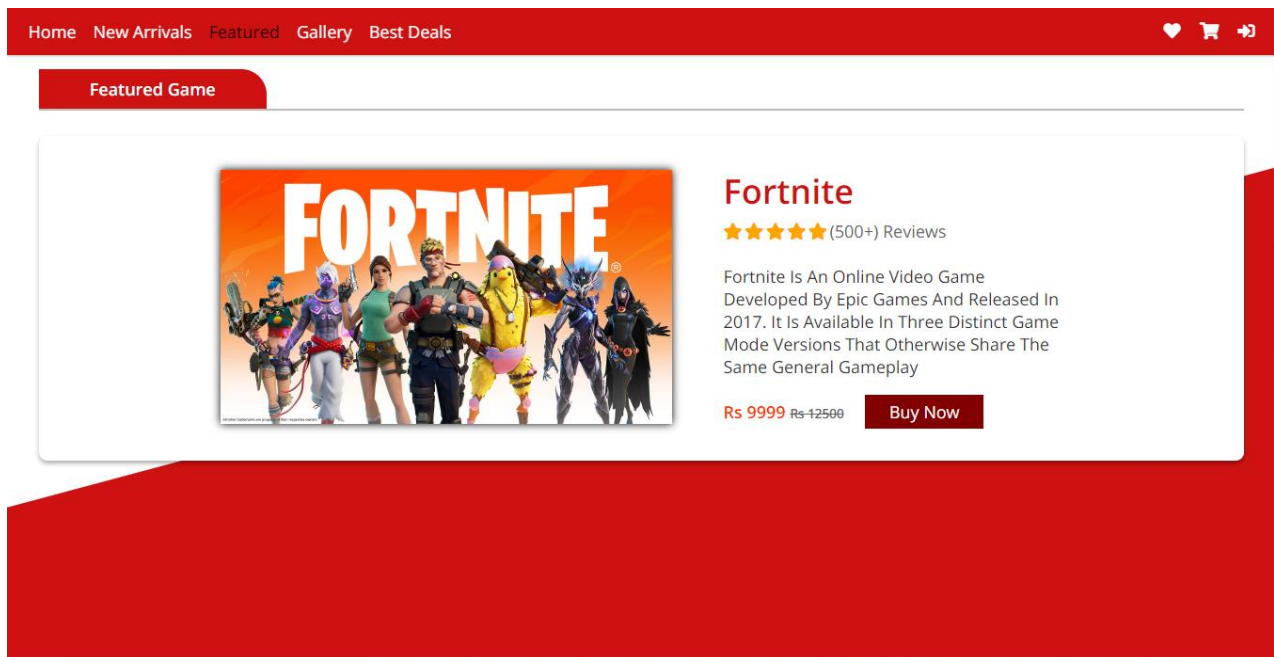


Figure 27 Development: Featured Game Section

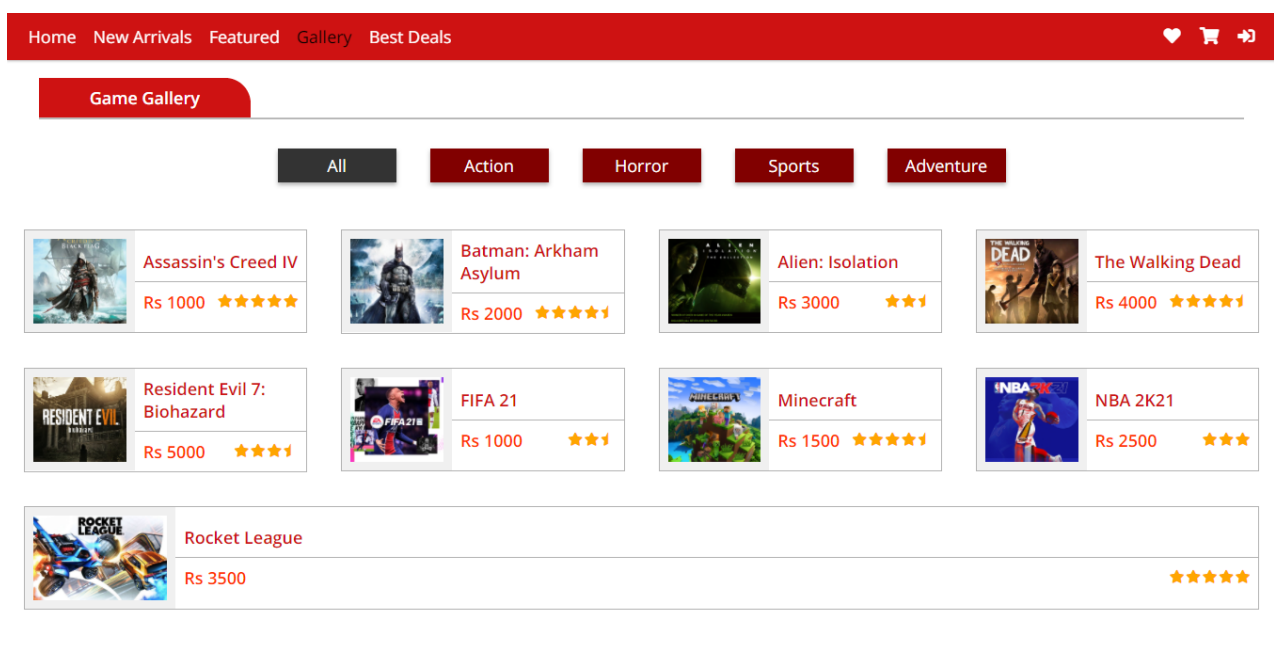


Figure 28 Development: Game Gallery Section



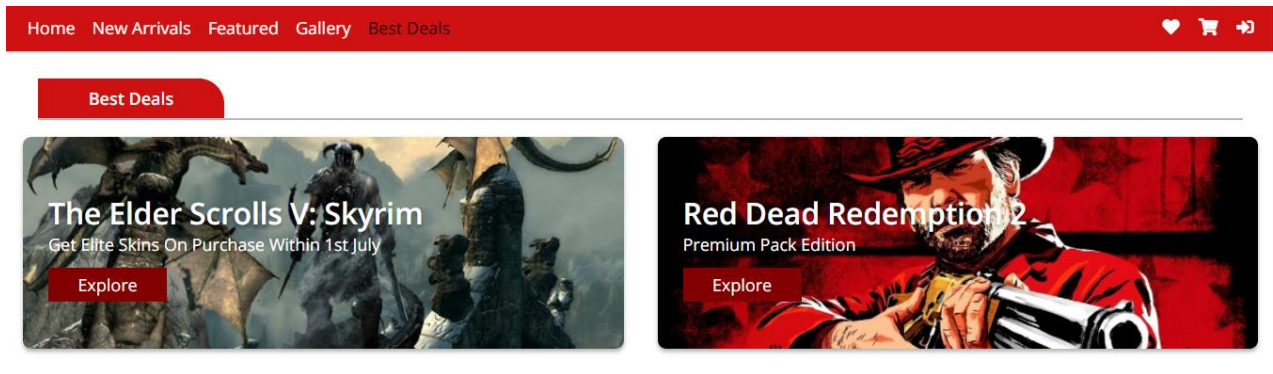


Figure 29 Development: Best Deals Section

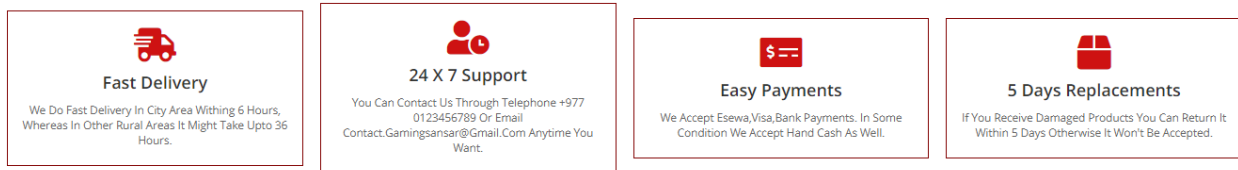


Figure 30 Development: Services provided by website



Figure 31 Development: Newsletter

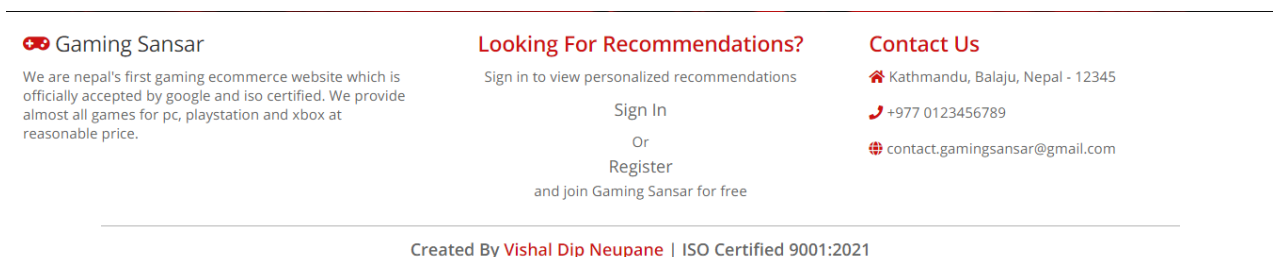


Figure 32 Development: Footer

### 3.2. Cart Page







Game		Price	Remove
	MLB The Show 21	Rs.5000	
	Rocket League	Rs.4000	
	Outriders	Rs.3500	

Figure 33 Development: Cart page

### 3.3. Sign in Page

Gaming Sansar

Search Games

SIGN IN

Username

Password

☐ Remember Me

[Register Here](#)

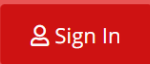
 Sign In

Figure 34 Development: Sign in page

Gaming Sansar

Search Games


### REGISTER

Username

Email

Password

Login Instead

 Register

*Figure 35 Development: Register page*