

Towards Development of a User Satisfied Management Software: An Empirical Study to Evaluate the Usability & UX Based on Cognitive Method.

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Abstract:

By nature, humans are attracted by gifts. We surprise our loved one's by giving gifts on various occasions. But in reality, because of our busy life we face problems choosing the perfect gift in a short time. To make it easy for everyone, we develop a website from which people can easily choose and buy gifts for their loved one's. At first, we summarized at least 10 papers to find out their positive side and also limitations and make ideas in which sections we can work. After completing our website, we made 12 survey questionnaires which were divided into 3 categories and evaluated that through more than 30 students and we collected their data as ratings and also considered their valuable feedback. Then, we structured the context mapping and also weighted average of survey questions of user data. Moreover, we also analyzed user evaluation with fluctuating value and created many graphs and charts to understand well. We also compare the value between threshold and feedback. Besides, we highlighted the assessment of the users and categorized them. Though our website is in its initial period, we focused on various precedence aspects. In spite of that, our website is not free from limitations. In the future, we can work on that and also introduce some features according to users' demand.

1. Introduction:

Presents are made for the amusement of who receives them. In many occasions such as birthdays, weddings, party people, gifts, many things. Some times People don't have enough time to buy gifts by going to many shops. Even many times we can't understand what to give our dear ones. That's why we made an application to solve all these problems. Here customers can find various gifts

through categories. They can limit their gifts by budgets. They can select and buy in online from anywhere, anytime. In this system we used a cognitive method, here we consider 20 students to survey our application. After analyzing their survey, experts will evaluate it.

Nowadays, there are many online based software. Online food ordering system has proposed Aditya R. et al. [1] Here they focused on to accommodate huge amount of orders at a time, automatically compute the bill, tracking system, communication between the client and customer. However, this system is not free from the limitation. Firstly, they did not take users and experts feedback to evaluate it. Secondly there are no enough options of restaurants for users. Finally, customer can not review the food.

Moreover, the online grocery management system was approached by Mr. Sachin Bhosale et al. [2] Here focused on quality food, cost efficiency and person to person has also some limitation. Firstly, they failed to evaluate their system by users and experts. Secondly, a communication system in person to person conversation. So everyone would not get the food with the same price. Finally, the network has an issue here.

Here in our system we try to improve in some criticized areas. Firstly consider almost 30 participants which is more than previously described projects. Secondly our system evaluates both my users and experts. Finally our project is cost effective and it has a purchasing and delivery system. We mainly work in this area.

At present, our country is booming in e-commerce section. People always love to gift many things to their loved one. But in term of time and confusion many people can't gift their relative or dearest one. Because of this we made an application in which we can give people a best idea of many gifts. They can purchase anything at home. Cost limit will help them to find out their preferable gifts.

The nobilities of our applications are

- More users were used to evaluate our system.
- No phone call network issue.
- Experts also evaluated our system.

- Tracking system is also used for the customers.
- Price of each product is equal for all the customers.
- Rating might also be given by the customers.

After this section, The left part of this paper is classified in the following manner. Section 2 describes the Literature Review of 10 research papers. Section 3 provides the cognitive methodology and their 8 steps(3.1 to 3.8) to describe them. We show the implementation of this methodology with various statistical graphs and charts and analyze them in section 4. Finally, the conclusion and future works are added in section 5

2.Literature Review:

- Muhammad Nazrul Islam et al. investigated usability of mobile health application in Bangladesh Health Application in Bangladesh. Here they used system Usability scale (SUS) to evaluate this system.

Firstly, they considered 30 participants to evaluate it. Secondly, they also included experts to evaluate it. Finally, they evaluated 9 mHealth applications.

They worked on various important aspects. Here they focused on visibility of system status, user control in system navigation, realistic error management, minimizing the working memory load and many more.

However, this system is also not free from limitation. Firstly, they did not focus on the emergency moment. Lastly, medicine and delivery systems also may include. [\[3\]](#)

- Muhammad Nazrul Islam et al. approached interfaces with semiotics to evaluate web and mobile user. Here they used semiotic interface sign design and Evaluation(SIDE) framework to design and evaluate. Firstly, they considered 58 students for analytical evaluation of web interfaces. Secondly, they took 28 students for analytical evaluation of mobile interfaces. Finally, they analyzed the data properly.

Firstly, here they focused on providing an overall idea about intuitive interface signs. Secondly, they also recommended possible solutions. Finally, additional resources or extra budget will be required to conduct the SE integrating with the HE.

In spite of that, this study has some limitations. Firstly, they didn't produce a standard usability problem set for each application. Secondly, They may include users of various sectors. Finally, experts evaluation may also include. [4]

- Sadia Zahin Diya et al. proposed applying brain-computer interface technology for evaluation of user experience in playing games. A light weighted experiment named 'DX-Ball' was conducted to evaluate the system.

Firstly, they considered one game's experienced computer__for evaluation. They completed their evaluation by two levels of games that detect emotional state. Lastly, they analyzed the data and identified that focus increased in difficulty to survive in the game.

In this application they have a fantastic job. Here they used BCI technology to evaluate UX of players. It works on user emotion. Also found the way to evaluate game effectiveness using gamers emotion. It helps practitioners to improve usability and user experience of games.

However. This system also has some limitations. Firstly, it can't detract the emotion for a long time. Secondly, without heart-beat, blood-pressure emotion evaluation was incomplete. Lastly, only one participant would be insufficient for evaluation. [5]

- Mohammad Nazrul Islam et.al. approached accessing the usability of e-Government websites of Bangladesh. Here they used empirical two analytical usability evaluation methods.

At first, Here they considered 22 experts to evaluate it. Finally the qualitative and quantitative data were collected from the evaluation reports

Here they did marvelous job. Firstly, they considered 6 websites which is a great plan. Secondly, here they worked on usability problems. Finally, here they also set priority on the problems

However, there are also some limitations. Firstly, structural relationships between usings are not properly considered. Secondly also consider some general where to evaluate. Finally, there is no proper explanation of their evaluation. [6]

- Md Abdur Razzak et al. proposed a read map for HCL in Military Applications. They used explorative and empirical methodology.

At first, there were 20 participants for the survey all were military personnel. According to their demand they developed the application and lastly, 30 soldiers from fighting arms were selected to evaluate the app.

Here they worked on availability, robustness, accuracy, reliability, learnability, maintainability, ease-of-use and flexibility

However, there are also a few limitations. Firstly, System was highly dependent on the data connectivity, hardware accessories, the only one application can create an opportunity of lack of usability. [7]

- Kazi Md. Munim et al. approached a tool for UX Evaluation using facial expression. They have implemented the system using Affdex SDK

Here to detect gender and emotion of the participants Affdex SDK and the webcam were used. At last 4 participants were considered to evaluate the application

Here, they focused on developing an online, user friendly and cost effective tool with a report instantly for usability evaluation.

However, this application is not free from limitation. Firstly, It can only judge expression not inside emotional. Secondly, Not checking heartbeat and temperature are the factors of to wrong evaluation. Finally, more participants should considered to evaluate this applicant.`[8]

- Mohammad Nazrul Islam et al. proposed a mobile application for Mental Health care during COVID-19 pandemic named “MuktoMon” App. Here the usability and usefulness of their application were evaluated through the System Usability Scale (SUS) method.²³

Firstly, they considered 37 participants for a semi-structured interview for the requirement gathering purpose and analyzed these. Then they made their app according to these.

Secondly, to evaluate the app “MuktoMona” through (SUS) a total of 20 participants were recruited.

In this app they have done a fabulous job. They made their app according to user demand, also they took user feedback. Here they focused on self care, chat bot, books, call for doctor and provided authentic news.

However, this system is not free from some limitations also. Firstly, they considered only the users instead of user and expert both. Secondly, there is no service for emergency conditions for the patients. Thirdly, this is only made for mobile, not as a website. Lastly, though this app was evaluated using (SUS) method, in the future they have an open way to consider more methods to evaluate their app “Mukto Mona”.^[9]

- Nazmul Hasan et al here approached an interactive computer enabled tabletop learning tool for children with special needs. Here they used a mixed method research approach and the data were analyzed according to qualitative data analysis approaches and descriptive statistics.

At first, to develop the system they gathered requirements of teachers and the special children through technical ways. Finally, after completing the task they established a table and bar chart to accomplish the method.

In this computer enabled tool they focused on various aspects like, effective visualization, asking help, task completion time, easy to use and learn.

In spite of that, this system also has some limitations. Firstly, this is a single-touch and single user device instead of a multi-user device. Secondly, they considered only one special school rather than more special schools. Lastly, in future this computer-based tool will have to be designed for affordable and cost-effective multi-touch, multi-user and also may include helpful table-top games.[\[10\]](#)

- Ugma Hasan et al. proposed developing an TOT based gaming application for improving cognitive skills of autistic kids. A light weighted evaluation occurred here.

Firstly they considered five faculty members as test subject. Secondly they were the tools and played the games. Finally, data during their playing games were collected and also considered their opinions.

Here, they focused on various helpful game options, animation, visualization and ease of use.

However, there are also some limitations. Firstly, for hardware there is a cost issue. Secondly, they evaluated this system in only an institute. Finally, it is only for autistic children who are 3 years or above.[\[11\]](#)

- MD. Arman Ahmed et al. proposed a mobile application for illiterate people to reduce digital divide. Here they used snowball sampling method.

Firstly, they considered 40 illiterate people for requirement gathering to develop the app.

Lastly, they took six illiterate people of different professions to evaluate this application.

In this system they focused on how to make this app user-friendly, written in mother tongue, easy to learn, effective visualization, easy for job search, and intention to use a mobile application.

In spite of that, this application has a few limitations as well. Firstly, they took very few participants for evaluation and it was taken in a laboratory environment. Secondly, there is no helping system. Lastly, in future they can also add some features of learning mother tongue and English. [12]

3.Methodology:

Here we used **cognitive methodology** to evaluate our website. the steps of our methodology approach is given below:

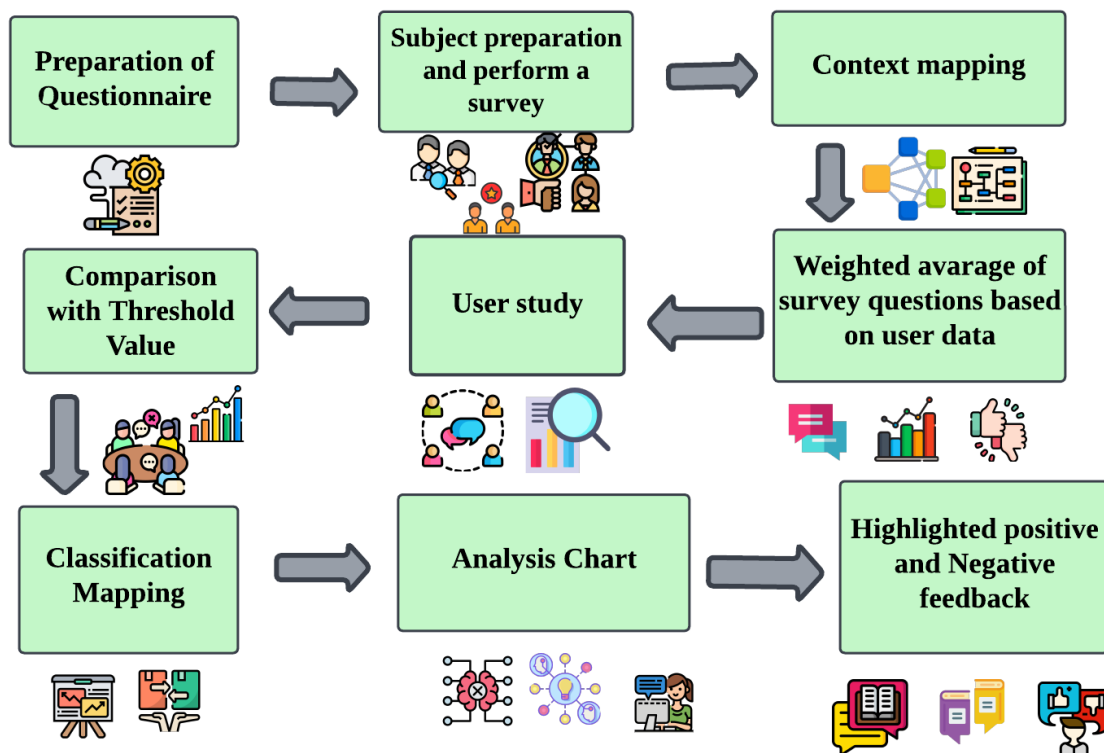


Figure-01:Cognitive Methodology steps

❖ 3.1: Preparation of questionnaire :

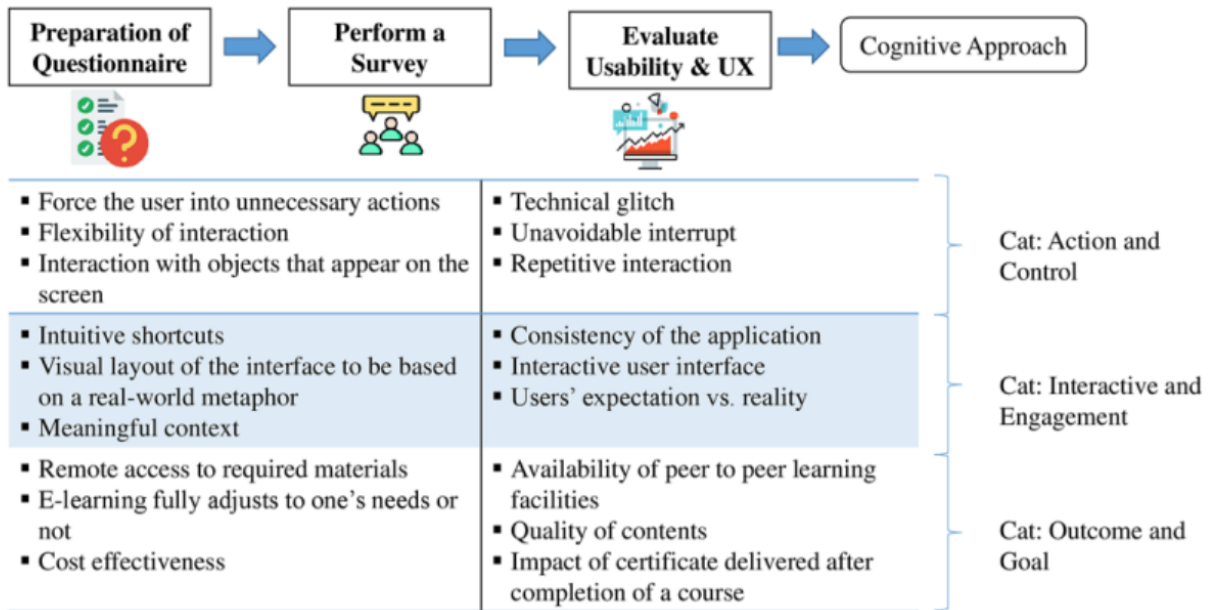


Figure-02:Explanation of the category.

Here we prepared 12 questionnaires divided into 3 categories. Each category had 4 questions. The categories are:

- Action & Control.
- Interactive & Engagement.
- Outcome & Goal.

We created the questionnaires according to our website named “Gift Shop management” and we focused on every aspect of customer perspective in the questionnaires. We used some topics from each category.

Here is the questionnaires to evaluate our website:

Table-01: 12 Questions according to category

Category	Topic	Question
AC	Unavoid interrupt	Q1: What is your opinion about unavoidable interruptions like ads?
AC	Technical glitch	Q2: How do you like to address technical

AC	Repetitive interaction	problem parameters during shopping? Q3: How would you like to remark on the comfort parameter in terms of repetitive interaction?
AC	Flexibility of interaction	Q4: How would you like to evaluate the control over the environment parameter?
IE	Intuitive shortcuts	Q5: Are there enough shortcuts to comfort you?
IE	Meaningful context	Q6: Did you like the virtual shopping platform; remark on your satisfaction level?
IE	User's expectation versus reality	Q7: Did you get the right quality of products; remark your satisfaction level?
IE	Visual layout of the interface to be based on a real-world metaphor	Q8: How would you describe the shopping environment, realistic or too artificial?
OG	Availability of peer-to-peer shopping	Q9: How would you like to address the availability of peer-to-peer facilities?
OG	Cost effectiveness	Q10: Are you satisfied with the cost rate of the products?
OG	Quality of contents	Q11: How would you like to evaluate the quality of content?
OG	E-shopping outcomes to one's need	Q12: Do you want to recommend the shopping platform to others; remark on your satisfaction level?

❖ **3.2: Subject Preparation and Perform a Survey:**

We considered 30 students to attend in our survey. There were 21 male and 8 female students in composite. The age boundaries from 22 to 24 on average

.They all are the 3rd year students of Bangladesh University of Business & Technology university in cse subject. Google form was used to perform our survey. contributors were asked to give ratings of all the questionnaires. Moreover, At last we included an assessment section in the google forms for their valuable feedback.We collected their both productive and veto comments to analyze them.

❖ 3.3: Context mapping

Table-02: Seven(7) Categories Context Mapping

Context	Question Range	Category
C1	[Q1-Q4]	AC
C2	[Q5-Q8]	IE
C3	[Q9-Q12]	OG
C4	[Q1-Q4],[Q5-Q8]	AC,IE
C5	[Q1-Q4],[Q9-Q12]	AC,OG
C6	[Q5-Q8],[Q9-Q12]	IE,OG
C7	[Q1-Q12]	AC,IE,OG

In this step we have done our context mapping. We divided our selected 12 questions into 7 contexts(C1-C7). Here C1 is in the Action & Control category. We evaluated it to get an average of Q1 to Q4 average rating. C2 is in the Interactive & Engagement category. We evaluated it to get an average of Q5 to Q8 average rating. C3 is in the Outcome & Goal category. We evaluated it to get an average of Q9 to Q12 average rating.C4 is in the Action & Control ,Interactive & Engagement category. We evaluated it to get an average of C1 and C2. C5 is in the Action & Control , Outcome & Goal category. We evaluated it to get an average of C1 and C3. C6 is in the Interactive & Engagement , Outcome & Goal category. We evaluated it to get an average of C2 and C3. C7 is in the Action & Control, Interactive & Engagement , Outcome & Goal category. We evaluated it to get an average of C1,C2 and C3. Actually, here C7 is the mean of all the questionnaires.

3.4:weighted average of survey questions of user data & user study:

Timestamp	Email Address	Age?	Gender?	Q1: What is your opinion about user-visible interruptions like ads?		Q2: How do you like to address technical problem parameters during shopping?		Q3: How would you like to interact on the comfort parameter in terms of repetitive interaction?		Q4: How would you like to evaluate the system over the environment parameter?		Q5: Are there enough shortcuts to comfort you?		Q6: Did you like the virtual shopping platform? remark your satisfaction level?		Q7: Did you get the right quality of products - use your satisfaction level?	
					Q1		Q2		Q3		Q4		Q5		Q6		Q7
2	11/5/2022 13:02:00	1821120309@gmail.com	21	Male	Satisfied	4	Satisfied	4	Satisfied	4	Highly Satisfied	5	Satisfied	4	Highly Satisfied	5	Highly Satisfied
3	11/5/2022 23:44:16	1821120304@gmail.com	22	Male	Neutral	3	Neutral	3	Satisfied	4	Highly Satisfied	5	Highly Satisfied	5	Satisfied	4	Highly Satisfied
4	11/5/2022 23:47:27	18211101124@gmail.com	21	Female	Highly Satisfied	5	Satisfied	4	Satisfied	4	Satisfied	4	Satisfied	4	Satisfied	4	Satisfied
5	11/5/2022 23:51:40	18201101100@gmail.com	24	Male	Neutral	3	Satisfied	4	Neutral	3	Satisfied	4	Neutral	3	Highly Satisfied	5	Satisfied
6	11/5/2022 23:57:08	1819203002@gmail.com	23	Male	Disatisfied	2	Neutral	3	Neutral	3	Highly Satisfied	5	Neutral	3	Neutral	3	Neutral
7	11/5/2022 0:00:10	18201203042@gmail.com	24	Male	Satisfied	4	Satisfied	4	Neutral	3	Neutral	3	Satisfied	4	Satisfied	4	Highly Satisfied
8	11/5/2022 0:04:47	18201203051@gmail.com	25	Male	Satisfied	4	Neutral	3	Satisfied	4	Highly Satisfied	5	Satisfied	4	Neutral	3	Highly Satisfied
9	11/5/2022 0:06:57	18201203053@gmail.com	24	Male	Disatisfied	2	Disatisfied	2	Disatisfied	2	Neutral	3	Neutral	3	Highly Satisfied	5	Satisfied
10	11/5/2022 0:09:34	18201203050@gmail.com	22	Male	Highly Satisfied	5	Satisfied	4	Satisfied	4	Satisfied	4	Satisfied	4	Satisfied	4	Neutral
11	11/5/2022 0:11:31	18201203050@gmail.com	23	Male	Neutral	3	Satisfied	4	Satisfied	4	Highly Satisfied	5	Neutral	3	Neutral	3	Satisfied
12	11/5/2022 0:13:46	18201101100@gmail.com	21	Female	Satisfied	4	Neutral	3	Highly Satisfied	5	Satisfied	4	Disatisfied	2	Highly Satisfied	5	Disatisfied
13	11/5/2022 8:36:08	18202103337@gmail.com	22	Female	Satisfied	4	Highly Satisfied	5	Neutral	3	Satisfied	4	Satisfied	4	Satisfied	4	Highly Satisfied
14	11/5/2022 13:47:39	18201203050@gmail.com	22	Female	Highly Satisfied	5	Highly Satisfied	5	Highly Satisfied	5	Highly Satisfied	5	Neutral	3	Neutral	3	Satisfied
15	11/5/2022 13:49:41	18201101100@gmail.com	24	Male	Satisfied	4	Highly Satisfied	5	Neutral	3	Satisfied	4	Neutral	3	Neutral	3	Satisfied
16	11/5/2022 13:51:37	18201203051@gmail.com	21	Female	Highly Satisfied	5	Highly Satisfied	5	Satisfied	4	Satisfied	4	Satisfied	4	Satisfied	4	Highly Satisfied
17	11/5/2022 13:53:24	18201101100@gmail.com	22	Female	Satisfied	4	Neutral	3	Satisfied	4	Neutral	3	Satisfied	4	Satisfied	4	Neutral
18	11/5/2022 13:54:45	18201101100@gmail.com	23	Male	Highly Satisfied	5	Satisfied	4	Satisfied	4	Highly Satisfied	5	Neutral	3	Highly Satisfied	5	Neutral
19	11/5/2022 13:56:35	18201203050@gmail.com	22	Female	Satisfied	4	Satisfied	4	Neutral	3	Highly Satisfied	5	Neutral	3	Highly Satisfied	5	Highly Satisfied
20	11/5/2022 13:59:23	18201203050@gmail.com	24	Male	Satisfied	4	Neutral	3	Satisfied	4	Satisfied	4	Satisfied	4	Highly Satisfied	5	Highly Satisfied
21	11/5/2022 14:01:39	18202103200@gmail.com	21	Male	Highly Satisfied	5	Highly Satisfied	5	Highly Satisfied	5	Highly Satisfied	5	Satisfied	4	Satisfied	4	Neutral
22	11/5/2022 14:04:16	18201203050@gmail.com	22	Male	Highly Satisfied	5	Highly Satisfied	5	Satisfied	4	Satisfied	4	Satisfied	4	Satisfied	4	Neutral
23	11/5/2022 14:06:02	18202103190@gmail.com	22	Male	Satisfied	4	Satisfied	4	Satisfied	4	Satisfied	4	Neutral	3	Neutral	3	Highly Satisfied
24	11/4/2022 11:43:58	18201203050@gmail.com	23	Male	Neutral	3	Satisfied	4	Satisfied	4	Neutral	3	Neutral	3	Highly Satisfied	5	Neutral
25	11/4/2022 11:47:58	18201203050@gmail.com	22	Male	Disatisfied	2	Neutral	3	Neutral	3	Satisfied	4	Neutral	3	Satisfied	4	Highly Satisfied
26	11/4/2022 15:16:54	18202103330@gmail.com	22	Male	Neutral	3	Neutral	3	Neutral	3	Satisfied	4	Satisfied	4	Satisfied	4	Neutral
27	11/4/2022 15:19:16	18202103330@gmail.com	24	Male	Disatisfied	4	Satisfied	4	Satisfied	4	Neutral	3	Satisfied	4	Neutral	3	Highly Satisfied
28	11/4/2022 15:22:51	18202103330@gmail.com	23	Male	Satisfied	4	Neutral	3	Neutral	3	Satisfied	4	Satisfied	4	Highly Satisfied	5	Neutral
29	11/4/2022 15:43:23	18202103333@gmail.com	24	Female	Satisfied	4	Satisfied	4	Neutral	3	Satisfied	4	Satisfied	4	Neutral	3	Highly Satisfied
30	11/5/2022 11:47:28	18202103337@gmail.com	23	Male	Satisfied	4	Satisfied	4	Neutral	3	Satisfied	4	Satisfied	4	Satisfied	4	Highly Satisfied
31																	

Q8: How would you describe the shopping environment, realistic or too artificial?		Q9: How would you like to address the availability of peer-to-peer facilities?		Q10: Are you satisfied with the cost rate of the products?		Q11: How would you like to evaluate the quality of contents?		Q12: Do you want to recommend the shopping platform for others, remark on your satisfaction level?		Share Your Experience how can be improve this site?	
	Q8		Q9		Q10		Q11		Q12		
Satisfied	4	Neutral	3	Satisfied	4	Satisfied	4	Satisfied	4	Cost efficient. The loading of the website can be improved.	4
Highly Satisfied	5	Satisfied	4	Satisfied	4	Neutral	3	Neutral	3	It was very smooth experience.	3
Satisfied	4	Neutral	3	Neutral	3	Highly Satisfied	5	Highly Satisfied	5	Enjoyed all the pages and the products.	5
Satisfied	4	Neutral	3	Satisfied	4	Satisfied	4	Satisfied	4	More product can be added for better improvement of the website.	4
Neutral	3	Highly Satisfied	5	Satisfied	4	Highly Satisfied	5	Highly Satisfied	5	Create a Q&A platform for discussion with the user.	5
Highly Satisfied	5	Highly Satisfied	5	Satisfied	4	Satisfied	4	Highly Satisfied	5	Make it more understandable for beginners with easy examples. Images & Illustration can be improve a little bit.	5
Highly Satisfied	5	Neutral	3	Neutral	3	Neutral	3	Satisfied	4	Create options for customers feedback. Get fast and friendly support from Q & A area.	4
Neutral	3	Highly Satisfied	5	Disatisfied	2	Highly Satisfied	5	Neutral	3	Too much color combination. Content quality can be improve a little bit.	3
Neutral	3	Neutral	3	Neutral	3	Satisfied	4	Highly Satisfied	5	Improve website speed quality. Provide better quality. Make it easy and usable for every age.	5
Satisfied	4	Neutral	3	Neutral	3	Satisfied	4	Satisfied	4	Get more human interaction. Try to make it easy to use for all user.	4
Neutral	3	Neutral	3	Disatisfied	2	Highly Satisfied	5	Highly Satisfied	5	Create user feedback option. Make it more understandable for beginners with easy example.	5
Highly Satisfied	5	Satisfied	4	Satisfied	4	Highly Satisfied	5	Neutral	3	It was a great experience but Mobile version is needed.	3
Satisfied	4	Satisfied	4	Satisfied	4	Neutral	3	Satisfied	4	It is user friendly. I like this project and more product can be added.	4
Satisfied	4	Satisfied	4	Neutral	3	Neutral	3	Neutral	3	Good project. It can be more improved and also create options for customer feedback.	3
Satisfied	4	Satisfied	4	Neutral	3	Highly Satisfied	5	Satisfied	4	Nice project and very helpful and also make navigation as easy and quick as possible.	4
Satisfied	4	Satisfied	4	Neutral	3	Neutral	3	Neutral	3	Good and helpful but improve responsive design for every device.	3
Satisfied	4	Neutral	3	Satisfied	4	Satisfied	4	Highly Satisfied	5	I enjoyed the cart option on the website.	5
Neutral	3	Satisfied	4	Neutral	3	Satisfied	4	Neutral	3	The mobile banking transaction system was very good and easy.	3
Neutral	3	Satisfied	4	Satisfied	4	Satisfied	4	Satisfied	4	Make website more minimalist. When published make sure to improve network servers.	4
Neutral	3	Satisfied	4	Satisfied	4	Neutral	3	Highly Satisfied	5	It is a good project with good products.	5
Neutral	3	Neutral	3	Neutral	3	Highly Satisfied	5	Highly Satisfied	5	Very happy with the pricing of the products. Buying experience was very good.	5
Disatisfied	2	Highly Satisfied	5	Disatisfied	2	Neutral	3	Neutral	3	Improve product quality and reduce price.	3
Neutral	3	Satisfied	4	Neutral	3	Satisfied	4	Highly Satisfied	5	Such a good project. Please reduce ads on your website.	5
Highly Satisfied	5	Highly Satisfied	5	Highly Satisfied	5	Satisfied	4	Neutral	3	I like this website. But reduce ads.	3
Neutral	3	Satisfied	4	Satisfied	4	Highly Satisfied	5	Highly Satisfied	5	Product buying experience was fantastic.	5
Neutral	3	Satisfied	4	Neutral	3	Neutral	3	Satisfied	4	UI can be more suitable and more products can be added.	4
Neutral	3	Neutral	3	Neutral	3	Highly Satisfied	5	Highly Satisfied	5	Have peer-to-peer facilities and make more realistic.	5
Satisfied	4	Neutral	3	Neutral	3	Neutral	3	Satisfied	4	Login and registration page takes too many time.	4
Highly Satisfied	5	Satisfied	4	Satisfied	4	Satisfied	4	Highly Satisfied	5	Easy for registration. Navigation bar is user friendly.	5

Figure 03- :all the assessment and feedback of the users in excel.

Here we took all the ratings and reviews from google form to insert it in excel . Here we evaluated the mean of each questionnaire and also did the context mapping according to that. Additionally, we also gathered the feedback of the users to further analysis.

3.5: Comparison with threshold value

Context	Domain	Agg.score (Threshold)	Fluctuation Level	Fluctuation Notation	User Satisfied or Not	Opinion
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Figure04- :comparison between threshold and standard value (4.0)

Here , we will compare agg.score of C1 to C7 with 4.00 and will see the difference . we will assign it at a fluctuation level. If the value of Context is larger than standard 4, then fluctuation notation will be positive. Otherwise, it will be negative. If the context value is also 4.00 then it will be neutral. If fluctuation notation is positive that means users are satisfied and we push the correct sign on the User Satisfied or Not column. At last, according to this data we will give our opinion.

❖ **3.6: Classification mapping:**

Table03-: divide all the feedback into positive and negative

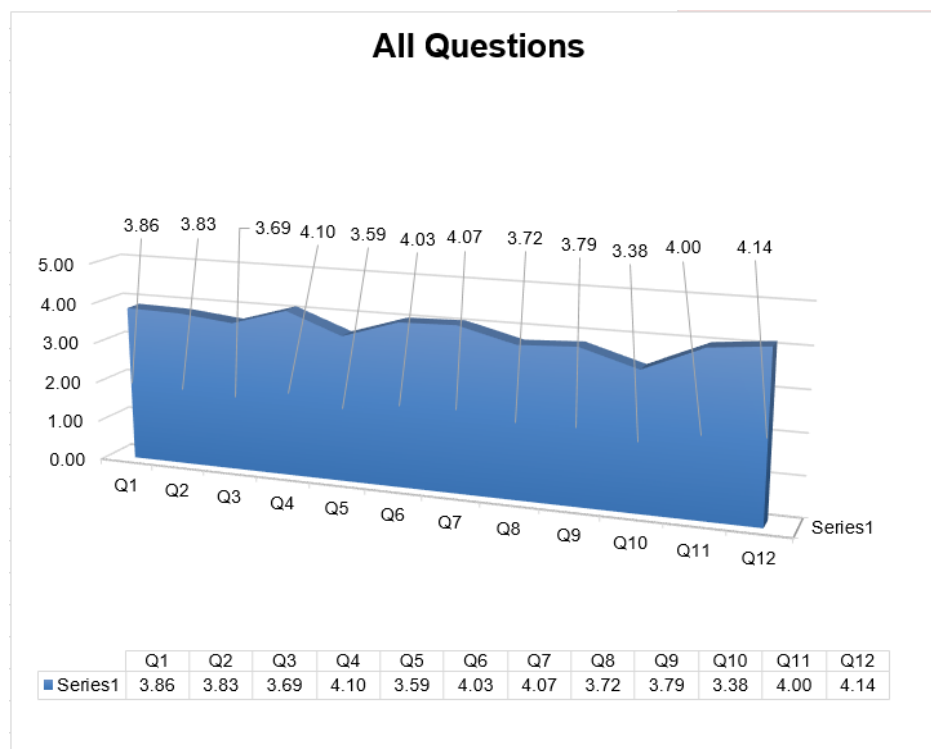
Positive	Negative
(+)Cost efficient.	(-)The loading of the website can be improved.
(+)It was a very smooth experience.	(-)More products can be added for better improvement of the website.
(+)Enjoyed all the pages and the products.	(-)Create a Q&A platform for discussion with the user.
(+)It was a great experience.	
(+)It is user friendly.	
(+)I like this project.	

(+)Good project.	(-)Make it more understandable for beginners with easy examples. Images & illustration can be improved a little bit.
(+)Nice project and very helpful.	(-)Create options for customer feedback.Get fast and friendly support from Q & A area.
(+)Good and helpful.	(-)Too much color combination.Content quality can be improved a little bit.
(+)I enjoyed the cart option from the website.	(-)Improve website speed quality. Provide better quality. Make it easy and usable for every age.
(+)The mobile banking transaction system was very good and easy.	(-)Get more human interaction. Try to make it easy to use for all users.
(+)It is a good project with good products.	(-)Create a user feedback option. Make it more understandable for beginners with easy examples.
(+)Very happy with the pricing of the products.	(-)Mobile version is needed.
(+)Buying experience was very good.	(-)More products can be added.
(+)Such a good project.	(-)It can be improved and also create options for customer feedback.
(+)I like this website.	(-)Make navigation as easy and quick as possible.
(+)Product buying experience was fantastic.	(-)Improve responsive design for every device.
(+)Easy for registration.	(-)Make the website more minimalistic. When published make sure to improve network servers.
(+)Navigation bars are user friendly.	(-)Improve product quality and reduce price.
(+)The color combination was very good.	(-)UI can be more suitable and more products can be added.
(+)The quality of the product was very good.	
(+)The prices were very reasonable.	
(+)The website quality was very good.	
(+)It was one of the best websites I have visited in a long time.	
(+)I loved the e-commerce system.	

(+)It was one of the best ways to make it work. (+)The website was very well customized. (+)I loved it very much. (+)It was a very good experience. (+)The website was very easy to handle.	(-)Please reduce ads on your website. (-)Reduce ads. (-)Have peer-to-peer facilities and make them more realistic. (-)Login and registration page packet losses too many times.
---	--

Here we divide all the feedback according to positive and negative and also give signs to recognize well. We did that to categories them in various parameters.

❖ 3.7: Analysis chart:



The ratings for questions Q1 through Q12 can be seen here. Question Q1 receives a rating of 3.86, while question Q12 receives a rating of 4.14. The lowest ratio from Q1 to Q12 is 3.38 from Q10. And the high rating from Q1 to Q12 is 4.14 from Q12. We can also notice that Q4, Q6, Q7, Q11, Q12 have a rating of 4 and Q1, Q2, Q3, Q5, Q8, Q9, Q10 have a rating of 3.

❖ **3.8: highlighted positive and negative feedback**


SL	Design Parameters	Selected Users Comments
01		

Figure-06: categories the feedback.

Here we will categorize all the positive and negative feedbacks. First, In every category we will insert the related positive and negative comments. we will set the name of the categories in the design parameter dialog box. Lastly, we will keep the selected assessment of the users into the Selected Users Comments dialog box.

4.Implementation:

❖ **4.1:questionnaire and survey analysis**

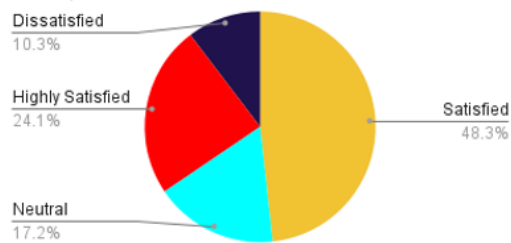
Table -04.The weighted average scores of survey feed-backs

Domain	Question number	Weighted Average
Action & control	Q1	3.86
Action & control	Q2	3.83
Action & control	Q3	3.69
Action & control	Q4	4.10

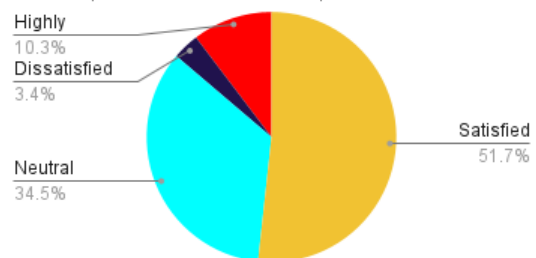
Interaction & Engagement	Q5	3.59
Interaction & Engagement	Q6	4.03
Interaction & Engagement	Q7	4.07
Interaction & Engagement	Q8	3.72
Outcome & Goal	Q9	3.79
Outcome & Goal	Q10	3.38
Outcome & Goal	Q11	4.00
Outcome & Goal	Q12	4.14

Here in **Table-04**, we can see all the questions and their weighted average. There are 3 categories .Each category has 4 questions. Here the 5 questions are 4.0 or above.they are Q4,Q6,Q7,Q11,Q12 and the others are below 4.00, they are Q1,Q2,Q3,Q5,Q8,Q9,Q10

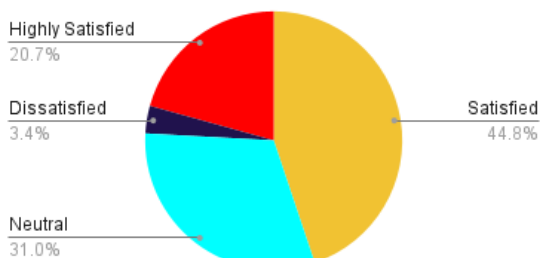
Count of Q1: What is your opinion about unavoidable interruptions like ads?



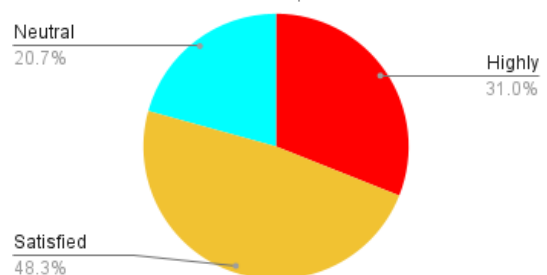
Count of Q3: How would you like to remark on the comfort parameter in terms of repetitive interaction?



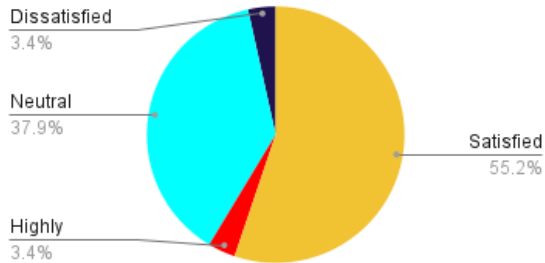
Count of Q2: How do you like to address technical problem parameters during shopping?



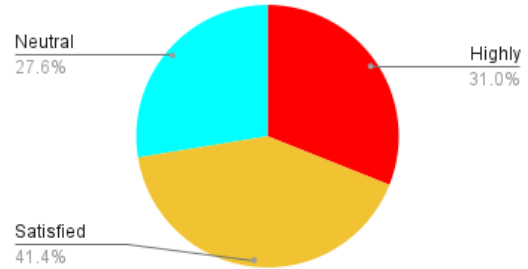
Count of Q4: How would you like to evaluate the control over the environment parameter?



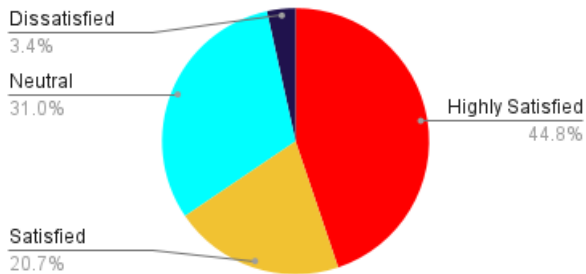
Count of Q5: Are there enough shortcuts to comfort you?



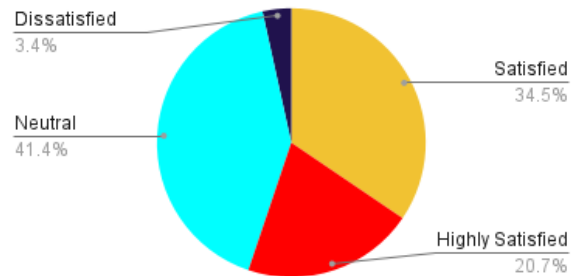
Count of Q6: Did you like the virtual shopping platform ; remark your satisfaction level?



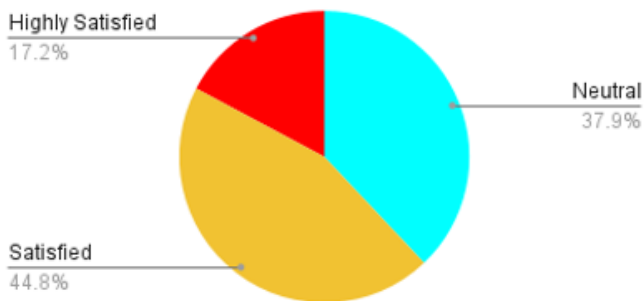
Count of Q7: Did you get the right quality of products ; remark your satisfaction level?



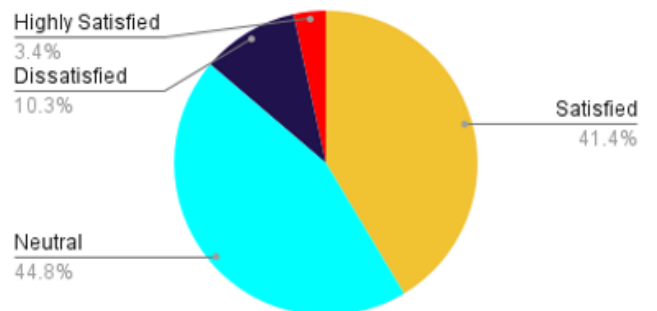
Count of Q8: How would you describe the shopping environment, realistic or too artificial?



Count of Q9: How would you like to address the availability of peer-to-peer facilities?



Count of Q10: Are you satisfied with the cost rate of the products?



Count of Q11: How would you like to evaluate the quality of contents?



Count of Q12: Do you want to recommend the shopping platform for others; remark on your

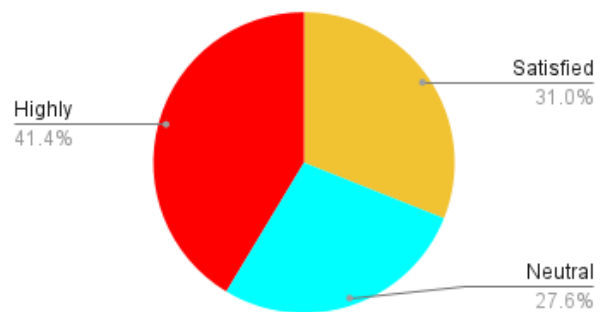


Figure 07:pie chart of all the ratings of the questionnaire

In **Figure-07** , we created 12 pie charts for all the questionnaires. Here we can see the satisfaction percentage of the users for the questionnaire. In Q7 there are the most highly satisfied users and the number is 44.8%. Q1 and Q10 are the most dissatisfied users.the percentage is 10.3%

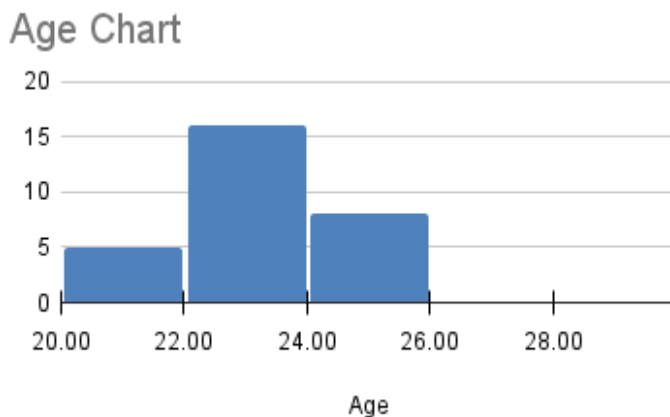


Figure -08: Age chart of the users

In **Figure-08**, we can see the age chart of the users. Here the age range is from 20 to 26 . Among them , there are 5 people who are 20 to 22. The highest number of users are 22 to 24 who are more than 15 in number. Finally,

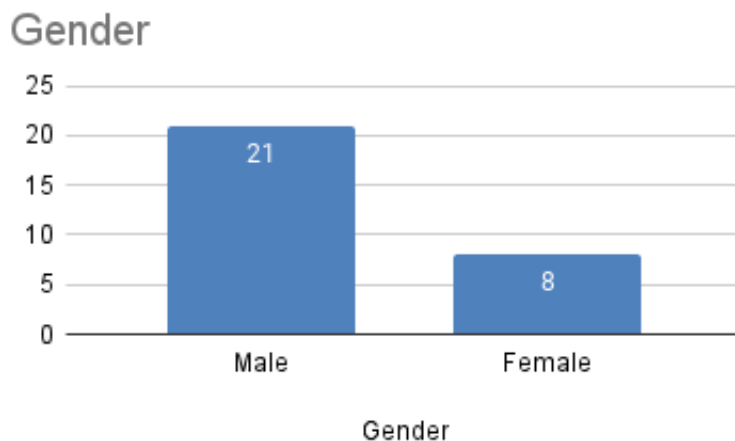


Figure-09: gender charts of the users.

In **Figure -09** we can see the gender chart of the users. There are 21 males and 8 females . here Male are the highest number of users.

❖ 4.2:context mapping Analysis:

Table 05- :context mapping of C1 to C7 with the Agg.Score

Context	Question Range	Category	Agg.Score
C1	[Q1-Q4]	AC	3.87
C2	[Q5-Q8]	IE	3.85
C3	[Q9-Q12]	OG	3.83
C4	[Q1-Q4],[Q5-Q8]	AC,IE	3.86
C5	[Q1-Q4],[Q9-Q12]	AC,OG	3.85
C6	[Q5-Q8],[Q9-Q12]	IE,OG	3.84
C7	[Q1-Q12]	AC,IE,OG	3.85

In **Table-05** , there are seven(7) categories here. The highest Agg.Score is 3.87 under C1, and the lowest Agg.Score is 3.83 under C3. C2,C5 and C7 are under the same Agg.Score about 3.85.

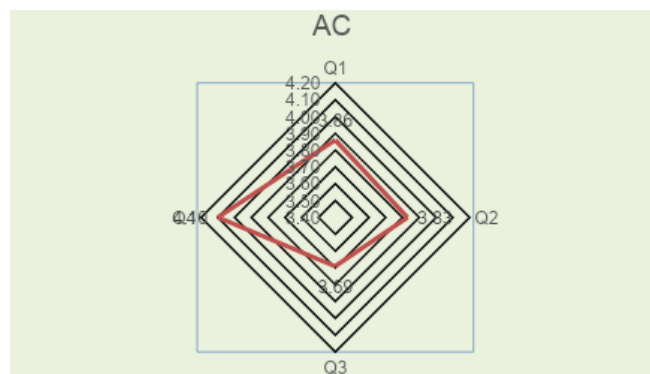


Figure 10:radar chart of C1(Q1 to Q4) Action & Control.

In **Figure-10** , we can see the Action & Control category questions. Here Q4 has the highest value and Q3 has the lowest value of 4.10 And 3.69 respectively.

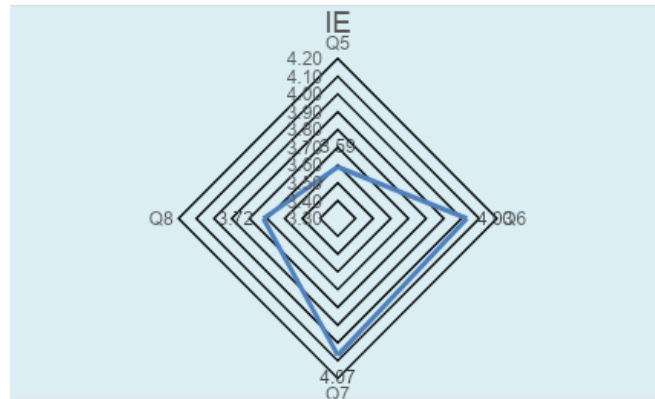


Figure-11 : radar chart of C2(Q5 to Q8) Interaction & Engagement.

In **Figure-11** , we can see the Interaction & Engagement category questions. Here Q7 has the highest value and Q5 has the lowest value of 4.07 And 3.59 respectively

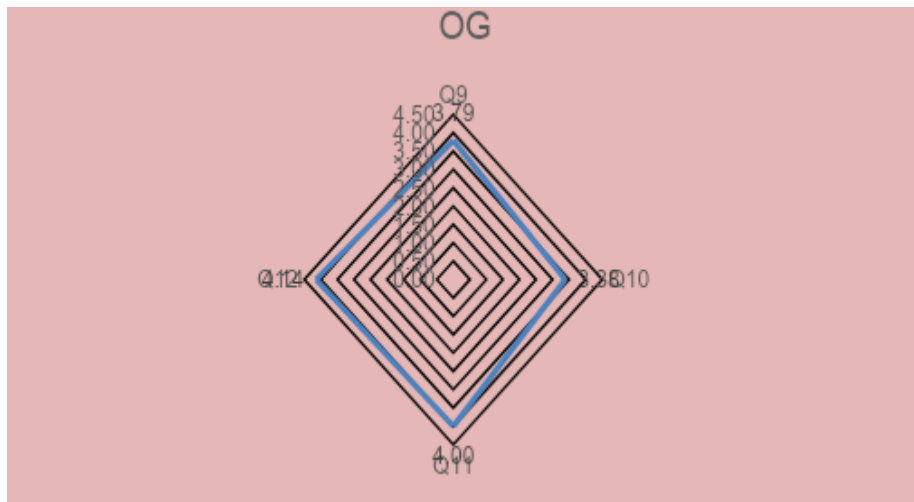


Figure-12- :radar chart of C2(Q9 to Q12) Outcome & Goal.

In **Figure-12** , we can see the Outcome & Goal category questions. Here Q12 has the highest value and Q10 has the lowest value of 4.14 And 3.38 respectively.

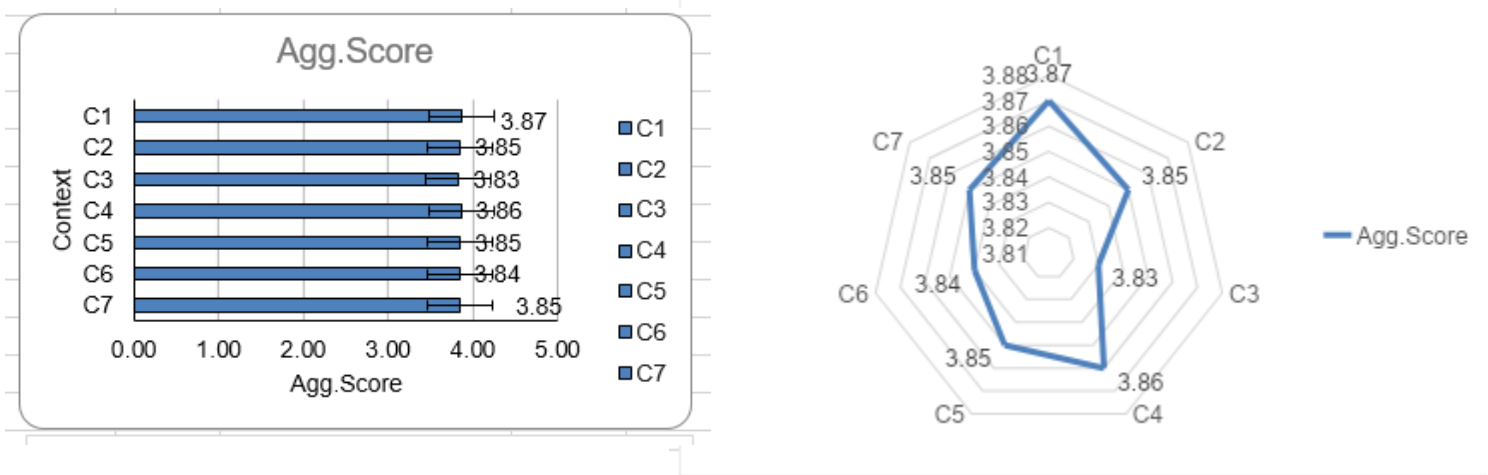


Figure 13:Bar and Radar chart of C1 to C7 .

In **Figure-13** :we can see the bar and radar chart of C1 to C7. here we can see C1 has the highest value of 3.87 and C3 has the lowest value of 3,83

❖ **4.3:compare with threshold value and analysis charts**

Table-06 :Mapping of context-based users aggregated scores with cognitive evaluation-based experts.

Context	Domain	Agg.score (Threshold)	Fluctuation Level (3.85)	Fluctuation Notation	User Satisfied Or Not	Opinion

C1	Action Control	3.87	0.02	(P)	YES	In context 1,the user mean is satisfied because the user's purpose and the result of the present action are identical. We consider the users objectives while we design the website.
C2	Interaction Engagement	3.85	0.0	-		In context 2, both the aggregated context score and the user mean rating are identical.
C3	Outcome Goal	3.83	0.02	(N)	NO	Contex 3 does not meet the user mean score either since there is a weak connection in outcome goal.While carrying out their tasks,users encountered some unavoidable errors ro technology glitches
C4	Action Control, Interaction Engagement	3.86	0.01	(P)	(YES)	context 4 meets the users satisfaction in Action & Control, Interaction & Engagement.
C5	Action Control Outcome Goal	3.85	0.0	-		In context 5, both the aggregated context score and the user mean rating are identical.

C6	Interaction Engagement Outcome Goal	3.84	0.01	(N)	(NO)	Contex 6 does not meet the user mean score either since there is a weak connection in interaction engagement, outcome goal.While carrying out their tasks,users encountered some unavoidable errors in these sections.
C7	Action Control Interactive Engagement Outcome Goal	3.85	0.0	-		In context 7, both the aggregated context score and the user mean rating are identical.

In **Table-06** , we compared the C1 to C7 values with the ideal value 3.85. Here we saw some positive and negative fluctuation and according to this we gave our opinion.

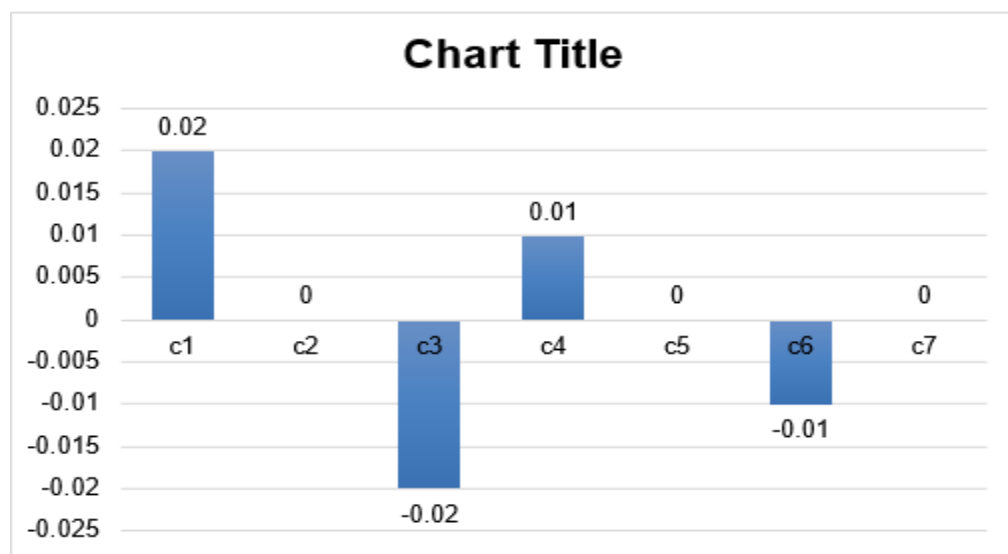


Figure 14-: positive negative bar chart of the fluctuation level.

In **Figure-14** ,we can see c1,c4 is positive and C3 and c6 is negative value. One the other hand c2,c5,c7 value is equal to the standard value .c3 and c6 is negative value.

❖ **4.4: Feedback analysis**

Table-07 :the highlighted positive and negative feed-backs from the users in terms of its services

SL	Design Parameters	Selected Users Comments
01	satisfaction	(+)The browsing experience is smooth. (+) teachers and technologies meet the expectation. (-) sometimes it shows a video buffering problem. (-) too much useless marketing.
02	Aesthetic design	(+)Video contents are creative (-)the dashboard should be improved more (-)website background needs to be changed
03	Cost	(+) price is responsible (+)less free courses (+)some course price is quite high (+)creating a demo video for a paid course.
04	performance	(+) easy to navigate. (+) search results are better. (-) being able to filter the courses according to interests might help (-) Decrease the time of the video
05	responsiveness	(+)helpline feedback available (-)takes time to release exam results (-)higher response time on the website

06	Reliability	(+)helpline feedback available. (-)takes time to release exam results. (-)higher response time on the website.
07	usefulness	(+)easy to use (-)less user friendly (-)make more curriculum activities (-)less mobile friendly
08	Flexibility	(+)the course filter system is optimal (-)improve the speed of loading the website
09	security	(-) account security needs to be improved. (+)There is a login system.
10	Technical glitch	(-)poor quality video (-)404 error that comes from the high traffic.i think

In table 7 we can see the categories of the positive and negative feedbacks and also highlighted the comments.

4.6:Website design:

Firstly, our course teacher gave us a topic named “Gift Shop Management System” . Then we created the user interface for the “Gift Shop” website to conduct an evaluation of it. This website was created using PHP, MySQL, and CSS .

4.6.1 PHP

PHP is an open-source server-side scripting language that many devs use for web development. It is also a general-purpose language that you can use to make lots of projects, including Graphical User Interfaces

4.6.2 HTML and CSS

HTML is the name of the standard markup language used to create documents that are meant to be viewed in a web browser . To create the framework for our website, we used HTML to design the website’s forms, buttons, and overall layout

. In addition, cascading style sheets is how CSS id formally referred to CSS controls how HTML elements are displayed across various platforms. To design our website, we used CSS. Our website is now more aesthetically pleasing and captivating because of CSS.

4.6.3 BOOTSTRAP and MySQL

Bootstrap , a free front-end framework , streamlines and simplifies web development . Bootstrap comes with HTML and CSS-based templates for typography. forms, buttons, and tables. navigation, models, and many other things, in addition to optional JavaScript plugins. Our responsive designs and consistency across all web pages were made possible with Bootstrap. In addition, a web-based database system called MySQL. Which is feasible to manage and store collected data effectively was implemented in our application to handle and store the user data that was gathered.

4.7: Website Screenshots

The screenshot shows the 'Gift Shop' website's registration panel. At the top, there is a green navigation bar with links for HOME, MEN, WOMEN, BOOKS, ELECTRONICS, SHOWPIECE, and KIDS. A search bar is located in the top right corner. Below the navigation bar, the page title 'Home / Authentication' is displayed. The main content area is divided into two columns. The left column is titled 'SIGN IN' and contains a welcome message, a successful logout notification, and input fields for Email Address and Password. A 'LOGIN' button is at the bottom of this column. The right column is titled 'CREATE A NEW ACCOUNT' and contains a message to create a shopping account, followed by input fields for Full Name, Email Address, Contact No., Password, and Confirm Password. A 'SIGN UP' button is at the bottom of this column. A 'Forgot your Password?' link is also present between the two columns.

Gift Shop

Search here...

CART - BDT. 00.00

HOME MEN WOMEN BOOKS ELECTRONICS SHOWPIECE KIDS

Home / Authentication

SIGN IN

Hello, Welcome to your account.

You have successfully logout

Email Address *

Password *

[Forgot your Password?](#)

LOGIN

CREATE A NEW ACCOUNT

Create your own Shopping account.

Full Name *

Email Address *

Contact No. *

Password. *

Confirm Password. *

SIGN UP

Figure 14.1: Registration Panel

The screenshot shows the 'User Login Panel' with two main sections. The left section, titled '1 MY PROFILE', contains a 'Personal info' form with input fields for Name, Email Address, and Contact No., and an 'UPDATE' button. The right section, titled 'YOUR CHECKOUT PROGRESS', lists the steps: My Account, Shipping / Billing Address, Order History, and Payment Pending Order. The bottom section, titled '2 CHANGE PASSWORD', is partially visible.

1 MY PROFILE

Personal info

Name*

rashed

Email Address *

rashed@gmail.com

Contact No. *

1234567890

UPDATE

YOUR CHECKOUT PROGRESS

- My Account
- Shipping / Billing Address
- Order History
- Payment Pending Order

2 CHANGE PASSWORD

Figure-14.2 : User Login Panel

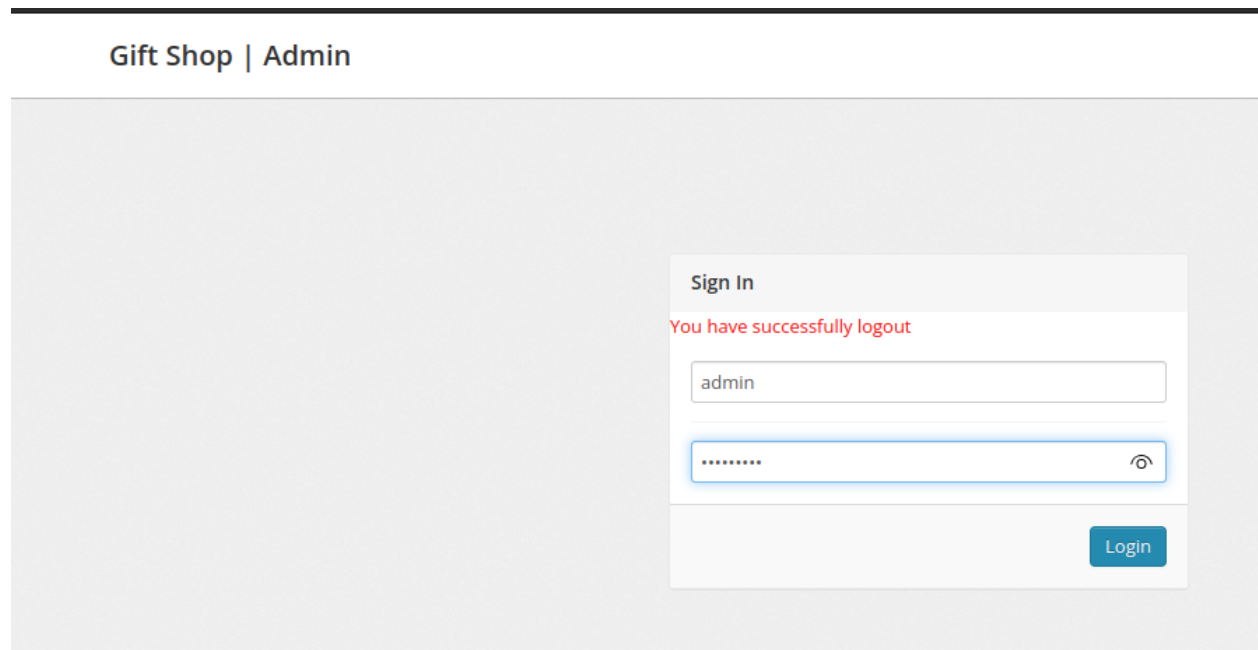


Figure 14.3: Admin Login Panel

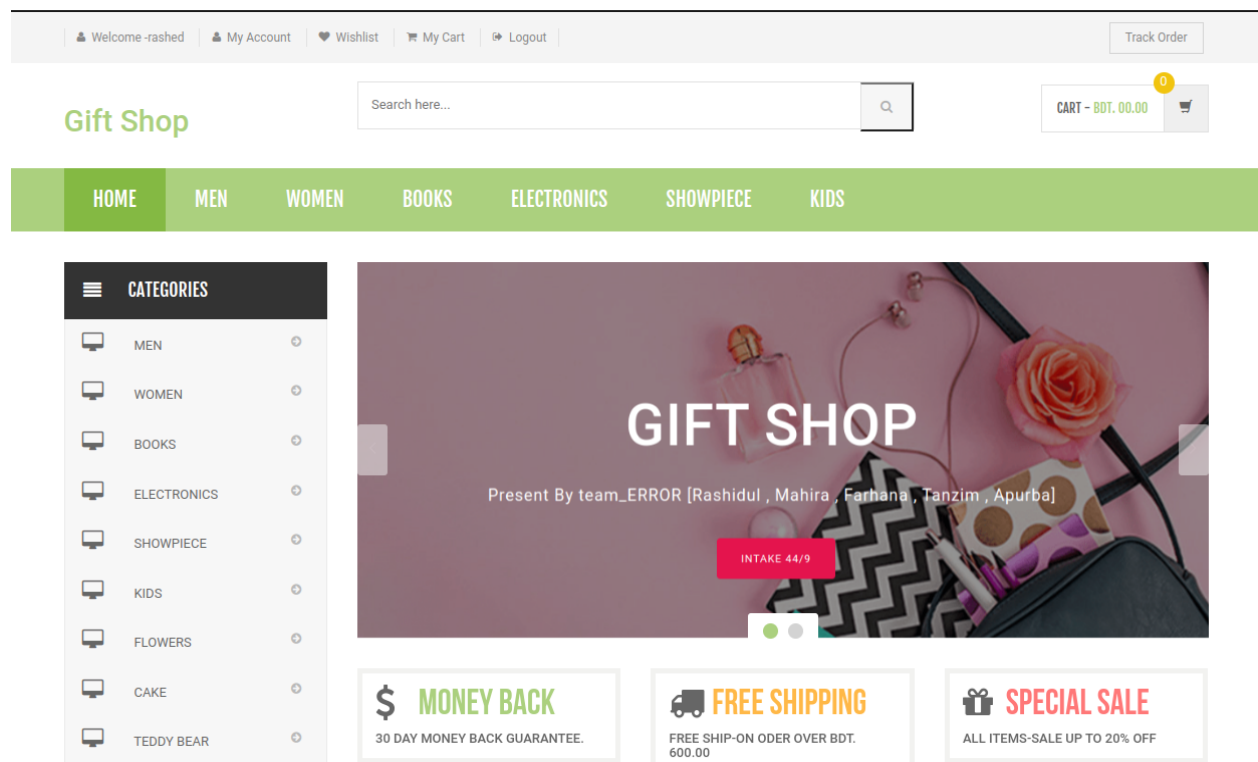


Figure 14.4: Home page

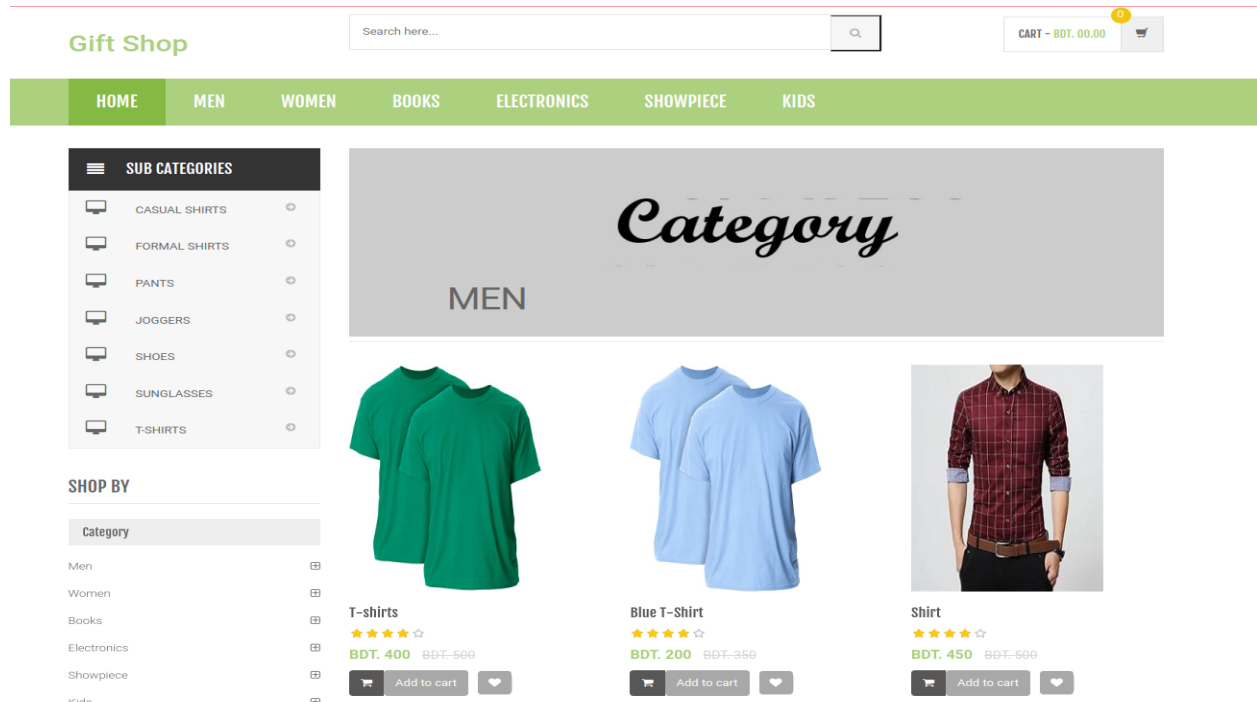


Figure 14.5: Category Page

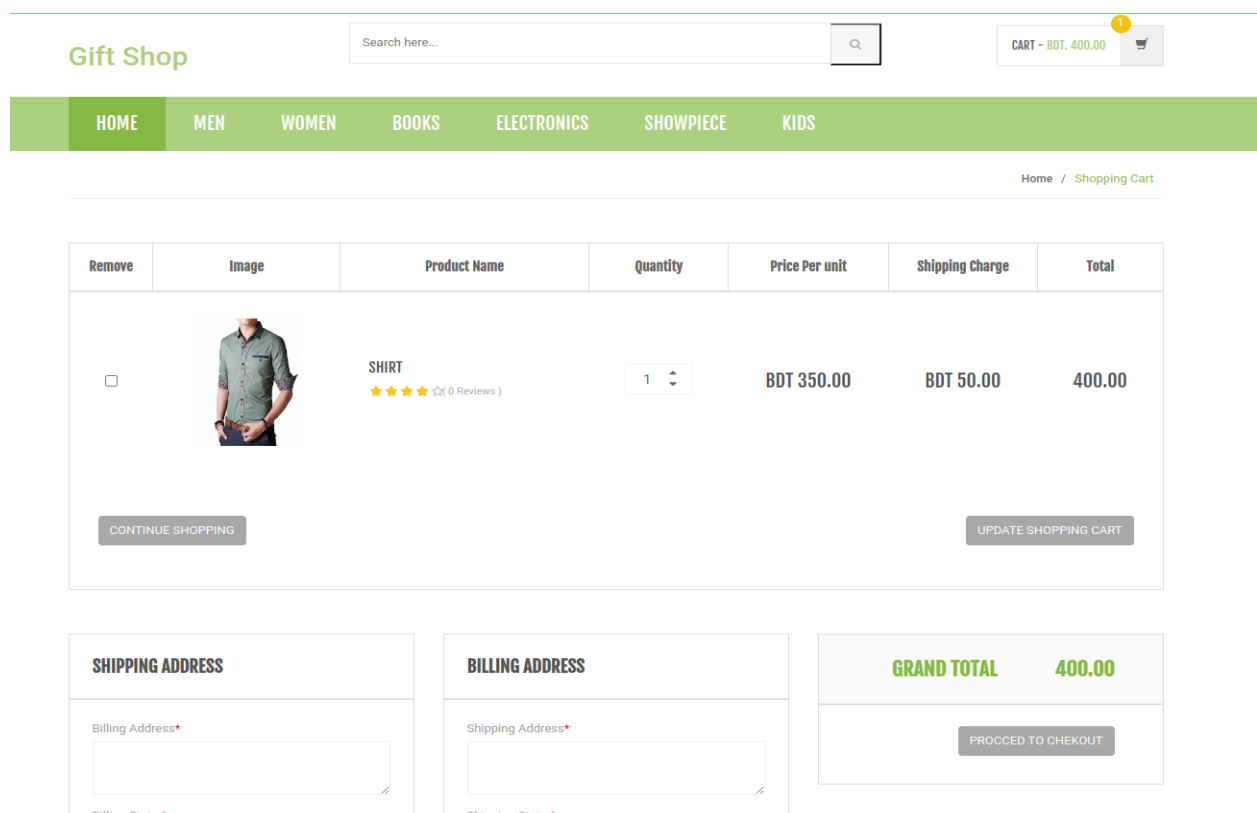


Figure 14.6: Cart Page

Welcome -rashedMy AccountWishlistMy CartLogoutTrack Order

Gift Shop

Search here...

CART - BDT. 400.00

HOME | MEN | WOMEN | BOOKS | ELECTRONICS | SHOWPIECE | KIDS

Home / Payment Method

CHOOSE PAYMENT METHOD

SELECT YOUR PAYMENT METHOD

☒ Bkash☐ Nagad☐ Debit / Credit card

submit

1

Gift Shop

If You Wish , You can visit out shop. our shop adress Mirpur-2, Dhaka Bangladesh.

OPENING TIME

Saturday-Friday:


24H

INFORMATION

Mirpur, Dhaka , Bangladesh

1912196464

Figure 14.7: Payment Procedure for order Product

Admin 






Pending Orders								
Show	10		entries	Search: <input type="text"/>				
#	Name	Email /Contact no	Shipping Address	Product	Qty	Amount	Order Date	Action
1	rashed	rashed@gmail.com/1234567890	..	Formal Dress	1	610	2022-12-03 12:36:42	
2	rashed	rashed@gmail.com/1234567890	..	White Formal	1	550	2022-12-03 14:04:16	
3	rashed	rashed@gmail.com/1234567890	..	shirt	1	400	2022-12-03 18:27:33	
Showing 1 to 3 of 3 entries								 

Figure 14.8: Pending order list

Update Order !

order Id: 15
At Date: 2022-12-03 18:28:52
Status: in Process
Remark: Processing

Status:

Remark:

Figure 14.9: Update order status




#	Image	Product Name	Quantity	Price Per unit	Shipping Charge	Total	Payment Method	Order Date	Action
1		FORMAL DRESS	1	550	60	610	Internet Banking	2022-12-03 12:36:42	Track
2		WHITE FORMAL	1	500	50	550	COD	2022-12-03 14:04:16	Track
3		SHIRT	1	350	50	400	COD	2022-12-03 18:27:33	Track

Figure 14.10: Order history

Order Tracking Details !

order Id: 15
At Date: 2022-12-03 18:28:52
Status: in Process
Remark: Processing

At Date: 2022-12-03 18:30:58
Status: Delivered
Remark: Delivared

Product Delivered successfully

Figure 14.11 : Track product.

5.Conclusion and Future work:

Our main target was to make a simple website of “gift shop management system”. Here we Focused on primary demand of the customers. Firstly, there are many categories-sub categories and their options of gifts. Secondly, users can track their delivery process. Thirdly, we considered more than 30 users to evaluate our website and also analyze this data. Finally, the login, cart and delete and rating system make our website more attractive and effective. **However**, our website is also not free from limitation. Firstly, there are no discount offers for users. Secondly, we only considered students to evaluate it. we should also include people of other sectors. Finally, showing the products through video clip might make this application more reliable. **In the future**, we will introduce some more features. Firstly, we may consider a 30 days money back guarantee. Secondly, the cost limit and discount offer will make our system more attractive to the users. Finally, The Cookie system would be proof of an interesting feature to the users.

6.References

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