Empirical Evaluation of New Website Design

COSC 2652- User-centred Design

Group A2g-26

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Table of contents

1. Team information

GROUP NAME	A2g- 26	
Link to the prototype	https://app.uizard.io/p/72029ec7	
Practical Tutor/Time/Day/Loc	Dr Johnathan C/16:30/Thursday/SGS	
Video Link URL (For example, to YouTube unlisted video submission)	https://youtu.be/DCa0gXaCnys	
No.	Name	Student No.
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2	Nguyen Ngoc Minh Thu	s3941327
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2. Abstract/Introduction

Our project is to redesign the War remnants museum's website, help it reserves and presents the collection more effectively. We made some changes to the main design, the navigator, but the main goal we want to achieve is add a 3D model into the website, by using this function, user can have a better understanding of the collection.

In this report, we will demonstrate the changes we made in detail, analyse the data achieved from the testing process and how can we use these data to improve the website.

3. Task and User Analysis

3.1 User Groups for Evaluation and Goal Related to that User Groups:

We choose historian as our main user group, this group of people is interested gather information about event, collection in the war at a professional level.

This user group's goal is to examine the M728 cannon, identify its design, function and the impact of this cannon in the war.

3.2 Design Specification (the redesign):

There are several significant improvements in our prototype compared to the original website. In the original website, the header is noticeably big, and it takes a large part of the screen, so in the prototype we make it smaller but still display all the necessary information. The navigation also had been slightly improved, we moved it to the header, making it look much cleaner. The homepage still displays some basic information about the museum, but the detail information had been moved to a separated section, this will help the website less complex and if the user want to access to this information, they can easily navigate to them. When the user scrolls down, they will see many summaries information about different sections of the website, they can decide which part they want to look at first by clicking on it. We tried to make the website as simple as possible so instead of text, we use more pictures to display the content of each part.

We also keep some design from the original website, for example, the two main colours of the website, blue and red which represent blood and peace from the war stayed the same, furthermore, the colour red stand out when surround with blue, we use this characteristic to highlight the essential information of the website.

4. Prototyping strategy

4.1 Evaluators

Evaluators: Members in Group 26.

Subjects: 5 random people.

4.2 Participants / Subjects:

In this project, we used five users from various user groups of different genders, education levels, English levels, jobs, and nationalities, including a Vietnamese teacher (30-50 years old), a businessperson (24-35 years old), a student in RMIT's English class (17-20 years old), an Information Technology student (19-23 years old) and a foreign teacher (30-50 years old). In general, most users have a proficient level of English and are familiar with using the website in English. In addition, there are 2 users who are a businessperson and students in the English class

who have intermediate levels of English, can read some basic words and terms. Due to the diverse backgrounds of five users, we can gather diverse opinions on usability and contribute the overall view to the research.

4.3 Task / Goal of the test:

The goal for users in the prototype's test:

- Defining where the 3D cannon model is placed.
- Count the number of wheels on the 3D cannon model.

Steps included to achieve the goal:

- To accomplish the above goal, from the main interface "Home page", the participants must click on the "Activities" button on the toolbar. Then, they will be redirected to the Display page of the Activities section. From here, the users will continue to click on the "Collection" button on the toolbar. Following this, they can observe the "Collection" page. In this interface, the collections of tanks, cannons, grenades, and planes will be displayed. To view the tank in 360-degree form, users must first select "Canon Collection" and then select "View in 3D." Finally, in 3D, the users must describe the colour and count the number of wheels on the cannon and give to result to the evaluators.

4.4 The Evaluation Team's Roles:

Role	Role's description	Responsible team member
Subject handler	Take the responsibility for presenting the user with an outline of the project and the tasks that the user will have to perform in the test by using Written Instructions on the GOAL. Besides, they must collect the users' consent after having them read the consent form.	Tang Khanh Linh

Prototype manager	Take the responsibility for preparing the prototype (the website) for the test and handling prototype-related errors during user testing.	Dinh Quang Vinh
Data collection Manager	Take the responsibility for recording the user's voice and screen, counting the errors that the user makes during testing, and timing the completion of the user's task.	Nguyen Ngoc Minh Thu
Subject debriefer	Take responsibility for interviewing and recording users' opinions and users' evaluations via Google Form after each user has completed the test.	Tran Vinh Tuong

5. Evaluation Process and Conduct

5.1 Method

We picked a questionnaire to assess our tester, which will be presented at the end of the test once our tester has given their approval and completed the work. We chose this technology because it provides a quick, efficient, and cost-effective way of getting vast amounts of information from large sample volumes. The purpose of the questionnaire is to assist us in understanding our testers' perspectives about the website.

The survey will include questions on our website's usability and aesthetics. The poll would assess testers' perceptions of how simple it is to browse and utilize the website on a scale of 0 to 4. Aesthetic will assess how much the testers enjoy our innovative design and how likely they are to use this revised website instead of the old one. They are also allowed to express their

thoughts or make comments regarding any current excellent or poor elements of the new website so that we may develop it further.

5.2 Evaluation technique

Firstly, we requested permission by sending them the Terms and Conditions document and the Consent Form. After having everyone's agreement, we gave them a document (Written Instructions on the GOAL) which included the introduction and instruction of the test, this document is used to describe the goal to the tester so that we can provide the same information to each tester. In the recording section, we sent each subject a link to the redesigned website, and then we let them complete the task while keeping track of the results. After the subject achieved their goal, we recorded how long it took them to do it and analysed the problems while they navigated the website to attain their goal. Following this, we sent them a Google Form regarding post-test questions to explore how they felt about the website, how it could be improved and whether they had any difficulties while finishing the task.

5.3 Written Instructions on the GOAL

Link: https://rmiteduau-my.sharepoint.com/:w:/g/personal/s3941327_rmit_edu_vn/EduAgbQO-QFIja4FVVJYOlkBdPJe4Pz52cqHlqoJwoQWng?e=vkv4YJ

5.4 Terms and Conditions

The main purpose of consent form is informing and protecting the rights of the participants and the information we will obtain while doing the project. So that to ensure our users' rights are completely defended, we made this consent form. We promise that this data is only seen and analysed by the members of group 26 and the lecturer. We not only keep the information private, but we also make sure your data is only used for our project which is testing the efficiency of our redesigned website when this project is finished.

Link to the consent form: https://rmiteduau-my.sharepoint.com/:w:/g/personal/s3941327_rmit_edu_vn/EXC6OyDSSh1PsjPMS32d0m0BiSe MqWO1X9SGvGREmFjUGA?e=4TNpSY

5.5 Consent Form submission

Link:

Password: ucd-a2-26

5.6 Post-test questions form

Link:

6. Analysis of Results and Redesign

6.1 Time (between two fixed points)

	Step 1 (Home page -> Activities)	Step 2 (Activities -> Collection)	Step 3 (Collection -> Cannon Collection)	Step 4 (Cannon collection -> View in 3D)
Tester no. 1	85 seconds	5 seconds	3 seconds	5 seconds
Tester no. 2	18 seconds	32 seconds	7 seconds	5 seconds
Tester no. 3	75 seconds	20 seconds	5 seconds	6 seconds
Tester no. 4	48 seconds	3 seconds	10 seconds	7 seconds
Tester no. 5	9 seconds	3 seconds	2 seconds	31 seconds

6.2 Analysis of the result's data

	Time to complete the task	Number of errors in the task	Rating scale from 1-4(easy to hard)
Tester no. 1	98 seconds	2	3

Tester no. 2	62 seconds	3	1
Tester no. 3	106 seconds	6	4
Tester no. 4	68 seconds	4	3
Tester no. 5	45 seconds	0	1

Our ideal time to complete the task is under 75 seconds, but in fact, there are only 60% of the tester completed the task in time. With the other 40%, the task took them a lot more time to complete it.

The number of errors that the tester made is quite alarming also, we were hoping that 3 is the maximum, but the test's result pointed out that only 60% finished the task with under 3 errors. One tester even made 6 mistakes while the other tester made 4.

The average time to complete the task is 63 seconds, while the average errors is 2,5. These number is still at an acceptable level; however, we were aiming for a better result. The result collected from the fastest test is out standing with the rest, the most significant difference is this tester is from a country that use English as the main language, this tester also rates the difficulty of the task is one.

Overall, the prototype we made is going to need a lot of improvement, most of the testers claim that while the innovative design is better than the old one, however the old one is easier to navigate. They also said that the prototype does not have enough description about each category, this is the reason while some of the testers made too many mistakes and took a lot of time to finish the task. The result also shows that people who use English as their main language can use the website much easier compared to who use other language. In conclusion, we will need to improve the usability but must not add to many changes to the design and find a solution to support people who from a non-English speaking country.

6.3 Usability responses

We received 5 answers from our testers on the usability of our updated website. Most of them are quite pleased and comment on how easily accessible, straightforward, and gorgeous our website is. However, because this is a prototype, there will always be flaws along the road. One of our testers mentioned that the UX design might be improved. Another write clearly about our website's problem, for example, the words are too small to read, the "Collection" category should

not be in the "Activity" navigation because it makes it difficult to find at first, and most importantly, we should have a back button ready if users make any mistakes and need to undo what they did.

6.4 Interface Aesthetics

In comparison to the original website's design, which was a jumble of photos and information strewn about. We structured and categorized each item and its contents to make it simpler for consumers to assimilate information and to make it more visually appealing. Therefore, most testers are pleased, stating that the design is attractive and superior to the original. However, one of our testers point out that the Aesthetic might yet be improved, and certain flaws were brought out by another testers. Those flaws are the colour scheme, which we did not change, and one of them mentioned it's unattractive, with the logo colour not matching the colour scheme and the navigation bar being too large.

6.5 Identify Modifications that can be made to Improve Usability

- **Aesthetic**

Aesthetically, we may enhance it by altering the colour palette to match the museum subject, which is battle debris, and preferably something that matches the museum emblem. We could also improve it by include some slide photos of some of the museum's most priced treasures. We could put them right on top of the main page, just below the museum's emblem and title. It will be the first thing that draws users in when they reach the website and determine whether these are the things and location they are looking for.

- **Usability**

One of the first things we need to adjust to improve the usability of our website is the font size. To be specific, we need to enlarge the words since we want people to enjoy their time on the website and not have to fight to read the too tiny words. Another issue is that we should include a button to the navigation bar for the "collection" category because it is difficult for first-time users to locate without making mistakes. Additionally, including links to the image or a specific term can help users spend less time searching for their goal. Finally, a back button was overlooked during the prototype and must be included to the website so that users may return if they make any mistakes.

7. Reflection

Doing this project has assisted us in comprehending this subject clearly and fully. We believe our work meets the criteria. We carefully read the task and separate the assignment into many small different tasks. Each of us will be assigned specific tasks according to our schedules and skills, so that the work would be done perfectly. We also have the deadlines for each of the sections. Anyone in team who struggles, we will give that one hands and help him/her complete the tasks.

However, there are still some hurdlers in this journey. To begin with, our knowledge and experience are lacking which lower our ability to recognize the problems and finding which solutions will be the best. Aside from scouting the information from provided sources, we also had to look for advice from senior students. They cheered us up and share their experience with us. Another obstacle that we faced at first was communication problem. At first, we were merely strangers, so we hesitate to share our thoughts and ideas. After a few meetings and talks, we got to know each other better, so we felt free to share what we think about the tasks and ideas to make the assignment more decent. It is also fortunate that all members are nice and complete their work on time.

After finishing this report, we could enrich our academic knowledge about User-centred design, our analysis abilities and logical thinking skills are also improved significantly. Not only those skills are enhanced but also our soft skills are improved too. We believe these skills will be essential for our future paths post-graduate.

8. References