

The Holden Prototype

Evaluation of prototype

Group: 08

For each member of the group:

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1 Introduction

1.1 Description of the design concept

The previous work was mainly based on the design of the on-line Holden sedans demonstration prototype. The main purpose of the application is to provide the information regarding both the history and the development of Holden company and the Australian automobile manufacturing industry. For the evaluation stage, our team builds a web-based interactive prototype to demonstrate the main functions and user interaction interface of the application.

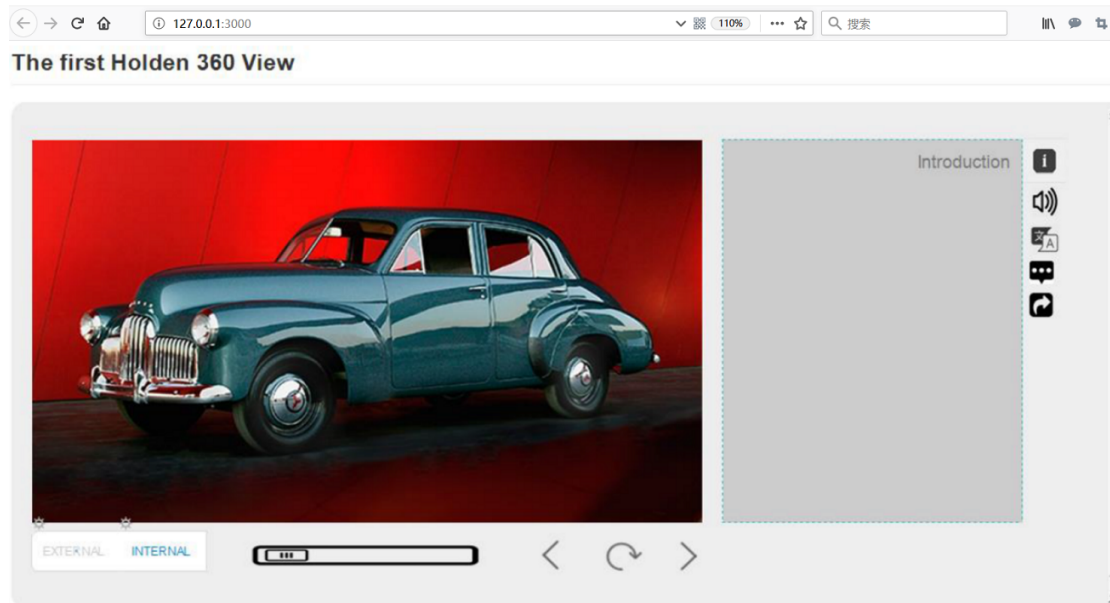


Figure1 the interface of prototype

In this finalized prototype, we try to produce a flexible and intuitive prototype because user experience is our priority.

In the original prototype, there are many interactive functionalities hidden in the websites which needs the website visitors to find and try them. The advantage is that the participants are free to choose which order they want to browse or interact with our website, which makes our prototype flexible. However, this may cause confusion in participants who are involved in the evaluation because some functionalities are too hard to find. Thus, to ensure the prototype in this stage aligns with the design concept, the prototype are highlighted with as many hot-area and buttons as possible to be clickable, which facilitates the evaluation for the participants to explore their scanning style themselves. For example, the participants can freely click the buttons and pictures by following their mind rather than following the researchers. Furthermore, they can switch the pages and read the information without any fixed procedure. This research make us available to observe the participants' behaviors and operation sequence, which provides a small-scale data for future prototype optimization and user behavior analysis. Besides, directly asking the feedback and thoughts from the participants is another way to gather the evaluation data.

In this report, the process and result of our prototype evaluation is illustrated with three participants involved. These participants will be invited to use our prototype and tell us the experience of using it

by answering a provided questionnaire. For our team, we will evaluate our prototype based on the observation of the behaviours of these participants and their answers in questionnaire. Finally, we will improve our prototype quality based on this evaluation.

1.2 Aim of this evaluation

The purpose of the evaluation is to test whether our prototype satisfies the users or not and what is the real performance of our prototype. Based on the purpose, our aim of our prototype is to provide the users with satisfying experience when they are using our prototype and encourage them to share it to others. In addition, we also expect users to learn more about the history of Holden Car and Australian car industry after visiting our website.

The main criteria of the evaluation are listed in the following: Firstly, testing if the users can find the information by their interests in time. Secondly, testing if the users know the basic functions and know which part they want to move. Thirdly, testing if the system provides them with proper interface for them to view. For an incomplete or half-completed project, it is important to invite potential users to use our current product and tell us whether the current functionalities are useful or not. According to the feedback provided, we are able to find the shortcomings of our current product which helps us to improve our product. Therefore, testing the current project frequently plays an essential part in a successfully project.

The methodology we use is to hold face to face interview session, the researcher follows the procedure in the evaluation scripts (Appendix) to gather and record the information from both the answers and the behaviors of the participants. The assistant tools include the web-based prototype, one information sheet which helps the participant to understand the evaluation and the purpose of the application. The scale of the evaluation is small but with target and potential audience involved. Overall, the process of evaluation provides the participants with a brief introduction and clear view about the application. The process during the evaluating period is beneficial for the later change of the prototype. The feedback can be gathered in details, some are useful to give the team with an overview about how our audience look like. However, the drawback is the small scale of the audience may not appropriately reflect on the behaviors of all the target audience, which may be not valuable.

2 Data from observing the user evaluation

2.1 Summary of the observation data

When directing the participants processing through the evaluation script, their facial expression, mouse control behavior, as well as verbal communication were recorded by the observers. There are five sets of data, which have the value of further discussion, being summarized.

Participants click on the safe area of the screen when they are reading the introduction article. Safe area, in this case represents the part of the webpage that participants do not expect any reflection

before they mouse clicking there. When the participants see the webpage for the first time, although the instruction has given enough direction for the participants to understand the design, when reading the article, they are likely to click on the area where they feel safe.

Before following the instruction process, when demonstrating the initial screen to participate, they are firstly attracted by the car image on the webpage, and it takes a while for the participants to find the function button on the far right of the page to do the step one in instruction. When the location of information buttons changes in the following screen, all participants ignore the function button bar.

When directing participants to the article introducing Holden car development, participants feel resentment towards long article reading. Observer recorded that participants are complaining about the readability of the words, including the background colour, which made the article looks boring and difficult to read.

Although we have instruction states some buttons are designed for clicking, participants drag the button by mouse. For example, the timeline function requires participants to click on the ends of the timeline for changing car years, whereas participants were using their mouse to drag that button. Arrows around the car image indicate the way of rotating the image, whereas participants are still hoping to drag the car image to change the visual orientation.

As the purpose of this designed prototype is to introduce the history of Australian car producing industry, when participants go through the instructions, they are able to hold a correct expectation of what they can learn by reading this webpage. Not the engineering technique, but the history of development.

2.2 Discussion of the observation data

Those data collected from participants are closely related to the features of the designed prototype, and it reveals the problem of prototype design.

The behaviour that participants have a safe area of the screen in their mind tells that in our prototype, the functions given to participant by triggering the button is clear and obvious. However, since participants do not realize the tire and gear in the car image is also clickable until interviewer give the instruction, they were not expected that the clicking on those areas would have live feedback. The unclearness of information expression would cause users missing out the important information that they supposed to learn and understand.

The attractiveness of the car image indicates that the introduction article is less attractive to the participants. With regards to such behavior of participants, the designer could consider putting the important information pieces around the car image, to make sure the basic information like car name & year is not ignored by future users. Also, the ignorance of function button bar that changes location in the initial and following screen warns that designer should seriously consider when modifying the design structure of the webpage.

The comment towards article readability tells the designer that the motivation of reading a large amount of information should be guaranteed. First of all, the background color of the article should make the reader relax, to avoid tiredness of reading articles on screen. Secondly, when gathering the information into a long article and expect the user to read, the designer should consider the risk of the user are not interesting in reading the article and miss out important information.

The design should take user past experience into consideration. The reason that some user wants to drag the car image to change direction is in most of the car display website, the way to change the direction of a car image is to directly drag the car image. The designer should have the better understanding of the current trending of webpage design. Also, for the timeline function, since the past experience of using timeline function, the designer should avoid the misleading to the users by taking the design that has the different use in others place.

The purpose of this prototype has been identified correctly by the participants. This demonstrated our design has clear insinuation that users will learn the history of Australian car development. One of the reasons that the design is leading users to the introduction of history is the timeline function. After the participants see the function that can change time, all of them asked if the website is about the history of Australian car development.

3 Exit questions

3.1 The questions and how they relate to the aim of this evaluation

In our questionnaire, we provide several questions including the questions with options and without options.

1. Do you like browsing the websites which are relevant to cars?

A. I like browsing them

B. I browse the website if I need

C. I don't like browsing them

Why?

2. What is your overall experience after using our prototype?

3. Do you find our prototype is informative and helpful?
 4. Do you find any disadvantages of our prototype? If so, what things should be changed, added or improved in your opinion?
 5. What do you think of the key elements of the car websites?
 - A. Professional content
 - B. Illustrated content
 - C. Latest information
 - D. Rich activities
- Why?

To ask the question of whether participants like browsing car website can help the group evaluate if the participant has past experience of car related website, and the understanding degree of the participants towards the car. By recording the participants' behaviour during the instruction process, the group can evaluate some tiny points of participants' attitude towards the design, whereas by asking the overall experience, a more comprehensive answer can be received from the participants. This is serious since the correlation between each component in the whole webpage is even more important than the single feedback on the single component, as the coordination between different parts determine the performance of the entire webpage. To guarantee reading the webpage is not a waste of time, if the prototype can provide sufficient information to the user, then the meaning of making this webpage can be confirmed. To improve our design, it is important to ask the participant about their feedback of changing, including what they expected from reading the car related webpage. Finally, by asking which key element is the most important for a car website, we can collect the answers and find out which kind of feature we need to take into account seriously in our future prototype development.

3.2 Summary of the answers to these questions

Overall, after reading this webpage, participants get basic understanding of the Holden car development history. So, information about the Holden car is really significant. However, one of the participant who is a Holder car lover advices us to make the articles and photos of prototype become more professional. If the content is not professional, the users will be not interested in our prototype. With regards to the function keys of the webpage component, the icons are iconic and can recognise the function, whereas the general design & font are very unattractive, users would not be interested in using it.

The prototype is informative with both article introduction and images of cars, but it is unattractive. Therefore, users are not interested in reading it and learning new things. Although it is informative, is it not useful for the one who does not interest in this topic.

To improve our prototype, we may consider adding the function that mouse change when moving on the clickable link, as well as colour change when moving on clickable link. For example, participants give the feedback that they do not know the car image can be clicked. To make the whole webpage looks more readable, the designer should zoom in both image and information. Also, before the webpage delivers to the future customer, it should be fully functioned.

The websites should not be too professional but definitely informative. If the design is unattractive, user would not learn what designer expected to tell users. Since the most attractive part of the webpage is car images, designer should tag key information like car brand logo, production year near the image. If it is supposed to be a historical website at least make it more attractive, for instance, use more attractive color scheme etc.

3.3 Discussion of the answers to the exit questions

Overall, the design is not satisfied by participants, and therefore we should consider improving. On the information side, we should find some information about the Holden car from the professional website and different screens of the webpage should have the logic connection, to efficient the delivery of information. There is some key information that the designer can consider adding to the webpage, including car competition history.

1. Participants commonly get the prototype's goal that is understanding the Holden car development history from different perspectives. The outcome is satisfied. We hope that our prototype can help the participants understand Holden car design structure, the history which affects the development of Holden car, and local support towards the car industry. To achieve that, we use the 360 views to make the participants who have better experience. The participants can look the Hold car from 360 views.
2. One of the participants expresses that the content about the Holden car is not professional, which is not expected. We find the material of the Holden car from wiki and different automotive forum. We think the information is readily comprehensible for the participants rather than boring academic articles. However, the goal of our prototype is introducing the Holden car development. If the content of our prototype lack of support for academic articles and data, the prototype is unconvincing. Therefore, we should add some academic articles and professional photos, and videos about the Holden car to our prototype. The participants will get more useful information about the Holden car.
3. The design of prototype is not attractive such as not realization of visual effects and the functions, which is not expected. The participants express some relevant ideas and suggestions. First of all, users feel uninterested in reading the webpage because of the font size and color while the design structure of the webpage is not efficient enough to provide information. Secondly, some icons are not fully implemented, such as the functionality of helping blind people read. Hence, we should improve our prototype to attract more users including adjusting the size of the characters, the design of the layout and adding the more

valuable features. With the attractive content, users will be more likely to be motivated to share our websites to others, which makes our website successful.

4 Conclusion

The main purpose of this evaluation is to test the performance of our prototype which includes three aspects: Satisfying user experience, prototype sharing encouragement and history learning. In terms of user experience, we find that our prototype is not quite satisfying overall.

Firstly, some participants find that some functions such as the icons on the right side of the article is unclear and meaningless. Thus, we need to give more instructions on these icons so that users can understand the meaning of these icons.

Secondly, the article on the right side of the car image is not attracting and most of participants has no patience to read through the article, because they find that the font size is too small, the background colour is not making people feel relaxed and the articles are too long. Hence, we need to improve from these problems. Thirdly, some functions are not working as the participants expected. For example, the inner car image cannot be dragged as the participant expected because most participants have visited the website that the images can be dragged to change the direction. Thus, we need to realize this functionality in the future. For the aim of sharing websites, we originally expect users to notice the buttons including sharing button at the first glance. However, two of participants take around ten seconds to find them and the other participant fail to notice the sharing buttons which did not meet our expectation. Therefore, we need to put the sharing buttons in the more obvious place on the website so that visitors can notice it at once. In addition, the button should be designed in a more impressive way in order to attract more visitors to share the website.

Lastly, the last aim of prototype is to help visitors to learn more about the Holden car and the history of Australian car industry. In our evaluation experiment, all of the participants successfully identify that our website is introducing Holden car and car history of Australia. However, nearly none of them has the patience to read through all articles on the website, which does not meet the purpose of our design. Therefore, we need to make our history article more attractive to our visitors.

Overall, our prototype does not successfully meet the aim, mainly due to the rough design and imcompleted functionalities. Based on this evaluation result, we can develop a more completed and useful prototype.

In our opinion, our aim is chosen appropriately. For a car information website, it is a website with just the relevant information of the car which does not relate any person's interests and does not provide any "real value" for people. It is a website only for the people who are interested in and willing to know more about the car information. Therefore, good user experience and website sharing is extremely important for us if we want to make this website popular. In addition, helping people to learn more about Australian car is our originally purpose to design our prototype, which is also appropriate.

From our perspectives, the way we conduct the evaluation is quite appropriate. There is no better way than inviting real participants to test if our prototype is satisfying, because our website is designed for real people to use and the participants' experience on our prototype is quite valuable for

us to improve our prototype. If the evaluation can be conducted again, we will test more participants, e.g. 10, in order to get the more general feedbacks to improve our prototype.

5 Appendix A: Task allocations

Showing who did what tasks

	Responsible for looking after the participant	Leading the participant through the tasks	Observing and taking notes
Participant 1	Guanzhou Chen	Yu Yang	Yuanxin Ye
Participant 2	Wenrui Li	Yuanxin Ye	Yu Yang
Participant 3	Lu Bai	Wenrui Li	Guanzhou Chen

6 Appendix B: Evaluation script

Evaluation script

Researcher: Hello [Participant' s name], thank you for taking part in the use evaluation of our prototype about introducing the Holden car. In this user evaluation, we are using a prototype which is designed by ourselves. The prototype has multiple parts that introduce the Holden car for different perspectives. When you have looked through the prototype, we hope you can help us do a survey questionnaire regarding the prototype. Please make a relax to answer these questions.

<Researcher opens the prototype and participant prepare to look through the prototype.>

Researcher: Please look at the screen. Find and click the introduction button and describe what you see.

<the researcher waits them to operate. If they got trouble, give some hints>

Researcher: Do you think this model meets your expectations? Can you describe the specific role of some of the arrows in this interface? Do you like this design?

<Participant responds>

<Researcher begin to introduce this interface. Because the participant is not clear functions of some buttons.>

<Researcher moves to the next section.>

Researcher: Do you know that clicking on a part of the car outside or inside the car in this section, you will read some materials about that part?

<If the participant does not notice the function, the researcher will have a tip.>

<Participant responds>

<Researcher moves to the next section.>

Researcher: There is a scroll bar at the bottom of the car image. Click the right side of the scroll bar. Up to now, what do you think this webpage is talking about?

<Participant responds>

<Researcher moves to the next section.>

Researcher: You can click the internal button. This page is called internal 360 degrees view. You can click buttons on the screen.

<Participant responds>

<Exit question>

Researcher: Can you talk about your experience with our prototype? Do you think that the prototype can help you understand Holden car design structure, the history which affect the development of Holden car, and local support towards car industry? Which part do you a deep impression in this prototype? How do you feel about using this prototype? What do you think which section can be improved?

<Participant responds>

Researcher: Thank you for taking part in our user study.

7 Appendix C: Information sheet and consent form

1. Information Sheet

Information Sheet

We will invite you to take part in our user-evaluation experiment when you have used a prototype. But before that, you should fully understand some details about this experiment. Please read through the following information carefully and feel free to ask us questions if there is anything unclear.

Researcher:

Dr Duncan Stevenson (Associate Professor, Research School of Computer Science, ANU),

Lu Bai, Guanzhou Chen, Yuanxin Ye (Bachelor Students from College of Engineering and Computer Science, ANU), Wenrui Li, Yu Yang (Master Students from College of Engineering and Computer Science, ANU).

Project Title:

The User Evaluation Experiment of The Holden prototype

General Outline of the Project:

Description and Methodology: The purpose of this project is to get hands-on experience in designing and conducting a user evaluation of The Holden prototype of an interactive system. We will conduct a user evaluation of the prototype by helping the participants operate the prototype and understand some knowledge about the Holden car. There will have three researchers invited for the experiment.

Participants: These three participants are studying in ANU with different major and age.

Use of Data and Feedback: It is intended that the data collected during this research will be used for our user evaluation project only. Participants can access the result by contacting us to pick up their results. Because the results will be presented in the form of a report.

Participant Involvement:

Withdrawal and Voluntary Participation:

Participation in our research is completely voluntary and the participants may withdraw from the research at any time during the experiment. If you choose to decline to take part in the research, your data will be destroyed and will be not analysed.

Risks: There are no known risks available. The participants can stop the research at any time such as feeling nervous or facing some questions.

Benefits: This project is designed for building an online exhibition about Holden car, which has some benefits for the Holden car lovers. By participating in this research, you can understand Holden car design structure, the history which affect the development of Holden car, and local support towards the car industry.

Confidentiality:

Confidentiality will be protected with the law and the privacy policy. The participants' name will be not shown in our results. Only the primary researcher and supervisor can know the information of the participants.

Data Storage:

How long: All the data will be preserved for a minimum of one year.

Ethics Committee Clearance:

Contact Details for More Information:

Email:

Dr Duncan Stevenson: duncan.stevenson@anu.edu.au

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Yuanxin Ye: u5669371@anu.edu.au

2. Consent form

Australia National University COMP3900 The Holden Prototype

【Participants Consent Form】

Project Name:

The User Evaluation Experiment of The Holden prototype

Project Description:

The prototype describes the Holden car exhibited in the Landmarks exhibitions gallery in the National Museum of Australia. the Holden Prototype Car No.1 proudly represents the industrial achievement of Australian Engineers back to 1940s. The way that National Museum delivers the exhibits is attractive. Visitors have a chance to understand Holden car design structure, the history which affect the development of Holden car, and local support towards the car industry.

Project Intention:

The purpose of this project is to collect participants' feelings and suggestions. The data will be presented in the final report. And these data will also help us to improve our prototype and to understand HCI more fully.

Data Confidentiality:

All participants volunteered to participate in this experiment. All the data collected in the experiment was derived from the feedback of the participants during and after the use of the prototype. Participants' personal information will also be kept in accordance with the law.

Contact Information:

Name: Lu Bai Email: u6290086@anu.edu.au

Name: Guanzhou Chen Email: u5686023@anu.edu.au

Name: Wenrui Li Email: u6361099@anu.edu.au

Name: Yu Yang Email: u6412985@anu.edu.au

Name: Yuanxin Ye Email: u5669371@anu.edu.au

Signature:

I, _____, am willing to become the participants of this user evaluation research for voluntary purpose. I have already read all of the information listed on the above sections and accepted the whole consent form.

UID: _____ Date: _____