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mySupermarket



Article I. Introduction

This usability evaluation portfolio will be focused on two interactive web site environments of a similar genre. The two websites that are being studied are (<http://www.mysupermarket.co.uk/>) and (<http://www.ocado.com/>). Throughout this report there will be a demonstration of a critical understanding of current techniques of task analysis, design approaches and user interface implementation with specific

human-computer environments. Methods and guidelines for HCI evaluation will be critically appraised, and an evaluation will be conducted using proposed evaluation techniques and evaluative criteria. Various trends will be assessed, towards more sophisticated interfaces with regards to Web 2.0, online communities, inclusive design and multimedia.

For the first section of the report a set of criteria will be produced which will be used to evaluate the websites against one another, two evaluation techniques will be selected and an outline plan for each of the two techniques will be provided. In order to critically evaluate the websites and gain valuable information 5 participants will be used, whose computer experiences differ from one another, and the report will then focus on the discoveries in terms of usability and user experience for both websites.

A critical analysis and evaluation of the data will take place using the two techniques. Possible solutions to the usability and user experience problems encountered will be suggested.

The report will then summarise how the evaluations went for both interactive environments.

Examining findings and conclusions, and clarity of how the process could have been improved along with clear and concise suggestions for further work.



Article II. Evaluation of the websites

Section 2.01 Evaluation Criteria

To evaluate the usability, accessibility and user experience of the Ocado and mySupermarket web applications. An examination of the evaluation will take place on a desktop PC and a mobile application in order to generate accurate results.

The criteria selected to evaluate the two websites against were **navigability**, **persuasiveness** and **emotions**. By testing the websites against navigability it will help to conclude how easy it is for users to perform basic tasks, the effectiveness of the navigation will be testing against “the intuitive use of graphical and textual navigational cues, way finding aids, breadcrumb trails and site maps.” (University of Toronto, 2014).

The testing of emotions will determine whether the websites brings the users positive emotions or negative emotions. Emotion can be a difficult area to capture and study because it is unpredictable and momentary (Hassenzahl, 2004, p.47). Nevertheless emotional design has become a dominant part in the creation of outstanding user experiences for websites (Idler, 2012).

Testing against persuasiveness will specify whether the websites are deliberately attempting to change the user’s behaviour in any particular way. It requires investigating how users feel about making a purchase, whether users would consider making a purchase and whether the website influences them to make a purchase. This could be achieved by initially gaining the users trust and appealing to their sense of security (Schaffer, 2009).

Section 2.02 Evaluation Techniques

Cognitive walk-through

A number of techniques were studied before deciding on the two chosen techniques. The first evaluation technique that was considered was a predictive evaluation technique called cognitive walk-through; this is where an expert will take users through a number of steps in order to carry out various tasks. In order for this method to work well the experts will need an in-depth understanding of the tasks that will need to be performed, a basic understanding of the users and relevant knowledge and experience of interface design (Lazar, 2010).

However a decision was made against this method because a cognitive walk-through not only doesn’t involve the end users but it has the risk of unfairness from an improper task selection. (Holzinger, 2005).

Observation

The second evaluation technique considered was a usability testing technique called observation, an observation can be done in a number of ways, as there are various

variables you can control for example you can invite users to think aloud or possibly video record users. Observation is a popular way to gather information about the use of a system because you can observe users interacting with it (Dix, and others, 2004).

The decision was made to use an **observation technique** as one of the chosen techniques, this would involve video recording a number of participants performing a set of tasks at the interface and reviewing the websites for errors. This would provide the ability to re-watch the experiment and analyse the users facial expressions, listen to any responses or comments they made throughout the process, examine how their behaviour changed throughout the process and uncover any common problems or errors that they encountered. Videotaping participants is useful to demonstrate to designers and managers the problems that were encountered. (Shneiderman, 1998)

When preparing for a video observation there are a number of planning preparations, which need to be considered, for example; understanding the impact the process will have on the participants and deciding where to position the camera. (Rogers, and others, 2011).

Think aloud

During the evaluation participants will be asked to use the **think aloud method**. This is when participants are asked to explain what they are doing throughout the process and describe what is happening along with any feelings or comments they may want to make. The advantages of using the think-aloud method are that it requires little expertise, and it shows how the system is used.

However participants describing what they are doing and how they are finding the tasks may alter the task performance. During the observation participants will be timed which may slow them down and generate inaccurate results, but it can be a really useful insight into how different people, find the websites to use.

Interview

The third evaluation technique that was chosen was an **interview**. There are four main types of interviews; unstructured, semi-structured, structured and group-interviews. After looking into the different types of interview techniques the decision was made to conduct a semi-structured interview for one of the evaluation methods, deciding on which interview technique to use was easy because a basic script with a mixture of open and closed questions was sought after, this type allows room to probe the interviewee for a more in-depth answer if required. (Rogers, and others, 2011) For the interview 18 questions were prepared (see appendix.)

Quantitative and qualitative

The two main types of measurements used to measure the data will be quantitative data and qualitative data. (Dix, and others, 2004) explains “quantitative data is usually numeric and can be easily analyzed using statistical techniques and qualitative data is non-numeric and therefore more difficult to analyze, but can provide detail that cannot be provided from numbers.”

Controls

In order for the evaluations to be considered fair these are the control variables that will stay constant throughout the process.

1. Participants will conduct individual evaluations in a quiet room where there will be no distractions.
2. Participants will each be given the same brief on the purpose of the observation and interview and how each technique will be conducted.
3. Participants will each be given the same consent form and user profile sheet to fill in.
4. Participants will each be given the same task sheet to complete in the observation and will each be asked the same questions during the interview.
5. Participants will not be helped during any of the tasks.
6. Participants will be told to use the think aloud method.
7. I will ensure I am silent throughout the process in order to avoid causing distractions to the participants.
8. Video recording software will stop once the observation is complete and the interviews will take place.

Section 2.03 Evaluation Test Plan

(a) Observation and interview

- 1) Meet participant in a quiet room, there should be no disruptions from now on.
- 2) Thank participant for helping with studies and briefly explain how the observation will be conducted.
- 3) Hand participant a consent form they need to sign in order to proceed with the interview.
- 4) Hand participant a user profile to complete, and ensure the participant that they will remain anonymous throughout the study.
- 5) Hand the participant a task sheet and let them read over the tasks to establish they understand the meaning.
- 6) Explain that the tasks will be timed and after each task is completed the participant should indicate that the task is complete.
- 7) Explain to the participants to use the think-aloud method, as this will help to gain a more valued outcome.
- 8) Ask the participant if they have any further questions.
- 9) Begin the recording and let the participants work through the task sheet starting on mySupermarket and then repeating the tasks on ocado.
- 10) Conclude with an interview.

Section 2.04 Observation Tasks

(a) Timed tasks

Task no	Task	Reason for Task
1	Find the site map	This task was chosen to assess the navigability of the websites. A site map allows the users to view all the information the website contains in one specific place. It is good practice to have a site map, although many users may

		not use them. (Nielsen, 2008) recommends site maps because they provide users with an outline of everything contained within a site.
2	Add something you like to the basket and head to the checkout, are you persuaded to buy something else? Did the website offer any recommendations?	This task was chosen to assess the persuasiveness of the websites. Persuasiveness is a vital issue in e-commerce websites so this task will check to see if either of the websites offers any recommendations of similar products to the products users have in their baskets.
3	Navigate back to the home page without using the browsers back buttons	This task was chosen to assess the navigability of the websites. It will check to see if there is another way of returning to the previous page (in this case the home page) rather than using the browsers back button. Except from hyperlinks the back button is the most used navigational feature on a website (Eubanks, 2010). Although the browsers back button is sufficient it can be seen as good practise to use your website's UI elements so users do not feel they have to take a chance. (Holst, 2013).
4	Is the logo clickable? Does it take you anywhere?	This task was chosen to assess the navigability of the websites. It is a common practice to link the logo to the homepage as most users would expect this from a website, so this is a simple test to see if the two chosen websites have considered this when designing their site.
5	How many clicks does it take you to book a delivery slot?	This task was chosen to assess the navigability and the user's emotions . This task is based on the three click rule, although there is insufficient evidence that the three click rule actually works it is a common belief that the three click rule is good practise when designing navigations because if users cannot find the information they require within the three clicks, they may become frustrated and leave the site. (Wikipedia, 2014).
6	Register on this website	This task was chosen to assess the user's emotions . It is a well-known fact that users don't like to fill out long forms on websites and developers sometimes overthink what information they need out of a user and often require too much

		unnecessary information which makes registering a tedious job for the users.
7	Find the current job vacancies	This task was chosen to assess the navigability and the user's emotions by timing the users looking for the current job vacancies and analysing their facial expressions whilst they are locating the vacancies. Typically businesses will have a careers/job section in the footer or the header of their website, however this isn't always the case and it can sometimes be a difficult job to find it.
8	Find out about delivery details	Again this will be tested by timing the users locating the delivery details. Being that the experiment is based on two groceries shopping websites the delivery details should be easy to find, but many websites still have bad design practice so finding this, could well be an issue.
9	View the terms and conditions	Like the task above this will be tested in the same way, however it is the terms and conditions that need to be traced in this task.
10	Find out how to change the size of the text	This task was chosen to assess the accessibility . It is important for websites to allow users to change the size of the text because the website can then cater for a wider audience. There are two main theory's why text on websites is so small to begin with, the main being that many web designers and developers are of a young age, meaning they have no problems with their sightand the other is the fact that they are not required to read the text, they just have to ensure it is well presented. (Nielsen, 2002).

(b) Untimed tasks

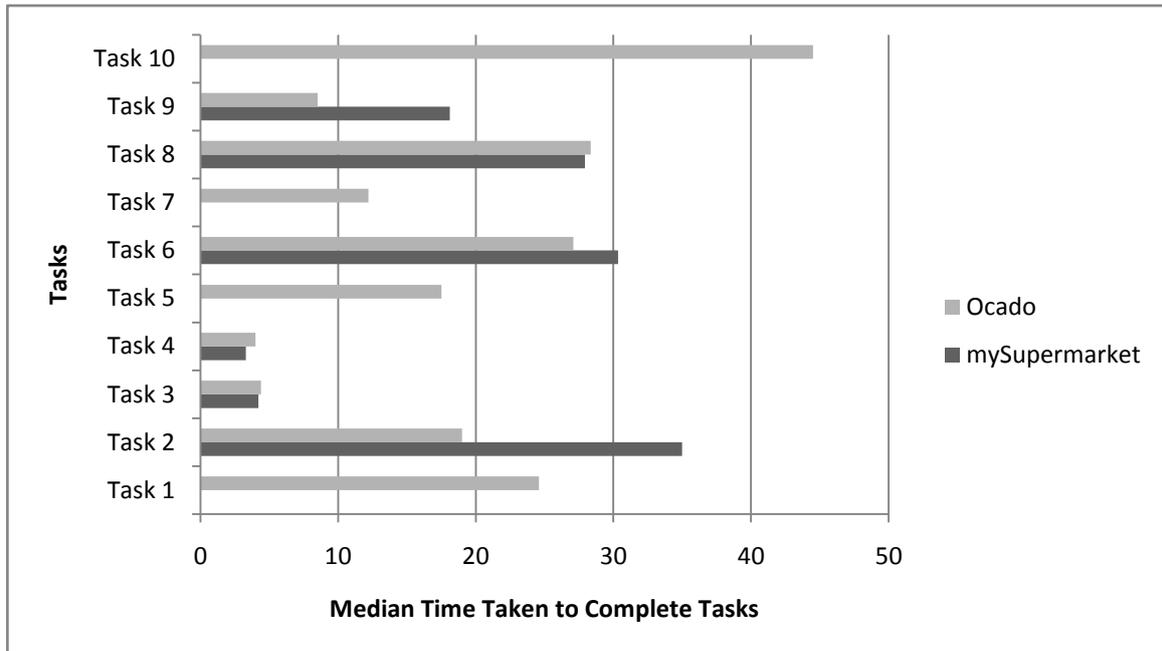
Task no	Task	Reason for Task
1	Browse the website on a mobile device	This task is testing all of the criteria; it allows users to view the websites on a mobile device to test the responsiveness, usability and accessibility. It has now become highly important to ensure your website is mobile friendly because research shows 50% of local searches are carried out on

Participant 2	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Task 7	Task 8	Task 9	Task 10
mySupermarket										
Time taken to complete each task	N/A	33	11.98	2	N/A	31	N/A	N/A	N/A	N/A
Tasks unsuccessfully completed	☑				☑		☑	☑	☑	☑
Ocado										
Time taken to complete each task	29	19	4	4.60	16.10	26	9	N/A	8.90	1.12.0
Tasks unsuccessfully completed								☑		
Participant 3	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Task 7	Task 8	Task 9	Task 10
mySupermarket										
Time taken to complete each task	N/A	38	4.21	4.13	N/A	30.20	N/A	28	N/A	N/A
Tasks unsuccessfully completed	☑				☑		☑		☑	☑
Ocado										
Time taken to complete each task	20.20	19.11	5	3.10	18	30	12.20	24.13	9	50.23
Tasks unsuccessfully completed										
Participant 4	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Task 7	Task 8	Task 9	Task 10
mySupermarket										
Time taken to complete each task	N/A	35	4	2.31	N/A	30	N/A	N/A	15	N/A
Tasks unsuccessfully completed	☑				☑		☑	☑		☑
Ocado										
Time taken to complete each task	14.42	19	5.10	4	17.50	27.10	17.30	30.45	8.56	44
Tasks unsuccessfully completed										
Participant 5	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Task 7	Task 8	Task 9	Task 10
mySupermarket										
Time taken to complete each task	N/A	31	4.40	3.30	N/A	31.12	N/A	N/A	18.12	N/A
Tasks unsuccessfully completed	☑				☑		☑	☑		☑
Ocado										
Time taken to complete each task	30	18.40	4.40	3	16	26	10.32	29.36	6.30	40.17
Tasks unsuccessfully completed										

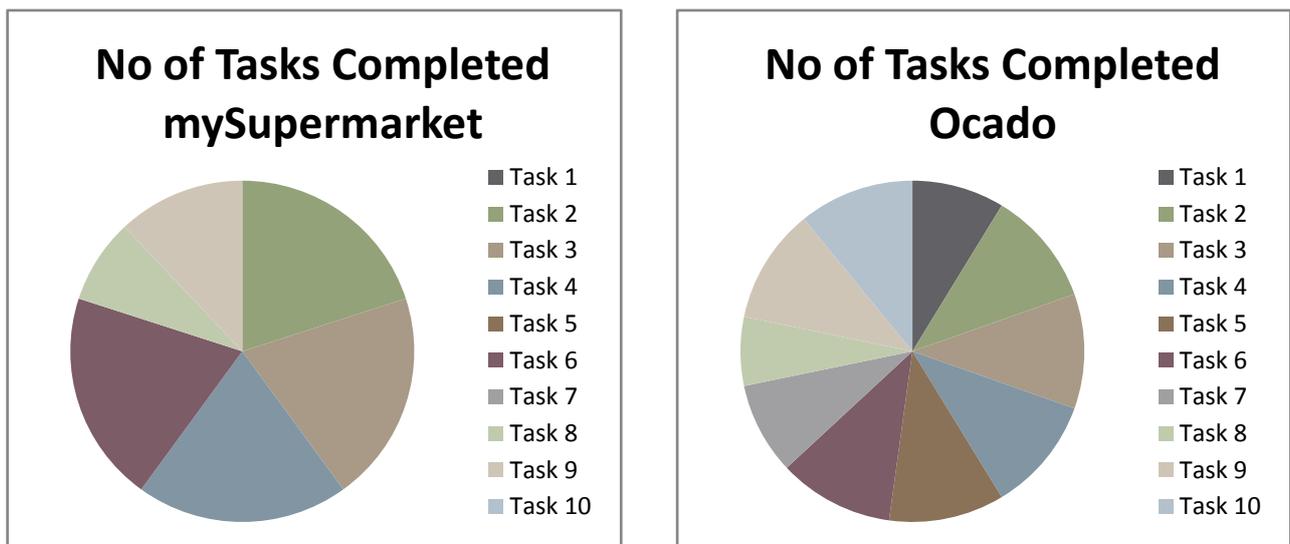
(Figure 1)

Key

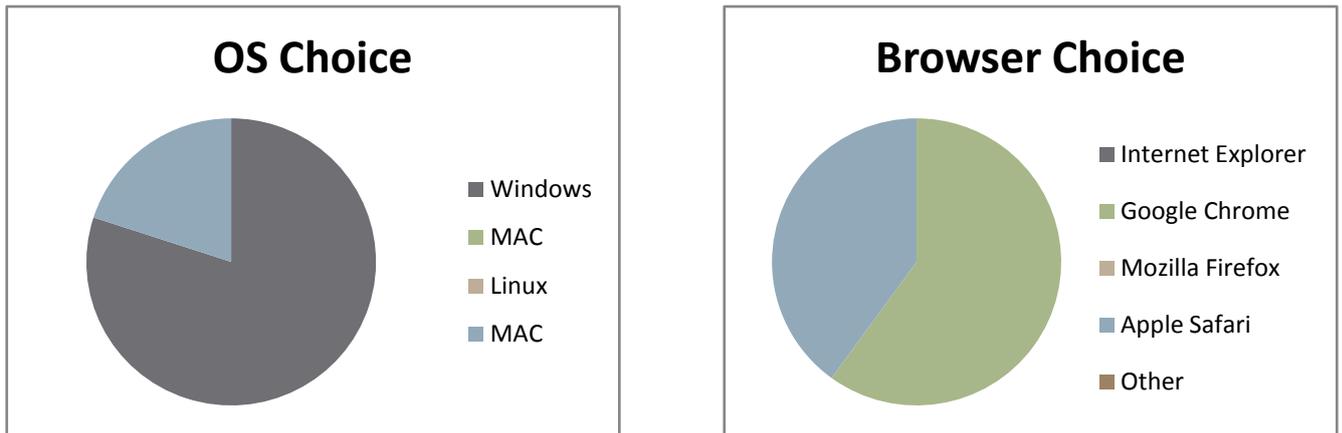
Task 1	Find the site map
Task 2	Add something you like to the basket and head to the checkout, are you persuaded to buy something else? Did the website offer any recommendations?
Task 3	Navigate back to the home page without using the browsers back buttons
Task 4	Is the logo clickable? Does it take you anywhere?
Task 5	How many clicks does it take you to book a delivery slot?
Task 6	Register on this website
Task 7	Find the current job vacancies
Task 8	Find out about delivery details
Task 9	View the terms and conditions
Task 10	Find out how to change the size of the text



(Figure 2)

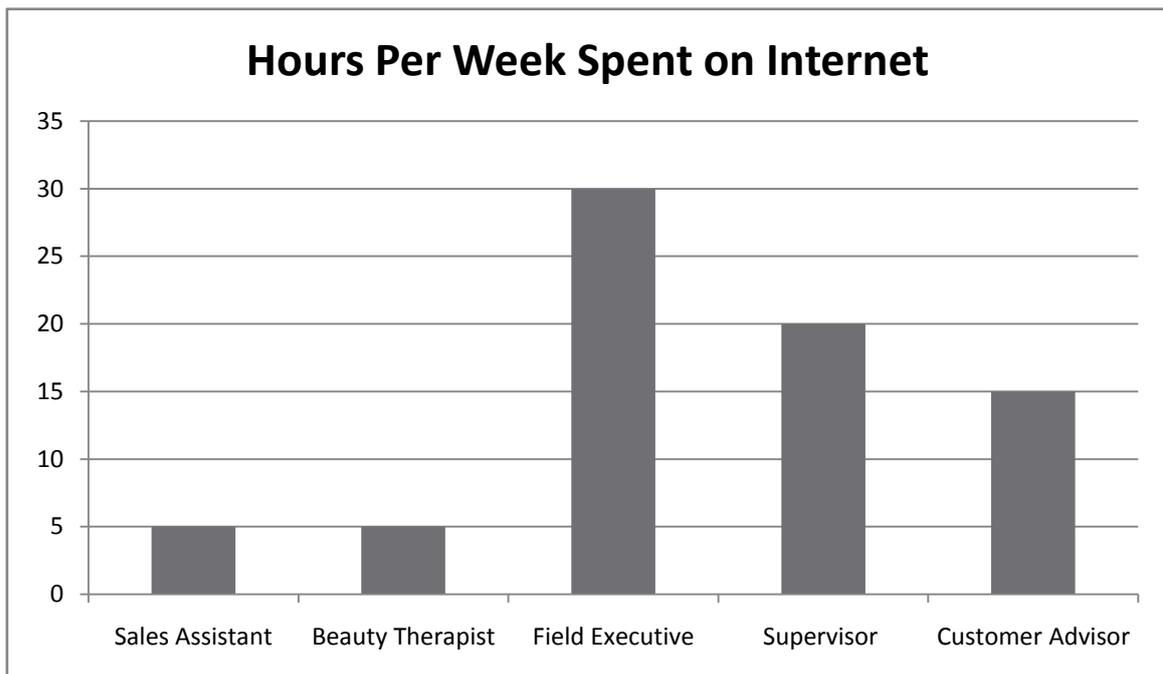


(Figure 3)



(Figure 4)

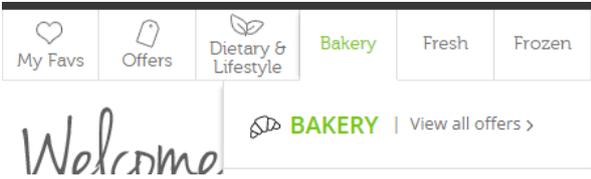
The observation was completed on a Windows OS using Chrome and based on the user profile the preferred choice of OS was Windows with 4/5 participants selecting this and the preferred choice of browser was google chrome with 3/4 participants selecting this, this means the OS and browser choice did not need to be taken into too much consideration when analysing the results.

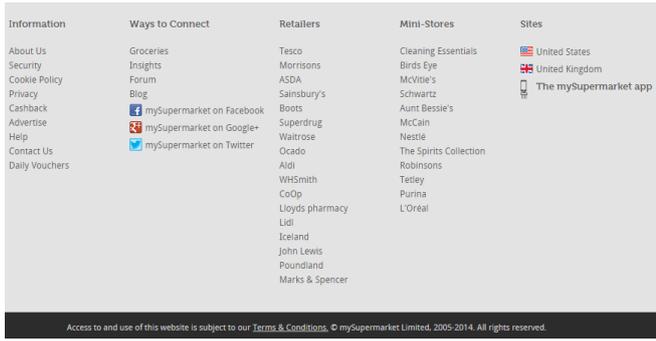


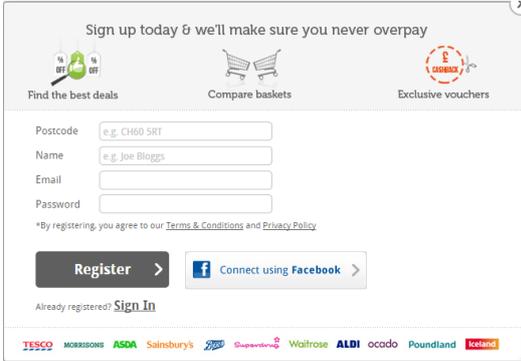
(Figure 5)

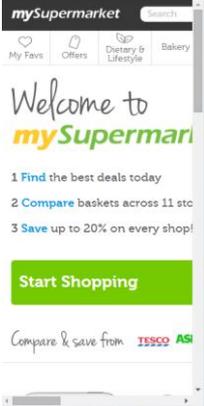
For the experiment it was important to use participants who had different backgrounds and levels of ICT in order to reflect the general public, however this did not influence the results as predicted, the results varied greatly with a sales assistant completing one task the quickest and a beauty therapist the next.

(a) mySupermarket

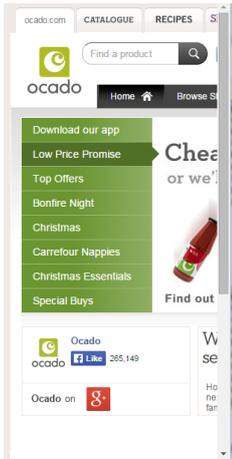
No	Key Usability Finding	Solution
1	<p>Page Length: Nielsen states that only 23% of users scroll meaning 77% of users will only view the content above the fold (Fadeyev, 2009). On the home page users had to scroll down over 3 screen sizes to reach the footer links. When viewing products or searching products the footer expands and becomes 3 screen sizes at the bottom of the page. Users expressed an instant dislike towards this with one participant stating “I probably wouldn’t use this website again purely based on the amount of scrolling I’m having to do.”</p>	<p>Cut the page length on the home page, just display necessary information/offers and fix the footer, I can only presume this is an error.</p> 
2	<p>Inconsistency: This is a breach of Shneiderman’s ‘eight golden rules of interface design,’ <i>No.1 strive for consistency</i> (University of Washington, 2014). On the navigation some of the tabs have icons next to the text and others show icons next to sub categories once you’ve clicked the category. One user specified the icon’s on the nav was a feature they particularly liked but subconsciously contradicted themselves by stating ‘although I don’t know why they aren’t next to each one.’</p>	<p>Ensure the navigation is consistent, have icons next to each category or next to each sub category not a mixture of the two. Ensure sub categories are displayed the same, either in a list format or a logo format, not a mixture of the two.</p> 
3	<p>Missing Links: This is a breach of Nielsen’s ‘10 usability heuristics for user interface design,’ <i>No.3 user control and freedom and No.6 recognition rather than recall</i> (Nielsen, 1995). Although 5/5 participants did not know what a sitemap was, once explained none could locate it making it difficult to navigate around the website. All 5 users stated this task was frustrating</p>	<p>Ensure all necessary links are available and easy for users to find. Generally sitemap, accessibility, and terms and conditions should all be links accessed from the footer.</p>

		 <p>Information: About Us, Security, Cookie Policy, Privacy, Cashback, Advertise, Help, Contact Us, Daily Vouchers</p> <p>Ways to Connect: Groceries, Insights, Forum, Blog, mySupermarket on Facebook, mySupermarket on Google+, mySupermarket on Twitter</p> <p>Retailers: Tesco, Morrisons, ASDA, Sainsbury's, Boots, Superdrug, Waitrose, Ocado, Aldi, WHSmith, CoOp, Lloyds pharmacy, Lidl, Iceland, John Lewis, Poundland, Marks & Spencer</p> <p>Mini-Stores: Cleaning Essentials, Birds Eye, McVitie's, Schwartz, Aunt Bessie's, McCain, Nestlé, The Spirits Collection, Robinsons, Tetley, Purina, L'Oréal</p> <p>Sites: United States, United Kingdom, The mySupermarket app</p> <p>Access to and use of this website is subject to our Terms & Conditions. © mySupermarket Limited, 2005-2014. All rights reserved.</p>
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<p>4</p>	<p>Sign-up: After signing up to mySupermarket you can begin shopping but in order to book a delivery slot and continue with the purchase you must then sign up to the direct retailers which 5/5 participants found irritating. This was the main dislike towards this website and the main reason they would not shop here again. With one participant stating 'If I was to do a full food shop here it would be a nightmare' and another stating 'the registering and logging in lets it down big time, it means you're having to constantly stop.'</p>	<p>On the main register page have some form of tick box for each supermarket users want to access, when ticked users details are imported into the other registration forms, even if it takes longer to initially sign up, once it is done users can continually shop.</p> 
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<p>5</p>	<p>Responsiveness: Website is not responsive so would be difficult to use on a small screen such as a mobile or tablet. However this site does offer an app, but not every user would want to download this on their tablet or smart phone. One participant stated 'it's eye-catching but far too squished, I probably wouldn't bother to go and download the app, I'd go somewhere else.'</p>	<p>Make website responsive to cater for a wider audience. Not every internet phone has access to an app store.</p> 
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(b) Ocado

No	Key Usability Finding	Solution
1	<p>Page Length: When viewing products users have to scroll over multiple screen sizes to reach the end as the products are not separated into pages. One participant stated ‘not keen on the layout here, too much scrolling needed and the amount of text under each item doesn’t help.’</p>	<p>Display products on multiple pages and cut down the description space under each item in order to utilize the space better.</p>  <p>The screenshot shows a grid of four product cards. Each card includes a product image, a title, a brief description, a promotional offer (e.g., 'Buy any 3 for €5'), a star rating, and a price. Below the price is a quantity selector and an 'Add' button. The text under each item is dense and takes up a significant portion of the card's space.</p>
2	<p>Responsiveness: Website is not responsive so would be difficult to use on a small screen such as a mobile or tablet. However this site does offer an app, but not every user would want to download this on their tablet or smart phone. One participant stated ‘it looks really plain and boring and is basically unusable like the other.’</p>	<p>Make website responsive to cater for a wider audience. Not every internet phone has access to an app store.</p>  <p>The screenshot shows the Ocado website on a mobile phone. The layout is not responsive, with a search bar at the top and a navigation menu below it. The text is small and the overall design is cluttered. A promotional banner for 'Download our app' is visible, along with other navigation options like 'Home' and 'Browse'.</p>

Article III. Critical Analysis of Data & Discussion

(a) Statistics

Based on the observation conducted a clear correlation was visible within the results. The time taken to complete each task was used to work out a median time per task. During the mySupermarket observation all five participants unsuccessfully located the site map which was task 1; they were also unsuccessful in tasks 5, 7 and 10 (as you can see in figure 3) which was booking a delivery slot, finding out the current job vacancies and finding a means to change the size of the text. The median time it took to complete each of the remainder tasks is as follows; task 2 took 35s, task 3 took 4.21s, task 4 took 3.30s, task 6 took 30.35s, task 8 took 27.94, and task 9 took

18.12s. As you can see in (figure 1) only 2/5 participants managed to complete task 8 which was to find out about delivery details, and only 3/5 participants managed to view the terms and conditions which was task 9.

A website should follow the three-click rule, if users can't find what they are looking for or they cannot perform a simple task such as booking a delivery slot or locating the terms and conditions within three clicks, they will probably become aggravated, leave the site and not re-visit (Porter, 2003).

During the Ocado observation only 1/5 participants unsuccessfully located the site map and the terms and conditions (seen in figure 3). The median time it took to complete each task is as follows; task 1 took 24.60s, task 2 took 19s, task 3 took 4.40s, task 4 took 4s, task 5 took 17.50s, task 6 took 27.10s, task 7 took 12.20s, task 8 took 28.35s, task 9 took 8.50s and task 10 took 44,50s.

As you can see in (figure 2), based on the tasks that were successfully completed you can see that the two websites were either on par, give or take a second or the mySupermarket website lagged behind, taking users a lot longer to complete the tasks. This could be due to the fact the mySupermarket website is not designed for finding specific information it is designed purely for users to browse and shop. From the findings it is clear to see that the Ocado website appeared to be the more usable and accessible out of the two and 5/5 participants stated they would consider using the Ocado website in the future.

During the interview participants were asked what they liked about each website and if a particular feature stuck out for them. Most of the participants referred to the look and feel of the Ocado website but liked the visual icons on the mySupermarket website.

However both websites were described as confusing and frustrating during the interview for different reasons, which conclude that both websites do have usability and accessibility issues, which could potentially limit users.

Article IV. Reflection, Further Work & References

The Observation and interview was conducted adequately; some invaluable information was gained however there is always room for improvement for example during the observation the tasks should have been thoroughly gone through before involving participants because during the first observation, the participant had started to do the first task and found they could not complete this task until they had registered on the system. An apology was given to the participant and a five minute break was held whilst the task list was adapted in order to make the registration process the first task. Another copy of the task list was printed, and the observation began again. Although the fact that registering on the mySupermarket website before any actions could be completed was an interesting point, if the participant was allowed to carry on, this would not have provided sufficient results as half of the tasks would have been void.

During the interview process all the participants were struggling to recall the first website they observed, acting quickly they were re-issued with a laptop containing

both websites open so they could reference back to the sites, however this did appear to be time consuming. If the process was conducted again the interview questions would be split in order to conduct two short interviews, one after each observation so the answers would be clear in their mind and they would not feel the need to go back and observe each site.

In terms of recommendations for the websites, a suggestion would be to spend more time focusing on accessibility issues and reviewing how users perceive the websites in order to improve and reach a wider target audience. It would also definitely be worthwhile optimizing the websites for mobiles and tablets because although an app is an option both websites have; it is not necessarily what users want.

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Article VI. Appendices

Section 6.01 Consent form

Conduct a controlled observational experiment to evaluate the usability and user experience of two websites (<http://www.ocado.com/>) and (<http://www.mysupermarket.co.uk/>)

Usability and User Experience evaluation for L6 HCI Assignment

Principal Investigator: **Joanne Kennedy**

THE PURPOSE OF THE STUDY

This usability study aims to evaluate the targeted websites. Thank you for volunteering to participate in the exercise, by doing so you are helping the University to better meet the needs of the students and its employees. This exercise is an important element in a programme of research into the usability of the web.

THE STUDY

Firstly I would like you to complete a:

1. **An Informed Consent form**
2. **User Profile Questionnaire**
3. **Task-based experiment:** to explore the website looking for certain information required to complete the task. The testing equipment to be used are:
 - **Video Observation:** Real-time observations of the user in the environment. Video will be used to record and analyse the users' experiences and behaviours, including facial expressions, movements, and verbal protocols.
4. **Usability Interview:** After the tasks have been completed you will be involved in a short interview asking for feedback on aspects of the site and the conduct of the test.

Any Questions?

I believe that there is effectively no risk involved in the participation in the proposed research. All participation in the research is entirely voluntary, and can be stopped at any time. At the end of each session participants will have the opportunity to comment on the way the

research was conducted. Data will be held for research analysis by Leeds Metropolitan University. All personal data will be treated confidentially, and no one will be identified in published material.

Section 6.02 User Profile

Gender:

- Male
- Female
- Prefer not to say

Age:

Occupation:

Country of origin:

First language:

Which browser do you use on a regular basis?

- Internet Explorer
- Google Chrome
- Mozilla Firefox
- Apple Safari
- Other

Which OS do you use on a regular basis?

- Windows
- MAC
- Linux
- Other

On average, how many hours are spent browsing the Internet per week?

Do you shop online?

Do you buy your groceries online?

Would you consider buying your groceries online?

Section 6.03 Task List

1. Register on this website
2. Find the site map
3. Add something you like to the basket and head to the checkout, are you persuaded to buy something else? Did the website offer any recommendations?
4. Navigate back to the home page without using the browsers back buttons
5. Is the logo clickable? Does it take you anywhere?
6. How many clicks does it take you to book a delivery slot?
7. Find the current job vacancies
8. Find out about delivery details
9. View the terms and conditions
10. Find out how to change the size of the text

Section 6.04 Interview Questions

Question no	Questions
1	What did you like about the mySupermarket website?
2	What did you dislike about the mySupermarket Website?
3	What did you like about the Ocado website?
4	What did you dislike about the Ocado website?
5	How did the mySupermarket website initially make you feel?
6	How did the Ocado websites initially make you feel?
7	How did you find the tasks?
8	Which site was easier to use?
9	What were the main problems you encountered on the mySupermarket website?
10	What were the main problems you encountered on the Ocado website?
11	Remember something special on the mySupermarket website?

12	Remember something special on the Ocado website?
13	Have you used the mySupermarket website before?
14	Have you used the Ocado website before?
15	Which website performed better on a mobile?
16	How smooth do you find the overall running of the mySupermarket website?
17	How smooth do you find the overall running of the Ocado website?
18	Would you consider using either of the websites in the future?

