

Investigation into User Experiences on Websites Using Eye Tracking Technology

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Abstract

This experiment has been completed to identify whether eye tracking software can be used to recognise issues within the usability and user experience of websites. Standardised surveys are also used to analyse the usability and user experience. A literature review was completed to research the eye tracking technologies as well as the literature on Usability and ensuring websites meet this as well as the elements involved in ensuring the website meets user experience expectations and how the business can influence behaviour by the use of cognitive bias.

Methodology

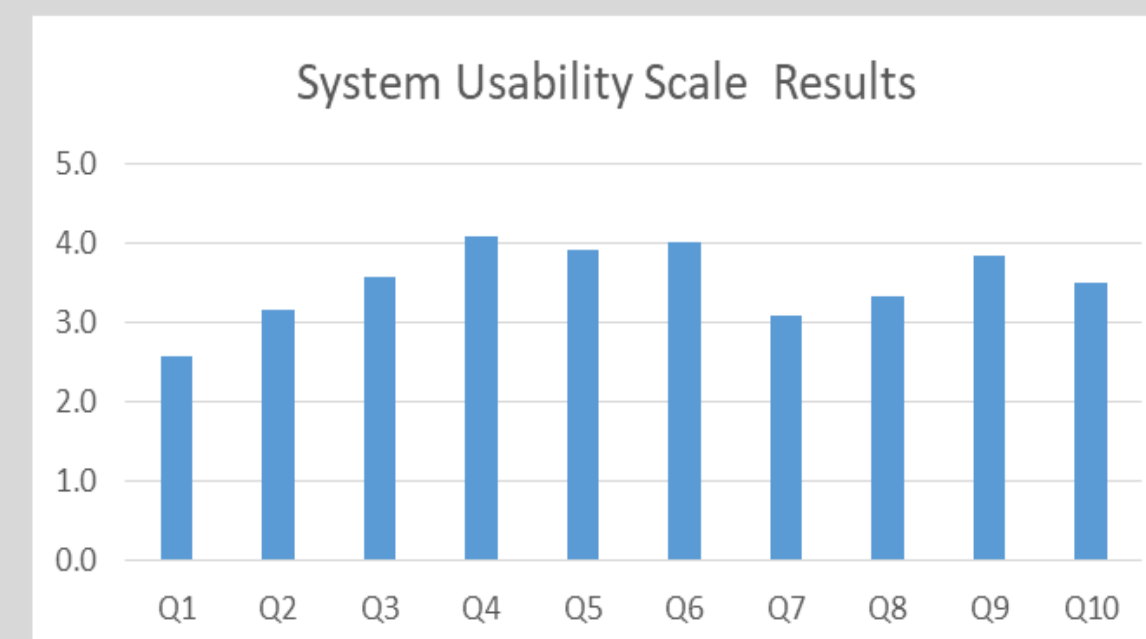
As this investigation includes many methods of data collection, there are two type of research methodology that will be used. These include Phenomenology and Positivism. Phenomenology involves, planning, collecting and implementation or analysis and positivism is used when the investigation interprets the information collected from the investigation. The approach that has been used to undertake the investigation is deductive. This approach has the following advantages, "Possibility to explain causal relationships between concepts and variables, Possibility to measure concepts quantitatively, Possibility to generalize research findings to a certain extent" [3]. The investigation will consist of multiple people participating in an eye tracking experiment when following instructions when using the Debenhams website. After this, the participants will complete a usability questionnaire and a user experience survey. This information will then be analysed using Ogama software and excel.

User Experience Questionnaire

The short user experience questionnaire has been completed by each participant "The scales of the questionnaire cover a comprehensive impression of user experience. Both classical usability aspects (efficiency, perspicuity, dependability) and user experience aspects (originality, stimulation) are measured." [2]. The image to the right shows the results for pragmatic and hedonic quality. This was completed by a total of 14 participants.

Usability Questionnaire

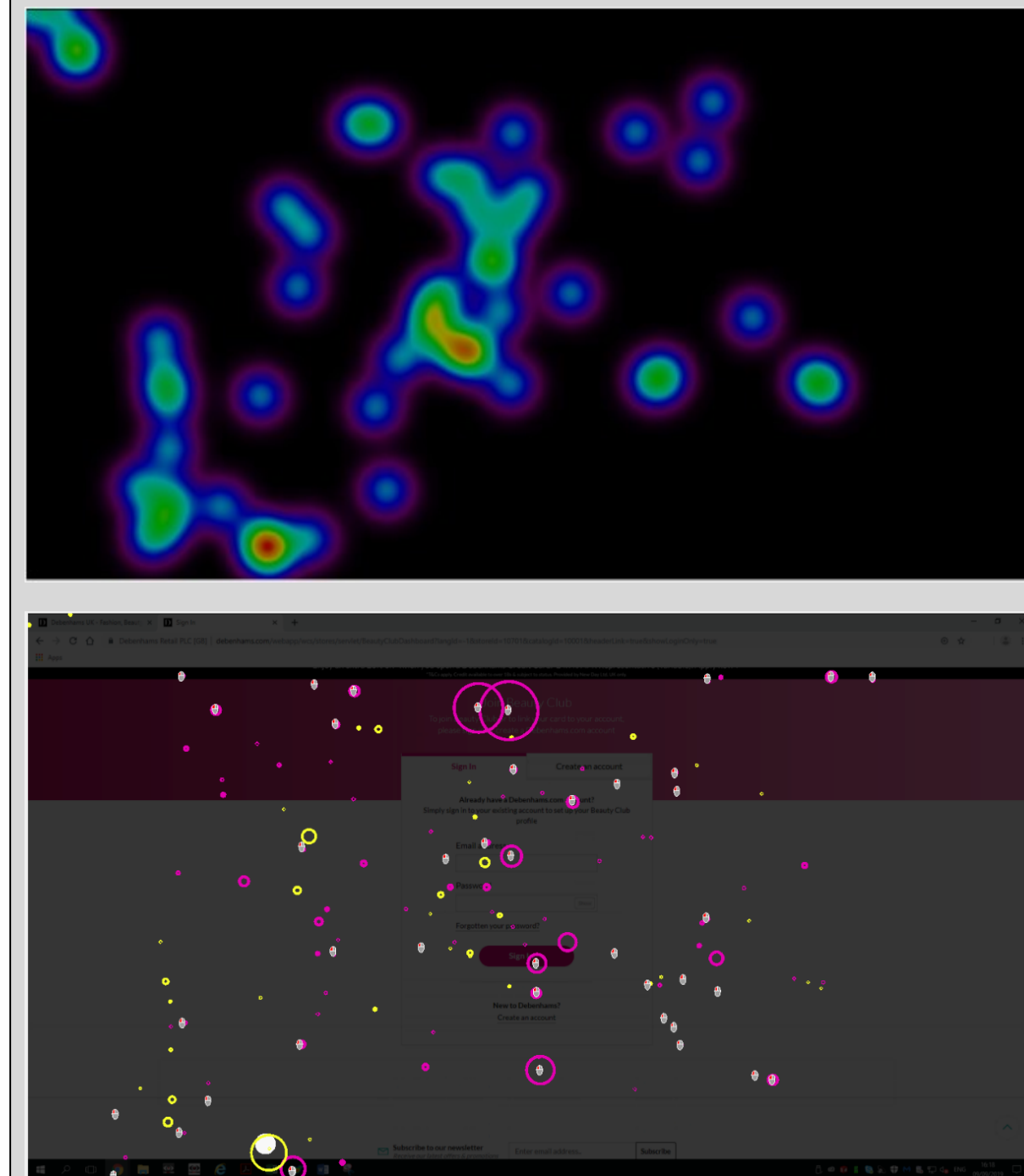
The system usability scale is a "Technique in user-centred design to evaluate a product by testing it with actual end users. Typical measures are accuracy, efficiency and user satisfaction" [1] these surveys have been completed after the users have taken part in the eye tracking analysis of the user of Debenhams website. This questionnaire consists of 10 questions and was completed by a total of 14 participants.



Short UEQ Scales	
Pragmatic Quality	1.827
Hedonic Quality	0.115
Overall	0.971

Eye Tracking

The Eye tracker 'The Eye Tribe' has been used for this investigation along with Ogama software to analyse participants' eye movements when following the instructions to use the Debenhams website. The images shown on the right are the eye tracking results from participant number 4. The top image is showing the heat map for eye gazes and the bottom shows mouse and gaze fixations. This was completed by 8 participants where only 2 of the experiments worked to the full potential.



Results

The major finding from this investigation was that participants with similar ages and backgrounds had similar results to one another. The number of eye and mouse fixations were alike as well as if any issues were encountered. The main issues encountered included locating contact information and locating the beauty club.

The overall total for the System Usability Scale with a total of 14 participants resulted in Debenhams website being given a score of 75.2 out of 100. The scores for the user Experience Questionnaire range from -3 to +3. The overall results of the short User Experience Survey have been positive, with a final score of 0.97. In conclusion, the investigation was a success and it has been found that this investigation was able to identify weaknesses within the Debenhams website, however, the usability and user experience has overall been positive.