



THE DEVELOPMENT OF LIGHTR

CS2003 Usability Engineering

GROUP 32 LAB 4

Ashley Mann	1609144
Samuel Caires Ribeiro	1624508
Burakcan Cihan	1622465
Nasir Syed Mohammed	1602813
Garratt Weblin	1607201
Marvin Abum	1610554

Personal Tutor:

Stasha Lauria

User Requirements, Details and Data:

To collect our user requirements, we utilised three different methods of data collection, these include Competitor Analysis, User Personas and Questionnaire.

Competitor Analysis:

The first method we used was the Competitor Analysis. We looked at several apps with similar functions to ours and looked for the best parts of each one as well as the issues that people most commonly had with them. We looked for this information by looking at user and professional reviews as well as using the app ourselves.

We focussed our Competitor Analysis to three applications. These include the Phillips Hue, EcoBee4 and Hive. Our analysis of these applications will hold the basis of our research into the main usability criteria. These being Efficiency of Use, Ease of Remembering and Error Rate.

Our Competitor Analysis of the applications provided some very insightful information. Regarding the Phillips Hue one the fundamental issues that people complained about was overcrowding. Having too many things on a screen at a time was confusing. Our analysis of the Hive Application showed us that the biggest problem was when people were setting up schedules it was easy to make mistakes as adjusting was fiddly. Our final application analysis of the application EcoBee4 show us almost no complaints. The application had a very well thought out scheduling system. With this information, we made it our goal to improve our application by taking and adapting the scheduling system of EcoBee4. Using our research, and our new aim, we began visualising possible improvements to the scheduling system through our next Data Collection method.

User Personas

We got more out of this method than we did any other. We thought of potential users of the app and created a schedule of their day to day activities. We used this to then come up with relevant features and UI designs based on their needs. The personas we did are a student, elderly person, single mother, commuter, disadvantaged person, and a non-English speaker. Based on these personas we gathered a lot of features and points to focus on when doing our design.

Some of the main requirements gathered from this method are:

- Details for the scheduling aspect of the app
- Having a confirmation of change whenever one is made (such as a buzz or flash from the notification light)
- Being able to make quick changes on the fly
- Having a tutorial in some form would help with those who have very little experience with technology
- Having mainly symbols instead of words to help make the app as universal as possible
- Having a first set up page to choose a language and disability

Questionnaire

We got the least from the questionnaire than either of the other methods we used. We asked a series of relevant questions based on what we couldn't find from the other methods.

We gave our questionnaire to Computer Science students at Brunel. They mostly remained anonymous, but we can at least assume that they are 18 and over and include both males and females.

Based on one of the questions about the status of the user's home security system we gathered that most people don't have one and so we included one in our app.

Another question asked the user about colour schemes. We gathered that a dynamic colour scheme that changes throughout the app is preferred to a static one.

The most useful information gathered was on the tutorial. We presented a few options for a tutorial system and the most popular one was the 'tooltips'. This would be an overlay that describes the function and use of each part of every screen of the app.

Prototype Design and Description of Interaction:

For our Prototype Design and Interaction, we decided to build an Interactive Application based Website. For this website, we used HTML, CSS, SCSS, JavaScript and jQuery.

You can find our Interactive Application at the following Link:

<https://mannjamin.github.io/LightR/lightR.html>

For the direct link to the interactive version, go to the following link:

<https://mannjamin.github.io/LightR/Interaction.html>

Usability Evaluation Details and Data:

Due to the nature of our development, we will be extending this information to our final reports to better represent the data. Our intention for the testing of the application, is to perform a Heuristic Evaluation on an arranged team of Students who have agreed to test our application. This test will be based on the tasks and we have set up based on our persona testing, including the testing of the application by individuals of other languages.