**Aim of the iteration**

**What it is**

**How it was designed and how it works**

**How we tested (MAYBE REPETITION WITH RESULTS)**

**Results , Conclusions**

# Iteration 1

A simple website composed of questions and answers is designed for iteration one. The website is used to investigate the performance of numerical and link name referencing techniques. Different feedback techniques are incorporated into the website and evaluated.

The website is designed as a set of 16 questions. Each question is based on a particular animal fact. Questions are answered by first selecting the correct animal category. Thereafter four facts are listed and only one fact contains the correct answer. The questions are divided into five sections: numerical referencing, link name referencing, two visual feedback sections and one verbal feedback section. The two visual feedback sections consist of a pop up and a link highlighting section. The feedback sections are implemented to determine which feedback techniques are preferred by users. Questions in the numerical referencing section are answered by saying the associated number of the animal category and fact number. Questions in the link referencing section are answered by saying the green-coloured word.

Users were tested and questioned to ascertain which referencing style and feedback techniques were preferred. The following results were obtained:

* Although 57% of users preferred numerical referencing and found it to be the easiest technique to use; it was evident from figure 2 that link name referencing actually performed better in comparison.
* Figure 4 indicates that users prefer link highlighting as both a visual and an overall feedback method.
* 43% of users preferred a combination of numerical referencing and link highlighting techniques.
* During testing 48 application errors were as indicated in the analysis section. The large number of errors and users preference were considered for iteration two.

Figure 1: Ease of use between referencing techniques

Figure 2: Performance between referencing styles

Figure 3: User preference between referencing techniques

Figure 4: Feedback techniques preferred by users

# Iteration 2

The website designed in iteration two consists of a similar structure and purpose to that in iteration one. Upon testing iteration one it was determined that a large number of errors occurred in the first referencing section. To remain unbiased to a particular referencing style iteration one was edited and retested.

The new website is designed as a set of 14 animal fact related questions. The questions are divided into two sections: numerical referencing and link name referencing. Each section is preceded by a tutorial to help guide the user. The tutorial consists of two questions and each referencing section is comprised of five questions. In the numerical referencing section, answers are accessed by saying associated numbers. Similarly in the link name section, answers are accessed by saying the green-coloured word.

Three new people were tested and the following results were recorded:

* The ease of use and preference between referencing styles was equally divided even though 67% of commands performed best in the link name referencing section as shown in figure 6.
* The number of application errors was reduced to 32 as discussed in the analysis section.
* Users indicated that link name referencing was preferred for complex websites. However, 67% of users were confused and unsure what complex websites comprised of.
* 100% of users prefer saying a particular word in comparison to saying a part of a sentence or the complete sentence for link name referencing.

These conclusions were considered when designing iteration three.

Figure 5: Ease of use between referencing styles in iteration two

Figure 6: Performance between referencing styles

Figure 7: Users preference between referencing techniques

**Conclusions**

# Iteration 3

A facsimile of a local news website is designed. Numerical and link name referencing styles are applied to the website to investigate the performance of these techniques on a complex and realistic web application. Two versions of the website are created. Numerical referencing is applied to the first version wherein articles are accessed by saying the associated number assigned to the article. The link name referencing technique is applied to the second version wherein articles are accessed by saying the green-coloured word. Web navigation commands, verbal feedback and link highlighting components are included. In addition, user confirmation is required for complex navigation methods.

A total of six people were tested. Two use cases were formulated to test navigation in both the numerical and link name referenced websites. The following results were obtained:

* For a more complex website there is no preference between referencing styles. There is an equal division of fondness between numerical and link name referencing.
* 83% of users think the website is sufficient in illustrating the differences between the referencing techniques.
* 17% of users consider the website an adequate facsimile of a news website. This minute percentage can be attributed to that the fact that only 33% of the users are computer literate.
* 67% of users feel it’s unreasonable to expect elderly users to press and hold a button to activate voice recognition.
* 83% of users like the voice feedback and 67% prefer not to have confirmation while navigating the website.
* 67% of the users would prefer an application that does not require internet access. This is beneficial in cases where users do not have internet access or prefer an inexpensive option.

These observations are considered as notes for future iterations.