

Chapter 4

Usability Evaluation

Introduction The initial testing of the product was done on the developer's Personal Web Server. Although this testing **mimicked** real-life situations, factors such as Internet connections, modems, and users' hardware were not taken into account. This presented a disadvantage. Another problem experienced was the fact that the target group, namely Vista lecturers, were scattered all over South Africa and the product was operating on the developer's PC in Pretoria. These problems were overcome by uploading the product on the developer's site: <http://bbasson.jaywalk.com/library.asp>

Participants in the usability evaluation Three groups participated in the usability evaluation:

- A. The envisaged end-users: Vista lecturers in Statistics (as far as Bloemfontein and Port Elizabeth).
- B. People who matched the target audience: Lecturers in Statistics at the University of South Africa.
- C. People who did not match the end-user profile but who were Internet literate.

Feedback With group A, feedback via e-mail and telephone had to be relied on, but with groups B and C the participants could actually be watched using the site.

Test procedure Group A During March and April Vista lecturers had to compile examination papers. Three lecturers who had to set questions on Descriptive Statistics, Analysis of Variance and Regression Analysis were asked to access the SSS for contributions and to give feedback on:

- The ease of use of the product.
- The time it took to download the Word documents and whether they experienced problems viewing the documents in pdf format.
- Frustrations and problems experienced.

Usability Evaluation (Continued)

**Participants in
the usability
evaluation:
Group B**

The prerequisites for choosing participants for group B were:

- They had to match the target audience.
- They should not have a preconceived notion about the product.
- They should be, if necessary, brutally honest.

In order to observe the user closely, a one-to-one test was run, one user with one facilitator. Before accessing the site, the user was informed of the purpose of the test. Before the evaluation of the product started, the facilitator gave the participant a specific task, namely to compile a question on descriptive statistics within 10 minutes.

The different participants were asked to articulate what they saw and experienced as they navigated the site. Notes were made of the key remarks and how the participants conducted the test.

After completion of the test the participants were asked specific questions, e.g. whether they experienced any anxiety when navigating the system and whether they found the product user friendly.

**Participants in
the usability
evaluation:
Group C**

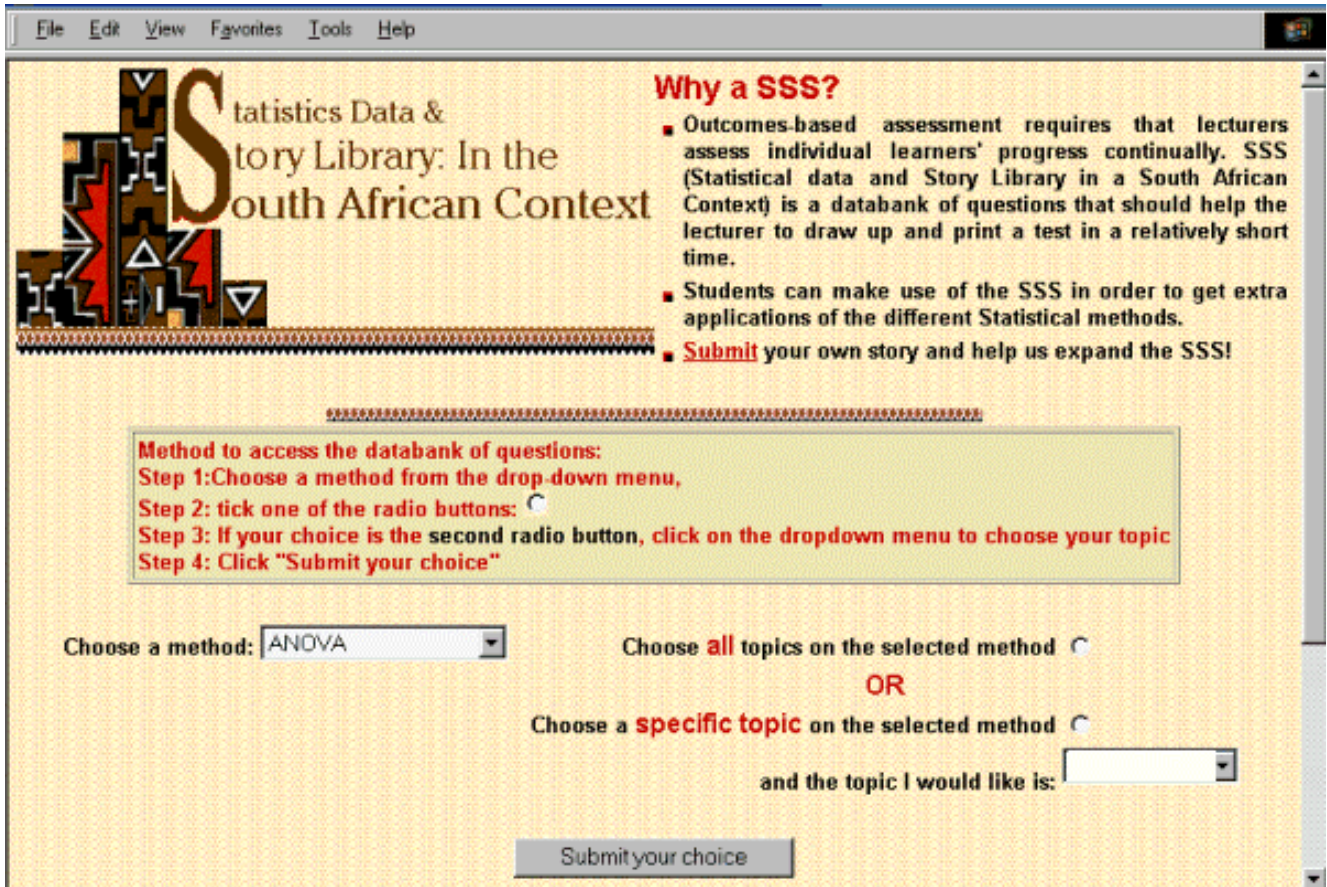
Participants in group C did not have to be statisticians but had to be Internet-literate.

The same test procedure as for group B was followed.

Usability Evaluation: Results

Introduction

The usability evaluation was done on the following product:



The results are classified under the following headings:

- Presentation: The opinion of the end user on the “look –and feel” of the site.
- Interaction/Efficiency:
 - The ease of use of the product in helping end users to accomplish their critical tasks.
 - The extent to which a casual user can remember how the product works and retain proficiency with it.
- Information: The completeness and appropriateness of the product in achieving end-user goals.

Results of Usability Evaluation: Presentation

Group A

The following comments were received by e-mail from a lecturer at the Soweto campus on the home page: “What I've seen looks impressive. I think it is good that on the Web site itself you do not say that it is a database of questions that black South African students can relate to. They must not be made to feel that there is a special statistics course for them as blacks. The way you put it on the Web site is good, that is without specifying any racial group.”

A lecturer from the Bloemfontein campus was particularly thrilled about the “look –and feel” of the home page and her comment, given over the telephone in Afrikaans, was: “Die etniese uitleg is verskriklik oulik ... ek is mal daaroor” (The ethnic layout is very appealing...I'm crazy about it).

Another lecturer said that the histogram on the home page made him feel “at home”, but that students might experience the site as “boring”.

Group B and C

Initially Group B and C participants didn't comment at all on the “look and feel” of the site, but were more concerned about the use of the product. The reason might be because they were given a specific task and experienced it as a “test” that must be “passed”. When they were specifically asked about the presentation design they would noticeably relax, sit back and exclaim that it was “nice”, “soothing”, “tasteful”, etc.

Results of Usability Evaluation: Interaction/Efficiency

Introduction

To choose “All topics”, a radio button had to be checked first and then the user could proceed with the choice submission (because of a lack of programming knowledge, the author could not make the “All topics” option part of the drop-down menu). To make the user aware of the procedure to access the database, the method was described in a box with a different background and a different font colour.

Feedback

In the feedback received from group A no problems/difficulties were mentioned regarding access to the database. Groups B and C **immediately** clicked on the drop-down menus **without** reading the instructions and consequently got an error message. The advantage of being able to observe the participants became quite clear and it can only be assumed that group A had the same difficulty, realised that they had to follow the instructions and were too ashamed to mention it.

When Groups B and C were specifically asked why they did not read the instructions, the answer was that it is not common practice to have instructions on the Internet and that they are use to clicking on drop-down menus to make their choices. This posed a major problem and the only solution was to gain the necessary knowledge to obviate this problem. This resulted in the changes as presented in the following figure:

Access the SSS

Step 1 ANOVA Choose a statistical method (such as "Regression") from the dropdown menu.

Step 2 All Topics Choose a topic (such as "Health"), or "All Topics" from the dropdown menu.

Step 3 **Submit your choice** **New choice**

Results of Usability Evaluation: Information

Group A

To get to the information, i.e. the actual questions, a Word document had to be downloaded and the major concern was the downloading time. Fortunately the feedback from the Vista lecturers was that, even during peak time, the downloading time was reasonably fast.

Group B

In group B one of the lecturers from the University of South Africa became very particular about the contents, e.g. was Regression a statistical “method”; should one refer to “pap and vleis” as it appeared in one of the questions, etc. She was reminded that the goal of the exercise was to test the usability of the product and that the next stage would be to look closely at the content of the database.

Group C

Group C was not concerned about the actual information and was quite satisfied that the product was appropriate for achieving the end user’s goal.
