

Bleek and Lloyd in Second Life

Rizmari Versfeld
UCT Computer Science student
55A Polo Road
Observatory, Cape Town
(+27) 0733416692
vrsriz001@uct.ac.za

ABSTRACT

This report describes the process of setting up a 3D representation of the Digital Bleek and Lloyd collection (lloydbleekcollection.cs.uct.ac.za) in Second Life (SL). The building, scripting and evaluation of the SL exhibit are discussed. The report concludes that SL is a good platform for this kind of cultural representation. At a university level it could be used to showcase and share researchers' work.

Categories and Subject Descriptors

H.5.1 [Information Interfaces and Presentation]: Multimedia Information Systems – *Artificial, augmented and virtual realities.*

General Terms

Experimentation, Human Factors

Keywords

Second Life (SL), Linden Scripting Language (LSL), Digital Libraries, Bleek and Lloyd, Bushman, virtual worlds

1. INTRODUCTION

The Digital Bleek and Lloyd is a collection of scanned notebooks and illustrations documenting the Southern African Bushman culture. More specifically the notebooks contain words and stories written by Wilhelm Bleek, Lucy Lloyd and Jemima Bleek in the !xam and !kun languages. All the drawings and watercolours of the Bushmen !han=kass'ō, Dia!kwain, Tamme, luma, !nanni and Da are included in the collection [7].

Since the launch of Second Life in 2003, it has gone beyond a simple social network. Exhibitions, seminars, conferences and normal business meetings have all been hosted in-world by organisations like IBM [3], Sun Microsystems [6] and the Digital Libraries Federation [1]. A number of educational institutions across the globe offer courses that students can attend in SL [2]. This is made possible by SL's flexibility. Users can create objects in SL or import custom 3D objects via UV maps. Any object can be scripted to perform a variety of tasks using the Linden Scripting Language (LSL). These tasks include displaying and navigating slideshows, videos and other media, handing out informational note cards, automatically launching Web pages, performing AI activities for bots and much more.

The goal of this research is to discover whether a Bushman heritage SL representation, using the abovementioned features, can be engaging and can effectively communicate information. The Bleek and Lloyd collection was added to the online world of SL in the form of a 3D exhibit. Is dabbling in SL a pointless exercise or does it have some value for researchers and students?

2. PROCESS

2.1 Building

First SL land was procured to build on. Fortunately, Virginia Tech and the University of North Carolina at Chapel Hill were already hosting various digital preservation projects on their Digital Preserve Island in SL. They kindly agreed to host the Bleek & Lloyd project on their land. Spencer Lee, a student at Virginia Tech, created a Bleek & Lloyd SL group and gifted a parcel of land to the group. This meant that any person (SL account) designated as owner of the group could build on this land. The Riz Juneberry account was assigned as the owner and all project development happened through this account.



Figure 1: Entrance of exhibit

Once the matter of SL land had been sorted out, actual modelling and building started. The SL building tool was used to create most objects found in the exhibit. Primitive shapes were modified and linked together to form display areas, media screens, signs and other objects. Some time was spent finding textures to apply to objects. In a few cases, textures had to be made. The GIMP Texturize plug-in was used to create textures from normal images. The Bushman illustrations also needed to be cropped and resized in some cases so as to reduce in-world loading times. This was done with the GIMP Batch process plug-in. All image processing was done with GIMP 2.6.4.

Only one animated texture was used in the exhibit. This was the fire texture. The animation was handled by a script that looped through frames in a single image. The frames of the fire animation were created using a trial version of particleIllusion 3.0, software that creates 2D particle effects. The frames were then combined into one image – a vertical strip of frames. This was done in GIMP. Unfortunately the image quality of the fire was very low due to SL's automatic resizing of large textures (and textures that have a resolution that is not a power of two).

The Riz Juneberry account was given L\$1000 (SL currency) for the Bleek & Lloyd project. At the current L\$/US\$ and US\$/ZAR exchange rates, this translates into roughly R30. Almost all of the money was spent uploading images to SL. Uploading a single image costs L\$10. Many images had to be uploaded multiple times due to undesired automatic resizing and alpha values not being recognized. SL sometimes failed to recognize alpha values in PNG images. This was solved by using the TGA format instead.

The slideshow in the exhibit was created using Microsoft PowerPoint 2007. It was then exported as a series of JPEG images that were uploaded to SL. Navigation of the slideshow is handled by a script. Once all images had been processed and uploaded they could be applied to SL objects. Then the objects were arranged so as to allow for easy navigation.

2.2 Scripting

The final part of preparing the Bleek & Lloyd exhibit was scripting objects in the exhibit. Scripts were used for 6 purposes: animation, slideshow navigation, floating text, notecard distribution, embedded weblinks and notecard storage. As mentioned above, the animation script was used to animate the fire and the slideshow navigation script was used in the media screen to change to the next slide when clicked on. Floating text was used in various objects to give the user instructions on how to use the objects. It was also used to identify the Bleek & Lloyd contributors. Certain objects contain embedded weblinks which open in a browser when the object is clicked on. These weblinks mostly open different parts of the Digital Bleek & Lloyd website to give the user more information. The fire object, however, contains a weblink to a survey hosted by SurveyMonkey. The display stands in the exhibit used a notecard distribution script to give a user a notecard when the stand is clicked on. These notecards provide more information about the contributors. Lastly, the notecard storage script is used in the Comments & Suggestions bin. It allows a user to create a notecard and drop it in the bin. The owner of the bin can then open the bin and read its contents.



Figure 2: Contributor pictures with display stand



Figure 3: Comments & Suggestions bin

2.3 Evaluation

Once development of the exhibit had been completed, five people were asked to evaluate the exhibit. This evaluation consisted of navigating the Digital Bleek & Lloyd website, exploring the SL exhibit and finally completing a short online survey hosted by SurveyMonkey. Only six questions were asked in this survey. The purpose of the questions was to determine whether the exhibit effectively communicated information to the viewer/user (Q4 & Q5), whether the SL environment significantly contributed to the original website (Q1 & Q2) and whether SL as a platform for representation has potential for further development (Q3 & Q6). The questions are listed below.

1. Do you think the SL exhibit contributes to the online Bleek & Lloyd in a meaningful way?
(No; Maybe; Yes)
2. Do you find the exhibit more interesting/engaging than the website?
(No; Maybe; Yes)
3. What would you add to the exhibit, if anything?
(Space for comment)
4. What was the Bushman story about?
(Rain and Death; Birth; Community)
5. What was Lloyd's first name?

(Lucy; Dorothea; Margaret)

6. Do you think development of the exhibit or similar project in Second Life should continue?

(No; Maybe; Yes)

3. RESULTS

Most of the questions asked in the survey were multiple choice questions. Question 1, 2 and 6 required the evaluator to select either 'no', 'maybe' or 'yes'. Figure 1 shows the answers that were received for each of the three questions.

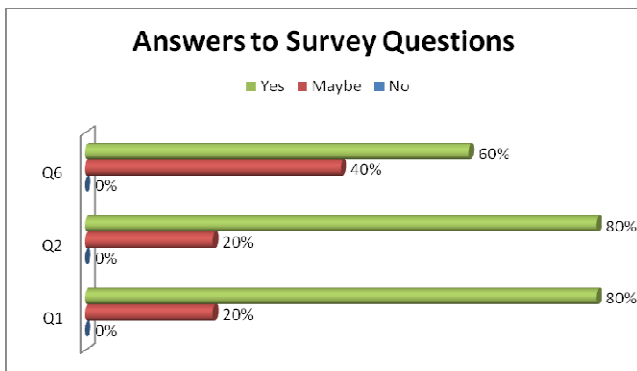


Figure 4: Answers to multiple choice questions

Questions 4 and 5 also gave the evaluator three options to choose from, but only one was correct. 80% of the answers received were correct.

Finally, Question 3 required the evaluator to write a sentence detailing what he/she would add to the exhibit. This question got three responses:

- Bushman people
- An artificial Bushman guide
- Descriptions of the illustrations

4. DISCUSSION

The results of the evaluation can be divided into three parts: communication of information, contribution to the original website and potential for further development. The results of Question 4 and 5 indicate that SL can be used to effectively communicate information. This is because the majority of evaluators gave the correct answers, which they found in the exhibit. The majority of evaluators also felt that the exhibit meaningfully contributed to the Bleek & Lloyd website and that it was more engaging than the website. They felt work should continue on the exhibit and they had ideas for how it could be improved. One can conclude from this that the SL exhibit has some value and could potentially increase in value with further development.

Although the survey gives us some positive feedback, there are other factors that need to be taken into account. The SL exhibit might be good at communicating information and fun to look at, but how important are these things in an academic context? An SL exhibit might, for example, be an effective platform for teaching school children about Bushmen, but researchers at a university

will gain more from a digital library than an exhibit. This is because an exhibit only contains a small, representative subset of the information contained in an archive. The Bleek and Lloyd exhibit serves as an overview of the information contained in the digital library, and a researcher will probably require more than a simple overview. Considering the current Internet availability in public schools, SL cannot yet be widely used as a teaching tool in South Africa. Schools often have no Internet access or little bandwidth. SL recommends 300 kilobits of bandwidth for basic functionality [4][5], although, from personal experience, an Internet connection slower than 1 mbs makes for sluggish gameplay.

At UCT, the value of an SL exhibit such as the Bleek & Lloyd exhibit does not lie in the information contained in it. Rather, it is a fun and exciting way for researchers to showcase their work and stay up to date and in touch with other researchers. The Digital Preserve Island that hosts the Bleek & Lloyd exhibit has an active community of researchers and students interested in digital preservation. Involvement in this community could be beneficial to students and researchers at UCT who join the SL world.

5. CONCLUSION

The process of creating content in SL is a straightforward, although time consuming, job. The scripting functionality of SL objects makes them very flexible and allows for the possibility of very complex and creative scripts to add to the functionality of an SL environment. This makes SL an interesting and, according to the survey results, effective platform for representation of information. SL could be a fantastic educational tool in schools, but unfortunately South African Internet access isn't up to the task. However, tertiary institutions could find SL to be a good way of showcasing current research. It could also be a platform for communication amongst communities of researchers and students interested in the same topics.

6. REFERENCES

- [1] Digital Libraries Federation Fall Forum 2009, <http://www.diglib.org/forums/fall2009/secondlife.htm>
- [2] Education in Second Life, http://www.simteach.com/wiki/index.php?title=Second_Life_Education_Wiki
- [3] IBM Business Center, <http://www.ibm.com/3dworlds/businesscenter/us/en/>
- [4] Second Life System Requirements, <http://secondlife.com/support/system-requirements/>
- [5] Second Life Wikipedia page, http://en.wikipedia.org/wiki/Second_Life
- [6] Sun Microsystems Presence In Second Life, <http://www.sun.com/aboutsun/media/presskits/secondlife/>
- [7] The Digital Bleek and Lloyd, <http://lloydbleekcollection.cs.uct.ac.za>

7. BIBLIOGRAPHY

1. Bushmen, collection of translated Bushmen stories, www.humanistictexts.org/san.htm

2. Digital Libraries Federation, <http://www.diglib.org/>
3. Fab Free, catalogue of free things to be found in SL, <http://fabfree.wordpress.com>
4. Second Life, the official SL website, <http://secondlife.com>
5. Second Life Education Wiki, catalogue of educational institutions in Second Life, http://www.simteach.com/wiki/index.php?title=Second_Life_Education_Wiki
6. Second Life Pros, catalogue of free things to be found in SL, <http://www.secondlifepros.com/2007/11/free-stuff-in-second-life/>
7. Second Life Wiki, information on creating content and living in SL, http://wiki.secondlife.com/wiki/Main_Page
8. The Digital Bleek and Lloyd, the Bleek & Lloyd online collection, <http://lloydbleekcollection.cs.uct.ac.za>