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The Possibilities and Limitations of Teaching Through Multi User Virtual Environments

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The Possibilities and Limitations of Teaching Through Multi User Virtual Environments

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Abstract

The use of computers has grown immensely in the last decades and the possibility to teach through them has grown as well. Various computer applications, games and forums have been created as tools of teaching and learning. This research project contains a summary of various works created within the E-learning area and their results. The virtual world Second Life is tested and some of the research in the literature review will be visited and examined. The research focuses on the feasibility to create scenarios for nursing students to practice patient care and handling, in addition to collaborative qualities that online virtual worlds offer. The conclusion taken from this research is that the possibilities far outweigh the limitations and that learning through virtual worlds should be further explored and developed.
Keywords: Teaching, Nurse, Multi User Virtual Environments, Second Life, Collaboration, Bots.

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1   Introduction

A virtual world is a computer-based, simulated multi-media environment, usually running over the Web, and designed so that users can 'inhabit' and interact via their own graphical self representations known as avatars. [1]

The internet allows for unrestricted communication, and for years virtual worlds have allowed people to populate virtual environments using a graphical representation of themselves, mostly to play games and solve similar game problems, but also as simple methods of communicating with other people. Computer games are also used as a teaching tool, mainly for young children that learn simpler math problems and spelling, also in a bigger scale, such as teaching communicative skills to autistic people and teaching university classes through distance courses. With growing accessibility to faster internet connections and stronger computers the use of virtual worlds is growing, not only for entertainment but also for education.

This research will serve as a literature review for previous work created within the area of using open world platforms as a learning tool. The previous work will serve as an indicator on what scale this method of learning is being used, as well as provide valuable pointers towards what works and what to avoid.

The platform *Second Life* (SL) will be explored and the possibilities and limitations will be documented for the feasibility of creating a learning experience for nursing students at the University of Gävle that will function both during the years the student studies in the university but also as a tool to keep them updated and continue their learning even after graduation. [2]

1.1 Problem

Nursing students have to study a great deal to reach the qualifications needed for their profession. A large part of nursing is patient handling and communicating which takes a huge amount of time and practice to master and it is hard to practice after school hours. As well as the need for other students or teachers to communicate with the need of up to date information is crucial for the continued education of both nursing students and already graduated nurses.

1.2 Purpose

The two lecturers Anita Nyström [3] and Ylva Pålsson [4] from the Department of Health and Caring Sciences in the University of Gävle were interested in using a Multi User Virtual Environment (MUVE) to enhance nursing students of the University of Gävle. The purpose of this research is to further check the possibilities and limitations of such learning methods. The final result of this research will serve as a feasibility check for future work on creating a learning experience for nursing students at the University of Gävle. A virtual world will serve as an easy to use workplace that is always accessible for the students, as well as serve as a hub between students of

different year cohorts allowing greater cross class cooperation and strengthening the relationships between the students.

1.3 Questions

The following questions will be addressed;

1. What process is concluded in previous research?
2. Which platform is best suited for the final product?
3. What advantages and limitations does the chosen platform have?

1.4 Hypothesis

Games and open world platforms show a variety of customizability and there are specific games created with learning as a focus. Using a MUVE for interaction practice should prove very plausible.

Open world platforms, such as Second World allow big customizability for the players own worlds (Islands) and should show sufficient for the future final product. [2] The previous research may focus on distance learning which might make it harder to find information about some items, such as automated bots. However, there should still be enough information to see what possibilities and limitations that area has.

1.5 Expected result

The research will highlight the possibilities and limitations MUVE's offer for teaching, as well as show the effectiveness of MUVE's as a collaborative interactive forum well adapted for scenario based learning and information spreading. It will summarize what has been accomplished before and how successful the previous works have been and provide an insight whether or not this is something the University of Gävle should implement in their teaching methods.

2 Methodology

2.1 Choice of method

Starting with a literature review of previous works, this research will pinpoint different strengths and weaknesses with e-learning within the MUVE Second Life. The different points highlighted within the literature review will be tested to gain further knowledge of their uses.

2.2 Method description

The literature review was achieved by searching the websites ScienceDirect [5] and Google Scholar. [6] Search terms included the words "Nurse," "Computer," as well as

"Second Life" and "Learning" in various combinations. Multiple works were read and a selection of eight was reviewed for this work. The works selected was chosen because of their results and findings, but they were not selected to please the aim of this work.

The testing of the MUVE SL-platform was achieved within the limitations that no Island could be bought to explore the possibilities of scripting and building. Instead Islands mentioned in the literature reviews and recommended from the Forum users were examined and the interactive environments tested. Contact with the creators of these Islands was sought for questioning about the various possibilities and limitations that SL offers.

3   Theoretical Background

3.1   E-learning in 2D

Computers have been used as a method of learning within the area of nursing since the beginning of the 1960s and have become a normal approach of teaching. 95% of the UK's bigger educational institutions have used virtual environments for teaching purposes. [7] Conventional face to face lectures does not ensure teaching consistency or the necessary flexibility needed for Continuing Education (CE) of nurses. At the same time, the opportunities given to nurses are limited due to shortages in staff, quicker hospital stays and the increasing need of care towards intensely ill patients. [8] E-learning can provide fast results without being affected by distance between the teacher and the student and reduce the costs for both the student and the school. [7]

3.1.1   Reason for E-learning

S. Yu from the School of Nursing in the National Yang-Ming University and the Institute of Health Policy and Management in the National Taiwan University et al. refers to Reinert and Frybacks survey from 1997 that demonstrates that the use of web based courses in the American nursing school alliance have increased more than five-fold during the time period between 1992 and 1997 which indicates that the use of computers within learning is proving useful. [9]

A survey made by Yu et al. researched the feasibility of using web based learning (e-learning) as a tool for CE for Public Health Nurses (PHN) in Taiwan. The survey divided the participants into two groups; those who were willing to adopt e-learning for CE and those who did not. Out of the 233 (N) PHN's that answered the survey 54.08% found that they believed they could achieve lifelong learning from the e-learning courses and 52.79 believed that it was a good method to continue their education due to the possibilities to make up their own curriculum and time schedule. Another popular reason was time saving from not having to travel to the classes and seminars. [9]

In the group that rejected e-learning as a method of CE, there main reason was poor computer competence and the need for a PC and/or internet connection at home. 84.62% of the rejection group stated that they did not have enough computer competence and 76.92% had no PC or internet connection at home while only 38.46% stated that they preferred face to face instructions. (4.29% of the total N) [9]

The journal concludes that e-learning is worth making available as a learning model for PHN's and other within the health care profession. It also states that for the e-learning process to be successful the students need to be self motivated and that the effectiveness of e-learning must be studied further. [9]

3.1.2 Effectiveness of E-learning

J. Bloomfield et al. from the Florence Nightingale School of Nursing and Midwifery studied the effectiveness of computer aided learning amongst 231 nursing students from a University in London between October 2004 and February 2005. Handwashing skills are important due to the hygiene safety and patient care; however it is also an important defense for the nurses to prevent dangerous hospital acquired infections. The students were divided into two groups of 113, respectively 118 students and taught handwashing skills through either a conventional lecture led teaching session or a self-directed computer assisted lecture (CAL). Their handwashing knowledge was then tested in three separate occasions; directly after the teaching session, two weeks later and finally eight weeks after the teaching lesson. At the two and eight week checks the student's performance were assessed to check the retention from the students. [8]

The 113 students in the conventional group were taught through lecture notes, overhead slides and a demonstrational video and the students were finally offered the chance to practice the technique under supervision of the lecturer. [8]

The CAL group consistent of 118 students was taught to use a CAL module created specifically for the purpose of teaching handwashing skills and contained the same theoretical information as the conventional students were provided. The module also contained animated multimedia with photographs and links to websites with information. The same video as the conventional group was shown was imbedded in the module in order so that the students could watch it more than once. [8]

The knowledge of the students was assessed trough a 20 multiple choice answer test and the skill performance was tested through a thoroughly tested checklist of 17 items needed for a correct handwashing. The results showed no major difference between the two groups in the knowledge test as both the groups had the same medians throughout all the tests. The CAL group showed better scores on the skill performance assessment with a median of 23 compared to the conventional groups 22. The statistical difference was too small to be considered as an advantage for the CAL group. [8]

In the discussion part of the journal, Bloomfield et al. states; *"The findings support the use of a self-directed CAL module as an alternative to a face-to-face teaching session"* and later concludes that confirmed with previous research, the study

determines an equivalency between conventional methods of teaching and CAL methods. [8]

3.2 E-learning in 3D

Virtual worlds, such as Second Life allow the user to experience and explore pre-made worlds together with other users. It allows the connected users to accomplish a variety of things, such as playing multiplayer games, develop social skills, and visit virtual versions of different countries and cultures, as well as browse through different types of multimedia contents and e-libraries. The games played in Second life can be educational and health related [1], and Second Life offers specially made spaces that support and encourage autistic people to interact and train social skills. [10] The multimedia content can be anything from a short animated movie to an informational movie about health issues. Second life also allows the user to participate in online lectures and conferences, as well as participating in different types of groups. [1] [7]

The most efficient approach of learning is when the students work cooperatively in groups where they verbalize their opinions and discuss their own thoughts and the group's ideas. Students that utilize the group working system often reach higher academic outcomes than non cooperative students do. K. Andreas from the Department of Informatics, Aristotle University of Thessaloniki refers to Barkley et al. in his research and states that collaborative learning techniques organize into five categories;

a) discussion: where student interaction and exchange is achieved primarily through spoken words, b) reciprocal teaching: where students purposefully help each other master subject matter content and develop discipline-based skills, encouraging interdependence, c) problem solving: where students focus on practicing problem-solving strategies, d) graphic information organizing: [sic] *where groups use visual tools to organize* [sic] *and display information, and e) collaborative writing, where students write in order to learn important course content and skills. [11]*

3.2.1 Collaboration within Second Life

The case study accomplished by Andreas et al. shows that collaborative learning works within Second Life, however there are obstacles that need to be overcome. The case study shows how mixtures of two of the collaborative techniques are used in SL. In the study, the Fishbowl and the Jigsaw collaborative learning techniques are practiced by postgraduate students attending a course in Educational Virtual Environments. The students were evaluated in three different phases.

In the first phase the students were allowed to familiarize themselves with the platform (SL) and they were divided into different jigsaw groups with different objectives. After the first session the students were interviewed face to face. Even though the first impressions gathered by the students showed a positive impressions towards SL there were some complications. These ranged from problems with the Fishbowl classroom being too claustrophobic to people speaking in mouths of each other. Some students also had problems locating specific people. [11]

The second phase was meant to arrange the students into expert groups where every jigsaw group selected a specific objective to research. Once every jigsaw group had finished its research one of each jigsaw group was placed with one each of the other jigsaw groups creating an expert group. The students then taught each other the specific objectives that they had researched through the fishbowl technique based classroom. By the second phase, the fishbowl classroom had been rearranged and a tool called "Student Voice Tool" was implemented which allowed the students to raise their avatars hand through scripted animation. The teacher could then provide a specific student the voice tool which allowed the student to speak removing the problem of students speaking into each other's mouths. Another face to face interview was held which further endorsed the use of SL and the new features. [11]

The last phase allowed the students to make a presentation of what they had learned, as well as evaluate their general experience of the experiment through an online questionnaire.

When usability of the platform was evaluated the students made several points about the experience; 94% of the students preferred communicating via the voice chat compared to the traditional text chat and they found the note system beneficiary for passing information. They also found the virtual world to be satisfactory. However, some problems were observed. The students found SL insufficient when it came to sharing resources within the group which led to the use of the chat client MSN.[1] The use of color coordination for each of the groups proved to ease the problem of finding a specific group or person. The Student Voice Tool was also said to enhance the experience. Other than the aforementioned points, some other important assets and drawbacks were concluded:

- Assets included:
    - The originality of the approach
    - The support for distance learning
    - Various ways of communicating

- Drawbacks included:
    - Coordination problems
    - Disorientation
    - Crowded places creates label clouds of names
    - Network Lag

The pedagogical process was also evaluated with a positive result. Majority of the students wanted to explore SL's potential outside the range of the study. However, the thoughts of SL's capabilities as a collaborative learning tool was not as direct as over 40% of the students stated that collaboration through SL was harder than in real life and 50% thought that the efficiency of the teamwork was reduced. Even if group specific clothing helped easing the disorientation and coordination problems, 87% of the students found real life face to face methods easier and 93% thought that real life approaches are more direct. However, 87% of the students thought that the approach

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[1] Microsoft Network, http://www.msn.com

with SL was more interesting than normal approaches towards collaborative practice. When asked about the educational potential of SL, 75% of the students wanted to see more techniques tested and 80% could see themselves taking online classes. [11]

Even though SL sufficiently simulates the necessary group dynamics and meets the requirements for the Jigsaw and Fishbowl techniques to be executed the authors believes that it only functions for organizational and representational levels since it lacks ability to share resources between users.

Based on SL's usability, interactive and communicative capabilities Andreas et al. conclude that the platform supports collaborative learning and can be integrated effectively in an online part of a mixed learning approach. However, some issues, such as avatar labels forming clouds when standing in crowded rooms and some network lags needs to be further worked on. If SL is to compete with conventional face to face lectures, it needs to be augmented in its metaphors and affordances. [11]

3.2.2 Teaching through Second Life

J. Wiecha et al. from the Department of Family Medicine, Boston University School of Medicine, Boston Medical Center, created a study on medical CE for physicians. The Director of Boston Medical Centers Outpatient Diabetes program, Dr Elliot Sternthal was asked to hold an hour long session in SL about type 2 Diabetes focusing on Insulin administration, Titrating dosage and patient assessment. Together with the organizers of the study, a highly interactive lecture containing PowerPoint slides, discussions and questions combined with mock Diabetes patients that were used in the session were created to fully explore the reach of the virtual world. [12]

Before and after the session, the 14 participants were asked to answer a survey to measure their confidence in selecting, initiating and adjusting Insulin for type 2 Diabetes. The survey was made with a 7 point scale where 1 meant they strongly disagreed and 7 meant they agreed strongly. The mean answer on the questions on how confident the physicians were in selecting the appropriate Insulin, initiating Insulin therapy and adjusting the Insulin dose amongst type 2 Diabetes patients in the pre-session test were 4.9, 5.0 and 5.2. This was compared to 6.5, 6.2 and 6.2 showing an immediate confidence boost amongst the physician's abilities. When asked if they believed the experience to be effective for CE, 50% strongly agreed, 33% agreed and 17% agreed somewhat. Also when asked if they would take other CE courses in Second Life, 75% answered "strongly agree" and 25% answered "agree." On the question if the SL, CE method was superior to conventional face to face methods only 17% answered on the negative side of the scale with "disagree somewhat" while the rest was spread evenly amongst the neutral and positive answers. Some responses to why the SL-session was better than conventional teaching lectures were; "There was a nice element of play that enhanced the fun aspect of learning. I miss having fun in class." "Participants can communicate with each other during the session. No more saving questions till the end. The questions are addressed by all, not just the speaker, as they arise in the participants' minds. This enhances learning," and "I would say that the biggest advantage is being able to attend the conference from wherever and still feel as if you were actually present at the conference." [12]

When asked about the strengths of the method and what it was that made it successful, the participants answered that it invited interaction without the intimidation that face to face lectures has, together with the conformability of being able to sit at home and still feeling like an active participant. The accessibility was praised; "You only have to connect into one program and it is all there. It feels like a group experience." The possibility to chat during the session were brought up as a strong point together with the ability to being able to ask questions openly and have them answered live during the session, either by Dr Sternthal or the other participants. [12]

There were also some negative points brought up by the participants. Those included internet problems, some problems getting use to the SL client and the technological barrier for those people who do not have computer skills. The backchat was also considered confusing for some in the beginning. [12]

3.3   Developing process

M. Honey from the School of Nursing in the University of Auckland in New Zealand worked together with Boise State University in Idaho, in the United States in a project to develop and run tests which aimed to teach about postpartum hemorrhage in a MUVE. In their case, they used SL. Their article describes ten steps that they found through hindsight reflections of their own experiences of the project. These ten steps were made to aid similar projects in their development. [13]

3.3.1   Ten steps

The first step is "Establish a Team" and describes how their previous research showed that collaborative learning is beneficial to the students and that a team approach was most suitable to cover the wide range of skills needed to cover all areas, i.e. teaching experience, technical capability and knowledge about the content. Honey's team contained two technically skilled personnel for content creation and development of the SL-environment and three nurse lectures who stood for teaching knowledge. Their test was tried on undergraduate nurses attending a maternal child health course. [13]

After a team has been established, the Learning Topic must be examined. Not all types of topics are suited for this type of teaching. The use of simulation templates are endorsed as it provides an overview of what the work will achieve and on what level. The model used should achieve technical, cognitive and behavioral knowledge.

Once a sufficient team has been gathered, a medium must be selected. Honey et al. describes, other MUVE's are available and that it is important to choose teaching model that best suits the purpose. [13]

After the proper medium is selected, the fourth step begins; preparing the medium. In this step, Honey et al. brings up the importance of finding a balance between realism and function. For example, a nursing bed can be made to look photo realistic; however, the button size of a real nursing bed might be hard to click in a virtual world. The issue of time is also brought up. Borrowing or buying already built

props is time saving, but might not produce as satisfactory result as a self created environment might. [13]

The fifth step is called Pre-simulation Preparation and means that the students must have the proper knowledge to complete the task. Since the goal of this project was to assess the student's knowledge in client assessment, recognizing postpartum hemorrhage and management initiation, the students needed knowledge about postpartum hemorrhage. This was provided through conventional lectures.

Preparing the educators for the new teaching environment is crucial. They must learn to navigate within the MUVE and know what role they play within the scenario and including the technical personnel in the environment leads to faster problem solving.

Just as important as the teacher understanding their new environment, the students must as well. Step 7 is to orient the students in their new environment and make sure they fully understand the controls and functions of the MUVE. The students viewed a video clip demonstrating the settings for the upcoming scenario, as well as given instructions to move, touch and play with anything they wanted in a replica room of the scenario environment. Ten minutes of practice within the replica room proved to be very valuable to the students' orientation skills.

Once the students were comfortable with the new environment and controls, the simulation can begin. In their test, Honey et al. used groups of three students to support collaborative learning as much as possible.

When the simulation is completed, the students were taken to a debriefing room and asked questions about the experience and how they reacted and cared for the patient.

The tenth and last step was to evaluate the data collected. [13]

4 Realization

All the destinations can at the time of this writing, June 21, 2011, be reached in SL by searching for the corresponding name in the search bar within SL. For search terms and websites used for the literature review, see Method Description 3.2.

4.1 The Forum

To test the Second Life client, an account on Second Life was created. [2] Due to firewall problems the platform could not be accessed until the problem had been solved. A thread in the forums was created asking the forum community for tips on locations to visit within SL and persons that could help with the work. The forum members described two methods of creating NPC's within Second Life; one through the Linden Scripting Language (LSL) and one through third party viewers that allows

the programmer to use languages such as C++. Once the firewall issues had been resolved the places suggested by the forum members were examined. [14]

4.1.1   The Medical School

The user "Willow Danube" recommended a trip to the Medical School too see the chat bot, as well as the hospital environment which is shown in Figure 1. [15] The School belongs to the Medical Media and Design Laboratory at Imperial College London and has been active for over 6 years and has had many successful projects. [16] Their project in "*Enabling NHS staff and medical trainees to practice managing virtual patients and clinical emergencies in a safe environment.*" was awarded the Linden Prize Honorable Mention. Once entering the School, a podcast explaining the work being accomplished begins which provides a good informative start. The Medical School contains various places ranging from auditoriums to scenario based events where students gather points by caring and examining patients.
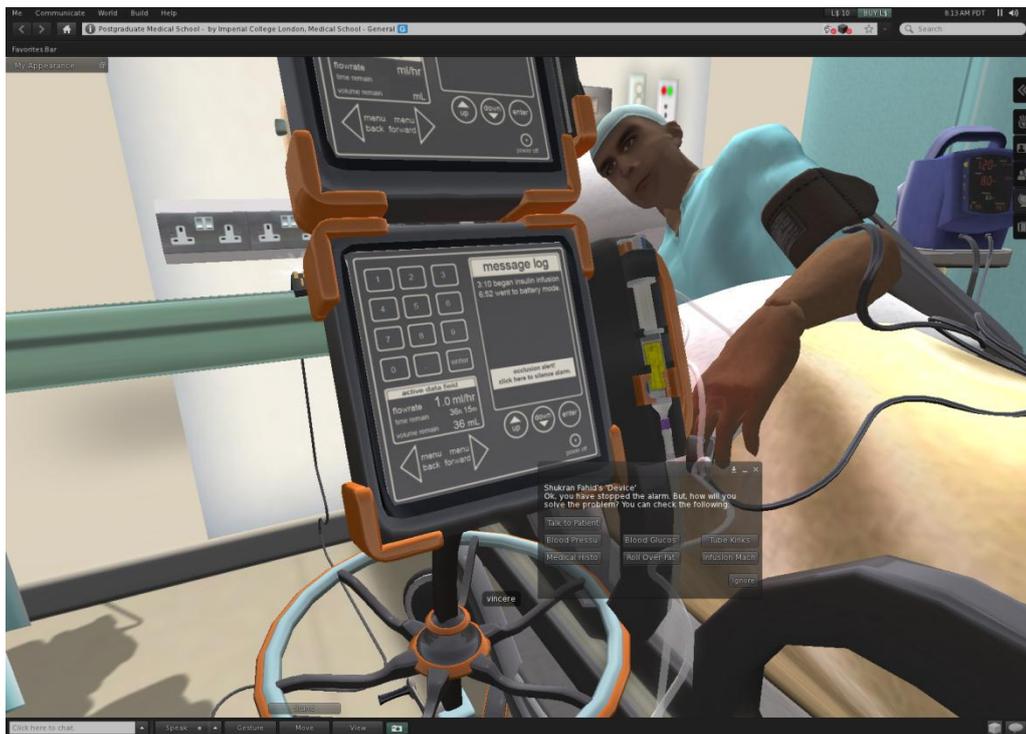

Figure 1. One of the scenario based sections of the Medical School.

The first part of the scenario makes the player perform all the preparations needed to handle a patient, for example changing into scrubs, washing your hands and reading the patient information. They are then asked to check on the patients to see how they can aid them. For example, the first patient needs Insulin and once he rolls over to his side he needs to be rolled back as he has nipped one of his drip lines. When examined, the Non Player Character (NPC) from the scenario in Figure 1 provides the name of Robin Winter as its creator. No contact could be established even though several instant messages (IM) and mails were sent. [15]

The School also includes an operating room where a dummy lays on an operating table. By clicking the dummy, the user can switch between multiple different positions that are commonly used on patients, as well as a chart with names for the different positions. It also has a video tutorial that teaches handwashing skills.

In the last section of the hospital environment, there is a recovery room where students and teachers can reflect, as well as speak to the BHealthy bot that is there. BHealthy is a chatbot in the form of a recovering patient that can ask and respond to simple questions and allows for simple conversations to be held. [15]

4.1.2 Healthinfo Island

The forum user Rolig Loon suggested a trip to Health EduIsland, an Island that is also reviewed in Magen's et al. work. It is funded with a $40,000 grant by the US National Library of Medicine and aims to provide consumer Health Outreach and Library programs to Virtual World Residents within SL. [1]

When visited, a great source of information is displayed. The first area introduces the teleporter that warps the avatar to different sections of the Island. The library section provides room for avatars to sit and talk and also visit homepages, such as MedlinePlus [17] that "*is the National Institutes of Health's Web site for patients and their families and friends. Produced by the National Library of Medicine, it brings you information about diseases, conditions, and wellness issues in language you can understand.*" [18]

The exhibition section of the island has different sections where certain information is shown similar to a real life exhibition. This is shown in Figure 2. If a point of interest is found in the short information displays, the user can click them and obtain note cards on where to find more information. [17]
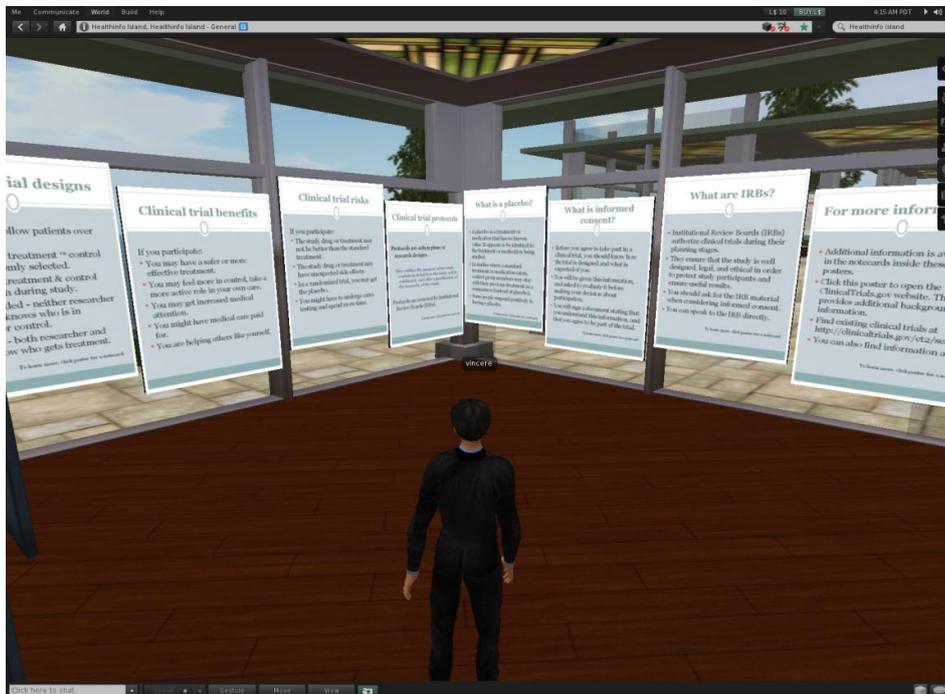

Figure 2. One of the exhibitions on HealthInfo Island.

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The next section is the conference centre which is a simple environment with seats and tables for discussions. It also features a screen for slideshows and other presentations.

The sixth slot on the teleport takes you to "The path of support" viewed in Figure 3. It is a walk path with an extensive library of links to support and information groups and websites for a vast selection of different conditions and diseases ranging from a support group for deaf people, to help group for AID and HIV positive people, as well as groups for people with social anxiety all divided into categories, such as "Disabilities" and "Mental health." The next area is the Health and Wellness Center that contains different training and exercise tools. The player can look at the avatar and learn the proper ways to do sit-ups amongst other things. [17]

4.1.3   Gerontology Education Island

Rolig Loon also suggested a visit to the Gerontology Education Island and to contact its creator. Lesele Rose who is referred to by the name of Lesele Dawg in SL works for the Gerontology Interdisciplinary Program in the University of Utah and is the creator of the Gerontology Education Island. After an IM was sent, a date of a meeting within SL was selected and for little over an hour she showed off her Island, answering questions about the Island and the NPC's that populates it. [19]
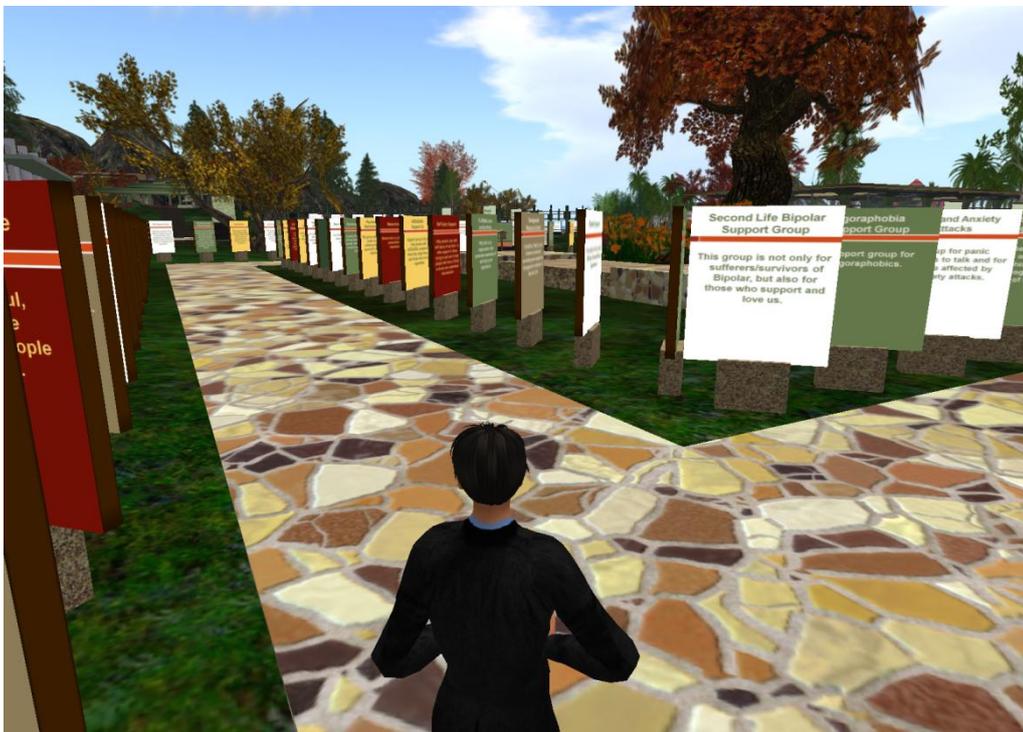

Figure 3. The Path of support offers a range of support groups and websites with information.

When asked about her work she explains that she came into contact with SL during her PhD work. She wrote that "*it would be extremely useful in teaching people about human issues.*" And that "*The power of SL is that people interact.*" [19]

After the introduction, a tour of the island is provided through an automated wheelchair tour that presents a brief overview of the issues that relates to aging and elderly. The tour provides information through the chat window and explains that *"Every building on the Island presents information, resources, references, and interactive lessons on the category of issues contained therein,"* and continues with different problem areas within the area of aging and being elderly. [19]

One of the points focused on during the interview was the bots that populate the island. Professor Rose describes that two types of bots are being used, Pandorabots [20] and Pikkubots. [21] In Professor Rose's dissertation, she explains that the Pandorabots uses an Artificial Intelligence Markup Language (AIML) and works through different IF-THEN-scripts. [22]

> *The original A.L.I.C.E. AIML script comes pre-programmed with 41,000 categories. The program's interface is a G.U.I. design which allows non-programmers to customize the AIML for each bots through natural language typed into the web-based form at the www.pandorabots.com website.* [22]

When asked about the difficulty level for scripting the bots, she replies, "even though she is not a programmer she found it very easy to learn and script the bots." She describes the programming process as lengthy but fairly simple, [22] something she also thinks about the LSL scripting language; *"It is easy to create LSL scripts here."* [19] The two Pandorabots were programmed to answer specific questions to lead towards what symptoms they were suffering from. Thusly, the participant students were presented with four notecard templates that guided them through the scenario. When asked how the students felt about the project, Professor Rose replies "Absolutely Love it!" [19] In her dissertation, she describes some challenges and problems with the approach.

> *One very challenging aspect of building the bots dialogue scripts is anticipating the participants' styles of questioning because the questions that the bots respond to are very specific, using key words in the questions to determine the appropriate response. The anticipation of the style of questioning, the order of the questions, and the anticipation of the follow up questions (focusing on the logic each participant will use to move through the evaluation) will require running through multiple possible dialogues and scripting the questions and responses appropriately.* [22]

Another problem was the responsiveness of the bots. All but one of the ten testing students came across situations where the bots did not reply or provided the answer "I have no answer for that." The problem is focused down to either user input error where the students would type incorrect characters into the chat or errored translations between the SL client and the Pandorabots server. Another issue was the limited answers that the bots could answer. [22] It prompted frustration and provided negative feelings towards the project, as told by one of the participating students:

> *She can't answer any of the questions in this section besides the one about problems with bladder or bowel control, and I find it funny that she admits she only has problems when she sneezes.* [22]

However, the general feeling towards the bots where good with students commenting that most of the dialogue was like an actual person talking and that they felt sorry for the bots when they described their symptoms.

I felt sorry for her. She didn't seem very happy and she didn't seem to have much to look forward too. Plus, her symptoms seemed quite serious. [22]

The Gerontology Education Island has multiple Pikkubots that populate the surroundings. These ranges from a Greeting bot that greets welcome and ask a simple question to bots doing Tai Chi in the garden. These are easily scriptable and animations can either be created or bought. The Pandorabots are similar to the BHealthy bot in the recovery ward of the Medical Island and the Pikkubots are similar to the scenario based bot that needed Insulin on the same island.

The full chat log between me and Professor Rose can be read in Appendix 1.

5   Result and Discussion

5.1   Results

The questions which were asked in Questions 1.3 of this research project will be answered in the following sub-section.

5.1.1   Previous work

The literature review provides a summary of some of the previous works that has been created; however it is far from all that can easily be found through the ScienceDirect and Google Scholar search engines. The shear amount of experiments and work accomplished focusing on the combination of Second Life and teaching is almost overwhelming. A great deal of the research focuses on nurses which made the literature easy to write as there were many different types of works to be reviewed. The results of the literature review is further explored in 5.1.4

5.1.2   The most suitable platform

Almost all the works found through the search used Second Life as a platform. Most of them describe Second Life as the most versatile and customizable platform to date which lead me to focus on Second Life. In the interview with Professor Rose, she explains that Second Life allows her do things other platforms do not.

"The reason I do not go to other platforms is that they do not have the advanced functionality that SL does." "From an instructional design perspective, I find that the only limitations of what I can create in Second Life are the limits on my imagination." "For example, I can play media in here where I cannot in other worlds." "I have voice capability in here where other places don't." [19]

5.1.3 Advantages and limitations

The biggest problem with Second Life is the cost. A flat "Full Region" island of 254 x 256m (65,536 m²) costs $1,000 to buy, and then another $295 per month for maintenance. There are also theme islands to buy which costs $1,029. These range from castles to conference halls. A full island allows up to 100 visitors at one time and allows 15,000 Prims. Prims are the different parts of the models that can be built and if more are needed adjacent islands can be bought to boost the Prim number. [2] The question is also further discussed in 5.1.5.

5.1.4 Results of the theoretical background

The literature review resulted in an overview of various different points of interest. It revealed different strong and weak points to take in consideration for the testing phase. Different forms of e-learning have been used for an extensive time period with promising and effective results even if there are negative points to consider. Mostly, technical problems with the hardware and software needed. The strongest points are the collaborative qualities and the time effectiveness it brings through the loss of traveling to and from lecture halls and seminars, as well as the possibilities for a more personally adapted curriculum and time schedule. The various projects and experiments read, all confirm good results and supports the use of E-learning as a tool for learning, both with web based forms and Multi User Virtual Environments.

Test results in the experiments, such as the ones Wiecha's et al. held, showed that the result difference between conventional teaching methods and the results from e-learning are very similar.

Multi User Virtual Environments allow people from anywhere in the world to participate in interactive environments at low costs for the participants. The possibilities, and also the limitations of collaborative work within a Multi User Virtual Environments are showed in Andreas et al. research.

The cases of Wiecha et al. and Andreas et al. contradict each other as Wiecha's et al. students found conventional face to face methods as more direct while, Andreas et al. students found the SL-lesson just as rewarding as or even better than face to face lectures.

As for the developing processes of a world within Second Life, the points brought up in the work of Honey et al. are well thought of, but must also be critically looked upon as they are the only ones found that supports the method. The technical aspects are the main issue as many of the works reviewed showed that lack of technical knowledge and understanding of the software were points of irritation and means to dislike the E-learning approach.

5.1.5 Second Life testing

The world of Second life offers a great deal of tools and customizability as majority of the world consists of user created Islands with programmed environments. Compared to top notch games of today the graphics are a bit outdated, but offers enough realism to provide an immersive feeling of being in another world. The controls are easy to understand, however they take time to master. Some movements are hard to do and

sometimes arm movements go through the rest of the body breaking the illusion. The avatar customizability offers good variety and allows the user to create their own personal look that can further strengthen the feeling of actually being in the world; however it can be hard to understand in the beginning.

The HealthInfo Island demonstrates that it is possible to spread information in a wide scale through Second Life. It also offers many different methods, either through simple exhibitions with signs as seen in Figure 2 or through collections of groups as seen in Figure 3, but also through seminars with Power Point slides or other media reviewed through a virtual screen within the virtual world.

The Medical school presents similar results, however it also reveals that scenario based teaching through bots can be achieved, as well as provide a good idea of how a hospital in the virtual world may appear. It also demonstrates that simple scripted items, such as the medical dummy can be used in teaching in junction with different media types, such as pictures and videos.

The Gerontology Education Island takes full advantage of the different tools and uses different types of bots for different purposes, such as the Pikkubots for simpler motions such as walking, talking and asking simple questions. The Pandorabots offer more scenario based training. Through scripts the Island offers a tour on a wheelchair that provides information about the work and at the same time demonstrates its different areas. The meeting with Professor Rose combined with her Dissertation about her research, offers a good perspective on the possibilities the different types of bots and scripts offer within Second Life.

5.2   Discussion

5.2.1   Uses of E-learning

The results from the literature review were quite consistent with what I thought and the enormous amount of various research published made it easy to find different types of experiments and tests proving different aspects of E-learning and virtual worlds. Yu et al. showed the increased interest in E-learning which also supports the thought of it being useful. The survey that his work was based on reflects the thoughts of how useful E-learning is, not how effective the learning method is which is important to consider. However, the result demonstrates that the method can be used as an alternative to conventional face to face methods.

Bloomfield's et al. study on handwashing confirms that actions can be successfully taught through computer aided learning with equal or even better results than face to face lectures. Through the web, the same instructional materials as a real lecture or seminar can be viewed. Video material even offers more consistency than real life lectures, however asking questions can be proven more difficult in a web-based environment if the application does not have a chat or mail function. If a chat is to be used, the teacher would have to be online during the exercise thus preventing the students from doing the work whenever they want to which counteracts some of the

free schedule possibilities provided by E-learning. If a mail function is to be used, it might take a while before an answer is provided which might prevent the student from continuing the exercise until the answer is received. If E-learning is to be used, it is important to find a method to solve issues. In Multi User Virtual Environments, this can be accomplished by utilizing a student-to-student help system where students that run into a problem can contact other avatars (students or teachers) for a collaborative session in trying to solve the problem at hand.

5.2.2   The testing phase

Considering web-based learning like this proves successful, it lays the foundation for more complex solutions such as Multi User Virtual Environments, however as the complexity enhances so does the learning curve and skill needed to use the tools.

When I tested Second Life, I was confused at first as I could not find where I created my avatar and found myself searching in the menus only to come out empty handed. After questioning other Avatars, I was told how to do it, and together with friendly users, I was presented with a tutorial of the various things that can be accomplished in Second Life. Within an hour, I had mastered most of the menus and controls needed to explore the world of Second Life and interact with its various Islands. My computer experience and computer game experience helped a great deal due to my understanding of the normal controls and menu setups used in most games; however tutorials on how to play can easily be created for students to easier learn the controls and menus. One example is the replica room made by Honey et al., however it can be far more complex with different stages telling the users through signs and other media. It is important that the participants are provided with enough time to fully master the controls of the platform before anything is required of them, as well as a tutorial room displaying all the essential menus and interactions that will be required in the exercises is to be recommended.

The literature review combined with my own experience shows that the SL-platform allows interaction between persons, both through text chat and voice chat. It allows collaboration with different tasks and supports interactive problem solving. It also supports groups of avatars simultaneously using media to write and show various types of data, as well as sharing it, thus fulfilling all five of the different collaborative techniques mentioned by Andreas et al. Even though, it is important to consider the limitations in the collaborative possibilities. Movement and item representation is not as precise as in real world and can at times be frustrating due to lack of precision in the controls, something both me and many of the students within the reviewed works complained about, for example the students in Andreas et al. that thought the collaborative quality was decreased due to the platform. In seminars and lectures where the avatar will be stationary during most of the time, this is a minor problem, however will in scenario based tests prove irritating at times. Another important point made by Andreas et al. is the need for further implementation of different file type sharing, in order that other clients, such as MSN would not be needed. No information on whether or not this is being explored can be found, nor has the possibilities for programming such a feature been examined.

One effect of the avatars appearance is that the avatars easily can be modified to help aid and simplify certain problem areas, such as disorientation amongst larger groups. Similar to the color groups used in the works of Andreas et al. The ability to make the avatars appear however the player wants, also aids in self representation for the player strengthening the feeling of actually being in the world of Second Life.

The voice chat tool opens for great communication and I believe that without the voice tool teaching through Second Life, it would have been much more limited. Seminars and similar lecture led classes would have been slowed down too much had they been held solely by text chat. It would also prevent the use of back chatting and question asking during the seminars. One strong point about the back chat that students can hold during seminars is brought up by Professor Rose in my meeting with her. She stated, *"That is one of the reasons I love to teach in SL. I get an immediate transcript of the students' interactions."* The chat logs from the student's questions and conversations from seminars and lectures can be studied by the teacher and unclear points can easily be identified and reviewed in order that it becomes much clearer the next time the class is held. In that approach, the experience will become better and better each time it is held. I would compare it to the system used in Sweden where students grade courses and teachers after a course have been finished. These transcripts allows for faster immediate reflection.

Wiecha's et al. research demonstrated once again that teaching through Second Life is an appreciated method of teaching and that it catches the interest of many students. And agrees with the general consensus proved by most of the works reviewed; the greatest advantage Second Life has to offer is the elimination of traveling to the seminar.

The extensive LSL Script Library in the SL-forums and the words from Professor Rose makes me positive that the scripting and programming of the different types of bots and interactive tools that can be created will be no issue in the creation phase when the hospital is built. Even though, it might be time consuming creating the scenario scripts as it requires a huge amount of thought behind them to provide a good result.

The development process suggested by Honey et al. can in my opinion be used with good results, however it is to my belief that establishing a medium and a learning topic must be at least partially thought out before the team is established in order that the team members can be chosen with their knowledge about the chosen platform and learning method can be evaluated in the selection. It is probably more necessary for the teaching group as the technical and graphical part is quite simple for people within the area of programming and 3D Graphics. This is based on the assumption that the teaching process is harder to properly finalize than the technical aspects.

5.3   Final thoughts

My conclusion after completing this research is that Second Life, even with its limitations offers great possibilities and can be used with great results by nursing students. When I spoke to Ylva and Anita about what they wanted out of the future project, they spoke a great deal about scenario based teaching, such as the one created in the Medical School Island. Even though this research has proven such scenarios to be possible, I would suggest not focusing singularly on that approach as the collaborative value of Second Life should be embraced. Multiple students can help each other in scenarios, however creating groups and holding seminars for studying nurses, as well as for continued education of graduated nurses will not only provide fresh information of the latest techniques used in the nursing profession, and also create a bridge between the two groups allowing for experiences to be traded.

Sweden is well developed when it comes to both computers and internet, solving many of the issues that have been mentioned. There will probably always be connection errors and similar difficulties, however in a well developed country the problems should prove less constant. I also believe that collaborating with other schools can create a huge pool of useful information and experience trade, both with other Swedish Universities and also with other countries.

It is important to take advantage of what Second Life offers; however problems such as controls and menu confusion must be handled. The controls are a bit sluggish at times, however they do fulfill basic needs necessary for tasks that are needed in for example patient handling scenarios.

Seeing the hospitals and environment on the visited Islands, I am certain one island will be enough for the project planned by the University of Gävle. To make the project more affordable Professor Rose suggests collaboration between schools and even offered the University of Gävle her Gerontology Education Island for testing which further supports the project.

Acknowledgments

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Appendix 1: Interview with Professor Rose

Vincere is the name of the researcher's avatar and Lesele Dawg is the name of Professor Lesele Rose.

[2011/05/18 08:04] Lesele Dawg: Hello There
[2011/05/18 08:05] vincere: Hi, nice to finally meet you
[2011/05/18 08:05] Lesele Dawg: You Too!
[2011/05/18 08:05] Lesele Dawg: So tell me a bit about what you are working on.
[2011/05/18 08:05] vincere: Its like this
[2011/05/18 08:05] vincere: I am a student at the university of Gävle in Sweden
[2011/05/18 08:06] vincere: I am working on my thesis and what I am doing is
[2011/05/18 08:06] vincere: making a literature review of other similar projects that my school wants to do themselves
[2011/05/18 08:07] vincere: as well as testing some of the limitations and things that I find that can be useful
[2011/05/18 08:07] Lesele Dawg: So your focus is on the use of bots in immersive education?
[2011/05/18 08:07] vincere: it's one of the focus points that I am looking into
[2011/05/18 08:07] vincere: and while searching your name and this island came up
[2011/05/18 08:07] Lesele Dawg: Thank you so much for the compliment of contacting me!
[2011/05/18 08:08] vincere: Oh before we continue speaking I have to ask
[2011/05/18 08:08] Lesele Dawg: Yes?
[2011/05/18 08:08] vincere: I am saving this chat and might use some of your answers in my work, is that ok with you?
[2011/05/18 08:08] Lesele Dawg: Absolutely!
[2011/05/18 08:08] vincere: great!
[2011/05/18 08:09] Lesele Dawg: That is one of the reasons I love to teach in SL. I get an immediate transcript of the students' interactions.
[2011/05/18 08:09] vincere: very smart
[2011/05/18 08:09] Lesele Dawg: I have some of the literature about the use of bots in my dissertation.
[2011/05/18 08:09] Lesele Dawg: Do you have a copy of that?
[2011/05/18 08:10] vincere: I don't think I have found that actually.
[2011/05/18 08:10] Lesele Dawg: I am happy to email it to you if you like
[2011/05/18 08:10] vincere: There are so many journals/dissertations and similar works that I almost got lost in all of them
[2011/05/18 08:10] vincere: that would be very much appreciated
[2011/05/18 08:10] Lesele Dawg: It is easy to do. I agree.
[2011/05/18 08:10] Lesele Dawg: What is your email address?
[2011/05/18 08:11] vincere: you can send it to amundsen_nicklas@hotmail.com
[2011/05/18 08:11] vincere: there's an underscore between there but I cant see it :s
[2011/05/18 08:11] vincere: oh there it was
[2011/05/18 08:11] vincere: Would you mind telling me a bit on who you are and what this island is

[2011/05/18 08:12] vincere: for the record.
[2011/05/18 08:12] Lesele Dawg: Of course.
[2011/05/18 08:12] Lesele Dawg: I am adjunct professor at the University of Utah in the Gerontology Interdisciplinary Program.
[2011/05/18 08:13] Lesele Dawg: I was introduced to Second Life during my PhD work and thought it would be extremely useful in teaching people about human issues.
[2011/05/18 08:13] Lesele Dawg: The power of SL is that people interact.
[2011/05/18 08:14] Lesele Dawg: My bots provide students with the opportunity to interact in very specific ways, such as working through difficult questions in an ER intake interview, or a home safety checklist.
[2011/05/18 08:15] Lesele Dawg: My dissertation brought in 10 students to work with 2 elderly bots while using 4 different intake interview forms.
[2011/05/18 08:15] vincere: students in what program?
[2011/05/18 08:16] Lesele Dawg: These students were in undergraduate nursing programs.
[2011/05/18 08:16] Lesele Dawg: They were from various colleges.
[2011/05/18 08:16] vincere: ah
[2011/05/18 08:16] vincere: have you worked on more projects then this island?
[2011/05/18 08:17] Lesele Dawg: I have worked a bit with ImagiLearning but nothing with bots there.
[2011/05/18 08:17] vincere: ok,
[2011/05/18 08:17] vincere: so tell me about this place
[2011/05/18 08:18] Lesele Dawg: Let's go over to the wheel chair tour and it can give you a bit better idea of the subject being covered here.
[2011/05/18 08:18] Lesele Dawg: Follow me please?
[2011/05/18 08:18] vincere: ok!
[2011/05/18 08:19] Lesele Dawg: If you sit on the red ball, it will give you a short tour.
[2011/05/18 08:19] Lesele Dawg: Narration comes up in the Chat box.
[2011/05/18 08:19] vincere: Ok, I will take the tour ^^
[2011/05/18 08:19] GEI Short Tour: whispers: Welcome to Gerontology Education Island. Gerontology is the study of aging. We all encounter issues related to aging not only with ourselves but with those we know personally and professionally.
[2011/05/18 08:20] GEI Short Tour: whispers: Gerontology Education Island provides in-depth information about issues related to aging personally, societally, and globally.
[2011/05/18 08:20] Lesele Dawg: I will be here
[2011/05/18 08:20] GEI Short Tour: whispers: This tour provides a brief overview of the issues related to aging and the elderly. Every building on the Island presents information, resources, references, and interactive lessons on the category of issues contained therein. Plea
[2011/05/18 08:20] GEI Short Tour: whispers: One of the areas people tend to think about as they think of the elderly is Health Care. The elderly consume more health care services than any other demographic, especially as people continue to live longer than ever before in his
[2011/05/18 08:20] GEI Short Tour: whispers: The Health Care Center provides resources and lessons about general health care topics, specific healing modalities, long-term care issues and resources, as well as a sky deck with a café and social gathering areas.

[2011/05/18 08:20] GEI Short Tour: whispers: The Smartdek® holodeck rooms provide in-depth interactive experiences of being a health care practitioner working with a challenging population. The Smartdeks® offer interaction in six different healing modalities, and there are

[2011/05/18 08:20] GEI Short Tour: whispers: Aside from Health Care related issues, legal issues are also extremely important in the experience of the elderly because legal matters often determine legal powers over a person's affairs, guardianship issues, estates and wills.

[2011/05/18 08:20] GEI Short Tour: whispers: One of the biggest challenges for the elderly can be fraud not just by strangers but by family who have a vested interest in the elderly person's affairs.

[2011/05/18 08:20] GEI Short Tour: whispers: The financial aspects of fraud are also discussed from a different perspective in the Finance Centre. An elderly person's finances likely determines the quality of life as a person ages.

[2011/05/18 08:21] GEI Short Tour: whispers: Aside from the demographic of children, the elderly experience increasing poverty as they age. Unlike children who will grow into the potential of earning a living wage, the elderly have virtually no prospects for increasing their

[2011/05/18 08:21] GEI Short Tour: whispers: Every building on Gerontology Education Island contains a variety of resources for the elderly, caregivers, professionals, students, and others seeking to both gain information and share knowledge concerning aging issues. One goal

[2011/05/18 08:21] GEI Short Tour: whispers: Formal education in the field of Gerontology can benefit just as much from engaging in scholarly dialogue within this environment as the caregiver does in seeking resources to solve individual and community problems.

[2011/05/18 08:21] GEI Short Tour: whispers: The Amphitheatre is a large area that holds a presentation board, interactive presentation tools, and unlimited self-rezzing chairs for effective presentations. This space is available for educational and non-profit organizational

[2011/05/18 08:21] GEI Short Tour: whispers: The Education Centre provides space and incentive to join others in academic inquiry, offering classroom space that can be scheduled for regular discussions, as well as a room for ongoing scholarly projects with an interactive mess

[2011/05/18 08:21] GEI Short Tour: whispers: The Government and Policy centre is divided into two separate but related areas.

[2011/05/18 08:22] GEI Short Tour: whispers: The first building holds interactive resources related to laws, policies, government agencies, public action organizations, resources and real world contact information for the represented entities. There is also a running Issue Bo

[2011/05/18 08:22] GEI Short Tour: whispers: The second Government and Policy centre building holds interactive resources related to the Congress (House and Senate), the executive branch and the judicial branch. Policies and laws related to social services, human services, ag

[2011/05/18 08:22] GEI Short Tour: whispers: The lobby also presents an RSS feed board from the House of Representatives and one from the Senate. The American Association of Retired People has information boards where you can research policies related to the elderly from the

[2011/05/18 08:22] GEI Short Tour: whispers: Here is the Administration Building for the Island.

[2011/05/18 08:22] GEI Short Tour: whispers: This is where you can reserve a classroom for a recurring class, schedule special presentations and events in the Amphitheatre, and directly communicate with the Administrative Support Personnel for the Island. You are also encouraged

[2011/05/18 08:22] GEI Short Tour: whispers: The Adaptability House is a training ground for people to learn to work with elderly people who have dynamic care needs. People's lives get more complex as they age, thus their needs change often at a moment's notice, such as a ma

[2011/05/18 08:22] GEI Short Tour: whispers: As you have seen, the field of Gerontology is extremely diverse and complex. You are invited to visit any and all of the areas on Gerontology Education Island, and please engage in the interactive resources at your leisure.

[2011/05/18 08:22] GEI Short Tour: whispers: You are also welcome to contact anyone in the Administration of this Island by visiting the Administrative Offices and clicking on Contact.

[2011/05/18 08:22] GEI Short Tour: whispers: Thank you very much for visiting!

[2011/05/18 08:23] GEI Short Tour: whispers:

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[2011/05/18 08:23] GEI Short Tour: whispers: Available memory: 30756 Bytes

[2011/05/18 08:23] Lesele Dawg: Hello again

[2011/05/18 08:23] vincere: Hi!

[2011/05/18 08:23] Lesele Dawg: I hope the chat gives you a bit more info

[2011/05/18 08:23] vincere: Yeah it did. it gives a good overall look at the layout and what the island is about

[2011/05/18 08:24] vincere: Perhaps we could go see one of the bots you created if possible?

[2011/05/18 08:24] Lesele Dawg: Yes.

[2011/05/18 08:24] Lesele Dawg: There are two different kinds of bots I use here.

[2011/05/18 08:24] Lesele Dawg: There is a greeter bot that is behind me.

[2011/05/18 08:25] vincere: I saw him on my quick check yesterday

[2011/05/18 08:25] Lesele Dawg: Please walk over to him and see what he is programmed to do

[2011/05/18 08:25] Lesele Dawg: He bows and then should ask you a question

[2011/05/18 08:25] Lesele Dawg: He does this by proximity.

[2011/05/18 08:26] Lesele Dawg: Then I have the bots who are doing animations like tai chi and some yoga over here

[2011/05/18 08:26] vincere: he is

[2011/05/18 08:27] vincere: When I looked up on NPC's and bots i found out that you can either script objects to animate and do things trough lsl-scripting

[2011/05/18 08:27] Lesele Dawg: If you sit on a yoga ball, then you have people to do your exercises with in the mornings.

[2011/05/18 08:27] vincere: or that you can use a viewer and code with for example c++

[2011/05/18 08:27] vincere: how where these created?

[2011/05/18 08:27] Lesele Dawg: I use Pikku bots and then bought some animations.

[2011/05/18 08:28] vincere: Pikku bots?

[2011/05/18 08:28] Lesele Dawg: Then I just sit the bots on the animation balls and set those as home.

[2011/05/18 08:28] Lesele Dawg: www.pikkubot.de

[2011/05/18 08:28] vincere: I will look at the site later

[2011/05/18 08:28] Lesele Dawg: cool

[2011/05/18 08:29] Lesele Dawg: I use the bots for relationships and immersive environments.

[2011/05/18 08:29] vincere: /ok

[2011/05/18 08:29] Lesele Dawg: It is much more fun to interact with other "people" even if those people aren't rea.

[2011/05/18 08:30] Lesele Dawg: real.

[2011/05/18 08:30] vincere: yeah, it gives the environment a bit of life

[2011/05/18 08:30] vincere: have you ever been to the Medical School island?

[2011/05/18 08:30] Lesele Dawg: With my dissertation I found that people felt empathy for my old people when they were asking hard questions from the Mini Mood scale.

[2011/05/18 08:31] Lesele Dawg: I have been there and it is Amazing! There are many people using SL for nursing and medical education.

[2011/05/18 08:31] vincere: yeah it's a lot of projects going on

[2011/05/18 08:31] vincere: In the medical school they have a scenario scripted where you have to gain points by helping patients

[2011/05/18 08:32] vincere: I am trying to get into contact with the creator to find out how it was scripted

[2011/05/18 08:32] vincere: But from my understanding the scripting on this island is done through lsl?

[2011/05/18 08:32] Lesele Dawg: The pikku bots are very easy to script, and I also use the Logic System to provide more information.

[2011/05/18 08:33] Lesele Dawg: LSL is easy to use and learn, even for a non-programmer like me.

[2011/05/18 08:33] vincere: Did you come across multiple choice scripts?

[2011/05/18 08:34] Lesele Dawg: Let me find the scripting help web site. Hold on a second.

[2011/05/18 08:34] vincere: for example, my school wants to create an area where nurses can collaboratively try to solve whats wrogn with a patient

[2011/05/18 08:35] Lesele Dawg: www.3greeneggs.com

[2011/05/18 08:35] Lesele Dawg: It is easy to create LSL scripts here.

[2011/05/18 08:35] vincere: thank you!

[2011/05/18 08:36] vincere: one of the main issues I wanted to find out, since I am not very good with programming

[2011/05/18 08:36] Lesele Dawg: It would be extremely easy to create an area where nurses can collaborate in specific ways.

[2011/05/18 08:36] vincere: was which of the two ways that's best suited for this types of scenarios

[2011/05/18 08:36] Lesele Dawg: I am not a programmer either.

[2011/05/18 08:37] vincere: So how did the nurses attending think about this island?

[2011/05/18 08:37] Lesele Dawg: Absolutely Love it!

[2011/05/18 08:37] Lesele Dawg: It is the interaction that they found useful.

[2011/05/18 08:38] vincere: That seems to be the general idea from projects like these, its amazing how people react

[2011/05/18 08:38] Lesele Dawg: I have been teaching in SL now for 2 years and still have students come in to talk

[2011/05/18 08:38] vincere: Thats one of the strong points i found in my literature review

[2011/05/18 08:39] vincere: the continuing education possibilities are so big

[2011/05/18 08:39] Lesele Dawg: Exactly!

[2011/05/18 08:39] vincere: people that can't attend normal seminars can easily log on and get the same information

[2011/05/18 08:39] Lesele Dawg: Yes

[2011/05/18 08:39] vincere: My school, in the beginning wanted to create something for the nurses that study here now

[2011/05/18 08:40] vincere: like a scenery with scripted problems

[2011/05/18 08:40] vincere: but I found so many other uses

[2011/05/18 08:40] Lesele Dawg: You are very welcome to use this island for your nursing education if you like.

[2011/05/18 08:40] vincere: it would be a good starting position to test out different scenarios

[2011/05/18 08:41] Lesele Dawg: Knowing that people learn through relationships, I strongly suggest that we teach through having students interact with others, in relationships.

[2011/05/18 08:41] vincere: and if they find it valid they can make their own island

[2011/05/18 08:41] Lesele Dawg: Yes

[2011/05/18 08:41] vincere: exactly

[2011/05/18 08:41] vincere: how did you go about when you made the island?

[2011/05/18 08:41] Lesele Dawg: I have built it all here.

[2011/05/18 08:42] Lesele Dawg: I purchased the buildings and got a lot of this for free, but I am the builder and designer.

[2011/05/18 08:42] vincere: I study a program called Creative Computer Graphics that focus on 3D graphics and animation

[2011/05/18 08:42] vincere: my plan is that together with the more programmer-aimed programs of my school

[2011/05/18 08:43] vincere: create the scenery and scripts

[2011/05/18 08:43] Lesele Dawg: That will make it a Beautiful environment

[2011/05/18 08:43] vincere: but I also found that you can get a lot for free, and I even found sites that rent or sell islands cheaper for projects just like these

[2011/05/18 08:43] Lesele Dawg: Yes

[2011/05/18 08:44] Lesele Dawg: The cost of the island itself in Second Life is very expensive.

[2011/05/18 08:44] Lesele Dawg: Collaboration makes things more affordable

[2011/05/18 08:44] vincere: I noticed when I first looked into the platforms that were available

[2011/05/18 08:44] vincere: there are similar platforms like second life that are free or cheaper

[2011/05/18 08:44] vincere: but none of them offer the same range of customizability

[2011/05/18 08:45] Lesele Dawg: The reason I do not go to other platforms is that they do not have the advanced functionality that SL does.
[2011/05/18 08:45] vincere: exactly
[2011/05/18 08:45] Lesele Dawg: For example, I can play media in here where I cannot in other worlds.
[2011/05/18 08:45] Lesele Dawg: I have voice capability in here where other places don't.
[2011/05/18 08:45] Lesele Dawg: Unfortunately, SL is the most advanced right now, but I hope that will change because it is so expensive.
[2011/05/18 08:46] vincere: Yeah, that's probably one of the bigger downsides i will have to write in my thesis
[2011/05/18 08:46] Lesele Dawg: Yes.
[2011/05/18 08:46] vincere: my objective with the whole work is to see what has been done, and what can be done
[2011/05/18 08:47] Lesele Dawg: THat is a huge undertaking! I admire you for doing that!
[2011/05/18 08:47] vincere: so I have to see the up and downsides and find what is worth doing and not
[2011/05/18 08:47] vincere: it has been very tedious work
[2011/05/18 08:47] vincere: just reading the literature that is out took me 3 weeks
[2011/05/18 08:47] Lesele Dawg: WOW
[2011/05/18 08:47] vincere: and I selected few of them and compared their results with each other
[2011/05/18 08:48] Lesele Dawg: It is good to narrow things a bit.
[2011/05/18 08:48] vincere: many of them say the same thing but some contradict them which makes it interesting
[2011/05/18 08:48] vincere: so I picked out reports that were saying different things and highlighted why they came to different conclusions
[2011/05/18 08:48] Lesele Dawg: From an instructional design perspective, I find that the only limitations of what I can create in SL are the limits on my imagination.
[2011/05/18 08:49] Lesele Dawg: The literature review will give you a much better idea of better ways to go than all the previous ideas combined, I would think.
[2011/05/18 08:49] vincere: it has given me a very clear image of what has been tested and why it has been tested
[2011/05/18 08:49] vincere: so I know what I want to aim for
[2011/05/18 08:50] Lesele Dawg: I would appreciate reading your thesis when you have a draft finished, but only if it is in English :-)
[2011/05/18 08:50] vincere: I actually find it comforting that you are not a programmer, it shows that the tools are easy to learn
[2011/05/18 08:50] Lesele Dawg: Yes
[2011/05/18 08:50] vincere: im writing it in English since my head teacher is from the states
[2011/05/18 08:51] vincere: so I will gladly send it to you once I am done
[2011/05/18 08:51] Lesele Dawg: I have taken classes from ImagiLearning to help me, and then just jumped in to play with it.
[2011/05/18 08:51] vincere: that seems like a good approach

[2011/05/18 08:51] vincere: since my University has such a wide range of programs it should not be hard

[2011/05/18 08:52] vincere: to find some students that would want to help with coding if my class cant

[2011/05/18 08:52] vincere: but we do have some programming, so we should manage even so

[2011/05/18 08:52] Lesele Dawg: And it is very easy to learn, in my opinion.

[2011/05/18 08:52] Lesele Dawg: The hardest part is creating the Logic

[2011/05/18 08:53] vincere: i can imagine

[2011/05/18 08:53] vincere: Which bot would you say is the most complex one of these?

[2011/05/18 08:53] Lesele Dawg: The pikkubots are extremely easy to set up and ask to do different things.

[2011/05/18 08:54] Lesele Dawg: For example, these bots I have just sitting.

[2011/05/18 08:54] Lesele Dawg: The command to have a pikkubot sit on anything is

[2011/05/18 08:54] Lesele Dawg: st

[2011/05/18 08:54] Lesele Dawg: I will IM with the bot, or type it into the Pikkubot controller, and the bot will always be sitting on the same object.

[2011/05/18 08:55] Lesele Dawg: Do you see my bots who are walking around or in a wheelchair?

[2011/05/18 08:55] vincere: easy to control then

[2011/05/18 08:55] Lesele Dawg: These are in Robot mode.

[2011/05/18 08:55] vincere: yes I saw them earlier

[2011/05/18 08:55] Lesele Dawg: The greeter bots are ones that I have to script a bit, but it is very easy to do.

[2011/05/18 08:56] Lesele Dawg: I really like using the Logic System to give more information and to provide more interaction

[2011/05/18 08:56] Lesele Dawg: I can give notecards, start web pages on viewer screens, start sounds, all sorts of stuff with the Logic Systems.

[2011/05/18 08:57] vincere: and show powerpoint slides and such

[2011/05/18 08:57] Lesele Dawg: Absolutely

[2011/05/18 08:57] Lesele Dawg: I run my Learning Management System during my class so I only have to write my material once and then can use it with multiple classes.

[2011/05/18 08:58] Lesele Dawg: I have some of that in the Education Centre if you would like to see

[2011/05/18 08:58] vincere: that would be nice

[2011/05/18 08:58] Lesele Dawg: I also use Pandorabot Brains

[2011/05/18 08:58] Lesele Dawg: Follow me please

[2011/05/18 08:59] Lesele Dawg: Here on the table is a brain with a Pandorabot script in it

[2011/05/18 08:59] Lesele Dawg: It is supposed to talk with us via chat

[2011/05/18 08:59] Lesele Dawg: It doesn't seem to be working right now though.

[2011/05/18 08:59] Lesele Dawg: Hmmm

[2011/05/18 09:00] Lesele Dawg: The Pandorabot web site is not as reliable as I would like

[2011/05/18 09:00] vincere: I saw similar ones on some other islands so I think I understand

[2011/05/18 09:00] Lesele Dawg: This is where I hold my live synchronous classes

[2011/05/18 09:01] Auroraborealis Design's Rug-Pearl Rose: Welcome to the University of Utah Gerontology Interdisciplinary Program Classroom!

[2011/05/18 09:01] Auroraborealis Design's Rug-Pearl Rose: Please IM Lesele Dawg if you have ANY Questions!

[2011/05/18 09:01] brain in a jar: How can I help you?

[2011/05/18 09:01] vincere: There the brain activated

[2011/05/18 09:01] Lesele Dawg: LOL

[2011/05/18 09:01] Lesele Dawg: Can you see the web site on the board in front of us?

[2011/05/18 09:01] vincere: yea

[2011/05/18 09:01] vincere: University of Utah

[2011/05/18 09:01] Lesele Dawg: This is my Canvas classroom

[2011/05/18 09:02] Lesele Dawg: I can use my classroom that I have built on the University of Utah learning management system to bring in content that students have available in their own Canvas classroom

[2011/05/18 09:03] vincere: I see

[2011/05/18 09:03] brain in a jar: I am glad you understand it.

[2011/05/18 09:03] Lesele Dawg: Let's see if the video will play

[2011/05/18 09:03] Auroraborealis Design's Rug-Pearl Rose: Welcome to the University of Utah Gerontology Interdisciplinary Program Classroom!

[2011/05/18 09:03] Auroraborealis Design's Rug-Pearl Rose: Please IM Lesele Dawg if you have ANY Questions!

[2011/05/18 09:03] Lesele Dawg: It plays! YAY

[2011/05/18 09:04] vincere: Hm, i see a "please log on" site

[2011/05/18 09:04] Lesele Dawg: I can also make the Rug into a Logic System, and program it to give information

[2011/05/18 09:04] Lesele Dawg: I See!!

[2011/05/18 09:04] brain in a jar: Goodbye.

[2011/05/18 09:04] Lesele Dawg: So you see the login screen but not what I see!

[2011/05/18 09:04] Lesele Dawg: Interesting!

[2011/05/18 09:04] vincere: yeah :o

[2011/05/18 09:04] Lesele Dawg: I am watching a video in here

[2011/05/18 09:04] Lesele Dawg: Hmmm

[2011/05/18 09:05] Lesele Dawg: It must be that there are permissions that need to be set

[2011/05/18 09:05] vincere: I would probably see the same if i were logged in

[2011/05/18 09:06] Lesele Dawg: I have no idea how the University of Utah system would know that you were in the room watching this.

[2011/05/18 09:06] Lesele Dawg: Hmmm

[2011/05/18 09:06] Lesele Dawg: I will have to figure this out! Thanks!

[2011/05/18 09:06] vincere: Hope it solves a problem

[2011/05/18 09:06] Lesele Dawg: Yes! It helps

[2011/05/18 09:06] vincere: how long did it take you to get this island done?

[2011/05/18 09:07] Lesele Dawg: It is a work in progress, but I built the basic structure over about 2 weeks.

[2011/05/18 09:07] Lesele Dawg: The bots and programming logic systems, etc., is a work in progress.
[2011/05/18 09:08] vincere: what would you say is most time consuming?
[2011/05/18 09:08] Lesele Dawg: There is so much I can do, but time constraints prevent me from getting as much time as I want.
[2011/05/18 09:08] Lesele Dawg: Yes, and no.
[2011/05/18 09:08] Lesele Dawg: The time consuming part is figuring out what I want to do, and then figuring out how I can do it.
[2011/05/18 09:09] Lesele Dawg: The easy part is finding the tools to do what I want to do.
[2011/05/18 09:09] Lesele Dawg: I have to get to work in a minute.
[2011/05/18 09:09] vincere: oh Ok
[2011/05/18 09:09] Lesele Dawg: Any last minute questions or we can meet another time if you like.
[2011/05/18 09:09] vincere: time flies :o
[2011/05/18 09:10] vincere: uh, I can not think of anything more as of now
[2011/05/18 09:10] Lesele Dawg: I would like to know your progress as you compile your Massive paper!
[2011/05/18 09:10] vincere: im actually not that far from finishing it
[2011/05/18 09:10] Lesele Dawg: I will email you, and then you will have my email address too.
[2011/05/18 09:10] Lesele Dawg: That will be Wonderful to read your work!
[2011/05/18 09:10] vincere: I hope it will come to use not just for my school
[2011/05/18 09:10] vincere: but for others as well
[2011/05/18 09:11] Lesele Dawg: I am sure it will.
[2011/05/18 09:11] vincere: But we will keep in contact trough mail and if i come up with more questions we can set another meeting
[2011/05/18 09:11] Lesele Dawg: That would be Great.
[2011/05/18 09:11] Lesele Dawg: I really appreciate your time today!
[2011/05/18 09:11] vincere: Thank you very much for your time and help. It really helps alot!
[2011/05/18 09:11] Lesele Dawg: It has been fun showing off my Island :-)
[2011/05/18 09:11] vincere: It was nice seeing it ^^
[2011/05/18 09:12] Lesele Dawg: See you soon!
[2011/05/18 09:12] vincere: Im gonna go get dinner now :D
[2011/05/18 09:12] vincere: See you :)
[2011/05/18 09:12] Lesele Dawg: :-)