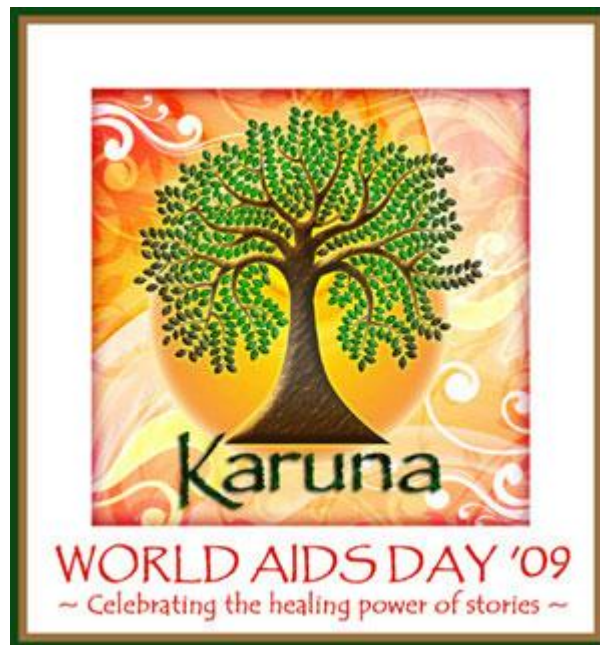


AIDS Information and Outreach in the Virtual World of Second Life: The Karuna Project

Final Report

April 19, 2010



**A Project Conducted by the Alliance Library System
Funded by a Grant from National Library of Medicine**

RFQ No. NLM-08-76/RHW

Executive Summary

Supported by a \$60,000 grant from the National Library of Medicine, during the 18 month period from October 1, 2008 through March 31, 2010, the Alliance Library System and the Karuna Project Team continued working with health organizations, individuals, families, universities, and groups to build a 16-acre island, a cluster of buildings, resources, exhibits, and events, and a community in the three-dimensional virtual world called Second Life (<http://secondlife.com>). Karuna Island, which officially opened on December 1, 2008 (World AIDS Day 2008), has provided community events, cultural opportunities, information resources, immersive experiences, and other forms of support and creativity for persons of all ages with HIV/AIDS, their families and friends, health professionals, and librarians.

During this phase of the project, efforts focused on three areas:

- Providing educational opportunities through information resources and immersive educational experiences
- Providing support through a variety of events, exhibits, and community activities.
- Collecting and sharing the experiences of those dealing with AIDS/HIV in their lives through story-telling, displays, and other artistic expressions.

By all measures, this phase of the Karuna Project has been a resounding success. Members of the Karuna Project Team have done an outstanding job of pursuing and realizing the three focus areas, as well as other innovative initiatives, outreach efforts, and collaborative endeavors. The number of avatars visiting Karuna has remained consistently high throughout this grant period, indicating a sustainable community that is richly diverse and international in scope. Based on data gathered by ten proximity sensors placed at various locations on Karuna from late November 2008 through March 2010, we know that at least 32,000 avatar visits to Karuna occurred during those 16 months, an average of 2,000 avatar visits a month. The actual number of avatar visits to Karuna locations almost certainly was quite higher.

Perhaps more importantly, the work and activities completed during this phase of the project have helped clarify for the Project Team members, stakeholder organizations, members of the Karuna community, and other healthcare professionals and librarians in Second Life the unique strengths and opportunities of a three-dimensional virtual world such as Second Life to complement, extend, and enhance educational and community-building efforts already provided in the real world by governmental agencies, health and community organizations, educational institutions, and libraries in service to persons with AIDS/HIV, their families, and their friends.

Lori Bell (Lorelei Junot in Second Life) from the Alliance Library System served as Project Director. Carol Perryman (Carolina Keats in Second Life) served as Project Coordinator for the first 9 months of this 18-month grant-funded project. In May 2009 Jena Ball (Jenaia Morane in Second Life), a writer, editor, and educator, who had been serving Karuna as Story Project Director, succeeded Carol as Project Coordinator, who left to take another job. Robin Ashford (Robin Mochi in Second Life), the Reference and Distance Services Librarian at George Fox University in Portland, Oregon, joined the Project Team in May 2009 as the Karuna Consumer Health Librarian. Tom Peters (Maxito Ricardo in Second Life), the CEO of TAP Information Services, served as project evaluator and compiled this final report.

The services, community-building, and support provided by Karuna are continuing and expanding. At the conclusion of this grant-funded period ownership of the island was transferred to The Virtual World Story Project. Later in April 2010 a newly incorporated organization called Stories Without Borders will coordinate and facilitate Karuna-related events, exhibits, outreach, collaborations, and immersive experiences.

Introduction and Overview

Second Life, a three-dimensional virtual world developed by Linden Lab, launched on June 23, 2003. There currently are approximately 18 million registered accounts. At any given moment, approximately 70,000 avatars (that is, three-dimensional representations of people who are in Second Life) are in-world.

Librarians, healthcare professionals, educators, writers, artists, and others have been active in Second Life for years. The Karuna Project builds upon and extends the previous work done by professionals in Second Life. This phase of the Karuna Project builds on several previously funded and success grant projects from the National Library of Medicine to the Alliance Library System.

During this phase of the Karuna Project, a 16-acre island in the three-dimensional world called Second Life, was designed and constructed, and various resources, exhibits, events, and other things were deployed or conducted across the island over time with a goal of nurturing a community of avatars representing individuals in the real world with HIV/AIDS, as well as their family members and friends, plus healthcare and health information professionals. A notecard created by Jena Ball (Jenaia Morane) succinctly states the purpose of Karuna both as a built space and as a community: Karuna is "...devoted to celebrating the lives of those dealing with HIV/AIDS and making information, support, and creative services available to the SL [Second Life] community."

The goals of this phase of the development of Karuna included:

- Provide information and information experiences about HIV/AIDS to persons with HIV/AIDS and their families.
- Instruct persons with HIV/AIDS, their families, and others on how to search for and assess quality information on all aspects of the disease.
- Create and offer informational displays and experiences about HIV/AIDS.
- Increase awareness of NLM resources about HIV/AIDS.
- Create an information-sharing and support community around this disease.
- Create a distinct, branded community voice that enables participants to express themselves as individuals and as a group.
- Provide opportunities to celebrate and commemorate life.
- Provide engaging, immersive opportunities to learn about HIV/AIDS as well as about Second Life.

Some of the specific areas and resources developed on Karuna Island include:

- Welcome Area: A central location on the island, with a beautiful raised mosaic floor and basic information about Karuna. A stunning "I am here" interactive, multimedia artistic sculpture, commissioned by Jena Ball (Jenaia Morane) for World AIDS Day 2009, was placed in the Welcome Area.

- Resource Center: A centralized location for a wealth of information from NIH, NLM, CFAR, and other organizations about HIV/AIDS. It gathers together and presents key, professionally selected information, and points to many information sources and services in the real world. The Resource Center is a great example of how information is best displayed and delivered in a virtual world – as a combination of a collection of information resources and a visually interesting, interactive exhibit experience. The Resource Center also contains meeting space (including a green, outdoor presentation space on the roof!), casual gathering spaces, opportunities to join the community, and to volunteer one's time, talent, and resources.
- Auditorium: This outdoor meeting space was designed for larger gatherings, seminars, and presentations. It features a floating dais with a delightful moat between the audience and the speakers/presenters. The Karuna Auditorium is a fine example of how a space for large events that are typically held inside in the real world can be beneficially reconceptualized and redesigned for a worthwhile virtual outdoor experience in Second Life.
- Path of Healing: A quiet, contemplative walkway which often features artistic exhibits.
- Garden of Experience: A quiet glen where visitors can share their stories, which often are presented as flowers which, when touched, open up that person's story. Very powerful. The Ryan White Story Tree is also located near the Garden of Experience.
- Meditation Center: A treehouse location for meditation, contemplation, and quiet conversation individually or in small groups.
- Model HIV Virus: A very large, cutaway model of an HIV particle (virion) along with a very informative notecard about how HIV works and replicates.
- Community Center: This is the central community gathering place on Karuna Island. It includes a great room with seating and a fireplace, as well as several comfortable meeting areas for small groups. There also is a screening room with the Life and Times of Uncle D video playable with one click. The Rooftop Garden was used for art showings and other exhibits and events.
- Café Ristretto: This is an informal outdoor café adjacent to the Community Center. Poetry readings and dances often are held at Café Ristretto.
- Flame of Hope: Located on the Island of Hope in the center of Karuna. This area also contains the poem, "Ever So Slowly."
- Wall of Gratitude: A long wall containing poster images and stories about individuals and groups who have been involved in and contributed to the success of Karuna.
- Memorial Falls: A large outdoor waterfall area dedicated to those who have lost their battles with AIDS. There are observation decks at both the base and the top of the falling water.

The Alliance Library System (ALS) is a regional multi-type consortium with more than 256 public, academic, school, corporate and medical libraries in central Illinois serving one million

customers. Headquartered in East Peoria, ALS serves a region encompassing 14,000 square miles – making it larger than seven states and more populous than nine others. Core services include continuing education, consulting, resource sharing, and delivery. ALS also assists members in writing grants and coordinates collaborative, innovative projects, such as this one. ALS provided project direction and management of grant funds for the project. Within the past two years ALS has received three National Library of Medicine/Greater Midwest Region contracts for virtual world library services; an NLM contract for AIDS information and outreach; and numerous grants from other funding agencies. One of the projects was to build a virtual world orientation center for people with chronic health problems and disabilities. This center was called Virtual Ability and recently won the Linden Prize for Innovation, a competitive award with over 230 proposals.

Karuna is a word taken from an early Indo-Aryan language and embodies the desire to remove harm and suffering, and bring about the well-being and happiness of others.

The quarterly reports submitted by Carol Perryman (Carolina Keats) and Jena Ball (Jenaia Morane) during this grant performance period do an excellent job of documenting all of the resources, events, outreach efforts, and collaborative initiatives that have occurred during the past 18 months. Rather than replicate the information contained in those quarterly reports, this final report focuses on some of the key outputs, findings, outcomes, recommendations, and future directions emanating from this phase of the project.



Building the Build and Fostering a Virtual Community

When Karuna first was created as a sixteen acre island in Second Life, it was barren and unformed. Everything had to be built, from the terraforming of the island terrain to all of the buildings, outdoor spaces, and plant life. The Karuna Project team did an excellent job of building out Karuna, and they completed the task ahead of the original schedule so that the grand opening could coincide with World AIDS Day 2008.

But building the build is insufficient. A problematic phenomenon common in Second Life and other virtual worlds could be called “the lure of the build.” Because the initial construction of a built environment in Second Life is so labor-intensive, many organizations and individuals get lured into a false sense of belief that “if we build it, they will come.” Many organizations tend to put more resources into the build than into developing a compelling suite of services and programs that are appropriate for a three-dimensional virtual environment that support immersive 3-D learning and virtual world communities. Although the Karuna Project Team did an excellent job with the build, they did not succumb to the lure of the build. From the beginning they realized that the build is just a first step. The second, more important step involved fostering and sustaining an online community. As in the real world, virtual world communities need active, engaged, committed citizens. It takes a village to sustain a village. The Karuna Project Team encouraged volunteerism from interested organizations and individuals.

Project Coordinator Change

The Karuna Project also experienced a leadership change, which often is a dangerous event for a grant-funded project, and survived and thrived admirably before, during, and after the leadership transition. During the course of the performance period on this grant, in May 2009 there was a change in project coordinators, because Carol Perryman (Carolina Keats) took a new job. Jena Ball (Jenaia Morane) took over the coordination of the Karuna project after Carol Perryman left to start a new full-time job. Robin Ashford (Robin Mochi) joined the project after that transition had been completed.

During the 9 months that Jena Ball (Jenaia Morane) and Robin Ashford (Robin Mochi) served as Karuna Project Coordinator and Karuna Consumer Health Librarian respectively, their understanding of how to foster and facilitate communities in virtual worlds such as Second Life continued to expand. Initially they had thought, as do many real-world institutions, that what works in the real world also applies to virtual worlds. Initially, the building out of the “physical” space in Second Life mimics some real-world building or campus. In addition, services in Second Life often are offered based on service models and assumptions drawn from the real-world experiences of key staff at the organizations. One of the key findings of this project is that fostering a community that adds value to the lives of the members of the community is at least as important as developing the island, the information resources, the events, and the exhibits.

The Power of Storytelling and the Arts

Various artistic and creative experiences and endeavors (such as music, poetry, storytelling, photography, machinima, quilting, etc.) have contributed to the overall life and success of

Karuna. One of the key initiatives of this grant-funded project that has had an immediate positive impact has been in creating ways to tell and preserve the stories and experiences of those dealing with HIV/AIDS. During some end-of-grant communication, Jena Ball (Jenaia Morane) noted that the ability of Karuna to create an environment in which stories and experiences could be shared was THE most important aspect of this grant-funded project. By enabling the telling of stories and making information about HIV/AIDS available through interactive, immersive, and co-created virtual environments, the Karuna Project Team had the most success debunking myths and stereotypes surrounding HIV/AIDS, creating empathy, and getting people interested in and willing to learn about prevention.

Several types of storytelling and storytelling venues have been created on Karuna Island. For example, the Ryan White Story Tree was the location for the main events of World AIDS Day 2009. Stories were collected and shared in written, audio, and video formats.

Story Quests are an attempt to educate avatars through engaging, immersive experiences in virtual worlds, rather than a reiterative delivery of factual information and reference services readily available in the real world. Jena Ball (Jenaia Morane) observed that one of the goals of the Story Quest was to educate not just through the dissemination of facts but via a wider range of modalities involving immersion, interaction, and co-creation. One Story Quest was done for HIV Testing, and another was called the Vision Quest.

A storytelling center also was created, where free classes in essay and poetry writing were offered. The center proved to be very popular, but activities had to be suspended because of a lack of volunteers to help the Project Team continue to run it.

The Life and Times of Uncle D (<http://www.tvwsp.com/questing/storieswithoutborders.html>) , a Stories Without Borders™ Story Quest, launched on October 1, 2009 with the premier of the film, "The Life and Times of Uncle D." (<http://www.youtube.com/watch?v=1-7ZzR6o9hk>) As explained on the Virtual Worlds Story Project website (<http://www.tvwsp.com/home.html>), "The goal of every Quest is to help each individual experience and express his or her Narrative Thread™ - that special spark of spirit that makes each of us unique. Once identified and articulated, these threads or "strands of story" form the warp and weave of larger communities of practice."

The appropriateness of the Story Quest in the broader context of the goals of the Karuna Project was questioned by some of the collaborating organizations. One real-world way to deal with any problem is to engage in forms of direct information dissemination. If more people know the risks and dangers of HIV/AIDS and the behaviors that often put people in danger of contracting HIV/AIDS, such diffusion of knowledge will help contain and control the pandemic. Such direct dissemination of information works better in the real-world than it does in virtual worlds. In virtual worlds, direct, immersive, often communal experiences work better and have more pronounced, lasting effects on the individuals involved than does direct information dissemination.

Art (music, poetry, photography, machinima, quilting, etc.) has contributed to the overall life and success of Karuna. Sledge Roffo, an award winning sculptor and photographer in Second Life,

is Karuna's resident artist and coordinates the Artist of the Month program. He has created several original and unique works of art in memory of those we've lost to AIDS, including the amazing "I am Here" sculpture for World AIDS Day 2009, which is at the central landing site. He also hosted the special World AIDS Day event for artists that brought some of Second Life's best artists and photographers to exhibit on World AIDS Day. As a result of the artistic components of this project, a community of Karuna artists has sprung up.

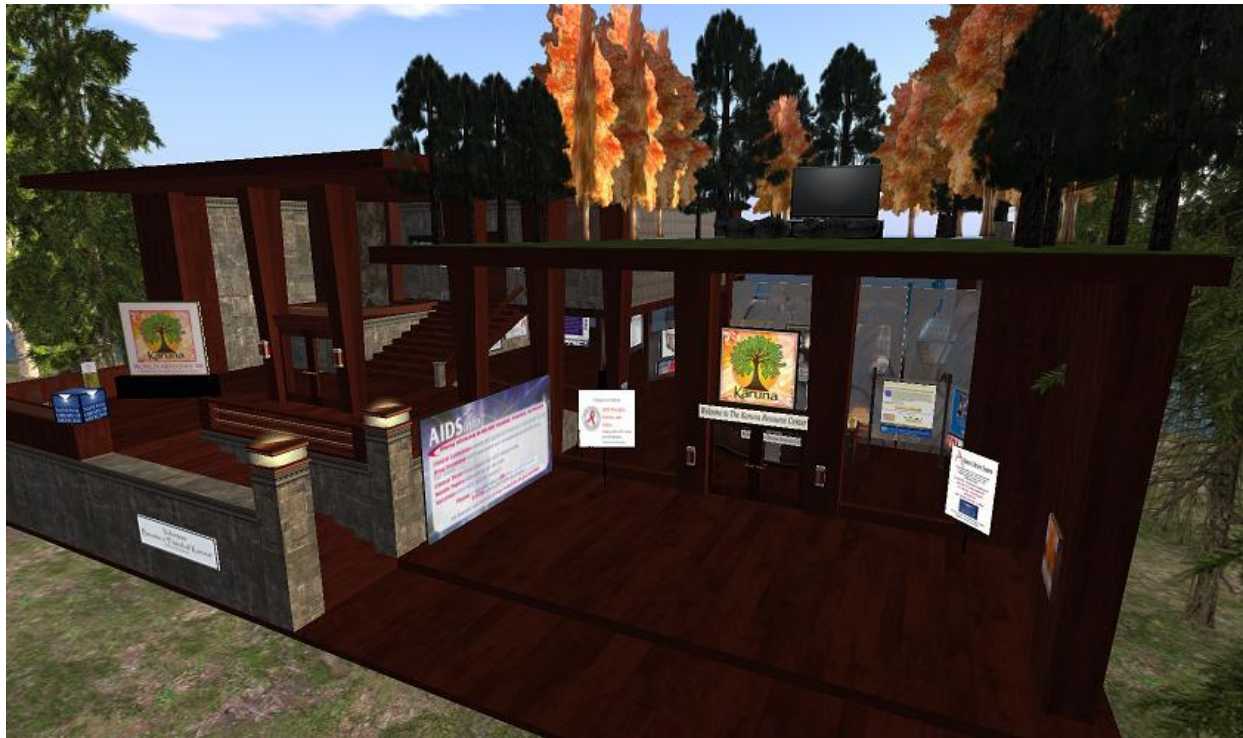
Resource Center

The Karuna Resource Center served as one location of many on Karuna Island for information sharing and services. Carol Perryman (Carolina Keats) began selecting materials and resources to include and highlight in the Karuna Resource Center. When Robin Ashford (Robin Mochi) became the Karuna Consumer Health Librarian in May 2009, she continued to select and update the timely and relevant resources, which came primarily from governmental agencies such as AIDS.gov, CDC, NLM, and the World Health Organization.

As is common with displays in Second Life, the displays in the Karuna Resource Center are all clickable. When touched by an avatar, the displays either give out an information notecard, which can be viewed by the avatar and saved in his/her personal inventory for later use, or they open up the website in an in-world web browser window, which also can be opened in an external browser for later reference. The Karuna Resource Center also was designed to be another welcoming, comfortable place where people could share ideas and information, give presentations, go on tours, converse, and collaborate.

Robin Ashford (Robin Mochi) established set hours when live reference assistance was available at the Karuna Resource Center. She also installed a green page ball. Whenever an avatar touched the ball, if Robin were anywhere in Second Life, she would receive a text message that an avatar was paging her. If she was not in Second Life, the page ball automatically sent a message to her email account.

Although the information and resources collocated in the Karuna Resource Center are also findable on the public Web, they have been selected and organized with certain criteria in mind. The Karuna Resource Center is a professionally mediated, vetted, and organized set of resources on the topic of HIV/AIDS. It is a new conceptualization of the guides to topics that librarians have been creating and updating for years, first as printed handouts, then as webpages, and more recently as resources interwoven into the new social media tools. The next stage in this line of development of information resources seems to be creating immersive, interactive, co-creative information experiences in three-dimensional virtual environments such as Karuna.



Re-Imagining Library Services in Virtual Worlds

Another key finding of this study is that library services can and should be re-imagined for virtual worlds. The Karuna Resource Center is a good case in point of how things need to be re-thought and re-imagined to be successful in virtual worlds. Most people with AIDS/HIV and their family, friends, and associates do not come to Second Life looking for more information about the condition. An information center that replicates much of the information already easily accessed in various real-world resource centers is not going to be very useful and much-used. What the project team learned through this project is that most people come to Second Life to have a second life – to network, to get support, and to have fun. Most built environments in Second Life and other virtual worlds are most successful when they encourage this type of networking and fun through activities and events that are not focused primarily on organizing and distributing information resources. The big challenge here is to educate and build community through informal activities and events. Information transfer in virtual worlds is much more meaningful and memorable when it occurs in the context of some community event or human interaction, not in the more direct mode of asking a question and getting an answer.

During the end-of-phase interviews with Jena Ball (Jenaia Morane) and Robin Ashford (Robin Mochi) it became clear that they were very attune to this new way of thinking about library services in virtual worlds and had done many innovative things to design and deliver the information transfer so that it was more embedded in the context of interaction or need.



Outreach and Promotional Efforts

One particularly strong aspect of this project was the tireless efforts by Carol, Jena, Robin, and Lori to use other media (blogs, website, YouTube videos, Tweets, etc.) to announce and promote this project. The project team was very efficient and effective in these outreach endeavors. For example, Robin Ashford (Robin Mochi) used Posterous as a platform for her blog posts, which sent information about her utterances out via Twitter, Flickr, and other social media tools, which in turn caught the attention of people not yet in Second Life. Jena Ball (Jenaia Morane) also was very active in her outreach efforts. She built and maintained the Karuna website (<http://www.karunahiv.com/>), worked with her TVWSP partner and Karuna volunteers to reach out via blogs, Twitter, Flickr, online forums, interviews with journalists, and appearances on television, radio, and at meetings of in-world groups.

Other library-related projects in SL often try to reach out to non-library communities and groups, and often attract mainly other librarians! This project seems atypical in this regard because it seems to have been much more successful at connecting with and involving non-library groups than library groups. The fact that during the 16 months Karuna has been opened it has been able to attract so many non-librarians is a great achievement.

Events, Especially World AIDS Day Events in 2008 and 2009

The activities on Karuna on World AIDS Day in both 2008 and 2009 involved a tremendous amount of coordination and many long hours of planning and preparation. Carol Perryman (Carolina Keats), the Project Coordinator during the first nine months of this phase of the Karuna Project, did an outstanding job of balancing the demands of completing all the tasks

associated with the original build of Karuna with the outreach and event planning tasks surrounding having the grand opening of Karuna occur on World AIDS Day 2008. World AIDS Day events on December 1, 2008 served as the official kickoff of Karuna, and the events for World AIDS Day in 2009 were even larger and more extensive on Karuna. Other national and international events, such as International Information Literacy Week in November 2009, were used as springboards for events, exhibits, and informational displays on Karuna.



Outreach to and Collaboration with Other Organizations

Through their efforts to reach out to and collaborate with other organizations, Carol, Jena, and Robin learned much about the value and strengths of organizational activities in Second Life. They shared their insights and recommendations with representatives from other organizations about how to move the organization beyond the stage of merely desiring to “establish an organizational presence” in Second Life to the nitty gritty work of fostering and sustaining a virtual world community.

It took much time and effort to create and cultivate worthwhile, sustainable partnerships with other organizations. Here is a partial list of organizations with which the Project Team had contact:

- NIH
- AIDS.gov
- NLM
- CFAR (Center for AIDS Research)
- Mayo Clinic

- RTI International
- Project Hope
- Stonewall Learning Center
- Secondability Mentors
- Remembering Our Friends Coalition
- Virtual Helping Hands
- IBM Australia

Many real-world organizations want to create a presence in Second Life, but they often underestimate the level of commitment and persistence involved. While being in Second Life has the same public relations appeal of having an organizational Facebook or Twitter presence, many organizations seem unwilling or unable to take the time to learn how these new media work well, how each is unique and powerful in subtle ways.

Networking was another essential aspect of the overall success of this project. Karuna Island was successful because the project team reached out to other organizations and individuals to engage them in immersive, interactive, communal learning activities.

Some real-world organizations are still in the initial process of understanding how Second Life activities can complement their real-world activities and advance their overall missions. Unfortunately, some real-world organizations see their efforts in Second Life as just a duplication or reiteration of existing real-world initiatives.

The storytelling aspects of this project have led to collaborative efforts not only with health-related organizations, but also with several universities. The response by students, faculty, and staff at institutions of higher education to the Karuna Project has been particularly heartening.

Some real-world organizations do not do reciprocal promotion and support well. Their primary interest is in disseminating information about the programs and initiatives of their own organization. Occasionally representatives from these organizations had a difficult time responding to the mission and goals of the Karuna Project.

Real-world organizations and granting agencies continue to learn how the “fun factor” in Second Life is actually integral to the value and success of virtual worlds in the overall lives of individuals. Having fun is essential to the learning and community-building processes in virtual worlds. Having fun is much more central to the overall purpose of the place than merely recreation or diversion.

Several universities, colleges, and technical schools brought students to Karuna to do a building project on the topic of HIV/AIDS. Educators and learners from many sectors of higher and further education – Ph.D. candidates, medical and nursing schools, vocational and technical, writing and art schools, and adult/continuing education – have visited and contributed to the Karuna Community. Students and instructors from three universities (Idaho State University, University of Pennsylvania, and University of Maine) collaborated to build an entire installation about HIV/AIDS, including a walk-in AIDS quilt and an art exhibit. These students are learning by doing and by helping to co-create virtual world experiences.

One particularly memorable and instructive interaction involved a group from Texas Technical College. A group of computer tech students came to Karuna to create awareness about diversity and difference. The students were asked to write papers about what they learned. These students presented their papers at a reading on Karuna. The stories these students told were both touching and revealing. It was clear that their experiences on Karuna had made them look at the issue of HIV/AIDS and the people dealing with it in new and meaningful ways.

The Center for AIDS Research at Chapel Hill offers an HIV 101 class every quarter that usually has over 400 students. These educators at CFAR want to bring these large classes into Second Life to experience Karuna, go on a Story Quest, write essays about their experiences and impressions, and then create a project that uses social media (Twitter, YouTube, blogs, wikis, etc.) to build bridges back into real life.



Several large corporations also showed interested and participated in the life and development of the Karuna Community. For example, a representative from IBM gave a well-received presentation on Karuna during World AIDS Day on December 1, 2009. In addition, there was an exhibit by the IBM World Community Grid FightAIDS@Home Project in the Karuna Resource Center.

NIH has a new program for young adults where school groups are created to share information and raise awareness about HIV/AIDS. NIH is interested in getting students between the ages of 18 and 22 into Second Life.

Outreach to other groups and organizations is ongoing. For example, the Secondability Mentors now hold their monthly meetings on Karuna. Events have been and will continue to be an integral part of the services offered on Karuna. For example, the project team wants to organize and hold an event on Helen Keller Day on Karuna.

What the project team experienced and became involved in through this project was nothing less than the collective effort of a group of people representing a group of real-world organizations and service agencies struggling to understand the affordances and demands of this three-dimensional virtual world. When individuals and organizations first encounter some new technologically engendered situation or system, typically what they try to do is replicate in this new environment behaviors they already know.

In some fundamentally important ways, real-world organizations are hedging their bets regarding the value and importance of virtual worlds. On one hand, they want to be perceived as leading edge organizations that are developing a presence in Second Life and other virtual worlds. On the other hand, they often seem reluctant (verging on willful maintenance of ignorance) to examine and think through how best organizations can pursue their missions and make an impact on the lives of people through virtual world experiences. The Karuna Project has helped health organizations, universities, libraries, community groups, and other organizations think through how real-world organizations can make a bigger impact and difference in the lives of the people they serve through innovative events, exhibits, and immersive experiences in virtual worlds.



Traffic Patterns as Indicated by Proximity Sensor Data

Both the number of visitors to Karuna during the 16 months it has been opened, as well as the average length of time they have spent here, have been impressive. To roughly measure this traffic, just before Karuna officially opened on December 1, 2008, ten proximity sensors were deployed at various locations around the island. A proximity sensor is a device that works 24/7 to record whenever an avatar comes within range of the sensor, usually a sphere with a radius of 20 meters. The proximity sensors gathered no identifying information. They only recorded, on an hourly and daily basis, the number of avatars who had come within range of each sensor and the number of minutes each avatar stayed within range of the sensor.

Please note that the data collected via proximity sensors have several inherent limitations and variances from what actually happens. First, there is no way to “de-dupe” visits. For example, if a proximity sensor has a range of 20 meters, and if an avatar comes within range and stays for a few minutes, then, in the course of moving about the island, moves beyond the range of a sensor for a few minutes, then a few minutes later comes back within the range of the sensor, the sensor records two visits, even though it was just one avatar moving around in the general proximity of the sensor, sometimes in range and sometimes beyond range.

Secondly, even though ten sensors were deployed on Karuna Island, much of the 16 acres was outside the range of all ten sensors. As a result, some visitors to Karuna and some of the time they spent on Karuna was not recorded at all. Several members of the project team noted that the proximity sensor data for a date during which an event was held under-reported the number of avatars that team members visually spotted at events.

Nevertheless, proximity sensors are one way to get a rough estimate of the total traffic, the “dwell time,” and the traffic patterns on the island, on a 24/7 basis. Here are three highlights from the analysis of the proximity sensor data:

1. Nearly 32,500 avatars came within range of these sensors over the 16 months that data were collected.
2. The average "dwell time" at each sensor was quite long. Near the Wall of Gratitude sensor it was over eleven minutes. Based on other proximity sensor data collected at other locations in SL, this is incredibly long. The unusually long dwell time near the Wall of Gratitude seems to indicate that it was very successful as a place for remembrance and reflection.

The “dwell time” for all ten proximity sensors were:

| | |
|-----------------------|-------------|
| Wall of Gratitude: | 11.07 mins. |
| Community Center: | 7.44 mins. |
| Garden of Experience: | 5.58 mins. |
| Auditorium: | 5.17 mins. |
| Flame of Hope: | 3.60 mins. |
| Welcome Area: | 2.94 mins. |
| Meditation Treehouse: | 2.87 mins. |
| Resource Center: | 2.80 mins. |

| | |
|-----------------|------------|
| Memorial Falls: | 2.13 mins. |
| Classroom: | 1.70 mins. |

3. The quarterly figures for the number of avatars who came within range show strong ongoing use and value of Karuna and all it offers:

Q4 2008: 3,028 (data for the final 33 days of the quarter were collected, including the grand opening)
Q1 2009: 5,020
Q2 2009: 5,541
Q3 2009: 6,564
Q4 2009: 7,374
Q1 2010: 4,942

While proximity sensors have some value, they certainly are not the best imaginable way to assess the impact and value of an international, 24/7 virtual place such as Karuna Island. For example, the proximity sensor tool used gave no indicate how a single, anonymized avatar moved around the island. Proximity sensors record behavior in only a very rudimentary way: either an avatar is within range of a sensor, or she or he is not. We need non-intrusive and non-interruptive ways to assess the lived, immersive experiences that occur in virtual worlds so that we can obtain and apply experiential feedback from the avatars who are using and contributing to and enhancing these immersive experiences in Second Life.

Essentially International

The inherently international aspect of Karuna and Second Life in general is one of its promising strengths. Many non-U.S. avatars have visited Karuna and attended various events both large and small. Interested international organizations also have contributed to the success of Karuna.

The Value of Anonymity in Virtual Worlds

The default relative anonymity of existence in Second Life – the relationship between the avatar and the person behind the avatar is discrete unless the person decides to make the relationship more pronounced – actually works in favor of a project such as this. Because having tested positive for HIV/AIDS carries a certain social stigma with it, people are able to explore and experience things in Second Life that they may be reluctant or shy to do in the real world.

Teamwork

During the first nine months of the grant-funded project, Carol Perryman (Carolina Keats) did an outstanding job of developing all of the components that came together as Karuna. When Carol stepped down after nine months to start a new job, Jena Ball (Jenaia Morane) and Robin Ashford (Robin Mochi) stepped in very quickly and professionally to continue the work begun by Carol. Jena and Robin worked very well as a team. Jena focused on creating community, the storytelling component of the project, and other artistic events and endeavors, while Robin focused on the Resource Center.

Carol Perryman (Carolina Keats), Jena Ball (Jenaia Morane), and Robin Ashford (Robin Mochi) did an excellent job of developing the island resources and events in innovative ways that drew people to participate and contribute to the growing community.



Karuna Project Nominated for the Linden Prize

The Karuna Project has been nominated by several people for the 2010 Linden Prize (<http://lindenlab.com/lindenprize>), which includes a 10,000 USD prize and is awarded to a Second Life avatar or team for an innovative in-world project that improves the way people work, learn and communicate in their daily lives outside of the virtual world. The winner and finalists for the 2010 Linden Prize will be announced on or before May 31, 2010.

Constraints, Challenges, and Opportunities

Throughout the 18 months of this grant-funded project, the project team experienced several constraints, challenges, and opportunities. A few are summarized below.

- **Understanding the Strengths and Affordances of Virtual Worlds:**

A basic challenge involved encouraging organizational representatives to think beyond Second Life as just a "mirror world" dumping ground for stuff they're already doing in the real-world (including the Web). The Karuna Project Team did an excellent job of exploring and experimenting with various initiatives and formats that will help all

organizations to better understand the strengths and affordances of virtual worlds and the presence of organizations in them.

- **Not Enough Time:**

One aspect of Second Life that this project reinforced is the tremendous time commitment involved in doing things well in this three-dimensional virtual world. Working in Second Life gobbles up time unawares. The avatars and the people behind them become mesmerized by the place, the experiences, and the interactions, often losing track of time. It takes time to build an island from scratch and all of the programs, resources, and events that occurred on it.

Two of the largest downsides to developing a built environment and a community in Second Life are the time-intensive nature of such endeavors, and the inability of a 16-acre island to comfortably accommodate more than approximately 75 avatars. As Robin Ashford (Robin Mochi) notes in her end-of-project slide presentation, “Popular events fill up quickly – the number of simultaneous avatars on a sim/island needs to be raised without causing performance issues.”

(<http://librarianbydesign.blogspot.com/2010/03/consumer-health-librarians-national.html>)

- **Blending Real-World and Virtual World Resources and Experiences:**

Although learning and embracing the strengths of virtual worlds is an important step, the next step is to integrate and blend real-world and virtual world resources and experiences. The Project Team realized that the Karuna Project in a specific virtual world is but one part of the lived experiences of people with HIV/AIDS, their families and friends, health professionals, and librarians. Machinima is a great medium for bridging the current gap between the real world and the virtual world. Machinima is a new form of filmmaking that uses “...real-time three-dimensional (3-D) graphics rendering engines to generate computer animation” (<http://en.wikipedia.org/wiki/Machinima>).

- **Negative Public Opinions about Second Life and Virtual Worlds in General:**

Many people have a viscerally negative response to Second Life – to just the idea of virtual worlds and to meaningful, life-enriching virtual world experiences. Any community- and life-affirming project such as the Karuna Project must deal with some of the negative publicity about Second Life and virtual worlds in general. The Karuna Project Team always focused on the positives.



Recommendations for Improvements and Enhancements

The Karuna Project Team has formulated several recommendations for improving and enhancing the Karuna Project as it moves forward after the conclusion of this grant period:

- Integrate community and information better. The Karuna Project is not primarily about presenting facts and asking questions forthrightly posed, but about engaging individuals and organizations in immersive educational experiences.
- More Outreach: Members of the Project Team wish they had more time to engage in more outreach efforts, both in Second Life and in the real world. In a follow-up grant application, the project team will try to have someone involved whose primary responsibility is to do outreach via social media. This Karuna outreach coordinator will work with individuals, universities, federal and state agencies, organizations, corporations, community groups, and other groups both in the real world and in Second Life.
- Immersion, Interaction, and Co-Creation are the Keys to Success: Immersive, interactive, co-created informational and aesthetic experiences are an important area of development and funding in Second Life and other virtual worlds. This enables people to learn by doing, as well as create a heightened awareness of others.
- Redefine and re-invent libraries in Second Life: One of the plans the Project Team has for Karuna is to transform the concept of library a bit and present information differently.

Most people do not enter Second Life to ask a librarian questions or seek information in ways similar to how they seek information in documents held in bricks-and-mortar libraries, or even via the Web. We have to reach out to avatars in other ways and satisfy their information needs (as well as their needs for community). Libraries and library experiences in virtual worlds need to become more immersive and interactive. Nevertheless, the need for more traditional types of question-answering and information transfer in which we all engage in the real world will not completely disappear from virtual worlds. Many people seem to be overwhelmed by all the health-related information available on the Web. They need and appreciate the professional skills and dedication that librarians bring to this situational need, providing expert selection, metadata, context, and assistance.

Enlarged, immersive, walk-in experiences have proven quite popular in various contexts in Second Life, from tsunamis to literary scenes. The new library being planned for Karuna will include an enlarged three-dimensional cell that is in the process of being infected by the HIV virus. Avatars will be able to walk into this enlarged cell and witness how the infection develops and spreads.

The librarian in this new type of virtual world library may serve more as a high-level docent supporting each avatar's self-directed, immersive experience of the interactive experiences available on Karuna, answering any questions and providing additional information or references to other resources (in Second Life and in the real world) as needed.

Future Plans and Activities

- April 2010: The Virtual World Story Project (TVWSP) plans to assume ownership of Karuna Island in Second Life and continue to operate and enhance it. Jena Ball (Jenaia Morane) is one of the leaders of TVWSP. TVWSP plans to continue seeking grant funding and other forms of external support.
- Late April 2010: Based on her experiences with this grant-funded project, Jena Ball (Jenaia Morane) and a partner plan to create and incorporate Stories Without Borders, an organization based in North Carolina that offers a studio for immersive storytelling. It will encompass the work and activities of The Virtual World Story Project. The mission and goals of Karuna will continue to be pursued by this new corporate entity. Stories Without Borders also will be speaking with major HIV/AIDS groups about potential collaborative efforts and partnerships.
- May 5, 2010: Robin Ashford (Robin Mochi) will make a presentation titled "How Doctors, Nurses, Allied Health Professionals and Patients Use Second Life" at the 13th Annual ICSI/IHI Colloquium (Institute for Clinical Systems Improvement) On Health Care Transformation in St. Paul, MN (http://www.icsi.org/calendar/calendar_special_events/2010_colloquium.html).

- Additional funding for Karuna will be sought from CFAR, the Centers for AIDS Research (<http://www.niaid.nih.gov/labsandresources/resources/cfar/Pages/default.aspx>), a program of NIH.
- The Karuna Team will continue to communicate and work with various organizations, governmental agencies, and in-world groups, such as AIDS.gov and NIH.
- The Karuna Project Team also would like to start a lecture series on Karuna Island.
- There are plans to build an interactive 3D AIDS quilt across an entire 16-acre island.
- One goal moving forward is to build up the community of active volunteers who bring their individual talents to the multifarious task of developing Karuna. Some are builders, while others are healthcare professionals, while others are writers and artists. One lesson learned and implemented during the transition period from Carol Perryman (Carolina Keats) to Jena Ball (Jenaia Morane) as Karuna Project Coordinator is that one person cannot do it all.
- Some systems developments regarding Second Life also will have an impact on future developments and directions for Karuna. For example, while the new Second Life viewer, released in March 2010, contains more and better media applications, it does seem to hamper the efforts by builders who want to design and create more creative immersive learning experiences in Second Life.

Conclusion

The Karuna Project has contributed significantly to understanding and bridging the gap between Second Life and other virtual worlds on one hand and all the real-world efforts and initiatives to educate about, de-stigmatize, and personalize the AIDS/HIV pandemic

The membrane or cell wall between the real-world and virtual worlds is becoming more porous. More and more media applications are being incorporated into the Second Life experience. What happens in Second Life and what happens in the real world will become more seamless integrated – via the lived experiences of individuals.

It is one thing to create a creative, informative, attractive build, and another to create and sustain a vibrant community in a virtual world. The Karuna team did both.

The Karuna Island project in Second Life is an extremely important project that has various ramifications for how we conceptualize and pursue the future of health and wellness education, immersive learning experiences, professional roles and activities for librarians in virtual worlds, and much more.

Selected Additional Information Resources

- Karuna Project Website: <http://www.karunahiv.com>
- Jena Ball's (Jenaia Morane's) "Stories Without Borders" Ning Site: <http://storieswithoutborders.ning.com>
- YouTube Video About the Uncle D Story Quest: <http://www.youtube.com/watch?v=1-7ZzR6o9hk>
- Blog Post by Robin Ashford (Robin Mochi) about her Experiences as Karuna Consumer Health Librarian: <http://librarianbydesign.blogspot.com/2010/03/consumer-health-librarians-national.html>
- Blog Post by Dr. Kent Bottles about Karuna, the work of Robin Ashford (Robin Mochi), Second Life, Twitter, and Health Care Innovation: <http://icsihealthcareblog.wordpress.com/2010/03/29/kent-bottles-second-life-twitter-expanding-my-understanding-of-health-care-innovation/>
- Blog Post by Pathfinder Linden about World AIDS Day on Karuna, including an interview with Jena Ball (Jenaia Morane): <https://blogs.secondlife.com/community/learninginworld/blog/2009/11/30/world-aids-day-in-second-life--december-1st>
- Blog Post by Robin Ashford (Robin Mochi) about her efforts to coordinate a display for World AIDS Day 2009 based on the AIDS.gov Facing AIDS Campaign: <http://librarianbydesign.blogspot.com/2009/11/karuna-resource-center-in-second-life.html>