CS 220 Spring 2008

First Deliverable 03/03/2008: Project Outline

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Contents:

Objective:

The goal of my project is to design a virtual vending system that sells intellectual property in the Internet-based virtual world known as *Second Life*, abbreviated as SL throughout this document. This virtual vending system will allow members of SL to sell game content created in SL. It will operate in such a way that it preserves the monetary value determined by the creator on the intellectual property being sold. It will simplify the distribution of net earnings to the retailers, content creators, and administrators of the vending network, as well as give content creators more control over their products. In addition, the system itself will have a commercial value within SL

Detailed Overview:

Second Life, abbreviated as SL throughout this document, is an online virtual environment developed and maintained by Linden Research, Inc. The members of SL access the servers hosting SL through a client-side program. Within this virtual world, members have the freedom to create, sell and buy virtual content. This virtual content includes: avatar shapes, which are three-dimensional graphical representations of the users; clothing for the avatar shapes, accessories for the avatars such as jewelry; 3-D rendered buildings, 3-D rendered furnishings for those buildings; vehicles; games; and more.

By default, when a user transfers ownership of virtual content to another user, the new owner is prohibited from modifying, copying, and transferring ownership of the content to another user. However, if the user also is the creator of the content, the creator can allow the next new owner either to modify, copy, and/or transfer the content.

This presents a problem for content creators who wish to transfer their creations to retailers in SL. In order for the retailer to be able to sell an item made by a content creator, the content creator must allow the retailer to transfer ownership of the item to the consumer. This forces the content creator to resupply the retailer with a copy of the item each time the retailer sells one.

To circumvent this upkeep, a content creator also must allow the retailer the ability to make copies of the item. Most retailers often use automated vending systems to sell these copies. An agreement usually is made between the creator and the retailer. This ensures that both parties receive a proportionate cut whenever an item is sold, and that retailer agrees not to freely lower the retail price or make copies of the item for personal use. However, such agreements are hard to enforce in a virtual setting such as SL.

SL only provides transaction histories to members that directly buy and sell within the SL marketplace. This is history is accessed through SL's main web site after members have entered in their correct user name and password. Therefore, retailers must voluntarily divulge their transaction history to the content creators if the content creators wish to confirm that the retailers are abiding by any sales agreements.

The vending system I propose to develop will allow content creators full control over the retail price of their virtual items. Content creators will be able distribute these vending machines to the affiliated retailers. While ownership of the vending machines belongs to the retailers, only the content creators will be able to configure how these vending machines will operate. These vending machines will serve only as a front-end to the retailer's consumers. It will not be required that the retailer own a copy of the content created by the content creator.

Within my proposed vending system, each creator also will own and operate an inventory system in SL. When the retailer makes a sale, a copy of the item is made from this inventory system and delivered directly to the buyer inside of SL, bypassing the retailer. The content creator directly controls the prices and profit splits for the retailer. The administrator of the vending network also takes a small percentage of the retail price.

In this project, I will act as the administrator of the vending network. For my application to function, I will use a web server that supports HTTP requests, Active Server Pages, and Microsoft Access databases. I will use VBscript to write all of my Active Server Pages, along with SQL-formatted strings to retrieve and store data to the databases. This web server will serve as a back-end to the transactions that are made within SL.

SL has its own event-driven scripting language, which content creators use to make their creations perform certain tasks inside the virtual world. This scripting language is known as LSL. I will use this language to code my front-end vending machines to communicate with the web server back-end via HTTP requests, dynamically generated E-mail, and/or XML-RPC requests.

For the entire lifetime of the project, the software process model I plan to adopt is the waterfall model. However, each individual task that deals with the vendor front-end will either go through some form of evolutionary development or throw-away prototyping. The tasks which deal with the web server back-end will adhere to an iterative process model.

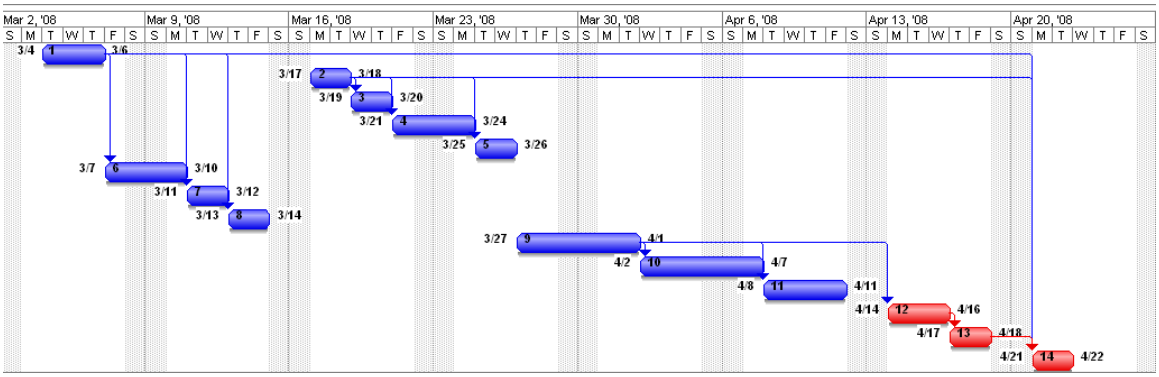
A more detailed description of the project tasks and project design will be outlined in the Software Requirements Specification Documentation. This will be delivered on March 31, 2008.

Task Dependencies and Durations:

The table below lists the predicted tasks that are required to complete this project. The tasks below deal with the development of the data store, virtual user interfaces, and request-handling back-end.

ID	Task Name	Duration	Start	Finish	Predecessors
1	HTTP request handling back-end	3 days	Tue 3/4/08	Thu 3/6/08	
2	DB construction	2 days	Mon 3/17/08	Tue 3/18/08	
3	Vendor-add-to-DB functionality	2 days	Wed 3/19/08	Thu 3/20/08	2
4	Warehouse-add-to-DB functionality	2 days	Fri 3/21/08	Mon 3/24/08	2
5	Item-add-to-DB functionality	2 days	Tue 3/25/08	Wed 3/26/08	2
6	2ndLife HTTP request sender	2 days	Fri 3/7/08	Mon 3/10/08	1
7	2ndLife HTTP request poller	2 days	Tue 3/11/08	Wed 3/12/08	1
8	HTTP POP3 E-mail to 2ndLife	2 days	Thu 3/13/08	Fri 3/14/08	1
9	2ndLife vendor user interface	4 days	Thu 3/27/08	Tue 4/1/08	
10	2ndLife update-vendor attachment	4 days	Wed 4/2/08	Mon 4/7/08	9
11	2ndLife holograph projection front-end	4 days	Tue 4/8/08	Fri 4/11/08	9
12	2ndLife scroll-through items function	3 days	Mon 4/14/08	Wed 4/16/08	9
13	2ndLife distribute money function	2 days	Thu 4/17/08	Fri 4/18/08	12
14	2ndLife item delivery function	2 days	Mon 4/21/08	Tue 4/22/08	1,2,13

Gantt Chart:



Activity Network: