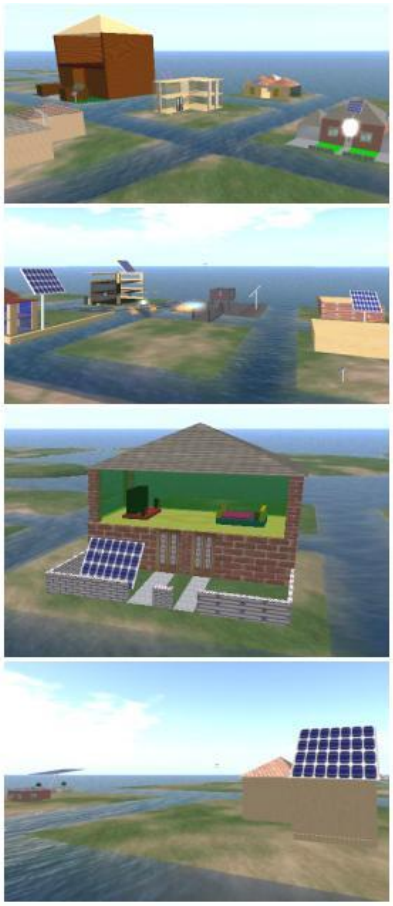
Virtual World Solar Cell Project 2010

My project for the virtual world this year took place in OpenSim and has been based around an assignment for my BTEC National students in Software Development. Each of the students can if they wish select a build from the four shown here, which they will have to power from an array of solar voltaic cells. Each building will be assigned a combination of energy requirements such as lights and appliances. While the initial exercise for this has already been written in Java, I have found from previous years that the conversion to Linden Script given their exposure to structured C also, presents no great difficulty beyond the idea of working in a state driven environment.



I feel the advantage of being able to make use of a dynamic virtual world environment such as OpenSim, allow students to experience their applications running more as a simulation rather than static desktop application, for instance:

•Make use of sun angle in relation to power output
•For sun angles below the horizon then power output will drop to zero
•Factor in virtual world cloud cover
•The impact on the size of an array to a property, they may not all fit onto the roof
•Use excess day power for night storage

On the following pages I have included the results of feedback from the 16 students who took part in the project.

The questions I used here represent a subset of those contained in an original student survey produced by Tanya Joosten, Learning Technology Center, Department of Communication, University of Wisconsin-Milwaukee.

If you have any comments or feedback on the data I would be pleased to hear from you barrys@bromley.ac.uk

OpenSim BTEC National Diploma Solar Cell Project 2010 Student Feedback						
Barry Spencer (Vega Starlight) Open Simulator Solar Cell project April 2010		1 Never	2 Rarely	3 Sometimes	4 Often	5 Frequently
1	How often do you use a computer at home for the project?	2	2	6	6	
2	Using OpenSim helped me think more deeply about course material.		7	3	6	
3	There was little opportunity for me to communicate with my classmates in OpenSim.	4	7	4		1
4	Using OpenSim was fun and exciting.		1	2	8	5
5	OpenSim was beneficial to my learning.		1	7	4	4
6	I sometimes had difficulty using OpenSim.	2	8	6		
7	The goals in OpenSim were clearly defined.		3	1	7	5
8	I liked using OpenSim as part of my course.			2	4	10
9	I could only to communicate basic messages in OpenSim.	4	2	4	4	2
10	I was able to form distinct individual impressions of others in OpenSim.	3	3	5	4	1
11	I was able to convey multiple types of information (verbal and nonverbal) in OpenSim.	4	4	3	4	1
12	I received support materials prior to starting my OpenSim activity.	2	3	5	3	3
13	I couldn't understand what other people were trying to communicate to me in OpenSim.	10	4	1	1	
14	I had adequate support in completing my activity in OpenSim.	1	4	3	6	2
15	I was not able to develop a closeness with others in OpenSim	5	3	4	3	1
16	The learning activities in OpenSim required me to think critically in OpenSim.		1	9	6	
17	The learning experiences were active and collaborative in OpenSim.	2	1	3	9	1
18	OpenSim was a waste of time.	12		4		
19	I would avoid classes using OpenSim in the future.	11	2	2		1
20	I felt as if I was communicating with a real person in OpenSim.	6	3	3	2	2
21	OpenSim had little impact on my learning.	4	4	5	1	2
22	I was able to develop a closeness with others in OpenSim.	6	4	6		

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23	I had immediate responses to my comments and questions in OpenSim.	1	4	5	4	2
24	I was not able to better understand course concepts by using OpenSim.	10	1	4	1	
25	OpenSim activities required little thought.	5	4	4	3	
26	was comfortable interacting with other participants in OpenSim.			3	6	7
27	It was difficult to access OpenSim.	6	2	6	1	1
28	OpenSim did not make it easier for me to understand the course material.	9	2	4	1	
29	I was able to be expressive in OpenSim.	1	1	5	7	2
30	It was difficult to get my point across when communicating in OpenSim.	5	5	6		
31	OpenSim did not help my learning in the class.	6	4	3	2	1
32	It was difficult to receive feedback from others in OpenSim.	3	4	5	3	1
33	I was absorbed in the experience in OpenSim.		2	4	7	3
34	I was able to use rich and varied language in OpenSim.	5	1	5	4	1
35	I was unable to express myself in OpenSim.	8	2	3	2	1
36	OpenSim helped me understand the course material.	0	1	5	3	7
37	I did not feel connected to others in OpenSim.	4	6	5	1	
38	I was engaged in the learning experience in OpenSim.	1	2	3	5	5
39	I was not able to form impressions of others in OpenSim.	4	2	6	3	1
40	I would recommend that the instructor continue using OpenSim.	1		3	4	8
41	OpenSim was an enriching experience.	1	1	2	5	7
42	I was able to transmit varied symbols (e.g., words, gestures, images) in OpenSim.		2	3	6	5
43	I was willing to put in the effort needed to complete the learning activities in OpenSim.		2		7	7
44	OpenSim held my attention.			4	6	6
45	OpenSim did not help me to understand concepts better.	10	5	1		
46	I didn't feel like I was communicating with a real person in OpenSim.	4	5	2	3	2

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47	OpenSim aroused my imagination.	3	2	2	7	2
48	OpenSim activities were not challenging.	3	7	5	1	
49	OpenSim allowed me to better understand concepts.	1		8	4	3
50	Participating in OpenSim was a useful experience.			2	8	6
51	I understood all components of the activity in OpenSim.	2	1	3	6	4
52	OpenSim was boring.	10	2		3	1
53	I was not engaged in the learning activities in OpenSim.	8	1	4	2	1
54	I was able to communicate sufficiently with others in OpenSim.		1	5	5	5
55	The chat tool in OpenSim was useful to my learning.	1	1	3	5	6
56	The learning activity encouraged contact between myself and my classmates in OpenSim.	1	1	2	7	5
57	I would take another course that used OpenSim.	1	1	3	7	4
58	My classmates and I cooperated in completing assignments in OpenSim.		2	2	8	4
59	Getting into OpenSim was easy.	4		6	2	4
60	Technical support was available when I needed it in OpenSim.	4	1	8	3	
61	I developed personal relationships with my classmates in OpenSim.	5	6	4	1	
62	I had little problem using OpenSim.	4	5	6	1	
63	The activity offered opportunities for interaction and communication in OpenSim.	1		6	9	
64	I understood what was expected of me in OpenSim.	1		6	5	4
65	I would not recommend using OpenSim to a friend	7	4	2	2	1