Presentation (part 1): Experimenting with lighting in an online immersive 3D environment

Presenter: *3D computer modelling is currently at a state where accurate representation of built environments is possible (for example, lighting, materials, shadows, and reflections). However, the more accurate the simulation, the longer the time needed to render the scene. Thus, high quality renderings tend to be still images, or animated movies generated over a period of time. The options for dynamic computer simulation of built environments are still limited.*

3D immersive virtual worlds, such as Second Life, provide an opportunity for designers to experiment with lighting techniques in an interactive, collaborative manner generally not possible with typical 3D modelling systems.
There are a number of issues to consider when using a virtual world such as Second Life for lighting design.

There is a trade-off between the ability to dynamically modify lighting parameters and the quality of the rendering. The quality will not be as great as with typical 3D modelling software. One reason for this is that rendering in virtual worlds tends to be simpler than 3D modelling software, as virtual worlds are internet-based, and the objects to be rendered are downloaded across the internet, rather than read directly from your local computer drive. The ability to dynamically alter the lighting parameters also restricts the rendering options and complexity.

To utilise advanced lighting options, you need a computer with fairly good graphics rendering capabilities. This means a good graphics card with updated drivers. It's a good idea to check the computer specifications for running Second Life, which can be found on their website. The best way to test this is of course to install the software and run some experiments. There are a large number of options for adjusting graphics parameters to produce better running performance, with advice given in Second Life online forums.

The difference between basic and advanced lighting settings controls not only the types of lights you can create, but also how a scene is rendered. This has an impact on both the lighting designer and other users in the same virtual scene.

The slide here shows a scene rendered in two ways. The one on the left is with very basic rendering settings, useful if speed of rendering is important or if you don't have a powerful graphics card. The one on the right is rendered with advanced settings. You can now see shadows and the sky rendered more realistically.