

Second Life as a front-end to next-generation application servers

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1. History

— [Let's start with the World-Wide Web and how it developed to become ubiquitous:

— [**1993: Static content.** You had a browser, a web server, static web pages. WWW was about typing those pages manually, transferring them to the server, have everybody watch them with a common format: HTML.

— [**Starting 1995: Dynamic content.** Web pages start to retrieve data and information from other servers: phone books, academic writings stored on databases, scientific data that changes dynamically. Or integrating into existing systems like USENET which get viewed through this new media, “a browser”. The browser is now graphical, allows user input, and is able to render images and use plug-ins.

1. History (cont'ed)

— [1997/8 or thereabouts: **Server-side Applications**. The whole Web starts to switch to the client-server paradigm. On the servers, applications are deployed with all sorts of frameworks, tied into databases. E-commerce. E-learning. Interfacing to governmental databases and services.

— [2000-present: **Web browser as the “universal” client**. Hardly any other paradigm is deployed. Browsers get incredibly good at displaying all sorts of content. Server-side, all applications grow in complexity and replace absolutely every other technology that allows multiple people to access databases with content, information, data, and for e-commerce. The Internet fills all niches in terms of electronic communications; no other computer-related technology has ever come so far in interconnecting people, businesses, or in distributing information.

2. What is the WWW, anyway?

— [2D environment

— [We drag boxes and rectangles around a screen and call it “work”

— [Abstract paradigm, we have to learn and understand things like “clicking the mouse”, what an URL is and why it is so important to type it down *perfectly*

— [Half of the time we spend fighting virus, adware, spyware, malware....

— [Every website has its own design, its own way to use it: no consistency across application usage (beyond the common concept of stateless communication)

3. The 3D WWW

A new paradigm with an old look & feel

— [2002 - SL introduced. Content is static, but can be created collaboratively. Access to content is programmable.

— [2004 - Email allows objects to communicate to external servers. XML-RPC provides a way to feed data into SL. First Web-based applications appear.

— [2005 - e-Commerce for SL. Search engines for SL. Personal ads. Newspapers. Mapping engines. Voting booths. All sorts of external server-based applications get interfaced to SL; they resemble mostly Internet-based ones: sort of a *déjà vu* of the Internet in 1995, when all applications started to “migrate” to the WWW paradigm.

3. The 3D WWW (cont'ed)

— [2006? - HTML in-world; Jabber integrated into SL; better XML-RPC and inter-object communications (also faster). SL becomes a 3D browser, a front-end to applications. It ties in into existing applications and potentiates completely new ones. LSL is the “Javascript of the virtual world”; Mono will be the “Java of the virtual world”. Complex backend servers will provide the number-crunching ability, complementing the lack of computing power available to SL-based scripts.

3. The 3D WWW (cont'ed)

— [2010-2015 - Most applications (shopping, business, social interaction) will have two front-ends: one 2D, one 3D. Access to those will be different, but the data will be the same; similar to the double-designed WAP/HTML access to applications around 2000. "3D Web" will be an acronym synonymous with Internet. New job specialization: "3D Web designer".

— [Beyond 2020: the 3D paradigm replaces the 2D browser-based paradigm, as cellular phones, with Bluetooth goggles, are able to run SL with photorealistic imaging at 30 fps :-)

4. What is a 3D Web, anyway?

— [**Abstract paradigms get replaced by human-centric ones:** instead of pointing and clicking, visual objects are grabbed, moved, touched, similar to what we experience in RL.

— [**Shallower learning curve:** Better search engines will get your data quickly, and you won't need to remember complex URLs or the way to use a certain interface: a box looks like a box, a button is pressed like a button, a virtual shop that displays things to sell looks like a real shop, and online technical support is done through avatar interaction.

4. What is a 3D Web? (cont'ed)

— [**Consistency:** while each shop might sell different things, they will look and feel the same (just like RL shops). An image is worth a thousand words; a 3D image is worth a million! Design can be simplified, while the “complexity” is safely stored away on the backend servers.

— [**Universal:** As soon as there is a “common standard” for protocols and APIs for interconnecting SL with application servers, Linden Lab may well lead the next revolution on the desktop. Future virtual worlds will be “SL-compatible”, like nowadays Web sites are “HTML compatible”, “Flash-compatible”, “JavaScript-compatible” or “ActiveX-compatible”.