

CYBERBLITZ



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NATIVE XML DATABASES

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We all know that XML is a general-purpose specification for creating custom markup languages. It's purpose is to aid information systems in sharing structured data, especially via the internet, to encode documents, and to serialize data. But relational databases do not really fit for XML documents. We can shred an XML document enough to stuff it into a relational table. But this will not lead to indexing and fast queries. This process will also lead to the loss of details like element order, processing instructions, comments, white space, and other elements that are important in many applications in which XML documents don't look exactly like serialized tables in the first place. A native XML database is one that treats XML documents and elements as the fundamental structures rather than tables, records, and fields. Such a database enables developers to use tools and languages that more naturally fit the structure of the documents they're working with, thereby enhancing productivity. Some potential application areas include corporate information portals, medical information storage, document management systems, B2B transaction logs and personalization databases.

NXDs store XML documents as a unit and will create a model that is closely aligned with XML or one of XML's related technologies like the Infoset or DOM. Similar to the relational concept of a table, NXDs manage collections of documents, allowing to query and manipulate those documents as a set. NXDs diverge from the table concept in that not all native XML databases require a schema to be associated with a collection. Having schema-independent document collections gives the database a lot of flexibility and makes application development easier.

To improve the performance of queries, NXDs support the creation of indices on the data stored in collections. These indices can be used to improve the speed of query execution dramatically. Updates are a real area of weakness for NXDs. To update, we have to retrieve a document, change it using an XML API, and then return it to the database. A few products have proprietary update languages that allow us to perform updates within the server, and a couple of Open Source NXDs support XML: DB XUpdate for the same purpose.

Concluding, NXDs excel at storing document-oriented data. But, they're definitely not intended to replace existing database systems. They're simply another tool for the XML developers' tool chest, and when applied in the right circumstances they can yield significant benefits. If you have lots of XML data to store, then an NXD is worth a look, and might just prove to be the right tool for the job.

PEER TO PEER CONFERENCING



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PEER TO PEER CONFERENCING is an intranet communication system. It aims at conducting a conference between two or more participants at different systems by using intranet to transmit audio and other data. This conferencing offers advantages over traditional room-based communications because applications such as file transfer, voice conferencing, message transfer and application sharing are easily supported over the network stream.

FEATURES OF PEER TO PEER CONFERENCING

Point-to-point communication

An authorized user can communicate with another authorized user in the group.

Broadcasting

The authorized users can communicate with all the other users who are currently logged into the set up.

Text messaging

Within the group users can send or receive text messages.

File transfer

The logged in users can transfer files of any format (audio, video, document and so on).

Voice conferencing

It can transfer speech and sound over the network.

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CAREFUL WHAT YOU SEARCH FOR!!!!

Internet search engines know a lot about their users - maybe too much. Do we really care?



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Google recently released its annual rundown of popular searches for 2008 - what they call the "zeitgeist" list - and it's a reminder, once again, of how much we reveal about ourselves every time we type into a search bar.

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We're interested in Obama, but we're also extremely fond of posing questions to Google like, "what is love?" and "what is life?" (also popular in the "what is" category: "java" and "scientology").

Search engines have become modern society's version of an oracle - the place to ask all your questions, and after some churning of algorithms, something akin to an answer pops out. Alone with just your computer screen, these searches can feel very private. But Google & Co. gather a lot of information about you as you surf, including the date and time for your search, your search terms, and your IP address, which can help identify your computer and, more important as far as advertisers are concerned, your location. (An IP address, as you'll recall, is made up of 4 sets of numbers, ranging from 0-255, separated by periods. Each number is called an "octet." For example, 22.231.113.67.)

Companies like Google and Microsoft know it's in their best interests to guard user information very closely. But that information is also key to their business models: they need user data to improve their search engine formulas and, to attract advertisers, match a marketing pitch to an individual's interests.

Protecting your identity - is it enough?

Still, the practice of gathering and keeping user information has long been controversial. Critics say it violates users' privacy. The search engines argue that user data is crucial to their ability to innovate and stay competitive.

At that time, the companies say they delete or disguise any information that could be tied to a specific individual, including IP addresses, in case the information is accidentally leaked or is stolen. They keep other information like your search terms and the time you conducted a search.

Many of the college students are probably avid members of a social network, where they happily divulge their favorite movies, what they did over the weekend, and their relationship status. Marketers, in fact, point out this free flow of information in arguing that people actually want to see advertising tailored specifically for them. So does privacy really matter? It should.

Consider AOL. In 2006, the Web portal accidentally released details of up to 20 million Web searches by some 650,000 of its users. Names weren't attached to the searches, but they were disturbing in their level of intimacy.

It's not just personal embarrassment that's at stake, argue privacy advocates. Here's an idea for how to raise consumer awareness: If everyone looked at their histories, we might realize just how much information we're handing over and entrusting to others. Google offers just such a feature, called "web history," and AOL Search has a link on its homepage where users can view their search history from the past 30 days. (Yahoo and Microsoft do not offer this kind of feature.) For many people, looking at past searches would be like opening up a personal diary.

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GRID COMPUTING

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The term Grid computing originated in the early 1990s as a method to make computer power as easy to access as an electric power grid in Ian Foster and Carl Kesselman's seminal work, "The Grid: Blueprint for a new computing infrastructure". The ideas of the grid were brought together by Ian Foster, Carl Kesselman and Steve Tuecke, widely regarded as the "fathers of the grid". During 2007, the term cloud computing came into being, which is conceptually similar to the canonical Foster definition of grid computing. Grid computing is a form of distributed computing whereby a super and virtual computer is composed of a cluster of networked, loosely-coupled computers, acting in concert to perform very large tasks. The distinguishing feature between grid computing and typical cluster computing systems is that grids tend to be more loosely coupled, heterogeneous, and geographically dispersed.

The primary advantage of distributed computing is that each node can be purchased as commodity hardware, which when combined can produce similar computing resources to a multiprocessor supercomputer, but at lower cost. The high-end scalability of geographically dispersed grids is generally favorable due to the low need for connectivity between nodes relative to the capacity of the public Internet. If a problem can be adequately parallelized, a thin layer of grid infrastructure can allow conventional, standalone programs to run on multiple machines. This makes it possible to write and debug on a single conventional machine, and eliminates complications due to multiple instances of the same program running in the same shared memory and storage space at the same time. Grids offer a way of using the information technology resources optimally inside an organization. It is presently being applied in a wide variety of fields successfully. Of these, the most important is the use of grid computing to make use of cosmic data in the much happening collider project which is currently going on.

The World's biggest physics experiment, the Large Hadron particle Collider (LHC), produces so much data that even the massive computing power at the European organization for Nuclear Research cannot sift through. So the Geneva-based lab CERN is sharing that burden among a dozens of computing centers around the world. The result is the LHC Grid, a network of more than 60,000 computers that will analyze what happens when protons are hurled at each other inside the collider. Distributed computing is being used notably in SETI (Search for Extra Terrestrial Intelligence) home project that lets people contribute their PC's spare time to the search for extra terrestrial life.

But the vast scale of the CERN effort is closely watched by scientists who expect grid computing to become even more widely used for research ranging from new drugs to more effective nuclear power.

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Spore is a multi-genre "massively single-player online game" developed by Maxis and designed by Will Wright the creator the famous "Sims" games. With computer games evolving exponentially in terms of graphic quality, realism based gameplay, advanced AI very little surprises hardcore game enthusiasts nowadays. But this latest creation dubbed initially as "Sim Everything" has taken the world by storm. Essentially it allows a player to control the evolution of a species from its beginnings as a unicellular organism, through development as an intelligent and social creature, to interstellar exploration as a space faring culture. It has drawn wide attention for its massive scope, and its use of open-ended gameplay and procedural generation.

The Beginning

Spore begins with a comet crashing to a planet's surface, seeding it with bacteria that evolve to become tiny cellular organisms, and you are one of them. This is an old fashioned, top-down arcade game, but one with bright, eye-catching graphics. You swim about the primordial oceans, eating as a carnivore, herbivore, or omnivore. Eating gives you DNA points that you can use to evolve your creature in the cell editor. The player may choose whether the creature is a herbivore or a carnivore prior to starting the phase. Once the microbe has eaten several cells, the player can enter an editor in which they can modify the appearance, shape, and abilities of the microbe by spending "DNA points". A player may choose to remove a part, which will refund the full price. If the creature dies, the player restarts from wherever it died. The player must also seek out special "golden shields" from meteor fragments and other organisms that provide new parts to use in the editor, such as spikes, mouths or limbs. Water jets let you squirt faster through the water, fins let you maneuver better, spikes give you armor against predators, and so on. As you eat and evolve, your creature becomes larger and larger until you finally fill up the evolution meter at the bottom of the screen, meaning that you're ready to sprout legs and move on to the next stage of Spore.

The creature phase is similar to the cell phase, but with several important differences. Principally, the environment is now truly 3D. Other creatures will inhabit the world, and most of them will have been created by other players. Creatures will automatically be introduced into the environment to maintain a balanced ecosystem. If the player creates a bigger, tougher creature, the predators that are downloaded will likewise be stronger than average.

In this stage, the basic goal is the same: earn DNA points, reproduce, and avoid being eaten by predators.

Another difference introduced is the social aspect which provides means by which a player can earn DNA points. Socialization is the nonviolent alternative to consuming creatures for DNA, as befriending other creatures earns DNA points, allows access to their nests for resting, and makes them allying against attack more likely.

After the player's species evolves its brain far enough, it enters the tribal phase. Physical development ceases, as does the player's exclusive control over an individual creature, as the game focuses on the birth of division of labor for the species. The player is given a hut, a group of fully evolved creatures, a mini-map of the world for the first time, as well as two of six possible "super powers".

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The Tribal Stage plays out like a real-time strategy game, albeit a basic one. There's only one resource that your tribe members gather (food), and that's used to support a larger population as well as construct buildings that offer various upgrades. Like in Creature Stage, there are only two options: be nice with neighboring tribes and ally with them or crush them. To be nice, you have to serenade them; this time by playing one of four instruments when the tribal members request it. The war route means outfitting your tribe with weapons like stone axes that let you take down the opposition easier. Each tribe you eliminate adds a totem head to the totem poll; once there are five heads on the poll, you've done enough to advance to Civilization Stage

Next is Civilization Stage, which feels a bit like a scaled-up version of the Tribal Stage. This time you're struggling for domination of an entire planet, and the key is to capture cities through force, conversion, or buying them. Instead of military conquest, players with a Religious trait construct special missionary units that convert other cities via propaganda. Likewise, Economic players communicate solely by trade and have no weapons. Players also have access to superweapons, each of which have devastating effects on other rival civilizations.

The space phase provides new goals and paths to follow as the player begins to spread through the galaxy.

You can start flying around the galaxy, visiting an enormous number of stars and planets, some of which are barren but others supporting life in different stages. You can establish colonies on other worlds, extending the size of your empire.

You can terraform planets to support life, or mold them like a giant piece of clay. You can get missions to pursue from neighboring empires. You can get into space battles, or you can crush a primitive species. You can abduct creatures from one planet and transplant them to another.

Spore also pushes the idea of user-generated content to incredible new heights; this is a game where users will make the vast majority of things that you encounter, and this creation and sharing is done seamlessly.

When you encounter another creature, vehicle, or building in spore, click on it and it's added to the built-in Sporepedia catalog. The Sporepedia is an incredible resource, since it keeps track of not only the content that you encounter in your current game, but it lets you access an entire universe of content created by Maxis and Spore players from around the world. Just witness the wild success of the Spore Creature Creator, one of the editors in the game that was released separately earlier this year. By molding and flexing the many different parts, users from around the world created more than three million creatures with an astonishing amount of variety. And it's very impressive how well it works. No matter how bizarre the creature, you still get a sense of emotions from them, from sad, to happy, to scared, to angry. They animate properly, and they move like you imagine they should. It's just an incredible technical accomplishment.

To play Spore to it's full potential you will need to put some creative energy into Spore, but if you aren't the artistic type or don't find the building- and vehicle-creation tools as interesting as those for your creature, you can use premade designs that ship with the game. Even better, you can utilize Spore's extensive community tools, inserting other players' innovations into your own game in progress



The game is referred to as a "massively single-player online game" and "asynchronous sharing." Simultaneous multiplayer gaming is not a feature of Spore. The content that the player can create is uploaded automatically to a central database (or a peer-to-peer system), cataloged and rated for quality (based on how many users have downloaded the object or creature in question), and then re-distributed to populate other players' games. The data transmitted will be very small — only a couple of kilobytes per item transmitted. This was due to procedural generation of material.

Spore uses procedural generation extensively in relation to content pre-made by the developers. Wright mentioned in an interview given at E3 2006 that the information necessary to generate an entire creature would be only a couple of kilobytes, and went on to give the following analogy: "think of it as sharing the DNA template of a creature while the game, like a womb, builds the 'phenotypes' of the animal, which represent a few megabytes of texturing, animation, etc."

These small data packs for specific creatures are intended to be uploaded and downloaded freely and quickly from the Sporepedia online server. This allows users to asynchronously upload their creations and download other players' content, which enriches the experience of the game as more of its players progress in the game.

Via the in-game "MySpore Page", players receive statistics of how their creatures are faring in other players' games, which has been referred to as the "alternate realities of the Spore metaverse." The game reports to the player on how other players interacted with them (for example, how many times other players extincted their species). The personalities of user-created species are dependent on how the user played them.

Spore's user community functionality includes a feature that is part of an agreement with YouTube granting players the ability to upload directly from within the game a YouTube video of their creatures' activity, and EA's creation of "The Spore YouTube Channel", which will showcase the most popular videos created this way. In addition, some user-created content will be highlighted by Maxis at the official Spore site, and earn badges of recognition for their work. One of Spore's most social features is the Sporecast, an RSS feed that players can use to subscribe to the creations of any specific Spore player, allowing them to track their creations.

To conclude Spore is a perfect example of the changing face of Gaming. Games has evolved from simple 2-D playthings for kids to an impressive outlet for creativity, social interaction and networking. One can expect greater and greater things from the world of Gaming.

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