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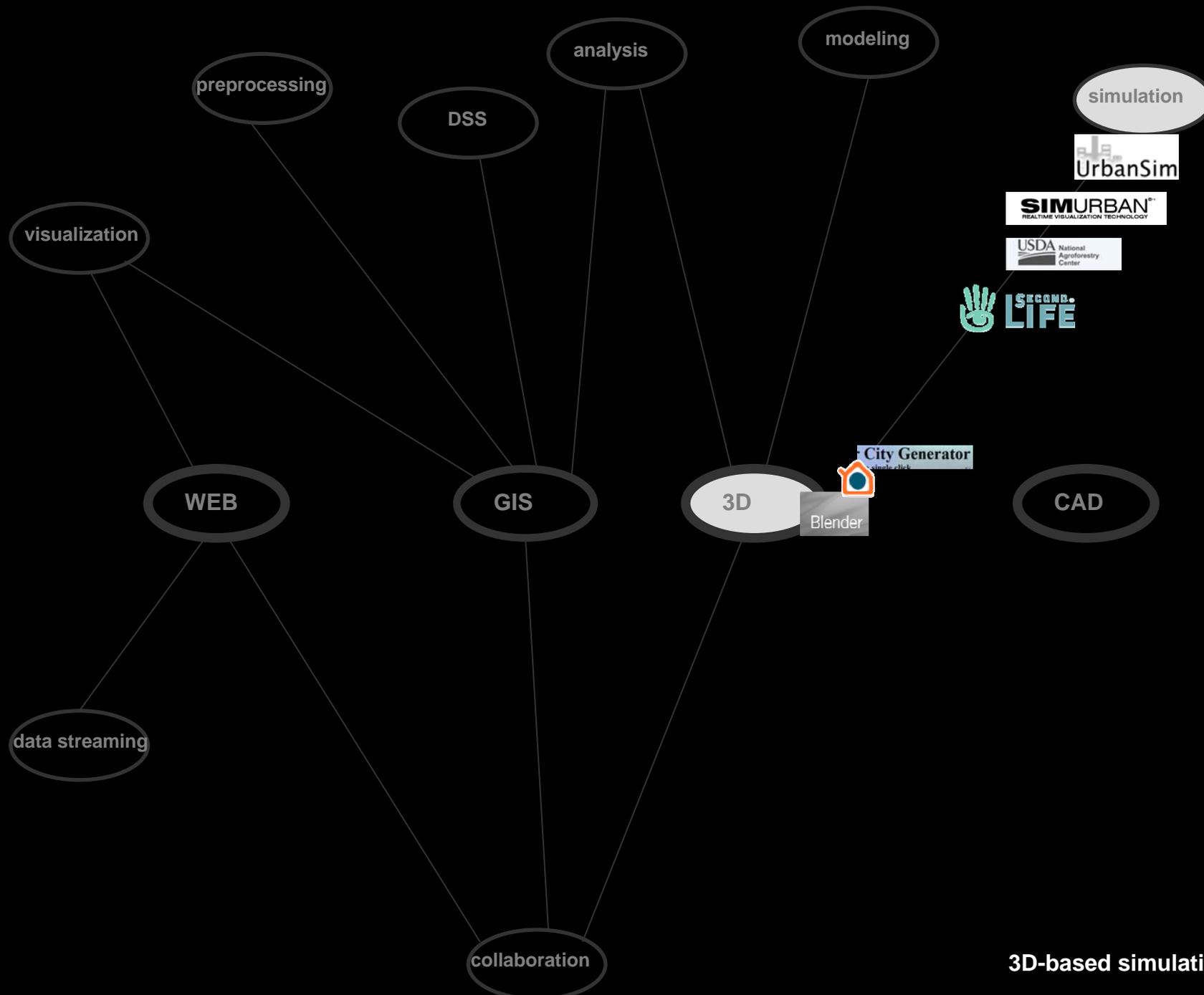
3D-based simulation

UrbanSim

UrbanSim is offered by the Center for Urban Simulation and Policy Analysis at the University of Washington for free. Associated costs may include the technology to use UrbanSim if not already owned.

UrbanSim is a **software-based simulation for urban areas, with tools for examining the interplay between land use, transportation, and policy**. It is intended for use by **Metropolitan Planning Organizations and others needing to interface existing travel models with new land use forecasting and analysis capabilities.**

It is designed to interface to existing travel modeling procedures, including both current four-step as well as newer activity-based travel models. It is currently being extended to address environmental impacts of development by simulating land cover, water demand and nutrient emissions. The model uses input data including population and employment estimates, regional economic forecasts, transportation system plans, land use plans, and land use policies to consider the complicated interactions between individual households; businesses; developers; and governments. Outputs from UrbanSim include predicted residential and economic distributions, households, land uses by type, square footage of land use types, and prices of land. UrbanSim does not focus on scenario development, as most of these tools do, but rather on understanding the consequences of certain scenarios on urban communities.

UrbanSIm web page:

http://www.urbansim.org/Main/WebHome

3D-based simulation

CanVis

NAC has developed CanVis, a **free image editing program developed specifically for creating natural resource planning simulations.**

Visual simulation is a term used to describe a graphic or model that portrays a change from the existing condition. Simulations can range from drawings and digitally edited images to complex models and animations. The information presented here focuses on one type of visual simulation: the use of computer image editing techniques to illustrate proposed changes in the landscape.

In natural resource planning, being able to simulate a proposed change can be a powerful tool when working with landowners and other decision-makers. Computers now make it possible to create realistic-looking simulations using image editing software.

Image editing software digitally alters images to create visual simulations. Digital images of the planning area can be acquired by scanning photographs or taking pictures with a digital camera. The proposed design can then be "created" by adding objects, such as trees, shrubs, grass, and other materials, onto the image of the planning area.

Can Vis web page:

http://www.unl.edu/nac/simulation/index.htm

3D-based simulation

Second Life

Online virtual 3-D world, **Second Life allows users to create their own "sims" (virtual characters), explore the world, meet and interact with others, buy or rent land, objects and services, build, and even create businesses**. While Linden Labs created the second life world for recreational purposes, it has now been used for virtually every imaginable educational and civic purpose as well. Many college and universities assign students to participate in Second Life, where they can examine virtual sprawl patterns and practice planning techniques. Built into the software is a three-dimensional modeling tool based around simple geometric shapes that allows a resident to build virtual objects. Some non-profit organizations purchase and create their own regions within the game, which can be used as virtual gathering places for education and discussions.

In terms of community character planning, the potential of Second Life is mostly untapped. Activities and meetings have been created in Second Life for other planning purposes, and could easily be adapted. A community could purchase an "island" and rebuild itself from the ground up; citizens can log on and participate in virtual town meetings.

Second Life web page:

http://www.planningtoolexchange.org/tool/second-life

3D-based simulation

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Suicidator City Generator

Suicidator City Generator (SCG) is a Blender3D script. With it you can **automatically create entire, three-dimensional modern cities in a matter of seconds by adjusting various parameters**, such as city size and complexity, rather than creating each building, each street, and each texture manually. It runs only on Blender support.

City Generator web page:

3D-based simulation

Blended Cities

Blended Cities is an open-source city generator for Blender. It allows **to create quickly a large amount of streets and buildings, with various shapes**. Blended Cities fights against squared things : curved streets and odd or cylindrical buildings can be created simply, so you can create old towns, not only modern cities.

Blended Cities web page:

http://jerome.le.chat.free.fr/index.php/en/city-engine/

3D-based simulation