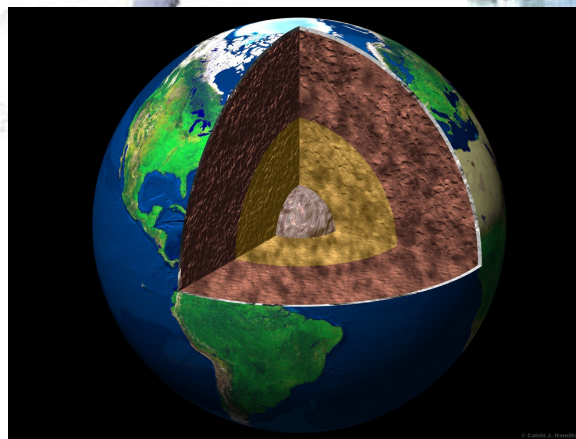




**LINUX**



# The Open 3D GIS Project – A Free Tool to Enable 3D Geographic Systems on the Web

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# Introduction

- The concept of a WebGIS (acronym for Web-based Geographical Information System) is nowadays very widespread;
- Free and Open Source Software (FOSS) related to geomatics and geosciences are still somehow scarce, but there has been a huge increase in the number of projects available nowadays;
- One of the most mature of them surely is MapServer;
- It intends to excel at rendering spatial data for the web;
- However, neither MapServer, nor the latest OpenGIS specifications define precisely how to deal with tri-dimensional data;



# Introduction

- As MapServer is already Open Source, a natural solution would be giving it 3D web features, developed as a plug-in, and also distributed as FOSS;
- Open 3D GIS intends to enable a geographic database (geodatabase) to be viewed in a 3D visualization on the web, using a web browser (such as Mozilla, Mozilla Firefox, Opera or Internet Explorer).

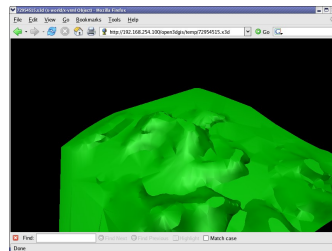
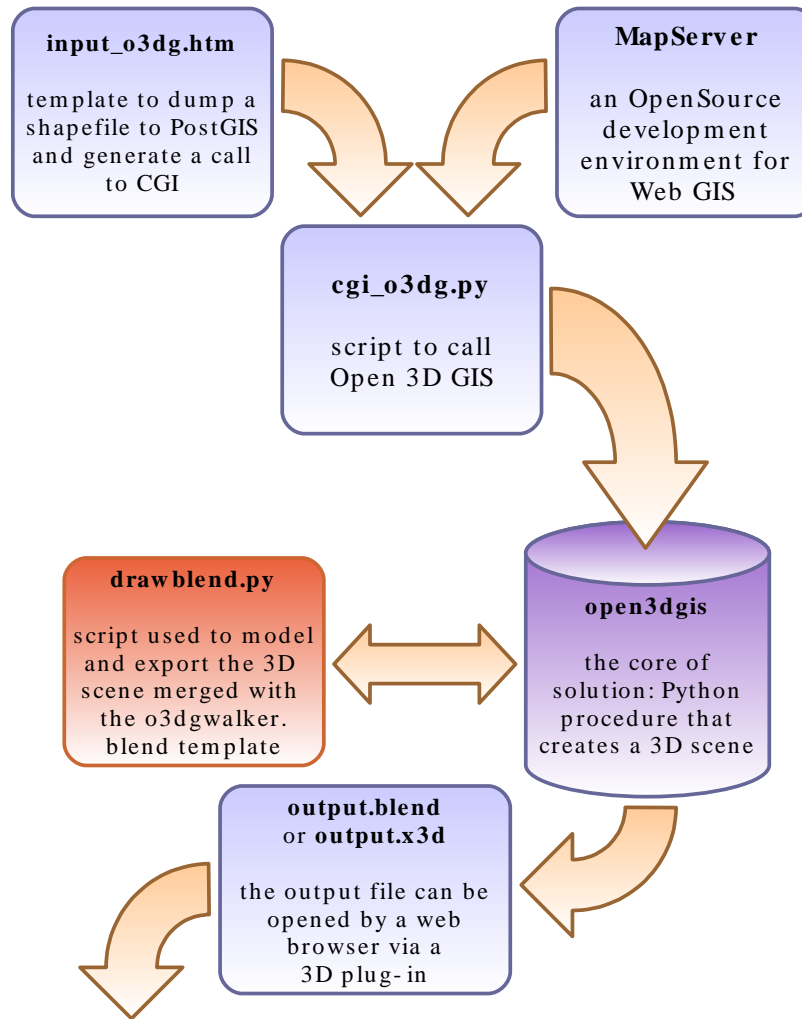


# Idea Behind O3G

- Basically, it consists of a series of scripts, written in Python, which extract spatial data obtained from several sources and loaded into a database (in this case, PostgreSQL with the module PostGIS);
- Two options:
- Export 3D features directly to this through the `cgi_o3dg.py` script loading them from an already opened MapServer rendering window using HTML query methods;
- Loading tridimensional meshes directly from PostgreSQL
- The modelling script uses Blender's Python API to generate a 3D scene from that tridimensional surface;
- The scene is stored as a “.blend” file by default, but another option is the generation of a X3D scene.



# Idea Behind O3G

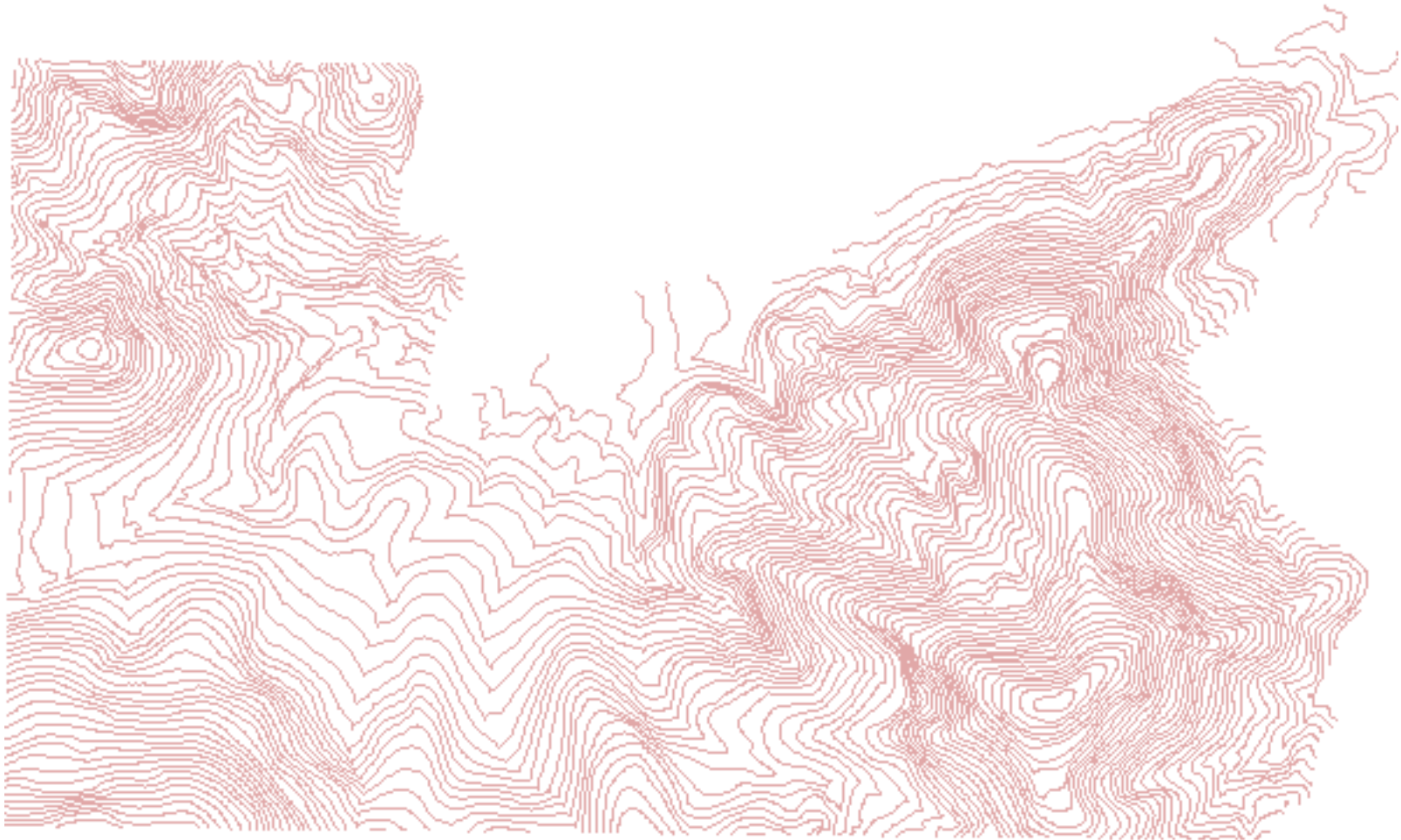


# Demonstration

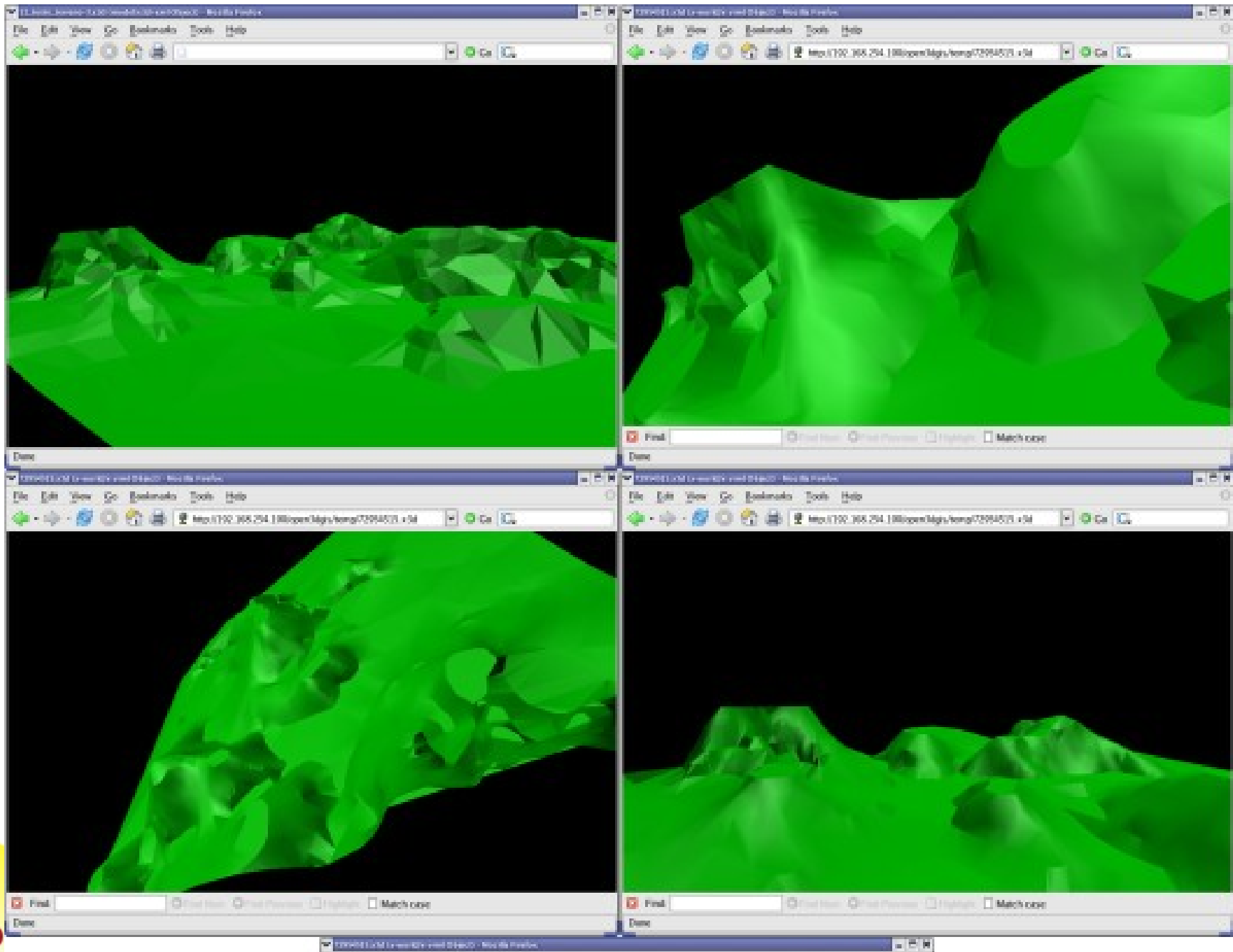
- In order to test how Open 3D GIS works, a random set of level curves (generated automatically by a script developed at OpenGEO) was loaded into MapServer (Figure 2). This experiment is widely accessible through the web address <http://www.opengeo.com.br/ms/o3dg/>;
- The user can select a subset of that area, that will be seen in a larger zoom, and, when ready, it is possible to generate the 3D rendering of the selected area;



# Demonstration



# Demonstration





**OpenGEO**

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