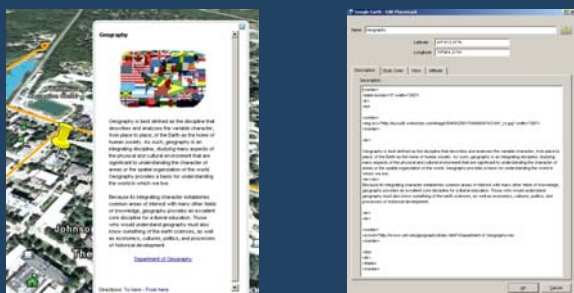


Energy and Campus Development: Google Earth Campus Map

Google Earth Map Creation

Figure 1: Adding Balloons to UNH Campus in Google Earth



Customized balloons for placemarks can be created for features in Google Earth using plain text and HTML code.

Figure 2: Exporting ArcGIS SHP files to Google Earth KML format

Name	Type	Name	Type
bus_stop.shp	Shapefile	woodsheds.kml	Google Earth KML file
gabbes.shp	Shapefile	gabbes.kml	Google Earth KML file
SQL.shp	Shapefile	SQL_Connector.kml	Google Earth KML file
SQL_request.shp	Shapefile	West Road.kml	Google Earth KML file
woodsheds.shp	Shapefile	West Edges.kml	Google Earth KML file
README.txt	Text File		



There are several ArcGIS extensions that convert SHP files to KML, which can then be viewed in Google Earth.

GIS Group

University of New Hampshire, Durham, NH

By Joe Guerra

Introduction

In the Fall of 2007, Joe Guerra continued his long-running internship for the University of New Hampshire (UNH) Energy and Campus Development Geographic Information Systems (ECD GIS) Group. During this semester Guerra undertook the Google Earth Campus Map Project. The goal was to create an informative map of the UNH campus that can be downloaded and viewed in Google Earth. The map features a plethora of geographic, spatial, and 3D modeled information. Guerra drew upon his skills of ArcGIS and gained proficiency in Google Earth and Google SketchUp. He received credit toward his Geography Major and graduated a semester early in December of 2007 to start a successful career in Portsmouth, New Hampshire as a GIS Technician.

Technologies

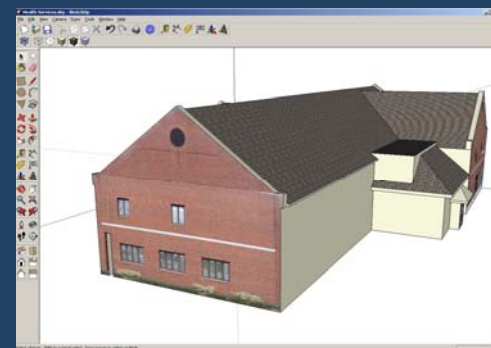
A new set of technologies were utilized for the Google Earth Campus Map Project. Google Earth is a virtual globe program that displays layers of geographic information, including: satellite imagery, aerial photography, street maps, boundaries, 3D models, and a variety of other data. Google SketchUp is a 3D modeling program that allows users to create a variety of models and place them directly into Google Earth. ArcGIS was also used to manage and export campus data into Google Earth. Guerra used a few different extensions and plugins to convert data between the ArcGIS SHP and Google Earth KML file formats.

Results

Guerra laid the foundation for the Google Earth Campus Map Project. Though this project is a work in progress, the eventual goal is to host the fully functional and completed Google Earth Campus Map for the general public. Interested persons will be able to download a small KMZ file and open it directly in Google Earth. They will see a variety of information about the UNH campus in a set of unique data layers.

Google SketchUp 3D Modeling

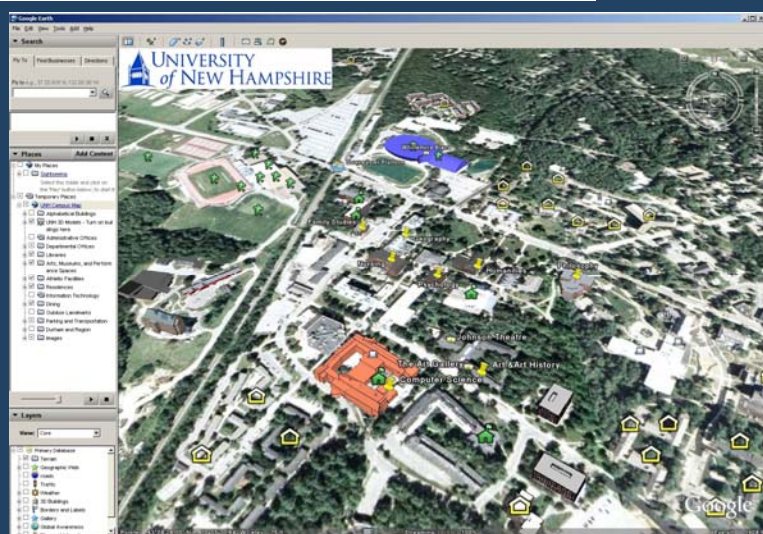
Figure 3: Editing a 3D Model in Google SketchUp



Google SketchUp can be used to create accurate 3D models of buildings. This figure also shows how photographs taken of building faces can be added as textures to show a realistic view of building surfaces.



Google Earth Campus Map with 3D Models



* 3D model contribution from Sam Lingeman and Aaron Mockrish

This is the most recent version of the Google Earth UNH Campus Map. It can display several layers of information, including 3D models, academic buildings and departments, transportation services, dining halls, and residence halls.

Health Services Model



After initially struggling to gain proficiency in Google SketchUp, Guerra created a model of UNH Health Services. This model features fully accurate dimensions and was imported into Google Earth for the UNH Campus Map.