Boise Weekly Best of Boise 2009 Restaurant Google Map

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Introduction

People have been using maps for centuries to visually depict representations of the Earth's components and they can be very powerful. Wood (1992) said, "Power is the ability to do work. Which is what maps do: *they work*." How does a map *work*? They work by serving interests and these interests are served by the effectiveness of a map to selectively represent something of interest to the user (Wood 1992). Maps are powerful because they can oftentimes visually depict information much more quickly than could be described with words. Just think about all the maps seen in our daily lives, maps that show you: which bus route to take, where your room is located in a hotel, directions for driving from A to B, how the exhibits are laid out at the zoo, or your local news channels high and low temperatures for the day. Most importantly maps instill power in people because knowledge is power.

Obviously cartography has come a long way over the years due to technological advances. Not many would argue that maps that are hundreds of years old represented little more than the maker's personal perception. Early cartographers did not have the tools we have today such as satellite and aerial imagery, highly accurate GPS systems, or sophisticated ground truthing methods. In today's world, there are not only static (unchangeable) maps but many forms of interactive maps and they have become increasingly popular mostly through the discipline of cybercartography – creating maps specifically for internet use. In 1999, the International Cartographic Association created a Map and Internet Commission and this event signaled the event of this emerging form of cartography (Tulloch 2007). Monmonier (2005) forecasted that "richer modes of interactivity promise unprecedented levels of exploratory map analysis as well

as ready access to timely or informatively customized spatial data" and I believe this is quite true today. Peterson (1997) agrees that the interactive map sites receive more usage that those that just offer static maps. Maps are a powerful media for portraying information and many agencies and businesses are using the power of interactive maps to quickly get their message across to the masses and help their users and clients gather information.

Those who have no formal spatial or cartographic training can easily create interactive web maps at a number of sites for free: ammap.com; zeemap.com; arcgisonline.com/home/; maps.google.com; mapsalive.com; and flashimap.com, just to name a few. In an NPR Future Tense interview, Mike Pegg of Google Maps Mania (http://googlemapsmania.blogspot.com/) was asked, "How difficult is it to create applications using Google Maps? Could an average computer user do it?' and he answered, "Absolutely, there have been a view sites that have popped up [that require] no coding ability at all… [such as] wayfaring .com and communitywalk.com (National Public Radio 2006). Tulloch (2007) noted that because it has become so easy for just about anyone to create an interactive web map, the risks and benefits are much more pronounced that with other Internet-enabled enterprises. Some cartography professionals are concerned because those untrained are unaware of the professional ethical standard (http://www.gisci.org/code_of_ethics.aspx) and may intentionally create maps that inaccurately portray information. Some would argue that every map distorts reality – a complex 3-D world is laid flat, symbols used are usually much larger proportionally than the features they represent, and the creator must be selective in the information he or she wants to portray or the map would be too overwhelming; every map tells little white lies (Monmonier 1996). In a perfect world, everyone, professional or novice, would share honest and truly useful information on the web but this is not always the case. Fortunately, many Internet users have learned to use

their own best judgment when perusing the Web and understand that the information presented must be scrutinized before accepting it as truth.

Professional created or not, there is no arguing the power of interactive maps and the numbers confirm this. It is difficult to find the most accurate information about map usage at different sites. The information I found is not the most up to date but is interesting none the less. In 2006 Google Maps API received 2.6 billion hits per day (http://digg.com/programming/Google_Maps_API_team_says_Stop_it). In 2002 MapQuest received over 13 million map requests per day and ESRI ArcGIS Online shower peak hourly traffic at close to 100,000 (Tang and Selwood 2010). In 1999 Tiger Mapping received 75,000 map requests per day and EarthView received 63,000 map requests per day (Peterson 1999). Obviously many people are utilizing the power of interactive maps.

Objective

Society's partiality for interactive maps is quite clear thus an interactive map with a local interest twist would be invaluable tool for a community such as Boise, Idaho. There is an array of sections including: public eye, arts and entertainment, goods and services, sports and recreation, bars and nightlife, and dining (with many categories in each section; http://www.boiseweekly.com/boise/BestOf). For this project I created an interactive Google Map that focuses on the "Best of Boise" Food & Dining locations (2009). The "Best of Boise" locations are published by the Boise Weekly once a year. This year, two editions were published – readers' choice (done by online polling) and editors' choice.

Methodology

Many of the Best of Boise categories cannot technically be represented by a point on a map, such as Best High Five, so I focused on a category that could, Food & Dining. Prior to collecting data, I created a shapefile with all of the attributes necessary to link to the appropriate entries on an ArcPad form I used to gather information about each establishment (Figure 1). The ArcPad data entries included: the establishment's name, phone number, address, city, food type, pick (editor or reader), and any notes. I made a copy of the shapefile, so there was one shapefile for each day of data collection. This is necessary because the .ssf file created for differential correction is only applicable to one day (not multiple dates). I used a Trimble GeoXH to collect the ArcPad form data and waypoints on two different days. I also took a picture of each establishment.

Figure 1. Best of Boise data collection ArcPad form.

Once all of my Best of Boise Food & Dining information was gathered, I was ready to process and organize it all for creation of an interactive Google map. Firstly, I differentially and shape-corrected the shapefiles created during field data collection (Figure 2).

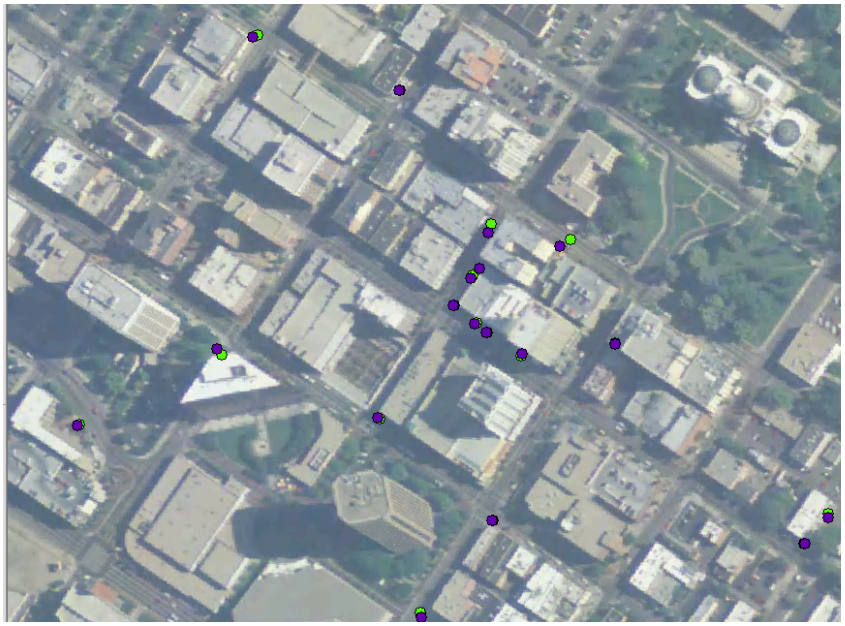


Figure 2. A map showing the Best of Boise restaurant locations pre- (green) and post- (purple) differential correction.

Next I used DNR Garmin, a free ArcMap Extension created by the Minnesota Department of Resources to provide users the ability to directly transfer data between Garmin GPS handheld receivers and various GIS software packages (http://www.dnr.state.mn.us/mis/gis/tools/arcview/extensions/DNRGarmin/DNRGarmin.html), to convert my shapefile coordinates from UTM's to decimal degree latitude/longitude and created a new shapefile with the coordinates as new attribute fields. This was necessary because decimal degree latitude/longitude is the only acceptable coordinate system when creating a Google Map. I then opened the shapefile .dbf file in Microsoft Excel 2007 so that the data and coordinates could easily be copied and pasted into a Google spreadsheet I used to create my Google Map.

I used the Google Spreadsheet Mapper 2.0 tutorial to create my interactive web map of the Best of Boise 2009 restaurants (http://earth.google.com/outreach/tutorial_spreadsheet.html, note: you must have a Google account to create a Google Map). Using the Google Spreadsheet Mapper is

a one-stop spot for loading your data to be mapped using ‘PlacemarkData', and designing the “balloons” that will show up on your Google Map using or modifying the ‘Templates’ provided (Figure 3).

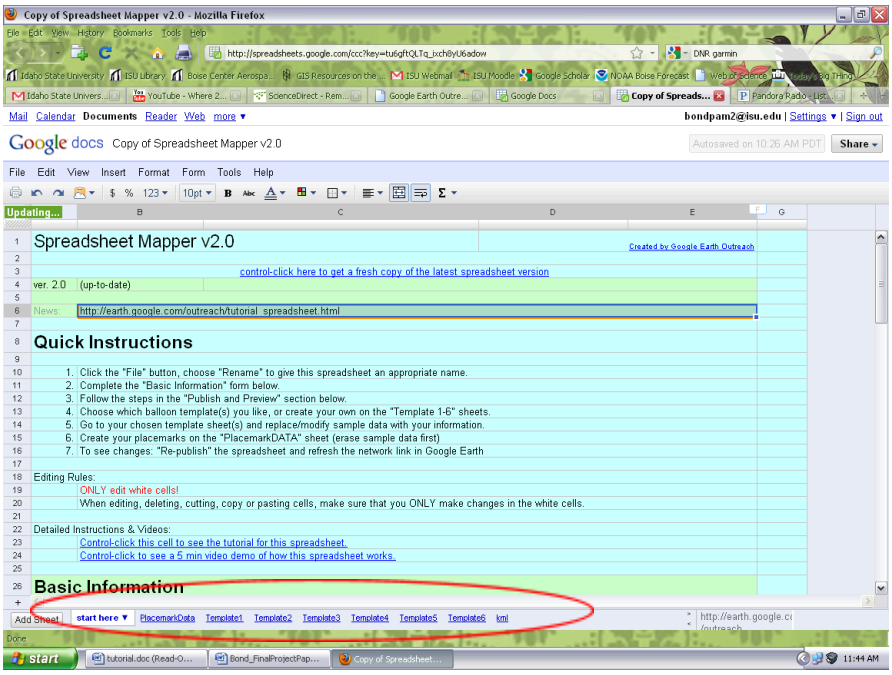


Figure 3. The main page of the Google Spreadsheet Mapper.

This seems to be the most up-to-date version of Spreadsheet Mapper but I did find one discrepancies in the directions that I will share for those not only interested in creating a Google Map but also in being able to view their placemarks in Google Earth. In the ‘Publish and View’ section of the Spreadsheet Mapper ‘start here’ spreadsheet (Figure 4), the instructions given to ‘View Placemarks in Google Earth” are incorrect. You cannot copy the Network Link KML and paste it in ‘My Places’ in Google Earth; paste is not an option.

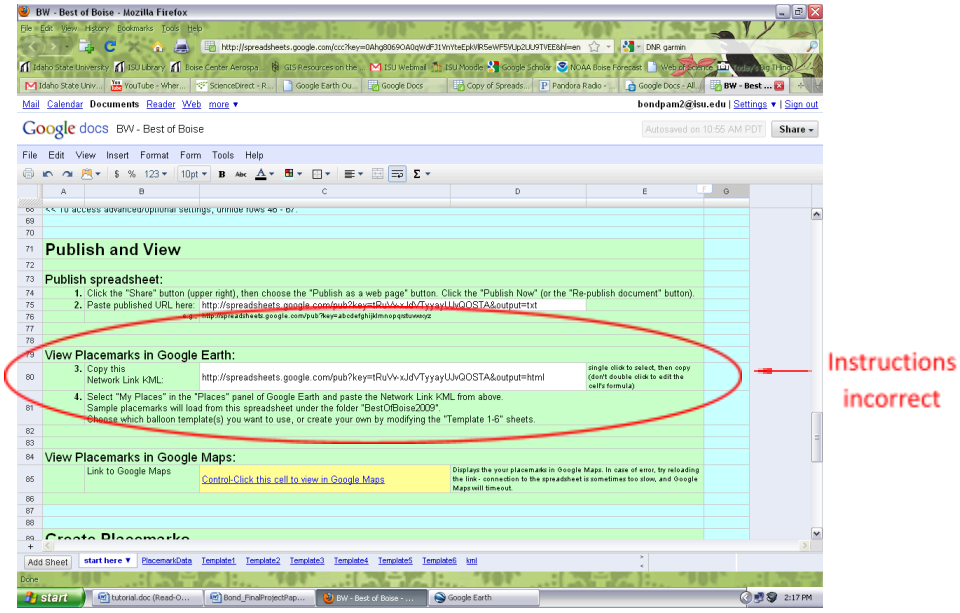


Figure 4. The 'Publish and View' section of the Spreadsheet Mapper 'start here' spreadsheet.

To remedy this, I control-clicked the cell that said 'Control click this cell to view KML' in the 'Debugging your KML' section at the bottom of the 'start here' spreadsheet (Figure 5). I opened the file with Notepad, saved it as a KML file and then was able to add it to my Google Earth 'My Places' but simply selecting 'Open' from the 'File' dropdown menu in Google Earth.

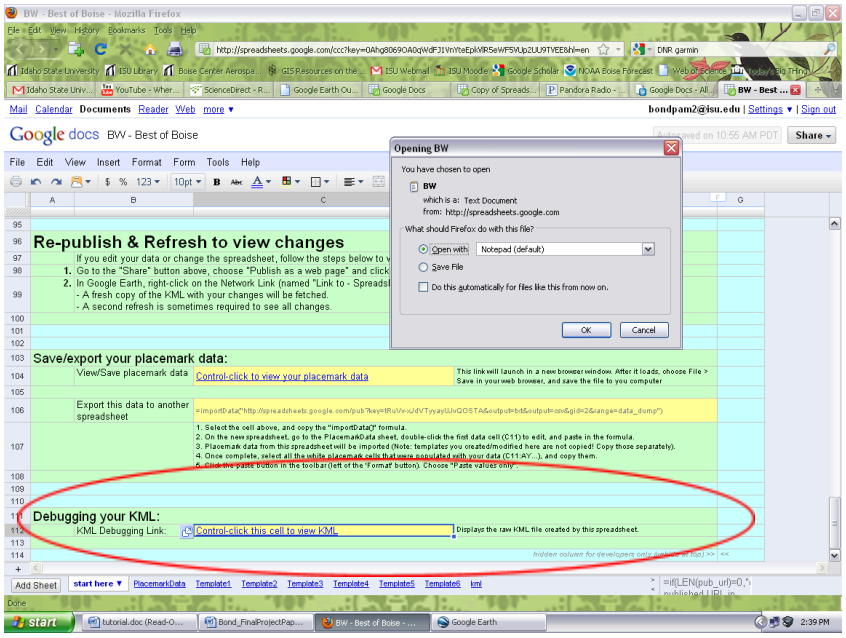


Figure 5. The "Debugging your KML' section of the Spreadsheet Mapper 'start here' spreadsheet and window that opens to open the KML file in Notepad.

Although this was one of the last steps I took during my map creation process, I thought I should mention it early because it is on the 'start here' page and may cause undue frustration to others before they even really get started.

I was now ready to start designing my interactive Best of Boise 2009 restaurant map. I viewed the example placemark balloon templates in Google Maps (instead of Google Earth because of the discrepancy mention before) by control-clicking the designated cell in the 'View Placemarks in Google Maps' section of the 'start here' spreadsheet (Figure 6).

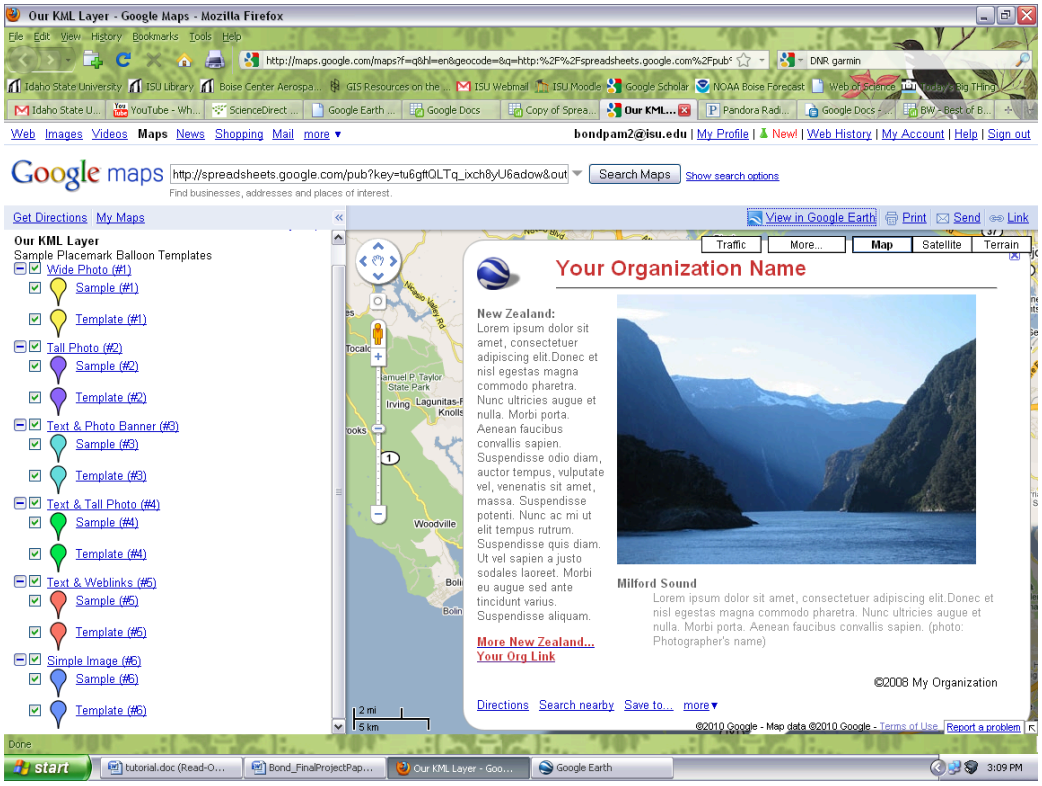


Figure 6. Example placemark balloon templates viewed in Google Maps.

I decided to use Template5 and Template6 to create placemark balloons for my Google Map (Figure 7). Firstly, I just copied Template5 into Template6 so that they were structurally similar; both were now 'Tall Photo'.

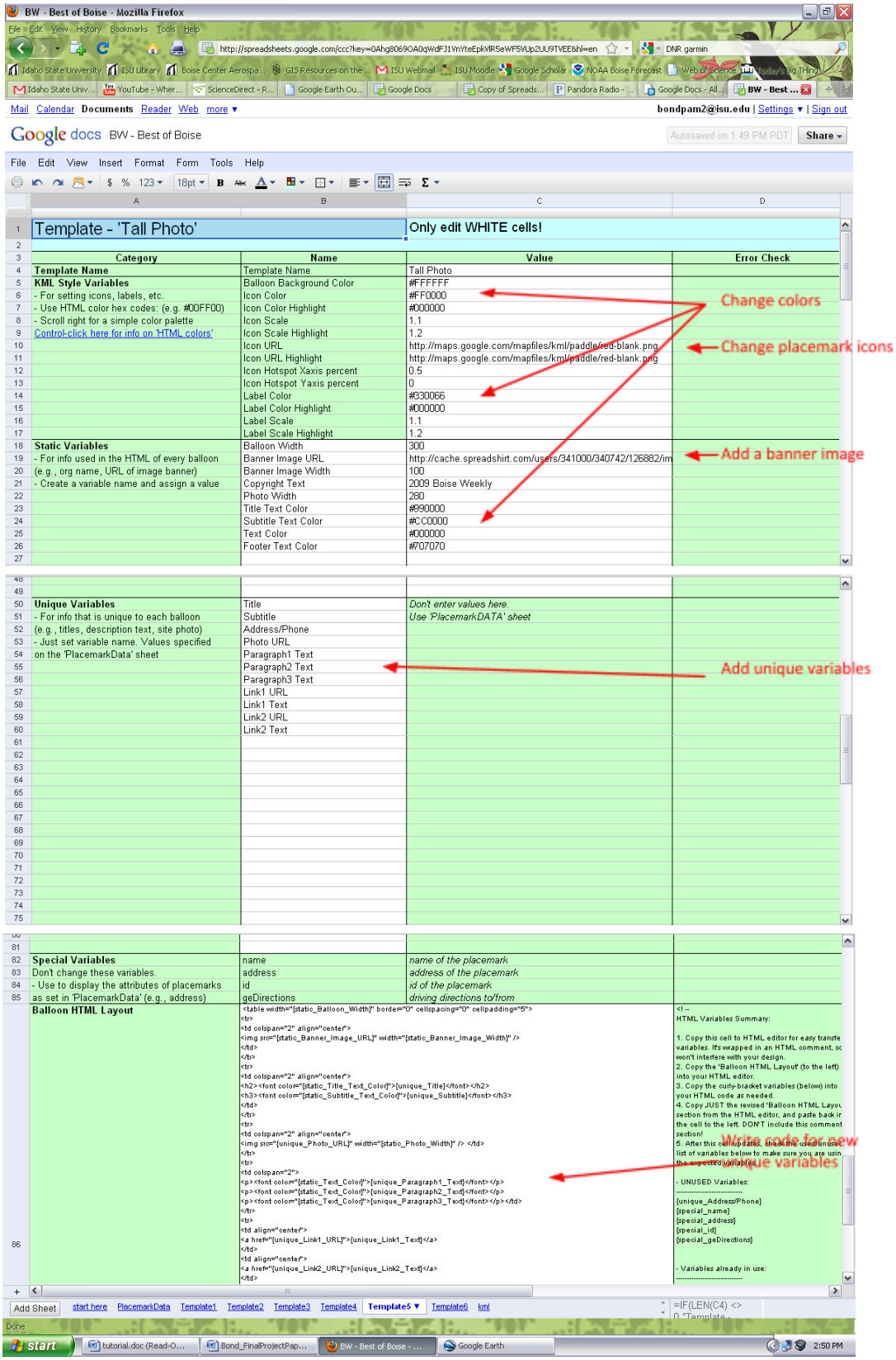


Figure 7. Placemark Balloon Template5 modified for the Best of Boise 2009 Google Map.

I then modified these templates by changing the icons and subtitle text so that placemarks that represented Editor picks were red and those that represented Reader picks were purple. I did this because the Boise Weekly Best of Boise issue covers were almost identical except one was red and one was purple. Now the balloons that pop-up when a user selects a placemark will be identical in almost every way except the color of the subtitle which displays whose pick the establishment was, readers' or editors'. I added one 'Unique Variable', 'Paragraph Text3'. In order for this variable to actually show up in the 'PlacemarkData' spreadsheet, I had to actually add a new line of code in the 'Balloon HTML layout' section of the Template spreadsheets (Figure 7).

Next, I added my Best of Boise data to the 'PlacemarkData' spreadsheet (Figure 8). Most of the data was added by simple copying and pasting it from shapefile .dbf file I opened in Microsoft Excel 2007. I added the URLs for each restaurant and the URL for Boise Weekly to each entry. In order to add pictures to my Google Map placemark balloons, I had to first upload them onto the web. I did this by creating a Photobucket web album (http://photobucket.com/; there are many other websites that you can upload photos to the web). I then pasted each photo's URL into the appropriate column of the 'Placemark Data' spreadsheet.

I added my placemark data to Google Earth (discussed previously) and edited each group's (editor and reader) properties. I did this my right-clicking on the appropriate folder and selecting 'Properties'. I customized the descriptions and the style and color of the placemark labels and icons to be more appealing at first glance. I resaved my Best of Boise 2009 placemarks as a .kmz file to retain my properties changes. Finally, I created a webpage using Google Sites to host my interactive Boise Weekly Best of Boise 2009 Restaurant Google Map. This process was

pretty straightforward so I won't go into too much detail. To create the site I started at https://sites.google.com/a/isu.edu/sites/system/app/pages/meta/dashboard/create-new-site, once again, you must have a Google account to create a Google Site. The website consists of three pages: the home page that has my Best of Boise Google Map embedded into it; an About Me page that just gives a brief description of why I created the project; and a Google Map page that allows people to download my .kmz file so they can load it into Google Earth. I shared my Google Map with the Boise Weekly publisher and she is considering embedding into one of their webpages as well.

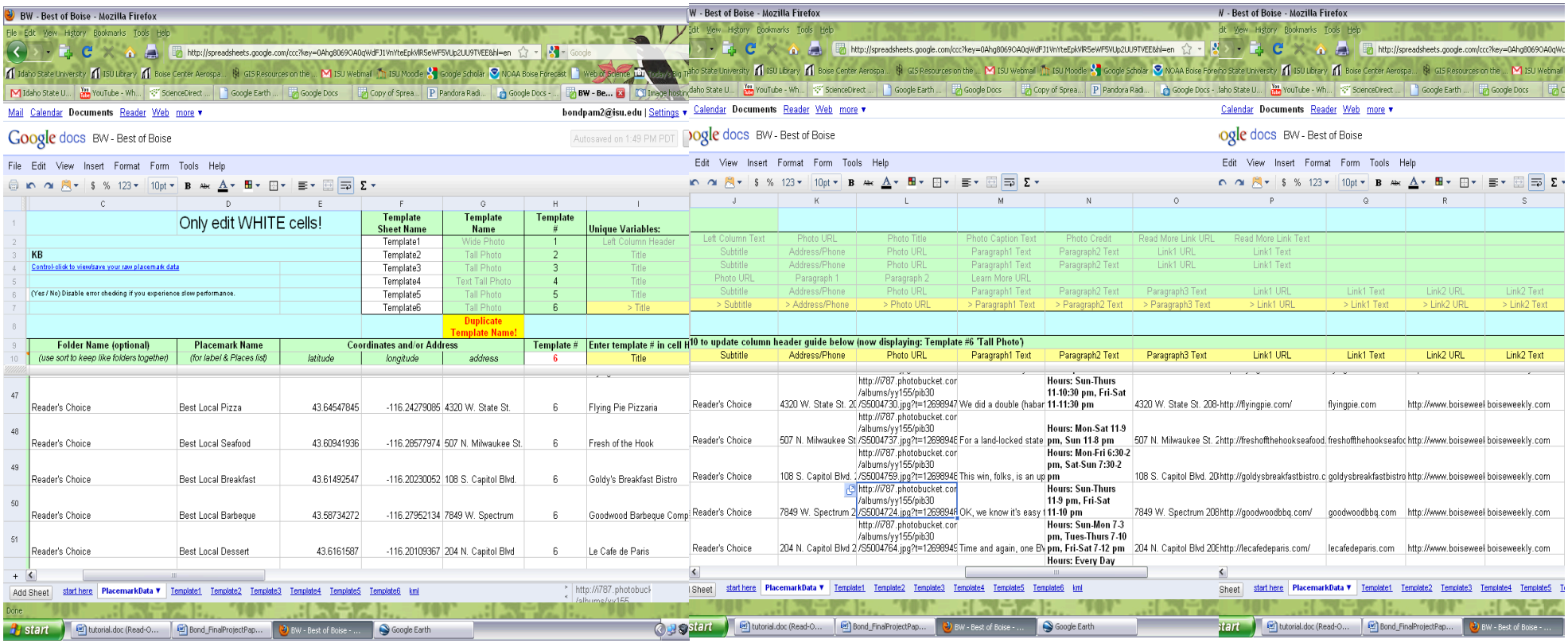
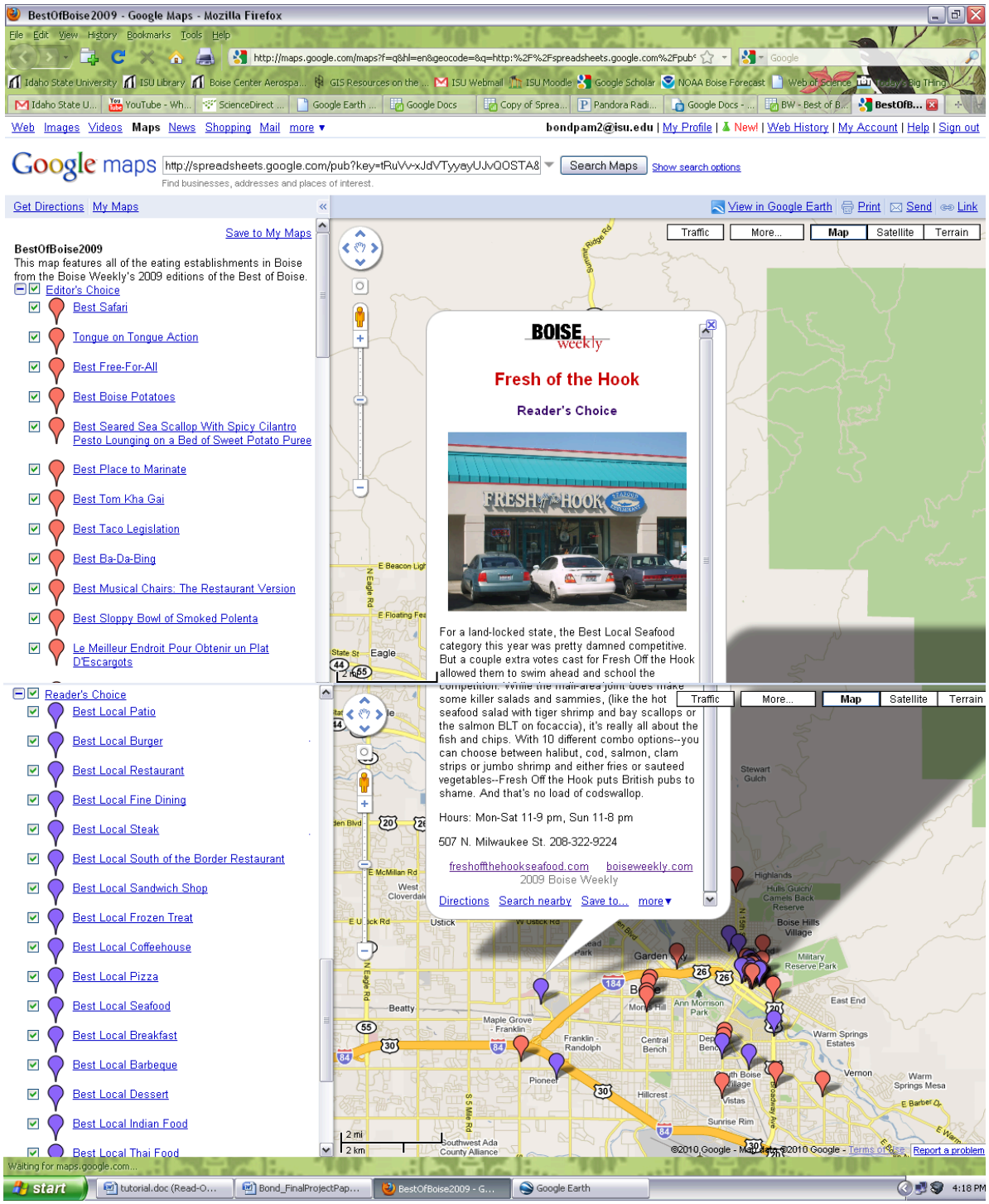


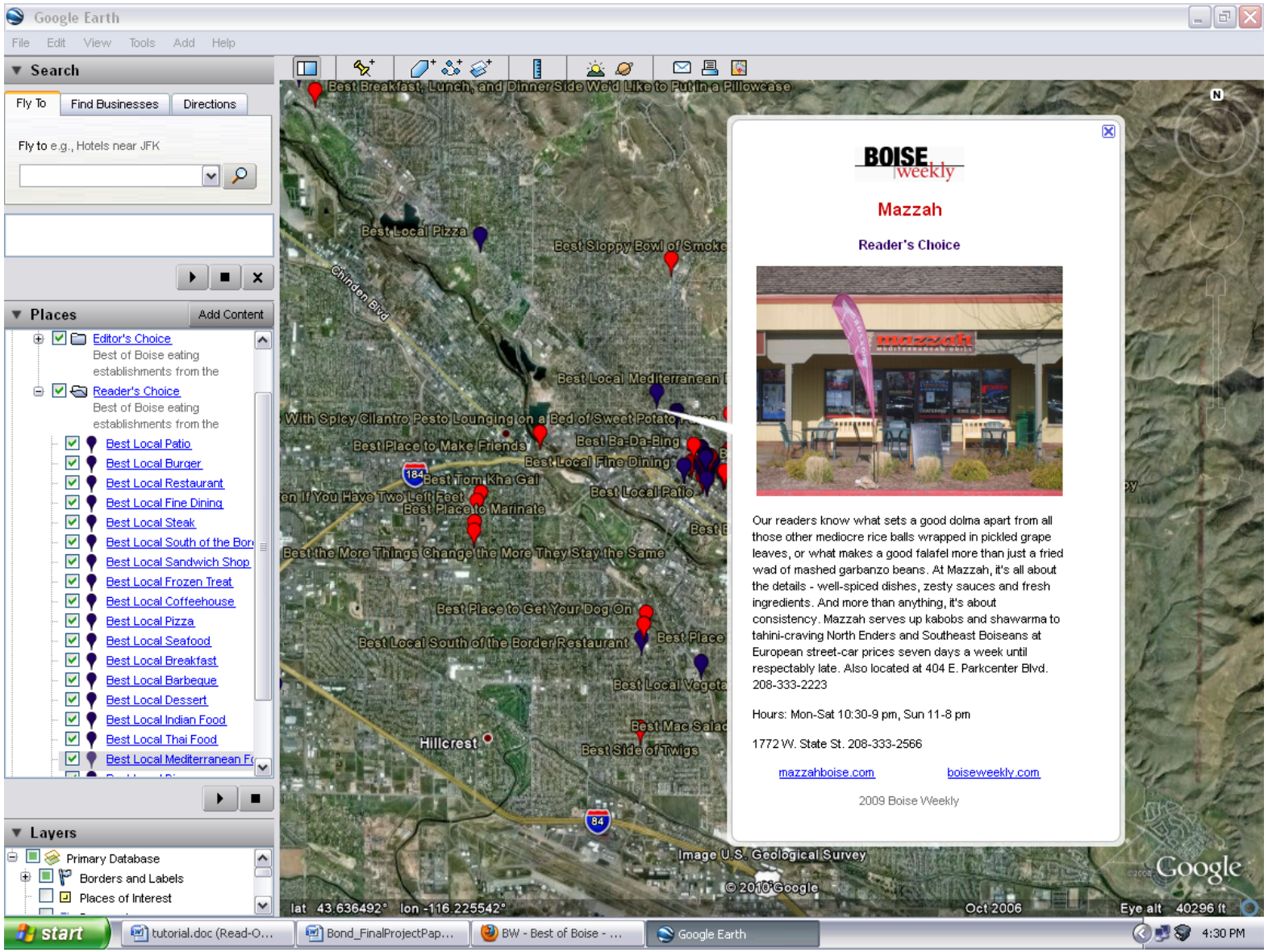
Figure 8. The 'PlacemarkData' spreadsheet used to create a Best of Boise 2009 Google Map.

Results

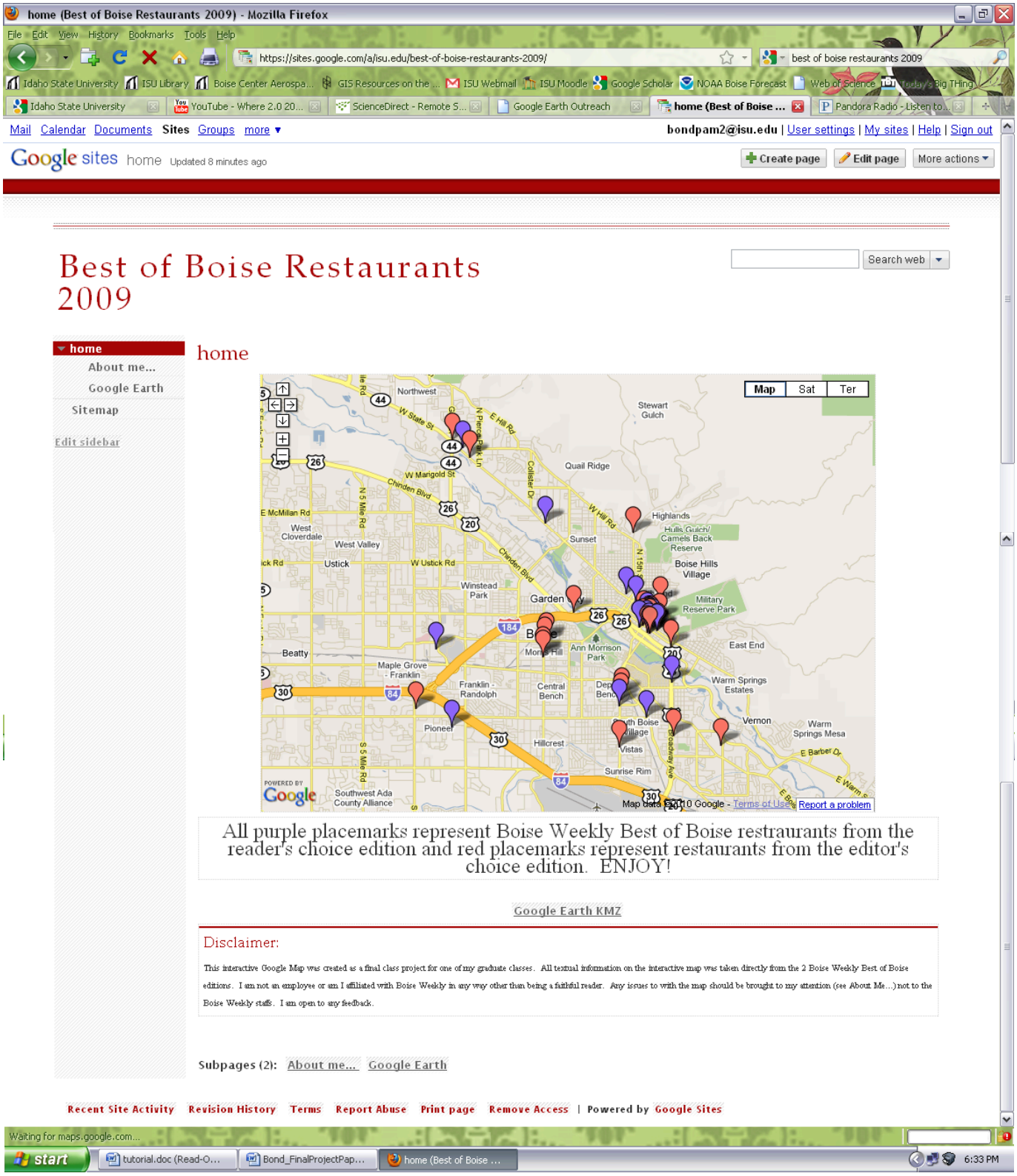


Boise Weekly Best of Boise 2009 Restaurant Interactive Google Map

http://maps.google.com/maps?f=q&hl=en&geocode=&q=http:%2F%2Fspreadsheets.google.com%2Fpub%3Fkey%3DtRuVv-xJdVTyyayUJvQOSTA%26output%3Dtxt%26output%3Dtxt%26gid%3D0%26range%3Dkml_output%26time1%3D4027763&ie=UTF8&ll=43.752249,-116.237755&spn=0.139125,0.264702&z=12



Boise Weekly Best of Boise 2009 Restaurant Interactive Google Earth Map



Boise Weekly Best of Boise 2009 Restaurant Interactive Google Earth Map Website

https://sites.google.com/a/isu.edu/best-of-boise-restaurants-2009/

Discussion

Although this project was a lot of fun and a great learning experience, it definitely took some extra patience and creative thinking to make it all come together. The Google Spreadsheet Mapper 2.0 tutorial was very helpful but only got me so far. I had to figure out myself that if I wanted to add a 'Unique Variable' to my balloon template that I also had to write code in the 'Balloon HTML Layout' box. It took a lot of trial and error to get my placemark balloons to look just how I wanted. Also, when I tried to save my placemark data as an Excel file an error occurred every time but I did successfully save it as a text file. Unfortunately, when you embed a Google Map into a webpage the sidebar with the list of locations does not go with it. I did not find any options when creating my Google Site that would allow me to have this feature. For the most part, I think just about anyone could create an interactive Google Map even if they don't have any previous map making experience. It could be a bit of a challenge but is definitely possible.

References

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