Providing flexible, customizable maps for the Public

...on the cheap

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Background:

Got a grant of \$5,000 to create a "GIS Hub" at Pace University.

Planned on using the ArcServer feature, available at educational discount, \$1,000 or \$1,500.

IT people at the university wanted to collect \$4,000 to perform and maintain server virtualization for ArcServer.

Result: No money for anything (student assistants) but the server and the IT support.

This is not going to work. What are my options?

What do we really want to provide to users and how can we give our "clients" what they want and afford it?

What have they wanted?

- They think they just want one map.
- Once they see a general map, they want more.
- They want different layers shown.
- They want to zoom into areas of their interest.
- They want to create maps for different people.
- They would like to be able to measure things.
- They would like to know the information about features.

Students knew how to make PDFs of their maps and sent them to their relatives to check out (and to post on Blackboard for the class to see and for me to grade). Adobe Acrobat reader is commonly downloaded and used.

PDF maps are nice because you can click on and off layers and labels and decide what you want to print out, how big, etc.

Zooming in shows gives you bad resolution.

There is no ability to use an "identify" tool if things are not labeled. Things can get sloppy.

But, it's better than a .jpg and has really worked well for quick projects for a client to look at and click layers on and off.

We need to address a user who is more knowledgeable and knows what they want but doesn't want to go through a learning curve.

They want to work with that area only and have a lot of flexibility in that area.

Projects that needed this help:

- Byram River Watershed over two datasets. People looking at it from different perspectives and interests. One size does not fit all for this watershed.
- 2. Mount Pleasant wanted an open space map, but wanted to customize the map for different studies.
- 3. Pocantico River Watershed Different groups wanted different views and perspectives

Nobody wanted to become a "GIS person."

Free reader, not just Adobe Acrobat, could allow non-GIS people to read the maps and make adjustments until their visions were fulfilled.

ArcReader allows the user to customize their views

ArcExplorer allows users to pick their layers.

Both are free downloads.

Each has limitations.



ArcPublisher to the rescue!

With ArcPublisher, we "GIS People" can create a map and a data package that can be output in a format that people can use on their own computer.

They can build their own maps and have a lot of flexibility about what is shown and highlighted.

They can search for information about features on their maps.

Data from servers can be added and can then be shown as long as your user has Internet availability.

Challenges for my students:

- learning how to make a geodatabases after they have (finally) mastered the shapefile concept.
- learning how to sequence their layers
- learning how to make their data locations relative
- learning how to use GIS Servers to include in their views
- learning how to use ArcPublisher
- learning how to zip their folders
- learning how to educate their friends and family on how to use ArcReader.

An example problem:

Creating a map for a group studying the Pocantico River Watershed.

Data was available from Westchester County and New York State

- 1. Decided which data was desired by the group (mostly law students)
- 2. Isolated the Pocantico River watershed from drainage basin shapefile.
- 3. Clipped all the data from Westchester County shapefiles or ArcInfo files into shapefiles.
- 4. Created a new geodatabase containing all the data
- 5. Layered the features so they clearly showed things
- 6. Created a layout for the map.
- 7. Published the map in ArcPublisher (after activating a license)
- 8. Zipped the map to send to a relative
- 9. Instructed the relative on how to download ArcReader.
- 10. Told their relative to email me their review of the map.

ArcPublisher is an extension in ArcMap.

One online vendor offers it for \$2,000.

It can be used on an evaluation basis for thirty days with the single use license.

The ArcGIS Workbook allows all extensions for 180 days.

Get all the data accumulated into a geodatabase, making relative pathnames for all data as a default. Set all the layers the way you want others to see them because you can't change them in the viewer.

When registering extensions, you may have to re-register extensions you already have or they get wiped out.

🛃 ArcGIS Desktop Administrator

| ArcGIS Desktop (PEGGY2005) Software Product | ArcGIS Configuration: |
|---|--|
| License Manager Register Single Use and Extensions Availability | Installation Information Product Name: ArcGIS Desktop Release Version: 9.3.1 Product Version: 9.3.1.3000 Installation Folder: C:\Program Files\ArcGIS\ Installed By: Mary Margaret Minnis Install Date: 2/5/2010 Install Time: 21:44:38 Install Image: D:\Desktop\ Current User: Mary Margaret Minnis Application Data Folder: C:\Documents and Settings\Mary Margaret Min System Temporary Folder: C:\DocUME~1\MARYMA~1\LOCALS~1\Te Service Pack Information ArcGIS Service Pack Installer: Mary Margaret Minnis ArcGIS Service Pack Installer: Mary Margaret Minnis ArcGIS Service Pack Installer: Mary Margaret Minnis ArcGIS Service Pack Install Date: 2/5/2010 ArcGIS Service Pack Install Time: 21:44:38 ArcGIS Service Pack Status: N/A License Manager Environment Variable Information ARCGIS_LICENSE_FILE: N/A LM_LICENSE_FILE: N/A |
| Help | OK Cancel Apply |

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The agony of registration.

| ArcGIS Desktop Administrator | |
|---|---|
| ArcGIS Desktop (PEGGY2005) Software Product License Manager Register Single Use and Extensions Availability | ArcView/ArcEditor (Single Use) and its extensions must be registered prior to use. To register, click 'Register Now' below to start the registration wizard. Register Now |
| Help | OK Cancel Apply |

Registration Wizard

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Welcome to the Registration Wizard

You must register the ArcView 9.3 software before you can run it on your computer.

Select an option below.

ArcView Single Use Registration

- I would like to manage my ArcView registration.
 - I have already registered ArcView and need to register additional ArcGIS extensions.
 - I have received an authorization file from ESRI and am now ready to finish the registration process.

ArcEditor Single Use Registration

- I would like to upgrade ArcView to ArcEditor.
 - I have received an upgrade registration number from ESRI.
 - C | have received an upgrade authorization file from ESRI.

It's never easy.

Next >

Cancel



You're not done. You have to activate the extension.



Activate it!



Make the Publisher Toolbar visible through View>Toolbars.



Ensure that all your layers are in a geodatabase.

Two ways to do it. GUI or dropdown





Again, either GUI or dropdown to select map to publish.

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| Data Packaging | ? 🗙 | |
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| General Extent Data Package Location Select the folder in which the data package will be created. T PMF file will be placed in that folder. | he data and a copy of the | |
| Data Format Choose the data format for the package. File Geodatabase | Browse For Folder Select the Data Package Location. | ? 🔀 |
| Options Only include map layers with features present in the data Increase the size of the data frame(s) in the published maps f options on the extent tab. | C geotiger C majemp97 E C MTPleasant C ossining E C Pace C Photos | ~ |
| | Pleasantville Pocantico Folder: Pocantico Make New Folder | OK Cancel |

It's good to make a new folder for your map and data.

This can be renamed more appropriately later if you mess up.

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|---|--------|
| General Extent Data Package Location Select the folder in which the data package will be created. The data and a copy of the PMF file will be placed in that folder. | |
| C:\ESRIDATA\Westchester\Pocantico\New Folder | |
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To send it as a file and not as an ftp transfer, you have to zip it.

There are many ways to zip up a folder.

I paid for WinZip (really).

Bought PKZip, too. Downloaded 7Zip

Use whatever you can to zip everything.

Attach it to an email or put it on your ftp site.

Tell your user what to do with it once they.....

Download and install ArcReader



ArcGIS people will have ArcReader already installed. Your "clients" can download it free by giving their email address.

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Problems:

Inevitably, people will just click on the zipped file, ignore your warnings and click on the PMF folder to see the program. If they click it before totally unzipping all the data, they will see something like this:



The user has to fully unzip the folder and all enclosed folders.

Use whatever unzipping program they have.



Voila!



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A tutorial for ArcReader in PDF format can be found here:

http://webhelp.esri.com/arcgisdesktop/9.3/pdf/ArcReader Tutorial.pdf

A how-to for both using ArcPublisher and using ArcReader can be found with my instructional videos at:

http://webpage.pace.edu/MMinnis/GIS

ArcGlobe can also output documents that can be read in ArcReader, so 3D maps can be manipulated by the user.

The purpose of providing flexible maps for the user can be accomplished by using ArcPublisher and instructing the user on using ArcReader. The costs can be minimized.

Another option for better-trained users, like ex-students or people who are familiar with Arc products is to download ArcExplorer. It is a limited function program, similar to the old ArcView from the early 1990's.

ArcExplorer will allow the user to work with shapefiles and layers without having to buy ArcGIS.

Always looking for things to do on the cheap.