

Group number: 01

Project title: Visualization of Earth Modeling System (Project 1)

Client &/Advisor: Prof. Johnny Wong (Advisor) & Prof. Chaoqun Lu (Client)

Team Members/Role:

Kellen Johnson – Team Communication Leader

Anish Kunduru – Team Leader

Julio Salinas – Team Concept Holder

Eli Devine – Team Webmaster

○ **Weekly Summary**

The majority of this week has revolved around the fact that the client / advisor would like us to use ArcGIS for our spatial data mapping. It is provided to us on a server at Iowa State, so we are looking more into using that as our tool. This week has been quite productive, but we are currently at a stand still until our team fully comprehends how to get our servers up and running. Once the servers are up, our team will be able to begin actual development. As for now, anything that is done is done completely offline and for localhosted servers.

Anish was able to get a "demo" version of ArcGIS running, so we will explore how to edit this module soon, and begin plotting at least single points for now. Once servers are live, we will explore dynamic mapping once databases are filled.

○ **Past week accomplishments (please describe as what was done, by whom, when)**

- Kellen Johnson: Coordinated setup of SQL / Webserver with SGG/Cytech. Input some data onto the separate SQL server. Beginning parsing of text files into standard SQL queries (non-spatial).

- Anish Kunduru: Setup database with Kellen on Saturday night. Created basic demo using ArcGIS on Sunday night. Currently pulls via ESRI's CDN, which is free to use.
 - Eli Devine: Looked into the server, beginning to get caught up with Kellen and Anish's work.
 - Julio Salinas: Reading material to be able to come up with solutions, catching up on the work Kellen and Anish did.
- **Pending issues (if applicable)**
 - Kellen Johnson: The SQL server / webserver delivered to us were empty. With very little Linux experience with networking, we are trying to figure out how to get everything running before we are able to query the database or push/pull to a website for active development.
 - Anish Kunduru: Need to figure out how ArcGIS interacts with what we are trying to do. Still having difficulty with the command line to setup mariaDB.
 - **Individual contributions**

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Kellen Johnson	Server. Began mySQL query generation.	7	14
Anish Kunduru	Server setup and ArcGIS demo.	8	15
Eli Devine	Downloaded software for design of class website.	1	8
Julio Salinas	Explored options for toggling server.	1	7

- **Comments and extended discussion**
 - Kellen Johnson: Anish and I will continue to work with IT to get these servers running. As soon as I get the mysql database in order, I will be able to push data in.

- Anish Kunduru: I need help figuring out how to use ESRI products for map visualization. Here's the page: <https://developers.arcgis.com/javascript/latest/sample-code/get-started-layers/index.html> The idea is to see if we can plot the ASCII data on the map using one of these layers. I believe that this will be easier/more useful than attempting to project the existing images onto the map. Step one is to get one demo input file working. I'm thinking that this will be done via FeatureLayer. To do this, we will need to use a feature service. This will involve setting up ArcGIS server so that we can publish the map document as a map service. There is a more detailed explanation of this at this link: <http://server.arcgis.com/en/server/latest/publish-services/windows/what-is-a-feature-service-.htm> Step two is extending that demo to allow the user to select a year and month, query the database, and dynamically update the map.
- **Plan for coming week (please describe as what, who, when)**
 - Kellen Johnson: Continue to parse / develop queries for MySQL. Continue reading for spatial data. Figure out how to convert what we know have into a spatial type format.
 - Anish Kunduru: Make sure we get the database operational. Get a demo up for some basic map visualization.
 - Eli Devine: Discuss with team the current situation with database, work more on website.
 - Julio Salinas: Get our servers up on running for viewable demo
- **Summary of weekly advisor meeting (if applicable/optional)**

This week's meeting with the Client / Advisor was productive. We determined that we have access to ArcGIS through Iowa State, so we will see if this is a usable option for our final product. We also were given a reference to coms-sgg@iastate.edu to get our servers running. We were able to get them created. We also confirmed with the client that our next meeting will be in a different location (Bessey). We plan to get the servers up ASAP so we can begin testing ArcGIS to see if it will work before our next meeting.