SE 491 WEEKLY REPORT 8   Date: 10/24/16-10/31/16

Group number: 01

Visualization of Earth Modeling System (Project 1)

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**

This past week was largely a step forward in terms of technology for our group. After struggling in the beginning of the week to push our product onto a 3D plane, we decided to seek out the ArcGIS analysts here at Iowa State. After some discussion, they recommended we instead use a software called ArcGIS Server (instead of ArcGIS online) which will not only allow us to dynamically edit and create the tile/layer files that we will have to host, but it will come as no additional cost to the university. Due to these findings, we have shared this with the client (in our meeting this past week), and have moved into getting a new server setup which will directly host this software.

Our previous platform, ArcGIS Online was an API which only allows for dynamically created 2D points and pulling of ArcGIS hosted 3D models. We did not realize that ArcGIS Online doesn't actually allow us to create the models how we desired, and additionally would result in high Publishing and Hosting Costs.

Our new platform will act as more of a "middle man" while will not only create our own ArcGIS hosting capabilities, but will finally allow us to dynamically host layers, tiles, maps, and

additional data and objects that our team has been striving to model. We would like to at least a rough model or demo done before we get to the next round of Project Plan / Design Documentation / Final Presentations for the semester as this will allow us to actually visualize our product and further explain the importance of the system.

- o **Past week accomplishments**
  - Kellen Johnson: Collaborated with the team throughout the end of the day on Monday in attempt to get the Demo going for Wednesday. Contacted Robin McNeely and was referred again to talk to Josh Obrecht about using the ArcGIS Server software instead of ArcGIS online. Re-setup our team email through iastate.edu. Our team email is now may1701@iastate.edu.
  - Anish Kunduru: On Monday of last week, the entire team got together in an attempt to plot 3D objects onto our ArcGIS Online test. I lead this collaboration and pushed along with the ArcGIS analysts for a switch of platform. I also attempted to speedup our parser this past weekend (to reduce the time from 10ish seconds of processing time) by buffering the reading/writing of the program and bitshifting. I was successful in speeding up the parser but have a few errors, so I will fix those in the upcoming week.
  - Eli Devine: Had our meeting and discussed with team what comes next after resolved issues. Started on Design Document.
  - Julio Salinas: Worked with team in the evening hours of Monday in an attempt to get a Demo going this week.

- o **Pending issues**
  - Anish Kunduru: As we are currently waiting on Server setup, we will not be able to continue actual implementation until this is resolved. We need to get this up as soon as possible.

- o **Individual contributions**

NAME	Individual Contributions	Hours this week	HOURS cumulative
Kellen Johnson	Collaboration in attempt for publishing with ArcGIS Online. Led Demo. Contacted ArcGIS Analysts. Email Setup.	8	43
Anish Kunduru	Led collaboration in attempting to plot 3D layering. Sent Server specification to the Client. Helped Client and Advisor understand our current need and emphasized need for Application Switch	10	40
Eli Devine	Collaboration, Design Document start up.	3	18
Julio Salinas	Collaboration in attempt to publish with ArcGIS online.	4	20

- o **Comments and extended discussion**
  - Kellen Johnson: As we have been given the license to the ArcGIS Server software, I am going to talk to the client so the license will go through her name (as it is her deliverable). Currently, it is in my name. I will collaborate with Josh Obrecht and the client to get this matter resolved.

- Anish Kunduru: We have discussed with the client the needs for our new server. We are just waiting to here back on that.

- **Plan for coming week**
  - Kellen Johnson: Once the new server is live, download and Install the ArcGIS package that has been given to us by Josh Obrecht. Once that is completed, attempt to publish our own layer, host it on our server, and display it on a 3D plane. Towards the middle of the week, we should be finalizing the Design Document.
  - Anish Kunduru: Continue to follow-up with the client to get the matter of server setup resolved. I will be gone in the beginning of the week but should be back by class-time on Tuesday. Additionally, I will assist the team in working on the Design Document and install ArcGIS for Server as soon as we are able so we can begin system setup and attempting once again to plot 3D layering before the demo next week. Finish the new sped-up parser by the end of the week.
  - Eli Devine: Finish the Design Document, update the website, help plot on 3D plane once server is up for us.
  - Julio Salinas: Finish the Design Document, and once server is up start implementing our ideas for the following demo.

- **Summary of weekly advisor meeting**

This week, we discussed our current problem with the Client. What we have discovered is that our original platform (while very close to what we needed), was not exactly what we needed to perform what the client would like. From a recommendation of a ArcGIS analyst's at Iowa State Josh Obrecht and Robin McNeely, we are making a platfrom switch from ArcGIS Online to ArcGIS Server. We have discussed our new Iowa State software needs with the client and are waiting to get information back from the IT department so we can continue on the software design of the deliverable.