



MEMORANDUM

To: Dr. Christopher North
Professor, Computer Science

From: Dr. Kristen Bush
Assistant Provost, Institutional Research and Effectiveness

Date: December 8, 2015

Subject: Regarding Information Visualization Project with Ambika Karanth, Jagathshree Suryanarayanan Iyer, and Radha Krishnan Vinayagam

Here is my impression of the success of the project that Ambika Karanth, Jagathshree Suryanarayanan Iyer, and Radha Krishnan Vinayagam worked on for Institutional Research and Effectiveness. I will begin with a very brief overview of the project and then discuss more specifically 1) did the project accomplish our goals, and 2) how well your students worked with us. Finally, I will provide a rather concise assessment of the overall success of the project.

During an initial meeting with the students, the project was conceived to be a visualization of the flow patterns between majors of undergraduate students who enter the university as first time full-time freshmen. Having this information is very helpful in anticipating instructional resources needed in the various colleges and departments. Institutional Research was very interested in having the data presented at the college level and at the major level. The students were very interested in providing some other splits of the data and thus, we included sex and race/ethnicity in the data we provided for five entering freshman cohorts.

Did the project accomplish our goals?

The entire experience was very positive. The students proposed a Sankey chart to show how students change (or don't change) their majors throughout a six year time window. The students reformatted the data we provided so that it would work with the D3 libraries that they were using. They also anticipated, correctly, that the diagram would be much more visually appealing and understandable if some of the default displays were modified. For example, the students forced the software to maintain a certain order to the colleges and they imposed a more rigorous color coding scheme that remained consistent for a particular college or major. The students provided drill down capabilities as well as a way to look at all five years at once to see if/when the transfer patterns changed. In addition, because the chart does get a bit "spaghetti-like," the students provided an option to see the graphic without the students who continued in the same major from one term to the next, allowing the user to really investigate the transfers between colleges or majors. Highlighting and hovering capabilities were clean and provided additional information to the user. Certainly, from my perspective, the students accomplished the goals of the project and provided some additional tools that will prove very useful. In fact, we are investigating the possibility of providing an assistantship to one of the students on the team for the spring semester, because this is precisely the type of interactive data model that we would like to present on our website.

How easy/difficult were the students to work with?

During our initial meeting, the students had an idea regarding determining why students do not continue at the university. That type of research would require some data collection in the realm of qualitative data that could prove difficult to obtain in a timely manner. I suggested this student flow model and the students graciously agreed to do the project and embraced the concept.

The students were very professional in their communications with our office and extremely accommodating and responsive to our suggestions for improvement. On at least one occasion, we were brainstorming on a solution to reduce the spaghetti-like view of the data and we hit upon a rather elegant solution. The students recognized the elegance of the solution and implemented it better than we could even hope. All three students were a pleasure to work with and appeared to be very vested in the project.

Overall impression

This team of students were wonderful. They were well prepared, creative, technically savvy, and a pleasure to work with. They listened to our requirements and suggestions, asked great questions, and produced a high-quality product in a short period of time. In addition, they presented the resulting project to our entire office in a most professional manner.

CC: Ambika Karanth
 Jagathashree Suryanarayanan Iyer
 Radha Krishnan Vinayagam