Alan Joy, Katherine Roughan
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Homework 6: Stream Graphs

These graphs represent our own grade data for the past 7 semesters at RPI. Colors indicate what category a given class is, and the legend denotes which color corresponds to each category. Note that semesters where more than one CSCI course will have those courses merged together. The size of each course was determined using SIS's point system, which is visible on the Grades page. This system computes how much a course helped your grade using both the grade you received for the course and the number of credits that course is worth. This point system is calculated by multiplying the number of credits by the number of points your grade was worth, with 1 being a D and 4 being an A. Failing a course is represented as a 0, so those courses do not appear at all on this graph.
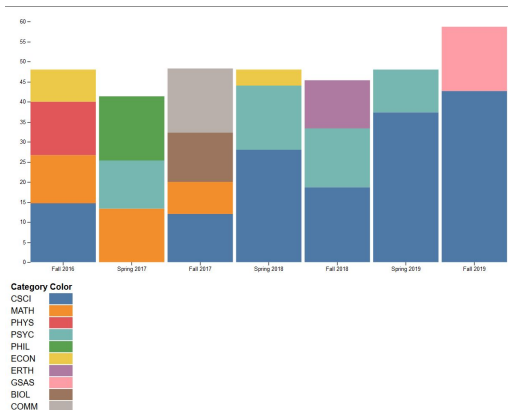

Fig 1. Alan Stacked Bar
This graph represents Alan's grade data as a stacked bar graph. You can see the steady increase in CSCI courses over time due to more freedom in selecting courses. You can also notice the drop off in

some courses, like MATH or PHYS, due to having completed all the requirements for them. It's easy to see that my major is Computer Science just based on this graph, whereas other majors or dual majors could have a more mixed variety of classes.
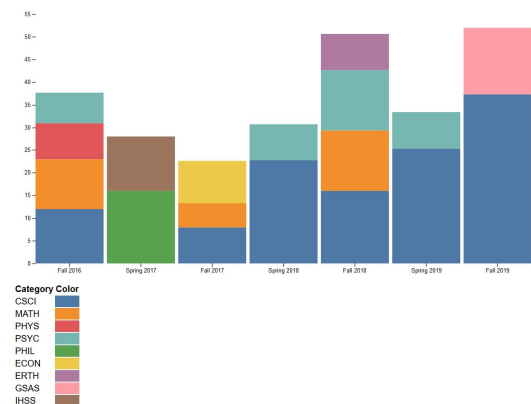

Fig 2. Katherine Stacked Bar
This graph represents Katherine's grade data as a stacked bar graph. You can also see an increase in CSCI courses here, for similar reasons. While it might seem possible to directly compare this to the other graph, the Y axis is different, so it becomes difficult to compare.
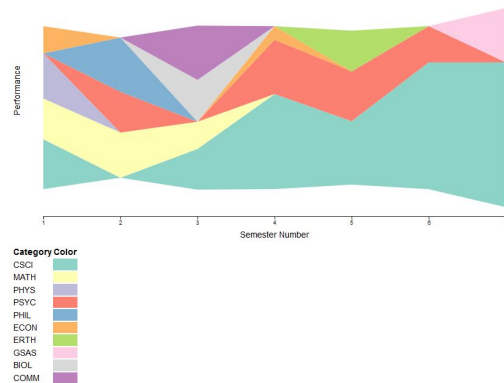

Fig 3. Alan Stream
This graph represents Alan's grade data as a stream graph. This graph shows many of the same things as the bar graph,

but the progression between semesters is much more visible. The growth of the CSCI section is more pronounced, and the overall growth of the entire graph indicates that my grades went up overall. It's worth noting that the gradual decline of certain colors implies a slow dropoff of courses rather than an entirely different selection, which is not an issue that might come up with the bar graph.
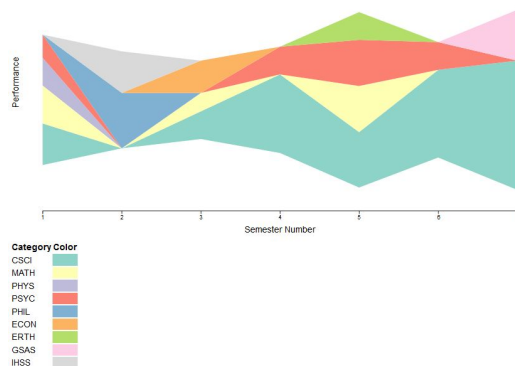

Fig 4. Katherine Stream

This graph also shows many of the same things as in the stacked bar graph, but it's much easier to see the slight flux in overall grades. Once again, the slight decline in size of individual colors is somewhat misleading, as it doesn't actually indicate any data despite taking up space on the graph.

Stacked Bar Graphs vs. Streamgraphs

While the stacked bar graphs and the streamgraphs show off much of the same data, it's worth noting the differences. The increases in overall trends in the total grades are much more pronounced in the streamgraph. However, the stream graph does have a lot of color on it that doesn't indicate actual information because of this, which makes it look more disorganized and somewhat misleading. You also cannot actually make an accurate estimate of how well either of us did on any of the courses using only the streamgraph, because the only reference points for the size of each category are other categories. The bar graph provides more quantifiable information, but is less effective at showing the larger trends over time.