Tyler Bobik

GT ID: 903202939

GT Username: tbobik3

Jonathan Carmack

GT ID: 902739551

GT Username: jcarmack3

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CS6460

Proposal

**Task List**

1. Find what metrics to use that would help influence a student’s decision for picking the right college to help improve student retention.

COMPLETED: Average net price by income level, Living Costs, Cohort Default Rate, Repayment Rate on Federal Student Loans, Average and Median Earnings.

1. Organize all of the metrics for the top 25 California Colleges that I want for student retention in excel sheets.
2. Create the visualizations to use for each group of data I am using incorporating some California map layovers as well as drop down menus:

* Average Net Price by Income Level
* Living Costs
* Cohort Default Rate
* Repayment Rate on Federal Student Loans
* Average and Median Earnings

1. Find a suitable bootstrap framework that is user friendly and easy to navigate.
2. Research ReactJS/Tableau integration – Jon
3. Research and configure server technology best suited for above technologies – Jon
4. Set up Git repository; consider configuring Travis/Circle for CI - Jon
5. Find the order in which each of the visualizations should go in on the site.
6. Insert them into the site, making sure that all the sizing is correct.
7. Final Presentation – Video explaining how to use the site.
8. Final Paper – Explanation of how I implemented the visualizations, and how one should proceed to the next step.

**Descriptions and deadlines for your two intermediate milestones. You should consult**[**the assignment page**](http://omscs6460.gatech.edu/summer-2017/intermediate-milestones/)**for those for a better idea of what to include. Note that you may choose your own deadlines: you may pick any two non-consecutive Sundays from Week 8 to Week 15 as the deadlines for your two intermediate milestones.**

Week 6 (Week of 6/19/2017) – Solidify what groups of data I want to focus on displaying for the purpose of student retention. Start mapping out how I intend to display each group of data to incorporate my visualizations.

Week 7 (Week of 6/26/2017) – Find an appropriate design for the website that is user friendly and appealing to the eye. Make the layout for the page and start adding some visualizations.

**Intermediate Milestone I (7/02/2017)** – Demonstrate that the site works with parallax scrolling and that I have at least two visualizations up and running.

Week 8 (Week of 7/03/2017) – Start creating the visualizations for each metric. Try to get half done.

Week 9 (Week of 7/10/2017) – Finish all the visualizations and add them to the site.

**Intermediate Milestone II (7/10/2017)** – Demonstrate that all the visualizations are completed and are easy to navigate.

Week 10 (Week of 7/17/2017) – Work out any bugs that may be occurring and make sure all the sizing is the correct size.

**Development Track**

* A description of the problem to be solved.

The problem that I intend on addressing is college retention, this is a well-documented problem that many people in the educational community are attempting to solve. This is supported by… This article was mainly focused on the importance of college retention, Nes Lise stated that “the positive impact of higher education and the alarmingly high attrition rate from colleges have led educators and researchers to strive to identify predictors of college success, specifically graduation”. [[1]](#footnote-1) I intend to visualize these college metrics: income brackets of Federal Financial aid recipients, average net price by income level, Living Costs, Cohort Default Rate, and Repayment rate on federal student loans. I am going to do this for the top 25 California Colleges in terms of student body count, given the time constraints of a summer schedule. I might pass this project on to someone else or continue it after summer to expand it to other states.

* A description of existing solutions for that problem, specifically to contextualize why your solution is needed.

There are a number of websites that focus on college statistic information but none made with just the intention of improving college retention rates. I intend for my site to be different than those by just displaying the information that can lead to higher retention. I also aim for it to be easier for students with less of a technical background to navigate, unlike a lot of other college websites there are a number of different pages to navigate, I plan on only having one page that has the main data for comparing schools on it.

* A description of the design of the tool you will create.

I intend to create a website that has visualizations of college data that I will obtain from Collegescoreboad.org for at least 25 colleges in California. The page will be one big continuous page with parallax scrolling and the student will be able to use the visualizations to compare different school criteria.

* A technical description of the tools, languages, and other resources that will be used.

I will be using a bootstrap with parallax scrolling for the main site framework. I will then create my visualizations using mostly Tableau, I was originally planning on using D3.js libraries but they do not handle the large amount of data I intend to display very well. The main data source I will be using is from datascoreboard.org. Additionally, I might get some data outside of college scoreboard, such as the average cost of living off campus.

* A description of the integrations or external resources that will need to be obtained, as well as spring-back plans in case portions of these details cannot be completed. (For example, if OIT refuses to provide integration with T-Square, you could instead plan for how to handle standalone student registration in a streamlined and simple way.)

If I cannot get a visualization that I want working in Tableau then I will utilize various JavaScript libraries that are built on top of D3.js they include but are not limited to; plotly.js, react.js, dimple.js, NVD3.js, and C3.js.

1. Nes Solberg Lise, <http://onlinelibrary.wiley.com.prx.library.gatech.edu/doi/10.1111/j.1559-1816.2009.00508.x/full> [↑](#footnote-ref-1)