CIM 545: Managing Interactive Media Projects

Spring 2016 Project

EduViz

http://cyni.co/edu-viz

Prepared For:

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Proposal V3

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Revision History

Version	Date	Section	Change Description	Required By	Changed By
1.0	1/24/2016	All	First Draft	Stetson	Aguirre
2.0	2/1/2016	Approach	More elaborate and detailed description of approach	Stetson	Aguirre
2.0	2/1/2016	Appendix	Added WBS, budget, and Gantt chart	Stetson	Aguirre
3.0	**2/7/16**	**Approach**	**Add:** **Activities** **Deliverables**	**Stetson**	**Aguirre**
3.0	**2/7/16**	**User Stories**	**Added new section: User Stories**	**Stetson**	**Aguirre**

Project Overview

EduViz is an interactive data visualization, in the form of a single-page web application. The visualization focuses on revealing how many universities, especially for-profit institutions, exploit impoverished students. The project is well-substantiated by a massive volume of data.

EduViz serves two main purposes. The first is to provide a tool for comparing accessibility and affordability of different institutions. The second is to serve as a compelling interactive article that exposes institutions using predatory lending practices.

Goals

The primary goal of this project is to **inform** readers about the predatory practice of exploiting poor students by higher-education entities. This project does not aim to incite any action from readers.

To convey a successful idea of this visualization, the website should:

- Show data in a way that is **intuitive** (needs little explanation) and **accessible** (understood by most people)
- Be **usable** – Able to be navigated and operated without error or frustration
- Be **compelling** – A story/narrative should be evident from the visualized data (although it may need to be augmented with written elements)
- Be **flexible** – Versatile in its potential uses and ability to relay information

The main goal is to take an immense and somewhat cryptic dataset and transform it into a visualization, or series of visualizations that is sensible and more readily available to the general public; in its current state, the data caters mostly to statisticians and researchers, as well as though who can manipulate data.

Metrics

While project success lends itself more towards subjective evaluation, some objective metrics will be used:

- **1,000 page views**
- **50 social media shares** (e.g., re-tweet or FB share)

This project is not intended to produce revenue; it is desirable that the page is viewed, and the app proves to be usable and insightful.

Stakeholders

- ProPublica staff
  - Annie Waldman – Reporter, education
  - Scott Klein – Team director of data-driven stories
- Students (prospective and present)
- Members of education-driven entities
  - Kaplan
  - CollegeBoard
  - ACT
- Professor Stetson Pastore (course instructor)
- Professor Seelig (capstone instructor)

Roles & Responsibilities

Name	Role
Nicolas Aguirre	IA / UI
Nicolas Aguirre	Visual Design, Aesthetics
Nicolas Aguirre	Project Management
Nicolas Aguirre	Front-end Development
Nicolas Aguirre	Data Analysis and Curation

Approach

EduViz is a highly technical project; meticulous planning and execution are paramount to success. After planning, this project will involve data analysis, visual design, iterative software development, and user testing.

The tentative approach is as follows:

Phase 1: Plan

Activities

Phase 1 concerns the development of the project plan (v 1.0) as well as drafting preliminary budgeting, scheduling, and tentative WBS/Gantt chart. The goal of this phase is to understand the scope of the project, how long it will take, how many people will be involved, and how much it will cost.

Deliverables

- Project plan, as well as its revisions
- Payment schedule
- Work breakdown structure
- Gantt chart
- User stories/use-case scenarios

Phase 2: Data Curation and Analysis

Activities

Because this project has an immense dataset (over 1700 columns), finding variables of key interest is important. This phase will center around making the dataset smaller so as to enhance browser performance, and also aims to uncover correlations and trends of interest among variables

A statistician will serve as a consultant to review the dataset and determine potential findings of interest. Because the dataset is so massive, it warrants the use of a professional statistician to parse the dataset.

As of project plan V3, it has become apparent that our statistician will also need to be proficient in SQL (structured query language) and knowledgeable about database architecture.

Deliverables

- Variable finding report, with both detailed and summary results of variables. Also includes a narrative of high-level findings for summary purposes.
- MySQL or Postgres database. The immense dataset will be relieved of unnecessary variables, and stored on a locally-accessible database. It is likely

that Postgres will be used to facilitate the construction and access of the database.

Phase 3: Visualization Design

Activities

Even if interesting trends are uncovered within the dataset, they are meaningless if not visualized appropriately. This phase will focus on finding appropriate means of displaying data. This phase will likely spur multiple iterations of charts and visualizations in an attempt to find the most apt fit.

Our statistician and graphics/interface designer will work in harmony to design a layout that works for the desired visualization. The interface designer will create wireframes/sketches of the app.

Deliverables

Deliverables should be in the form of prototypical wireframe websites. While not fully functional, these prototypes should at the very least allow the user to get a sense of how data and information will be displayed, and the nature of their interaction with the site. Users should be able to provide feedback regarding the site's appearance and structure of information.

Phase 4: Beta Build

Activities

A full-stack developer will be hired to:

- Determine the needs of our code (e.g., required technologies)
- Build the front-end/HTML of the website. At this point, a prototype will exist for internal circulation
- Build back-end, JavaScript and any required database resources. The developer will create the functional code that drives the visualization

Deliverables

Upon completion of Phase 4, our team will have a **fully functional** beta build that can be used to further the development of the app's design. At this point, the website should:

- Allow users to browse data in a variety of ways
- Provide a user with a data-driven narrative
- Provide a frustration-free experience

Phase 5: Testing and Eliciting Feedback

Activities

After finding feasible ways to test the data, I intend to interface with my contacts at *ProPublica* to get feedback on the project. As some of their staff works with education stories, they will have proper insight as to how well the application is doing in its narrative element.

A usability test will also be conducted. Participants will be recruited and compensated. Our usability test will focus on evaluating the prototypical app for:

- Ease of usability
- Function of visual design – do the aesthetics serve a function in helping the user understand data?
- Effectiveness of visualization – Are the data points understood by the user?

Deliverables

- Usability test documents
    - Moderator/user packets
    - List of questions, tasks, and test objectives
- Test results
    - Metrics for tasks – Single-ease question, comments, time on task, pass rate
    - Findings of interest – which parts of the website struggled with usability problems
    - Suggestions for next build – this should leave our team with an actionable list of changes that can be made to the app

Phase 6: Release Build

Activities

This phase will consist of debugging, enhancing and finalizing aesthetic elements, and fine-tuning nuances of the visualization. Using feedback from users and readers, any ambiguous facets of the visualization will be smoothed over to better accommodate the average reader. Any additional features that could benefit the visualization will be added at the end.

Our full-stack developer will put final changes into place and ensure that the app is ready for cross-platform distribution. The developer will also fix any existing bugs and refactor/clean code for public release to GitHub.

Deliverables

- Source code on GitHub, with all bugs/issues resolved, and thoroughly commented code.
- Documentation for development of the app – versioning, changes, variable commenting, analysis and design of program structure
- Final website, publicly available for distribution and use by the public

User Stories

As a **potential college student**, or person seeking higher education

- **I want to –** compare and contrast different colleges, looking at affordability, and outcomes; learn important terms regarding financial aid.
- **So I can –** select an affordable school that garners positive career prospects.
- **Acceptance criteria –** Be able to answer questions such as:
    - Which schools best suit my financial needs?
    - Which schools give students better earnings?
    - For students like me, which schools leave students less encumbered by debt?

As a **professor**, or individual working in higher education,

- **I want to –** see how my school compares to others in terms of debt and career outcomes
- **So I can –** take active involvement in my school for matters that regard financial aid.
- **Acceptance criteria –** Be able to answer questions such as:
    - How does my school spend its profits/earnings/revenue on financial aid, compared to other schools?
    - Does my school promote opportunity, both in terms of financial aid and education?

As a **reporter**/investigative journalist,

- **I want to –** investigate a particular geographic region; find schools with errant and/or predatory lending practices
- **So I can –** cultivate a story regarding predatory lending; bring awareness to this issue
- **Acceptance criteria –** Be able to
    - Find meaningful, substantiated statistics that support journalistic claims made
    - Have a reliable starting place for investigating lending behavior of a given school
    - Use *EduViz* as a source of supporting evidence for claims made
    - Link to *EduViz* as a resource related to my article

Payment Scheduling

This project is estimated to cost a total of **$12,160.00 USD.** This sum will be paid in two increments:

1/25/16 – $3,040.00 at sign-off
3/27/16 – $3,040.00 upon completion of beta build
4/27/16 – $6,080.00 upon completion of project

Appendix

Please see attached documents for the following:

Agile Approach (Scrum)

Lean Approach

Comparison of Approaches

WBS

Gantt Chart

Design Documentation

Budget (Project Breakdown)

Data Map