

Approach and Feasibility Report

Due Date: February 3, 2020

Team 3: Owen, Gracie, Abby, Ben, Brad, Katie, Ana

Introduction:

This report answers the basic questions about Team 3's approach to this project to develop a system to launch a mastery gradebook dashboard. We plan on working with Dr. Heather Smith to make the final product as tailored and practical as possible.

Questions and Answers:

1. Does the team wish to reconsider the project?

Our team is excited to pursue the mastery grading system dashboard. Many of us have been in classes that use the mastery grading system and we see the need for an organized, centralized tool that keeps track of grades and records each student's progress.

2. Platform (smartphone, web app, tablet, etc.)

The code for our dashboard will be written mostly in R (using the Shiny package), HTML, and JavaScript. We will create a web application connected to a MongoDB database. We will be developing this project on our own Mac computers using the R Studio IDE and git/GitHub for version control. Additionally, we are using a Slack channel for team communication and collaboration.

3. What skills does the team have for this project?

Most of our team has experience with JavaScript and HTML. A couple of us have used MongoDB and R. Some of us are currently taking the Data Visualization class and are beginning to learn D3. Between the seven of us, we have most of the skills necessary to complete this project. We can work together to share our knowledge and teach each other the necessary skills.

4. What skills does the team need to develop?

For many of us, we are looking forward to developing skills and learning new languages like R and JavaScript. While we collectively possess many of the skills necessary for development, we will need to learn how to use the tools/languages together (for example, connecting MongoDB with R, adding D3 data

visualizations inside of R, etc.). We will also need to develop strong communication skills within our team to successfully complete this project.

5. What Process Model should the team use?

This team expects to use an iterative Agile process model. We will break up our project into several sprints and work to have certain features completed and fully functional by the end of each sprint.

6. Is this project actually feasible for development by this team?

Our team believes this project is feasible for development by the end of this semester. Some of our team members have already begun planning and conducted background research, so we will be able to spend more time and energy developing the dashboard. We aim to implement (at the very least) a functional dashboard that allows professors to enter grades and students to view those grades. Additionally, we hope to add some visualization and performance tracking features to our dashboard so that students and professors can interact with the gradebook in a meaningful way. We are aware that it may not be feasible to fully deploy our web application on a server for Davidson professors and students to use. However, we hope to make this dashboard available to users in the future, if we cannot do so in the scope of this course.

7. How will the team be organized and managed?

Our team plans to work in pairs (and maybe one group of three) on each component of the dashboard. Our idea is to pair a team member who is familiar with a certain language/tool with a team member who is unfamiliar with that language/tool. This way, each team member will be able to learn new skills throughout the development process. We will break up the development of the dashboard between front-end and back-end work. We will further divide these two “ends” into smaller components to be worked on by a pair of developers. Our team leader will help facilitate the assigning of pairs and components based on the team member’s skills and preferences.