



College of Engineering

CS CAPSTONE PROBLEM STATEMENT

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MANY VOICES PLATFORM

PREPARED FOR

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GROUP 61

REMIX

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Abstract

The purpose of the Many Voices Publishing Platform project is to remedy problems associated with the current textbook market and standard expectations that come with textbooks. The Many Voices Publishing Platform was developed to alleviate costs of textbooks for students and provide instructors with the ability to create their own. Instructors can use the open platform for collaboration between content creators, and other instructors in order to choose the specific focus of their course materials. This platform was created using a custom Git back-end integration and Aurelia as a front-end JavaScript framework to provide the ability to implement a collaborative platform for authoring.

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1 REVISION LOG

Name	Change Number	Date	Description of Change
Steven Powers	1	2/13/2017	<ul style="list-style-type: none"> Updated the Problem Statement to remove references to Ward Cunningham's Federated Wiki. Updated document to new design. Added clarifying language: downloadable eBook (to) downloadable eBook (PDF) Changed reference from GitHub to Git Removed reference to editing like Wikipedia This was intended to work with Ward Cunningham's Federated Wiki). their customizations back to other professors (to) their customizations to their shared materials

2 PROBLEM DEFINITION

Today, textbooks are filled with yearly updates that are often released with the minimum number of changes needed to justify a new edition. These textbooks repeatedly cost in the range of hundreds of dollars and are often filled with poor or even incorrect information. Students are often left with poor to understand information that is often more complicated than previous versions of the textbook. In the United States, most textbook materials are decided by a few states that choose what will appear in textbooks published nation wide. Most professors will simply choose the book provided to them for review that satisfies their requirements the best, without considering the costs that will be passed onto students.

Furthermore, the addition of online course materials is used to keep students buying new temporary subscription services that used to be free. A professor can either choose a textbook from a catalog, one provided for them, or spend months to years writing one of their own. If a professor chooses to write their own textbook, they will have to seek publishers, other contributors, and have their work peer reviewed before it can finally be released to store shelves. If a professor chooses a book through a catalog or one provided for them, the pre-written textbooks often contain unnecessary chapters, or can even be missing key sections on topics viewed as critical. This problem can further result in additional class materials being purchased by students to supplement the missing information. Students and professors are left with inadequate materials, damaging the scholastic environment.

3 PROPOSED SOLUTIONS

The Many Voices platform, instead, allows professors to create their own textbooks by using crowd-sourced content. These created textbooks will reduce the costs of publishing, allowing students to purchase, or otherwise receive the

textbook at a reduced cost. This monetary benefit will allow professors to update their courses more frequently without passing on large costs to the students. This benefit can take the form of a professor that previously would not create their own course textbooks, or reducing the costs of available textbooks that the professor might choose. Content creators are able to submit materials of all different formats, including: images, small pieces of text, pages, or even entire chapters. The submitted materials are able to be reviewed by editors and other contributors to prevent invalid materials from being used. A knowledgeable professor can contribute a chapter or unit on their specialty, and others are able to modify obtained materials in the way they see fit. These materials may be offered for free or for a nominal fee, determined by the content creator.

Once materials are acquired, anyone is able to create a more affordable textbook available in either a downloadable eBook (PDF) or in printed form to create the exact textbook they want for their classes or for any purpose they desire. These materials are able to be used with version control software such as Git, that allow for users to fork and branch their changes to satisfy their goals. Additionally, the platform features a way for editors to review content their content and make edits as they please.

The platform also features a way to search for and find documents relevant to the users interests. Through a variety of search criteria, the requested topic or subject will turn up results prioritized by relevance and credibility. By default, the platform will offer the most used and/or reviewed materials based on entered search terms. Users will be able to narrow down their options by specifying date ranges, certain contributors, editor review score, and more choices to make finding the right document an easy process. The finished platform will allow users to see existing textbooks, customize them using their own or third party materials, and contribute their customizations to their shared materials.

4 PERFORMANCE METRICS

The platform will be viewed as a success if the platform allows professors to submit, edit, publish, and compile materials for the creation of textbooks and other instructional materials. Our goal is to ensure the platform meets our client's project expectations, which includes the ability to combine different materials into a textbook, in addition to the defined needs, and functions as according to our development plan.

We will, in our best efforts, plan to meet at minimum every two weeks with our client to discuss current progress of project goals and proposed functionality for the application. Finally, before beginning work on major project milestones and certain aspects of the platform, we will discuss the overall status of the project. We will further inquire as to whether our client has any additional insight to assist in meeting project expectations as desired. After reaching a reasonable agreement, we will continue to adjust and shape the platform where necessary. We will further ensure that the development taking place on the platform is to the best of our abilities.

A successful implementation of the platform will include the ability to combine materials of various types into a full document for use as a textbook.