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|  | Software Requirements and Analysis |
| Cross Campus | |
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| 2016-11-20 | |

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# **Revision History**

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# **Introduction**

## **Purpose**

The purpose of the document is to record our software requirements and designs for the Cross Campus Collaborative Learning Environment (CCCLE). It will provide the technical needs of the system for the purpose of designing its physical architecture.

## **Scope**

The Cross Campus Collaborative Learning Environment is a new web application with an Android client linked through a REST-style backend API. The CCCLE will host student uploaded notes and educational content with an integrated commenting and rating feature. The CCCLE will also have a classified advertisement posting service for students to sell their used textbooks and other equipment. In the classified adverts, students will be able to arrange tutoring sessions to either tutor or receive tutoring. The application will include social media elements allowing users to save valuable time registering, login, and share content with their Twitter or Facebook accounts. The CCCLE will provide space on the website and Android GUI for APIs to fill with third-party advertising, as a means of generating revenue.

# **System Overview**

The CCCLE is a service which will allow post secondary students to engage with other students for the purpose of exchanging services and learning materials. Users will also be able to engage in discussion with one another over the available content through posting comments and ratings.

# **Project Perspective**

This project will be mainly self contained. All parts excluding our web hosting and parts of our front end will be developed in house to allow for the following reasons:

* Ease of support
* Increased efficiency
* Low overhead costs
* Complete oversight
* To demonstrate our programming and design skills

# **System Context**

The specific parts which will form the core of the CCCLE will be a REST style API, a SQL modelled database, and Amazon web services hosting. For rolling out the release, this backend will be interfaced with a website and an Android application to form our front-end. This design will allow for easy feature management, as well as a consistent design across any platform. It will also allow for a simple maintenance cycle as all the resources can be managed independently from one another. Lastly, this design will allow the platform to be greatly scalable.

# **General Constraints**

* + 1. Business Constraints

As a collaborative student team, we face the sharpest of our constraints with group management, time and human resources:

* Available manpower
* Project focus
* Project deadlines

Our available manpower has considerably shrunk since the forming of our project vision and its scope. Having only three members available for project (from the original five) contributions has forced X Campus to reduce the scope of the CCCLE in terms of the feature richness of our system affecting both the front and back end portions of it. Additionally, no single member of our group has a dedicated focus on the CCCLE due to the scope of being in college. This forces us to constantly readjust our interactions and planning to configure around our other project needs. Finally, the last constraint is that X Campus does not create the final due dates for our own work. This causes stress on meeting our scope as the semester develops and is not always foreseeable.

* + 1. Technical Constraints

Our technical constraints include:

* Limited institutional support
* Managing content and moderation
* Fluid design and visibility
* Rapid response times
* Intuitive and easy to use

Adding the ability to get information from an institution or validate through an institutional email will require a certain amount of time to implement for each institution that we choose to support; therefore the number of institutions we support will be limited by time the CCCLE is released. Our ability to handle out of scope content will also be a challenge to meet; we can constrain how much content will be allowed to be uploaded and track our users through their unique email but this certainly does not guarantee a failsafe process. The amount of moderation we will be able to utilize will be a constant strain on our business, product and end users. We will be aiming to use the breadth of our software to make the best of a fluid and attractive design, inviting users to utilize our platform. To maintain a fluid design and keep the product user friendly, rapid response times are crucial. Lastly, in our implementation of our features, we must ensure that our interface remains simple and intuitive for ease of use and avoid the feeling of overwhelming the user with bloated features.

# **Assumptions and Dependencies**

We have made a large number of assumptions from the start of this analysis. All implemented features and interfaces will be accessible by users upon completion. We will have enough server load to handle the release of our product. The cost of running the site will be countered by the revenue of having static advertising space.