Product Plan

for the

Electronically Returned Assignments

by

Zachary Auer

Joshua Raben

Michael Rhodes

Cameron Scott

of

ER Assignments

Revision number: 002

Last Modified: 10/09/2017

Estimation

For overall project architecture please see the artifact: ERA_Architecture_Diagram_002.pdf. The overall Electronically Returned Assignments (ERA) system is divided up into two components the “Uploader” (client) and the “Server” (server). Each component has a Model View Controller (MVC) based architecture with added packages for REST API based communication between the server and uploader and additional packages for the core algorithms of the project. An example of a core algorithm of this project would be the PDF processing and scanning algorithm.

For the most part our milestones will align with the sprint goals defined in the “Scheduling” section of this document. Below are the milestones with the person hours we are estimating for them:

- QR code generation, QR scanning, and student to QR code association: 25 person hours.
- Uploader core functionality: 50 person hours.
    - This milestone is for the core functionality of the uploader that we will have finished in 425. This includes the storing student PDF’s locally, mapping students to QR codes, and adjusting the PDFs to properly display them to students.
- Server core functionality: 25 person hours.
    - The core functionality of the server is setting up the REST API part of the web application to provide remote CRUD and email based calls.
- Uploader full functionality: 20 person hours
    - The full functionality of the uploader includes the core functionality with the ability to print out sheets of QR codes, the dummy QR code mapping, user authentication, and archival of the local database.
- Server full functionality: 20 person hours
    - The full functionality includes the core functionality with the user interface to allow students to view their assignments, authentication, and archival of the remote database.

Resources

We will require an external server provided and hosted by the SIUE ITS department, as well as access to the Central Authentication Service (CAS). The server will be used to host an endpoint web application to view digital scans of SIUE course assignments, students will be required to log into the server to view their assignments using their SIUE credentials, hence the need for access to the ITS CAS. The CAS will also be used in our software system to validate that graders have appropriate levels of authentication to perform differing levels of tasks, i.e. a professor will be identified as having greater privileges within our software system than a teaching assistant.

Scheduling

- September:
    - Sprint 0: 3rd - 23rd
        - Initial draft of all Documents listed in Concept Development and Product Planning Phases
    - Sprint 1: 24th - Oct 7th
        - Finalize all drafts in Concept Development and Product Planning Phase, Get Project Specification signed by Product Owner, Begin software development.
- October:
    - Sprint 2: 8th - 21st
        - QR code generation and student association completed.
    - Sprint 3: 22nd - Nov 4th
        - QR code scanning completed.
- November
    - Sprint 4: 5th - 27th
        - Storage of student associated assignment files into offline and online database completed.
    - Thanksgiving Break: 20th - 26th
    - Sprint 5: 28th - Dec 11th
        - Multi-page ordering of .PDF scans completed, remote authentication, ensure core functionality is tested and complete.
- December
    - Final Exams: 11th - 15th

- January
    - Sprint 6: 9th - 22nd
        - Product Owner feedback from core element, Updating of documentation and Sprint Planning for Semester
    - MLK Day: 15th
    - Sprint 7: 23rd - Feb 5th
        - QR code printout functionality completed, general uploader functionality completed (creation of new classes, adding semesters),

- February
    - Sprint 8: 6th - 19th
        - Dummy QR code generation and functionality within system completed.
    - Sprint 9: 20th - Mar 12th
        - Add user authentication to uploader, email notifaction Correction of page .PDF scanned images completed.

- March

    - Spring Break: 4th - 11h
    - Sprint 10: 13th - 26th
        - Archival of database files, local and online, completed.
    - Sprint 11: 27th - April 5th
        - Online server interface completed, Roll over User Stories completed.

- April
    - Presentations: 10th - 12th
    - Delivery/Acceptance Testing: 17th - 26th

- May
    - Project Portfolio Due: 1st at 12:00 pm

Communication

Through the duration of the project team members will perform:

Interpersonal Communication
Team members will utilize electronic forms of communication, by setting up group text message conversations and a Discord server. Team members will also be expected to attend at least two formal, in person, meetings per sprint and participate in as many informal meetings as possible. All documentation will be hosted on a shared Google drive among team members. Further, all team members will provide meaningful feedback on said documentation to allow for refinement and further clarity of the team's understanding of the project at large.

Product Owner Communication
The software development team will maintain communication with the Product Owner via email and will have a meeting at the end of each sprint to relay the current status of the project's development. When appropriate, the software development team will provide a demonstration of the current working components to the Product Owner.

Quality Assurance and Risk Management

In order to prevent some of the risks outlined in the Risk Plan, we will make sure to follow all of the test strategies in our Quality Plan.

425 Exit Strategy

By December 10th, 2017 the software development team will have completed and have a functioning core component of the software system. This component will be a desktop application, that can run on Windows or MacOS operating systems and be capable of receiving

scanned in .PDF files of assignments, associating them with their unique student and storing them in a local database or uploading them to a server based database where they can be viewed. We will also have a rough user interface implemented to get user feedback from Dr. Jones.

499 Exit Strategy

By May 1st, 2017 the software development team will have completed at the very least all User Stories of medium to urgent priority and most, if not all, of the low priority User Stories. By that date the 100% functioning server will be deployed to the production virtual machine given by ITS and the Java Archive File (jar) for the desktop uploader will be delivered to Dr. Myron Jones for him to run on his machine.

Before the delivery date of May 1st 2017 the software development team will, several times, walkthrough what they created with Dr. Jones to insure that what was created was what he had envisioned. The team will also conduct at least two usability studies to test the usability of the Uploader and the Server using students, teachers, and TAs from the Chemistry Department. These usability studies will be conducted to ensure that all the main stakeholders of the software will be able to properly use the software.