

**Team Camassia**

Sarah Callaway

Brady Esplin

Sam Petty

# Vision and Scope

for Registration System Update 1.1.0

Prepared by:

**Team Camassia** - Sarah Callaway, Brady Esplin, Sam Petty

Organization: Western Oregon University

Date Created: 1/12/2022

## 1. Business Requirements

### 1.1. Background

Camassia previously developed and implemented a college course registration program currently in use at Western Oregon University (Registration System 1.0). This product was well received by stakeholders and has provided them with the functionality required by the original scope of the project. In response to feedback from stakeholders as well as technological progress of recent years, we have decided to further develop our initial tools into a more robust registration system that is deeply integrated into the university's web services.

## 1.2. Business Opportunity

### ■ Business Problem Being Solved

A major issue is that students with interdisciplinary studies majors have great difficulty with the current system as it was not built with the capability of recognizing and processing dual majors, leading to frustration as each major needs to be calculated for graduation requirements on its own, and then the results compared to each other. Another significant complaint is that the system looks and feels archaic and that many functions need to be integrated in the current system to fully modernize and streamline the registration process.

#### 1.2.■.1. Comparative Evaluation

In the sample collected, the student group that was polled agreed that the class registration systems used by Chemeketa Community College, Linn-Benton Community College, and Oregon State University were so similar to the system used at Western Oregon University as to be identical with the exception of coloring and logos. The students agreed that there were few major issues with the existing systems but there was great room for improvement.

As far as the polled group was concerned these same issues exist for all other listed registration systems as well.

#### 1.2.■.2. Potential Solutions

- Integration with the Bookstore so that the bookstore has the students' required class materials already saved in their cart to ease the rush of a new term. This functionality does not currently exist in any form.
- Automation of sending exception requests to professors for an override of prerequisites. Currently the students must exit the registration process, find the instructor's email address, email the instructor requesting an override, and wait for the instructor to provide the override and email them back. The instructor must check their email, log into the class registration system, provide the override for the student, and email the student letting them know that they can register. This system could be automated down to as few as around three clicks of a mouse if the alerting to override requests is automated and provides a quick link for the professor to approve or deny the request in the alerting email. The professor could also set up a pre-approved override list for some prerequisites as they desire.
- Integration with class description listings. Currently the class descriptions can be searched on [this web page](#), and the polled students expressed that the two systems should be integrated for ease of use.
- Integration with Faculty web pages so the student has the ability to set up a meeting with the professor, email them before term starts, or to see any biographical information that the professor has placed on their page.
- Degree planning calendar by term that allows the students to plan out and visualize the classes that they must take each term to complete all graduation requirements. Included is a "one-click" registration option for classes listed in the

term that registration is open for. This opportunity also ties in with the following opportunities:

- Integration with the Registrar's Office to add the ability to automatically populate the "Classes needed to Graduate" list with the required classes based on the student's declared major.
- Integration with the Registrar's Office to gauge future interest, need, and timing of upcoming class offerings. The University could then plan accordingly based on student need and reduce the frustration and confusion that results from canceling classes when there is not enough interest.
- Integration with the Academic Advising Office so that the student's advisor can input suggestions for additions and revisions to the student's current planning calendar.
- Future class search option and forecasted term class availability so students can plan their future terms with less uncertainty. This was a common issue brought up by nearly every student in the polling group. The students would like a way to see what classes will be available in future terms so that they may plan out their time at Western Oregon University with no uncertainty about the availability of the classes they must take to meet graduation requirements.
- The ability for students to "bookmark" classes that they are interested in so they do not have to search for them at a later date. Functionality would be identical to a browser Favorites feature.
- Clearly listed prerequisites for each class that the student can view.
- Displayed prerequisite chains that can be easily viewed so students may see all of the prerequisites required at the same time and can easily view the description of each, with the ability to add, with one click, the entire prerequisite chain.
- An "Express Interest" selection for future classes. As Western Oregon University cancels classes if there are not enough registered students, the polled students expressed frustration at the uncertainty of having the classes they need to graduate offered at the times that they need to take them. Allowing students to let the University know that they would be interested in a specific class offered during a specific term, would enhance understanding between students and staff.

#### 1.2.3. How the proposed changes fits in with current University strategy

Improving the registration system with these functionalities will;

- Cultivate student success through personalized attention
- Adapt to the changing world through continuous institutional improvement, and the delivery of critical and innovative programs
- Challenge students, faculty and staff to grow profoundly through inspiring, thought-provoking educational experiences
- Demonstrate that Western Oregon University aspires to standards of excellence in all programs
- Support the inclusion of, respect for, and appreciation of all communities of students, faculty, and staff
- Promote the well-being of students, employees, and the environment

- Demonstrate the values of Accessibility, Collaboration, Empowerment, and Excellence.

These are stated goals in Western Oregon University's 2022 Mission Statement, and the changes that are proposed in this document would further align all experiences in the university to the [mission statement](#).

### 1.3. Business Objectives

The focus of this change is to decrease the frustrations users have with the version of the system implemented at this time, and to work on making it more easily accessible to all that would be using it. This will be accomplished in a quantitative way through random polling from users of the registration system, to achieve and maintain a satisfaction above 90%.

### 1.4. Success Metrics

A successful deployment will be measured foremost by a customer satisfaction survey to be filled out by end users. Team Camassia will achieve a 90% approval rating on this user survey. This survey will be ongoing in order to gauge user satisfaction. This delay will allow users to have the opportunity to acclimatize themselves to the new system by using it at least three times. The survey will be voluntary for most users, however, in order to achieve a random sample to which statistical analysis can be applied, a random sample of users will be required to submit the survey. The sample will include students, with separate surveys to be completed by professors and advisors who also interact with the system. Satisfaction from each of these groups should be at least 90%.

Additional success metrics will include analyzing the usage of specific portions of the site, to determine how long users spend on various activities (e.g. research for future classes vs. registration). Team Camassia's success will be demonstrated by a 50% increase in speed of the actual registration. Presumably students will be able to add classes in which they are interested to an interest list, and when registration goes live, they will be able to register to those classes at once, significantly decreasing the time spent interacting with the registration interface.

Team Camassia will also monitor tickets to IT or the helpdesk generated by the registration process (as well as instances in which professors have to input prerequisite overrides multiple times in order for the system to accept them). We will see a decrease of 20% in IT issues related to the registration system once users are accustomed to it (starting in the second registration cycle after launch).

## 1.5. Vision Statement

The purpose and intent of Registration System Update 1.1.0 is to modernize the current and existing registration system used by Western Oregon University with features that would be beneficial to students, staff, and faculty.

The finished product will produce a streamlined experience making registration straightforward and efficient, reducing the need for unnecessary steps in the process, and enhancing convenience and ease of use for students, staff, and faculty.

## 1.6. Business Risks

Assumed business risks will be timing issues with release (making sure that we get everything out on schedule), user acceptance (that users will adopt the changes that are being made through UI adjustments, useability, and added functionality), as well as implementation issues (applying updates and new features to an original system usually generates a few issues that will need to be addressed).

Below we will rank the severity of the issues and how they might be mitigated.

1. Implementation issues. Working with designers and developers that implemented the system that is in place will help to alleviate the biggest concern with implementation.
2. Timing issues. Setting a schedule and sticking as closely to it as possible will help to mitigate any timing issues.
3. User Acceptance. Setting out a user poll with different options as to the new look and new features would be best for handling this issue.

## 1.7. Business Assumptions and Dependencies

Team Camassia assumes that it will be building Registration System 1.1.0 on top of Registration System 1.0. This project, therefore, will be dependent on the prior programming language and developer tools utilized in the previous production cycle. Team Camassia assumes that there will be no third party or external parties working on the project, and that it will be limited to Western Oregon University staff and students. Team Camassia assumes that it will be the only developer team to undertake the project, and that changes have not been made without our knowledge to the previous registration product. Team Camassia also assumes that the university will not have to purchase or lease any additional third-party software or developer tools beyond what was used in the first registration product.

## 2. Scope and Limitations

### 2.1. Major Features

- Update will accommodate interdisciplinary studies majors with the ability to select and specify multiple majors
- Update will Integrate with Bookstore for class material ordering
- Update will automate the prerequisite override process
- Update will integrate class description listings in the registration software
- Update will link class descriptions to associated faculty information web page
- Update will include a term by term degree planning calendar
- Update will integrate system with Registrar's Office to auto-populate a "Classes Needed to Graduate" list
- Update will integrate with Registrar's Office to gauge future interest in class offerings for planning purposes
- Update will integrate system with Academic Advising Office for student-advisor collaboration
- Update will include a search feature for future classes on offer for student planning
- Update will include a class "bookmark" feature so students can save classes for future reference
- Update will clearly list prerequisites for each class on the class information page
- Update will display all prerequisites and prerequisites to those prerequisites to enhance clarity and understanding. Included will be a feature to add all listed classes to bookmarks or "Classes Needed to Graduate" lists
- Update will allow students to express interest in future class offerings to enhance communication and understanding with the staff and faculty.

### 2.2. Scope of Releases

Interdisciplinary studies will be the focus of update 1.1.0, allowing for multiple majors to be displayed and assigned to a student using the registration system, so that the other fields will populate correctly and allow for the correct classes to be able to be selected.

Included in update 1.1.0 will be the foundations of future features, namely a term by term planning calendar to increase useability and functionality of the registration system for student and staff by allowing a two or four year term plan to be written and visualized. Update 1.1.0 will add the class descriptions, currently located in the Catalog of Classes online, to the registration system for easier student access. This will also allow the students to view all prerequisites for their classes clearly as they register. This feature will help the students make better decisions regarding which classes have priority to take prior to other classes.

Other features will build upon the features released in previous updates until we have accomplished the goal of meeting the needs expressed by each user class.

### 2.3. Scope of Release 1.1.0

- Interdisciplinary studies functionality
- Term-by-term planning calendar
- Class description integration to registration system
- Prerequisites clearly displayed in class description

### 2.4. Scope of Release 1.1.1

- Automatic prerequisite override requests
- Branching prerequisite course requirements
- Integration with Registrar's Office

### 2.5. Scope of Release 1.1.2

- Integration with the registrar and outstanding classes needed for graduation
- Integration with registrar's office to gauge future interest in courses
- Class bookmark feature

### 2.6. Scope of Release 1.1.3

- Check on integration with academic advising office to ensure that their needs are being met
- One-click registration option for bookmarked classes that are offered during the term in question.
- Future class search feature

### 2.7. Scope of Release 1.1.4

- Integration with the bookstore
- Integration with faculty information web page
- Express interest option for classes

### 2.8. Limitations and Exclusions

- One developer expressed an interest in integration with links to external sites like "ratemyprofessor.com". Integration with external sites is outside the scope of this update.
- The ability of an advisor or registrar to access a student account is functioning as designed and will not be addressed in this update.

### 3. Business Context

#### 3.1. Stakeholder Profiles

Stakeholder	Major Value	Attitudes	Major Interests	Constraints
Students	Improved usability	Receptive, looking forward to greater useability and modernization	Ease of use	Needs to run in any browser
Advisors	Ability to perform entirely new tasks or functions	Supportive, cautiously anticipating higher ease of use for students and staff	Ease of use, better tools to offer help with	No higher workload for new features
Professors	Automation of previously manual tasks	Neutral, do not want to do more work but see the benefits of an automated prerequisite override process	Automated tasks	Time management for new tools needing input
Registrars	Automation of previously manual tasks	Supportive, excited about having less manual input to do	Able to handle tasks faster with automation	High system accuracy
College Administration	Reduced Rework	Opponent, thinks the current system is good enough	Makes the school look better with a fancy system	Cost can not go above budget
Bookstore Personnel	Automation of previously manual tasks	Supportive of the proposed automation	Task automation	System ease of use
Financial Department	Cost savings	Neutral, would like to see an increase in student graduation rate and a decrease in drop-out rate	Higher possible retention rates from ease of use and transparency	Needs to demonstrate higher retention to be worth the value



Dean of Students	Cost savings	Receptive, hope that this will improve the student experience and increase student graduation rate	New system appearance	90% approval rate of new functions and look
Developers	Productivity	Supportive about adding the required features by the scheduled release date	None	None
Business Analysts	Showing the stakeholders that the team can uphold the values they need	Supportive, sees the update as a good chance to demonstrate Team Camassia's modernization techniques	Modernizing the layout of the registration system	None
Project Manager	Optimize time for the team to work on the project	Supportive, is looking for good metrics to demonstrate successful projects	Showing what the team can do	Acceptance of new features
Project Management team	Less issues	Neutral	None	None
Helpdesk/IT personnel	Less Errors	Opponent, anticipates that the update will lead to the brunt of the associated work being absorbed by their department	Less issues with the majors, and therefore less for them to work on	Errors need to be kept below threshold.

### 3.2. Project Priorities

<b><i>Dimension</i></b>	<b><i>Driver</i></b>	<b><i>Constraint</i></b>	<b><i>Degree of Freedom</i></b>
<i>Schedule</i>	<i>release 1.1.0 available by 10/1/22, release 1.1.1 by 4/1/23, release 1.1.2 available by 10/1/23, release 1.1.3 available by 4/1/24, and the final release 1.1.4 available by 10/1/24</i>		
<i>Features</i>			<i>80-90% of high priority features must be available in release 1.0</i>
<i>Quality</i>			<i>85-90% user satisfaction for release 1.0 90-95% user satisfaction for release 1.1</i>
<i>Quality</i>			<i>40-50% decrease in time spent specifically in registration by release 1.1</i>
<i>Quality</i>			<i>10-20% decrease in IT support requests after release 1.1</i>
<i>Staff</i>		<i>Maximum team size is 1 PM, 1 BA, 2 software developers, 1 front-end developer. Two software testers.</i>	
<i>Cost</i>			<i>budget overrun up to 15% acceptable without sponsor review</i>

### 3.3. Deployment Considerations

#### ■ Geographic Considerations

- We anticipate that most students will be in the Pacific Standard Time time zone when accessing the system.

#### ■ Timing Considerations

- This update will need to be deployed during the middle of the term to avoid the inevitable shuffle of students and staff needing to adjust classes at the beginning and end of the terms.
- System will need to be accessible 24/7 during anticipated registration periods.
- Future downtime and updates should be planned for midnight in the middle of term, after the final drop dates have occurred.

#### ■ Training Considerations

- Bookstore personnel may need training with the planned bookstore integration unless we can make this a silent process.
- Helpdesk personnel and IT support staff should be trained in assisting users with any errors that may occur and basic navigation of the system if the help functions are not sufficient for that student or staff. These personnel should also be included in the first rounds of testing for the valuable feedback they can provide.
- Faculty will need training if they are going to be updating any class information in any way that is different from their current method.

#### ■ Testing Considerations

- Preliminary testing of every release should include several robust rounds of testing to expose every possible issue that may arise.
- We will need to do extreme stress tests to simulate peak use when registration first opens up for different groups of students.
- Update will need to include the functionality to randomly pick users for a user satisfaction survey to determine if we have met our success metrics. This functionality will also need to include contact information so we can gather specifics about what did not work/was not satisfactory to the user.

#### ■ Infrastructure Considerations

- We anticipate that no physical infrastructure changes will need to be made for this update.
- Data will need to be copied from the course catalog to the registration system.
- Data will need to be shared between the system and the bookstore.
- Data will be needed to allow automation between the system and the faculty for prerequisite overrides.
- Data will need to be shared between the system and the Registrar's Office.
- Data will need to be shared between the Academic Advising Office and the system.

#### ■ Business Process Considerations

- Each of the following focus groups will need to take a detailed look at their business processes and suggest changes as needed.

- Advising
  - Registrar' Office
  - Bookstore
  - It Department
  - Faculty Department
  - Other Considerations
- There are no other considerations to record at this time.