

Student Mentoring System
Requirements Management Plan
by Kaizen

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1. EXECUTIVE SUMMARY

This document was created to ensure that all stakeholder and business requirements are captured, analysed, managed, and addressed by the project plan. It identifies:

- How requirements will be categorized and what actions need to occur in order to consider them approved.
- The tools, environment, and infrastructure used in fulfilling the Requirements Management functions throughout the project or product lifecycle.
- The approach and tools that the project will use to trace the project requirements throughout the systems life cycle.
- The project requirements traceability matrix which is used to prove that requirements have been fulfilled along with those requirements categorizations.
- And a change management plan that depicts the steps done to ensure that in the situation changes are required, how to go about logging and executing those changes.

2. SCOPE

This project is a virtual communications platform that is being created to provide future, present, and past students at the University of Louisville Computer Information Systems department a platform to communicate, network and support one another. It came about from the need of a centralized communications location that would provide students with the support to ensure their success both, within the program and during their professional careers.

The project is developed with the clients' requirements in mind and the successful execution of these requirements will be reviewed regularly, by demonstrations and presentations, throughout the duration of this project.

The project will be completed using an Agile methodology with regular review on successful execution of these requirements. It will follow the traditional steps of the Agile development lifecycle: concept, inception, iteration, release, and maintenance, with retirement at some point in the future.

Deliverables will be produced using both software visualization tools like Microsoft Visio and code editing software like Microsoft Visual Studios. These prototypes will be usable and showcase some examples of the actual use of the system.

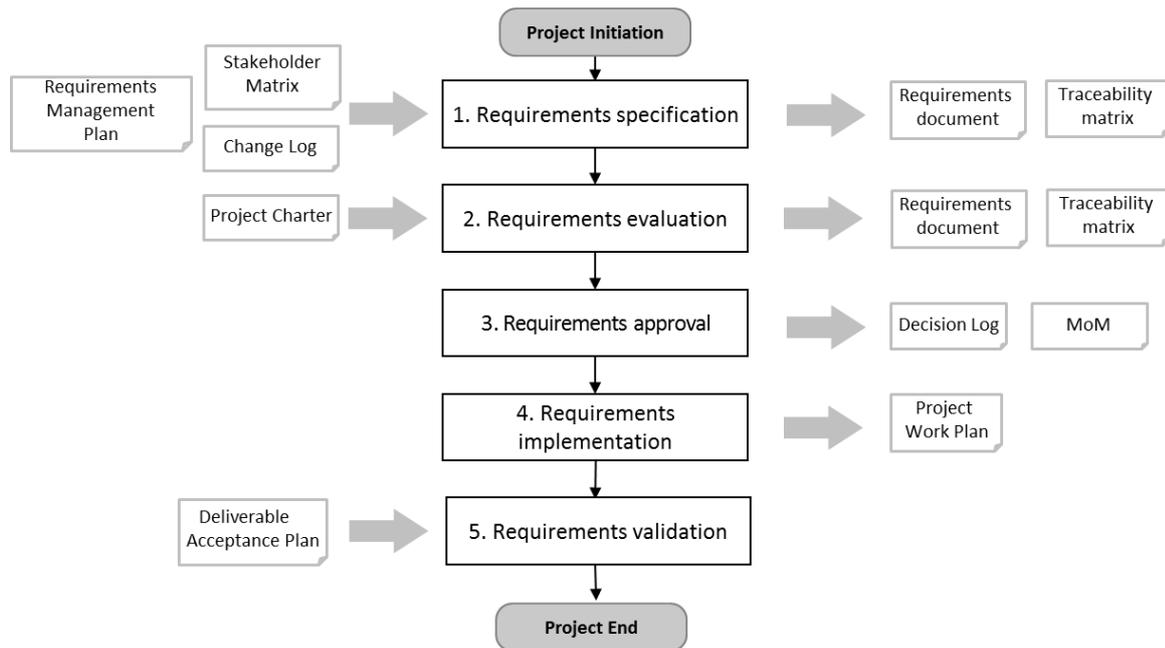
Below are the approved system requirements, anything not listed is outside of the scope of the project:

- Include a Landing Page
- Include a Signup and Log In capability
- Include a Search Section for Mentors
- Ability to Contact mentors
- Include Discussion Board
- Include System Announcements
- Include an Event Calendar
- Include Donations capability
- Include a Job Board
- Include a Message Board
- Include a Mailing List

- Include Alumni Surveys
- Include a FAQ

3. REQUIREMENTS MANAGEMENT OVERVIEW

The requirements management process for this project is a five-step process and falls under the responsibilities of the Project Manager (PM) who should execute the process when required throughout the project lifecycle:



Step 1: Specify the requirements

The project team will meet with stakeholders to gather the project requirements and document them. Many tools will be used in this process to gather requirements: brainstorming, nominal group technique, interviews, observation, story boards, prototyping, user stories, and more. Requirements will be documented using MS Word or Excel, or in a requirements documentation and management system.

Step 2: Evaluate the requirements

The project team will assess the feasibility, consistency and completeness of the requirements, and estimates the effort/costs needed to implement them. The Project Manager (PM) will balance the list of requirements against the project constraints. They will also make proposal to the project stakeholders.

A requirement traceability matrix will be used to provide structure and traceability in extended requirements documentation, linking high-level business needs to detailed requirement, and detailed requirements to deliverables.

Prioritization of requirements will be done in this step to link the relationship between requirements.

The Project Manager (PM) verifies if requirements are in-scope as to the scope boundaries defined in the *Project Charter*. Requirements that are out-of-scope are logged as “not in scope” in or outside the Requirements documentation.

Acceptance criteria will be defined for each requirement. These criteria will be used to ensure development of the desired deliverables as well as the test plans for final deliverable acceptance.

Step 3: Approve the requirements

The Project Manager (PM) and key stakeholders (such as the Project Owner (PO) or Business Manager (BM)) negotiate and agree on the requirements for the project and their priorities. In the negotiations the Project Manager (PM) makes sure that the in-scope requirements can be delivered given the cost and schedule boundaries set in the Project Charter.

The formal approval of the requirements will be signed off and logged on each document by the project sponsor and the project review group.

Step 4: Monitor requirements implementation

The Project Manager (PM) will continuously monitor the project team's implementation of the requirements. They will also be responsible for adding new requirements and changing existing ones where needed through formal change control. New and changed requirements need to follow the steps 1, 2 and 3 as described above, after approval the *Project Work Plan* (PWP) will be updated.

Step 5: Validate the implemented requirements

When the requirements are implemented, the deliverable will be validated by user testing. The users will assess if the initial business need is satisfied. This validation is based on the acceptance criteria that are defined for each requirement in step two.

3.1. Stakeholder Identification, Roles, and Responsibilities

The primary user of the Student Mentor Service would be the student who has just enrolled in the computer information system (CIS) program. These users are often first-year students at the University of Louisville. Retaining this user in the CIS program is our primary metric of success. Through prior research, it has been found they lack a sense of community. Many lowerclassmen would consult with upper class students for assistance in the program if they had a method of initial contact. Likewise, Upperclassmen who have more experience wish to have some way of communicating with individuals who have, after completing the same program, moved on to start a career. These individuals, CIS alumni, are users who have an interest in the success of all CIS students. Alumni have previously contacted the CIS Chairman to inquire how they may give back to College of Business (COB). On the opposite side of progression is another user, the high school juniors and seniors interested in joining the program. They often have questions regarding the true program experience which cannot be accurately answered elsewhere.

Students in and around the program are not the only users. The CIS department head is a unique user with specific needs. His current method of spreading opportunity awareness is inconsistent, and often fails to reach CIS students. He acts as the primary spokesperson for which businesses contact with interest to fill positions. As job demand has increased, these businesses often struggle to find qualified candidates. Many use third-party recruiting services to find candidates.

The CIS department within the College of Business is a primary stakeholder. 22% of students who start the program each year do not finish. Some years, only 60% of students who began the program complete it. The CIS department loses income as students

leave the program. The department also loses donation income due to potential donors struggle to give. The only way to donate today is by using a hard-to-find donation page.

| Name | Description | Responsibilities |
|-----------------------------|---|--|
| 1. Students | All past, current, and future students of CIS. | Use service to better education and enrich learning environment. |
| 2. CIS Department | The computer information systems department. A specific department within the University of Louisville's College of Business. | Line up potential career paths for students. Use service to grow as a department |
| 3. University of Louisville | Host university. | Support CIS growth to build reputation. |
| 4. Local Government | I.E City of Louisville, Louisville Forward, state capital. | Local governing bodies look to increase state revenue and create jobs. |

3.2. Tools, Environment, & Infrastructure

The project will be using Shortcut, Excel, & Word for its requirements management functions.

Shortcut will be used for Kanban & Gantt Chart generation. Excel will be used for the traceability matrix and milestone tracking. Word will be used for documenting and reporting of the status to other stakeholders. All the tools operate in the cloud, which allows for simultaneous editing by the team members and automatic versioning.

4. REQUIREMENTS TYPE DEFINITIONS

Functional Requirements

Functional Requirements are those requirements that detail what the system needs to do.

1. The system will create student accounts.
2. The system will edit student accounts.
3. The system will delete student accounts.
4. The system will create administrator accounts.
5. The system will edit administrator accounts.
6. The system will delete administrator accounts.
7. The system will create mentor accounts.
8. The system will edit mentor accounts.
9. The system will delete mentor accounts.
10. The system will allow users to log-in.
11. The system will allow users to log-out.
12. The system will have a landing page.
13. The system will create system announcements.
14. The system will edit system announcements.
15. The system will delete system announcements.

16. The system will create surveys for Alum users.
17. The system will edit surveys for Alum users.
18. The system will create database for Alum users survey.
19. The system will allow staff to send newsletter to mailing list using the datasheet.
20. The system will allow the admin to approve accounts.
21. The system will allow the admin to edit student accounts.
22. The system will allow the admin to delete student accounts.
23. The system will allow admin to lock accounts.
24. The system will allow mentees to search for mentors using a filtering system.
25. The system will provide mentor contact information to mentee.
26. The system will create a message from the user to the Admin.
27. The system will create a discussion board thread or post.
28. The system will edit a discussion board thread or post.
29. The system will delete a discussion board thread post.
30. The system will allow users to view discussion board.
31. The system will create an event on the event calendar.
32. The system will edit an event on the event calendar.
33. The system will delete an event on the event calendar.
34. The system will provide a log in page for created users.
35. The system will provide a Frequent Asked Questions page for users.
36. The system will create a link with mentor contact information for mentees.
37. The system will take donations.
38. The system will take recurring donations.
39. The system will create a job posting.
40. The system will edit a job posting.
41. The system will delete a job posting.
42. The system will filter job postings.
43. The system will create a backup.
44. The system will have a recovery.

Nonfunctional Requirements

Nonfunctional Requirements detail the constraints and specifications of the system.

1. The system will be designed and implemented with Drupal and will be coded with HTML.
2. The system will be secure, and we will be using firewalls provided by Microsoft Windows.
3. The system will include a SQL server for database management.
4. The system will have a cloud storage capability, using OneDrive for a backup and recovery.
5. The system will have an online payment system through Stripe.
6. The system will have a datasheet that includes the names of those on the newsletter mailing list taken from the server to track the recipients easier.
7. The systems will be available 24 hours a day, every day of the year.
8. The system will be available for desktop and mobile.

5. CHANGE MANAGEMENT PLAN

Changes within the scope of the project will not be common but in the case that they do occur all changes must go through the project reviewer, James Chrisman. He will then approve or deny changes and iterate that to the team as a whole.

Below will be the steps taken if a change is required:

1. Prepare for change – Assess how much change is needed for the specific project.
2. Manage the change – Create the plans that will be integrated into the project activities and implement it
 - a. If a change is required, it must be known which team member that change will require attention to execute. There must be clear and specific notation on what exactly needs to be changed and to what manner. Without this the team member will not be able to execute the change efficiently, which can later cause issues for the project timeline.
3. Reinforce the change – Create specific action plans for ensuring the change is sustained
 - a. This is done through feedback from the clients or users

6. ASSUMPTIONS, CONSTRAINTS, DEPENDENCIES

Assumptions

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| All equipment/materials (requirements) are available when needed according to the planned schedule. |
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| Any finances of the project are within the budget for the specific time as scheduled. |
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| The expected projects timeline can be met, and the project will be complete within the expected time. |
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| The scope of the project will not change throughout the life cycle. |
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Constraints

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| Team must work within the project designated budget to deliver the project accordingly. |
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| Few developers (will be a rotation) |
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| Minimum requirements may be forgotten |
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Dependencies

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| Must have planning requirements complete to move on to produce/code the project. |
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| Required fundamental components (pages/tabs/discussion board/calendar, etc) must be included and completed for the next task. |
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| Must have the project up and running (correct coding) and functioning for it to work and be submitted. |
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7. ACCEPTANCE CRITERIA

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| Templates and Drafts of charters, diagrams, plans, matrix, reports are all finalized |
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| All specifications, conditions, and requirements have been formally approved |
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| A user cannot submit a form without completing all the mandatory fields |
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| Information from forms is stored in a database |
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| Clicking a tab, or notification takes the user directly to the page or message. |
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8. REQUIREMENTS TRACEABILITY MATRIX

[REQUIREMENTS TRACEABILITY MATRIX](#)