Software Requirements Specification

for

Camp Course Ranking System

Version 1.0 approved

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Revision History

Name	Date	Reason For Changes	Version
Michael Ung Jing Wu Yongfeng Ji Zhuoran Bi	09/23/19	Document creation writing	1.0

1. Introduction

1.1 Purpose

The purpose of this document is to present a detailed description of the campus course ranking and selection. It will demonstrate the ultimate goal and features of this system, what functionalities are, what the system will be able to do, how to interface with this system and what constraints which put on different users with respect to campers, instructors and administrators. This document is intended for all the developers and users, which we will make modification in the future based on any feedback we got from them.

1.2 Document Conventions

This Document was created based on the IEEE template for System Requirement Specification Documents.

1.3 Intended Audience and Reading Suggestions

The primary reader would be the camper, instructor, and director, because they are the action taker. The secondary reader would be the manager, president of the camp company, because they know what the system should do, they are advisors. The tertiary reader would be reporter, journalist, camp's parents, because they may be interested in the project.

Reading Suggestions: For users, the next chapter which is Overall Description section, this will give an overview of the functionality of the product. It describes the function of each use case, written with understandable sentence for non technical developer. Chapter 3 and 5 mainly talk about the technical requirement which is written for technique developers.
All sections are written for the same software product in its entirety, but are designed for different audiences, thus use different languages.

1.4 Product Scope

The ultimate goal of the software is to help campers to register in the class they want, to give them an excellent camp experience. In addition, different purpose for different users. For directors, software helps them to organize the class. For instructors, software helps them to choose the class they are able to teach. For campers, they can choose the class they want to register.

1.5 Reference

What kind of references we need in future?

2. Overall Description

2.1 Product Perspective

My Summer Camp are developed for campers, instructors, and directors. It could help different types of user to meet their demand. Campers can register in classes, directors can organize the class schedule. Instructors can choose the class they want to teach.

It is like school registration system and it has developer to maintain the system and generate reports and feedback for users.

2.2 Product Functions

Sign in page:

- Sign in: sign in the account based on user's username and password, then redirect users to other pages which based on their level if successful logged in.

Camper page:

- Search class: search the class based on the key word entered.
- View class available: be able to view available classes for now.
- Rank camp classes: users can rank their class by their penchant
- Modify rank form: users modify their latest rank form
- Log out: users could log out from the account
- View class schedule: Users can view the final class schedule

Instructor page:

- Search class: search the class based on the key words entered
- View class available: be able to view available classes for now
- Offer class: Users can select the class they want to teach
- Print class list: Users can print the current class list
- View class schedule: Users can view the final class schedule

- Log out: Users can log out from their account.

Director:

- Log out: Users can log out from their account
- Add/Remove classes: Director can manual add/remove all classes which have been assigned with instructors to the system after all instructors gave feedback to them
- Run Class Assignment: Once clicked, system automatically arrange students to class by their rank form.
- Add/remove camper to/from class: After Run Class Assignment, some students cannot be arranged to class, so it could help director to manually add or remove student to/from classes.

2.3 User Classes and Characteristics

Typical users, Campers, Instructors, and Directors. They need to use the software for registering class or select the class to teach or arrange enrollment.

Other users, manager or president of the camp company, who wants to check how the software works. Or programmer who feel interested in the project, wants to develop more or fix known bugs.

2.4 Operating Environment

Mac OS x
Linux
Windows

2.5 Design and Implementation Constraints

Summer Camp System is developed in Java. It uses GUI as its interface, the platform is Eclipse. The challenge we may face is, we need to separate the entire project into small parts(different functions). Those parts need to be designed separately, but they have strong connections with each other. Also, we need to consider for the security, should we have a function which is similar to Duo? Moveover if camper or instructor has questions, and they need to contact with director, how they contact? By email? or some online chat?

2.6 User Documentation

Design based on MyU : https://login.umn.edu/idp/profile/SAML2/Redirect/SSO?execution=e1s1

One tutorial for sample of registering class on MyU: https://onestop.umn.edu/academics/enroll-class

What can we learn from MyU system? What other reference we need to search?

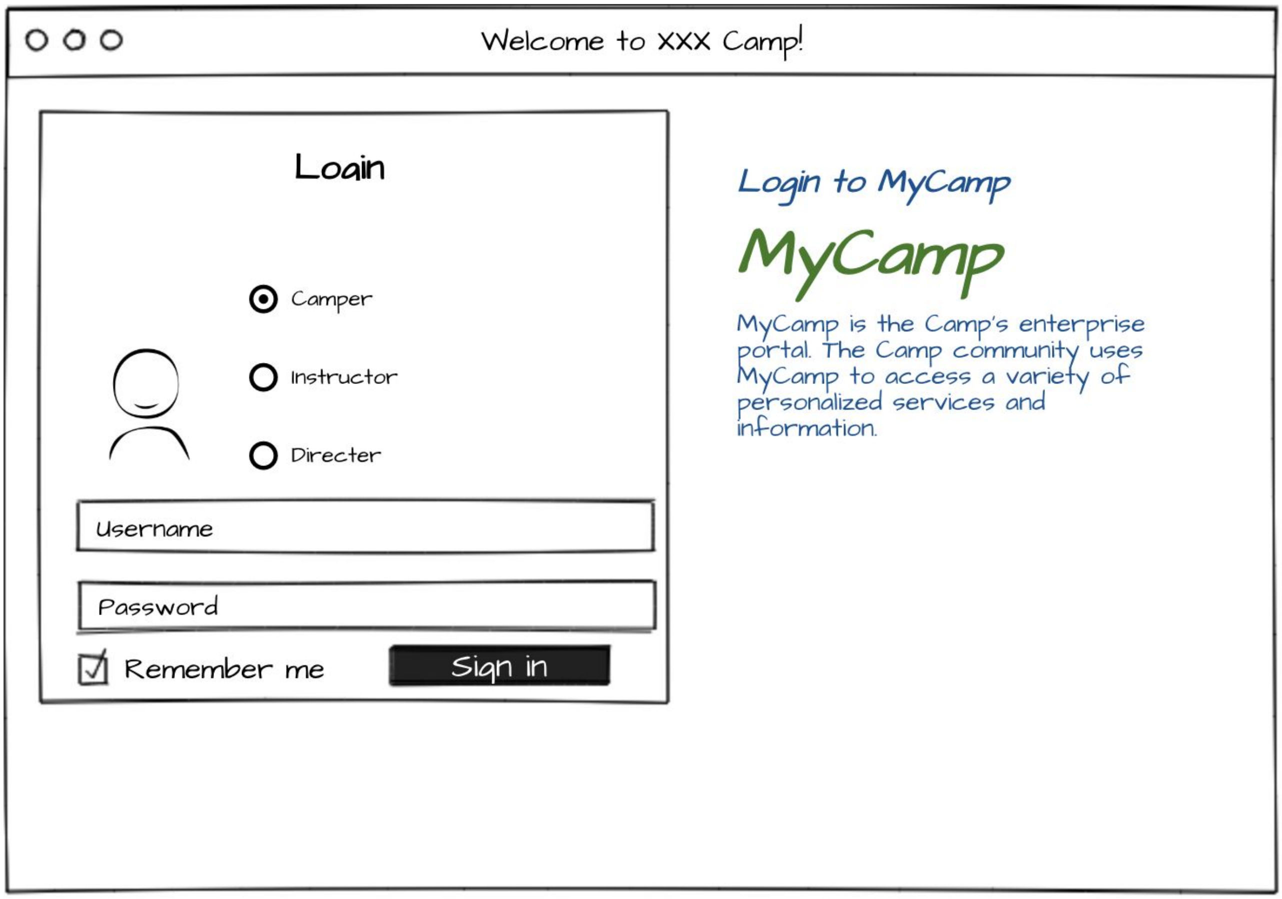
2.7 Assumptions and Dependencies

Internet connection would be required for using this software, otherwise, Users are not able to log in. For print option, if the printer is out of paper or broken, the function is not going to work well. For users, if camper never rank their class, teacher never select the class they can teach, director never arrange class time, those will affect the project.

3. External Interface Requirements

3.1 User Interfaces

1. XXXCamp’s Welcome Screen:

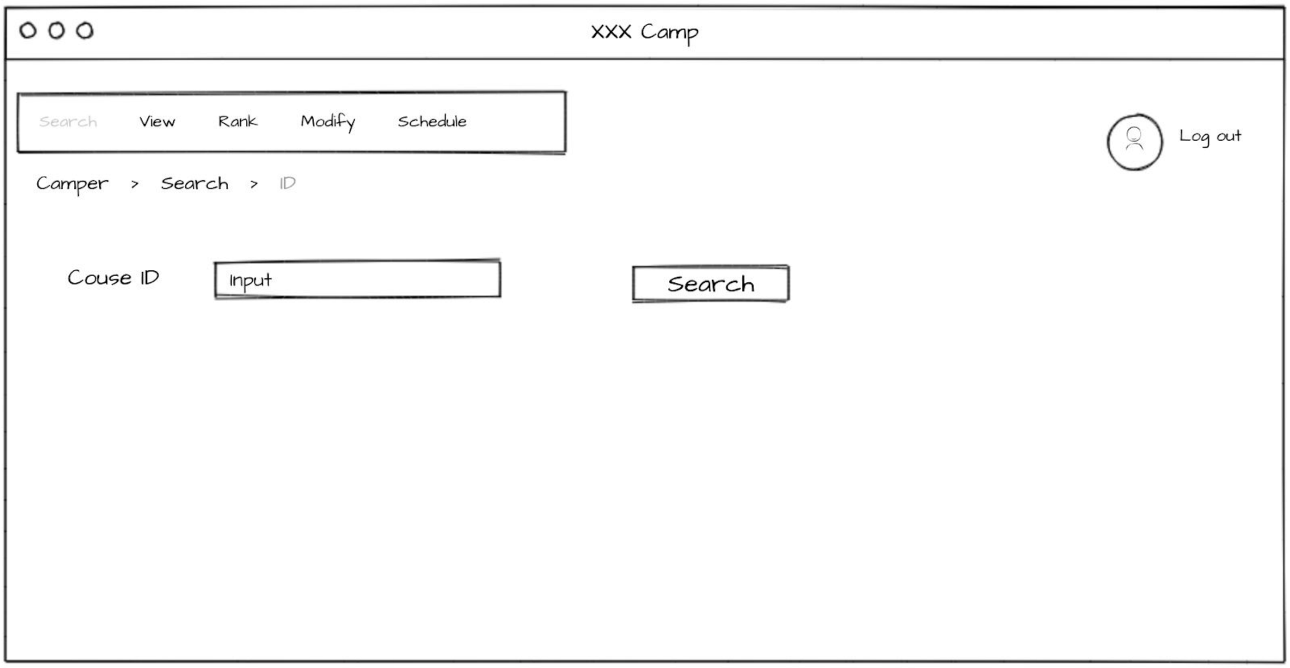


MyCamp is the Camp's enterprise portal. The Camp community uses MyCamp to access a variety of personalized services and information.

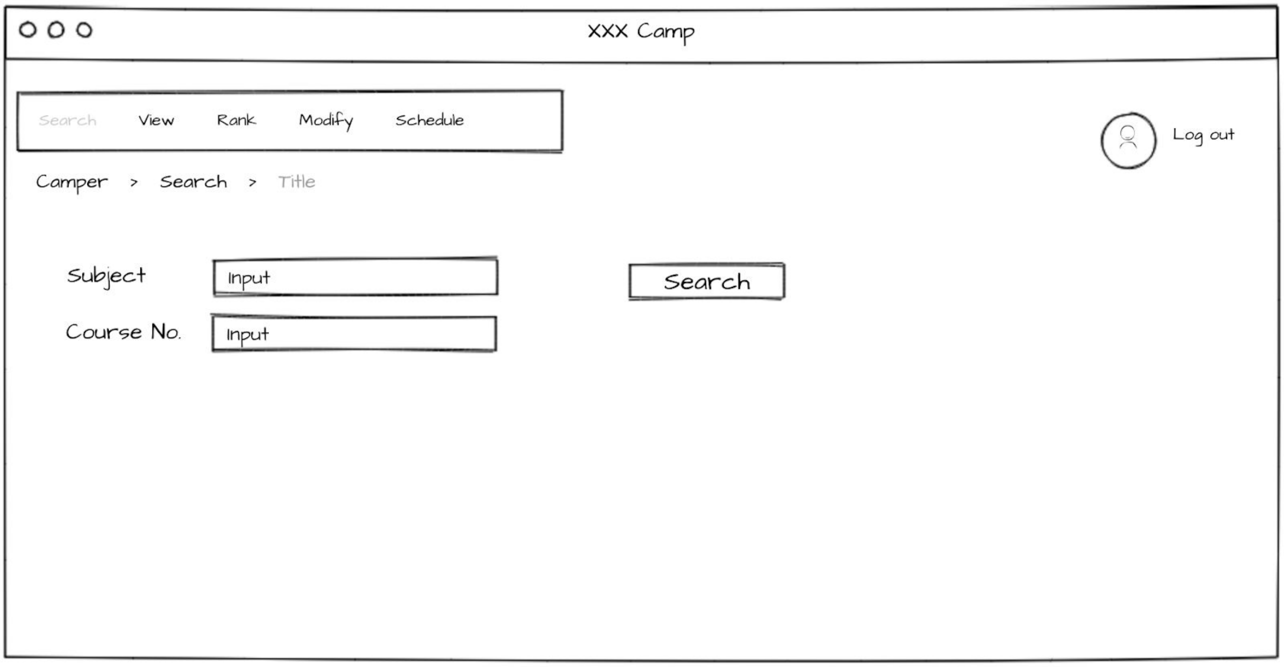
Name	Log in/Log out
ID	UC_005
Description	Help users to log in/out
Actors	Instructor/camper/director
Organizational Benefits	To protect the privacy of users, all of the users have to log into the system with their ID and password.
Frequency of Use	Whenever users want to look at their account or quit the webpage
Triggers	Log in/out button clicked
Preconditions	Users should have a unique ID and their passwords. For log out, users' status should be " logged in".
Postconditions	Successfully log in the system /Successfully log out the system
Main Course	1. System prompts users to enter their ID and password. 2. User clicks the "log in" button. 3. System check the ID and password are matched. (see AC1, AC2) 4. System directs the user to "Main menu". 5. User clicks the "log out" button. 6. System directs the user to initial "log in" pages.

Alternate Courses	AC1 User's ID does not exist in the system. 1. Pop up a message "ID does not exist." 2. Return the user to Main Course step 1. AC2 User's ID and password don't match. 1. Pop up a message "ID and password don't match." 2. Return the user to Main Course step 2.
Exceptions	EX1 System fails on logging in / logging out. 1. System notifies the user that an error has occurred. 2. Return the user to Main Course step 1/ step 4.

2. Search Class by titles(Camper):

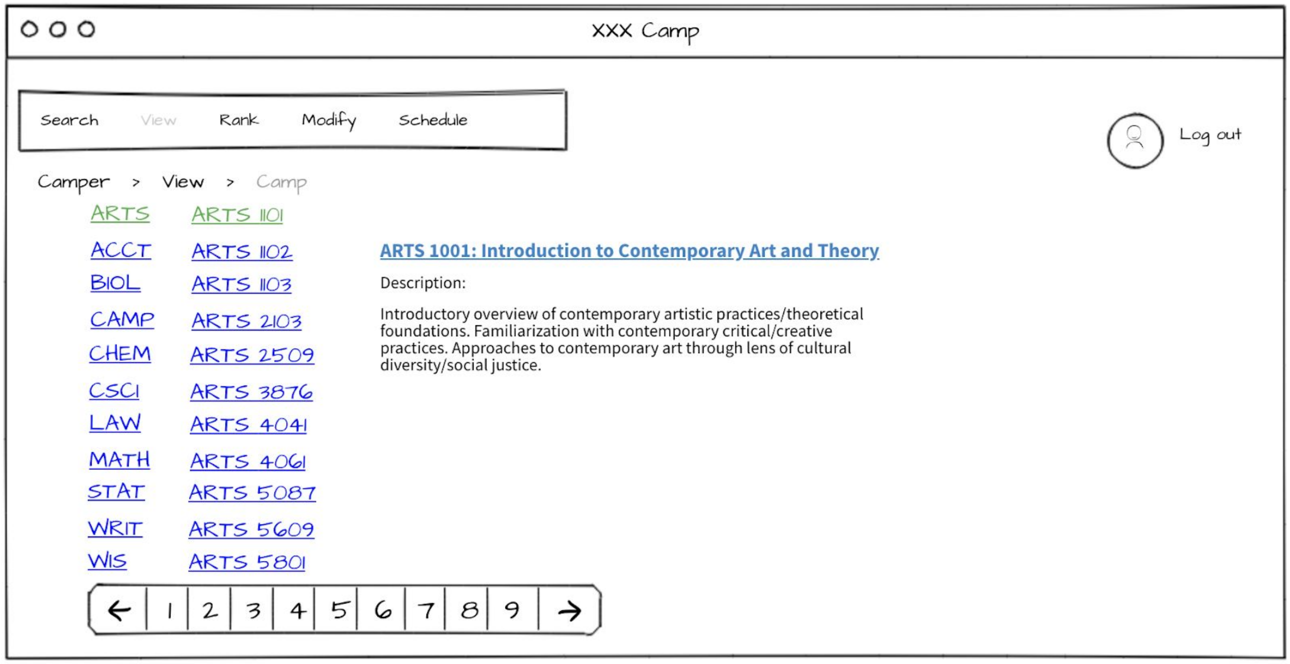


3. Search Class by IDs(Camper):



Name	Search class
ID	UC_001
Description	A user is able to search the class based on the key word they entered.
Actors	Camper, Instructor
Organizational Benefits	Allow Users to search for the class they want based on their penchant. It would be helpful to save lots of time for looking for classes one by one.
Frequency of Use	It is used under the situation where a camper or instructor want to look at a particular class
Triggers	The user clicks the search button.
Preconditions	Classes are assigned properly, and key words(class titles or class IDs) have been typed.
Postconditions	The particular classes with its description would be shown.
Main Course	1. System prompts the user to select search classes by class Name or class ID. (see AC1) 2. User selects to search by class Name. 3. User types the correct class name in the textbox.(see EX1) 4. System finds out the class searched in the database. 5. System displays the class description to the user.
Alternate Courses	AC1 User selects to search by class ID. 1. User types the correct class ID in the textbox. (see EX1) 2. Direct to Main Course step 4.
Exceptions	EX1 User does not typed correctly 1. Pop up a message ”There is no such class”.

4. View Classes Available(Camper):



ARTS 1001: Introduction to Contemporary Art and Theory

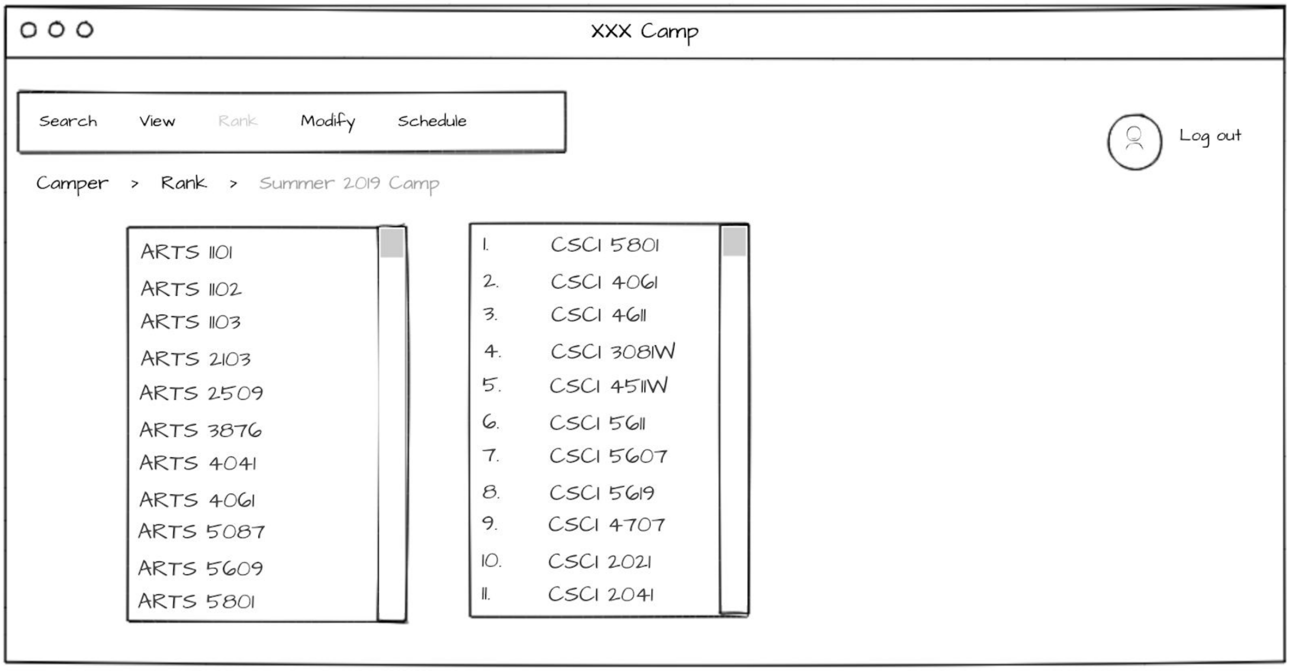
Description:

Introductory overview of contemporary artistic practices/theoretical foundations. Familiarization with contemporary critical/creative practices. Approaches to contemporary art through lens of cultural diversity/social justice.

Name	View classes available
ID	UC_002
Description	A user views classes available for the current camp.
Actors	Camper, Instructor
Organizational Benefits	For a camper, she/he can view all classes open for this camp with class titles and descriptions so she/he can rank classes. For an instructor, she/he can view all classes with class titles, sections, locations, times and descriptions so she/he can decide which classes to offer for this camp.
Frequency of Use	Used whenever a user wishes to view the list of current classes
Triggers	Clicking the “View classes available” button.
Preconditions	The user is logged in.
Postconditions	A list of all current classes available is shown to the user.
Main Course	1. User clicks the “View classes available” button. 2. System lists all classes’ titles available for this camp. 3. User selects to sort the list by class titles . (see AC1) 4. System sorts the classes available for this camp with increased or decreased order of class titles. 5. User clicks the “Description” link. (see EX1) 6. System directs the user to the descriptions of classes. 7. User clicks the “Sections” link. (only for instructor) 8. System directs the user to the locations and time schedules of different class sections. (only for instructor)

Alternate Courses	AC1 User selects to sort the list by class IDs. 1. System sorts the classes available for this camp with increased or decreased order of class IDs.
Exceptions	EX1 System fails on displaying the descriptions of the classes. 1. Pop up a message "No descriptions of this class". 2. Return user to Main Course step 2.

5. Rank Camp Classes(Camper):



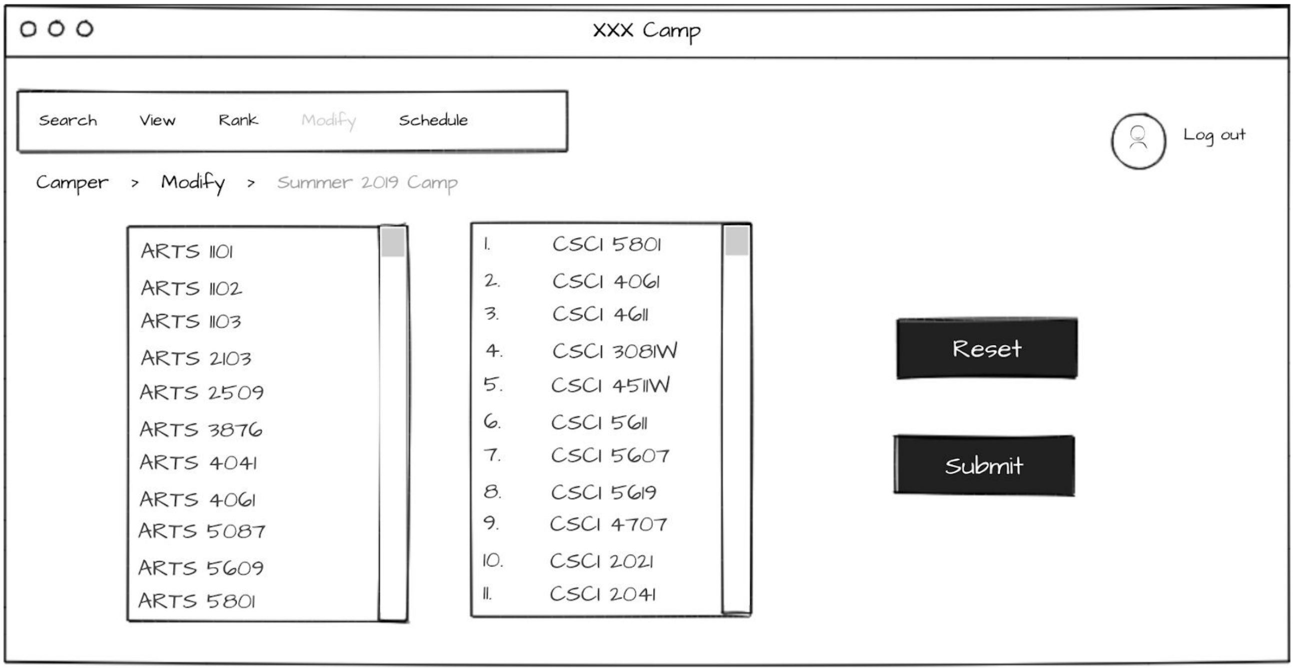
ARTS 1101
ARTS 1102
ARTS 1103
ARTS 2103
ARTS 2509
ARTS 3876
ARTS 4041
ARTS 4061
ARTS 5087
ARTS 5609
ARTS 5801

1. CSCI 5801
2. CSCI 4061
3. CSCI 4611
4. CSCI 3081W
5. CSCI 4511W
6. CSCI 5611
7. CSCI 5607
8. CSCI 5619
9. CSCI 4707
10. CSCI 2021
11. CSCI 2041

Name	Rank camp classes
ID	UC_003
Description	A user should submit a ranking form with at least five different class titles (not sections) ranked.
Actors	Camper
Organizational Benefits	As much as possible to satisfy the appetites of most campers, so effectively engage attendees in the classes offered.
Frequency of Use	Every camper should submit a ranking form of camp classes at the beginning of camp only once. Not allowed to submit after the directors lock the rankings.
Triggers	Drag at least five classes from left area to right area and submit ranking form.
Preconditions	User logs in and is viewing the classes available to select.
Post	The classes ranked are visible to the user when she/he views her/his ranked classes.

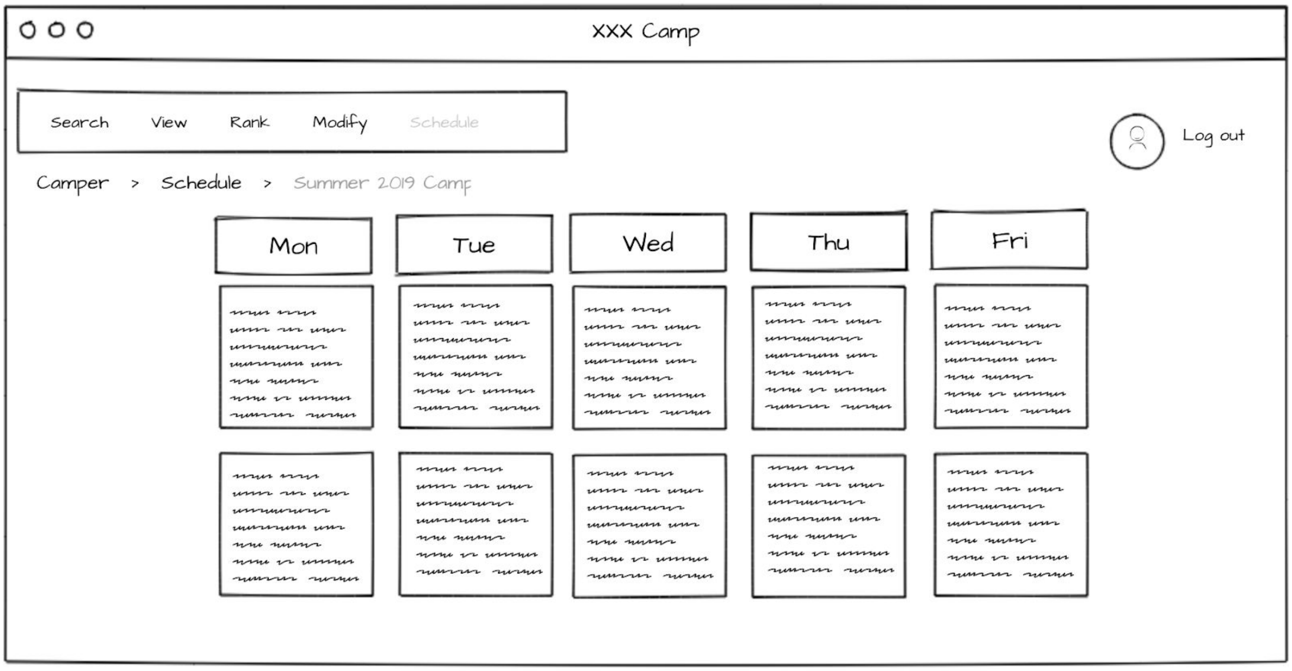
conditions	The classes ranked are visible to the director and instructor.
Main Course	1. System lists all the class titles in the left area and empty the right area. (see EX1) 2. User drags courses from the left to the right according to her/his preferences, with favorite courses at the top, to form a ranking list of courses.(see AC1) 3. User saves and submits the ranking form(see EX2) 4. System stores the saved ranking form.(see EX3) 5. System redirects the user to their saved/submitted form to see the ranked classes.
Alternate Courses	AC1 User closes the ranking class window. 1. Pop up a window with “You didn’t save yet. Leave now?”. 2. User click “Leave”. Return the user to “main menu”. 3. User click “Cancel”. Return the user to Main Course step 1.
Exceptions	EX1 The classes are not yet provided by the director. 1. Pop up a message “ Sorry, the classes are not visible now”. EX2 System checks whether the ranking form is qualified or not. 1. Pop up a message “Less than five courses. Not qualified”. 2. Return user to Main Course step 1. EX3 System fails on saving ranking forms to list. 1. System notifies the user that an error has occurred. 2. Return user to Main Course step 1.

6. Modify Ranking Form(Camper):



Name	Modify ranking form
ID	UC_004
Description	After a user submits her/his ranking form, he/she can modify the ranking form before the deadline of selecting classes.
Actors	Camper
Organizational Benefits	A user can change the ranking of classes anytime before the deadline. So as much as possible to meet the requirements of users.
Frequency of Use	Once they don't feel comfortable with the latest ranking form they have made.
Triggers	Click the "Modify" button
Preconditions	Users have already ranked their classes, and logged in the system.
Post conditions	The modified ranking form will be saved to the system.
Main Course	1. Load the classes ranked in the right area and the classes not ranked in the left. (See Ex1) 2. User modifies the ranking by dragging the classes in specific order. (see AC1) 3. User saves and submits the ranking form(see EX2) 4. System stores the saved ranking form.(see EX3) 5. System redirects the user to their saved/submitted form to see the ranked classes.
Alternate Courses	AC1 User closes the ranking class window. 1. Pop up a window with "You didn't save yet. Leave now?". 2. User click "Leave". Return the user to "main menu". 3. User click "Cancel". Return the user to Main Course step 1.
Exceptions	EX1 System does not have the records of ranking classes. 1. Direct the user to "Rank camp classes" use case. EX2 System checks whether the ranking form is qualified or not. 1. Pop up a message "Less than five courses. Not qualified. 2. Return user to Main Course step 1. EX3 System fails on saving ranking forms to list. 1. System notifies the user that an error has occurred. 2. Return user to Main Course step 1.

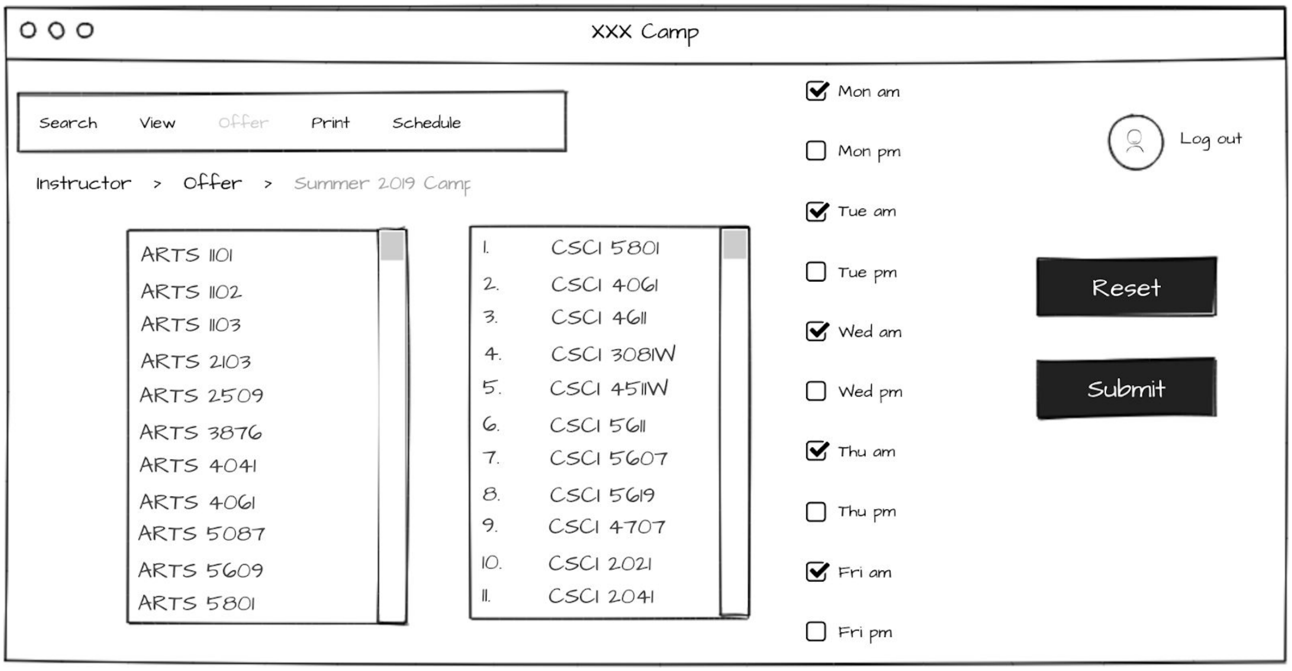
7. View Class Schedule(Camper, Instructor):



Name	View Class Schedule
ID	UC_006
Description	A user is able to view a final schedule of classes.
Actors	Camper, Instructor
Organizational Benefits	Allows organization to have less chaos by allowing users to know what their classes are before camp starts. Additionally, instructors can view schedules to help out campers.
Frequency of Use	It is used under the situation where a camper wants to view their classes or an instructor wants to view a camper's classes
Triggers	The user clicks the view class schedule button.
Preconditions	Classes are assigned to the camper
Postconditions	The class schedule for the necessary individual is viewed.
Main Course	1. User clicks "View class schedule" button.(see EX1) 2. System shows the user an individual schedule for the current camp term in a time tableview. 3. User clicks the course title link.(see AC1) 4. System directs the user to the course information(section, time, location) in detail.(see EX2)
Alternate Courses	AC1 User closes the window. 1. Return to Main Menu
Exceptions	EX1: Class Schedule is not available now. 1. System pops up a message "Class schedule not available".

	2. System directs the user to “Main Menu”. EX2: Error occurs 1. System cannot retrieve data and notifies user 2. Returns user to main course step 1

8. Offer classes and time available(Instructor)



Instructor > Offer > Summer 2019 Camp

ARTS 1101
ARTS 1102
ARTS 1103
ARTS 2103
ARTS 2509
ARTS 3876
ARTS 4041
ARTS 4061
ARTS 5087
ARTS 5609
ARTS 5801

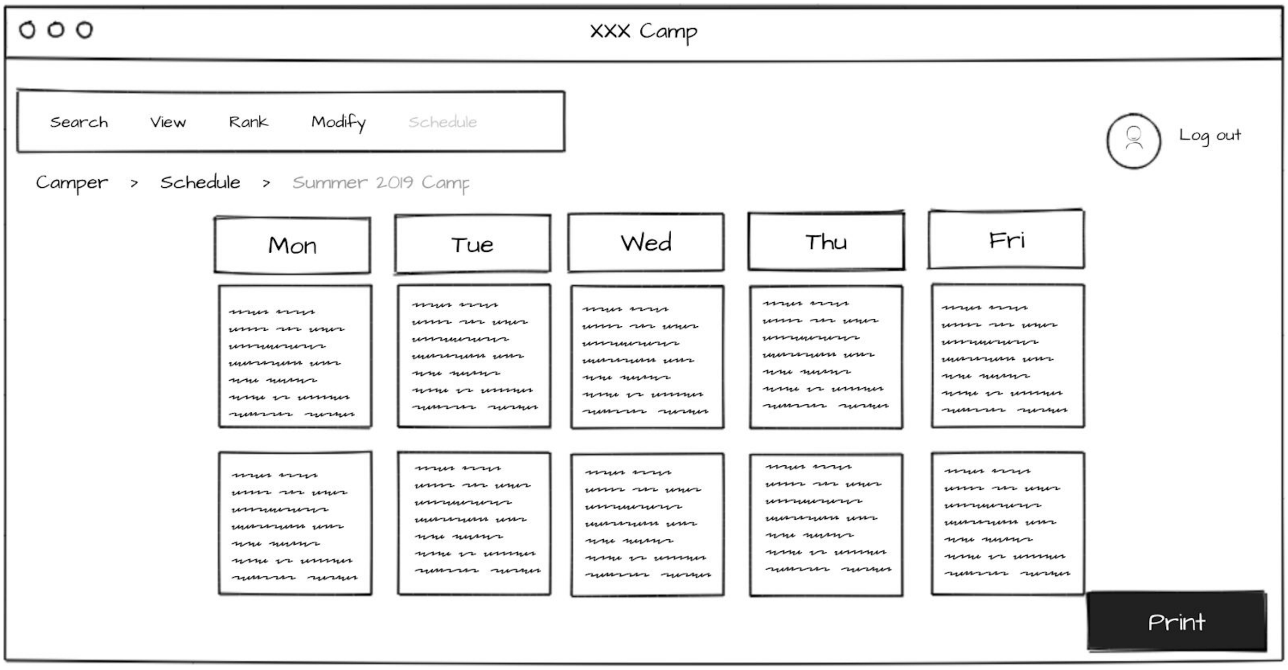
1. CSCI 5801
2. CSCI 4061
3. CSCI 4611
4. CSCI 3081W
5. CSCI 4511W
6. CSCI 5611
7. CSCI 5607
8. CSCI 5619
9. CSCI 4707
10. CSCI 2021
11. CSCI 2041

☑ Mon am
□ Mon pm
☑ Tue am
□ Tue pm
☑ Wed am
□ Wed pm
☑ Thu am
□ Thu pm
☑ Fri am
□ Fri pm

Name	Offer classes and time available
ID	UC_007
Description	Instructors are able to offer classes reasonably
Actors	Instructors
Organizational Benefits	Students are given a reasonable class schedule, thus they can rank their class by their predilection.
Frequency of Use	Whenever instructors want to offer their class and time available.
Triggers	When instructors click “offer classes and time available” button
Preconditions	The instructor is able to offer this course for this camp.
Postconditions	The director can arrange the class sections according to the information offered by the instructor.
Main Course	1. The user clicks the “offer classes and time available” button. 2. System prompts the user to fill the course number and time available.(see AC1)

	3. User saves and submits the offering class form.(see EX1) 4. System stores the saved offering class form.(see EX2) 5. System redirects the user to their saved/submitted form to see the offering classes and time available.
Alternate Courses	AC1 User closes the offering class and time available window. 1. Pop up a window with “You didn’t save yet. Leave now?”. 2. User click “Leave”. Return the user to “main menu”. 3. User click “Cancel”. Return the user to Main Course step 1.
Exceptions	EX1 System checks whether the class offering form is qualified or not. 1. Pop up a message “Format not qualified”. 2. Return user to Main Course step 1. EX2 System fails on saving ranking forms to list. 1. System notifies the user that an error has occurred. 2. Return user to Main Course step 1.

9. Print Classes(Instructor)



Name	Print Classes
ID	UC_008
Description	User clicks the Print button when viewing a list of classes.
Actors	Instructor

Organizational Benefits	Organization is able to obtain a paper copy of the current class list for use outside of the system.
Frequency of Use	Used whenever an instructor wishes to print a list of current classes.
Triggers	Clicking on the Print button when viewing the list of classes as an Instructor
Preconditions	The user is viewing the current class list. The user is logged in.
Postconditions	The user has printed the current class list.
Main Course	1. The user clicks the Print button while viewing the classes. 2. A popup appears confirming the print properties (AC1) 3. System sends a signal to printer to print out the class list (EX1) 4. User logs out
Alternate Courses	AC1: User decides he/she does not want to print and cancels 1. The print screen closes and user is still viewing the page.
Exceptions	EX1: Printing error 1. System cannot print the class list and returns to main 1

10. Manually add/remove classes(Camp director)

Name	Manually add/remove classes
ID	UC_009
Description	After instructors submit the classes they can offer and the time they are available, the camp directors can arrange the class time, location and schedule by adding class sections to the system. After campers finish choosing their courses, the director can add/remove classes according to the popularity of the courses.
Actors	Camp director
Organizational Benefits	By adding/ removing class sections, the classes will be available for campers to choose. And more requirements of campers can be met.
Frequency of Use	At the beginning, the user offers the class sections can be ranked. And whenever the user thinks the class has too few campers to attend or the class is very popular among the campers.
Triggers	The user clicks the “manually add/remove classes” button.
Preconditions	The instructors offer the classes they can teach. The system already runs to output the results of ranking form submitted by the campers, and then add or remove classes according to the results.
Postconditions	The class sections will be added to the system initially, so the campers can rank the classes. The class sections have small campers will be removed and the class sections popular will be added more sections.

Main Course	1. The user clicks the "manually add/remove classes" button. 2. System lists all the class sections currently have. (see EX1) 3. The user clicks the "add" button. 4. System directs the user to a form to fill with the class information. 5. The user saves and submits the form (see AC1). 6. System adds the class into the class lists. 7. The user clicks the "remove" button of specific class sections. 8. System removes the class section from the class lists.
Alternate Courses	AC1 User closes the "add class form" window. 1. Pop up a window with "You didn't save yet. Leave now?". 2. User click "Leave". Return the user to "main menu". 3. User click "Cancel". Return the user to Main Course step 1.
Exceptions	EX1 No class recorded in the system now. 1. System pops up a message "No classes". 2. System directs the user to the Main course step3.

11. Run Class Assignment(Camp director)

Name	Run Class Assignment
ID	UC_010
Description	User clicks the "Run" button to assign classes to all the campers based on an algorithm.
Actors	Director
Organizational Benefits	Through the use of an algorithm, camp directors can save time due to assigning classes being automated. This saved time can be allocated toward other administrative duties.
Frequency of Use	Used once every camp session.
Triggers	The user clicks the Run button.
Preconditions	The date is past the deadline for class selection. There are classes selected by students.
Postconditions	Classes are assigned to all users who submitted a class selection ranking.
Main Course	1. System determines the user is not logged in (AC1/AC2) 2. User is logged in 3. User clicks on the Run button (EX1/EX2) 4. Algorithm TBD[1] 5. System notifies user that the ranking is complete (AC2)
Alternate Courses	AC1: User is already logged in 1. User is redirected to main course 2 AC2: User logs off again 1. User is redirected to main course 1
Exceptions	EX1: No classes to assign 1. System notifies the user that there are no classes to assign to campers. 2. User clicks on OK EX2: Deadline not reached 1. System notifies the user that the deadline has not passed yet and prompts the user if he/she wants to continue. 2. If user selects Yes, return to main course 4.

	3. User clicks no and returns to main course 2. EX3: Error occurs 1. System notifies the user that an error has occurred 2. Return to main course 2

12. Manually add/remove camper to/from class(Camp director)

Name	Manually add/remove camper to/from class
ID	UC_011
Description	After running the program to assign the campers to sections, there will be some campers not added into class since the section is full. Then the directors can manually remove the campers from full sections and add the campers to the sections still have seats available with adaption of their ranking forms.
Actors	Camp Director
Organizational Benefits	Through the use of this function, all the campers can be arranged into camp to meet as many requirements of campers.
Frequency of Use	After running the program, this function will be implemented before the final deadline of camp classes enrollment.
Triggers	The user clicks the “Manually add/remove camper to/from class” button.
Preconditions	The system runs the program to assign the campers to sections.
Postconditions	The campers are arranged to sections reasonably.
Main Course	1. The user clicks the “manually add/remove camper to/from class” button. 2. System lists all the class section enrollment conditions (see EX1). 3. The user clicks the “add” button of specific section. 4. System directs the user to a form to fill the campers’ IDs (see EX2). 5. The user saves and submits the form (see AC1). 1. System adds the campers into the database. 2. The user clicks the “remove” button of specific class sections. 3. System removes the camper from the camper lists.
Alternate Courses	AC1 User closes the “add camper form” window. 1. Pop up a window with “You didn’t save yet. Leave now?”. 2. User click “Leave”. Return the user to “main menu”. 3. User click “Cancel”. Return the user to Main Course step 1.
Exceptions	EX1 No classes. 1. System notifies the user that there are no classes. 2. User clicks on OK EX2 Camper not founded. 1. System notifies the user User not found. 2. System directs the user to the Main Course step1.

3.2 Hardware Interfaces

Our system does not need to fulfill any hardware requirements. Any devices that are able to connect to the internet are qualified.

3.3 Software Interfaces

Our system requires Java to be installed on the system, any versions may be fine.

It could be connected with MySQL database to have users account information. class offerings, and schedules for each user.

3.4 Communications Interfaces

Our system requires Internet connection for submitting class offering, class ranking or modify any of them. Moreover, users have to connect to the internet for latest release version of this system and provide feedback on any encountered bugs or any suggestions.

4. System Features

This section breaks down the core areas of the system and the interactions between the user and the system. Please see the "List of Possible Use Cases" for a more detailed breakdown.

4.1 Login System

4.1.1 Description and Priority

This feature handles all of the interactions with the user regarding logins/logouts and the credentials required to do those actions. This encompasses credential generation, the login/logout process, and may include additional features such as changing your password. This feature is given a medium priority due to many parts of the system requiring that the user is logged in. Although many parts requiring the user to be logged in, other parts are able to be developed without this system in place. Completing this feature at an early stage comes with the benefit of being easier to code, whereas not completing this at an early stage will make it harder to visualize which parts need to be accounted for.

4.1.2 Stimulus/Response Sequences

1. The user should be on the camp's login platform.
2. The user will click the "Login" button and the system will prompt for the user to enter his/her login credentials.

3. The user should successfully be logged into the system and will be redirected to the corresponding interface, depending on the user's access privileges.

4.1.3 Functional Requirements

REQ-1: System will be able to create an account and generate usernames and passwords.
REQ-2: System will be able to restrict access to users who have login credentials. QUESTIONS: How will access to the system be restricted? Will there only be a place for the user to log in? Will the director have an account created beforehand or will there need to be somewhere for the user to create an account? Will only the director be able to generate accounts/credentials in order to give them to campers?
REQ-3: System will have a form for user login credentials.
REQ-4: System will be able to check if the input login credentials are valid.
REQ-5: System will be able to notify user of incorrect login credentials.
REQ-6: System will be able to redirect user in the case of a valid login credentials.
REQ-7: System will be able to handle the exception where the user is unable to login.

4.2 Camper Ranking System

4.2.1 Description and Priority

This feature handles all capabilities of the class ranking system for campers, including selecting classes and updating class selection. This feature is given a medium priority because it is a large part of what the system needs to do. It is crucial to do this, as smaller parts of this feature, such as assigning a class to a student or selecting the class, are the foundation of the project.

4.2.2 Stimulus/Response Sequences

1. A user with the level of Camper should be logged into the system.
2. The user will go to the "Rank" tab and be redirected to the ranking screen.
3. The user will then search for a desirable class and drag the class to a ranked slot numbered from one to five, where one is the most desirable class and five is the fifth-most desirable class.
4. The user repeats this process until he/she has selected the classes desired.
5. The user then submits the ranking to the system.
6. The user may modify their class ranking at anytime before the deadline by selecting the "Modify" tab and returning to step three.

4.2.3 Functional Requirements

REQ-1: System will be able to display the list of classes that are available for the user.
REQ-2: System will be able to select a class to be ranked.
REQ-3: System will be able to remove a ranked class from a list.
REQ-4: System will have a location to send the submission to.

REQ-5: System will be able to handle the exception where a class ranking submission fails.

4.3 Instructor Class Offering System

4.3.1 Description and Priority

This feature handles the class offering system used by the instructors to offer classes to campers. This includes editing properties of a class and then sending the information to the system to create a class. This feature should be given a high priority because all of system requires that classes exist. Without classes, other than the login page, the other features would not be able to run. This leads to being able to offer classes and further leads us to be able to rank them.

4.3.2 Stimulus/Response Sequences

1. The logged in user should be an Instructor and should be viewing the instructor interface.
2. The user should then click the "Offer Classes" tab.
3. The user should fill out the necessary information regarding which class he/she would like to offer.
4. The user submits his/he offering and returns to step two for additional offerings.

4.3.3 Functional Requirements

REQ-1: System will be able to accept input for the offered class' properties. QUESTION: What properties of the classes will be decided by the director? Which properties get to be decided by the instructor?

REQ-2: System will be able to send a request to a Director to get class offering approved.

REQ-3: System will be able to notify user about the status of his/her request.

REQ-4: System will be able to handle the exception where the request could not be sent.

REQ-5: System will be able to handle the exception where the user leaves fields blank.

4.4 Director Management System

4.4.1 Description and Priority

This feature handles all capabilities of managing all classes information, campers and instructors status, including adding or removing any course sections, arranging class schedules, assigning a legal camper to a course section, receiving class offering from differents instructors. In addition, basic login and sign up function can also be included in administrator's userface. The major functionality an administrator can achieve is to run the whole program, consisting of running ranking algorithm for every camper's selection, or generating an available class schedule without confliction for each instructor and camper.

4.4.2 Stimulus/Response Sequences

1. Sign-up or login to the system
2. After all instructors give their class offering, administrators are able to view class offering and check all available classes.
3. A final time schedule will be generated by an administrator.
4. After all campers submit their ranking list, administrators are able to view class enrollment .
5. If there are no illegal enrollment, administrators can run the whole program and the algorithm which has been implemented in our system can output the best class selection for each camper.

4.4.3 Functional Requirements

REQ-1: System will be able to display all classes have been offered by every instructor.

REQ-2: System will be able to accept any class schedule generated by administrators manually when all instructors have offered classes.

REQ-3: System will be able to display all class enrollment information provided by campers to administrators.

REQ-4: System will be able to run the ranking algorithm to create class schedule for every student based on their interests.

REQ-5: System can be modified if some unexpected things happen to disturb the whole class schedule.

REQ-6: System will be able to give every legal camper access to the system based on the director's command.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

The camp course ranking system does not have any platform or device performance requirements for each individual user. Any devices or any operating system can connect to the internet will fulfill requirements. Because all users need to upload their modifications stored on the internet, therefore other users can manipulate those data for future use, or leave them to the developers to ensure data safety requirements.

5.2 Safety Requirements

To make sure all users don't lose their data while using our system, our team will keep updating the whole system regularly. For each individual user, ensuring to save every modification after making any changes on this system. For instance, when campers add 5 courses' ranking, prompting them to save the whole ranking list. Or when administers arrange a time schedule, clicking the save button after they verify the whole schedule. Beside some interface prompting, we do offer bugs reporting section for each user. We encourage all users to give feedback on any bugs they encountered, and we will fix them when next version of system release.

5.3 Security Requirements

For each user, especially for administors, they have to ensure their account safety and make their user password sophisticated to prevent password be victimized by any third-party organizations or individuals. For example, using symbols, numbers, upper-case and lower-case letters combination is a way we encourage all users to implement.

Another security issue may occur is when there are too many users using this system simultaneously, the system may crash or the server may lead capacity exceeding. However, the maximum capacity of our server should be tested in the future. In addition, we will keep track on the system or receive any feedback on server downtime, and fix these bugs or increase the server capacity.

5.4 Software Quality Attributes

Usability: Our system is very easy to use and easy to learn for distinct types of users. We offer very concise user interface and good visualization for any functionalities, such as "save" button for a camper's ranking list or "delete" button can be clicking when an administer would like to remove a class from class pool.

Adaptability & Maintainability: Since we use object-oriented platform, our system provides good modularity for later modifications or bugs fixing. In addition, we have a bug report section to receive any feedback from the users.

5.5 Business Rules

The details about user privileges are fully included in other sections. Therefore, we do not think this section is necessary.

6. Other Requirements

The system may require a database to store information about the user accounts, class offerings, and schedules for each user. Other requirements may include a restriction of class subjects to family-friendly subjects and a proper use of data as a legal issue.

Appendix A: Glossary

<JAVA> a programming language.
<MySQL> a database program.

What else glossary can be included in this section? Because we think our system is very concise to all users, no pre knowledge is required.

Appendix B: Analysis Models

Several sorting algorithms may be work, we will test all of them and compare their time complexities. What else analysis models should we specify?

Appendix C: To Be Determined List

1. Determine algorithm for class ranking.

What kind of user interface design pattern should we use? For example, in section 3.1 and 3.2.