

Name	Camper ranks classes
ID	SC_001
Description	A camper ranks at least 5 classes for enrollment with a 1-n ranking (where n is the total number of classes ranked $\geq 5$ ). No two classes will receive the same ranking from a single camper and no class will receive more than one ranking from a single camper.
Actors	Camper
Frequency of Use	All campers that register before registration deadline will rank their preferred enrollment.
Organizational Benefits	Alert's camp administrators to expected class enrollment, giving an idea of how much course materials will be needed for each class. Gives idea of expected future enrollment for future camps. gives each camper personal control over their camp experience.
Triggers	Camper selects the "Register" option from a camper's account page.
Preconditions	Camper is registering/is registered for attendance with the camp.
Postcondition	Camper's ranking is saved into the system, the order of which each camper ranked their courses/enrolled in classes is stored.
Main Course	<ol style="list-style-type: none"> <li>1. User logs in with their camper login credentials (see AC1, AC2).</li> <li>2. User fills out their desired rankings.</li> <li>3. User confirms rank selection (see EX1, EX3).</li> <li>4. System stores rank selection for camper and time of rank confirmation (see EX2).</li> <li>5. System redirects user to their account page.</li> </ol>
Alternate Courses	<p>AC1 camper does not have login credentials.</p> <ol style="list-style-type: none"> <li>1. User assigned their login credentials by the system (SC_002)</li> <li>2. Return user to Main course step 1.</li> </ol> <p>AC2 user logs off.</p> <ol style="list-style-type: none"> <li>1. Return user to Main Course step 1</li> </ol>
Exceptions	<p>EX1 Class rankings have closed.</p> <ol style="list-style-type: none"> <li>1. prompt user "class rankings have closed, please contact administrator for further details."</li> </ol> <p>EX2 Failed to save class rankings.</p> <ol style="list-style-type: none"> <li>1. System notifies user that an error has occurred.</li> <li>2. Return user to account page.</li> </ol> <p>EX3 rankings not 1-n</p> <ol style="list-style-type: none"> <li>1. Prompt user "rankings must be labeled in order of preference from 1-n"</li> <li>2. Return user to Main Course step 2</li> </ol>

Name	User creates/registers camp login credentials
ID	SC_002
Description	Each type of user will create an account allowing access and interaction with camp resources and information. Different users will have different access depending on privilege: Administrators > Instructors > Campers. The login credentials will be generated and assigned by the system.
Actors	System, Instructors, Administrators, Campers.
Frequency of Use	100% of admins, instructors, and campers will each create one account.
Organizational Benefits	The user hierarchy allows for user types to only access and modify elements and enrollments pertaining to themselves and those beneath them.
Triggers	A user issues an account request.
Preconditions	User is registered with or employed by the camp, and their data has been entered into the system to generate an account.
Postconditions	User has an account within the camp system and is able to login with their newly assigned credentials.
Main Course	<ol style="list-style-type: none"> <li>1. User requests an account creation (See AC1)</li> <li>2. User provides necessary information to system regarding account creation (See EX1).</li> <li>3. Credentials generated with appropriate system access and qualifications.</li> <li>4. Credentials returned to the account holder.</li> </ol>
Alternate Courses	<p>AC1 User is hired by administrator as instructor or admin.</p> <ol style="list-style-type: none"> <li>1. Flags are added to user account to identify user as an instructor or administrator.</li> <li>2. Return to Main Course step 3.</li> </ol>
Exceptions	<p>EX1 Could not verify information.</p> <ol style="list-style-type: none"> <li>1. System notifies user their information could not be verified.</li> <li>2. Return user to Main Course step 1.</li> </ol>

Name	Administrator assigns camper to a class after registration process
ID	SC_003
Description	An administrator reassigns a camper to a class: i.e. the camper is removed enrollment from one course to a different, manually specified course.
Actors	Administrator, Camper
Frequency of Use	Low frequency of use. Done in outstanding circumstances where a camper or instructor may have an immediate issue that makes it impossible for them to take part in their assigned course enrollment.
Organizational Benefits	Allows administrators to move campers as necessary due to outstanding circumstances. Provide enrollment for campers that did not rank classes prior to the registration deadline.
Triggers	Administrator chooses to manually change a camper's enrollment.
Preconditions	Registration process has been completed and administrator is logged in to the system.
Postconditions	The camper's course enrollment has been changed to the administrator selected course.
Main Course	<ol style="list-style-type: none"> <li>1. The administrator adds a class to a camper's enrollment.</li> <li>2. The administrator saves new enrollment.</li> <li>2. The camper's course enrollment is updated on their account page (See EX1).</li> </ol>
Alternate Courses	N/A
Exceptions	<p>EX1 Failed to update enrollment.</p> <ol style="list-style-type: none"> <li>1. System notifies user that an error has occurred.</li> <li>2. Return to Main Course step 1.</li> </ol>

Name	Instructor adds class to class list
ID	SC_004
Description	An instructor adds a class or section to the list of available classes and/or sections. An instructor can add a new section to a class already offered, or an instructor can add a new class that is not currently on the list.
Actors	Instructor, System
Frequency of Use	High frequency. Most, if not all, instructors will need to add at least one class to the class list per semester.
Organizational Benefits	The system populates a list of available classes that students can register for a preference. The system also populates a list of the available sections for classes that will be needed when the algorithm that assigns classes is run.
Triggers	An instructor wishes to add a class or section to the class list.
Preconditions	A database exists on the system that can hold the list of currently available classes and sections. An instructor is logged in to the system.
Postconditions	A new section of a class is added.
Main Course	<ol style="list-style-type: none"> <li>1. The instructor adds the appropriate class title. (See AC1) (See EX2)</li> <li>2. The system creates a new identifier for the class.</li> <li>3. The system updates the list of offered classes that is available to campers when they are registering for classes.</li> <li>4. The instructor adds the section that the class will be offered. (See EX1)</li> <li>5. The system updates the identifier for the class to reflect the section it will be offered.</li> <li>6. The instructor saves the class addition.</li> </ol>
Alternate Courses	AC1 Class is already offered <ol style="list-style-type: none"> <li>1. The system checks the list of already offered classes.</li> <li>2. If the class the instructor is adding is found in the list, return to Main Course step 4.</li> <li>3. Return to Main Course step 2.</li> </ol>
Exceptions	EX1 Instructor already has a section offered at this time <ol style="list-style-type: none"> <li>1. System notifies instructor that they are already offering a class in this section.</li> <li>2. Return to Main Course step 4.</li> </ol> EX2 Instructor is already offering max numbers of classes. <ol style="list-style-type: none"> <li>1. The instructor does not have any more open section, and cannot teach more sections.</li> <li>2. Instructor is informed of error.</li> <li>3. Return to Main Course step 1.</li> </ol>

Name	User accessing class schedule
ID	SC_005
Description	A user is logged into the system and wishes to view the class schedule. Different users will have different views of the class schedule.
Actors	Campers, Instructors, Administrators
Frequency of Use	High frequency. All users will typically view the class schedule at least once, and potentially many times throughout the summer.
Organizational Benefits	The system provides the users with the ability to see the class schedule, which allows the camp staff to know where people should be when. It also allows the campers to know which classes they are taking and when they are taking them.
Triggers	A user navigates to the class schedule page.
Preconditions	The system has run the algorithm that assigns all the campers to classes. A user must be logged in to the system.
Postconditions	A user has accessed the class schedule.
Main Course	<ol style="list-style-type: none"> <li>1. The user can select to view either individual camper's schedules or the full camp schedule. (See AC1)</li> <li>2. When viewing the full camp schedule, a class section can be selected to view the students enrolled in that section. (See AC2)</li> <li>3. When viewing a camper's schedule, the sections are listed by day and time, to illustrate when a camper needs to be in which class.</li> </ol>
Alternate Courses	<p>AC1 A camper is viewing their schedule</p> <ol style="list-style-type: none"> <li>1. When a camper is viewing the class schedule, they only have the option to view their own schedule. A camper does not have access to other camper's schedules or the whole class schedule for the camp.</li> <li>2. Return to Main Course 3</li> </ol> <p>AC2 An instructor prints a class list</p> <ol style="list-style-type: none"> <li>1. When viewing a class list, an instructor has the option to print the list.</li> <li>2. Return to Main Course 3</li> </ol>
Exceptions	N/A

Name	Administrator viewing class analytics
ID	SC_006
Description	An administrator can view analytics for classes. Specifically, the system can report which classes have high and low enrollment.
Actors	Administrator, System
Frequency of Use	Low frequency. The administrator would probably only need to view the class analytics a few times a semester, as the data will not change frequently once the algorithm has been run and the campers are assigned to classes.
Organizational Benefits	Administrators can view class analytics to be able to better judge the popularity of classes. This can assist in deciding which classes should be offered in future semesters.
Triggers	An administrator selects the option to view class analytics.
Preconditions	The algorithm has been run to assign campers to classes. An administrator is logged in to the system.
Postconditions	The class analytics have been run by the system and accessed by an administrator.
Main Course	<ol style="list-style-type: none"> <li>1. System runs the algorithm to determine the class analytics.</li> <li>2. The class analytics are presented in list form, showing which classes have the highest enrollment and which have the lowest.</li> <li>3. The number of registered campers in each class is also shown.</li> <li>4. Any classes that have max enrollment are highlighted in some way.</li> </ol>
Alternate Courses	N/A
Exceptions	N/A

Name	Login Security
ID	SC_007
Description	Each user has a clearance level to protect users' personal information.
Actors	Campers, Instructors, Admin, System
Frequency of Use	Every time someone logs into the system.
Organizational Benefits	Creating a secure system for users prevents unqualified individuals from accessing others personal information.
Triggers	A user clicks the 'login' button.
Preconditions	The user must be identified using a valid username and password.
Postconditions	The user will have access to the features they were meant to be able to access.
Main Course	<ol style="list-style-type: none"> <li>1. The user will be prompted to input their login credentials.</li> <li>2. The user will click the 'login' button. (See AC1, AC2)</li> <li>3. The system will verify that the password matches the saved password for the user.</li> <li>4. The system will search a black-list of usernames to determine what level of clearance the user has. (NOTE: The black-list will only be edited by methods that the admin alone can access).</li> <li>5. Methods should check some private variable associated with the user to ensure that that user has access to the method.</li> </ol>
Alternate Courses	<p>AC1 The user inputs their password incorrectly</p> <ol style="list-style-type: none"> <li>1. Prompt the user to re-enter their password, decrement the number of attempts they have left.</li> <li>2. Return to Main Course step 1</li> </ol> <p>AC2 The username is not valid</p> <ol style="list-style-type: none"> <li>1. Inform the user that the username doesn't exist.</li> <li>2. Return to Main Course step 1</li> </ol>
Exceptions	<p>EX1: A user forgets their password</p> <ol style="list-style-type: none"> <li>1. User needs to email administrator to obtain password.</li> <li>2. Return to Main Course step 1.</li> </ol>

Name	Running the ranking process
ID	SC_008
Description	The camp director will run the ranking process, assigning campers to classes.
Actors	Director, System
Frequency of Use	This will be run once per camp season.
Organizational Benefits	Efficiently generate a schedule for all campers.
Triggers	The Director selects the 'generate' button.
Preconditions	There exists a list of campers that have 5 classes ranked without error. (Ignore campers that have failed to create a ranking, they will manually enter classes). There exists a list of class sections that have instructors assigned.
Postconditions	All campers that submitted their rankings on time will have a schedule.
Main Course	1. The Director chooses to generate the schedule. 2. The system sorts the campers by rank submission date. 3. The system <b>generates a schedule for each camper</b> in the list, individually. (See SC_010)
Alternate Courses	N/A
Exceptions	EX1: Students that have submitted rankings later may not get a full schedule. 1. Students need to inform director to manually add them into a class. EX2: The schedules could be generated. 1. The system informs the user that schedules can only be generated once per season.



Name	Manually add a class for a late camper
ID	SC_009
Description	An instructor or camp director manually adds a class to a camper's schedule.
Actors	Instructor, camp director
Frequency of Use	Depends on the number of late attendees.
Organizational Benefits	Provides a way of accommodating late attendees.
Triggers	The instructor or camp director selects "manually add" button.
Preconditions	The automatic ranking process is finished, the database stores all the rankings for punctual attendees.
Postconditions	The new registration information has been entered to the database overwriting past schedules.
Main Course	<ol style="list-style-type: none"> <li>1. System prompts the user that at this time registration information can only be added manually.</li> <li>2. User confirms to manually add registration information. A specific class is determined based on availability and is chosen by the user.</li> <li>3. System stores the registration information.</li> <li>4. System redirects the user to the full registration list.</li> </ol>
Alternate Courses	N/A
Exceptions	<p>EX1 System fails to save the new information to the database.</p> <ol style="list-style-type: none"> <li>1. System notifies the user that an error has occurred, for example, the class is already full.</li> <li>2. Return user to Main Course step 2.</li> </ol>

Name	System generates a class schedule for a camper
ID	SC_010
Description	The system generates a class schedule for a camper
Actors	The system
Frequency of Use	The system will generate a class schedule for each camper after the ranking process has finished, or after the camp director manually register a camper to a class.
Organizational Benefits	It provides a way for the campers to see the schedules conveniently, the virtual schedule can help them be prepared for the class and manage their time efficiently.
Triggers	There is no direct trigger. The system automatically generates the schedule once the database gets updated.
Preconditions	The updated class registration information for a particular student has been saved into the database.
Postconditions	The course schedule can be viewed by the campers. It contains the time block, the class enrolled in that block, the location of the class, any special instructions for the class and the instructor's name. The course schedule can also be viewed by the instructor and camp director if they have entered the student's identification number.
Main Course	<ol style="list-style-type: none"> <li>1.The director has run the ranking process.</li> <li>2.The system generates the class schedule for all the campers.</li> </ol>
Alternate Courses	<ol style="list-style-type: none"> <li>1. The director has manually input the class registration information for a late camper.</li> <li>2. The system generates the class schedule for that single camper.</li> </ol>
Exceptions	<p>EX1 System fails to generate the schedule for a manually added information due to</p> <ol style="list-style-type: none"> <li>1. Attendee wants to be enrolled in the same class twice.</li> <li>2. Attendee wants to be enrolled in more than one class in any given block of time that is set by the director.</li> </ol> <p>In the event of failure, return to SC_009, Main Course 2.</p>