SOFE 3650U Software Design and Architecture
Project Progress Report
Modifying Gym Website

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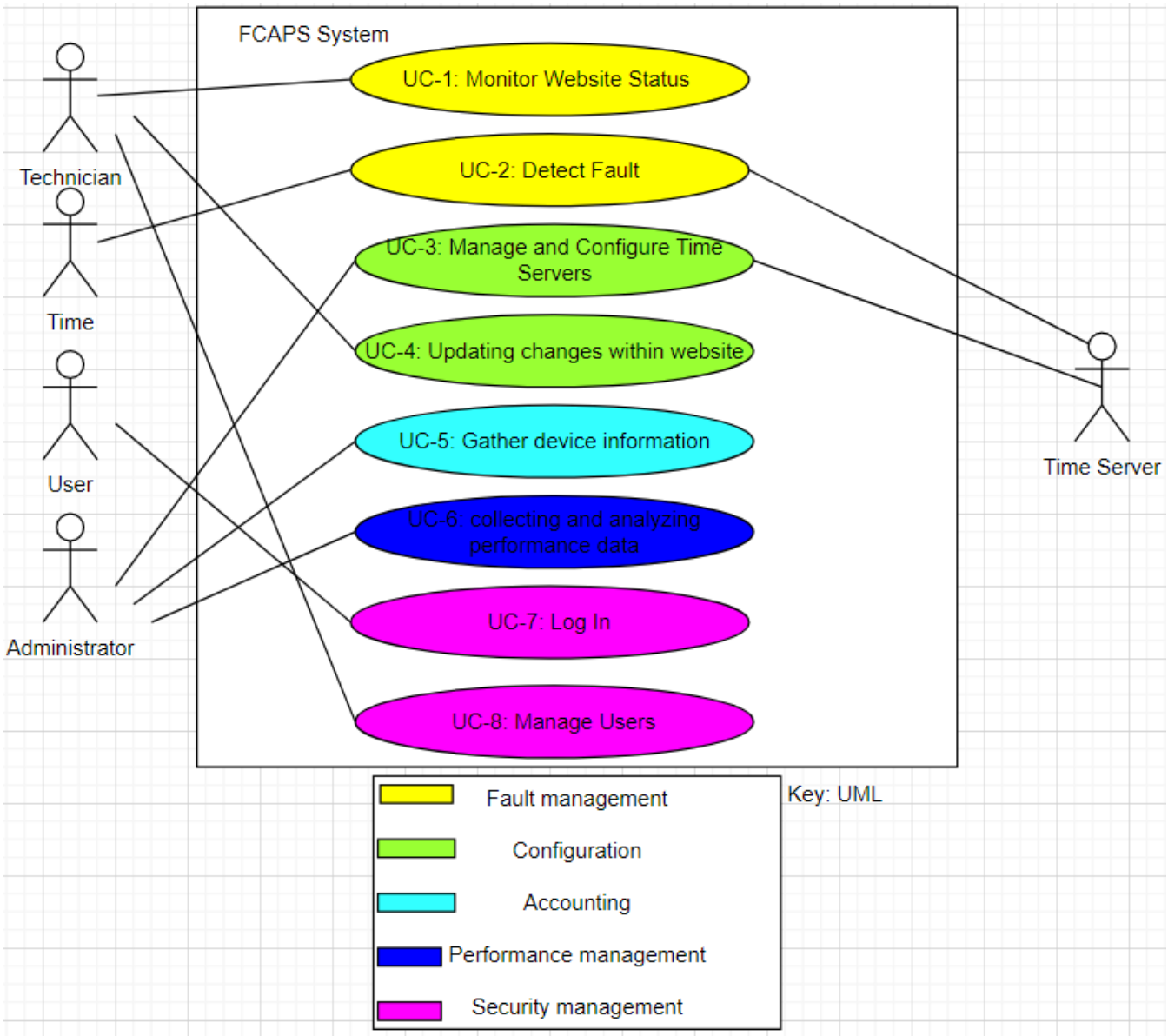
1. Use Case Models:



Use Case	Description
UC-1:	A user monitors the time servers in a hierarchical representation of the whole network. Problematic devices are highlighted, along with the logical regions where they are grouped. The user can expand and collapse the network representation. This representation is updated continuously as faults are detected or repaired.
UC-2:	The management system will contact the time servers periodically to make sure they're functioning properly. If the time servers don't respond, the event is stored and the network representation observed by the users is updated accordingly.
UC-3:	The administrator can change the value of the time server, and can locally store configuration, which will be sent to one or more time servers.
UC-4:	Other than time servers, the system can also change individual configuration variables, meaning any variable that needs to be updated will be updated and changed within the website servers.
UC-5:	This use case will be used in order to gather device information, such as reservations and user profiles for log in.
UC-6:	With the data given to the website, the administrator will determine the efficiency of the current network by collecting and analyzing the website data. This will ensure network health.
UC-7:	The log in function will help users identify themselves in a safe manner to create reservations.
UC-8:	The administration can visualize the information and make changes to configurations to ensure user safety.

2. Quality Attributes:

ID	Quality Attribute	Scenario	Associated Use Case
QA-1	Performance	The system should be able to update whenever there is a change made by the user as quickly as possible. Whenever someone books an appointment, the gym should be able to see it on their end.	UC-1
QA-2	Modifiability	A new membership option is created for users and is going to be included on the website. This does not get rid of any pre-existing membership options and is only an addition to what is already available.	UC-8
QA-3	Availability	Users could use the website services (i.e	UC-2

		booking a gym time slot and purchase gym membership) during their convenient time. The system should be available to use 24/7.	
QA-4	Security	A user wants to purchase a gym membership and their personal information (billing information and address information) is secure.	All
QA-5	Scalability	A new membership option is added and that causes a spike in users and requests. The system will handle the sudden increase in load.	UC-2
QA-6	Usability	The user should be able to use the system anywhere they are in the world. The website should be accessible with anyone with a disability like using colors so that people who are color blind can read and use this website.	UC-6

3. System Constraints:

ID	**Constraint**
CON-1	A minimum of 100 simultaneous users must be supported on the website.
CON-2	The system must be accessed through a web browser (Chrome, Safari ,Firefox) in different platforms: Windows, OSX, and Linux.
CON-3	An existing relational database server must be used. This server cannot be used for other purposes than hosting the database.
CON-4	Bookings of the last 24 hours must be stored.
CON-5	A user must make a maximum of 2 bookings everyday.
CON-6	Performance data needs to be collected in intervals of no more than 5 minutes, as higher intervals result in time servers discarding data.