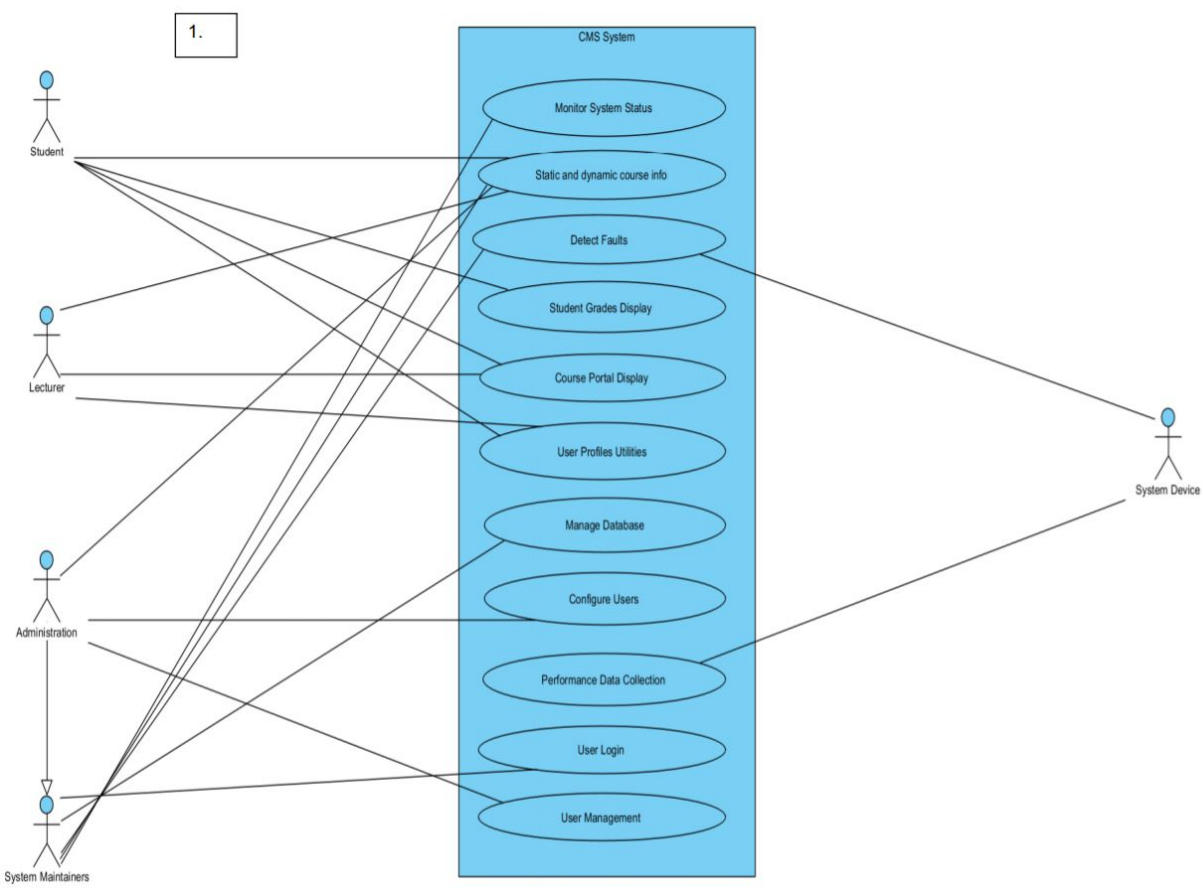

Use Case

Use Case	Description
UC-1: Monitor System Status	A user monitors the time servers in a hierarchical representation of whole system. The user can expand or collapse the system representation. This representation is updated continuously as faults are detected or repaired.
UC-2: Static and Dynamic Course Info	The CMS needs to provide and store Static and Dynamic information.
UC-3: Detect Faults	Periodically the CMS contacts servers to see if they are awake. If servers don't respond a trap signal is sent or a return to normal state of operation is received, the event is stored and the system representation observed by the users is updated.

UC-4: Student Grades Display	Display grades from previous courses that student has taken
UC-5: Course Portal Display	Display the CMS. Be able manage course contents, such as enrolling in courses, downloading files, viewing course history and much more.
UC-6: User Profile Utilities	Students should be able to reset passwords, modify notification, get contact information, and viewing student details, and edit their own personal information
UC-7: Manage Database	Store information on a DBMS to access at a later time, and have back-ups in case of emergency.
UC-8: Configure Users	An administrator changes configuration parameters associated with user. Parameters are sent to servers and stored.
UC-9: Performance Data Collection	System performance data (delay, offset and jitter) is collected periodically
UC-10: User Login	A user logs into CMS system through login screen. Upon successful login user is presented with different operations according to their role.
UC-11: User Management	Administrator adds or removes user or modifies users permission.

Quality Attributes

ID	Quality Attribute	Scenario	Associated Use Case	Priority
QA-1	Performance	System constantly scans for possible errors in order to not cause a shutdown	UC-3	H,H
QA-2	Modifiability	A student grade update is done. This should be able to be added	UC-4	M,M

		successfully without affecting the grades of the other students.		
QA-3	Availability	If a failure occurs, the system shuts down and restarts instantly.	All	H,H
QA-4	Performance	The system when is under load from all the students and staff logged in, is able to make a performance data in case the systems fails, no data is lost.	UC-9	H,H
QA-5	Performance, Usability	User Information is displayed along with various self serve options. System should be fast and capable of making the change quick and effective immediately for other systems to use and see.	UC-6	H,M
QA-6	Security	If a change is made in the system, it is possible to know which user made the change	All	H,M

Constraints

ID	Constraints
CON-1	All users should be able to login and use the system at the same time without causing the system to crash due to overload.
CON-2	A relational database should be used so that it can be co-used with other major system in the campus or school.
CON-3	Changes made in the past 7 days must be stored for data recovery.
CON-4	Student / Lecturers must be able to see only their own grades or his or her class.
CON-5	Static and dynamic view of the course information only by the students and lecturers
CON-6	System shall not allow users to change information maintained by secondary systems.
CON-7	Student file upload should be limited to 10 MB per upload in order to not waste disk usage.
CON-8	Final grade calculation statistics should be done by the administrators.
CON-9	System shall allow only the administration to specify completed courses as prerequisites of a course.
CON-10	The system shall prevent students from subscribing to a course they don't qualify.

Architectural Concerns

ID	**Concern**
CRN-1	Establish overall initial system structure
CRN-2	Leverage team vast programming knowledge, and various programming languages

CRN-3	Allocate work to members of development team