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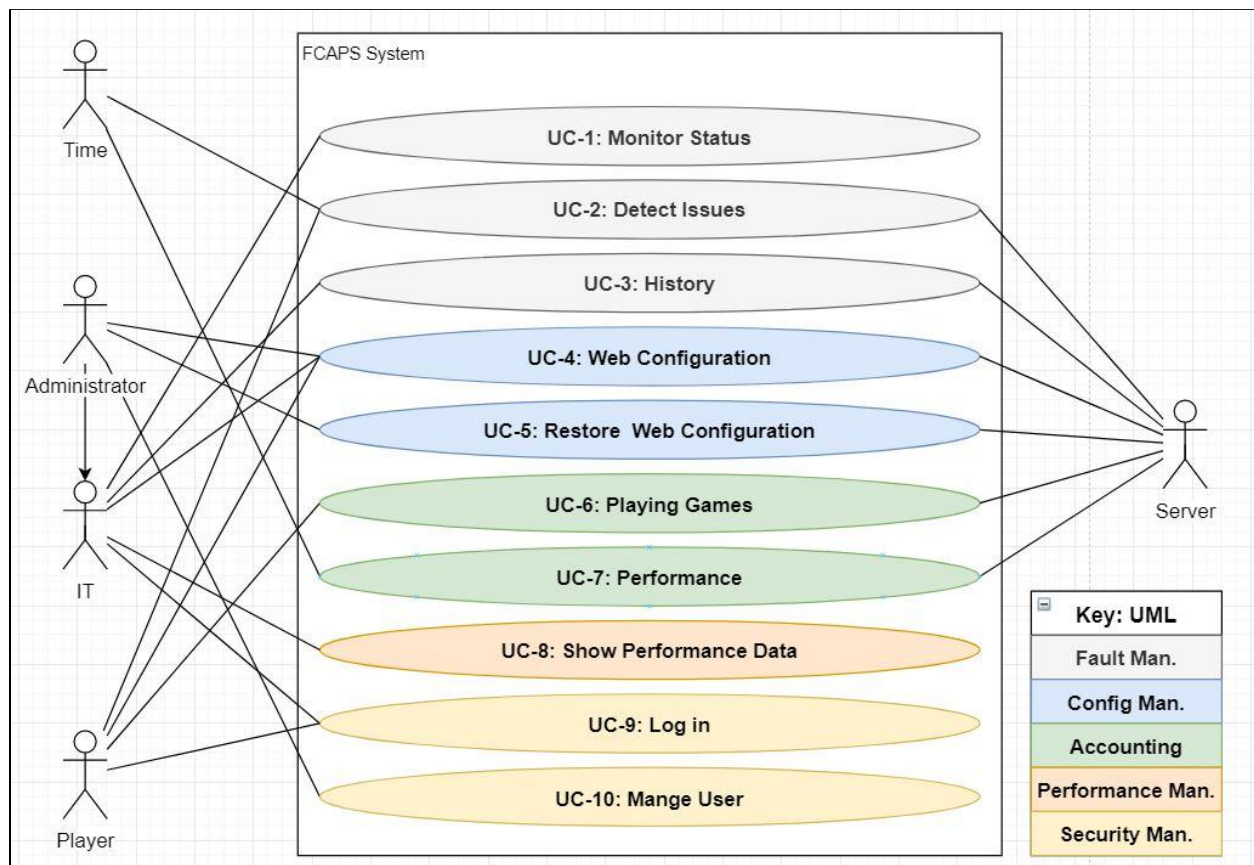
SOFE 3650U Software Design and Architecture CRN 44212

Group 20 Project Phase 2 for Video Game Website

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Use Case model:

Use Case	Description
UC-1: Monitor Status	IT monitors the website for any problems related to entering the website, playing games, updates etc...
UC-2: Detect Issues	The system detects problems and captures a time with it that can be used by IT.
UC-3: History	IT uses the history for debugging any problems that get detected by the system. IT can also view any web config changes made by a player.
UC-4: Web Configuration	The system sends the correct and up-to-date web configuration that is required for a specific role upon a recent user request, or the result of changes made by the user.
UC-5: Restore Web Configuration	Global Web Configuration across all users will be updated to a new configuration upon the request of IT which would be a result of IT finding problems addressed by data or Players. Or the server updates the web config to reflect with Players' imported games.
UC-6: Playing Games	Take Player's inputs for processing to the database for finding and playing games listed on the main page and have the web configuration change for Player. Imports made by the Player are also processed and sent to the database.
UC-7: Performance	A periodic collection of data that encompasses response time, data retrieval and storing, and server-side/outside connections.
UC-8: Show Performance Data	Performance data is shown to IT upon request to assess problems and determine if maintenance is needed or if Admin needs to change anything.
UC-9: Log in	Users of the website log in through the same page and upon login are given the web configuration that correlates to their role.
UC-10: Manage User	The Admin manages users and applies changes or modifications where needed.

Quality Attributes for the use case:

ID	Quality	Scenario	Use Case
QA-1	Security	The user sends the wrong info to the system during normal operation. The system must detect which connection made the incorrect attempt.	ALL
QA-2	Availability	The system will always maintain availability. After maintenance or downtime, the system must come back online within 5 to 10 seconds. Users may also create faults during login and/or website usage, an appropriate response measure must occur.	UC-6, UC-9, UC-4
QA-3	Performance	IT and the server collect information of performance data within 2 mins for ensuring that data loss, jitter, latency, the throughput does not exist when processing out user requests. IT views performance data that only lasts for a couple of hours within 1 sec of viewing.	UC-7, UC-8, UC-3
QA-4	Usability	General navigation of the website occurs. A Player uses the search bar with a minimal amount of time for finding a game to play. A user uses the login page and immediately knows what information is needed and can find correct boxes with a minimal amount of time.	UC-1, UC-4, UC-6, UC-9
QA-5	Modifiability	New updates and bug fixes are being deployed to the website. The website applies said changes that are cost-effective, which should only affect what is necessary to affect.	UC-3,UC-5, UC-7,UC-8
QA-6	Testability	A new update is pushed to production and the general functionality of the servers is being monitored while updates are being sent. Server diagnostics are sent within 1 second. Server testing aborts once it exceeds 5 mins, protecting the server from unnecessary stress.	UC-1,UC-4, UC-5, UC-8
QA-7	Interoperability	The system embeds new games from user imports with no data loss.	UC-5, UC-6

System Constraints for the use case:

ID	Constraint
CON-1	The website will need a keyboard, mouse for navigating and browsing. (Usability)
CON-2	The system must accept 10 MB games or lower to conserve server space. (Interoperability)
CON-3	User connection to a website can be low with a reliable connection. (Reliability)
CON-4	The database server must only be used for holding the database used for the website as well as other server statistics. (Interoperability)
CON-5	The website must be accessible through multi browsers and operating software. (Usability)
CON-6	Data on the performance must be taken in periodic intervals for Health Monitoring. (Performance)
CON-7	The website must be always up for all users except during downtimes or maintenance. (Availability)
CON-8	Only the user can see their encrypted information and no one else. (Security)
CON-9	In a 2 to 3 min interval user's data is stored in a backup of the database. (Security)
CON-10	The games can have a low image quality but should remain visually appealing. (Usability)
CON-11	The website must keep user data of previously played games until the account of the user is deleted. (Modifiability)
CON-12	Load times must not exceed 2 min so long as there are <1 thousand users. (Reliability)
CON-13	After 2 mins the system must time out the client due to an unsuccessful connection. (Availability)