Software Architecture Model

Phase 1 Report

1) UseCase :

1) Actors :

In the usecase there are 6 actors : (Competitor , staff , officials , emergency response service , referee , System)

2) UseCases : (All bolded words considered usecases)

Competitors interact with the competition system by **registering** into the system and **login**, to complete this process the system interact as actor with the competition system as it **validate the input data** from the user before submitting it to review either it is accepted or not.

After the staff **search for competitor** by his number he **fill his score** then the competitor can **search for his results** by his number , then both of them can **print out report** of details about that competitor, the staff **record competition details** , after the competition is over the staff can **request result details** , the staff can **access the GUI** .

As not all staff have the same access level so officials inherit from staff all his access and have their own level of access (**managing the competitors** by either register them or remove them)

Referee role in the system is to **ensure the fair play** in all competitions between all competitors

Emergency response service **provide support** for referee , staff , officials and competitors

2) Class Diagram :

There are 6 classes in the class diagram

1) Name Class have private attributes (first name and second name) , operations SetFullName that set the full name by adding the first name into the second name , get full name that gets the first name + second name

2) competitor class inherit name (have its attributes and operations) it have private attributes (ID , Email, Password , competition type , age , country, scores, level) and it have operations

_Login that validate the input data from the user to login

_Register allow competitor to input their data for further login into the system

_SearchForCompetitor allow the competitor to search for his details and it have Boolean to print out report or not after searching

_PrintOutReports it Print out reports for details about the competitor after searching

_ComputeOverAll it take the scores of the competitor and compute its overall score

_RequestSupport return a Boolean whether support is needed or not from the emergency response service

3) staff class inherit name (have its attributes and operations) it have private attribute(id) it have operations :

_FillScore that fill the scores of the competitors in the competition so the whole staff and competitors can search for this competitors

_RequestResultDetails provide the staff by the competition result details of the competitors

_SearchForCompetitor the staff can search for a particular competitor to get his details , he can print out the report details

_PrintOutReport it gets a Boolean from search for competitor operation to print particular competitor report details

_RecordCompetitorDetails the staff after getting the details of the competitor he record those details to the system

_RequestSupport return a Boolean whether support is needed or not from the emergency response service

_AmendCompetitorDetails the staff update the competitor records by this operation

4) Emergency response service class it only have one operation

_ProvideSupport it accept the support request from staff and competitors

5) Officials class inherit staff (have its attributes and operations) it have two operations :

_RegisterCompetitor the officials manage the registration process of the competitor

_RemoveCompetitor the official have access to remove the competitor from the system

6) System it have only one operation :

_ValidateInputData it control the register and login process by validating them

3) Architecture Model

1st Tire :

Presentation Layer (Web\Mobile app)

2nd Tire :

Application Layer : it contain 11 process

_ Search (retrieve Competitor data from DataBase to the presentation layer to show it to the staff or competitor)

_ComputeOverAll (Add the over All of scores of a particular competitor to the DataBase)

_PrintOutReports (Retrive competitor data to print the report details to the presentation layer for the staff or competitors)

_Fill Score (Add the scores of a particular competitor to the Database by the staff)

_RequestResultDetails (Retrive result details from the competition records database to give it to the presentation layer to show it to the staff)

_Record Competitor Details (Add the competitor details taken from the staff to the competitor records in Database)

_AmendCompetitorDetails (updates data of competitors in the database)

_Remove Competitor(it remove a particular competitor from the database by officials only after taking the number of competitor)

_Validate Register Request (The system after receiving the register or login data validate it)

_Set Full Name (Add to the database the full name of either the competitor or staff to the database)

_Get Full Name (it gets from the database the name of either a staff or competitor)

3rd Tire

DataBase Layer

It contains the database of the system

_Competitor records

_Staff records

_Competition Records