



VALORANT CHAMPIONS TOURNAMENT

A Project By —

THE SILVER WOLVES

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WELCOME TO MY “MINI-WORLD”

As Viper said, welcome to my “mini-world”, this is a UoD of the VCT, that is the Valorant Champions Tournament. It comprises of the data to host the tournament and alongside in game details required for a better run of the VCT. The purpose of the database is to provide an efficient storage as well as a mechanism to view data about the matches and the statistics as the tournament progresses. Mainly, the database would be used by Riot, the tournament organizers and by the audience viewing as well as the participants to view various data about the history of the matches and other opponents to make efficient strategies to win the VCT.

DATABASE REQUIREMENTS

Assumptions

- It has been assumed that a Map and an Agent, are unique and their names spoken in this context make them strong entities.
- The attribute marked as primary key or candidate key has been assumed to be unique and can be used to identify the tuple in the database.
- A Team is led by Coach and hence, it's details are considered while referring to a Team.
- Some details have been assumed to exist that are non-existent in the actual VCT.
- A FIXTURE_WITH is a relation that is used during a Fixture to host the match, whereas SUMMARISES is for the post match periods.

Strong Entity Types

Participant

- Name { Simple Attribute }
- Participant ID { Primary Key }
- Riot ID { Candidate Key }
- Date Of Birth { Composite Attribute - DD/MM/YYYY }
- Age { Derived Attribute }
- Gender { Simple Attribute }
- Contact Number { Multi-valued Attribute }
- Email-ID { Multi-Valued Attribute }
- Team Name { Simple Attribute }
- Team Registration ID { Foreign Key }

Team

- Team Name { Simple Attribute }
- Team Registration ID { Primary Key }

- Coach Name { Simple Attribute }
- Coach Registration ID { Candidate Key }
- Coach Date Of Birth { Composite Attribute - DD/MM/YYYY }
- Coach Age { Derived Attribute }
- Coach Gender { Simple Attribute }
- Coach Contact Number { Multi-valued Attribute }
- Coach Email-ID { Multi-Valued Attribute }

Agent

- Name { Primary Key }
- Type { Simple Attribute }
- Gender { Simple Attribute }
- Passive Abilities { Multi-valued Attribute }
- Basic Abilities { Multi-valued Attribute }
- Signature Abilities { Multi-valued Attribute }
- Ultimate Abilities { Candidate Key }

Match

- Team 1 - Registration ID { Simple Attribute }
- Team 2 - Registration ID { Simple Attribute }
- Match ID { Primary Key }

Map

- Name { Primary Key }
- Number of Sites { Simple Attribute }
- Win Percentage While Attacking First { Simple Attribute }
- Win Percentage While Defending First { Simple Attribute }

Weak Entity Types

Match Summary

- Match ID { Foreign Key }
- Outcome { Simple Attribute }
- Match MVP { Simple Attribute }
- Team MVP { Multi-valued Composite Attribute - Player/Kills/Deaths/Assists/Average Combat Score/Econ Rating/Plants/Defuses/First Bloods }
- Most Kills { Multi-valued Composite Attribute - Player/Value }
- Most Assists { Multi-valued Composite Attribute - Player/Value }
- Most Deaths { Multi-valued Composite Attribute - Player/Value }
- Highest Average Combat Score { Multi-valued Composite Attribute - Player/Value }
- Highest Econ Rating { Multi-valued Composite Attribute - Player/Value }
- Most First Bloods { Multi-valued Composite Attribute - Player/Value }
- Most Plants { Multi-valued Composite Attribute - Player/Value }
- Most Defuses { Multi-valued Composite Attribute - Player/Value }

Competitive Career Summary

- Name { Simple Attribute }
- Riot ID { Foreign Key }
- Competitive Rank { Composite Attribute - League/Position/Progress }
- Best Competitive Rank { Composite Attribute - League/Position/Progress }
- Hours Played { Simple Attribute }
- Accuracy { Composite Attribute - Head/Body/Legs }
- Favorite Weapon { Composite Attribute - Gun/Gun Type/Skin }
- Played { Simple Attribute }
- Wins { Simple Attribute }
- Losses { Simple Attribute }
- Draws { Derived Attribute }
- Win Percentage { Derived Attribute }

- Kills { Simple Attribute }
- Deaths { Simple Attribute }
- Assists { Simple Attribute }
- KDA Ratio { Derived Attribute }

Tournament Performance

- Name { Simple Attribute }
- Participant ID { Foreign Key }
- Matches Played { Simple Attribute }
- Matches Won { Simple Attribute }
- Win Percentage { Derived Attribute }
- Favorite Agent { Foreign Key }
- Kills { Simple Attribute }
- Deaths { Simple Attribute }
- Assists { Simple Attribute }
- Plants { Simple Attribute }
- Defuses { Simple Attribute }
- First Bloods { Simple Attribute }
- KDA Ratio { Derived Attribute }

Relationship Types

BELONGS_TO

- A Participant BELONGS_TO a Team
- Degree 2
- Participant, Team
- N : 1 is the cardinality ratio
- (1, 1) is for Participant and (5, N) is for Team

CAREER_SUMMARY

- A Participant has a CAREER_SUMMARY as the Competitive Career Summary
- Degree 2
- Participant, Competitive Career Summary
- 1 : 1 is the cardinality ratio
- (1, 1) is for Participant and (1, 1) is for Competitive Career Summary

PERFORMANCE

- A Participant has his/her PERFORMANCE throughout the tournament as the Tournament Performance
- Degree 2
- Participant, Tournament Performance
- 1 : 1 is the cardinality ratio
- (1, 1) is for Participant and (1, 1) is for Tournament Performance

LEADS (Same Participating Entity In Different Roles)

- A Participant LEADS the other Participant's of his Team
- Degree 3
- Participant, Team
- 1 : N : 1 is the cardinality ratio
- (1 : 1) and (5 : N) is for Participant, (1 : 1) is for Team

FIXTURE_WITH

- A Match is being played in the Map between two Teams played by their Participants, each playing a specific Agent
- Degree 5
- Participant, Match, Map, Team, Agent
- In the order above, 10 : 1 : 1 : 2 : N
- In the order above, (10, 10) ; (1, 1) ; (1, 1) ; (2, 2) ; (5 : 10)

SUMMARISED

- A Match is SUMMARISED by a Match Summary

- Degree 2
- Match, Match Summary
- 1 : 1 is the cardinality ratio
- (1, 1) is for both Match and Match Summary

FUNCTIONAL REQUIREMENTS

Retrieval

Selection

- Selection of Competitive Career Summary of a given Participant ID
- Fixture Data for any Match as well as it's Summary
- Performance of a Participant throughout the tournament
- Agent Data of a particular agent, to learn more about it
- Map Data of a specific map, to learn more about it and form strategies

Projection

- Participant Data from a particular Team can be extracted
- Participant Data according to certain ranking schema can be extracted from their Competitive Career Summary
- Sorting of Participants based on one of the parameters of the summary or performances can be done for stricter analysis

Aggregate

- Average kills by a Participant per game can be found
- Total number of Participating Teams and Players can be calculated to keep as a record
- Maximum of any of the summary parameters can be found out to give awards
- Finding the most popular agent and weapon

Search

- Searching Participants, belonging to the same team

- Finding the Participants having the same favorite agent and weapon
- Finding agents having similar abilities like stun or blind

Analysis

- Analysis of the playing style of specific participants can be done by seeing the agents they play and their in-game statistics
- Analysis of team strategies can also be done using the Match Summary obtained after every match

Modification

Insert

- Insertion of data of the participants when a new team arrives
- Insertion of data after each match happens in the match summary entity

Update

- Updating performance statistics after every match
- Updating information about the maps after every match
- Updating Agent information after updates in the game

Delete

- Deleting Participant data incase of withdrawal
- Deleting data incase some map or agent is removed from the game