

Database Description and Relevance: VALORANT Gaming Platform

Description:

The database model is designed for a gaming platform centered around the popular first-person shooter game, VALORANT. The model captures essential entities and their relationships to facilitate the management of players, matches, agents, weapons, maps, and game rounds.

- **Player Table:**
 - Captures player information such as ID, username, password, and email.
 - Relevant for user authentication and player management.
- **Match Table:**
 - Records details about gaming matches, including a unique match ID and the game mode.
 - Facilitates tracking and analysis of match data.
- **Agent Table:**
 - Contains information about in-game agents, including their unique ID, name, and special abilities.
 - Relevant for character selection and gameplay features.
- **Map Table:**
 - Stores data related to game maps, with a focus on the map's unique ID and name.
 - Useful for managing and referencing different in-game environments.
- **Weapon Table:**
 - Captures details about weapons, such as their ID, name, type, damage, cost, and ammo.
 - Important for player equipment and gameplay mechanics.
- **Round Table:**
 - Represents different rounds within a match, utilizing a unique round ID and round name.
 - Useful for tracking and organizing the progression of a gaming session.
- **PlayerMatchAgentWeaponMap Mapping Table:**
 - Establishes relationships between players, matches, agents, weapons, maps, and includes start time.
 - Facilitates recording and analyzing player-specific data during a match.
- **RoundDetails Table:**
 - Records details about each round, linking to player, match, and round data.
 - Includes information on kills and scores, contributing to post-match analysis.
- **Gaming Summary Table:**

- Summarizes key information for each gaming session, including the outcome, winning team, and MVP player.
- Provides an overview of the match results and outstanding player performance.

Relevance:

- **Player Management:** The database allows for the management of player accounts, authentication, and tracking individual player statistics.
- **Match Analysis:** Enables the analysis of match data, including game modes, maps, and outcomes, for strategic and statistical purposes.
- **Agent and Weapon Selection:** Supports the selection and management of in-game agents and weapons for each player.
- **Round and Session Tracking:** Facilitates the recording and analysis of rounds, providing insights into player performance and overall gaming sessions.
- **Gaming Summary:** Offers a concise summary of each gaming session, highlighting the outcome, winning team, and the most valuable player.

TABLES: -

- **Player Table:**

Field	Data Type	Constraints
PlayerID	INT	Primary Key, Auto Increment
Username	VARCHAR(255)	Not Null, Unique
Password	VARCHAR(255)	Not Null
Email	VARCHAR(255)	Unique

- **Match Table:**

Field	Data Type	Constraints
MatchID	INT	Primary Key, Auto Increment
Mode	VARCHAR(255)	Not Null

- **Agent Table:**

Field	Data Type	Constraints
AgentID	INT	Primary Key, Auto Increment
AgentName	VARCHAR(255)	Not Null
SpecialAbilities	VARCHAR(255)	

- **Map Table:**

Field	Data Type	Constraints
MapID	INT	Primary Key, Auto Increment
MapName	VARCHAR(255)	Not Null

- **Weapon Table:**

Field	Data Type	Constraints
WeaponID	INT	Primary Key, Auto Increment
WeaponName	VARCHAR(255)	Not Null
Type	VARCHAR(255)	
Damage	INT	Check (Damage >= 0)
Cost	INT	Check (Cost >= 0)
Ammo	INT	Check (Ammo >= 0)

- **Round Table:**

Field	Data Type	Constraints
RoundID	INT	Primary Key, Auto Increment
RoundName	VARCHAR(255)	Not Null

- **PlayerMatchAgentWeaponMap Mapping Table:**

Field	Data Type	Constraints
PlayerMatchAgentWeaponMapID	INT	Primary Key, Auto Increment
PlayerID	INT	Foreign Key (Player)
MatchID	INT	Foreign Key (Match)
AgentID	INT	Foreign Key (Agent)
WeaponID	INT	Foreign Key (Weapon)
MapID	INT	Foreign Key (Map)

StartTime	DATETIME	Not Null
...	...	

- **RoundDetails Table:**

Field	Data Type	Constraints
RoundDetailsID	INT	Primary Key, Auto Increment
PlayerMatchAgentWeaponMapID	INT	Foreign Key (PlayerMatchAgentWeaponMap)
RoundID	INT	Foreign Key (Round)
Kills	INT	Check (Kills >= 0)
Score	INT	Check (Score >= 0)

- **Gaming Summary Table:**

Field	Data Type	Constraints
GamingSummaryID	INT	Primary Key, Auto Increment
RoundDetailsID	INT	Foreign Key (RoundDetails)
Outcome	VARCHAR(255)	Not Null
WinningTeam	VARCHAR(255)	Not Null
MVPPlayerID	INT	Foreign Key (Player)