# Database Outline in Words

To register for the game, each player must input a unique username and email and then is auto-assigned an ‘id’ as a primary key. Once the player has been registered, the player can now create zero or more characters each with a unique name not already taken by other characters.

Each player can play as zero or more characters but characters must have exactly one player. The character is given the required name and class choices provided by the player. The primary key ‘id’ is auto-assigned. The player is tracked with a foreign key ‘playerId’ referencing the player’s ID. The character has the attributes ‘level’, ‘health’, and ‘strength’ to track stats, which cannot be NULL.

The character belongs to one class with a foreign key ‘classId’ referencing the class ID. Each class has a mandatory class name and default starting stats for ‘level’, ‘health’, and ‘strength’ to assign to new characters on creation. Each class can be the class for many characters but each character may only have one class.

Characters can zero or more skills and each skill may belong to zero or more characters. Skills are referenced by their primary key ‘id’ and have unique names in the ‘skill’ table. The relationship table ‘pCharSkill’ matches the character to the skill with the foreign keys ‘pCharId’ and ‘skillId’ that reference the character ‘id’ and the skill ‘id’. The primary key for the relationship table is the combination of ‘pCharId’ and ‘skillId’.

Characters may possess zero or more item instances and each item instance must have exactly one character as an owner. The foreign key ‘owner’ references the character’s ‘id’ and the foreign key ‘classId’ references an item class’ ‘id’.

Item instances will belong to exactly one item class but an item class can zero or more item instances. Item classes have a primary key ‘id’ and a required name.