

# Shadowrun Database - Step 3 Final

Working URL: <http://people.oregonstate.edu/~hollingx/Final/>

## Fixes since Step 3 Draft:

I have performed the following fixes since I submitted draft 3 purely from realizing some mistakes I made in my database:

Added a Race entity: it was originally an attribute for the character entity but I realized it was much better suited to be its own entity with the following attributes:

- o ID: A number that is automatically assigned to each race when they are created in the database. It is an auto-incrementing number and is the primary key.
- o Name: Each race in the Shadowrun universe has a name that is composed of no more than 50 characters. It cannot be null and there is no default.
- o Special\_ability: Each race has a unique special ability. It is a string of maximum of 100 characters. It cannot be null and there is a default for each race.
- o Essence\_amount: Each race has a certain amount of essence which regenerates and is used up when magic is used and locked up when technology is active. It is a number from 5 to 12. There is no default and it cannot be NULL.
- o Health\_amount: Each race has a certain amount of health. It is a number from 100 to 250. There is no default and it cannot be NULL.

Added to Character entity:

- o Faction\_id: This is an integer value. It is a foreign key that references 'ID' from the 'shadowrun\_faction' table.
- o Race\_id: This is an integer value. It is a foreign key that references 'ID' from the 'shadowrun\_race' table.
- o Weapon\_id: This is an integer value. It is a foreign key that references 'ID' from the 'shadowrun\_weapons' table.
- o Tech\_id: This is an integer value. It is a foreign key that references 'ID' from the 'shadowrun\_tech' table.
- o Magic\_id: This is an integer value. It is a foreign key that references 'ID' from the 'shadowrun\_magic' table.

Separated Magic and Tech entities into their own entities:

Magic:

- o ID: A number that is automatically assigned to each magic ability when they are created in the database. It is an auto-incrementing number and is the primary key.
- o Name: Each magic ability has a name. It is a string composed of a maximum of 25 characters. There is no default and it cannot be NULL.
- o Essence\_usage: Magic uses essence when it is activated but it eventually regenerates. This is a number from 1 to 5. There is no default and it cannot be NULL.
- o Effect: Each magic ability has a different effect in the Shadowrun universe. It is a string composed of a maximum of 100 characters. There is no default and it cannot be NULL.

Technology:

- o ID: A number that is automatically assigned to each technology skill when they are created in the database. It is an auto-incrementing number and it is the primary key.
- o Name: Each technology skill has a name. It is a string composed of a maximum of 25 characters. There is no default and it cannot be NULL.
- o Essence\_possession: When a technology skill is equipped it locks up a certain amount of essence which can longer be used for other tech or magic until it is unequipped. This is a number from 1 to 5. There is no default and it cannot be NULL.
- o Effect: Each technology skill has a different effect in the Shadowrun universe. It is a string composed of a maximum of 100 characters. There is no default and it cannot be NULL.

Added the following relationships:

- **Characters are a race** - A character can only be one Race but a Race can have many characters. So, the Character and Race entities are in a *one-to-many relationship*.
- **Characters possess magic** - Characters can possess many different magic abilities but an instance of a magic ability can only belong to one character. So, the Character and Magic entities are a *one-to-many relationship*.
- **Characters equip technology** - Characters can equip many different technologies but an instance of a technology can only belong to one character. So, the Character and Magic entities are a *one-to-many relationship*.

Removed the many-to-many relationship between the Character entity and leader attribute because I realized it was not a proper relationship since the leader attribute is an attribute.

I also updated the ERD and Schema diagrams to reflect the changes listed above. The data definition queries and data manipulation queries have also been updated to show these changes.

### Draft Comments:

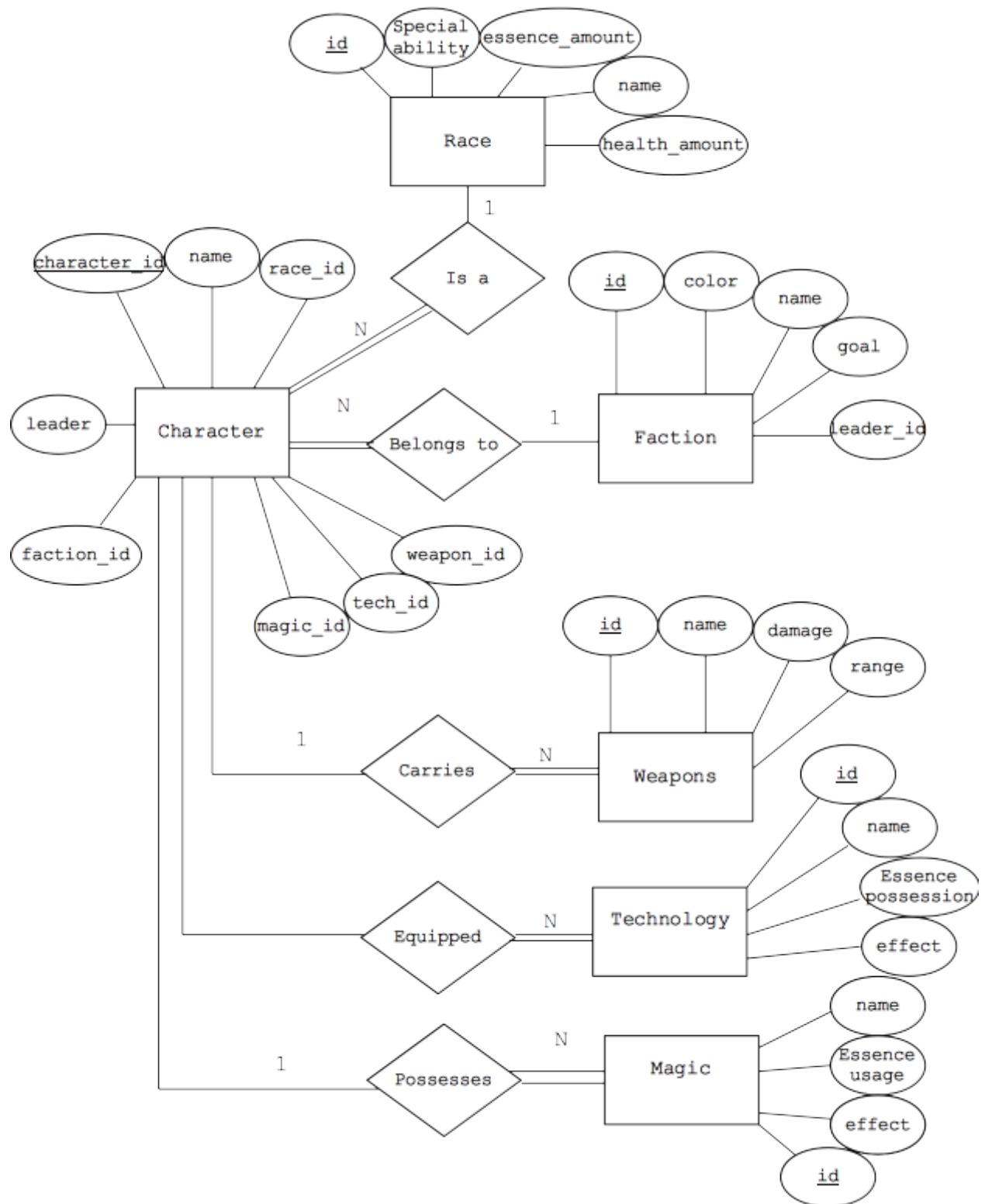
Hi Xavier. Unfortunately I cannot navigate to your website (it just displays "GET Request Received". I took a look through your SQL and that made a lot of sense and is laid out clearly. I think there are a few examples left over from the BSG file (for example line 11 refers to homeworld). There were other areas that I think were intended to include joins such as row 17. This only selects an id from the shadowrun\_characters based on their faction but does not include any of the other information you would likely want to show such as their name. I will email you and check back periodically to see if I can access your site. I believe the instructions request that you respond to this canvas comment though I'm not sure if I will be able to see it.

-Adam Spivey

### Actions Based on Feedback:

I fixed all the errors I had that Adam pointed out. I was able to get the website running, it just took me some time to figure out. I updated all of my HTML pages and fixed my queries and manipulations. Most everything was already fixed after I updated my database with new entities.

### Entity-Relationship Diagram



## Schema

### Character

<u>character_id</u>	name	leader	race_id	faction_id	weapon_id	magic_id	tech_id
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### Race

<u>id</u>	Special_ability	essence_amount	health_amount	name
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### Faction

<u>id</u>	color	name	goal	leader_id
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### Weapons

<u>id</u>	name	damage	range
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### Magic

<u>id</u>	name	essence_usage	effect
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### Technology

<u>id</u>	name	essence_possession	effect
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## Fixes based on Feedback from Step 2:

The following has been applied to the draft:

-Character:

- o Faction\_id: This is an integer value. It is a foreign key that references 'ID' from the 'shadowrun\_faction' table

-Faction

- o Leader\_id: This is an integer value. It is a foreign key that references 'ID' from the 'shadowrun\_characters' table

I also updated the ERD and Schema diagrams to show these changes as well as drew them out on a program instead of being handwritten as you can see below.

### Draft Comments:

I unfortunately did not receive any feedback comments on my Step 2 draft

### Actions Based on Feedback:

I did not make any changes due to feedback received because I did not receive any feedback.

### **Fixes based on Feedback from Step 1:**

The following has been applied to the draft based on the feedback I received:

-Character:

- Leader: This is a bool value represented by integers with 1 representing a leader and 0 representing a fighter(follower). It cannot be null and there is no default.

-Faction:

- Character ID: This is a foreign key. It will be an array of integers that represent the ID of each character that belongs to the current faction. It can be null and there is a default.

### Draft Comments:

The project outline clearly states the theme along with a brief description. The reader can easily understand the entity relationships and how they will be applied to a database. There are sufficient number of entities and the relationship types that meet the project requirements and make sense. All entities represent a person, place, or thing and can stand alone as an object. All data types are mentioned for each attribute and apply appropriately. The Faction entity may need a foreign key to link to the Character entity. How will you represent Characters being led by other Characters in a table? Each faction will have 1 leader, but I don't see an attribute that identifies a leader. Well done!

Wesley Schiller, Jul 6 at 5:33pm

### Actions Based on Feedback:

The following has been applied to the draft based on the feedback I received:

-Character:

- o Leader: This is a bool value represented by integers with 1 representing a leader and 0 representing a fighter(follower). It cannot be null and there is no default.

-Faction:

- o Character ID: This is a foreign key. It will be an array of integers that represent the ID of each character that belongs to the current faction. It can be null and there is a default.

### Upgrades to the Draft Version:

I have decided not to make any of my own changes to the draft because I feel it is sufficient as it is. I may need to update it in the future if I run into any problems while creating the project I will post the revisions in this section.

### Project Outline

I will be making a database that represents the Shadowrun universe which was my favorite Xbox 360 game growing up. In this universe there are four races you can choose from. Each race has unique attributes and characteristics. There are different planets/stages they battle on and there are different lineages that they fight for. They battle for a staff that holds a lot of power. And they are able to purchase technology and magical abilities to help in their fight.

## Database Outline

The entities in my database are:

- Character - Character is an important entity because it forms the basis of the fighters in the universe and can

help shift a battle entirely. It has the following attributes:

- Character\_ID: A number that is automatically assigned to each character when they are created in the database. It is an auto-incrementing number and is the primary key.
- Name: Each character has a name that is composed of no more than 25 characters. It cannot be null and there is no default.
- Leader: This is a bool value with 1 representing a leader and 0 representing a fighter(follower). It cannot be NULL and there is no default.
- Faction\_id: This is an integer value. It is a foreign key that references 'ID' from the 'shadowrun\_faction' table.
- Race\_id: This is an integer value. It is a foreign key that references 'ID' from the 'shadowrun\_race' table.
- Weapon\_id: This is an integer value. It is a foreign key that references 'ID' from the 'shadowrun\_weapons' table.
- Tech\_id: This is an integer value. It is a foreign key that references 'ID' from the 'shadowrun\_tech' table.
- Magic\_id: This is an integer value. It is a foreign key that references 'ID' from the 'shadowrun\_magic' table.
- Race - Each character belongs to a race. There are four different races in the Shadowrun universe: Elves, Trolls, Dwarves, Humans. The race of each character is important because they each have different attributes and special abilities.
  - ID: A number that is automatically assigned to each race when they are created in the database. It is an auto-incrementing number and is the primary key.
  - Name: Each race in the Shadowrun universe has a name that is composed of no more than 50 characters. It cannot be null and there is no default.
  - Special\_ability: Each race has a unique special ability. It is a string of maximum of 100 characters. It cannot be null and there is a default for each race.
  - Essence\_amount: Each race has a certain amount of essence which regenerates and is used up when magic is used and locked up when technology is active. It is a number from 5 to 12. There is no default and it cannot be NULL.
  - Health\_amount: Each race has a certain amount of health. It is a number from 100 to 250. There is no default and it cannot be NULL.
- Faction - There are lineages in the Shadowrun universe that each have a different thing they are fighting for. Each lineage has the following attributes:



- Color: Each team has a different color to represent their uniforms in battle. The colors are: blue, red, green, orange. It is a string composed of a maximum of six characters. It cannot be NULL and it has no default.
  - ID: A number that is automatically assigned to each Faction when they are created in the database. It is an auto-incrementing number and is the primary key.
  - Name: Each faction has a name. It is composed of a maximum of 20 characters. There are four different factions and they are: RNA Global, The Lineage, The ORK, and The Ziggurat. It cannot be null and there is no default.
  - Goal: Each faction has a goal based on what faction they belong to. It is a string composed of a maximum of 100 characters. It cannot be NULL. There is a default for each different Faction.
  - Leader\_id: This is an integer value. It is a foreign key that references 'ID' from the 'shadowrun\_characters' table
- Weapons - There are different weapons in the Shadowrun universe used to battle. They have the following attributes:
  - ID: A number that is automatically assigned to each weapon when they are created in the database. It is an auto-incrementing number and is the primary key.
  - Name: Each weapon has a name. It is a string composed of a maximum of 25 characters. It cannot be null. The default is "pistol".
  - Damage: Each weapon does different damage. It is a number from 1 to 100. The default is "10" and it cannot be NULL.
  - Range: Each weapon has a different range. There are five different ranges: close, short, medium, long, very long. It is a string composed of a maximum of 25 characters. The default is medium and it cannot be NULL.
- Magic - There are different magical abilities in the Shadowrun universe. They have the following attributes:
  - ID: A number that is automatically assigned to each magic ability when they are created in the database. It is an auto-incrementing number and is the primary key.
  - Name: Each magic ability has a name. It is a string composed of a maximum of 25 characters. There is no default and it cannot be NULL.
  - Essence\_usage: Magic uses essence when it is activated but it eventually regenerates. This is a number from 1 to 5. There is no default and it cannot be NULL.
  - Effect: Each magic ability has a different effect in the Shadowrun universe. It is a string composed of a maximum of 100 characters. There is no default and it cannot be NULL.

- **Technology** - There are different technology skills in the Shadowrun universe. They have the following attributes:
  - **ID:** A number that is automatically assigned to each technology skill when they are created in the database. It is an auto-incrementing number and it is the primary key.
  - **Name:** Each technology skill has a name. It is a string composed of a maximum of 25 characters. There is no default and it cannot be NULL.
  - **Essence\_possession:** When a technology skill is equipped it locks up a certain amount of essence which can longer be used for other tech or magic until it is unequipped. This is a number from 1 to 5. There is no default and it cannot be NULL.
  - **Effect:** Each technology skill has a different effect in the Shadowrun universe. It is a string composed of a maximum of 100 characters. There is no default and it cannot be NULL.

The relationships in my database are:

- **Characters belong to a Faction** - A character can only belong to one Faction but a lineage can be comprised of many characters. So, the Character and Faction entities are in a *one-to-many relationship*.
- **Characters are a race** - A character can only be one Race but a Race can have many characters. So, the Character and Race entities are in a *one-to-many relationship*.
- **Characters carry weapons** - Characters can carry many(2) weapons. But an instance of a weapon can only belong to one character. So, the Weapons and Character entities are a *one-to-many relationship*.
- **Characters possess magic** - Characters can possess many different magic abilities but an instance of a magic ability can only belong to one character. So, the Character and Magic entities are a *one-to-many relationship*.
- **Characters equip technology** - Characters can equip many different technologies but an instance of a technology can only belong to one character. So, the Character and Magic entities are a *one-to-many relationship*.