

# Pokemon Database

## Project Summary

### Team Members & Functions

Justin Smith - Conceptual/Database Design  
Victor Morales - Business Analysis  
Kevin Chau - SQL Implementation  
Matt McMillin - Database Design

### Business Analysis

#### **(Insert information on what we do here)**

Our organization runs pokemon battle tournament's.

Business Problem, finding correlations from pokemon types, move types, abilities and genders to the win rates.

With this database the people in the Pokemon industry will have a better look at trainer - pokemon relationships in a tournament setting. This database will also show statistics based on battle arena and pokemon relationships based on their type. This database will be able to give information, so predicting a battle outcome will be more accurate, while also making it easier to set up fair bracket play for a more competitive tournament.

#### **(Potential Problems)**

Order of movesets, combos

#### **(Data Requirements)**

int, nvarchar255 and decimal

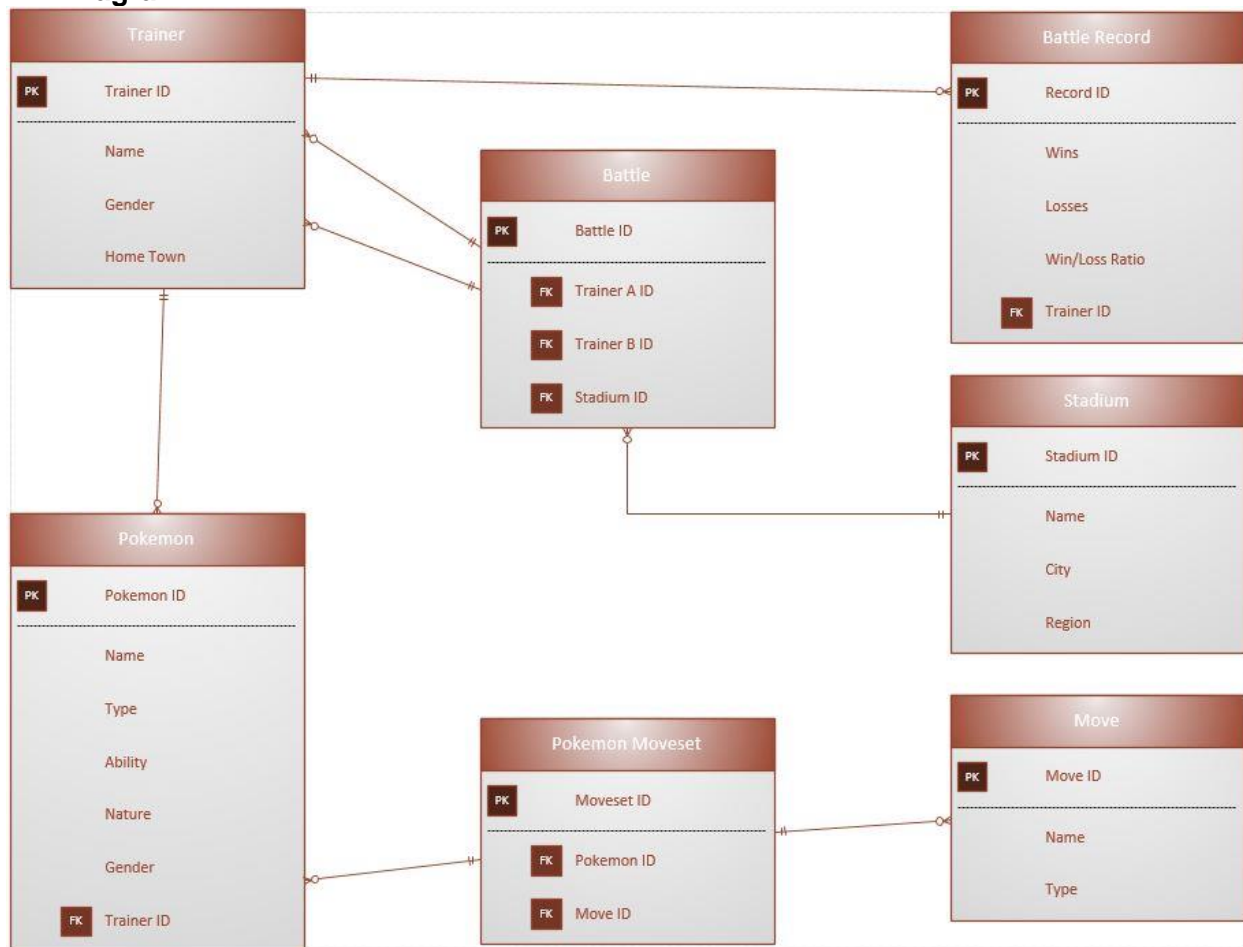
#### **(Questions to focus query on)**

Battle wins, group by pokemon Types  
Battle wins, group by pokemon Natures  
Battle wins, group by pokemon Abilities  
Battle wins, group by pokemon Genders

## Conceptual & Logical Database Design Entity and Relationships

- **Trainer**
  - Trainer ID
  - Name
  - Gender
  - Hometown
- **Pokemon**
  - Pokemon ID
  - Name
  - Type
  - Ability
  - Nature
  - Gender
  - Trainer ID
- **Moveset**
  - Pokemon ID
  - Move ID
- **Move**
  - Name
  - Type
- **Battle**
  - Battle ID
  - Trainer A ID
  - Trainer B ID
  - Stadium ID
- **Battle Record**
  - Record ID
  - Wins
  - Losses
  - Win/Loss Ratio
  - Trainer ID
- **Stadium**
  - Stadium ID
  - Name
  - City
  - Region

### E-R Diagram



## Business Rules

One Trainer can own zero to many Pokemon  
One Pokemon must be owned by exactly one Trainer

One Pokemon must learn exactly one Move set  
One Move set must be learned by one Pokemon

One Move set can contain one to many moves  
One Move can be contained in zero to many Movesets

One Trainer must have exactly one Battle Record  
One Battle Record must belong to exactly one Trainer

One Trainer can fight in zero to many Battles  
One Battle must be fought by exactly 2 trainers


One Battle must be hosted in exactly one Stadium  
One Stadium can host zero to many battles


## Data Type


	Column Name	Data Type	Allow Nulls
▶	[Trainer ID]	int	<input type="checkbox"/>
	Name	nvarchar(255)	<input checked="" type="checkbox"/>
	Gender	nvarchar(255)	<input checked="" type="checkbox"/>
	[Home Region]	nvarchar(255)	<input checked="" type="checkbox"/>


	Column Name	Data Type	Allow Nulls
▶	[Record ID]	int	<input type="checkbox"/>
	Wins	int	<input checked="" type="checkbox"/>
	Losses	int	<input checked="" type="checkbox"/>
	[Win/Loss Ratio]	decimal(18, 0)	<input checked="" type="checkbox"/>
	[Trainer ID]	int	<input checked="" type="checkbox"/>

	Column Name	Data Type	Allow Nulls
▶	[Battle ID]	int	<input type="checkbox"/>
	[Trainer A ID]	int	<input checked="" type="checkbox"/>
	[Trainer B ID]	int	<input checked="" type="checkbox"/>
	[Stadium ID]	int	<input checked="" type="checkbox"/>

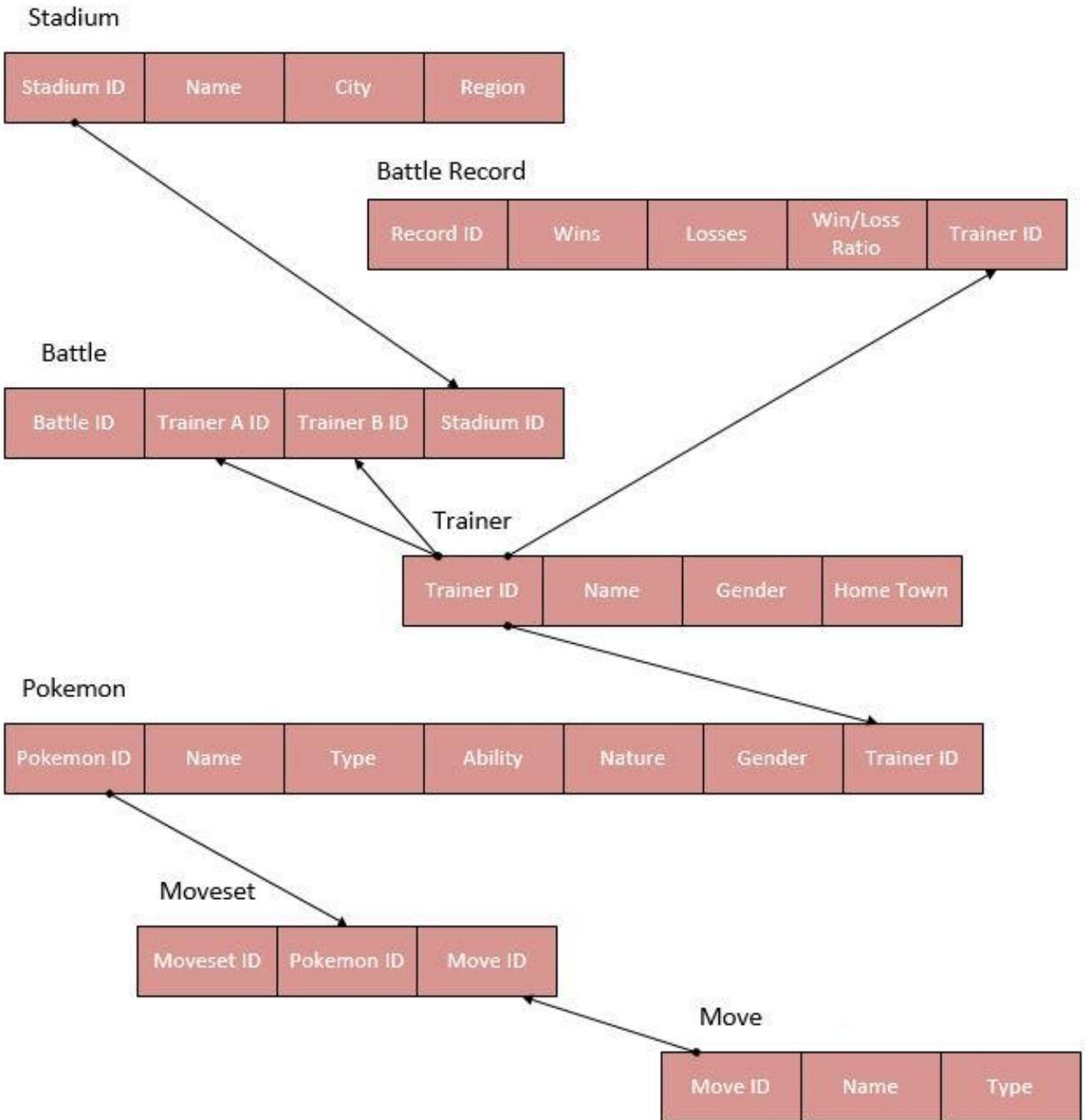
	Column Name	Data Type	Allow Nulls
	[Stadium ID]	int	<input type="checkbox"/>
	Name	nvarchar(255)	<input checked="" type="checkbox"/>
	City	nvarchar(255)	<input checked="" type="checkbox"/>
	Region	nvarchar(255)	<input checked="" type="checkbox"/>

	Column Name	Data Type	Allow Nulls
	[Pokemon ID]	int	<input type="checkbox"/>
	Name	nvarchar(255)	<input checked="" type="checkbox"/>
	Type	nvarchar(255)	<input checked="" type="checkbox"/>
	Ability	nvarchar(255)	<input checked="" type="checkbox"/>
	Nature	nvarchar(255)	<input checked="" type="checkbox"/>
	Gender	nvarchar(255)	<input checked="" type="checkbox"/>
	[Trainer ID]	int	<input checked="" type="checkbox"/>

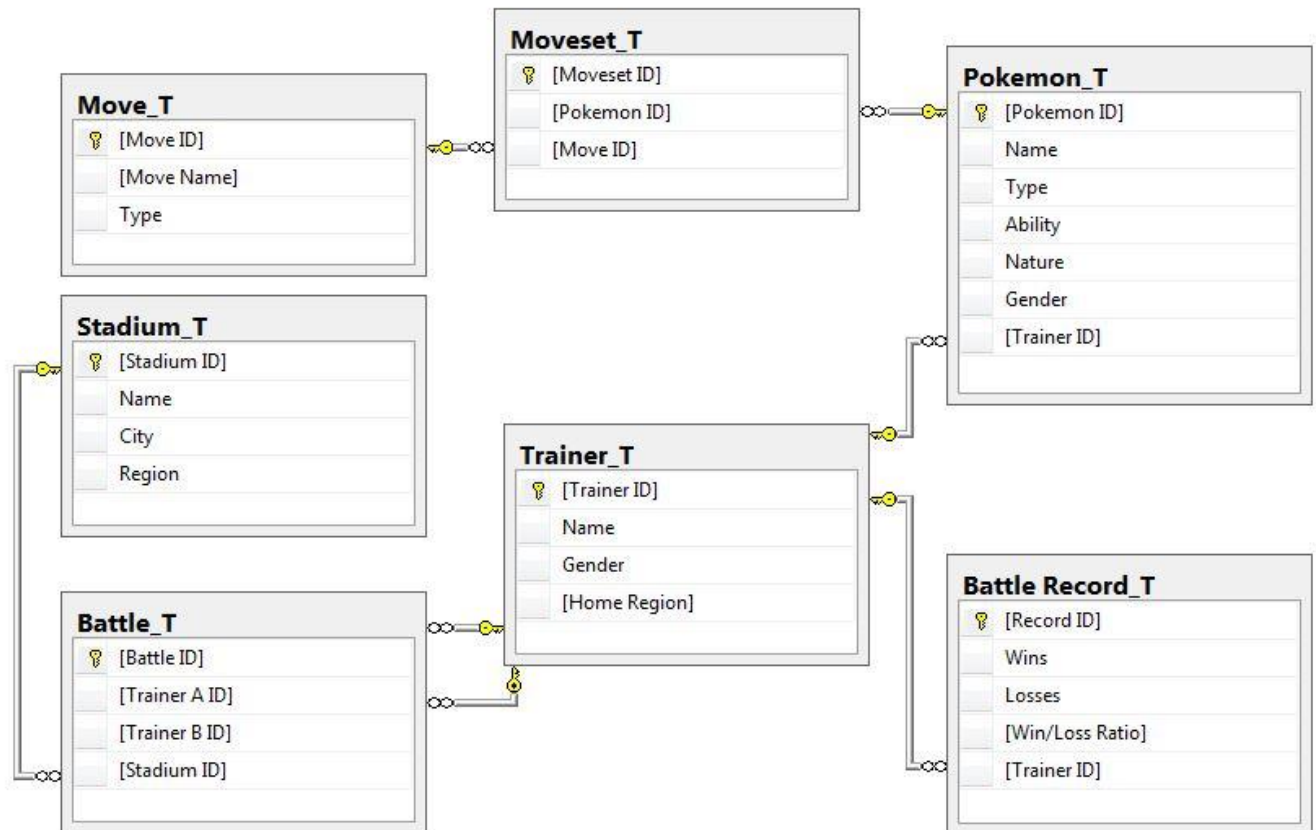
	Column Name	Data Type	Allow Nulls
	[Moveset ID]	int	<input type="checkbox"/>
	[Pokemon ID]	int	<input checked="" type="checkbox"/>
	[Move ID]	nvarchar(255)	<input checked="" type="checkbox"/>

	Column Name	Data Type	Allow Nulls
	[Move ID]	nvarchar(255)	<input type="checkbox"/>
	[Move Name]	nvarchar(255)	<input checked="" type="checkbox"/>
	Type	nvarchar(255)	<input checked="" type="checkbox"/>

## Relational Schema



## SQL Relationship Diagrams



## SQL Statements and Query Outputs

1. **Question** Dragon types are thought to be strongest type  
`SELECT COUNT(Type)+COUNT(SubType) AS DragonTypeCount  
FROM Pokemon_T  
WHERE Type = 'Dragon'`

Output

	DragonTypeCount
1	5

Answer there are 5 dragon Types

2. Question Bug Types are thought to be the weakest Type

Statement

```
SELECT COUNT(Type)+COUNT(SubType) AS BugTypeCount
FROM Pokemon_T
WHERE Type = 'Bug'
```

Output

	BugTypeCount
1	2

Answer there are 2 bug Type

3. Question how many trainers have female pokemon

Statement

```
SELECT T.Name, COUNT(P.Gender) AS FemalePokemon
FROM dbo.Trainer_T AS T INNER JOIN dbo.Pokemon_T AS P
ON T.[Trainer ID]=P.[Trainer ID]
WHERE P.Gender = 'F'
GROUP BY T.Name
HAVING COUNT(P.Gender) > 0
```

Output

	Name	FemalePokemon
1	Justin	1
2	Kevin	2
3	Matt	1

4. How many fighting type moves

Statement

```
SELECT [Move Name], Type
FROM Move_T
WHERE Type LIKE 'Fighting'
```

Output

	Move Name	Type
1	Superpower	Fighting
2	Close Combat	Fighting
3	Hammer Arm	Fighting
4	Sky Uppercut	Fighting
5	Sacred Sword	Fighting
6	Storm Throw	Fighting
7	Focus Punch	Fighting
8	Focus Blast	Fighting
9	Dynamic Punch	Fighting
10	Brick Break	Fighting

5. Question Fairy is a new type of pokemon and it is unsure what it can do, how many pokemon have trainers brought with this unknown new move type?

Statement

```
SELECT COUNT(Type) AS FairyMoves
FROM Move_T
WHERE Type = 'Fairy'
```

Output

	FairyMoves
1	1