Database Systems CSC 675.03 Fall 2019

MySQuirtLe - The Pokémon Companion App

Team 09

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Milestone 1

10/08/2019

Revisions

October 8, 2019	Initial Draft

Table of Contents

1. Executive Summary

This application is a tool for first time users playing the Generation I Pokémon game – Pokémon Yellow – on the GameBoy Color, GameBoy Color emulator, or anything equivalent. The Pokémon Companion App will serve as a tool for struggling individuals playing through Pokémon Yellow. Users of this app will be able to get assistance on a variety of in-game questions, such as: where to locate certain Pokémon, skills that Pokémon can learn, what Pokémon can evolve into, and more. Compared to other guides,the Pokémon Companion App will also have information on Gym Leaders and their teams. With this, users will also have recommendations on how to prepare for battles against upcoming Gym Leaders and challenges.

2. Use Cases

Case 1 (Xavier): Xavier just got to a new route and wants to know what Pokemon he can catch. He opens the app, and searches for his location. After selecting it, he's presented with a list of all the Pokémon in his location that he can catch. From there, he can read their summaries, and figure out what he wants to catch.

Case 2 (Kara): Kara just lost to a gym leader and wants to get stronger before trying again. She opens up the app, and navigates to the gym leader she's challenging. She's then given a list of the leader's Pokémon and their types, as well as recommended Pokémon in areas she's already been to. Kara chooses one of the Pokemon, finds out what route it resides in, and heads out to catch it.

Case 3 (James): James really wants a Raichu. He knows it evolves from Pikachu but he doesn't know how. James opens the app, and searches for Raichu or Pikachu. After reading its summary, he learns that it evolves with an Item that he can buy. He selects the item, looks to see where its sold, then goes to purchase it

3. Entities Glossary

Trainer: A person who has a team of pokemon. The user of the app, is a trainer in-game. Trainers battle other trainers with their teams of Pokémon in-game.

Gym Leader: Eight special trainers with an assigned type. Each resides in a gym found in a gym in a town. The user must defeat the gym leaders in battle throughout the game to progress. Upon defeat, each gym leader will reward the user with a specific gym badge.

Pokémon: Creatures that exists in-game. They can be found on routes, and caught by trainers. Each Pokemon has one, or two types. Trainers can have teams of Pokemon to use in battle with other trainers. Also, some Pokémon can evolve into other Pokemon under the right conditions.

Type: 15 elemental affinities, that each Pokémon, and some trainers have. Every Pokemon has a type, as well as some trainers. Each type has an effectiveness to every other type, similar to a rock paper scissors, but spread across 15 elements.

Gym Badges: Special items awarded to the user by gym leaders. They allow the use of certain Items. It is the user's goal to collect all eight gym badges in-game.

Routes: Locations in between towns where Pokemon can be found.

4. Business Rules

1. A Pokemon can have one Trainer at a time
2. A Trainer must have a Team
3. At least one Pokemon must belongs in a Team
4. Pokemon can have an Evolution Condition
5. Pokemon learn at least one Skill / Move
6. Pokemon can be found in Locations
7. A Gym Badge is given by a Gym Leader
8. Every Pokemon has a Type
9. A Pokemon can have multiple Types
10. Types have an effectiveness rating to other Types
11. A Trainer are also a Typed Trainer
12. A Typed Trainer must have a Type
13. A Gym Leader is also a Typed Trainer
14. Towns, Routes, and Dungeons are in Locations
15. Items can be found in Locations
16. An Item can be a Consumable

5. List of Entities, Relationships, and Attributes

Trainer
- Relationships: has (Team)
- Attributes:
  - Name
  - Progress_index

Typed Trainer
- Relationships: is_a (Trainer), has (Type), found_in (Location)
- Attributes: N/A

Gym Leader
- Relationships: is_a (Typed Trainer), gives (Gym Badge)
- Attributes: N/A

Pokemon
- Relationships: belong_to (Team), cought_at (Location), has (Type),   evolves_into (Pokemon)
- Attributes:
  - Name
  - Description
  - Height
  - Weight
  - Progress_index

Type
- Relationships: has_effectiveness_to (Type), assigned_to (Pokemon, assigned_to (Typed Trainer
- Attributes:
  - Element_name

Gym Badge
- Relationships: given_by (Gym Leader), has_a (Type)
- Attributes: N/A

Item
- Relationships: found_in (Location)
- Attributes:
    - Name
    - Effect
    - Buy Price
    - Sell Price

Location
- Relationships: lead_to (Location)
- Attributes:
    - Name
    - Progress_index

Routes
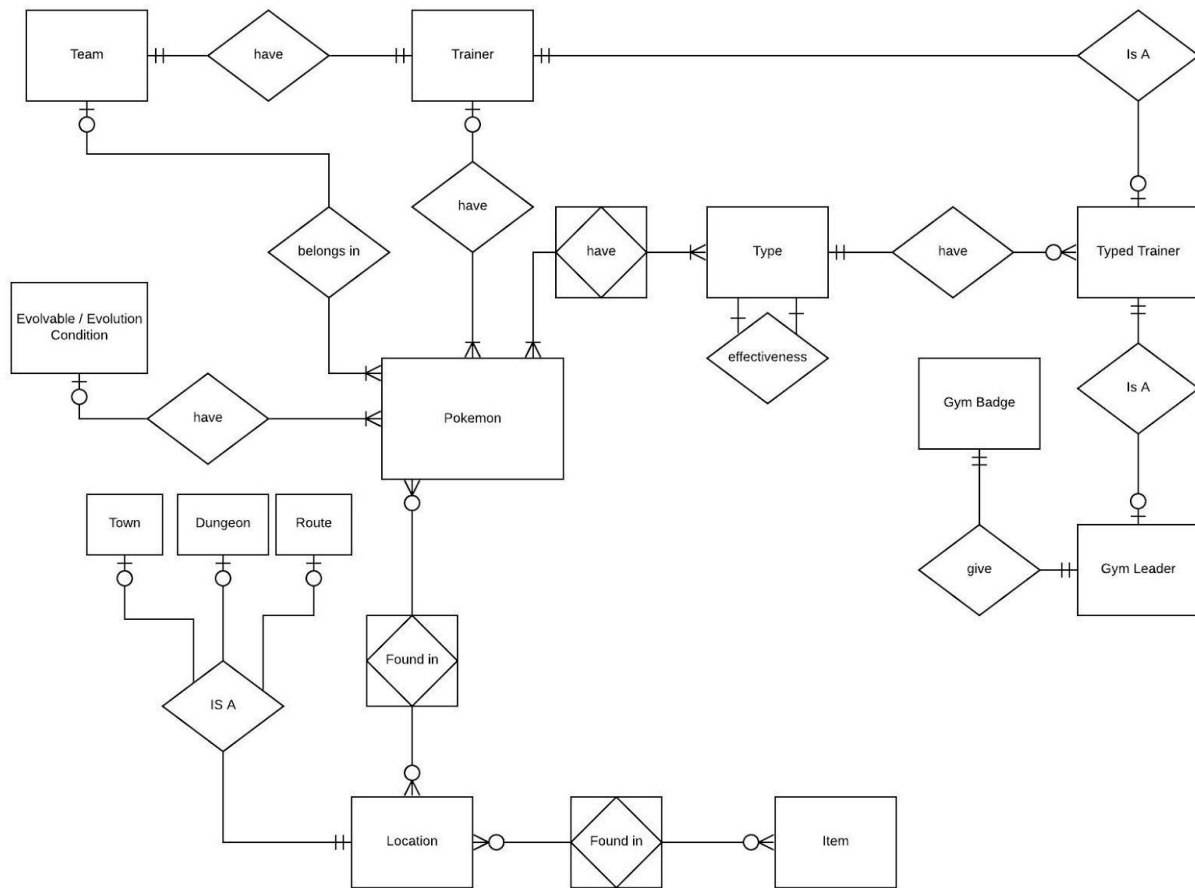- Relationships: is_a (Location)
- Attributes: N/A

Towns
- Relationships: is_a (Location)
- Attributes: N/A

Rooms
- Relationships: is_a (Location)
- Attributes: N/A

6. Entity Relationship Diagrams (ERD)

7.ERD Test

Business Rule #	Entity 1	Relationship	Type of R	Entity 2	Pass/ Fail	Modify
1	Pokemon	have	M to 1	Trainer	P	N/a
2	Pokemon	traded	1 to 1	Trainer	P	N/a
3	Pokemon	belong in	M to 1	Party/Team	P	N/a
4	Trainer	has	M to 1	Party/Team	P	N/a
5	Pokemon	has	1 to M	Evolution	P	N/a
6	Pokemon	learn	M to M	Skill/Move	P	N/a
7	Pokemon	has	M to M	location	P	N/a
8	Location	has	M to M	Gym Badge	P	N/a
9	Gym Badge	give	1 to 1	Gym Leader	P	N/a
10	Pokemon	has	M to 1	type	P	N/a
11	Type	effectiveness	1 to 1	type	P	N/a
12	Trainer	is	1 to 1	Themed Trainer	P	N/a
13	Themed trainer	has	M to 1	Type	P	N/a
14	Gym leader	is	1 to 1	Themed Trainer	P	N/a

8. List of Non-functional Requirements

- **Accessibility** - The application should be easy and convenient to use. No excessive pages. Simple menu navigation.
- **Deployment** - We will be making a static (non-changing) database, and therefore, the deployment should be accurate and free of misinformation.
- **Emotional Factors** - As an application for a video game, the app should be fun and inviting. Users should feel pleasant and relaxed when using the app.
- **Legal and Licensing** - We will need to make sure the application isn't violating any copyright
- **Readability** - Large font and clear UI. Information should be presented neatly
- **Reliability** - The data in the database is constant, and should be accurate.
- **Response Time** - The application should be quick and responsive. No long search times
- **Usability** - The application shall have clean and understandable UI. No one should struggle to find the information they're looking for when using the app.
- The language used shall be English.
- Application shall be very easy to use and intuitive.

9. Work Done

1. Pramish (team lead) 10
Divided the task to individual group person and keep them updated through Trello. Did the work done part and handled GitHub repository.

2. Brian Le   10

Worked on Business Rule, Executive summary and helped with the ERD design for Pokémon game. Also worked on defining the features of the project and brainstorming for the project.

3. Adeel   10
Worked on ERDs Test.

4. Chris 10

Came with the idea of this project and helped brainstorm ideas for the project. Completed Entities Glossary, Use cases, initial list of entities, relationships, and their attributes and Non-functional requirement.

5. Raymond 10

Helped brainstorm ideas for the project. Completed Business Rule, worked on Executive Summary, and Worked on ERD.