Project 2 Proposal: Gotta Cache 'Em All

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GitHub Project Repo: https://github.com/tiffanyharris711/gotta-cache-em-all.git

API Data Set: https://pogoapi.net/documentation/

Topic: Pokémon Analysis: Evaluating Character Statistics

Articulation of chosen topic and rationale: Pokemon (also known as Pocket Monsters in Japan) is a children's video game based in a fictional world where humans coexist alongside supernatural animals called "Pokemon". Since the company's inception in 1995, there have been nearly 900 Pokemon created, all with varying levels of rarity and battle ability. Our goal is to gather and organize a cohesive database of Pokemon statistics, encapsulating all 898 Pokemon.

Inspiration: The world of Pokémon is complex and has inspired millions of people to "go and catch 'em all" across multiple games and platforms for over two decades. It is a colorful and rich dataset, full of history and nostalgia for many across the world.

Javascript library not covered: Anime

Database: SQL Lite

Metadata:

GET `/api/v1/pokemon_names.json`

Returns a json dict with the keys being the pokemon ID, the values are an array containing the pokemon name and ID.

Example data

```
{
    1: {
        id: 1,
        name: "Bulbasaur"
    },
    2: {
        id: 2,
        name: "Ivysaur"
    },
    3: {
        id: 3,
        name: "Venusaur"
    }, ...
}
```

GET `/api/v1/pokemon_types.json`

All Pokemon have either one or two types, these types affect the strength of moves and weaknesses it has to opponents moves. This API lists the types of each Pokemon.

Returns a JSON array where each element is a dict containing type (an array of one or two items), Pokemon ID, Pokemon name and optionally the form.

```
[
    {
        "pokemon_id": 1,
        "pokemon_name": "Bulbasaur",
        "type": [
            "Grass",
            "Poison"
        ]
    },
    {
        "pokemon_id": 2,
        "pokemon_name": "Ivysaur",
        "type": [
            "Grass",
            "Poison"
        ]
    },
    {
        "pokemon_id": 3,
        "pokemon_name": "Venusaur",
        "type": [
            "Grass",
            "Poison"
        ]
    }, ...
]
```

GET `/api/v1/pokemon_stats.json`

Each Pokemon has three base stats, attack, defense and stamina which determine how innately strong it is in each of these areas. These effect how much HP and damage each move can do along with its level and the typing of the moves.

Returns a JSON array where each element is a dict containing the pokemon name, ID, base stamina, base attack, and base defense.

```
[
   {
       base_stamina: "90",
       base_defense: "118",
       base_attack: "118",
       name: "Bulbasaur",
       id: 1
   },
   {
       base_stamina: "120",
       base_defense: "151",
       base_attack: "151",
       name: "Ivysaur",
       id: 2
   },
   {
       base_stamina: "160",
       base_defense: "198",
       base_attack: "198",
       name: "Venusaur",
       id: 3
   },..
]
```

GET `/api/v1/fast_moves.json`

Each Pokemon has a fast and charged move. This API allows you to download the full list of fast moves in the current Pokemon Go game master.

Returns a JSON array where each element is a dict containing the stamina_loss_scaler, name, power, duration, energy_delta and type.

```
[
    {
        "stamina_loss_scaler": "0.01",
        "name": "Fury Cutter",
        "power": 3,
        "duration": 400,
        "energy_delta": 6,
        "type": "Bug"
    }, {
        "stamina_loss_scaler": "0.01",
        "name": "Bug Bite",
        "power": 5,
        "duration": 500,
        "energy_delta": 6,
        "type": "Bug"
    }, {
        "stamina_loss_scaler": "0.01",
        "name": "Bite",
        "power": 6,
        "duration": 500,
        "energy_delta": 4,
        "type": "Dark"
    }, ...
]
```

GET `/api/v1/charged_moves.json`

Each Pokemon has a fast and charged move. This API allows you to download the full list of charged moves in the current Pokemon Go game master.

Returns a JSON array where each element is a dict containing the stamina_loss_scaler, name, power, duration, critical_chance (optional), energy_delta, heal_scalar (optional) and type.


```
[
    {
        "stamina_loss_scaler": "0.06",
        "name": "Wrap",
        "power": 60,
        "duration": 2900,
        "critical_chance": "0.05",
        "energy_delta": -33,
        "type": "Normal"
    }, {
        "stamina_loss_scaler": "0.15",
        "name": "Hyper Beam",
        "power": 150,
        "duration": 3800,
        "critical_chance": "0.05",
        "energy_delta": -100,
        "type": "Normal"
    }, {
        "stamina_loss_scaler": "0.08",
        "name": "Dark Pulse",
        "power": 80,
        "duration": 3000,
        "critical_chance": "0.05",
        "energy_delta": -50,
        "type": "Dark"
    }, ...
]
```


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Returns a JSON array where each element is a dict containing type (an array of one or two items), Pokemon ID, Pokemon name and optionally the form.


```
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    {
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            "Poison"
        ]
    },
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        "pokemon_id": 2,
        "pokemon_name": "Ivysaur",
        "type": [
            "Grass",
            "Poison"
        ]
    },
    {
        "pokemon_id": 3,
        "pokemon_name": "Venusaur",
        "type": [
            "Grass",
            "Poison"
        ]
    }, ...
]
```

GET `/api/v1/current_pokemon_moves.json`

When a Pokemon is caught, evolved, or hatched the moves are randomly chosen from a pool of potential moves. These moves change from time to time as moves are added and removed from the pool of moves. Whenever a TM is used, a random move from the list of potential moves is chosen and the Pokemon will learn it in place of an old move.

During community days and other events some Pokemon will be given special moves for short period of times. These moves will be added to the pool so the Pokemon can get them but are removed after the event finishes. These are called Legacy moves will typically be available by using an elite TM. These moves are noted in the elite_charged_moves and elite_fast_moves arrays. Currently an Elite TM can only be used to learn legacy charged moves.

This API returns all moves that Pokemon can currently learn via catching, evolving, hatching, or using TM's.

Returns a JSON array where each element is a dict containing Pokemon ID, Pokemon name, an array of charged moves, an array of fast moves, an array of charged moves learnable from an elite TM, an array of fast legacy fast moves, and optionally the form.

Example data


```
[
    {
        "charged_moves": [
            "Sludge Bomb",
            "Seed Bomb",
            "Power Whip"
        ],
        "elite_charged_moves": [],
        "elite_fast_moves": [],
        "fast_moves": [
            "Vine Whip",
            "Tackle"
        ],
        "form": "Normal",
        "pokemon_id": 1,
        "pokemon_name": "Bulbasaur"
    },
    {
        "charged_moves": [
            "Sludge Bomb",
            "Solar Beam",
            "Power Whip"
        ],
        "elite_charged_moves": [],
        "elite_fast_moves": [],
        "fast_moves": [
            "Razor Leaf",
            "Vine Whip"
        ],
        "form": "Normal",
        "pokemon_id": 2,
        "pokemon_name": "Ivysaur"
```

Sketch of final design