Project Proposal: Pokémon Type Analysis and Predictive Modeling
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Objective: I will investigate the relationship between Pokémon characteristics and game dynamics. In order to get insight into game balance, I plan to forecast Mega Evolution potential based on Pokémon traits, study statistical patterns among kinds, and investigate the connection between in-game statistics and Pokemon popularity and attributes. With the goal of illuminating how design and narrative impact fan interaction and direct gameplay tactics, this comprehensive analysis offers developers and marketers practical insights.
Data Sources:

- Pokemon with stats from kaggle:
    - URL: https://www.kaggle.com/datasets/alopez247/pokemon
    - This dataset contains information on 721 Pokémon, including their number, name, first and second type, and basic stats: HP, Attack, Defense, Special Attack, Special Defense, and Speed,etc.
- Pokémon API:
    - URL: https://pokeapi.co/docs/v2
    - This API provides access to real-time information on Pokémon types, abilities, moves, and more. We will use it to gather additional data (['name','base_happiness','capture_rate','forms_switchable','gender_rate','has_gender_differences','hatch_counter','is_baby','is_legendary','is_mythical','order']) on Pokémon characteristics and features.
- Web Scraping of Pokémon name mentioned from Pokemon Fandom Forum:
    - URL: https://pokemon.fandom.com/f?catId=74
    - Utilize web scraping techniques with BeautifulSoup to extract data from Pokémon fandom forum. The script counts how many times each Pokémon name is mentioned and appears in the forum, and this will indicate the popularity of Pokemon.

Data Integration and Analysis:

- To address the project, I'll merge data from Kaggle's Pokémon dataset with information from the PokeAPI and Pokemon popularity via web scraping. This integrated approach allows us to analyze relationships between Mega-evolution and other attributes, compare Pokémon types statistically, and investigate correlations between Pokemons' popularity and Pokémon characteristics. By synthesizing insights from diverse sources, we aim to provide comprehensive understandings of Pokémon attributes, player behaviors, and community dynamics.

Questions to Answer:

- Predicting Mega Evolution: "Mega Evolution" is a feature in the Pokémon series that allows specific Pokémon to transform into a more powerful form during battle. I will predict whether a Pokémon is able to Mega-evolve based on its other attributes
- Statistical Analysis of Pokémon Types: Compare the average total base stats of Pokémon across different types and assess if there are significant differences or trends.
- Analyzing Pokemon popularity: My goal is to examine the relationship between the popularity of Pokémon, as measured by mentions on the Pokémon Fandom forum, and their in-game statistics and Pokemons' characteristics.