Weather Vault ®
CS340
Group106
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Overview:
Weather Vault ® takes a user's location and then displays all the cities that have the same climate on that particular day. Since there are ~10,000 cities on earth, naturally, this will be a database driven site. We will need to store the daily climate of every city, which includes attributes such as each city's weather, temperature, humidity, and more. We will also need to store information about each user, including the user's id, city name and country name.

Database Outline (in words):
User: A user in the database.

- userID [PK, INT, AUTO INCREMENT, NOT NULL]
- userZipCode [VARCHAR, NOT NULL]: we use zip code to find where the user is.
- Relationship: 1:M, userID referenced in UsersLocalForecast, CompareForecast, and UserForecastHistory.

LocalForecast: The forecast of the current user.

- userID [FK, INT]: Points to the User's id.
- userTemp [DECIMAL]: The local temperature at the User's location.
- Relationship: 1:1, since each User maps to a LocalForecast.

CompareForecast: Stores weather information about each city (Each row represents a city).

- userID [FK, INT, NOT NULL]: points to the User's id
- otherID [INT]: the id column of all the other users to compare to current User.
- Relationship: 1:M, since it has a relationship with the current User as well as all the other Users in the database.

ForecastHistory: Stores history of forecast comparisons.

- userID [FK, INT]: The IDs of the Users.
- dateID [DATE, NOT NULL]: The date the User's forecast was recorded
- userTemp [DECIMAL]: The past temperature(s) of each Users' past location.
- userZipCode [VARCHAR]: Each User's zip code.
- Relationship: M:M, since we have many users to many forecasts.

LocationHistory: Stores the history of all recorded Users' locations.

- userID [FK, INT] : The IDs of the Users
- dateID [DATE, NOT NULL]: The date the User's forecast was recorded
- userZipCode [VARCHAR]: The User's zip code.
- Relationship: M:M, since we have many users and many zipCodes.