Cody Bryan

Database Functional Requirements

Function Requirements:

1. Filter climbing routes based on any combination of the following:
    a. Route specifics
        i. Difficulty grade
        ii. Danger grade
        iii. Commitment grade
        iv. Number of pitches
        v. First accent keywords
        vi. Shared on date
        vii. Shared by a specific user
        viii. Elevation
        ix. Coordinates
        x. Number of views
        xi. Description keywords
        xii. Location keywords
        xiii. Protection keywords
    b. Contained within (or not contained within) certain areas
    c. On a specific number of to-do lists
    d. On a specific person's to-do list or on a set of people's to-do list
    e. Tick specifics
        i. Notes keywords
        ii. Number of total ticks
        iii. Number of ticks done in a specific style
        iv. Dates of the ticks
        v. Ticks done by a specific person or set of people
    f. Star specifics
        i. Rated by certain people a certain rating
        ii. Mean, max, min, mode, median rating

    g. Difficulty grading specifics
        i. Graded a particular difficulty or danger grade by a particular or set of people that satisfy constraints
        ii. Has a certain number of high danger rating, or doesn't contain any high danger grades
2. Congregate the above route filtering to their areas to order areas by the routes than they contain. For example, count how routes areas have that satisfy a particular route filter. Or, have a route filter return a number that represents perhaps how safe a route is, then take the average of those numbers for areas. In additional to congregating route info to their areas, areas can be filtered by their descriptions, locations, elevation, coordinates, number of views, shared on date, who it was shared by.
3. Filter users on the following, which can then be applied to route filtering in order to get routes that people who satisfy these filters have interacted with in a certain way
    a. Age
    b. Interests
    c. Admin specifics
        i. How many areas/routes they admin
        ii. What areas/routes they admin
    d. Tick specifics
        i. What they have ticked
        ii. How they tick (style of climbing, notes, date)
    e. Route grades
    f. Star ratings

These are a lot of functional requirements, but these are the different ways the database can be used to analyze rock climbing data. It is important to note that these function requirements pertain to all *rock climbing* routes in mountain (not ice climbing or bouldering) in the following states: Hawaii, Florida, Indiana, Iowa, Kansas, Rhode Island, South Carolina, Vermont, New York, New Hampshire, New York, New Hampshire, Main, North Carolina, Kentucky, and Nevada. These most of the states that have very few rock climbs, and some of the bigger ones. These functional requirements boil down to filtering routes, areas, and users based

on basically all variables mountain project contains. Also, it allows for some queries to analyze users, routes, and areas on the variables. My SQL queries illustrate how these function requirements provide useful information for a climber.