WhereShouldIGo Database Indices

employee
- No Additional Indices

company
- No Additional Indices

user
- No Additional Indices

item
- Index: item_price_index (B+ Tree)
    - A B+ Tree index on the item_price attribute of the item table allows for easy and quick queries over a range of values. The index allows users to search for items that fit a certain specified price range, a common action on online sites. A B+ tree is the preferred vessel for the index as it functions over all comparison types.

discount
- Index: discount_type_index (Hash)
    - A Hash index on the discount_type attribute of the discount table allows for efficient queries on a singular value. The index allows for fast searches of products offering a specifically defined type of discount, ‘freebie’, percentage, etc. A hash index was chosen due to its equality comparison characteristics, and the situation's lack of a range necessity.

user_interests
- Index: user_interests_index (Hash)
    - A Hash index on the interest attribute of the user_interest_table allows for quick matching of users & applications. The index allows for quick matching of a user’s interest to applicable events or locations and allows for trend tracking of users. A Hash tree was chosen for this index due to the singular nature of interests; no range or other comparison operations are required, merely equality.

user_company_preference
- No Additional Indices

user_item_preference
- No Additional Indices

user_location_preference

- No Additional Indices

company_location

- Indices: company_location_city_index, company_location_state_index (Hash)
    - Indices on the locations of companies allow for easy retrieval of satisfying locations given a certain value. These indices allow for broad searches for areas of interest, a common activity for the subject of the site. A hash index excels with equality comparisons and is thus the preferred choice for matching satisfying entries to the given input.

company_item

- Index: company_discounted_items_index (Hash)
    - This index allows for quick retrieval of items that satisfy a user's search criteria. The index, similar to the discount index, aids in the efficient retrieval of all offered item entries that meet a user's inputted criteria, ie - all discounted items. A hash index is again the preferred tool as the input and result will be compared solely using an equality operator and does not require a range or other comparisons.

user_company_review

- Index: user_company_review_index (B+ Tree)
    - This index allows for quick retrieval of satisfying values. This index provides users the ability to search companies by review criteria and search reviews by review score. This scenario relies on the ability to search and organize by a range of values and the use of an array of comparison operators, hence a B+ Tree for its application.

user_checkin

- Index: user_checkin_dates_index (B+ Tree)
    - An index on the checkin_date attribute of the user_checkin table allows the convenient retrieval and collection of historical and trend prediction data. Given an input of a range of dates, information that fulfills that given range can be retrieved and analyzed to review and predict current and future trends. Given the need for range comparisons, a B+ Tree was chosen.

company_transaction

- Index: company_transaction_date_index (B+ Tree)
    - This index functions off of the same principles and reasons as those found in the user_checkin_dates_index.

- Index: company_transaction_charge_type_index (Hash)
    - This index again functions as a historical and prediction data tool. Given a specified value a user can quickly obtain all the entries that satisfy a specific type of charge. This information can be used to find spending data and best-value data. Given the restricted choice of charge types, the equality operator is the only operator needed, hence the choice of a hash for this index.

company_transaction_checkin

- No Additional Indices

item_archive

- No Additional Indices