Under Budget Database Design

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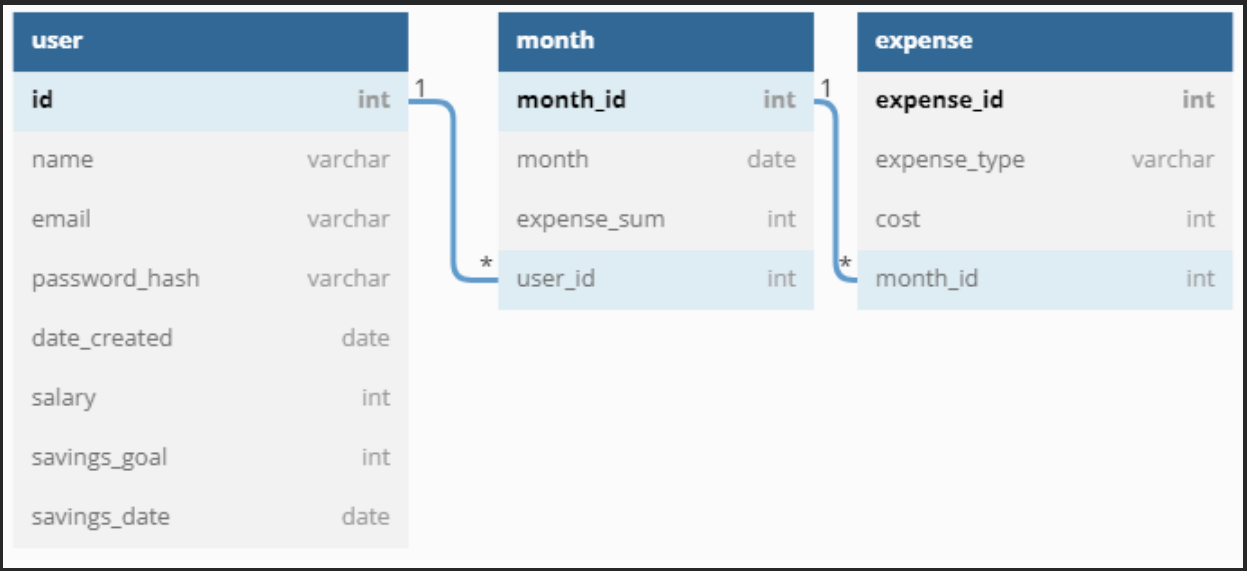
Overview

Under Budget will be using a SQLite database to persist the data of my web application. I chose this due to the relationships my tables will possess to allow for the easiest storage and identification of expense sheets. The easiest way to track what expenditures a user has in a specific month is through a relational database.

Table Design



Users

My user table is comprised of an id primary key for identification, a name field for user greetings, along with an email and password (password_hash) field for user authentication. These values are all needed for when a new user is initialized, along with the date created field which logs the day the account was created. After a user has created their account they are able to set their salary, the amount they want to save(savings_goal), and by what date they want to have it saved by(savings_date). This information will be used when tracking and comparing the current savings progress tracked on expense sheets.

```
Table user as U {
  id int [pk, increment]
  name varchar
  email varchar
  password_hash varchar
  date_created timestamp
  salary int
  savings_goal int
  savings_date date
}
```

Month

My month table consists of an id primary key for identification, a month date field for tracking/displaying the chosen month/year, and a foreign key connection to my user table. There is a one to many relationship between the users and months table since a single user can track their expenses and generate multiple sheets over multiple months.

Stretch:

Implement tracking for an expense_sum value to assist with the stretch goal of tracking overall savings progress. This will be used to present overall savings since budgeting has started.

```
Table months as M {
  month_id int [pk, increment]
  month date
  expense_sum int
  user_id int
}
Ref: U.id < M.user_id
```

Expense

My expense table holds an id primary key for identification, an expense type (expense_type) field for the categorization of expenses, a cost field to store the expense, and a foreign key relationship between my months and expenses table as each month budget sheet will contain multiple expenses.

```
Table expenses as E {
 expense_id int [pk, increment]
  expense_type varchar
```

```
  cost int
  month_id int
}
Ref: M.month_id < E.month_id
```