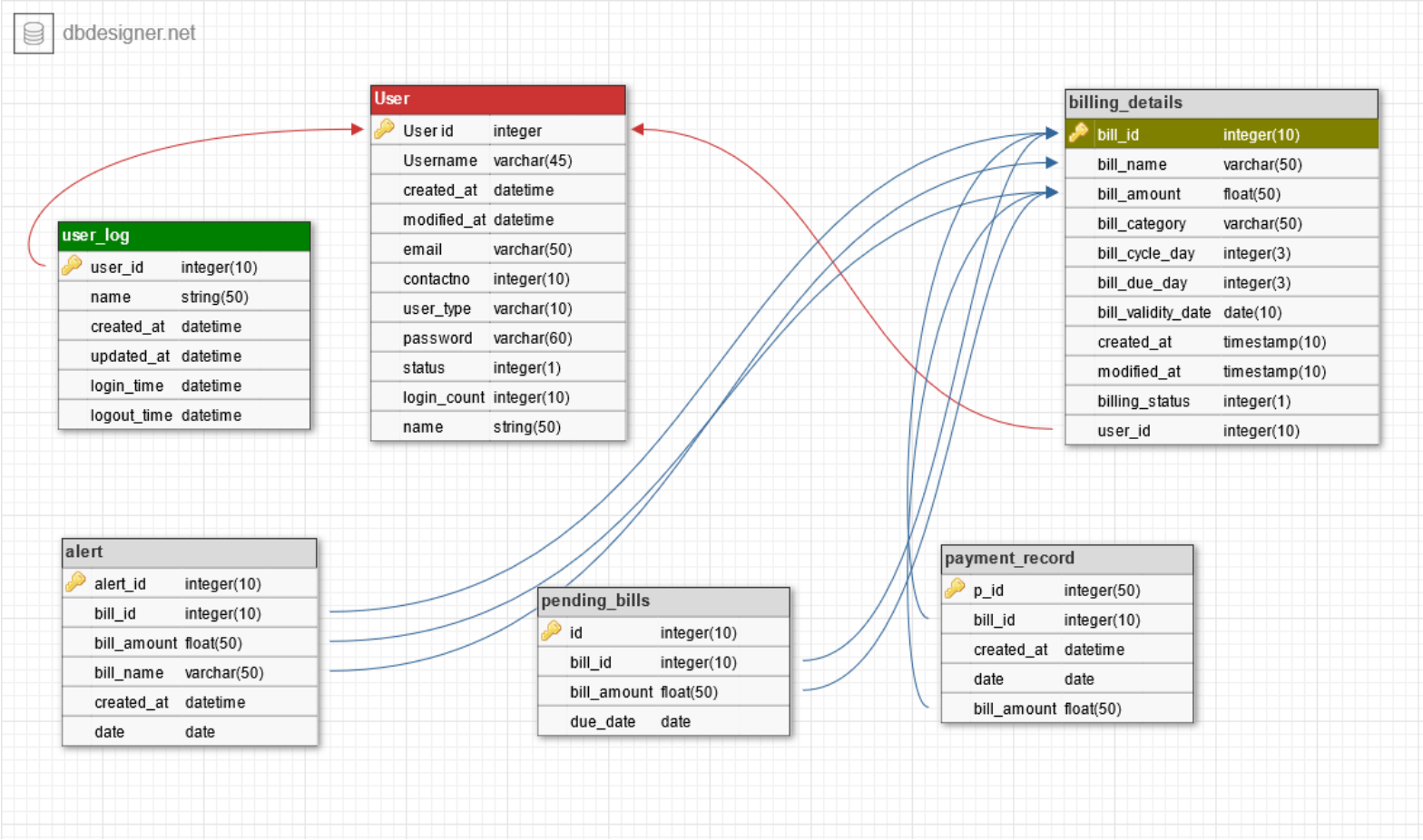
Database Design Document

MySQL is well-recognized for its high performance, flexibility, reliable data protection, high availability, and management ease. Proper data indexing can solve the issue with performance, facilitate interaction and ensure robustness. I have chosen MySQL because-

- MySQL is exceptionally quick, regardless of the underlying platform.
- It features self-management capabilities like auto restart, space expansion and automatic configuration changes for ease of management.

Tables and data-structure View Using database modelling/ER diagram:



Tables No. 1

User

1. User_id is a primary key, and it will auto increment.
2. Username is not null varchar value will save the username for login event.
3. Created_at will get inserted when the row is created.
4. Modified_at will get updated whenever the row is updated with any column.
5. Email for login(Authorization) and user authentication verification

6. Contact number for contacting customer for various purposes.
7. User-type for user role identification.
8. Password for login event (authorization).
9. Status for user activeness check.
10. Login count for admin needs.
11. Name for the full name of the users.

Tables No. 2

User_log

1. User_id is a primary key and a foreign key related to users table with user_id.
2. Name is a varchar and is name of the user with is foreign key related to users table with name.
3. Created_at is a date time created at the login time.
4. Modified_at is a date time updates at the logout time and any other manual change in the row.
5. Login_time is a date time created at the login time.
6. Logout_time is a date time created and updated at the logout time.

Tables No. 3

billing_details

1. Bill_id is a interger, primary key and foreign key related to alerts, pending bills and payment records table.
2. Bill_name is bill title for the records.
3. Bill_category (varchar) store string for the type of bill categorization.
4. Bill_amount is the float for amount and price
5. Bill_cycle_day is the integer stores the day for every month billing.
6. Bill_due_day is the integer stores the day for every month billing.
7. Bill validity date stores the day for every month billing.
8. Created at is timestamp for the creation date.
9. Modified at is timestamp for the update or change in data of the row date.
10. Billing status is integer carry 0 or 1 for status to activate or deactivate bill tracking.
11. User_id is foreign key related to user table with user_id.

Tables No. 4

alert

1. Alert_id- is a primary key and serial number for alert id.
2. Bill_id is foreign key and is related to billing details table.
3. Bill_amount is foreign key related to billing details table billing amount.
4. Bill_name (varchar) is foreign key and is related to billing details table.
5. Created at is timestamp for the creation date.
6. Date is date type and date of the alert creation.

Tables No. 5

pending_bills

1. id is a primary key and is serial no.
2. bill id is a foreign key and integer related to billing details table.
3. Bill_amount is a float and a foreign key related to billing details.
4. due_date is the date type and is due date for the following bill.

Tables No. 6

payment_record

1. p_id is payment id and a primary key and auto-increment.
2. bill_id is foreign key and is related to billing details table .
3. created_at is timestamp for the creation date.
4. date- is a date with created at date.
5. bill_amount is foreign key related to billing details table billing amount .

Role of this tables for MVP and user personas

1. User table with keep the records of the application users.
2. user log table will log the login and logout time of the users.
3. billing details with store the bill details like amount and cycle dates etc.
4. pending bills table will keep the record of the pending payments of the personal bills.
5. payments records table will keep the record of the payments done .
6. alert table will carry the users pending or upcoming billing alerts.