**API for a Personal Finance Management Applicationn**

#### **RESTful API using Node.js for a personal finance management application. The API will allow users to track their incomes, expenses, and provide insights on their spending habits. The primary focus is on backend development, with an emphasis on security, data integrity, and efficient data retrieval.**

# ER DIAGRAM

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**FUNCTIONAL REQUIREMENT**

**User Registration:-**

* Users should be able to register for an account by providing necessary information such as name, email address, and password.
* User registration should include validation to ensure uniqueness of email addresses
* Within registration a private transaction table will be created using the concatenation of email and 1st 10 character of the hashed password

**User Login:-**

* Registered users should be able to log in using their email address and password
* User interface will have 3 buttons track transaction , Add income, Add expenses

**Transaction track:-**

* Transaction tracking allows tracking transaction with a selected period
* Each transaction will have a unique transaction id
* User can delete transaction by selecting it

Add income & expense

* Adding income and expense will auto update the total amount available

# TECH USED

# Environment: - Node Js

# Node.js is a runtime environment that allows developers to run JavaScript code on the server-side. It is built on Chrome's V8 JavaScript engine, which is the same engine that powers Google Chrome. Node.js enables developers to build scalable and high-performance web applications using JavaScript, traditionally known as a client-side scripting language for web browsers.

# Framework:- Express js

# Express.js, often referred to simply as Express, is a minimal and flexible web application framework for Node.js. It provides a robust set of features for building web and mobile applications, APIs (Application Programming Interfaces), and server-side applications using JavaScript.

# Database:- MySQL

# MySQL is an open-source relational database management system (RDBMS) that is widely used for managing structured data. It is one of the most popular databases in the world, known for its reliability, performance, and ease of use. MySQL is developed, distributed, and supported by Oracle Corporation.

# Security:- bycrypt

# Bcrypt is a cryptographic hashing function primarily used for password hashing. It's designed to be slow and computationally intensive, which makes it resistant to brute-force attacks. Bcrypt hashes passwords by applying a computationally expensive hashing algorithm multiple times, making it more secure than traditional hashing algorithms like MD5 or SHA-1.

# Authentication :- JWT

# JWT stands for JSON Web Token. It is a compact, URL-safe means of representing claims to be transferred between two parties. The claims in a JWT are encoded as a JSON object that is used as the payload of a JSON Web Signature (JWS) structure or as the plaintext of a JSON Web Encryption (JWE) structure, enabling the claims to be digitally signed or integrity protected with a Message Authentication Code (MAC) and/or encrypted.