

Database Design Ver 0.1

Background

Budget creation: users will be able to create a budget for their trip by specifying the total amount they plan to spend and allocating funds to different categories (e.g. transportation, food, activities).

Transaction tracking: users will be able to log their transactions (e.g. Airbnb, gas, flights) and see how they are impacting their budget in real time.

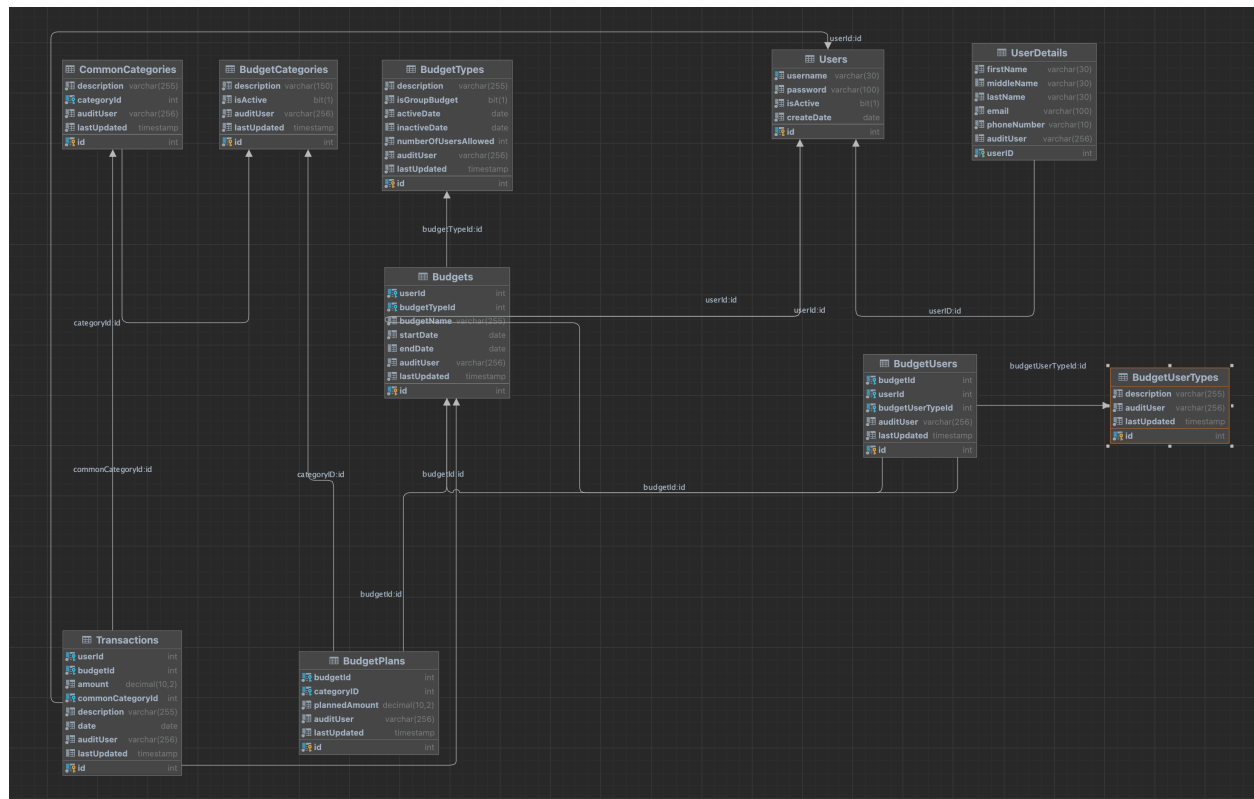
Spending analysis: the application will provide users with reports and charts that show how they are spending their money, helping them identify areas where they may be overspending.

User management: the application will allow one user to invite others to participate in budgeting plans. The user who initiated the invitation will have the ability to add or remove members. All users will have the capability to contribute to budget planning and transaction tracking.

Scope

Gather information to create tables to support minimal functionality of the product.

Tables



Users

The Users table is used to store the basic user information for the application including unique identifies, username, password, and create date.

Id	INT AUTO_INCREMENT PRIMARY KEY	A unique identifier for each user, generated automatically.	Will be assigned by DB sproc/function at the time of creation. No field needed to be displayed to the end-user.
Username	VARCHAR(30) NOT NULL UNIQUE	The unique username for each user.	The end-user will be entering this value through the UI.
Password	VARCHAR(100) NOT NULL	The hashed password for each user.	The end-user will be entering this value through the UI.
createDate	TIMESTAMP NOT NULL	The timestamp when the user was created.	Will be assigned by DB sproc/function at the time of creation/update. No field needed to be displayed to the end-user.
isActive	NOT NULL DEFAULT (1)	Default value is 1 (true), non-null constraint.	Will be assigned by DB sproc/function at the time of creation/update. No field needed to be displayed to the end-user.

UserDetails

UserDetails table will store addition information for each user such as FirstName, middleName, LastName, email, & phoneNumber. userID column will link UserDetailes table to Users. The auditUser and lastUpdated columns store the user who made the latest change and the timestamp of the latest update, respectively.

userId	INT PRIMARY KEY	A foreign key referencing the id column of the Users table.	Will be assigned by DB sproc/function at the time of creation. No field needed to be displayed to the end-user.
firstName	VARCHAR(30) NOT NULL	The first name of the user.	The end-user will be entering this value through the UI. Not a required field.
middleName	VARCHAR(30) NULL	The middle name of the user.	The end-user will be entering this value through the UI.
lastName	VARCHAR(30) NOT NULL	The last name of the user.	The end-user will be entering this value through the UI.
Email	VARCHAR(30) NOT NULL	The email address of the user.	The end-user will be entering this value through the UI.
phoneNumber	VARCHAR(30) NOT NULL	The phone number of the user.	The end-user will be entering this value through the UI.
auditUser	NVARCHAR(256) NOT NULL	A string field that stores the username of the user who last updated the record	Will be assigned by DB sproc/function at the time of creation/update. No field needed to be displayed to the end-user.
lastUpdated	TIME STAMP NOT NULL DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP	The timestamp of the last time the user was updated.	By default, it will be set to the current timestamp each time the record is updated.

BudgetCategories

BudgetCategories table stores information about different budget categories such as "Food," "Entertainment," etc. Each budget category has a unique id, a description, a flag isActive to indicate whether the category is currently active or not, and auditUser to store the user who made the latest change to the category. The lastUpdated column stores the timestamp of the latest update.

No options to configure through UI.

Id	INT AUTO_INCREMENT PRIMARY KEY	An auto-incrementing primary key that uniquely identifies each category
Description	VARCHAR(150) NOT NULL	A string field that provides a brief information about the category
isActive	BIT IS NOT NULL DEFAULT (1)	A boolean field that determines if the category is currently in use (default value is 1)
auditUser	NVARCHAR(256) NOT NULL	A string field that stores the username of the user who last updated the record
lastUpdated	TIME STAMP NOT NULL DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP	A timestamp field that stores the timestamp of the last update made to the record (default value is the current timestamp)

CommonCategories

CommonCategories table stores information about common categories that fall under different budget categories. For example, a "Grocery" common category may fall under the "Food" budget category. The table contains a unique id, description, and a foreign key categoryId to link the common category with its parent budget category. The auditUser and lastUpdated columns store the user who made the latest change and the timestamp of the latest update, respectively.

No options to configure through UI.

Id	INT AUTO_INCREMENT PRIMARY KEY	An auto-incrementing primary key that uniquely identifies each common category
Description	VARCHAR(255) NOT NULL	A string field that provides a brief information about the common category
categoryId	INT NOT NULL	An integer field that stores the id of the corresponding BudgetCategory that the common category belongs to. This ensures that a common category is associated with an existing budget category.
auditUser	NVARCHAR(256) NOT NULL	A string field that stores the username of the user who last updated the record
lastUpdated	TIME STAMP NOT NULL DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP	A timestamp field that stores the timestamp of the last update made to the record (default value is the current timestamp)

BudgetTypes

BudgetTypes table stores information about different types of budgets such as "Personal Budget" and "Shared Budget." Each budget type has a unique id, description, a flag isGroupBudget to indicate whether the budget type is for a group or an individual, activeDate and inactiveDate to store the start and end dates of the budget, and numberOfUsersAllowed to store the maximum number of users allowed for the budget type. The auditUser and lastUpdated columns store the user who made the latest change and the timestamp of the latest update, respectively.

No options to configure through UI.

Id	INT AUTO_INCREMENT PRIMARY KEY	A unique identifier for each budget type. It is an auto-incrementing primary key.
Description	VARCHAR(255) NOT NULL	A brief description of the budget type.
isGroupBudget	BIT NOT NULL DEFAULT (1)	A boolean value that indicates whether the budget type is meant for a group of users or an individual user. It is set to true by default.
activeDate	DATE NOT NULL	The date when the budget type becomes active and can be used.
inactiveDate	DATE	The date when the budget type becomes inactive and cannot be used anymore.
numberOfUsersAllowed	INT NOT NULL	The number of users allowed for this budget type.
auditUser	NVARCHAR(256) NOT NULL	A string field that stores the username of the user who last updated the record
lastUpdated	TIME STAMP NOT NULL DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP	A timestamp field that stores the timestamp of the last update made to the record (default value is the current timestamp)

Budgets

Budgets table stores information about the actual budgets. Each budget has a unique id, userId to store the user who created the budget, budgetTypeId to link the budget with its budget type (BudgetTypes table), budgetName to store the name of the budget, startDate and endDate to store the start and end dates of the budget, and auditUser to store the user who made the latest change. The lastUpdated column stores the timestamp of the latest update. The table also has foreign key constraints linking the userId and budgetTypeId columns to the Users and BudgetTypes tables, respectively.

Should be configurable through UA.

Fields:

Id	INT AUTO_INCREMENT PRIMARY KEY	Unique identifier for the budget. Automatically increments for each new budget.	Will be assigned by DB sproc/function at the time of creation. No field needed to be displayed to the end-user.
userId	INT NOT NULL	Foreign key that references the id field in the Users table. Identifies the user who created the budget	Will be assigned by DB sproc/function at the time of creation. No field needed to be displayed to the end-user.
budgetTypeId	INT NOT NULL	Foreign key that references the id field in the BudgetTypes table. Specifies the type of budget.	End-user should see a drop-down to select Budget Type. Values will be shown from BudgetTypes table.
budgetName	VARCHAR(255) NOT NULL	The name given to the budget by the user.	End-user should see a field and enter the budget name.
startDate	DATE NOT NULL	The start date of the budget.	End-user should be able to select the start date, but it's not a required field. If no value added by the user, NOW() will be applied.
endDate	DATE NULL	The end date of the budget. Can be null if the budget has no end date.	End-user should be able to select the start date, but it's not a required field. If no value added by

			the user, NULL will be applied.
auditUser	NVARCHAR(256) NOT NULL	A string field that stores the username of the user who last updated the record	Will be assigned by DB sproc/function at the time of creation/update. No field needed to be displayed to the end-user.
lastUpdated	TIME STAMP NOT NULL DEFAULT CURRENT_TIMESTAMP	The timestamp of the last time the budget was updated.	Will be assigned by DB sproc/function at the time of creation/update. No field needed to be displayed to the end-user.

BudgetUserTypes

BudgetUserTypes table stores information about different types of budget users such as "Owner," "Contributor," etc. Each budget user type has a unique id. Description stores more information about the user type. The auditUser and lastUpdated columns store the user who made the latest change and the timestamp of the latest update, respectively.

No options to configure through UI.

Id	INT AUTO_INCREMENT PRIMARY KEY	This field represents the unique identifier for each record in the table.
Description	VARCHAR(255) NOT NULL	This field contains the description of the budget user type.
auditUser	NVARCHAR(256) NOT NULL	This field contains the name of the user who performed the latest update on the record.
lastUpdated	TIME STAMP NOT NULL DEFAULT CURRENT_TIMESTAMP	The timestamp of the last update made to this record. It is automatically updated to the current time whenever a change is made.

BudgetUsers

BudgetUsers table stores information about the users associated with a budget. Each budget user has a unique id, budgetId to link the user with the budget, userId to store the user's ID, and budgetUserTypeId to link the user with the user type. The auditUser and lastUpdated columns store the user who made the latest change and the timestamp of the latest update, respectively. The table also has foreign key constraints linking the budgetId, userId, and budgetUserTypeId columns to the Budgets, Users, and BudgetUserTypes tables, respectively.

No options to configure through UI.

id	INT AUTO_INCREMENT PRIMARY KEY	This field represents the unique identifier for each record in the table.
budgetId	INT NOT NULL	A foreign key that references the primary key of the Budgets table. This field specifies the budget associated with the user.
userId	INT NOT NULL	A foreign key that references the primary key of the Users table. This field specifies the user associated with the budget.
budgetUserTypeId	INT NOT NULL	A foreign key that references the primary key of the BudgetUserTypes table. This field specifies the role of the user in the budget.
auditUser	NVARCHAR(256) NOT NULL	This field contains the name of the user who performed the latest update on the record.
lastUpdated	TIME STAMP NOT NULL DEFAULT CURRENT_TIMESTAMP	The timestamp of the last update made to this record. It is automatically updated to the current time whenever a change is made.

Transactions

Transactions table is used to store the financial transactions made by a user. Each transaction is associated with a unique user, a budgetId to link the transaction with the budget, and a commonCategoryID to link the category with CommonCategories table. The amount column stores the amount of the transaction in decimal format. A description of the transaction provides more information like 'Publix Groceries', 'Gas at Chevron' etc. The date column stores the date of the transaction entered by the user. The auditUser and lastUpdated columns store the user who made the latest change and the timestamp of the latest update, respectively.

Id	INT AUTO_INCREMENT PRIMARY KEY	This column is an auto-incrementing primary key that uniquely identifies each transaction in the table.	Will be assigned by DB sproc/function at the time of creation. No field needed to be displayed to the end-user.
userId	INT NOT NULL	This column stores the ID of the user associated with the transaction. It is a foreign key that references the 'id' column in the 'Users' table.	Will be assigned by DB sproc/function at the time of creation. No field needed to be displayed to the end-user.
budgetId	INT NOT NULL	This column stores the ID of the budget associated with the transaction. It is a foreign key that references the 'id' column in the 'Budgets' table.	Will be assigned by DB sproc/function at the time of creation. No field needed to be displayed to the end-user.
Amount	DECIMAL (10,2) NOT NULL	This column stores the amount of the transaction in decimal format with 10 digits and 2 decimal places.	End-user should be able to enter amount of the transaction.
commonCategoryID	INT NOT NULL	This column stores the ID of the common category associated with the transaction. It is a foreign key that references the 'id' column in the 'CommonCategories' table.	End-user should see a drop-down to select Budget Type. Values will be shown from CommonCategories table.

Description	VARCHAR(255) NOT NULL	This column stores a description of the transaction. It has a maximum length of 255 characters.	End-user should be able to enter detailed description of the transaction.
Date	DATE NOT NULL	This column stores the date of the transaction.	End-user should be able to select the start date.
auditUser	NVARCHAR(256) NOT NULL	This column stores the user who created/updated the transaction.	Will be assigned by DB sproc/function at the time of creation/update. No field needed to be displayed to the end-user.
lastUpdated	TIME STAMP NOT NULL DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP	The timestamp of the last time the budget was updated.	By default, it will be set to the current timestamp each time the record is updated.

BudgetPlans

BudgetPlans table is used to store the budget plans for a budget. Each budget plan is associated with a unique budget. A categoryID column stores the ID of the budget category associated with the budget plan. The table also includes columns for the planned amount, audit user, and last updated timestamp.

Id	INT AUTO_INCREMENT PRIMARY KEY	This column is an auto-incrementing primary key that uniquely identifies each budget plan in the table.	Will be assigned by DB sproc/function at the time of creation. No field needed to be displayed to the end-user.
budgetId	INT NOT NULL	This column stores the ID of the budget associated with the budget plan. It is a foreign key that references the 'id' column in the 'Budgets' table.	Will be assigned by DB sproc/function at the time of creation. No field needed to be displayed to the end-user.
categoryId	INT NOT NULL	This column stores the ID of the budget category associated with the budget plan. It is a foreign key that references the 'id' column in the 'BudgetCategories' table.	End-user should see a drop-down to select Budget Category. Values will be shown from BudgetCategories table.
plannedAmount	DECIMAL (10,2) NOT NULL	This column stores the total planned amount for the budget plan in decimal format with 10 digits and 2 decimal places.	End-user should be able to enter planned amount for a budget.
auditUser	NVARCHAR(256) NOT NULL	A string field that stores the username of the user who last updated the record	Will be assigned by DB sproc/function at the time of creation/update. No field needed to be displayed to the end-user.

lastUpdated	TIME STAMP NOT NULL DEFAULT CURRENT_TIMESTAMP	This column stores the last updated timestamp for the budget plan. It is set to the current timestamp by default each time the record is updated.	By default, it will be set to the current timestamp each time the record is updated.
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