**Database Group Project Team 11**

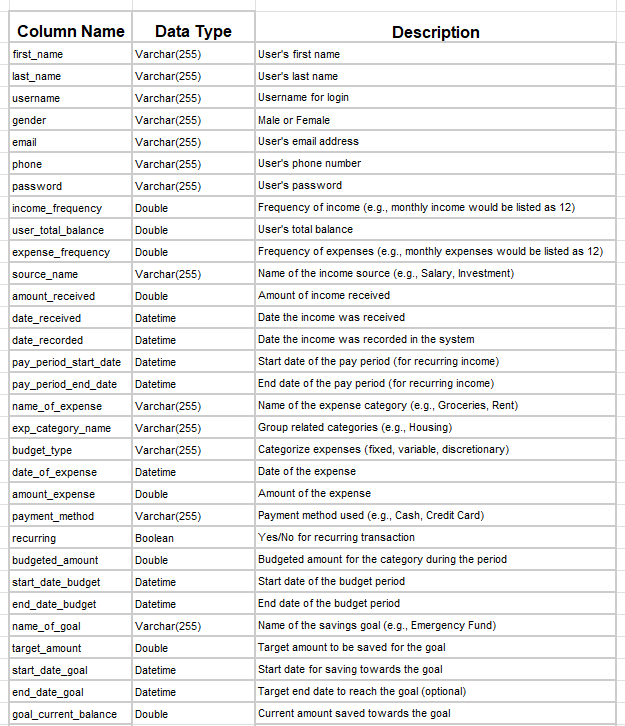
In our “Budget Application Project”, we tried to understand the importance of budget management and creating the best application for our users.

**Our Mission Statement:**

Our mission is to enable people and businesses to attain financial well-being by providing them with smart budget analysis and effective management. Our dedication lies in offering an extensive and intuitive budget application database that encourages good financial practices, educates decision-making, and eventually improves our users' financial health. Through the use of cutting-edge technology and adaptable features, our goals are to make budgeting easier, encourage transparency, and instill trust in everyone's financial planning.

1. An unnormalized set of data, including

* A list of the data items being maintained
* A set of data in a grid or spreadsheet



1. E-R Diagram for our 3NF database (include the participation/cardinality information… 0…\* , 1..1 , etc.)

metin, diyagram, paralel, plan içeren bir resim

Açıklama otomatik olarak oluşturuldu

1. SQL queries for creating tables and inserting data from the UNF database table into the tables created.

**User**

CREATE TABLE User AS

SELECT first\_name, last\_name,

username, gender,email,

phone, password, income\_frequency, expense\_frequency , user\_total\_balance

FROM UNF;

ALTER TABLE User

ADD COLUMN profile\_image MEDIUMBLOB,

ADD COLUMN job VARCHAR(255),

ADD COLUMN user\_id BIGINT NOT NULL PRIMARY KEY AUTO\_INCREMENT;

ALTER TABLE UNF

DROP COLUMN first\_name,last\_name, username, gender,email,

phone, password, income\_frequency, expense\_frequency , user\_total\_balance;

**GOAL**

CREATE table goal AS

SELECT name\_of\_goal, target\_amount, start\_date\_goal, end\_date\_goal, goal\_current\_balance

from unf;

ALTER table goal

ADD COLUMN user\_id BIGINT NOT NULL,

ADD COLUMN goal\_id bigint not null PRIMARY key AUTO\_INCREMENT;

ALTER TABLE goal ADD CONSTRAINT user\_id FOREIGN KEY (user\_id) REFERENCES user(user\_id) ON UPDATE CASCADE;

ALTER TABLE UNF DROP COLUMN name\_of\_goal, target\_amount, start\_date\_goal, end\_date\_goal, goal\_current\_balance;

**BUDGET**

CREATE TABLE Budget AS

SELECT budgeted\_amount, start\_date\_budget,

end\_date\_budget

FROM UNF;

ALTER TABLE Budget

ADD COLUMN user\_id BIGINT NOT NULL,

ADD COLUMN budget\_id BIGINT NOT NULL AUTO\_INCREMENT PRIMARY KEY,

ADD COLUMN expected\_budget INT;

ALTER TABLE Budget

ADD CONSTRAINT PK\_budget\_user\_id FOREIGN KEY (user\_id) REFERENCES User (user\_id) ON UPDATE CASCADE;

ALTER TABLE UNF DROP COLUMN budgeted\_amount, start\_date\_budget,end\_date\_budget ;

**INCOME**

CREATE TABLE income AS SELECT source\_name, date\_received, date\_recorded, pay\_period\_start\_date, pay\_period\_end\_date,amount\_received FROM UNF;

ALTER TABLE income

ADD COLUMN income\_id bigint NOT NULL AUTO\_INCREMENT PRIMARY KEY,

ADD COLUMN budget\_id BIGINT NOT NULL;

ALTER TABLE INCOME ADD CONSTRAINT FK\_income\_budget\_id FOREIGN KEY (budget\_id) REFERENCES Budget (budget\_id) ON UPDATE CASCADE;

ALTER TABLE UNF DROP COLUMN source\_name, date\_received, date\_recorded, pay\_period\_start\_date, pay\_period\_end\_date,amount\_received;

**EXPENSE CATEGORY**

CREATE TABLE Expense\_Category AS

SELECT budget\_type, exp\_category\_name

FROM UNF;

ALTER TABLE Expense\_Category

ADD COLUMN category\_id BIGINT NOT NULL AUTO\_INCREMENT PRIMARY KEY,

ADD COLUMN budget\_id BIGINT NOT NULL,;

ALTER TABLE Expense\_Category ADD CONSTRAINT FK\_expense\_category\_budget\_id FOREIGN KEY (budget\_id) REFERENCES Budget (budget\_id) ON UPDATE CASCADE;

ALTER TABLE UNF DROP COLUMN budget\_type, exp\_category\_name;

**EXPENSE**

CREATE TABLE Expense AS

SELECT name\_of\_expense, date\_of\_expense, amount\_expense,payment\_method, recurring

FROM UNF;

ALTER TABLE Expense

ADD COLUMN category\_id BIGINT,

ADD COLUMN budget\_id BIGINT NOT NULL,

ADD COLUMN expense\_id BIGINT NOT NULL AUTO\_INCREMENT PRIMARY KEY;

ALTER TABLE expense

ADD CONSTRAINT FK\_exps\_cat\_id FOREIGN KEY (category\_id) REFERENCES Expense\_Category (category\_id) ON DELETE SET NULL;

ALTER TABLE expense

ADD CONSTRAINT FK\_budget\_id FOREIGN KEY (budget\_id) REFERENCES Budget (budget\_id);

ALTER TABLE UNF DROP COLUMN name\_of\_expense, date\_of\_expense, amount\_expense,payment\_method, recurring;

**DELETING UNF TABLE**

DROP TABLE UNF

1. A view to recreate the original dataset from our 3NF Tables (this will be used for comparison purposes to the original dataset we provide as number 1 of this deliverable)

CREATE VIEW ComparisonView AS

SELECT

u.first\_name, u.last\_name, u.username, u.gender, u.email, u.phone, u.password, u.income\_frequency, u.expense\_frequency, u.user\_total\_balance, g.name\_of\_goal, g.target\_amount, g.start\_date\_goal, g.end\_date\_goal, g.goal\_current\_balance, b.budgeted\_amount, b.start\_date\_budget, b.end\_date\_budget, i.source\_name, i.date\_received, i.date\_recorded, i.pay\_period\_start\_date, i.pay\_period\_end\_date, i.amount\_received, ec.exp\_category\_name, e.name\_of\_expense, e.date\_of\_expense, e.amount\_expense, e.payment\_method, e.recurring

FROM User u

LEFT JOIN Goal g ON u.user\_id = g.user\_id

LEFT JOIN Budget b ON u.user\_id = b.user\_id

LEFT JOIN Income i ON b.budget\_id = i.budget\_id

LEFT JOIN Expense\_Category ec ON b.budget\_id = ec.budget\_id AND u.user\_id = ec.user\_id

LEFT JOIN Expense e ON ec.category\_id = e.category\_id AND u.user\_id = e.user\_id AND b.budget\_id = ec.budget\_id;