

Dokumentacja techniczna projektu **„Family Finance”**

Stworzona przez :

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A web application designed to help families manage their finances. The app allows users to track their income and expenses, set savings goals, view financial reports, and export data to Excel. It also includes features for managing family groups, where the head of the family can control who is part of the group and oversee their financial activities.

Features

- **Track Transactions:** Add, edit, and delete transactions (income and expenses).
- **Manage Family Groups:** The head of the family can create, manage, and invite members to the family group.
- **Set Financial Goals:** Define and monitor savings goals for the family.
- **Budgets & Limits:** Set spending limits and track progress.
- **Generate Reports:** View financial summaries and transaction histories.
- **Excel Export:** Export transaction data based on date filters and family groups.
- **Responsive Design:** Optimized for both desktop and mobile devices.

Technologies Used

ASP.NET 8: The backend framework for building the application.

Entity Framework Core: For interacting with the SQL Server database.

Bootstrap: For responsive and modern front-end design.

ExcelPackage: (EPPlus): To export transaction data to Excel.

SQL Server: The relational database for storing transaction and family data.

Installation

To get started with the project, follow these steps:

Prerequisites

Make sure you have the following installed on your machine:

- .NET SDK 8
- SQL Server (or a compatible relational database)
- Visual Studio or any other preferred IDE

Clone the repository

```
git clone https://github.com/michalkuzdowicz/Family_Finance.git
cd Family_Finance
```

Set up the database

Configure your appsettings.json to connect to your local SQL Server database.

Run the migrations to set up the database schema:

dotnet ef database update | Update-Database

Running the Application

After setting up the database, you can run the application:

dotnet run

Visit <https://localhost:7265> to start using the app.

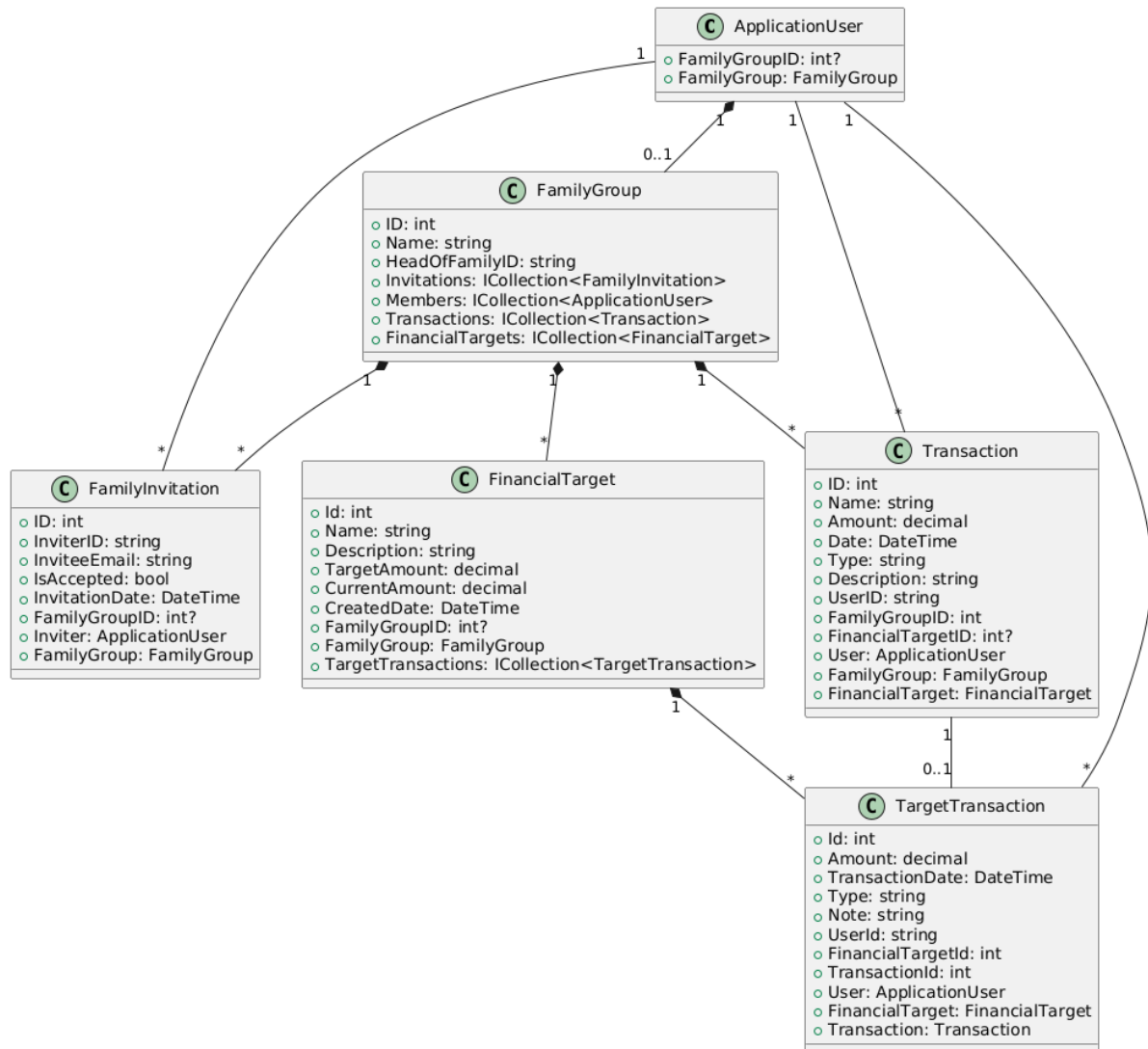
Usage

- Managing Transactions
- Add Transaction: Add income or expense transactions with categories, amounts, and descriptions.
- View Transactions: Filter transactions by date range and family group.
- Edit/Delete Transactions: Modify or remove existing transactions.
- Managing Family Groups
- Create a Family Group: The head of the family can create a group.
- Invite Family Members: Send invitations to other users to join the family group.
- Assign Roles: Assign roles such as 'Head' to a user within the family group reports
- Generate Financial Reports: Get summaries of income, expenses, and balances.
- Export to Excel: Export transaction data to Excel, with filters for date and family group contributing
- Contributions are welcome! If you would like to improve the project, feel free to fork the repository, make your changes, and submit a pull request. Please follow the coding standards and include tests for new features or fixes.

License

This project is licensed under the MIT License - see the LICENSE file for details.

Diagram UML



Models

ApplicationUser

Purpose: Model representing a system user, extending the standard IdentityUser class.

Fields:

- FamilyGroupID (int?) - ID of the family group to which the user belongs
 - Constraints: Optional (nullable)
- FamilyGroup (FamilyGroup) - Relationship to family group
 - Constraints: Navigation property to related family group

FamilyGroup

Purpose: Model representing a family group that brings together family members and their shared finances.

Fields:

- ID (int) - Unique identifier of the family group
- Name (string) - Name of the family group
- HeadOfFamilyID (string) - ID of the user who is the head of the family
- Invitations (ICollection) - Collection of group invitations
- Members (ICollection) - Collection of group members
- Transactions (ICollection) - Collection of group transactions
- FinancialTargets (ICollection) - Collection of group financial targets

FamilyInvitation

Purpose: Model representing an invitation to join a family group.

Fields:

- ID (int) - Unique invitation identifier
- InviterID (string) - ID of the user sending the invitation
- InviteeEmail (string) - Email of the invited person
- IsAccepted (bool) - Invitation acceptance status
- InvitationDate (DateTime) - Date when invitation was sent
- FamilyGroupID (int?) - Family group ID
- Inviter (ApplicationUser) - Relationship to inviting user
- FamilyGroup (FamilyGroup) - Relationship to family group

FinancialTarget

Purpose: Model representing a financial goal of the family group.

Fields:

- Id (int) - Unique target identifier
- Name (string) - Target name
 - Constraints: Required field
- Description (string?) - Target description
 - Constraints: Maximum 255 characters, optional
- TargetAmount (decimal) - Target amount
 - Constraints: Required field, format decimal(18,2)
- CurrentAmount (decimal) - Current amount (calculated based on transactions)
 - Constraints: Format decimal(18,2)
- CreatedDate (DateTime) - Target creation date
 - Constraints: Required field, defaults to DateTime.UtcNow
- FamilyGroupID (int?) - Family group ID
- FamilyGroup (FamilyGroup) - Relationship to family group
- TargetTransactions (ICollection) - Collection of transactions related to the target

TargetTransaction

Purpose: Model representing a transaction related to a financial target.

Fields:

- Id (int) - Unique target transaction identifier
- Amount (decimal) - Transaction amount
 - Constraints: Required field, format decimal(18,2)
- TransactionDate (DateTime) - Transaction date
 - Constraints: Required field, defaults to DateTime.UtcNow
- Type (string) - Transaction type
 - Constraints: Required field
- Note (string?) - Transaction note
 - Constraints: Optional

- UserId (string) - ID of user making the transaction
 - Constraints: Required field
- FinancialTargetId (int) - ID of related financial target
 - Constraints: Required field
- TransactionId (int) - ID of related main transaction
 - Constraints: Required field

Transaction

Purpose: Model representing the main financial transaction in a family group.

Fields:

- ID (int) - Unique transaction identifier
- Name (string) - Transaction name
 - Constraints: Required field
- Amount (decimal) - Transaction amount
 - Constraints: Required field, format decimal(18,2)
- Date (DateTime) - Transaction date
 - Constraints: Required field
- Type (string) - Transaction type
 - Constraints: Required field
- Description (string?) - Transaction description
 - Constraints: Maximum 255 characters, optional
- UserID (string) - ID of user making the transaction
 - Constraints: Required field
- FamilyGroupID (int) - Family group ID
 - Constraints: Required field
- FinancialTargetID (int?) - ID of related financial target
 - Constraints: Optional