# Техническое задание на программу для ЭВМ «HomeBuh» версия 1.

# 1. Описание

Программа представляет собой клиент-серверное приложение (десктопный и web - клиенты) для управления семейными финансами.

Приложение ведёт учёт расходов и доходов, а также на основании гибкого алгоритма резервирует свободные средства на определенные расходы

# 2. Логика работы

Ядро приложения – база данных с таблицами расходов, доходов и статьи расходов (в виде дерева). Статья расходов – модель, содержащая поля: Наименование, Минимальная сумма для резервирования, Максимальная сумма для резервирования, Желаемая сумма резервирования в единицу времени (н-р, в месяц).

Приложение принимает запросы на добавление запросов и расходов, на редактирование дерева статей расходов, редактирование формулы (скрипта) распределения расходов на статьи. Фоновый процесс приложения выполняет распределение расходов по статьям.

Общие формулы может изменить только администратор, частные формулы добавлять и изменять может любой пользователь. Общие формулы доступны на чтение всем, частные – только владельцу.

# 3. Требования

Сервер работает по протоколу http(s), должен обрабатывать не менее 300 запросов проверки обновлений в секунду.

Доступ к данным о пакетах обновлений, обновлениях и доступ в ARM только авторизованным пользователям (клиентам). Ограничение авторизаций клиента: не более трёх неудачных попыток за 10 минут. Уведомление о попытках неудачных авторизаций после десяти подряд.

Доступ в ARM ограничен в первой версии только одной учетной записью администратора сервера. Роли в первой версии не предусмотрены.

# 4. Технологии

## 4.1. Сервер

* EntityFramework
* ASP .NetCore
* .NetCore 5.x

## 4.2. Базы данных

* PostgreSQL

## 4.3. Тестирование

* XUnit
* Moq

## 4.4. Web-client

* ASP .NetCore
* ReactJS или AngularJS
* Html
* Css
* JQuery

## 4.5. Установщик

* WixInstaller

## 4.6. Клиент

* EntityFramework
* .NetCore 5.x

# 5. Лицензирование

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Исходные коды хранятся на Github. Очередной релиз выпускается после окончания всех работ по очередному ТЗ и прохождения всех тестов. Мажорная версия выпускается если доработки не содержат обратной совместимости. Иначе выпускается минорная версия. Для исправлений и мелких доработок выпускается патч.

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# 7. Модели данных

## 7.2. Серверные

### 7.2.1. User

#### 7.2.2.1. User

***User: Entity***

***{***

***public string Name;***

***public string Description;***

***public string Login;***

***public string Password;***

***}***

#### 7.2.2.2. UserHistory

***UserHistory: EntityHistory***

***{***

***public string Name;***

***public string Description;***

***public string Login;***

***public string Password;***

***}***

### 7.2.2. Product

#### 7.2.2.1. ProductHistory

***ProductHistory: EntityHistory***

***{***

***public string Name;***

***public string Description;***

***public Guid ParentId;***

***public int AddPeriod;***

***public int MinValue;***

***public int MaxValue;***

***public bool IsLeaf;***

***public DateTimeOffset LastAddDate;***

***public Guid UserId;***

***}***

# 8. Web-клиент

## 8.1. Описание

Представляет собой web-приложение для управления и получения данных. Основной функционал:

- управление пользователями

- Редактирование и просмотр статей расходов

- Редактирование и просмотр расходов

- Редактирование и просмотр приходов

- Редактирование и просмотр резервов, настройка процесса автоматического резервирования

- Формирование списка покупок из резервов по тегам

- Отчёты по расходам, доходам и резервам за определенный промежуток времени с фильтрацией по тегам

## 8.2. Формы

### 8.2.1. Авторизация

#### 8.2.1.1. Описание

Форма предназначена для авторизации пользователей. После ввода корректных данных авторизации происходит перенаправление на страницу, с которой произошел запрос авторизации.

# 9. Клиент

## 9.1. Описание

Представляет собой десктопное приложение для управления и получения данных. Основной функционал:

- Редактирование и просмотр статей расходов

- Редактирование и просмотр расходов

- Редактирование и просмотр приходов

- Редактирование и просмотр резервов, настройка процесса автоматического резервирования

- Формирование списка покупок из резервов по тегам

- Отчёты по расходам, доходам и резервам за определенный промежуток времени с фильтрацией по тегам

# 10. Сервер

## 10.1. Описание

Представляет собой серверное приложение, выполняющее функции:

- работа с базой данных

- выполнение периодических заданий

- аутентификация и авторизация пользователей

- API для работы пользователей из интерфейса десктопного и web клиентов