SHENKAR — שנקר
ENGINEERING. DESIGN. ART . הנדסה. עיצוב. אמנות
The Pernick Faculty of Engineering . הפקולטה להנדסה ע"ש פרניק
המחלקה להנדסת תוכנה
Software Engineering Dept.

Mealy

Shopping inventory system

Software Design Document

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1. Introduction

An effective solution for controlling and controlling your food products.

1.1. Overview

The Mealy system, which is responsible for the home's shopping inventory, creates coordination between the existing ingredients and the next meal through quick and easy-to-prepare recipes.

1.2. Problem Description and Motivation

A typical problem for any person who comes home hungry and is debating what to prepare to eat in the shortest possible time and in accordance with the products he has at home. We live in a fast world and we have to manage time according to the current situation and therefore thinking – what to eat, do I have the necessary products in my possession, how long this thing might take and will I have to go through the supermarket to buy product X or Y – is in our eyes the wrong use of our precious time.

1.3. Goals

The objectives of the proposed system are -

A. Providing a variety of quick recipes for preparation from the ingredients with the permission of the user and according to his preferences.
B. Improving the quality of the environment by means of measurable tools and production that process the information and produces diagrams and consumption reports.
C. Time efficiency.

1.4. Scope

The system's responsibilities are food and sustainability

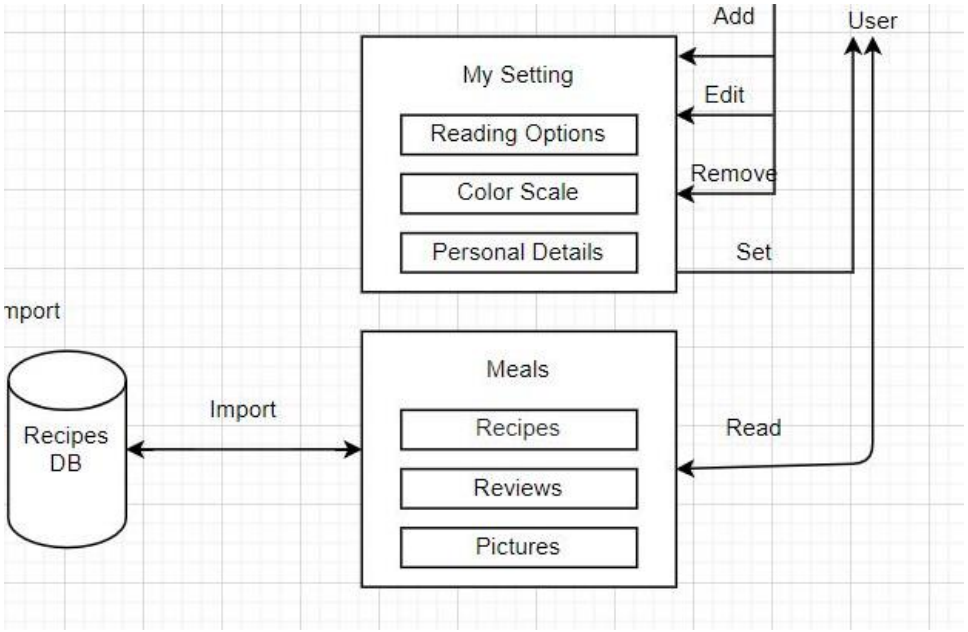
1.5. Glossary

Following is a glossary that will accompany us throughout the project:

- **AI** – Machine learning is carried out behind the scenes of the system and concentrates information within it in order to bring maximum efficiency of time individually to the user.
- **Sensor** – is a chip installed in the shelves of the refrigerator and flows information between the various systems.
- **Scan** – activating optical input means in order to create a virtual model for the refrigerator items.
- **Virtual model** – is a tool to improve AI learning to distinguish between the different items.

2. System Architecture – System Context Diagram

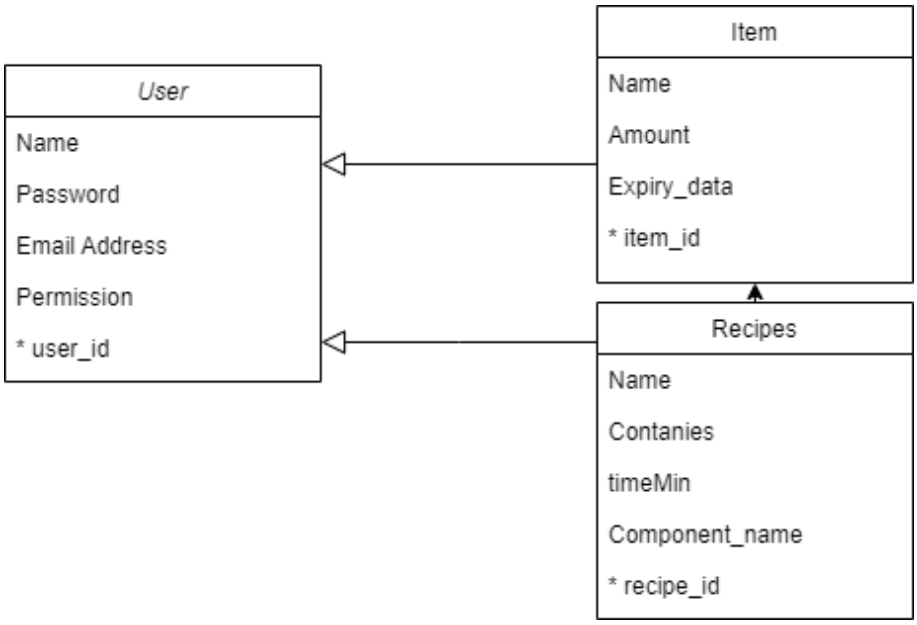
In this chapter we will present the system context diagram



3. Design

In this chapter we will present the data design, structural design and interaction design.

3.1. Data Design



3.2. Structural Design

Database Description- include 5 tables

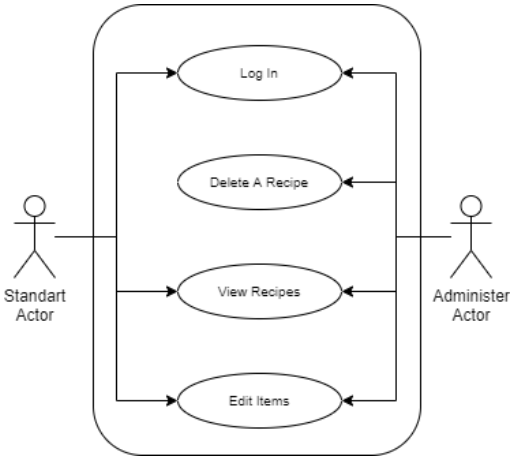

```
{
    "dev_213_recipes": [
            {
                "id_recipe": 1,
                "recipe_name": "Pizza",
                "contanies": ["Lactose", "Gluten"],
                "timeMIN": 25,
                "component_name": ["Tomatoes", "cheese", "dough", "basil", "salt and pepper","Eggs", "water"]
            },
            {
                "id_recipe": 2,
                "recipe_name": "Hamburger",
                "contanies": ["Gluten", "meat"],
                "timeMIN": 20,
                "component_name": ["Meat", "hamburger bun", "lettuce and tomato","Eggs", "water"]
            },
            {
                "id_recipe": 3,
                "recipe_name": "Vegetable Salad",
                "contanies": [ ],
                "timeMIN": 10,
                "component_name": ["Cucumber", "tomato", "lettuce", "onion", "lemon", "salt and pepper"]
            },
            {
                "id_recipe": 4,
                "recipe_name": "Pasta",
                "contanies": ["Lactose", "Gluten"],
                "timeMIN": 25,
                "component_name": ["Pasta noodles", "tomato", "cream and oregano","Eggs", "water"]
            }
        ]
}
```



```
{
    "dev_213_item": [
            {
                "id_item": 1,
                "item_name": "Apple",
                "Amount": 3,
                "Expriy_date": "16-7-2022"
            },
            {
                "id_item": 2,
                "item_name": "Tomato",
                "Amount": 2,
                "Expriy_date": "16-7-2022"
            },
            {
                "id_item": 3,
                "item_name": "Cucumber",
                "Amount": 3,
                "Expriy_date": "16-7-2022"
            },
            {
                "id_item": 4,
                "item_name": "Yellow cheese",
                "Amount": 1,
                "Expriy_date": "16-7-2022"
            },
            {
                "id_item": 5,
                "item_name": "milk",
                "Amount": 1,
                "Expriy_date": "17-7-2022"
            },
            {
                "id_item": 6,
                "item_name": "Butter",
                "Amount": 1,
                "Expriy_date": "18-07-2022"
            }
        ]
}
```

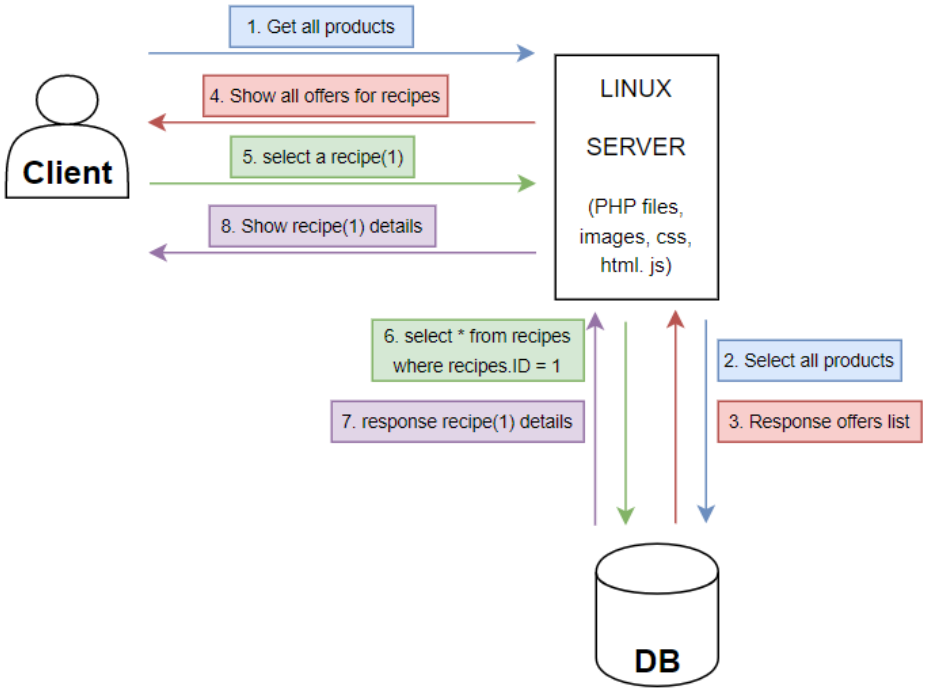
3.3. Interaction Design

Sequence Diagram / Use Case



4. Software Architecture

In this chapter we will present the software architecture while referring to the different layers.



5. Verification and Validation

In this chapter we will suggest ways to perform verification and validation.

Verify that the details are correct.

Make sure that the user has all the ingredients in the recipe.

Make sure all links go to the correct pages.

Verify the user's allergies in relation to the recipe.

Check that when the user logs in, an updated inventory of the refrigerator appears to him.

Checking that when a user logs in they have the appropriate privileges for them.

Check that all the ingredients used in the recipe have been removed from the refrigerator inventory (according to the amount used by the user).

<u>פלואו 1:</u>

כניסה למערכת ← בחירת עמוד "Recipes" ← בחירת מתכון ← חזרה לעמוד "Recipes" ← כניסה לעמוד "Contact" ← מילוי פרטים ← שליחת טופס.

<u>פלואו 2:</u>

כניסה למערכת ← בחירת עמוד "Inventory" ← מחיקת פריט מהרשימה על ידי "delete" ← הוספת פריט חדש על ידי "Add New Item" ← מילוי פרטי המוצר ← הגשת הטופס על ידי "Add Item".