18/ 3/ 2022

**Requirement Specification Document**

**Market Pricing System**

USAL University - Ghobeiry

## **Intended audience and reading suggestions**

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This document is intended exclusively for the software engineers, developers, database administrators, project owner(s), and project manager(s) working on this project and this project only.

We recommend that both software engineers and developers focus on the functional requirements of this RSD as they are mostly included in system functionalities. Furthermore, while developers should focus on system features and design and implementation constraints, database administrators should target the non-functional requirements part of this RSD, more specifically the data requirements section. Also, all sections related to product scope, overall descriptions, time, performance, availability, and business requirements are the sections recommended for further inspection by project managers. All other sections should be overseen in an equal manner between all audience members. Finally, we recommend that all observers read the vision document of this project before foreseeing this SRS as it will contribute to some introduction of what this system is all about.

The document is intended to support the audience with all the information they need for them to perfectly shape and attend to all software-related details.

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# **Introduction**

## **Document Conventions and Abbreviations**

|  |  |
| --- | --- |
| **Abbreviations** | **Conventions** |
| RSD | Requirement Specification Document |
| MPS | Market pricing system |
| API | Application Programming Interface |
| OS | Operating System |
| CRUD | Create, Read, Update, Delete |

## 

## **Design and Implementation Constraints**

There are various kinds of restrictions on the implementation process that we need to consider avoiding technical problems and delays. So, for the proper implementation of the system, we should follow the following constraints:

* Budget constraint
* Time constraint
* Tools restriction
* Accessibility Constraints
* User acceptance

## **Purpose**

The purpose of the Market Pricing System is to ensure that the users will be fully aware of the prices of their products, in addition to knowing the past prices in a graph. Above all, the main purpose is to fix the prices of the products and don’t let the merchants choose the prices they prefer for their own interest.

Additionally, people will be informed of the cheapest products compared to all the products in several supermarkets present in Ghobeiry district. The product will ensure that people will no longer fall in the greed of the merchants, and the merchants will be rushing to lower their prices for people to buy from their shop.

As a conclusion, this application will help people find the cheapest products surrounding them and will oblige merchants to stick with the right prices of the products and not monopolize them.

## **Product Scope**

Due to the economic crisis our country is going through, such a system will help people reach for their cheapest products, and on the other hand, merchants will be prohibited from raising prices of their products for their own interest because customers will no longer buy from their supermarket.

## **Out Of Scope**

Everything not listed in the scope will be considered as out of scope as it is beyond the range of what the user is required to do. Here below we also mention some features or points that are out of scope as well and hence will not be part of the deliverables:

- Embedding an SQL server.

- Embedding an SSL Security Certificate.

- Installation of IIS Server Software.

- Embedding data cryptography and risk-based data validation.

- Embedding database indexing for the fluid flow of input and output data.

## 

# **Overall Description**

## **Product Perspective**

MPS is a never-before-seen software product perfectly tailored to keep clients aware of the best prices available for the products they want to purchase. Assuring that merchants will stick to the logical price of each product.

## **Product Functions**

Primarily, the system is built to satisfy high dynamicity:

**Primary Functions:**

* **Authentication and Authorization:** A feature used to define user roles, assign appropriate permissions, and validate user information.
* **User Interface and Dashboard: (**Sidebar, main page, top Navbar, and a Footer**).**
* **Data Manipulation:** The administrator will be able to Add and Edit the prices of the products or the availability of certain products.
* **APIs:** To ensure a smooth client-side experience, we need to use this feature that will be an intermediate phase between the front-end and the back-end sides connected to each other. Additionally, the presence of an API will decrease page rendering which will ensure a smoother and faster experience without overloading the server.
* **Help section:** A section that contains further information about system usage as well additional explanations for any system component.
* **Search Feature:** Search for any product or any supermarket in the application.

## **User Classes and Characteristics**

· Administrator (The one that adds supermarkets present and its related data)

· Data Manipulation User (The one that edits the prices of the products)

· Customers (The ones that do not need any authentication to view the application and they are only capable of viewing the prices of products in several supermarkets)

# **System Features**

This product is mainly based on displaying products prices of Supermarkets located mainly in Ghobeiry district in addition showing the cheapest prices of the same product under the same category and displaying a history dashboard. Our product thus intervenes to limit pricing problems that clients suffer from. Below are all the features that our product will work on for the purpose of achieving perfect client performance.

## **General Setup Module**

3.1.1 **Description and Priority**

Mainly, we can classify this module as a high-level priority. It is the overall setup for our product that primarily consists of the hierarchy of the users. The general setup is based on a group of hierarchy components that work collaboratively to prepare the environment to exceed other features depending on it.

The pre-defined types and dynamic values that may be needed in the MPS, will be structured in a manner that allows the admin to dynamically select any of these components. These lookups include:

3.1.2 **Functional Requirements:**

All these lookups and maybe others defined by the user who has an Administrator Role (تجهيز النظام) from the general setup page (تجهيزات عامة) are an association level setup.

The admin categorized as a provider is exclusively responsible for this module.

**The admin:**

REQ-1: Shall be able to perform crud operations (Add, edit, delete, and read) on

Supermarkets/Categories/products/region

REQ-2: Shall be able to relate products to categories.

REQ-3: Shall be able to relate categories to Supermarket

REQ-5: Shall be able to add, edit, delete Supermarkets.

REQ-6: Shall be able to add, edit, delete Categories

REQ-7: Shall be able to add, edit, delete Products

REQ-8: Shall be able to view all DM user profiles.

REQ-9: Shall be able to edit, create regions.

General Setup will be on a separate database because when we need this setup again in another district, we can only take this module with its database.

This module can clone predefined data.

Each product inside the system will be put by the administrator. Finally, permissions will also be assigned by the admin as they require super user privileges.

## **Security Module**

To ensure restricted and proper access to the MPS data, users of the System must have valid credentials to enter the system. Different roles allow users to make different actions on the system, from setting the prices to adding products or supermarkets daily.

3.2.1 **Functional Requirements:**

Regarding The Admin(s):

REQ-1: Shall be able to create a user(s).

REQ-2: Shall be able to create a role(s).

REQ-3: Shall be able to view all user profiles

REQ-4: Shall be able to grant access to any blocked/unblock DM users.

REQ-5: Shall be able to monitor DM user logs.

**Regarding Login Requirements:**

REQ-1: The DM user shall be able to log in using his email.

REQ-2: The system shall be able to track the latest login time.

REQ-3 The system shall be able to generate an automatic password before the first DM user login.

REQ-4: The DM user shall be able to change the generated password after login.

REQ-5: The system should allow the admin to track all password changes.

REQ-6: The DM user shall be able to receive a temporary password change link to reset the password via email.

REQ-7: The system shall not be able to block the admin account.

## **Data Manipulation Module**

**Introduction:**

This module covers the idea of data manipulation in which the data manipulation user will

be able to change the prices of the products, add a new product to the list of products and add new categories of products for each Supermarket.

3.3.1: **Functional Requirements:**

REQ-1: Shall be able to view supermarkets, categories, items, and regions.

REQ-2: Shall be able to edit items prices

REQ-3: Shall be able to view the dashboard for items, supermarkets, and prices.

REQ-4: Shall be able to view the items available at each supermarket with their prices and

latest update.

REQ-5: Shall be able to view for a given time the prices at all supermarkets.

REQ-6: The DM user shall be able to view his information.

REQ-7: All DM users shall be able to view their last updates.

**Other Nonfunctional Requirements**

## **Performance Requirements**

* + 1. *Server*
* The system will be able to host a huge number of requests.
* The system will be able to host many users without overloading the server (Server Down).

*4.1.2 Availability*

* This application is critical to people’s daily life, so it should be available 24/7 to let people always view the prices of the products.

*4.1.3 Correctness*

* The application should never contain wrong prices or products.

*4.1.4 Maintainability*

* The application should use continuous integration so that features and bug fixes can be deployed quickly without downtime

*4.1.5 Usability*

* The interface should be easy to learn without a tutorial.

**Pages for public**

**Dashboard and Main page:**

**Functional Requirements:**

**For User:**

REQ-1: Shall be able to view a list of Supermarkets.

REQ-2: Shall be able to view categories.

REQ-3: Shall be able to view prices

REQ-4: Shall be able to view products

REQ-5: Dashboard shall be able to Display header and footer.

REQ-6: Dashboard Shall be able to display cards that contain statistical data (Graphical interpretation) according to specific duration.

REQ-7: Shall be able to view a supermarket in specific regions.

REQ-8: Shall be able to view previous prices.

## **Operating Environment**

The operating environment required for the proper functioning has the following modules:

|  |  |
| --- | --- |
| **Front-End** | Handlebars - Bootstrap - JavaScript |
| **Back-End** | Asp.net Framework MVC – C# |
| **Databases** | * Distributed Database * Database: MS SQL |
| **Operating Systems and Other Conventions:** | * Windows, MAC OS, and Linux O.S * Client/Server System * APIs |

Mainly, our product is expected to be a responsive web portal.