When analyzing the business rules, the functional and non-functional requirements, as well as the use cases and their parameters, it is possible to prioritize the most important characteristics that will guide the development of the application. These characteristics satisfy the business rules, functional and non-functional requirements. These characteristics are:

Reliability: The system must present and calculate reliable information that allows business owners to make decisions regarding this. The information presented by the system must adhere to the established business rules. It is indicated in the requirements:

Security: The system must present information only and only to the personnel that is in agreement with the functions that this achievement within the organization. The system must have mechanisms that manage this authentication of the personnel operating in the business. It is indicated in the requirements:

Speed: The system must ensure a short interaction time for the business customers who must interact with it, as well as for the staff that can use it to carry out their daily activities. Specifically, the system should not last a long time in registering the assistance of a client, nor should it last for a long time in the seller's design of the sector: Suppliers, Employees memberships. Etc.

Below is a block diagram that describes the abstract functioning of the system, as well as the modules that make it up

Componente de Registro Entrada/Salida de Clientes

Componente de Administración:

Productos, Proveedores, Empleados, Membresías, Clientes

Componente de Seguridad

Componente de Notificación

Negar/Aceptar Acceso del cliente

Asegurar acceso al personal autorizado

Componente de Ventas

Vender y Actualizar el stock de productos

Notificar al administrador sobre el estado de registro de un cliente

Based on the functional and non-functional requirements described in the requirements document, some of the main features of the application have been defined:

Componente de Registro Entrada/Salida de Clientes

Componente de Administración: Productos, Proveedores, Empleados, Membresías, Clientes

Componente de Seguridad

Componente de Notificación

Negar/Aceptar Acceso del cliente

Asegurar acceso al personal autorizado

Componente de Ventas

Vender y Actualizar el stock de productos

Notificar al administrador sobre el estado de registro de un cliente

Módulo de registro manual

Módulo de registro basado en lectura de código QR

Módulo de Caja registradora

Ventanas emergentes

Identificación por usuario -constreñía

Módulo Administración de productos

Módulo Administración de proveedores

Módulo Administración de Empleados

Módulo Administración de Membresías

• The application must be a "stand alone" application

• The application must be a desktop application

• The application must not be connected to the internet

• The application will be built for "Microsoft Windows" operating systems

• The application must run on "Microsoft Windows 7 Ultimate" operating system at least

• The application must be built using the ".NET" framework

• The application must be built using version 3.5 of the .NET framework at least

• The application must save information in a database

• The database manager must be MySQL

• The minimum version of the database manager must be 5.7

• The application must be built using the "Windows Form" technology included in the .NET framework

The application must ensure the reliability of the information

• The application must ensure access only to authorized personnel

From the block diagrams and the requirements outlined above, an architecture describing the operation of the system has been proposed