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**Maridadi Digital Operations**

(A web based solution for Maridadi Millers)

**User Requirements Specification**

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| **Project** | **Maridadi Digital Operations** |
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# Introduction

Cyber Dynamics (U) Ltd has been contracted by Maridadi Millers to design and develop Maridadi Digital Solutions. Maridadi Digital Solutions is a web based application to assist Maridadi in the recording and reporting of its daily operations such as Stock Taking for Grain & Flour, Milling Operations, Expenditures and Sales.

# Maridadi User Requirements Specification.

Maridadi has provided Cyber Dynamics (U) Ltd with a user requirements specification in the form an excel document that is currently being used for stock taking, recording and reporting of sales, recording and reporting of milling operations, recording and reporting of expenditures and recording and reporting of electricity consumption at the mill. Maridadi has further gone ahead to conduct a Telegram call to provide a detailed interpretation of the work book and training in the daily operations of Maridadi Millers. The URS provided is here by attached.



# Cyber Dynamics User Requirements Specification

Cyber Dynamics has refined the user requirements specification and developed a user requirements specification to provide a high level conceptual understanding of the system.

Cyber Dynamics has provided the user requirements specification in the form of a Use Case. The development is one of the initial phases of system design and a major milestone in the system development life cycle. It plays a big role during requirements gathering and also acts as in input for defining the system features in the feature requirements specification.

## A Typical Use case scenario

By developing a use case scenario, Cyber Dynamics intends to provide the general conceptual functionality of the system. The use case scenario is to further serve the purposes of;

* identifying the actors, user cases, actions for developing the user case design.
* determining the data entities to be used for developing the database model.

Highlighting has been used for the purposes of the above mentioned. Kindly ignore if you are not a developer.

Admin logs into the system administrator panel via the login page on the user management panel. Admin creates a user account for mill attendant via the user management panel.

The user (mill attendant) logs in the system through the use account that has been created. The user records the grain stock (amount and cost of grain) via the stock management panel when grain is received. The user records the stock of packaging bags (number of bags and cost) via the stock management panel when bags are received. The user records the number of bags stocked out during a sale of flour via the stock management panel. ***The system prompts the user to indicate whether the stock out is to be recorded alongside a sale of flour***. The user records sales of grain made via the sales management panel. ***The system prompts the user to indicate whether the sale is to be recorded as a stock out through the stock management panel***. The user records the customer details for sale of grain incase the grain was sold externally (to a client) via the customer management panel. The user records grain that is taken out of the grain store for milling via the stock out management panel. ***The system prompts the user to indicate whether to proceed to the milling management panel***. For every milling, the user records the amount of grained to be milled for grade 1 and grade 1.5 quality, electricity meter readings before and after reading, the amount of flour milled with grade 1 and 1.5 quality, the cost for milling each type of grade and amount of bran generated from milling each type of grade via the mill management panel. ***The system will prompt the user to indicate whether the grain to be grilled is from an external source (client) or from the grain store***. If the grain was from an external source (client), the user records the customer’s details via the customer management panel. If the grain was picked from the grain store, the user records a grain stock out via the stock management panel. ***The system prompts the user to indicate whether the flour that has been milled is to be taken by a client or is to be taken to the flour store***. If the flour that was milled is to be taken by a client, the user records the customer’s details via the customer management panel. And if the flour that has been milled is to be taken the flour store, a flour stock in is recorded via the stock management panel***. The system also prompts the user to indicate whether the bran generated from the milling is to be taken by a client or it is to be taken to the flour store***. If the bran is to be taken by the client, the customer’s details are recorded via the customer management panel. If the bran is to be taken to the flour store, a bran stock in is recorded via the stock management panel. The user records sales of flour via the sales management panel together with the client’s details via the customer management panel. For every sale of flour, a flour stock out is recorded via the stock management panel. The user records the sale of bran via the sales management panel together with the customer’s details via the customer registration panel. For every sale of bran, a bran stock out is recorded via the stock management panel. The user records any exchanges (of flour for grain) made via the flour exchange panel. (***For every exchange the system records, a sale of flour, a stock out of flour and a stock in of grain via the respective system panels***). The user logs out of the system via the user management panel

The admin queries the following reports via the reporting panel;

* stock in report for the grain store
* stock out report for the grain store
* stock in report for the flour store
* stock out report for the flour store
* a combined current stock report for the grain and flour store (Ref to URS reports sheet “STOCK MONITORING”)
* a daily grade 1 sales report (Ref to URS reports sheet “GRADE 1”)
* a daily grade 1.5 sales report (Ref to URS reports sheet “GRADE 2”)
* a daily bran sales report (Ref to URS reports sheet “BRAN SALES”)
* a daily grain sales report
* a combine daily sales report (Ref to URS reports sheet “SALES DAY BOOK SUMMARY”) for any specified period of time
* a daily milling report (Ref to URS reports sheet “MILLING”)
* a daily expenditures report (Ref to URS reports sheet “EXPENDITURES”)
* a daily exchanges report (Ref to URS reports sheet “FLOUR CHANGINGS”)
* a power usage report (Ref to URS reports sheet “POWER USAGE”)

The admin records daily expenditures for the grain store, flour store or milling plant) via the expenditure management panel. The admin logs out of the system via the user management panel

### Actors, actions and use cases

From the above use care scenario, the following actors, actions and use cases have been identified and derived. Kindly note that use case can be made of several granulized use cases that form sub systems of bigger system modules.

**Actors**

* Admin
* User (Mill Attendant)

**Actions**

* Log in
* Log out
* Create (Manage) account
* Record grain stocked in
* Record packing bags stocked in
* Record packing bags stocked out
* Record grain sales
* Record grain stocked out
* Record grain milled (1 and 1.5 grades)
* Record electricity meter readings (before and after reading)
* Record Milled Flour (1 and 1.5 grades)
* Record Bran from milling (1 and 1.5 grades)
* Record flour stock in
* Record flour stock in
* Record flour sales
* Record bran stock in
* Record bran stock out
* Record flour – grain exchange
* Record expenditures
* Query Reports

**Use cases**

* System
  + System Admin Panel
    - User Management Module
      * User Account
  + System User Panel
    - Stock Management Module
      * Grain Stock
      * Packaging Bags Stock
      * Flour Stock
      * Bran Stock
    - Sales Management Module
      * Grain Sales
      * Flour Sales
    - Customer Management Module
      * Customer details
    - Milling Management Module
      * Grain milled (1 and 1.5)
      * Milled Flour (1 and 1.5)
      * Bran from milling (1 and 1.5)
    - Electricity consumption module
      * Electricity Consumption Records
    - Flour-Grain Exchange management module
      * Flour – grain exchange records
    - Reports Management Module
    - Expenditures Management Module
      * Expenditure records

## Use Case Diagram



**NOTE:** Refer to the appendix for simplified use cases

**User accounts and roles**

The system is to have to user accounts, for the admin and the mill attendant each with specific roles. The admin account is to be used for user accounts management, recording of expenditures and report generation. The user account for the mill attendant is to be used for recording of stock, recording of sales, recording of customer details, management of milling records and management of records for four-grain exchanges.

**System modules**

The system is to comprise of 8 main modules (sub systems) namely;

* The user management module
* The expenditures module
* The reports module
* The stock management module
* The sales management module
* The milling management module
* The customer records module
* The flour – grain exchange management module

The inner system interactivity between the different modules has been presented as the dotted extensions between sub systems and use case. For example, once a sale of flow is recorded, the system automatically invokes a stock out in the stock management module. The report generation module, invokes all other modules to fetch records to be presented on the reports

**Data entities**

The use cases are the data entities to be used for developing the database model. Some may be databases, others database tables and others as table fields (entity properties)

Data Entities derived from the use case;

* User accounts
* Grain Stock records
* Flour Stock records
* Bran Stock records
* Packaging Bags Stock records
* Grain Sales records
* Flour Sales records
* Customer Details
* Milled Grain records
* Electricity Consumption Records
* Milled Flour records
* Records of Bran from Milling
* Flour-Grain exchange records
* Expenditure records

# Appendix

### Admin Use Case Diagram



### Stock Management Module Use Case



### Milling Management Module Use Case



### Sales Management Module Use Case

