

MAHSAN GAS SUPPLY SYSTEM

A Web-Based Gas Ordering and Service Management Platform

Prepared By:

Mahmoud Hassan Khamis

College of Business Education (CBE)

Second Year Student

Reg no:03.6476.01.01.2024

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

With the rapid growth of information and communication technology, many businesses are shifting from traditional operations to digital platforms. Small and Medium Enterprises (SMEs) are increasingly adopting online systems to improve customer service, increase efficiency, and expand market reach.

MAHSAN GAS SUPPLY is a business venture that focuses on supplying gas cylinders, gas components, accessories, and providing professional advice and consultation services related to gas usage and safety. Traditionally, customers relied on physical visits or phone calls to access these services, which often caused delays and inefficiencies.

To address these challenges, a web-based system was developed to allow customers to browse products, request services, and communicate with the business online.

1.2 Problem Statement

Many gas supply businesses still operate manually, which results in:

- Difficulty in managing customer orders
- Poor record keeping
- Limited customer accessibility
- Slow service delivery
- Lack of centralized data management

This project aims to solve these challenges by creating an automated gas supply management system.

1.3 Objectives of the Project

1.3.1 General Objective

To design and develop a fully functional web-based gas supply and service management system.

1.3.2 Specific Objectives

- To develop an online platform for ordering gas products and accessories
- To implement user registration and authentication
- To create a database for managing products, customers, and orders
- To allow administrators to manage products and customer orders
- To implement search and filtering functionality
- To ensure system security through password hashing and input validation

1.4 Scope of the Project

The system focuses on providing gas products, components, accessories, and consultation services to customers. The system includes:

- Customer registration and login
- Product browsing and ordering
- Admin product and order management
- Consultation request services
- Search and filtering features

1.5 Significance of the Study

The system provides benefits such as:

- Improved business efficiency
- Faster service delivery
- Better customer experience
- Proper record keeping
- Digital transformation of SMEs

CHAPTER TWO: LITERATURE REVIEW

2.1 Overview of E-Commerce Systems

E-commerce systems allow businesses to sell goods and services online. These systems provide customers with convenience and businesses with efficient management tools.

2.2 Web-Based SME Systems

SME systems help small businesses manage operations such as inventory, customer orders, and service management through automated platforms.

2.3 Technologies Used in Modern Web Development

Modern web systems commonly use:

- HTML5 for structure
- CSS3 for styling
- JavaScript for interactivity
- PHP or Node.js for backend processing
- MySQL for database management

CHAPTER THREE: SYSTEM ANALYSIS AND DESIGN

3.1 Existing System Analysis

The traditional gas supply process involves manual order recording and physical customer interaction. This method is inefficient and prone to data loss.

3.2 Proposed System

The proposed system is a web-based application that allows customers to place orders online and administrators to manage operations digitally.

3.3 Functional Requirements

The system should:

- Allow users to register and login
- Allow customers to browse and order products
- Allow administrators to perform CRUD operations

- Provide search and filtering options
- Allow consultation requests
- Manage orders and customer records

3.4 Non-Functional Requirements

- Security
- Usability
- Reliability
- Performance

3.5 Database Design

The system database is designed using MySQL and normalized to Third Normal Form (3NF).

Main Tables Include:

1. Users Table
2. Products Table
3. Orders Table
4. Order Details Table
5. Services Table
6. Consultations Table

The screenshot shows the MySQL Workbench interface with the 'Structure' tab selected. The main pane displays a list of 8 tables: carts, cart_items, categories, orders, order_items, products, roles, and users. Each table row includes actions like Browse, Structure, Search, Insert, Drop, and statistics for Rows, Type, Collation, Size, and Overhead.

Table	Action	Rows	Type	Collation	Size	Overhead
carts	Browse Structure Search Insert Empty Drop	4	InnoDB	utf8mb4_unicode_ci	32.0 KiB	-
cart_items	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_unicode_ci	48.0 KiB	-
categories	Browse Structure Search Insert Empty Drop	3	InnoDB	utf8mb4_unicode_ci	32.0 KiB	-
orders	Browse Structure Search Insert Empty Drop	9	InnoDB	utf8mb4_unicode_ci	32.0 KiB	-
order_items	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_unicode_ci	48.0 KiB	-
products	Browse Structure Search Insert Empty Drop	16	InnoDB	utf8mb4_unicode_ci	32.0 KiB	-
roles	Browse Structure Search Insert Empty Drop	2	InnoDB	utf8mb4_unicode_ci	32.0 KiB	-
users	Browse Structure Search Insert Empty Drop	6	InnoDB	utf8mb4_unicode_ci	48.0 KiB	-
8 tables	Sum	40	InnoDB	utf8mb4_general_ci	304.0 KiB	0 B

At the bottom, there are buttons for Print and Data dictionary, and checkboxes for Check all and With selected.

3.6 System Architecture

The system follows a three-tier architecture:

1. Frontend

- HTML5
- CSS3
- Vanilla JavaScript

2. Backend

- PHP / Node.js
- Handles server processing and business logic

3. Database

- MySQL
- Stores all system data

CHAPTER FOUR: SYSTEM IMPLEMENTATION

4.1 Development Tools Used

- Visual Studio Code
- XAMPP / Node Server
- MySQL Database
- Web Browsers

4.2 Frontend Development

The frontend was developed using HTML5, CSS3, and Vanilla JavaScript. The Fetch API was used to communicate with the backend.

4.3 Backend Development

The backend was developed using server-side scripting to process user requests, manage authentication, and interact with the database.

4.4 Security Implementation

The system includes:

- Password hashing
- Input validation
- SQL injection prevention
- User authentication and role-based access

CHAPTER FIVE: SYSTEM TESTING

Testing was conducted to ensure the system operates correctly.

Tests Performed:

- User registration testing
- Login authentication testing
- CRUD functionality testing
- Search and filtering testing
- Order processing testing

CHAPTER SIX: RESULTS AND DISCUSSION

The system successfully allows customers to order gas products and request services online. Administrators can manage products and customer orders efficiently.

CHAPTER SEVEN: CONCLUSION AND RECOMMENDATIONS

7.1 Conclusion

The MAHSAN GAS SUPPLY system successfully meets its objectives by providing an efficient online platform for gas supply services and product ordering.

7.2 Recommendations

Future improvements may include:

- Online payment integration
- Delivery tracking system
- Mobile application development
- Advanced analytics dashboard

The following are some of the screenshots captured to demonstrate the system.

LOGIN PAGE

JISAJILI

Anza safari yako na Mahsan Services

Jina Kamili

Jina lako kamili

Barua Pepe

mfano@gmail.com

Namba ya Simu (optional)

2557xxxxxxxx

Nenosiri

.....

Jisajili

FRONT END LOOK

localhost/gas/frontend/products.php

MAHSAN GAS SUPPLY

Home Bidhaa Zote About Us Contact / Location Cart Checkout Maagizo Yangu Toka (Mahmoud Hassan)

Bidhaa Zetu

Tafuta jina la bidhaa (e.g. Sam) Tafuta category (e.g. Smartphc) Tafuta Futa Tafutio



camel TZS 23 000



Gas Burner TZS 5 000



Stainless Steel Gas Lighter TZS 10 000



Gas Pipe 2m TZS 10 000

PRODUCTS ARRANGEMENT



Oryxy TZS 140,000
Stock: 20
Category: Gas Cylinders
[Ongeza kwenye Cart](#)



Oryxy 15kg TZS 58,000
Stock: 30
Category: Gas Cylinders
[Ongeza kwenye Cart](#)



Oryxy 6kg TZS 24,000
Stock: 40
Category: Gas Cylinders
[Ongeza kwenye Cart](#)



Regulator TZS 25,000
Stock: 12
Category: Gas Accessory
[Ongeza kwenye Cart](#)

PLACING ORDER

Bidhaa Zako**Gas Burner**

TZS 5,000 x 2

Jumla: TZS 10,000

**camel**

TZS 23,000 x 1

Jumla: TZS 23,000

**Gas Lighter**

TZS 10,000 x 1

Jumla: TZS 10,000

Taarifa za Usafirishaji

Jina Kamili *

Mahmoud Hassan

Anwani Kamili *

Mtaa, Jiji, Nchi...

Namba ya Simu *

2557xxxxxxxx

Njia ya Malipo

Malipo wakati wa kusafirishwa (COD) ▾

Thibitisha Agizo**CONTACT US PAGE****Contact Us & Location****Simu:** +255 616 254 893**Barua pepe:** info@mahsanservices.co.tz**Anwani:** Mtaa wa Lindi na Nyamwezi, kariakoo, Dar es Salaam**Kituo cha ziada:** Karibu na College of Business Education (CBE),
Posta Mpya

TOTAL PAYMENT

Gas Pipe 2m



TZS 10,000

- 1 +

Jumla: TZS 10,000

Ondoa

Jumla: TZS 53,000

Endelea na Malipo

KUHUSU SISI PAGE

MAHSAN GAS SUPPLY

Home Bidhaa Zote About Us Contact / Location Ingia Jisajili

Kuhusu Mahsan Gas Services

Mahsan Gas Services ni kampuni inayojihusisha na utoaji wa huduma za gesi majumbani na kibashara ndani ya jiji la Dar es Salaam. Tunatoa huduma za usambazaji wa mitungi ya gesi, ufungaji wa mifumo ya gesi, ukaguzi wa usalama pamoja na ushauri wa matumizi sahihi ya gesi. Tunalenga kuwapatia wateja wetu huduma bora, salama na za kuaminika kwa kuhakikisha wanapata gesi kwa urahisi, kwa wakati na kwa viwango vinavyokubalika kitaalamu.

Maono Yetu

Kuwa kampuni inayoongoza katika utoaji wa huduma za gesi jijini Dar es Salaam na Tanzania kwa ujumla, kwa kuzingatia ubunifu, usalama na kuridhisha wateja wetu.

PAYMENT CONFIRMATION

Asante kwa Kuagiza! 💰

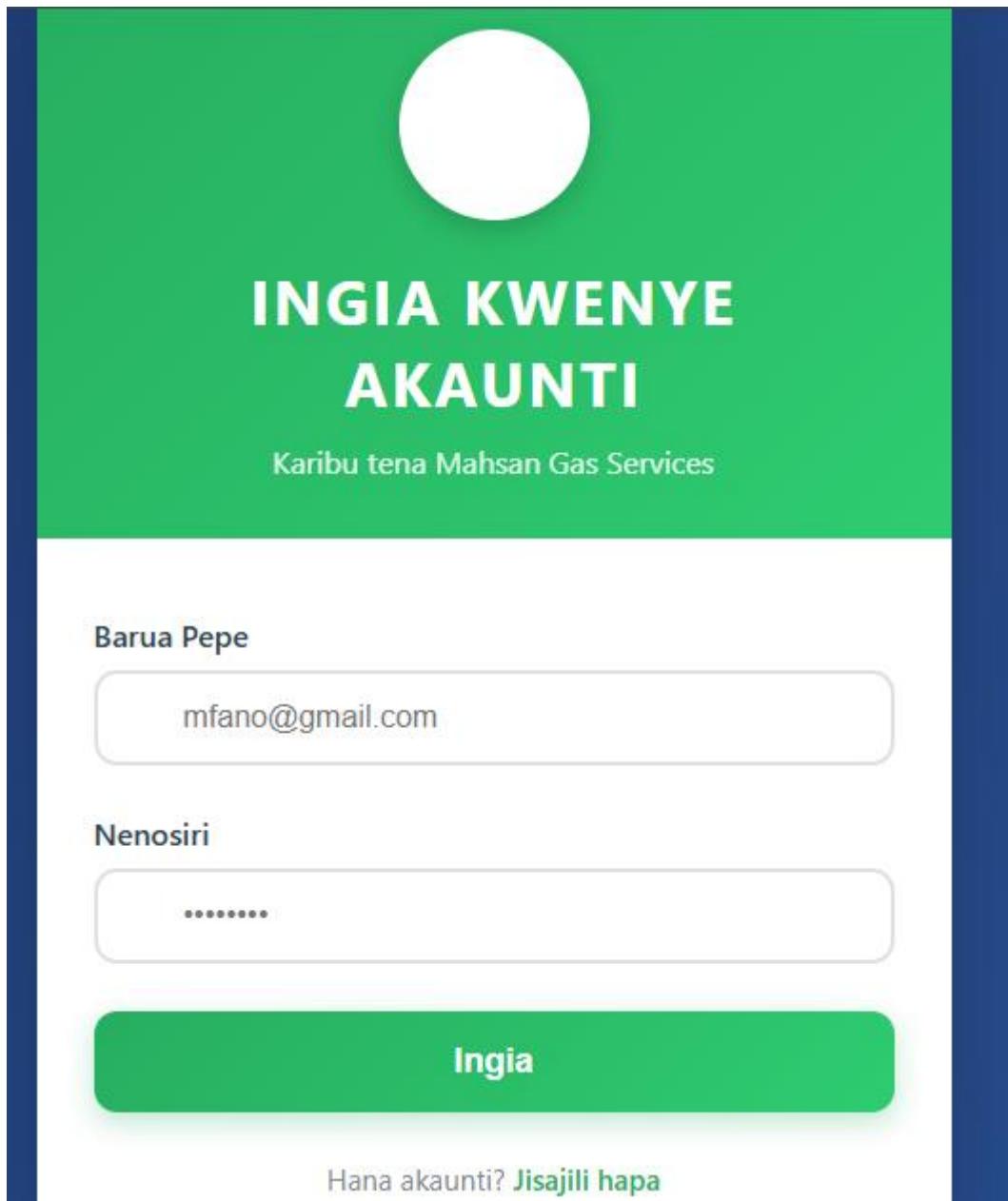
Agizo lako limefanikiwa na linashughulikiwa.

Namba ya Agizo: #20260211124504

Tutakufikia Hivi Karibuni

Rudi kuangalia Bidhaa zaidi

ADMIN LOGIN PAGE



BACK END LOOK.

ADMIN DASHBOARD

localhost/gas/frontend/admin/dashboard.php

Admin Panel - Mahsan Services

Dashboard Bidhaa Categories Wateja Maagizo Toka (Admin Mahsan)

Admin Dashboard

Karibu Admin Admin Mahsan

Simamia Bidhaa Simamia Categories Wateja Wangu Maagizo Yote

USIMAMIZI WA BIDHAA PAGE

Admin Panel - Mahsan Services

Dashboard Bidhaa Categories Wateja Maagizo Toka (Admin Mahsan)

Simamia Bidhaa

+ Ongeza Bidhaa Mpya

ID	Jina	Bei	Stock	Category	Picha	Chaguzi
25	Very High pressure Regulator	30,000	20	Gas Accessory		Harini Futa
24	Gas Trivet	7,000	18	Gas Accessory		Harini Futa
23	Gas Lighter	10,000	25	Lighter		Harini Futa
22	Gas Stove Burner	12,000	30	Gas Accessory		Harini Futa
21	Gas Burner	5,000	40	Gas Accessory		Harini Futa

USIMAMIZI WA CATEGORIES

Admin Panel - Mahsan Services

Dashboard Bidhaa Categories Wateja Maagizo Toka (Admin Mahsan)

Simamia Categories

+ Ongeza Category Mpya

ID	Jina	Maelezo	Tarehe	Chaguzi
10	Lighter	Start your Flame	2026-02-10 13:05:32	Harini Futa
6	Gas Accessory	Perfect Energy	2026-02-10 13:03:21	Harini Futa
4	Gas Cylinders	6kg, 12kg, 45kg n.k	2026-02-10 11:39:34	Harini Futa

MY CUSTOMERS PAGE

Wateja Wangu

ID	Jina	Email	Simu	Tarehe Aliyejisajili	Chaguzi
8	abdul	abdul@gmail.com	0676262687	2026-02-10 16:16:06	<button>Hariri</button> <button>Futa</button>
7	Mahmoud Hassan	mahmoudhassan7904@gmail.com	06161254893	2026-02-10 13:08:06	<button>Hariri</button> <button>Futa</button>
6	juma	juma@gmail.com	255656623371	2026-02-09 13:18:47	<button>Hariri</button> <button>Futa</button>
5	najma	najma1@gmail.com		2026-02-07 02:03:39	<button>Hariri</button> <button>Futa</button>