

AC MANAGEMENT SYSTEM

Official Documentation

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1. INTRODUCTION

Welcome to the AC Management System, a robust and user-friendly application designed to streamline the management of an air conditioner sales and service business. This software provides a comprehensive solution for maintaining a database of clients, tracking their purchases, managing service schedules, and keeping a detailed record of all interactions.

This documentation will serve as your complete guide to understanding, installing, and effectively utilizing the AC Management System.

2. SYSTEM REQUIREMENTS

To run the AC Management System, ensure your computer meets the following specifications:

Component	Minimum Requirement
Operating System	Windows 10 or later
Java Development Kit (JDK)	Version 8 or higher
Database	MySQL 5.7 or later
RAM	4 GB minimum
Storage	500 MB free space

3. INSTALLATION AND SETUP

3.1. Database Setup

Install MySQL: If you don't have it already, install the MySQL server on your machine.

Create the Database: Create a new database named `ac_shop`.

Create the clients Table: Execute the following SQL query to create the necessary table in the `ac_shop` database:

```
CREATE TABLE clients ( name VARCHAR(255) PRIMARY KEY, dop DATE, address  
VARCHAR(255), acModel VARCHAR(255), phone BIGINT, price INT, description TEXT,  
remainingServices INT, currentPackDate DATE, nextServiceDate DATE );
```

3.2. Application Setup

Place the project folder: Place the Sem-2-IP folder in a directory of your choice (e.g., `D:\`).

Configure the Classpath: The provided `RunProgram.bat` file sets the classpath to `D:\mysql-connector-j-9.0.0.jar` and `D:\Sem_2_IP\Sem-2-IP\src`. Make sure these paths are correct for your system. If you placed the project or the MySQL connector in a different location, you will need to edit this file.

Run the application: Double-click on the `RunProgram.bat` file to launch the AC Management System.

4. USER INTERFACE GUIDE

The main window of the AC Management System is designed for intuitive and efficient operation. Here is a breakdown of the user interface:

Client Information Fields: Text fields for entering and displaying client details such as Client Name, Date of Purchase, Address, Phone, AC Model, Price, and Description.

Action Buttons: A set of buttons that allow you to perform various actions:

- **Add Client:** Adds a new client to the database.
- **Remove Client:** Deletes a client's record.
- **Update Client:** Modifies the information of an existing client.
- **Search:** Searches for clients by name or service date.
- **Display All Clients:** Shows a list of all clients in the database.
- **Service:** Records a service performed for a client.
- **Update Package:** Renews a client's service package.
- **Exit:** Closes the application.

Display Area: A large text area at the bottom of the window that displays client information, search results, and other messages.

Search Field: A dedicated field for entering search queries (client name or service date).

5. CORE FUNCTIONALITIES

5.1. Client Management

5.1.1. Adding a New Client

To add a new client, follow these steps:

1. Fill in all the client information fields.
2. For the Date of Purchase field, you can enter a date in dd-MM-yyyy format or type "today" to automatically use the current date.
3. Click the "Add Client" button.
4. A confirmation message will appear, and the fields will be cleared.

5.1.2. Updating Client Information

1. Enter the name of the client you wish to update in the Client Name field.
2. Fill in the other fields with the updated information.
3. Click the "Update Client" button.

5.1.3. Removing a Client

1. Enter the name of the client you want to remove in the search field.
2. Click the "Remove Client" button.

5.2. Search and Display

5.2.1. Searching for a Client

You can search for a client in two ways:

By Name: Enter the client's name in the search field and click "Search." The system will display all clients with matching names.

By Next Service Date: Enter a date in dd-MM-yyyy format in the search field and click "Search."

5.2.2. Displaying All Clients

Click the "Display All Clients" button to view a complete list of all clients and their details in the display area.

5.3. Service and Package Management

5.3.1. Performing a Service

1. Enter the client's name in the search field.
2. Click the "Service" button.
3. This will reduce the client's remaining services by one and calculate the next service date.

5.3.2. Updating a Service Package

When a client's services are depleted, you can renew their package.

1. Enter the client's name in the search field.
2. Click the "Update Package" button. This will reset their remaining services to 3 and set a new service schedule.

6. DATABASE SCHEMA

The application uses a single table named `clients` in the `ac_shop` database. The structure of this table is as follows:

Column Name	Data Type	Description
<code>name</code>	<code>VARCHAR(255)</code>	The client's name (Primary Key)
<code>dop</code>	<code>DATE</code>	The date the AC was purchased
<code>address</code>	<code>VARCHAR(255)</code>	The client's address
<code>acModel</code>	<code>VARCHAR(255)</code>	The model of the air conditioner
<code>phone</code>	<code>BIGINT</code>	The client's phone number
<code>price</code>	<code>INT</code>	The price of the AC
<code>description</code>	<code>TEXT</code>	A description or notes about the client
<code>remainingServices</code>	<code>INT</code>	The number of services left in the package
<code>currentPackDate</code>	<code>DATE</code>	The start date of the current service pack
<code>nextServiceDate</code>	<code>DATE</code>	The date of the next scheduled service

7. TROUBLESHOOTING

Issue	Solution
"CLIENT NOT FOUND"	This error appears when you try to perform an action on a client who is not in the database. Double-check the spelling of the name.
"PLEASE FILL ALL FIELDS"	This message indicates that one or more required fields were left empty when trying to add or update a client.
Database Connection Errors	If the application cannot connect to the database, ensure that your MySQL server is running and that the database credentials in <code>AcManagementSystem.java</code> (<code>dburl</code> , <code>dbuser</code> , <code>dbpass</code>) are correct.