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--Customer Relationships Management MySQL design


-- Create the Database

CREATE DATABASE crm_db CHARACTER SET utf8mb4 COLLATE utf8mb4_unicode_ci;

USE crm_db;


-- Table Design (With Relationships)

-- users – CRM Users (Sales Reps, Agents, Admins) CREATE TABLE

users (    user_id INT AUTO_INCREMENT PRIMARY KEY,    first_name

VARCHAR(50) NOT NULL,    last_name VARCHAR(50) NOT NULL,

email VARCHAR(100) UNIQUE NOT NULL,    phone VARCHAR(15),

role ENUM('Sales', 'Support', 'Manager', 'Admin') DEFAULT 'Sales',

is_active BOOLEAN DEFAULT TRUE

);


-- companies – Customer Organizations CREATE TABLE

companies (    company_id INT AUTO_INCREMENT

PRIMARY KEY,    name VARCHAR(100) NOT NULL,

industry VARCHAR(50),    website VARCHAR(100),

phone VARCHAR(15),    email VARCHAR(100),

address TEXT,

);


-- customers – Individual Contacts

CREATE TABLE customers (

  customer_id INT AUTO_INCREMENT PRIMARY KEY,

   first_name VARCHAR(50) NOT NULL,

last_name VARCHAR(50) NOT NULL,

company_id INT,    email VARCHAR(100)
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    UNIQUE,    phone VARCHAR(15),
    job_title VARCHAR(50),    address TEXT,
    FOREIGN KEY (company_id) REFERENCES companies(company_id) ON DELETE SET NULL,
    INDEX idx_email (email),
    INDEX idx_company (company_id)
);


-- leads – Prospective Customers CREATE TABLE leads (    lead_id INT
AUTO_INCREMENT PRIMARY KEY,    first_name VARCHAR(50) NOT NULL,    last_name
VARCHAR(50) NOT NULL,    company_name VARCHAR(100),    email VARCHAR(100)
UNIQUE,    phone VARCHAR(15),    source ENUM('Website', 'Referral', 'Social Media',
'Cold Call') DEFAULT 'Website',    status ENUM('New', 'Contacted', 'Qualified', 'Lost',
'Converted') DEFAULT 'New',    assigned_to INT, -- Sales rep    notes TEXT,
    FOREIGN KEY (assigned_to) REFERENCES users(user_id) ON DELETE SET NULL,
    INDEX idx_status (status),
    INDEX idx_assigned (assigned_to)
);
-- deals – Sales Opportunities CREATE TABLE deals
(    deal_id INT AUTO_INCREMENT PRIMARY KEY,
title VARCHAR(150) NOT NULL,    customer_id
INT NOT NULL,    company_id INT,    value
DECIMAL(10,2) DEFAULT 0.00,
    stage ENUM('Prospecting', 'Qualification', 'Proposal', 'Negotiation', 'Closed Won', 'Closed Lost')
DEFAULT 'Prospecting',    probability INT DEFAULT 0, -- %    expected_close_date DATE,
assigned_to INT NOT NULL,    notes TEXT,
    FOREIGN KEY (customer_id) REFERENCES customers(customer_id) ON DELETE CASCADE,
    FOREIGN KEY (company_id) REFERENCES companies(company_id) ON DELETE SET NULL,
    FOREIGN KEY (assigned_to) REFERENCES users(user_id) ON DELETE CASCADE,
    INDEX idx_stage (stage),
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    INDEX idx_assigned_to (assigned_to),

    INDEX idx_close_date (expected_close_date)

);


-- products – Products or Services Offered CREATE TABLE products (

product_id INT AUTO_INCREMENT PRIMARY KEY,     name

VARCHAR(100) NOT NULL,     description TEXT,     category

VARCHAR(50), -- e.g., Software, Consulting, Hardware     price

DECIMAL(10,2) NOT NULL,

    is_active BOOLEAN DEFAULT TRUE);


--  interactions – Customer Communications CREATE TABLE

interactions (     interaction_id INT AUTO_INCREMENT

PRIMARY KEY,     customer_id INT,     lead_id INT,     user_id

INT NOT NULL,     type ENUM('Call', 'Email', 'Meeting',

'Note') NOT NULL,     subject VARCHAR(150),     notes TEXT,

    interaction_date TIMESTAMP DEFAULT CURRENT_TIMESTAMP,     next_follow_up

DATE,

    FOREIGN KEY (customer_id) REFERENCES customers(customer_id) ON DELETE CASCADE,

    FOREIGN KEY (lead_id) REFERENCES leads(lead_id) ON DELETE CASCADE,

    FOREIGN KEY (user_id) REFERENCES users(user_id) ON DELETE CASCADE,

    INDEX idx_customer (customer_id),

    INDEX idx_lead (lead_id),

    INDEX idx_date (interaction_date),

    INDEX idx_follow_up (next_follow_up)

);
```

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-- tickets – Support Requests CREATE TABLE tickets (    ticket_id INT
AUTO_INCREMENT PRIMARY KEY,     subject VARCHAR(150) NOT NULL,
customer_id INT NOT NULL,    assigned_to INT,    priority ENUM('Low',
'Medium', 'High', 'Urgent') DEFAULT 'Medium',    status ENUM('Open',
'In Progress', 'Resolved', 'Closed') DEFAULT 'Open',

    description TEXT,
resolution TEXT,
    FOREIGN KEY (customer_id) REFERENCES customers(customer_id) ON DELETE CASCADE,
    FOREIGN KEY (assigned_to) REFERENCES users(user_id) ON DELETE SET NULL,
    INDEX idx_status (status),
    INDEX idx_priority (priority),
    INDEX idx_assigned (assigned_to)
);


-- tasks – To-Do Items for Users CREATE TABLE tasks (    task_id INT
AUTO_INCREMENT PRIMARY KEY,     title VARCHAR(150) NOT NULL,
description TEXT,    assigned_to INT NOT NULL,    due_date DATE,    status
ENUM('Pending', 'In Progress', 'Completed') DEFAULT 'Pending',
related_to ENUM('Deal', 'Lead', 'Ticket', 'Customer') NULL,    related_id INT
NULL, -- ID of the related record
    FOREIGN KEY (assigned_to) REFERENCES users(user_id) ON DELETE CASCADE,
    INDEX idx_due_date (due_date),
    INDEX idx_status (status),
    INDEX idx_assigned (assigned_to)
);


--  Inserting Sample Data
-- Insert a user
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INSERT INTO users (first_name, last_name, email, phone, role)

VALUES ('Alice', 'Johnson', 'alice@company.com', '+1234567890', 'Sales');


-- Insert a company

INSERT INTO companies (name, industry, website, phone)

VALUES ('TechNova Inc.', 'Software', 'https://prime-digital-technologies.netlify.app', '+23353765431');


-- Insert a customer

INSERT INTO customers (first_name, last_name, company_id, email, phone, job_title) VALUES

('John', 'Doe', 1, 'john@technova.com', '+2334567891', 'CTO');


-- Insert a lead

INSERT INTO leads (first_name, last_name, company_name, email, phone, source, assigned_to)

VALUES ('Jane', 'Smith', 'Innovate Labs', 'jane@innovate.com', '+1234567892', 'Website', 1);


-- Insert a deal

INSERT INTO deals (title, customer_id, company_id, value, stage, assigned_to, expected_close_date)

VALUES ('Enterprise Software License', 1, 1, 25000.00, 'Proposal', 1, '2025-06-15');


-- Insert a product

INSERT INTO products (name, description, category, price)

VALUES ('Cloud CRM Pro', 'Premium CRM software', 'Software', 999.00);


-- Insert an interaction

INSERT INTO interactions (customer_id, user_id, type, subject, notes, next_follow_up)

VALUES (1, 1, 'Call', 'Product Demo', 'Discussed pricing and features.', '2025-04-10');


-- Insert a support ticket

INSERT INTO tickets (subject, customer_id, assigned_to, priority, description)
```

```sql
VALUES ('Login Issue', 1, 1, 'High', 'User cannot log in after password reset.');


-- Insert a task
INSERT INTO tasks (title, description, assigned_to, due_date, related_to, related_id)
VALUES ('Send Proposal', 'Send updated proposal to John Doe', 1, '2025-04-08', 'Deal', 1);


-- Useful CRM Queries
-- List all open deals with customer and owner
SELECT
    d.title AS deal,
    CONCAT(c.first_name, ' ', c.last_name) AS customer,
CONCAT(u.first_name, ' ', u.last_name) AS owner,     d.value,
    d.stage,
    d.expected_close_date
FROM deals d
JOIN customers c ON d.customer_id = c.customer_id
JOIN users u ON d.assigned_to = u.user_id
WHERE d.stage != 'Closed Won' AND d.stage != 'Closed Lost'
ORDER BY d.expected_close_date;


-- Recent customer interactions
SELECT
    i.type,
    i.subject,
    CONCAT(c.first_name, ' ', c.last_name) AS customer,
CONCAT(u.first_name, ' ', u.last_name) AS agent,     i.interaction_date

FROM interactions i
JOIN customers c ON i.customer_id = c.customer_id
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JOIN users u ON i.user_id = u.user_id

ORDER BY i.interaction_date DESC

LIMIT 10;


-- Leads by status

SELECT status, COUNT(*) AS count

FROM leads

GROUP BY status;


-- Open support tickets

SELECT

    t.ticket_id,

    t.subject,

    CONCAT(c.first_name, ' ', c.last_name) AS customer,

    t.priority,

    t.created_at

FROM tickets t

JOIN customers c ON t.customer_id = c.customer_id

WHERE t.status = 'Open'

ORDER BY

    CASE t.priority

        WHEN 'Urgent' THEN 1

        WHEN 'High' THEN 2

        ELSE 3

    END;
```