Pet Clinic Management System (PCMS)
System Overview Document

Clinic Name: Pet House Animal Hospital
System Name: Pet Clinic Management System (PCMS)
System Type: Web-Based Information Management System
Stakeholders: Doctors, Receptionists, Admin

💡 System Purpose

To streamline all operational, clinical, billing, inventory, and reporting processes at Pet House Animal Hospital, which handles only **out-patients** and offers services such as home visits, surgeries, and pet product sales.

✅ Functional Modules & Workflows

1. 🐾 Patient Registration

- Registers both **Pet and Owner** together.
- Required for both walk-ins and appointment-based cases.

2. ⏰ Appointments

- Pet owners may call to request an appointment.
- Receptionist selects registered pet and owner from dropdown to schedule.
- Walk-ins **skip this** and go directly to doctor after registration.

3. 🧬 Medical Records

- Doctor selects a patient (with or without appointment).
- Adds diagnosis, symptoms, notes.
- Adds used items/services from item_master dropdown (auto-priced).

4. 💳 **Billing**
    - Auto-generated when doctor adds medical items/services.
    - Receptionist goes to billing page, selects patient, sees total.
    - Collects payment, prints bill.
5. 💉 **Vaccinations**
    - Same flow as treatment: Medical record + bill.
    - Vaccination name, dose, and notes included.
6. ⚖️ **Services Management**
    - Manage other services like **Home Visit**, **Surgery**, **Medical Camps**.
    - Add service record from dropdown using service_master.
    - Billed through same medical + billing flow if applicable.
7. 📃 **Reports (Documents)**
    - Analytics and performance reporting.
    - Revenue, treatments, patient stats, etc.
    - Filter by date ranges.
8. 🛎️ **Suppliers**
    - Manage suppliers, products, quantities, dates.
    - Used for stocking medicines, clinic equipment.
    - Requires separate inventory + purchase billing module.
9. 💼 **POS - Pet Product Sales**
    - Handles sale of pet food, toys, and care products.
    - Lightweight cashier-friendly UI.
    - Linked to products & inventory.
10. 🗓️ **Pet & Owner Directory**
    - Lists all pets and owners independently for lookup/reference.

📈 Database Tables (Key Tables)

Table	Description
owners	Owner details
pets	Pet details with owner_id FK
appointments	Optional scheduling with pet_id FK
medical_records	Records diagnosis, notes
item_master	Medicines, services, etc. with price
medical_bills	Auto-created bill per treatment
medical_bill_items	Each item used in a bill
service_master	Static list of services offered
vaccinations	Vaccine-specific medical records
suppliers	Supplier details
supplier_items	Items received from each supplier
pos_sales	Transactions of pet product sales

Note: Relationships are managed via foreign keys (owner_id, pet_id, bill_id, etc.).

🌐 Technology Stack

⚙️ Development

- **Frontend**: React.js + Tailwind CSS (responsive)
- **Backend**: Node.js + Express.js
- **Database**: PostgreSQL
- **API Layer**: RESTful API (modular controllers)
- **Auth**: JWT-based login, role-based access

🏢 Deployment

- **Backend**: Render / Railway
- **Frontend**: Vercel / Netlify
- **Database**: Supabase / ElephantSQL / Cloud PostgreSQL
- **CI/CD**: GitHub Actions (optional)

📝 Additional Suggestions

- Add category field in item_master (e.g., "medicine", "service", "product")
- Use role-based access control to protect medical + billing routes
- Log creation/update timestamps and user activity (audit logs)

🚀 **Development Order (Confirmed)**

1. Patient Registration ✅
2. Pet Owners ✅
3. Pets ✅
4. Appointments ✅
5. Medical Records ⬆️ (in progress)
6. Vaccinations
7. Services
8. Documents (Reports)
9. Invoices
10. Invoice Items
11. Products (POS)
12. Suppliers
13. Billing

The Whole Idea of the System

There is an Animal hospital named pet house. I want to develop a Pet Clinic Management System for this animal hospital. This is how that hospital works.

They are published there telephone number. So pet owners can call to the hospital and get an appointment for there pets. With this situation, receptionist first register the patient by adding both pet and owner details. After registration he or she go to the appointments page and select that registered patient from a dropdown and add an appointment for that patient.

On the other hand, pet owners can visit directly to the hospital with there pets without call and appointment. In this situation, receptionist just register the patient by adding both pet and owner details. After that patients can directly visit doctor.

Doctor can check all appointments is appointments page and change their status. accept, complete, etc. Doctor check Both appointment patients and directly visit patients. Let take one patient.

Doctor check the patient and give some medicines. After the checkup, doctor visit there computer and go to the medical records page. In that pare there is a dropdown to select the patient. those list came from patient registration stage. After select the patient, doctor can add medical records and used items and services by selecting them one by one from the dropdown. This list coming from a table in the database (item_master table). this table contain all items and services and prices of each item and service. Doctor can simply select item or service and quantity. After adding all these doctor can save the record. Then doctor can check next patient.

That checkout finished patient owner then want to go the receptionist for do the payment. receptionist just go to the billing page and select the patient from the dropdown. After select the patient It list down all the items and services with their prices doctor added previous stage. And also it shows calculated total payment. After that he or she tells the payment to the patient owner and he will pay. Then receptionist can simply print the bill and handover to the patient owner.

Some patients come to get there vaccination. In this situation, if that patient's first visit receptionist need to register that patient and send them to the doctor to get vaccine. If not the first time, patient can directly go to the doctor and get the vaccine. In this vaccination stage also same billing process I mentioned before. Doctor can add medical record as an example, vaccination, name of the vaccine, quantity. then receptionist can see the bill in billing page and get the payment.

This hospital provide some other services like, surgery, home visit, medical camps, etc. So they want to a page to manage those Items. Therefor, In services page it shows all the services provided with dates and other necessary details. there is button call add service. In this add service model they can select the service from a dropdown. This list coming from a table in the database (service_mastor table). they can add the service by adding date, description and other things. With this they can view all their services they provided. If there is a service that cost, simply they can go with that medical records process. Assume they provide the service home visit for checkup a patient. With this situation, after the checkup doctor can register that patient and follow billing path. We need to add all these services also item_master table.

For business purpose, hospital need to get some reports. patient records, medical records, some analytics, revenue reports, etc. For this scenario, we can develop a page call Reports

(currently we call it Documents). In this page, there are various reports users can select. by selecting that reports the can select from date and to date for get the report by given date period. This is very helpful for get the idea of the status of the hospital in business way.

There are suppliers that provide medical items, pet products and some other necessary products. So, hospital need space to manage those suppliers and supply products. Therefor we need to develop the supplier's page. In this page It shows all suppliers and their products, quantities, dates, etc. And I think we need to develop another billing system for this inventory management system. I think this is another module.

This hospital has some pet products to sell. For this we need to develop a simple but good POS system.

There are another two pages that show pets and owners separately.