APPENDIX A: GROUP PROJECT COVER SHEET

Group Name (E.g. Group A, Group E, Group G): Group 5
Isipingo Vet Management

Please complete this form and submit it as a cover sheet every time you submit your project. One submission is required per group. The details completed below must be correct.

Student No.	Surname, Initials	Task Completed	Signature
1. 22350050	Mkhize AT	Typed and edit whole document and, Answered business description/overview	
2. 22283482	Mthembu N	Answered the system capabilities and project scope	
3. 22208776	Mahlaba AO	Group Leader: Printed document, answered the benefits and project scope	
4. 22367381	Mgijimi E	Answered the proposed solutions section and project entities	
5. 22370187	Sigwebela ZM	Answered the proposed solutions section and entities	
6. 22328229	Mahaye M	Answered the Benefits and project scope	
7. 22321651	Makwara C	Answered how the current system works and project scope	
8. 22383313	Nodangala N	Answered system capabilities and project scope	
9. 22300996	Mqadi AY	Type and edit document. Answered problem description	
10. 22302313	Shozi S	Answered how the current system works and project scope	

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Business Description/Overview

Our client is a local veterinary clinic, owned by Dr Kutwana, a licensed veterinarian with over 15 years of experience. Located in Isipingo Centre , 3 Police Station Rd, Isipingo Hills , 4110.

The business is a full-service veterinary clinic providing services like medical care, diagnostic services, and wellness treatments for various domestic animals (small animals), mainly cats and dogs. The clinic's primary focus is to offer high-quality medical care and ensuring the well-being of pets in the community.

How does the current system work/business processes?

i. Appointment Booking:

Patients call the vet clinic or come in person to book their appointments. Reception staff then captures or records appointment details in a physical appointment notebook or spreadsheet.

ii. Client/Patient Information:

New patient fills out paper forms with their contact information and their pet's medical history. Reception staff manually enter patient data into a spreadsheet or database, and paper records are stored in physical files (old school filing system).

iii. Medical Records:

The Veterinarians record patient examination notes, diagnostics results, and treatment plans on paper forms. These forms are stored in the patient's physical file.

iv. Invoices and Payment

The reception staff calculates service fees (Consultation Fee) and creates invoices using a spreadsheet or manual invoicing system. Pet/Patient owners pay in-person using cash, credit/debit cards, or medical aid/insurance

v. Communication:

The clinic keeps in touch with patient via calls or SMS for appointment reminder, follow up and updates

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vi. The clinic has basic security measures in place as their operation runs manually, such as password-protected computers and locked storage for physical files. However, there is a need to enhance data security and privacy through a more secure digital system.

Problem Description

Time-consuming appointment scheduling: Manual appointment scheduling may lead to double-booking, missed appointments, and difficulties in finding suitable appointment times for clients.

Inefficient record retrieval: Locating specific patient records or historical data can be challenging in a paper-based system, potentially causing delays in treatment or decisionmaking.

Limited communication or accessibility: Communication between the clinic and clients is often limited to phone calls or in-person interactions, making it difficult for clients to access information for updating information or request services outside of clinic hours.

Inaccurate or outdated information: With manual data entry, there is a higher chance of errors, resulting in inaccurate or outdated client and patient information.

Security and privacy concerns: Paper-based records and manual data management pose risks to data security, privacy, and compliance with data protection regulations.

Proposed solution/purpose/objective

Project Title: DR Kutwana's Vet Management System

To solve the problems associated with the current veterinary clinic system, we propose to develop a comprehensive, user-friendly, and secure web-based veterinary clinic management system. This system will automate manual processes, improve data management, and enhance communication between the clinic and its clients.

The proposed system will include features such as online appointment booking, secure access to patient records, automated appointment reminders, and a messaging platform for clients to communicate with the clinic staff. Additionally, the system will ensure data security and comply with relevant data privacy regulations.

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Project Scope

These processes will be integrated into the system design to improve operational efficiency, client engagement, and data management within the veterinary clinic:

- Appointment scheduling and management
- Client and patient registration
- Access to patient medical records and history
- Vaccination appointment reminders
- Online Consultation
- Digital invoicing and payment processing User management and access control

System Capabilities

The system will provide the following functionalities to support the veterinary clinic's operations and enhance client experiences:

- Online appointment booking: Clients can schedule appointments through the system, and staff can manage the clinic's schedule efficiently.
- Online Consultation: The website will offer a feature for booking virtual consultations, allowing clients to get advice from the vet without visiting the clinic.
- Client and patient registration: Users can create accounts and register their pets, providing essential information for accurate record-keeping.
- Access to patient records: Clients and staff can securely access and update patient medical records and history.
- Automated reminders: The system will send reminders for upcoming appointments and vaccinations to ensure timely care.
- Digital invoicing and payments: The system will generate invoices and process payments, reducing manual work and payment delays.

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- User management: Authorised administrators can manage user accounts, set access permissions, and ensure data security and privacy.

Entities:

1)Client

2) Pet

3) Appointment

4) Veterinarian

5) Medical Records

6) Reception Staff

7) Payments

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Benefits

Tangible Benefits:

- Efficiency: The system will streamline administrative tasks, such as appointment booking and record management, saving time for both the vet and clients.
- Operational Efficiency: By automating manual processes, the system will save time, reduce errors, and increase overall efficiency.

Intangible Benefits:

- Accessibility: Clients can easily access the vet's services and their pets' medical records online, making it convenient to manage their pets' healthcare.
- Client Satisfaction: Offering online services and easy access to pet records will enhance client satisfaction and loyalty.
- Reputation: A professional website can improve the clinic's reputation, making it more appealing to potential new clients.
- Client Satisfaction: The system will provide clients with convenient access to clinic services, enabling them to book appointments, access their pet's records, and communicate with clinic staff at any time.
- Data Security and Privacy: The system will ensure secure storage and management of client and patient data, adhering to relevant data protection regulations.
- Informed Decision-Making: With centralized data storage and advanced reporting features, the system will enable clinic staff to access and analyze data more effectively, leading to better-informed decisions and improved patient care.

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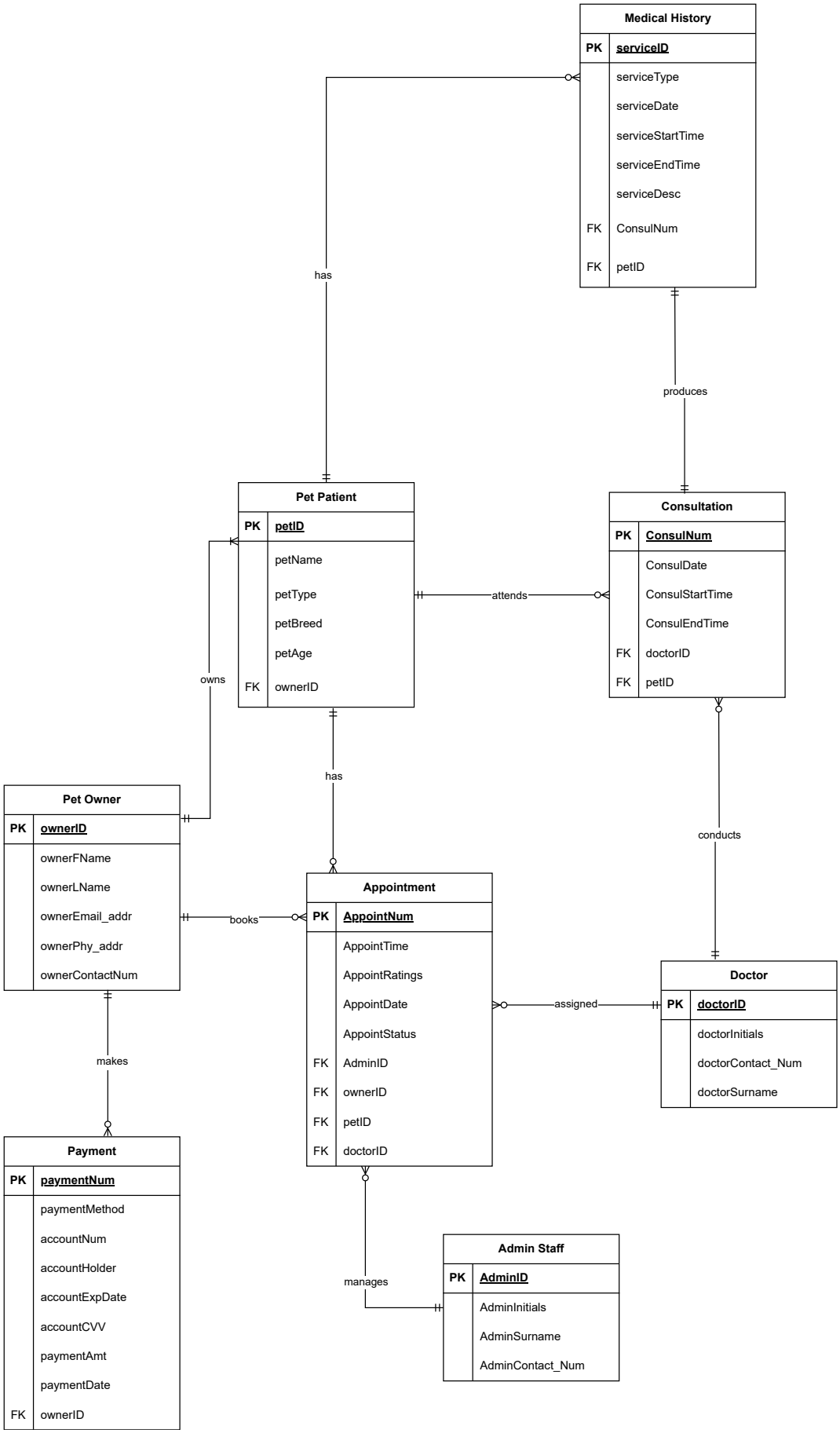
Entity Relational Diagram for Vet Management System



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Business Rules

- A Client owns many pets
- Each pet is owned by only one client

- A Client books may or may not book many appointments
- Each Appointment is booked by only one client

- A Client may or may not make online payment
- Each Payment is made by only one client

- A Pet may have many medical records
- Each Medical record is associated with only one pet

- A pet may or may not have appointments
- Each appointment has exactly one pet

- A pet may attend multiple consultations
- Each consultation is attended by only one pet

- A doctor may have multiple appointments.
- Each Appointment must be assigned by exactly one doctor

- A doctor may conduct many consultations
- Each consultation is conducted by only one doctor

- A consultation produces a medical record
- A medical record is produced by exactly one consultation

- A admin staff may manage many appointments
- Each appointments is managed by exactly one admin staff

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USE CASE DIAGRAM FOR VET MANAGEMENT SYSTEM

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NORMALISATION

1NF

doctorID	doctorInitials	doctorSurname	doctorContact_Num	AdminID
petID	ownerID	petName	petBreed	petType
ownerID	ownerFName	ownerLName	ownerEmail_addr	ownerPhy_addr
AppointNum	petID	ownerID	AdminID	doctorID
paymentNum	ownerID	paymentMethod	paymentAmt	paymentDate
ConsulNum	doctorID	petID	ConsulDate	ConsulStartTime
serviceID	petID	ConsulNum	serviceDate	serviceType

2NF

doctorID	doctorInitials	doctorSurname	doctorContact_Num	
AdminID	AdminInitials	AdminSurname	AdminContact_Num	
ownerID	ownerFName	ownerLName	ownerEmail_addr	ownerPhy_addr
AppointNum	petID	ownerID	AdminID	doctorID
paymentNum	ownerID	paymentMethod	paymentAmt	paymentDate
ConsulNum	doctorID	petID	ConsulDate	ConsulStartTime
serviceID	petID	ConsulNum	serviceDate	serviceType
petID	ownerID	petName	petBreed	petType

3NF

doctorID	doctorInitials	doctorSurname	doctorContact_Num	
AdminID	AdminInitials	AdminSurname	AdminContact_Num	
ownerID	ownerFName	ownerLName	ownerEmail_addr	ownerPhy_addr

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AppointNum	petID	ownerID	AdminID	doctorID

paymentNum	ownerID	paymentMethod	paymentAmt	paymentDate

ConsulNum	doctorID	petID	ConsulDate	ConsulStartTime

serviceID	petID	ConsulNum	serviceDate	serviceType

accountNum	accountHolder	accountCVV	accountExpDate

petID	ownerID	petName	petBreed	petType

SCHEMA

1NF

Vet Staff(doctorID, doctorInitials,doctorSurname,doctorContact_Num,AdminID,AdminInitials,AdminS
Clients(petID,ownerID petName,petTYpe, petBreed,petAge,ownerFName,ownerLName,ownerEmail_a
Appointment(AppointNum,petID,doctorID,AdminId,AppointTime,AppointDate,AppointStatus)
payment(paymentNum,ownerID,paymethod,paymentAmt,paymentDate,payment,accountNum,accou
Consultation(ConsulNum,doctorID,petID,ConsulDate,ConsulStartTime,ConsulEndTime)
Service(serviceID,petID,ConsulNum,serviceDate,serviceType,serviceStartTime,serviceEndTime,service

2NF

Doctor(doctorID, doctorInitials,doctorSurname,doctorContact_Num)
Clients(petID,ownerID petName,petTYpe, petBreed,petAge,ownerFName,ownerLName,ownerEmail_a
Appointment(AppointNum,petID,doctorID,AdminId,AppointTime,AppointDate,AppointStatus)
payment(paymentNum,ownerID,paymethod,paymentAmt,paymentDate,payment,accountNum,accou
Consultation(ConsulNum,doctorID,petID,ConsulDate,ConsulStartTime,ConsulEndTime)
Service(serviceID,petID,ConsulNum,serviceDate,serviceType,serviceStartTime,serviceEndTime,service
Admin Staff(AdminID,AdminInitials,AdminSurname, AdminContact_Num)

3NF

Doctor(doctorID, doctorInitials,doctorSurname,doctorContact_Num)
Clients(petID,ownerID petName,petTYpe, petBreed,petAge,ownerFName,ownerLName,ownerEmail_a
Appointment(AppointNum,petID,doctorID,AdminId,AppointTime,AppointDate,AppointStatus)
payment(paymentNum,ownerID,paymethod,paymentAmt,paymentDate,payment,accountNum)(FK)
Consultation(ConsulNum,doctorID,petID,ConsulDate,ConsulStartTime,ConsulEndTime)
Service(serviceID,petID,ConsulNum,serviceDate,serviceType,serviceStartTime,serviceEndTime,service
Admin Staff(AdminID,AdminInitials,AdminSurname, AdminContact_Num)
Account(accountNum,accountHolder,accountCVV,accountExpDate)

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