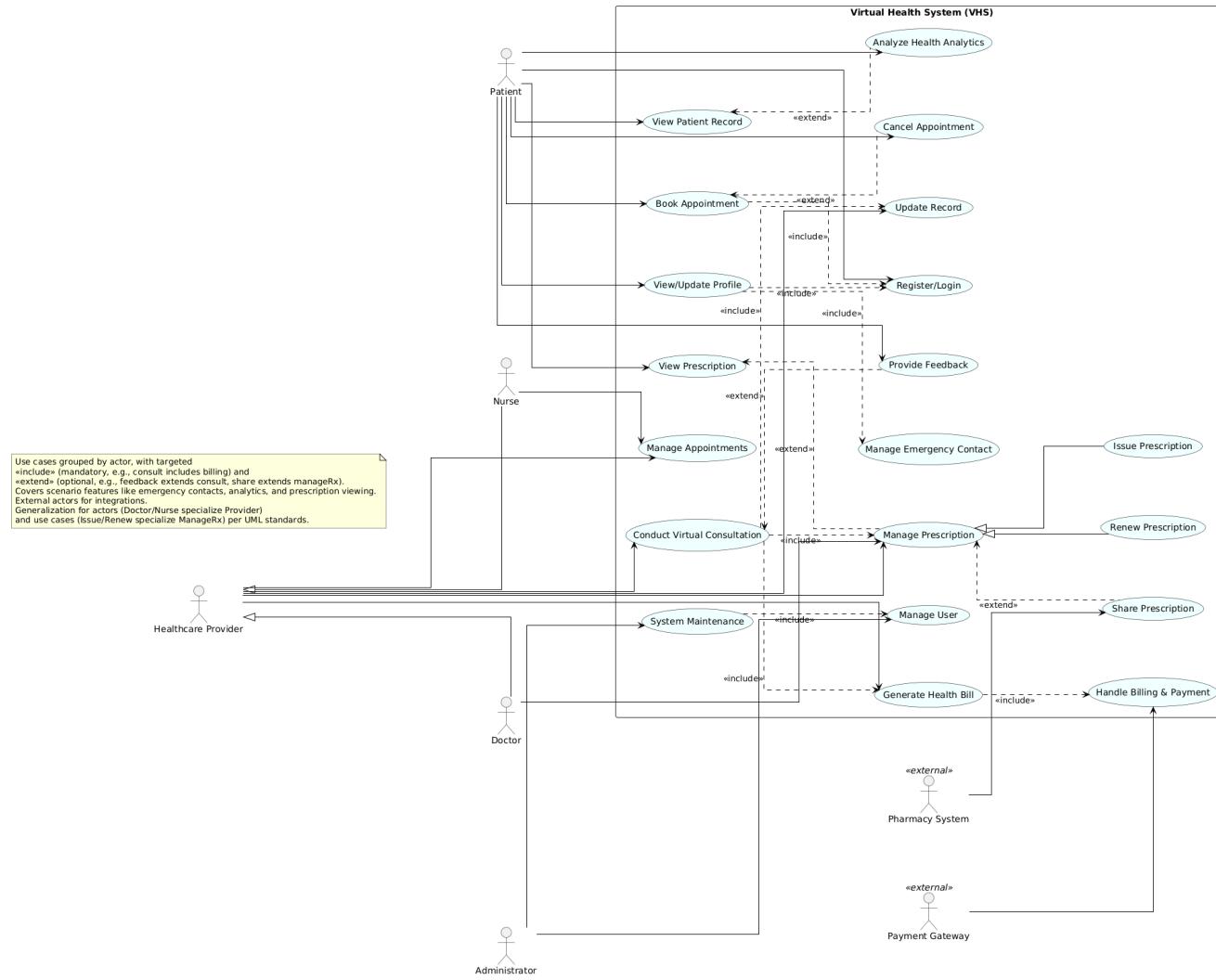
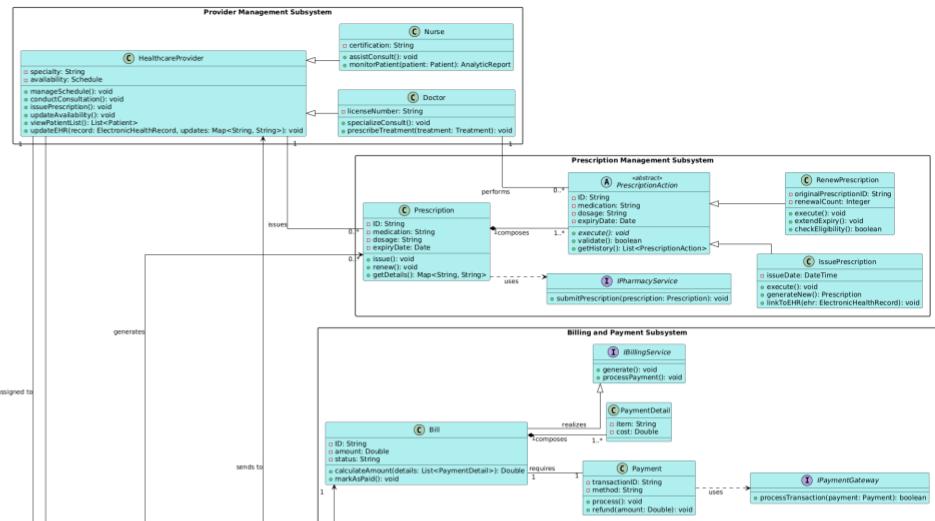


Use Case Diagram for VirtualCare 2025 (Improved with Generalization)



Class Diagram for VirtualCare 2025



**Subsystem Class Mapping (Aligned to 3-Tier Architecture):**  
 Presentation Layer: User (User), IConsultationService (video calls), PatientHealthcareProvider (user-facing methods), VideoConference.  
 Business Logic Layer: Appointment, Consultation, Prescription, RenewPrescription, BillingService, AnalyticsReport (processing logic).  
 Data Layer: Database (e.g., Oracle, MySQL), EHR, Billing, Payment, Analytics.  
**Key Design Elements:**  
 Interactions: Shared parts (e.g., HealthcareProvider to Doctor/Nurse); Prescription management (PrescriptionAction to Issue(Renew)).  
 Aggregation: Shared parts (e.g., Patient aggregates Appointments).  
 Composition: Prescription (composes PrescriptionAction), Bill (composes PaymentDetail), Patient (composes MedicalEntry).  
 Dependencies: Loose coupling (e.g., Analytics depends on EHR, Prescription/Billing use external interfaces).  
 Infrastructure: External services (e.g., IConsultationService for the Pharmacy System, IPaymentGateway for the Payment Gateway).  
 Visibility: Private attributes (i.e., public methods (+)).  
 Multiplicity: Defined on all associations for precision.

