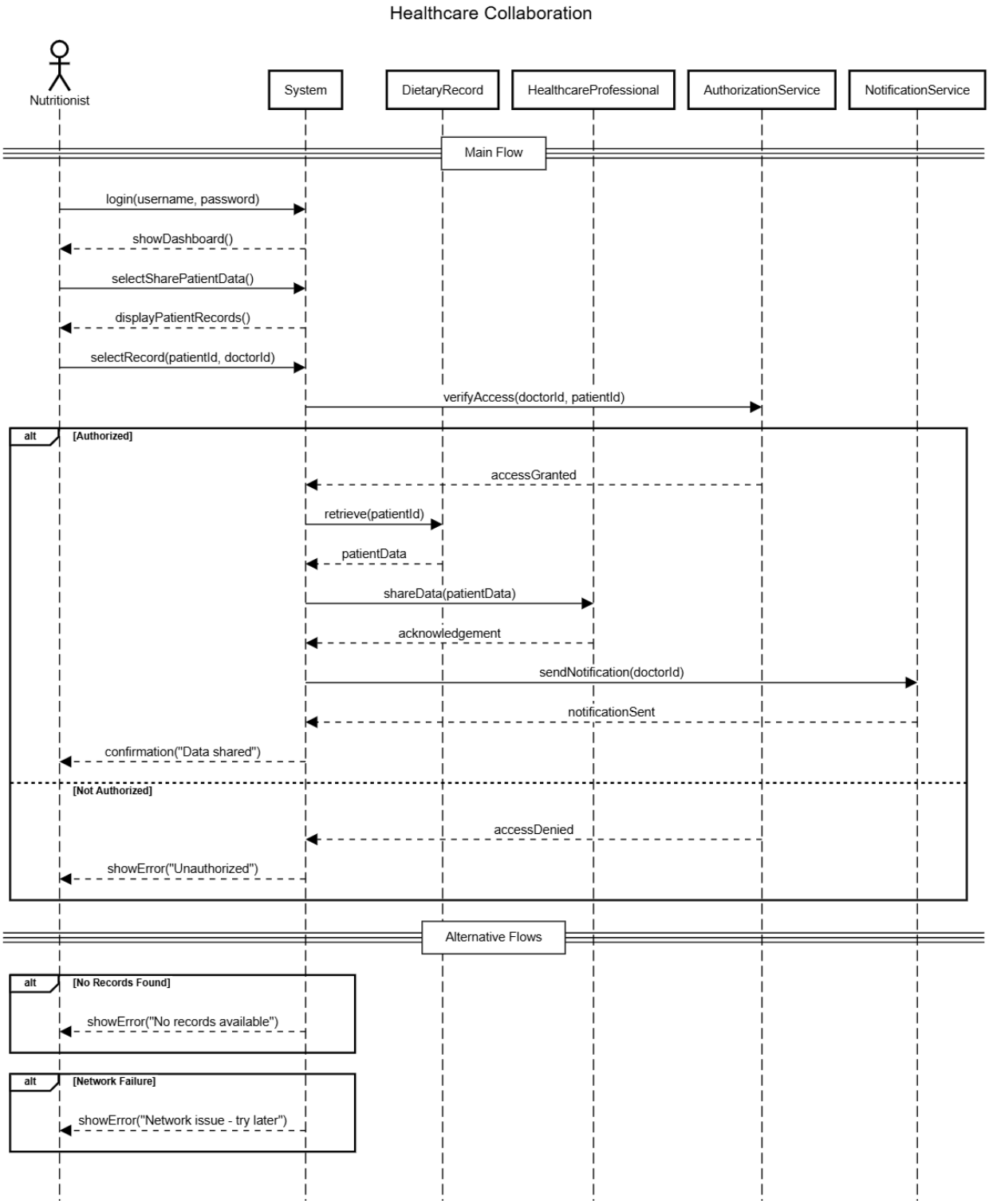
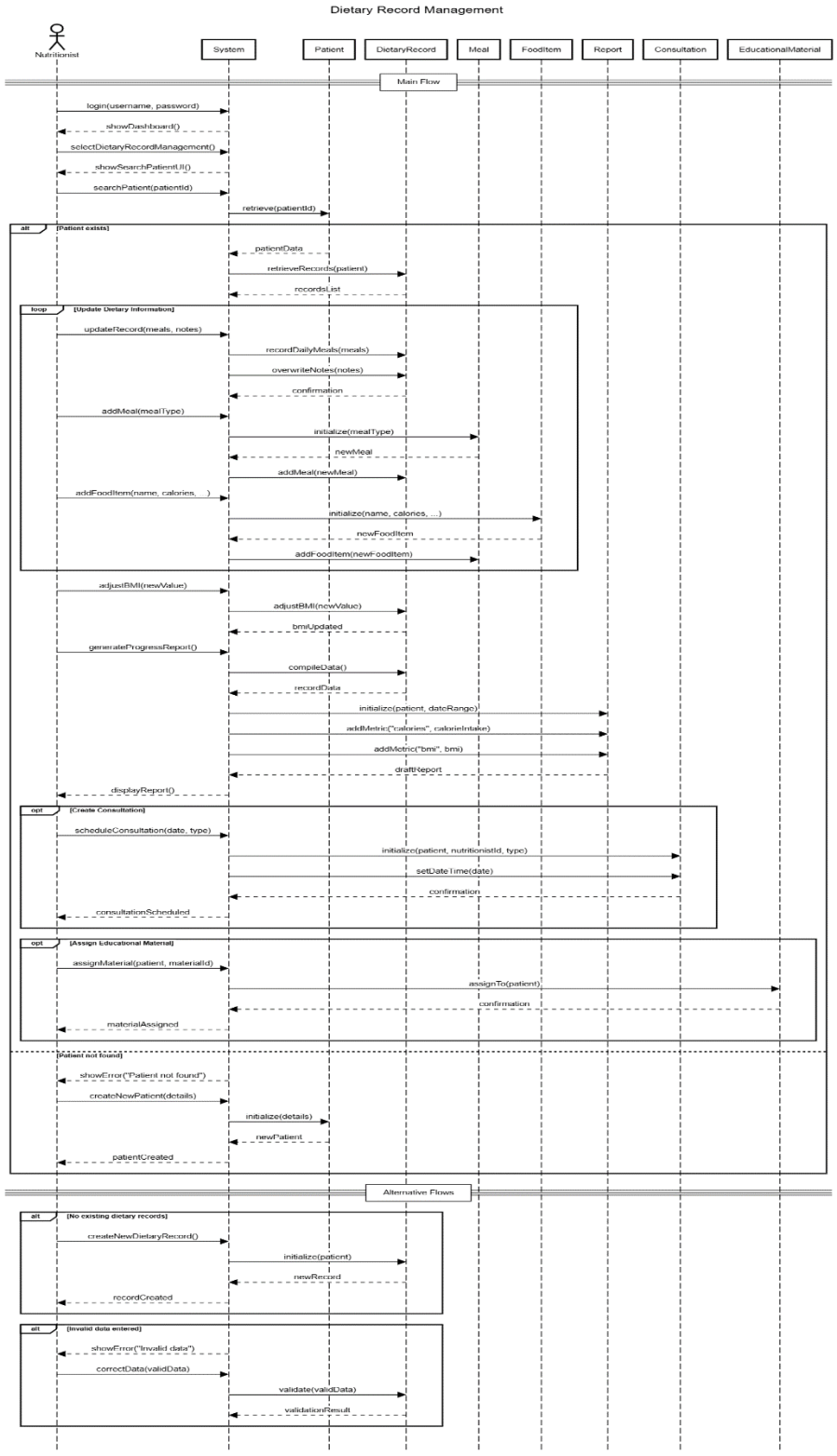
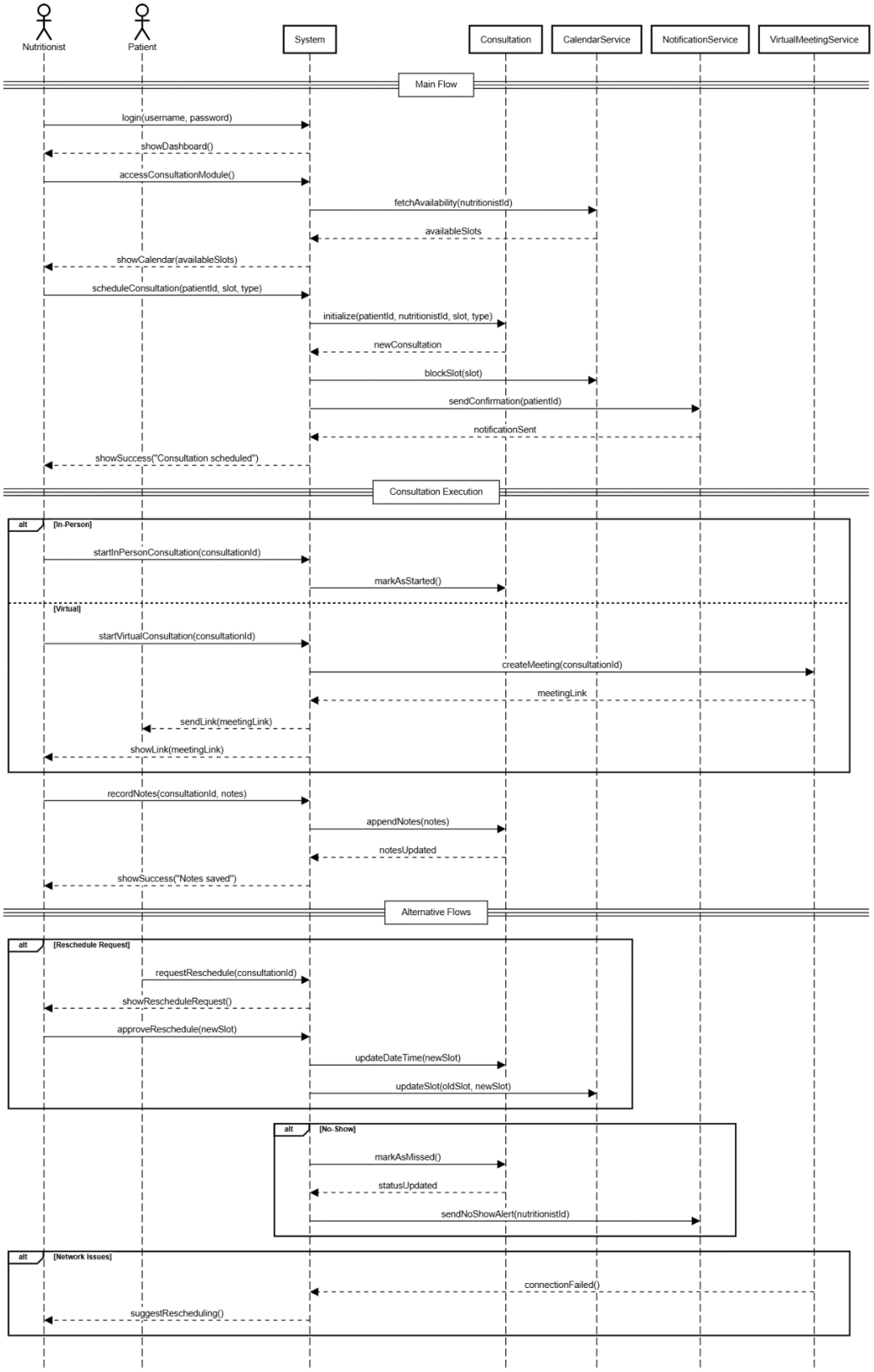
Sequence Diagram

Belina Durmishi:

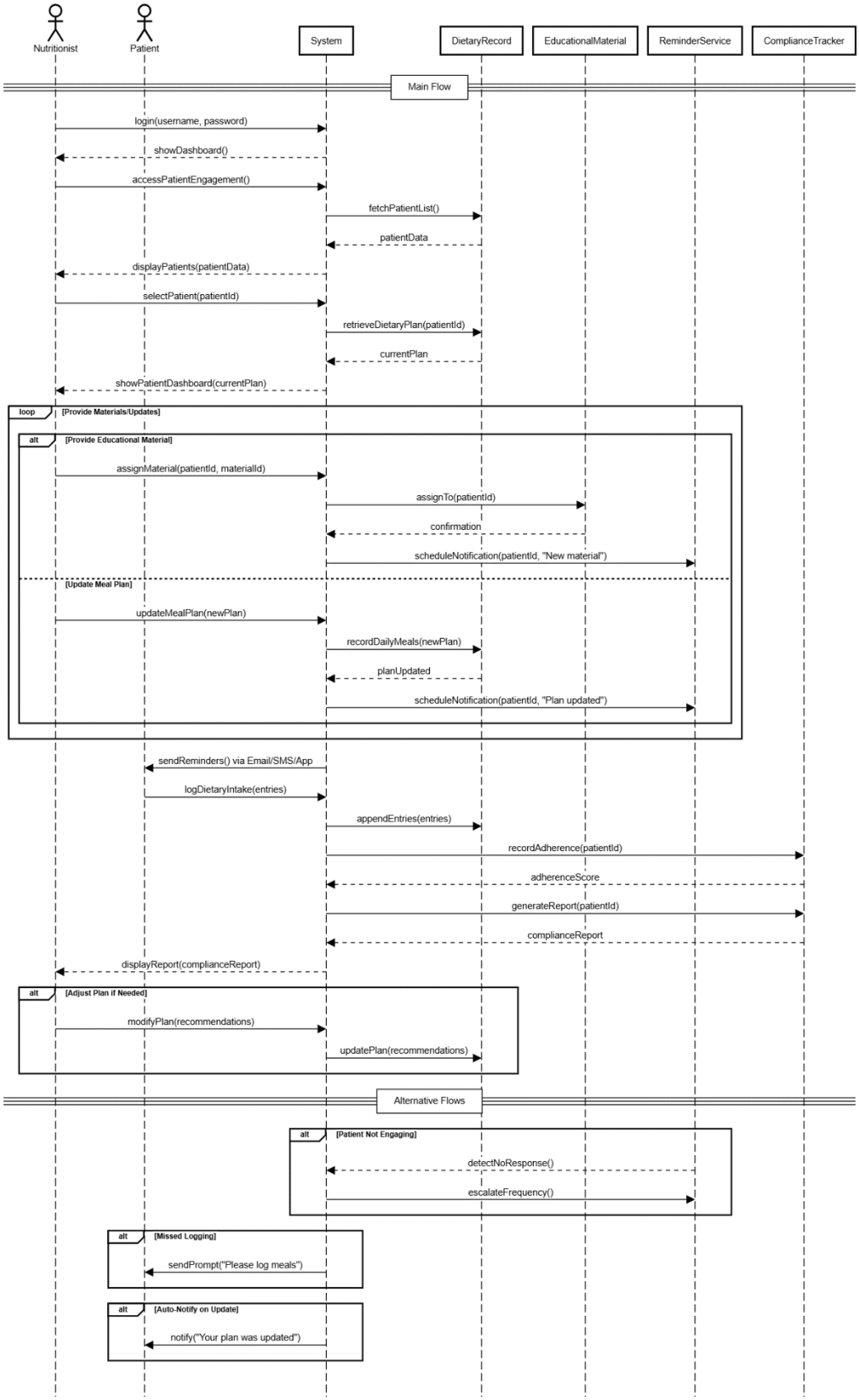


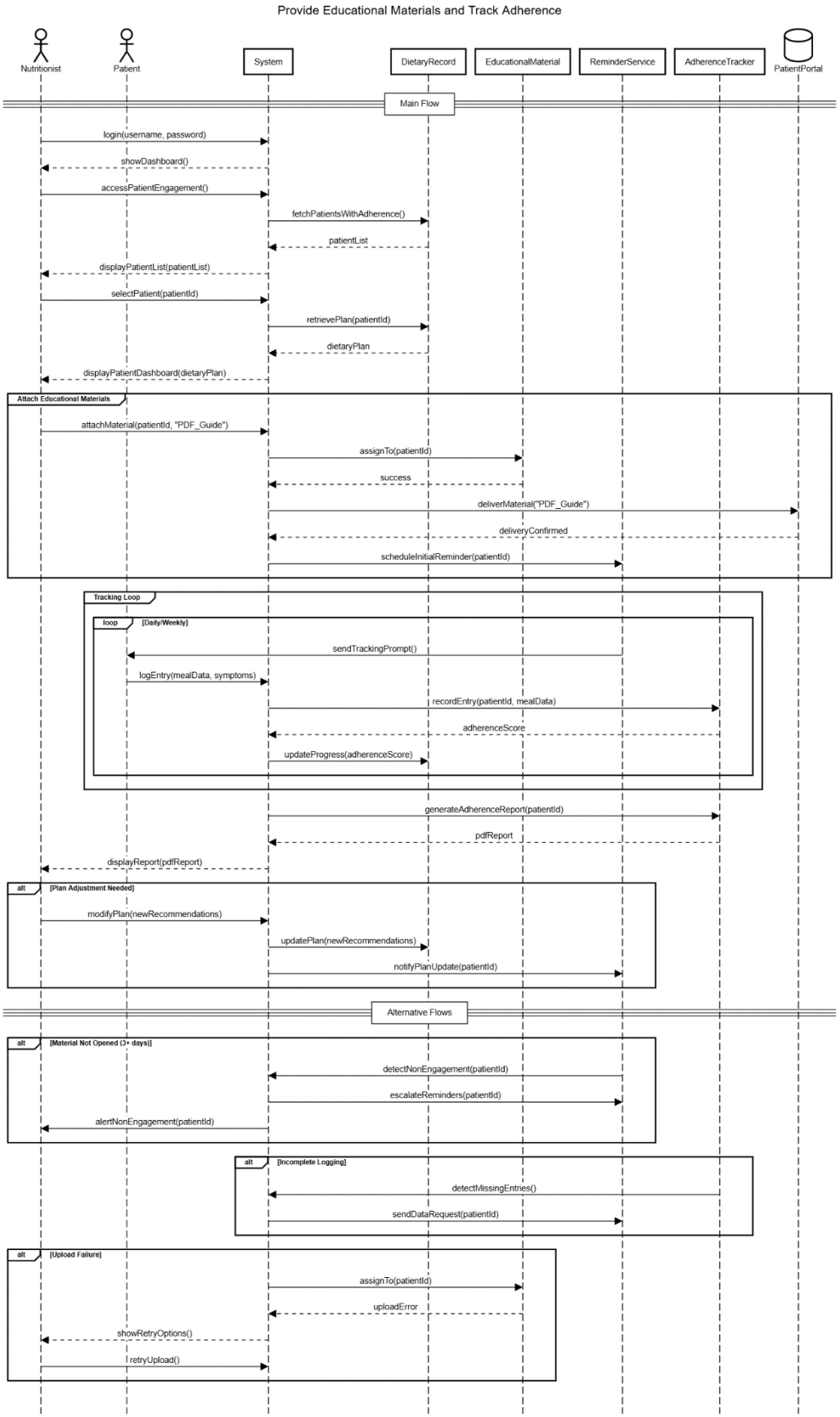

Dietary Record Management
Nutritionist
System
Patient
DietaryRecord
Meal
FoodItem
Report
Consultation
EducationalMaterial
Main Flow
login(username, password)
showDashboard()
selectDietaryRecordManagement()
showSearchPatientUI()
searchPatient(patientId)
retrieve(patientId)
alt
[Patient exists]
patientData
retrieveRecords(patient)
recordsList
loop
[Update Dietary Information]
updateRecord(meals, notes)
recordDailyMeals(meals)
overwriteNotes(notes)
confirmation
addMeal(mealType)
initialize(mealType)
newMeal
addMeal(newMeal)
addFoodItem(name, calories, ...)
initialize(name, calories, ...)
newFoodItem
addFoodItem(newFoodItem)
adjustBMI(newValue)
adjustBMI(newValue)
bmiUpdated
generateProgressReport()
compileData()
recordData
initialize(patient, dateRange)
addMetric("calories", calorieIntake)
addMetric("bmi", bmi)
draftReport
displayReport()
opt
[Create Consultation]
scheduleConsultation(date, type)
initialize(patient, nutritionistId, type)
setDateTime(date)
confirmation
consultationScheduled
opt
[Assign Educational Material]
assignMaterial(patient, materialId)
assignTo(patient)
confirmation
materialAssigned
[Patient not found]
showError("Patient not found")
createNewPatient(details)
initialize(details)
newPatient
patientCreated
Alternative Flows
alt
[No existing dietary records]
createNewDietaryRecord()
initialize(patient)
newRecord
recordCreated
alt
[Invalid data entered]
showError("Invalid data")
correctData(validData)
validate(validData)
validationResult

Consultation Management



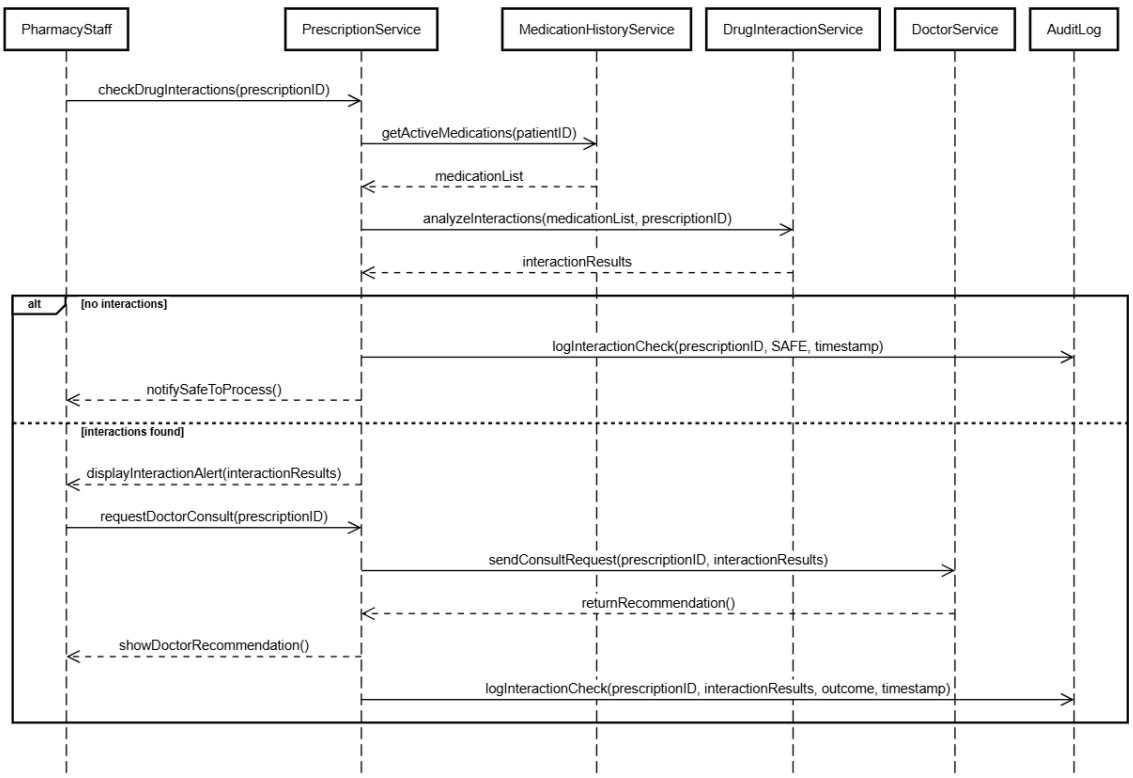
Patient Engagement & Compliance - Sequence Diagram



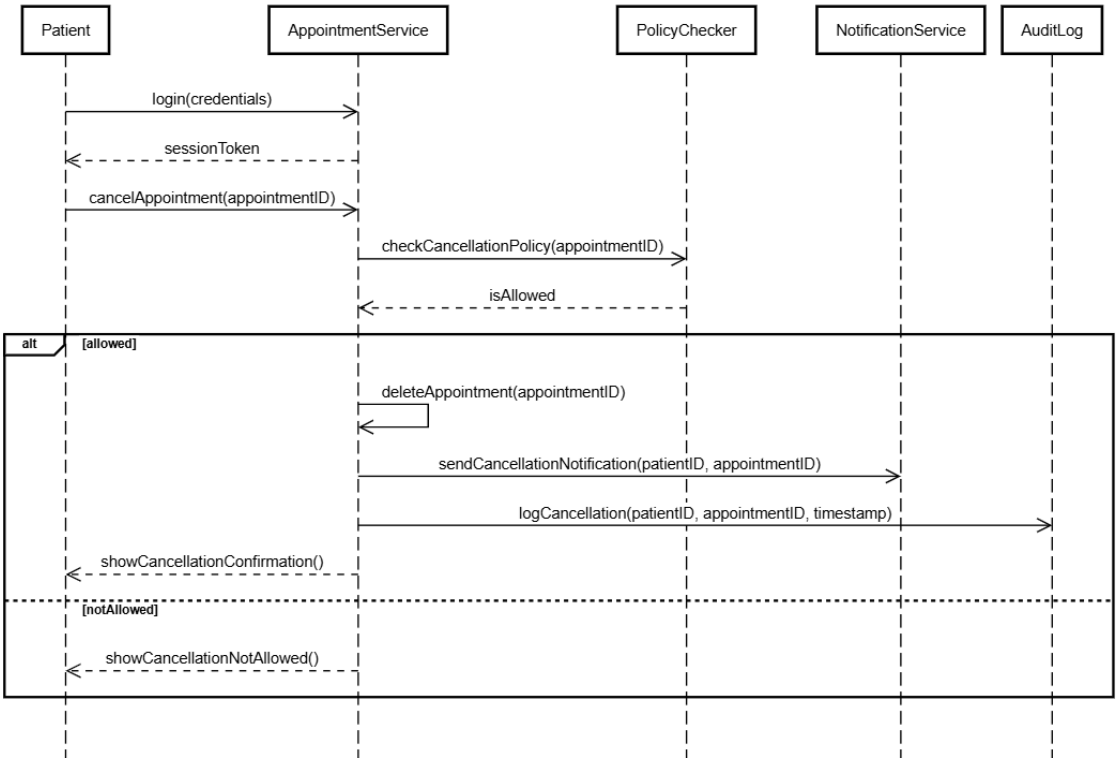

Provide Educational Materials and Track Adherence
Nutritionist
Patient
System
DietaryRecord
EducationalMaterial
ReminderService
AdherenceTracker
PatientPortal
Main Flow
login(username, password)
showDashboard()
accessPatientEngagement()
fetchPatientsWithAdherence()
patientList
displayPatientList(patientList)
selectPatient(patientId)
retrievePlan(patientId)
dietaryPlan
displayPatientDashboard(dietaryPlan)
Attach Educational Materials
attachMaterial(patientId, "PDF_Guide")
assignTo(patientId)
success
deliverMaterial("PDF_Guide")
deliveryConfirmed
scheduleInitialReminder(patientId)
Tracking Loop
loop
[Daily/Weekly]
sendTrackingPrompt()
logEntry(mealData, symptoms)
recordEntry(patientId, mealData)
adherenceScore
updateProgress(adherenceScore)
generateAdherenceReport(patientId)
pdfReport
displayReport(pdfReport)
alt
[Plan Adjustment Needed]
modifyPlan(newRecommendations)
updatePlan(newRecommendations)
notifyPlanUpdate(patientId)
Alternative Flows
alt
[Material Not Opened (3+ days)]
detectNonEngagement(patientId)
escalateReminders(patientId)
alertNonEngagement(patientId)
alt
[Incomplete Logging]
detectMissingEntries()
sendDataRequest(patientId)
alt
[Upload Failure]
assignTo(patientId)
uploadError
showRetryOptions()
retryUpload()

Elisona Doku:

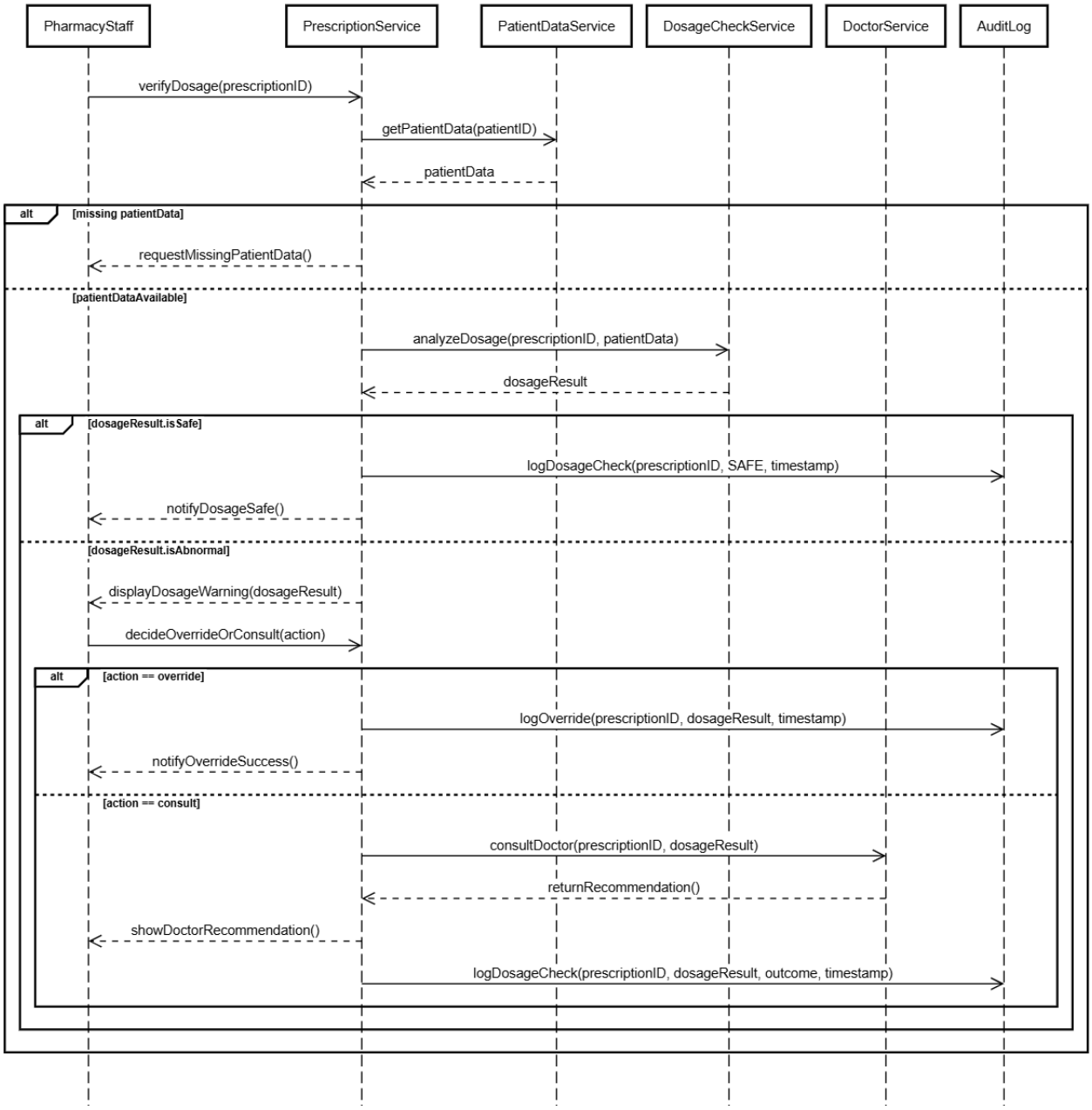
UC_PH_04 Check Drug Interactions

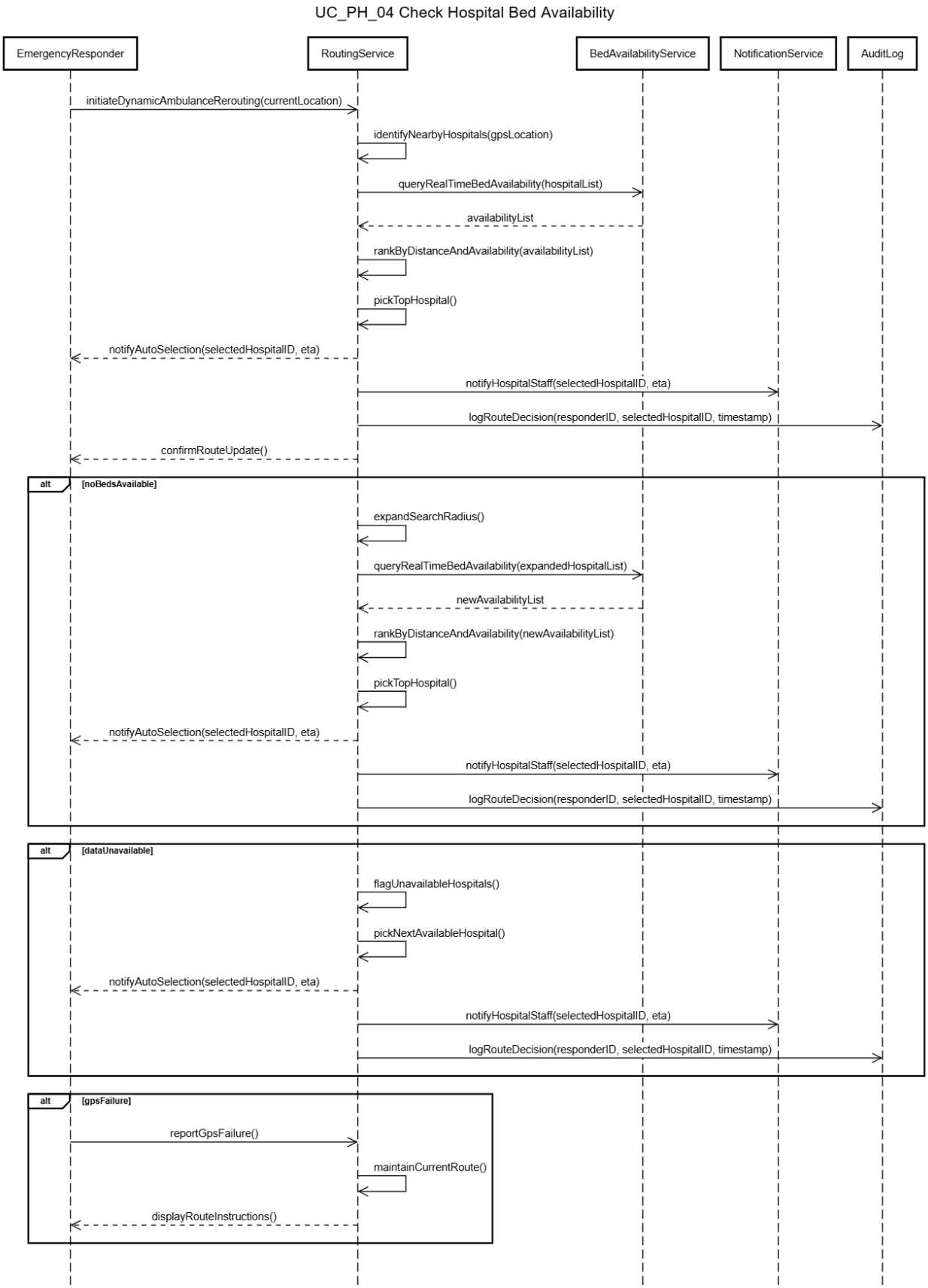


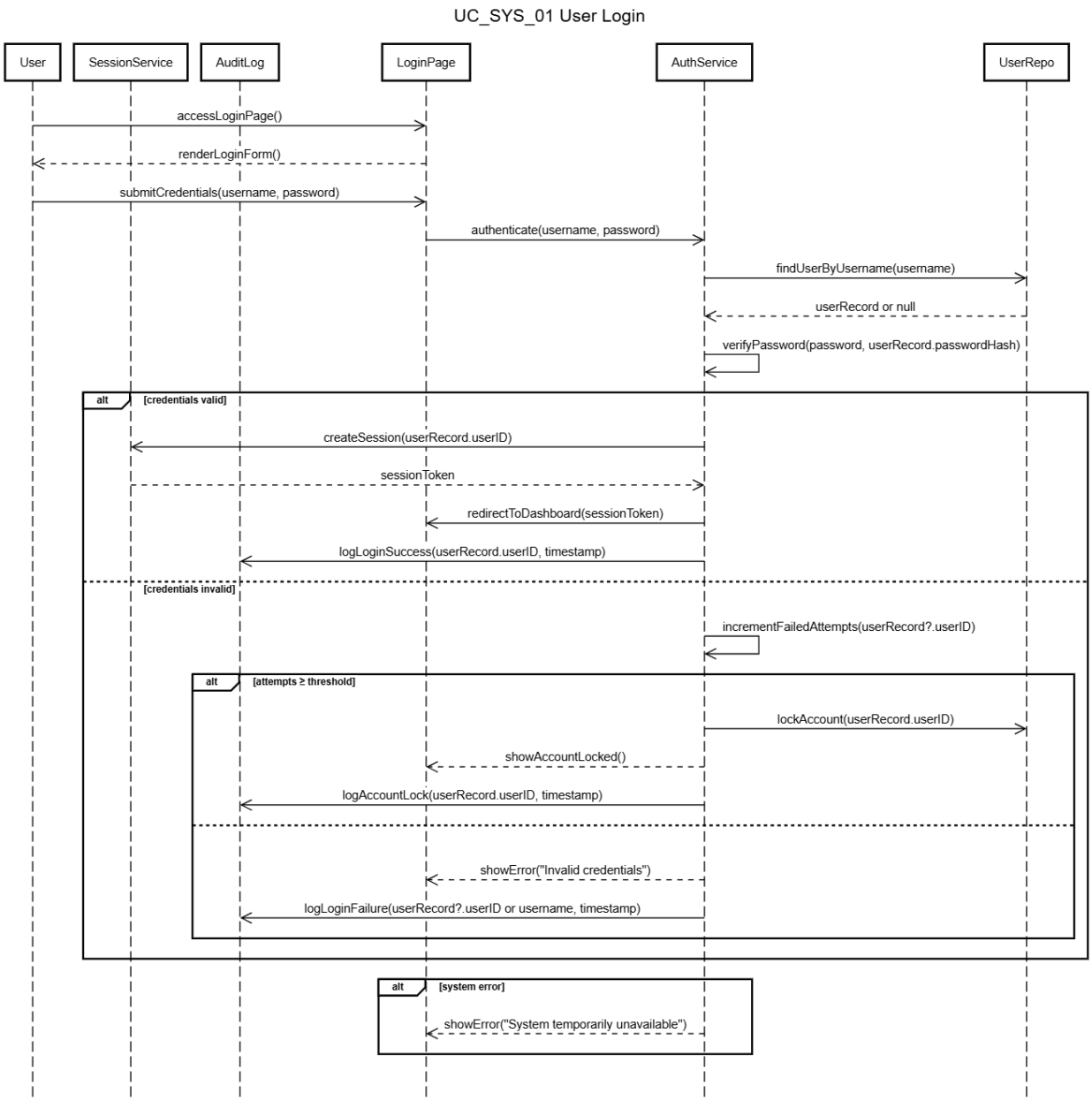
UC_PT_09 Cancel Appointment



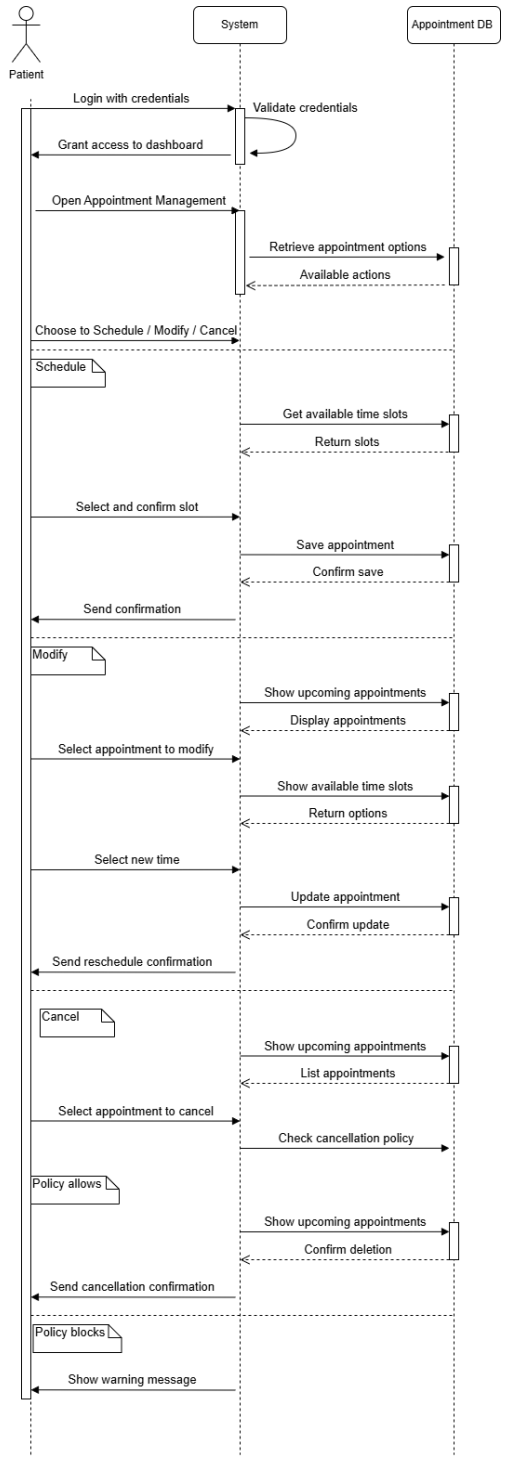
UC_PH_05 Check Dosage Errors

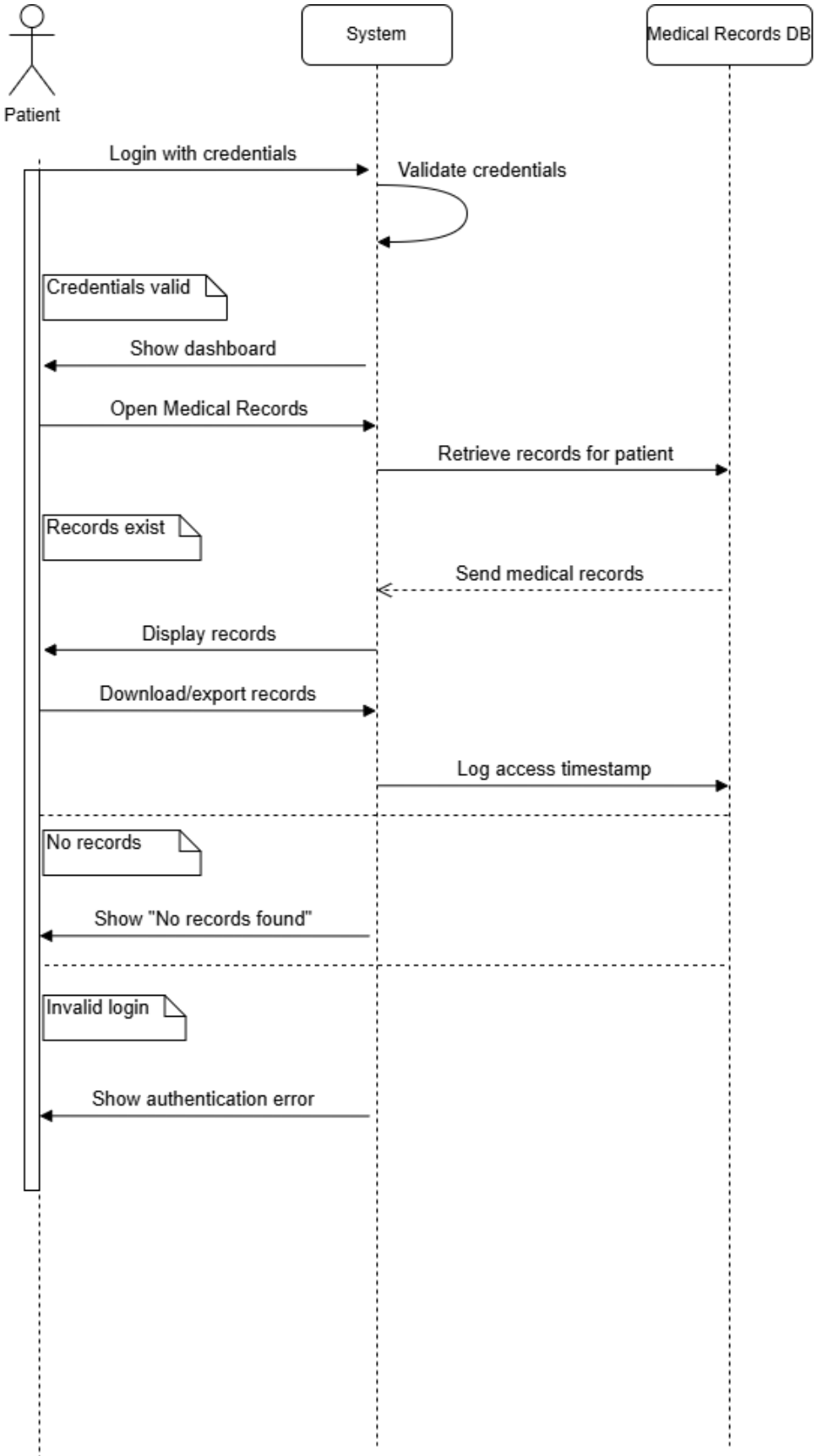


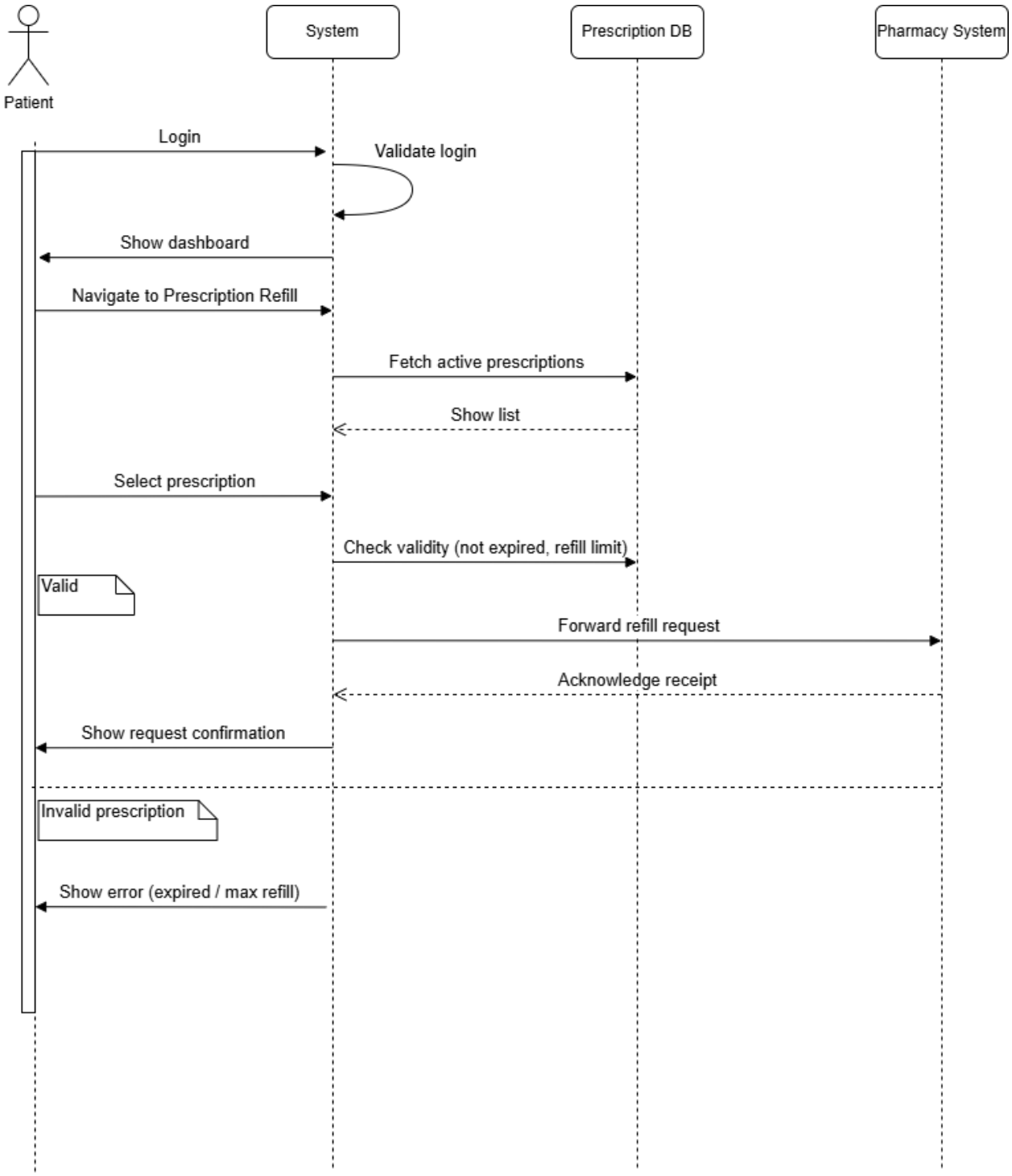

UC_PH_04 Check Hospital Bed Availability
EmergencyResponder
RoutingService
BedAvailabilityService
NotificationService
AuditLog
initiateDynamicAmbulanceRerouting(currentLocation)
identifyNearbyHospitals(gpsLocation)
queryRealTimeBedAvailability(hospitalList)
availabilityList
rankByDistanceAndAvailability(availabilityList)
pickTopHospital()
notifyAutoSelection(selectedHospitalID, eta)
notifyHospitalStaff(selectedHospitalID, eta)
logRouteDecision(responderID, selectedHospitalID, timestamp)
confirmRouteUpdate()
alt
[noBedsAvailable]
expandSearchRadius()
queryRealTimeBedAvailability(expandedHospitalList)
newAvailabilityList
rankByDistanceAndAvailability(newAvailabilityList)
pickTopHospital()
notifyAutoSelection(selectedHospitalID, eta)
notifyHospitalStaff(selectedHospitalID, eta)
logRouteDecision(responderID, selectedHospitalID, timestamp)
alt
[dataUnavailable]
flagUnavailableHospitals()
pickNextAvailableHospital()
notifyAutoSelection(selectedHospitalID, eta)
notifyHospitalStaff(selectedHospitalID, eta)
logRouteDecision(responderID, selectedHospitalID, timestamp)
alt
[gpsFailure]
reportGpsFailure()
maintainCurrentRoute()
displayRouteInstructions()

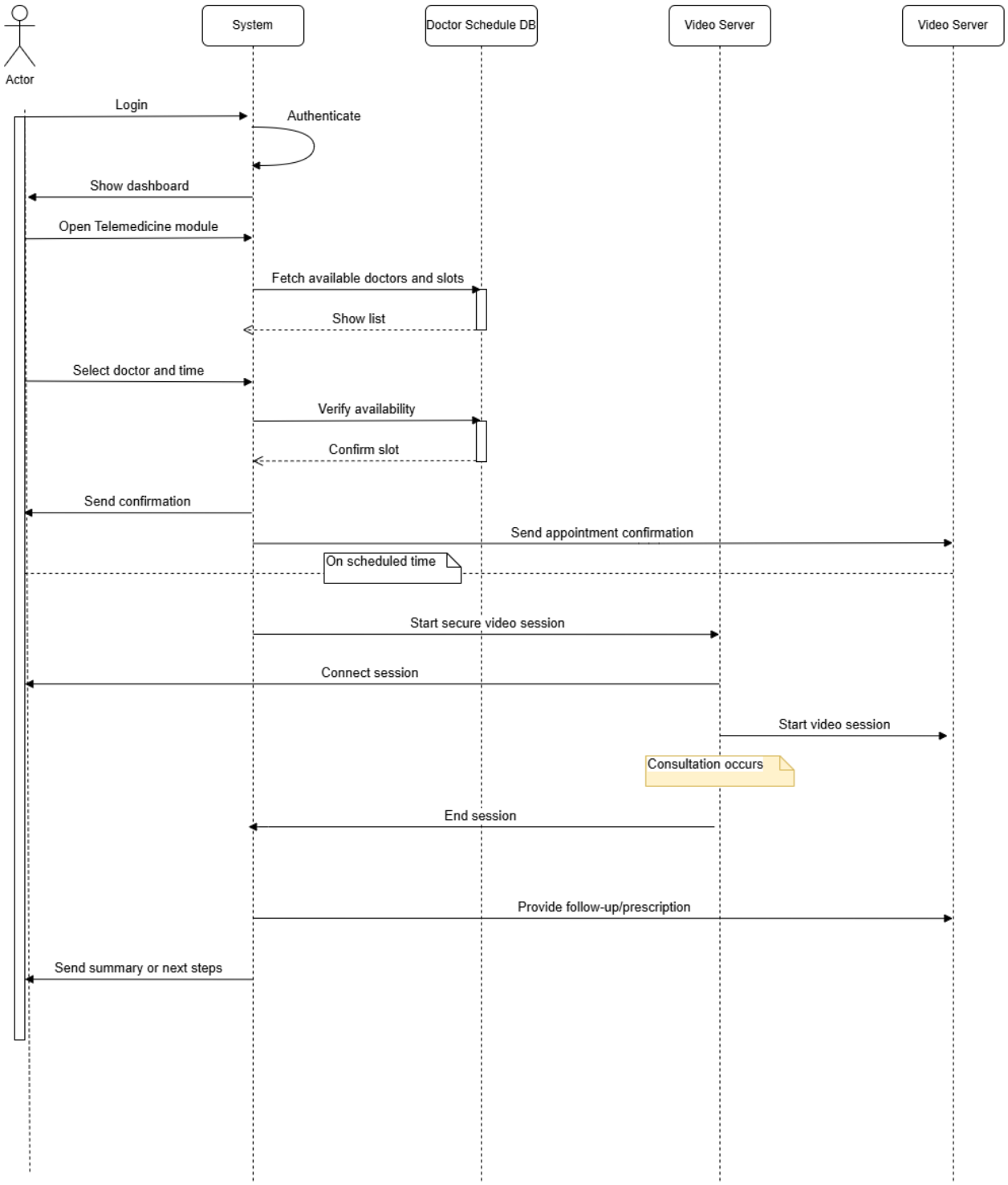

UC_SYS_01 User Login
User
SessionService
AuditLog
LoginPage
AuthService
UserRepo
accessLoginPage()
renderLoginForm()
submitCredentials(username, password)
authenticate(username, password)
findUserByUsername(username)
userRecord or null
verifyPassword(password, userRecord.passwordHash)
alt
[credentials valid]
createSession(userRecord.userID)
sessionToken
redirectToDashboard(sessionToken)
logLoginSuccess(userRecord.userID, timestamp)
[credentials invalid]
incrementFailedAttempts(userRecord?.userID)
alt
[attempts ≥ threshold]
lockAccount(userRecord.userID)
showAccountLocked()
logAccountLock(userRecord.userID, timestamp)
showError("Invalid credentials")
logLoginFailure(userRecord?.userID or username, timestamp)
alt
[system error]
showError("System temporarily unavailable")

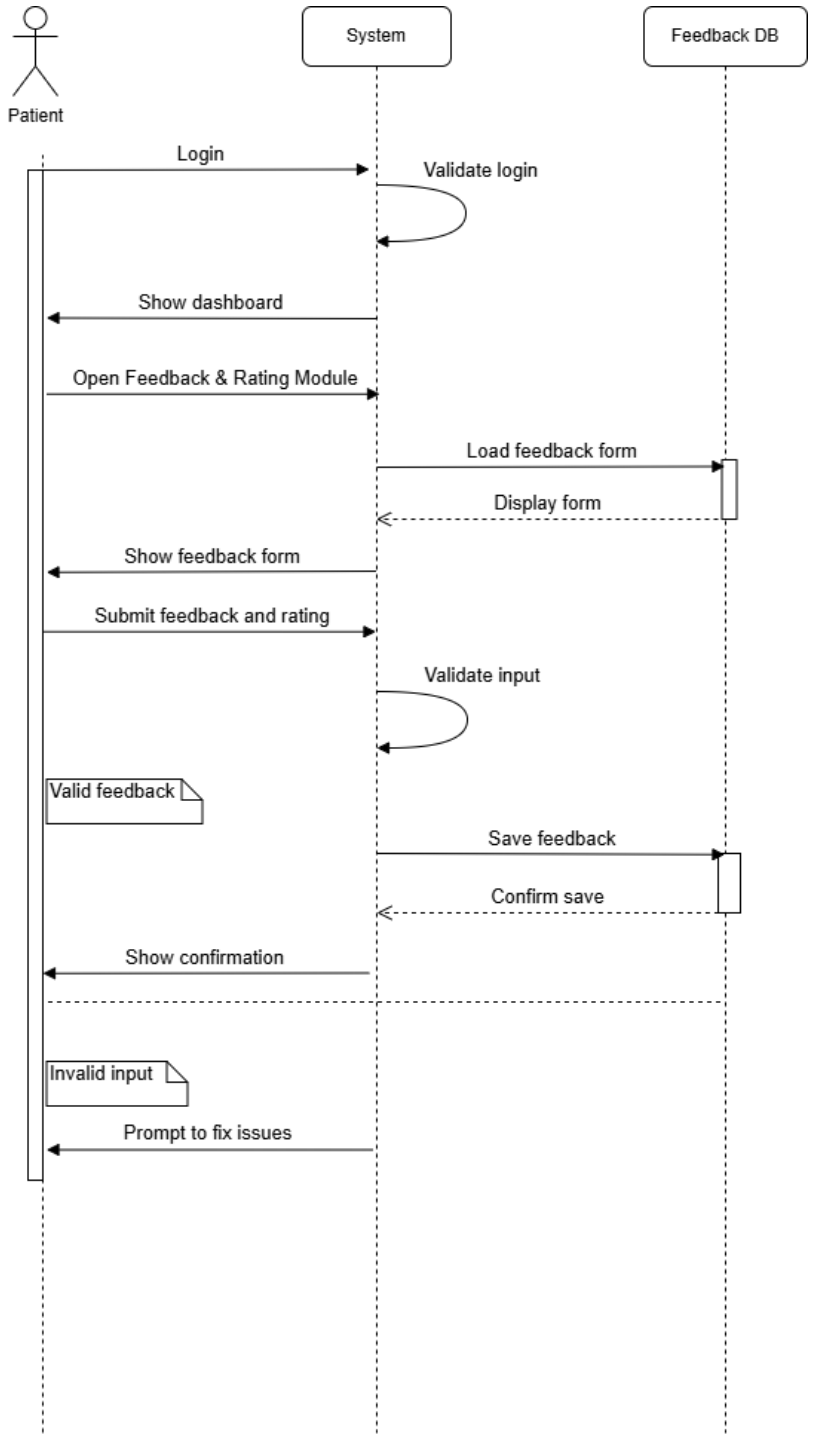
Evelina Gace:




Patient
System
Medical Records DB
Login with credentials
Validate credentials
Credentials valid
Show dashboard
Open Medical Records
Retrieve records for patient
Records exist
Send medical records
Display records
Download/export records
Log access timestamp
No records
Show "No records found"
Invalid login
Show authentication error


Patient
System
Prescription DB
Pharmacy System
Login
Validate login
Show dashboard
Navigate to Prescription Refill
Fetch active prescriptions
Show list
Select prescription
Check validity (not expired, refill limit)
Valid
Forward refill request
Acknowledge receipt
Show request confirmation
Invalid prescription
Show error (expired / max refill)


Actor
System
Doctor Schedule DB
Video Server
Video Server
Login
Authenticate
Show dashboard
Open Telemedicine module
Fetch available doctors and slots
Show list
Select doctor and time
Verify availability
Confirm slot
Send confirmation
Send appointment confirmation
On scheduled time
Start secure video session
Connect session
Start video session
Consultation occurs
End session
Provide follow-up/prescription
Send summary or next steps


Patient
System
Feedback DB
Login
Validate login
Show dashboard
Open Feedback & Rating Module
Load feedback form
Display form
Show feedback form
Submit feedback and rating
Validate input
Valid feedback
Save feedback
Confirm save
Show confirmation
Invalid input
Prompt to fix issues