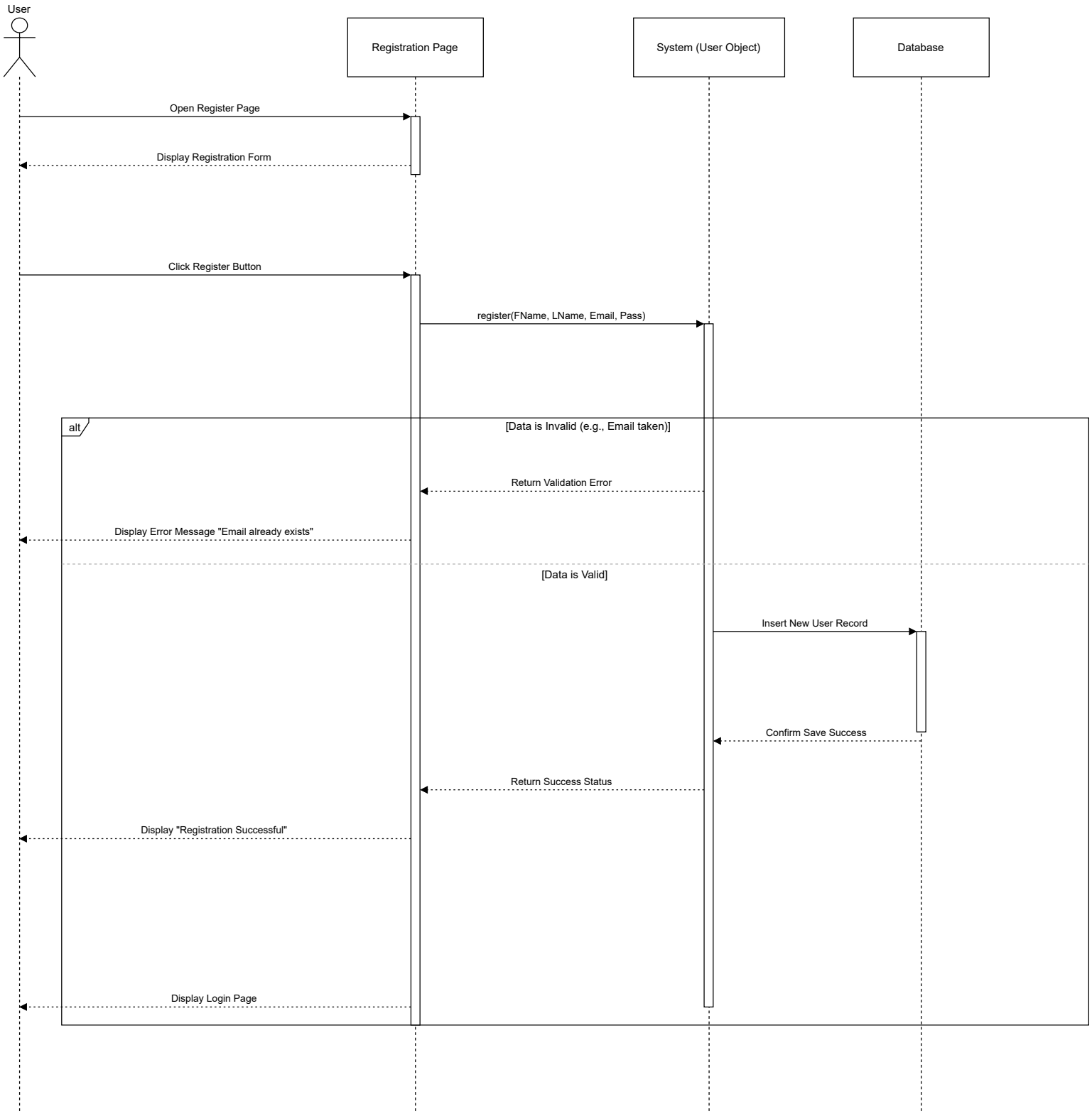
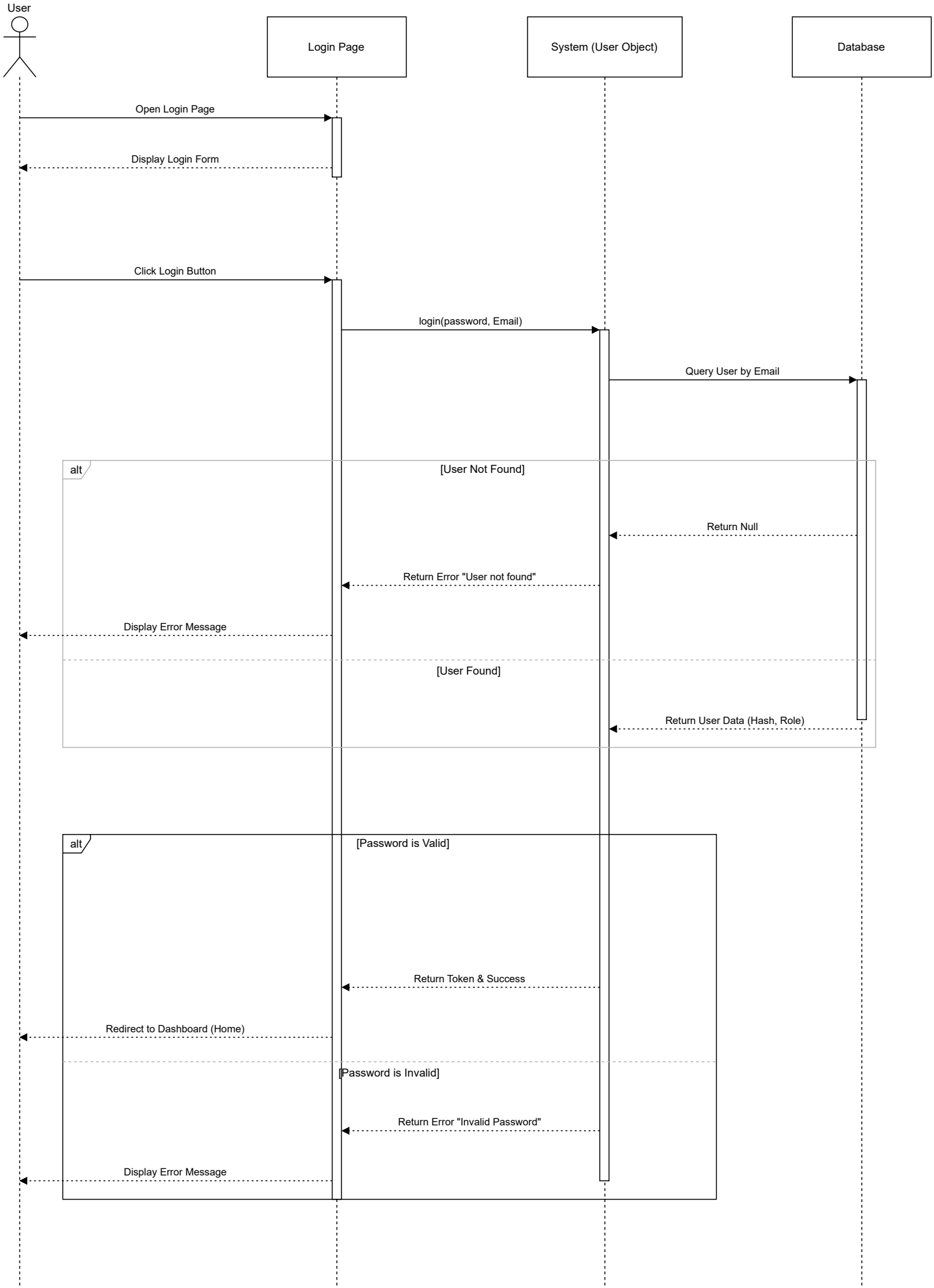
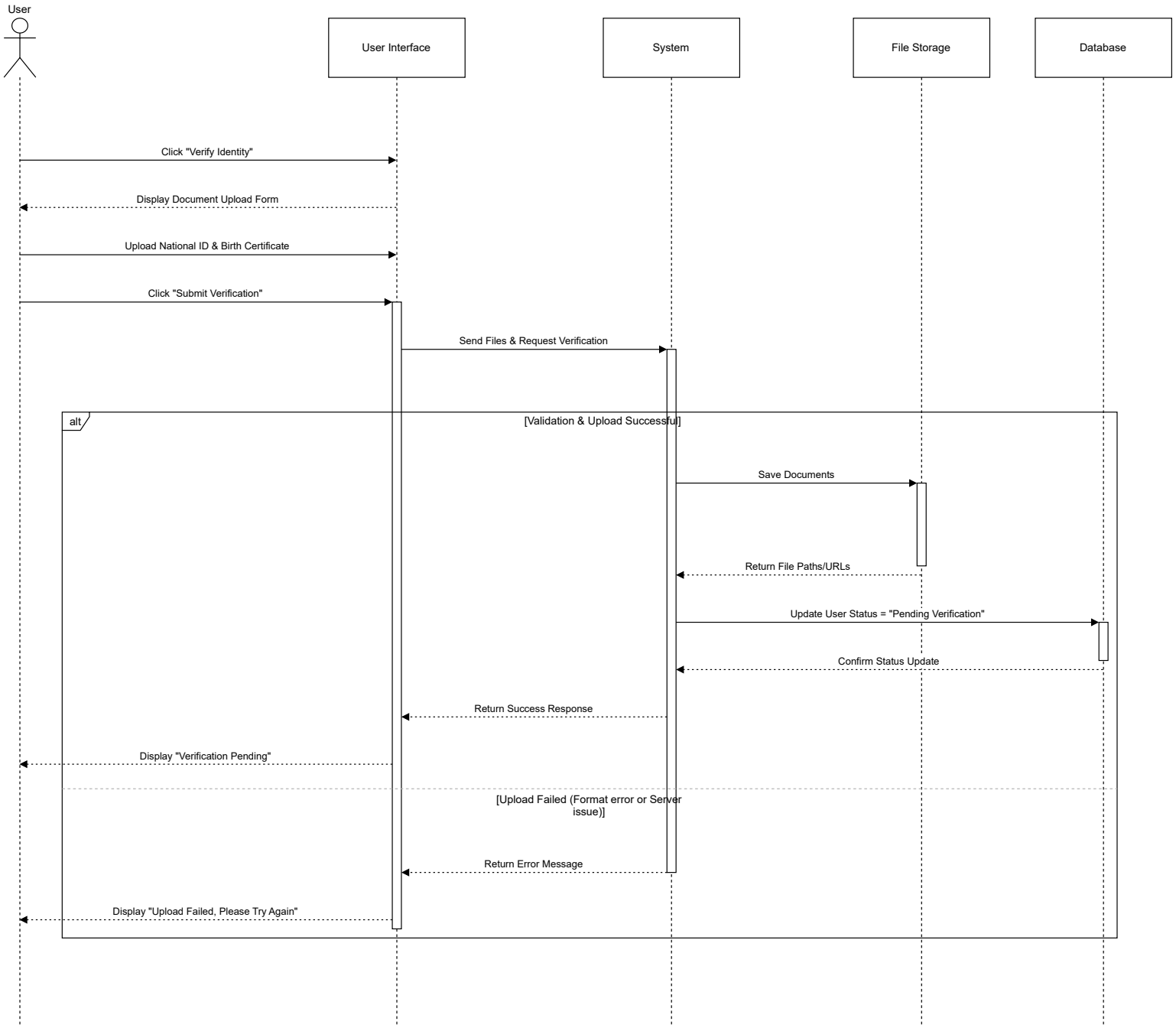
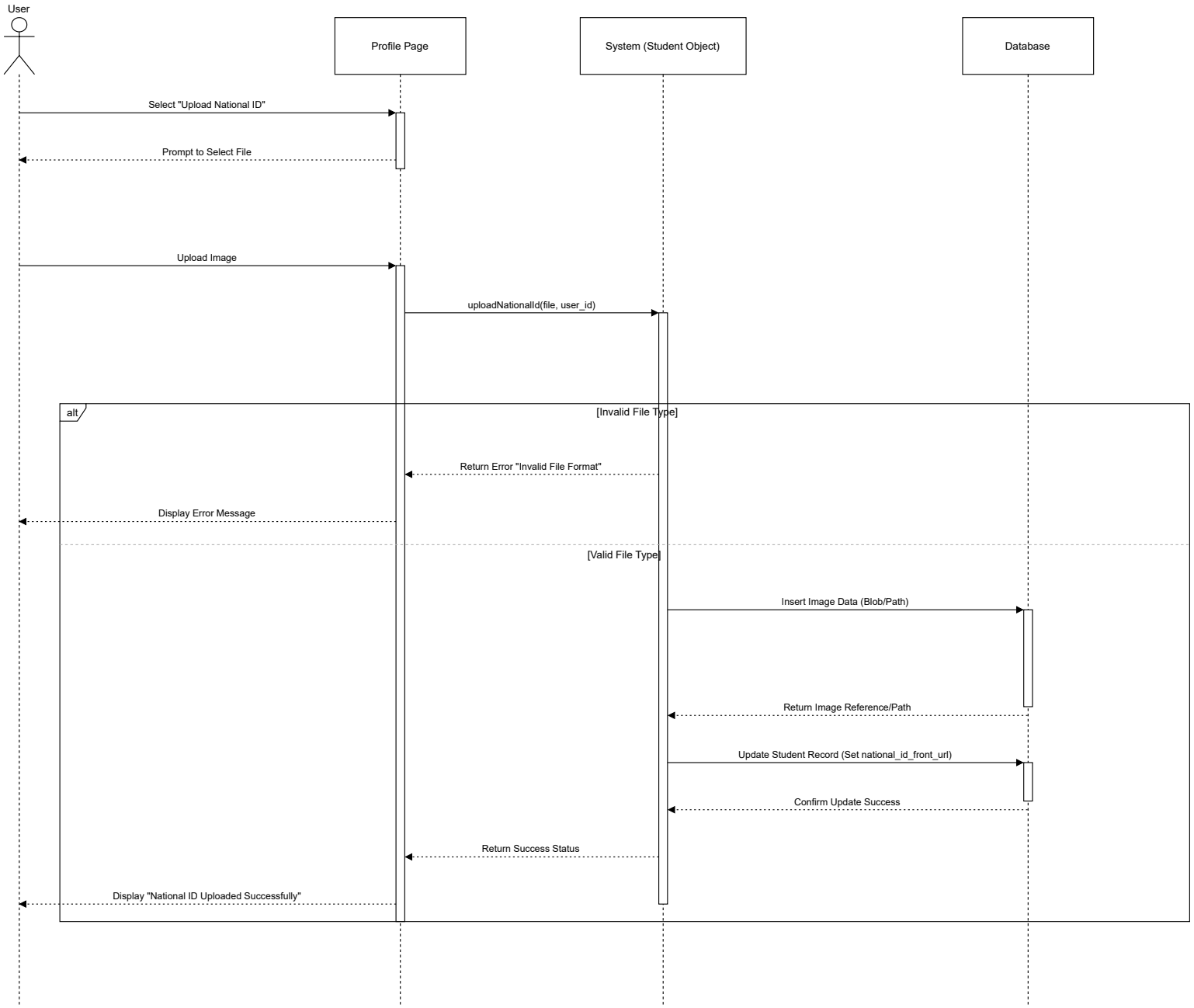
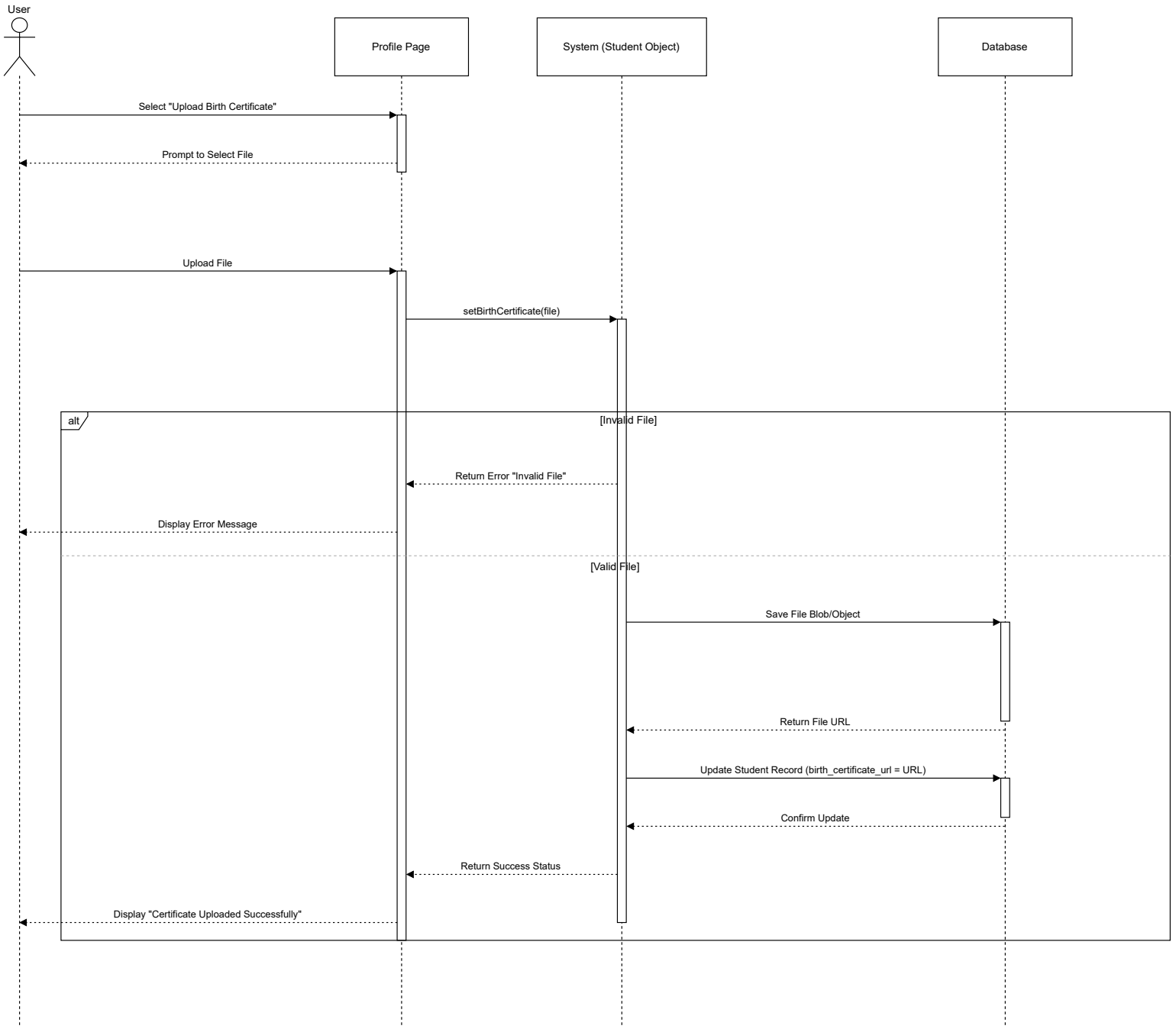
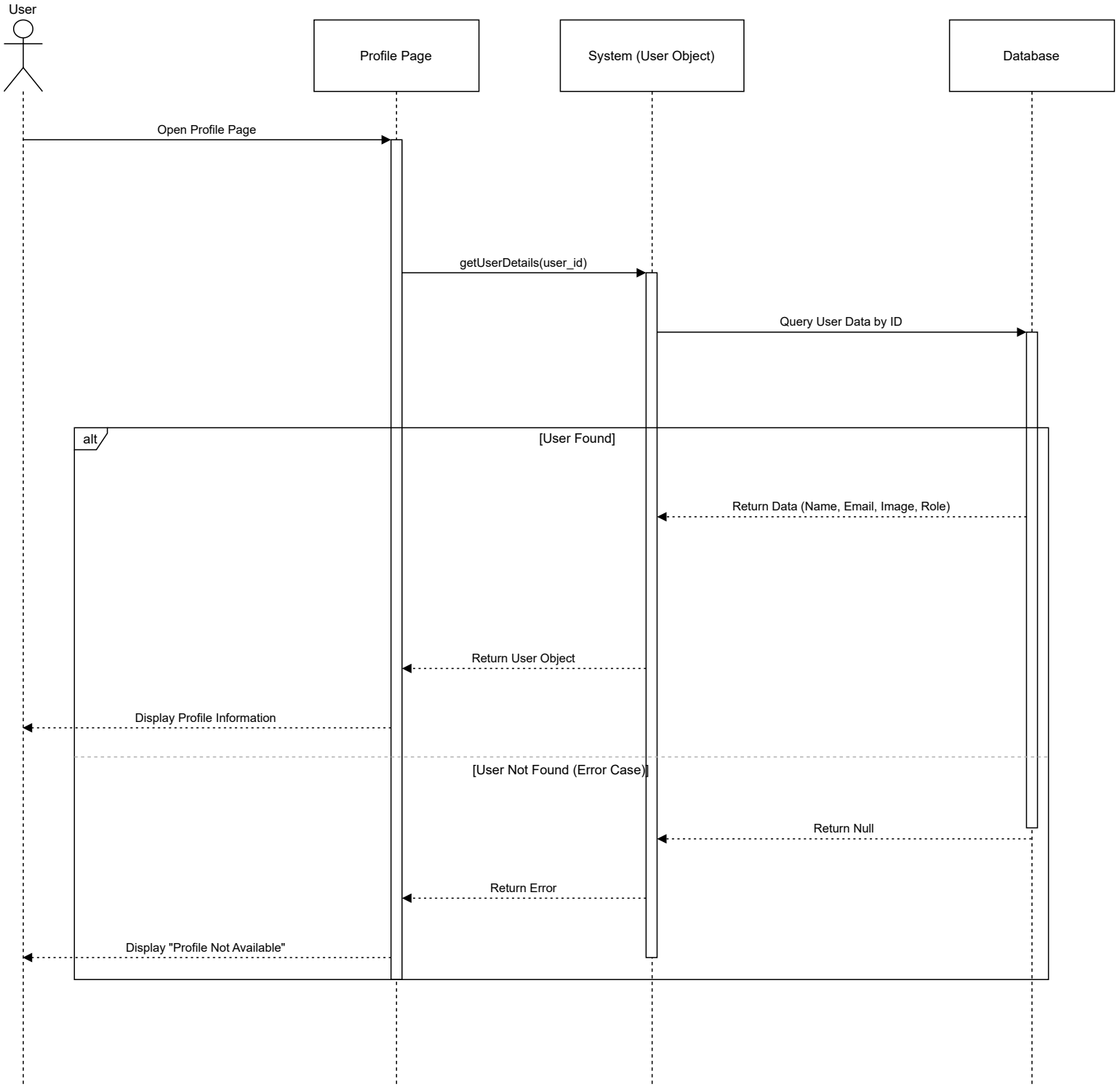

User
Registration Page
System (User Object)
Database
Open Register Page
Display Registration Form
Click Register Button
register(FName, LName, Email, Pass)
alt
[Data is Invalid (e.g., Email taken)]
Return Validation Error
Display Error Message "Email already exists"
[Data is Valid]
Insert New User Record
Confirm Save Success
Return Success Status
Display "Registration Successful"
Display Login Page

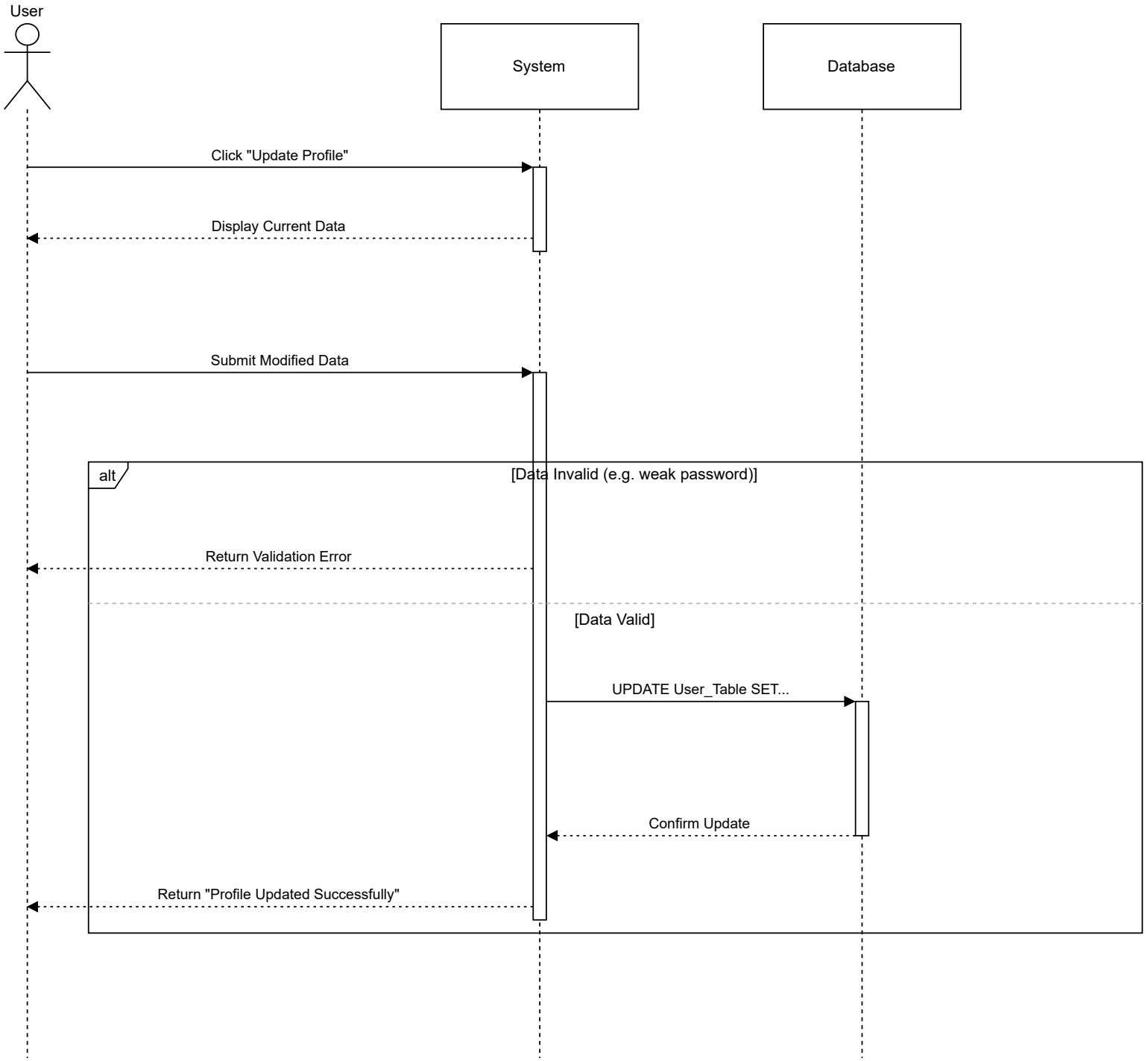

User
Login Page
System (User Object)
Database
Open Login Page
Display Login Form
Click Login Button
login(password, Email)
Query User by Email
alt
[User Not Found]
Return Null
Return Error "User not found"
Display Error Message
[User Found]
Return User Data (Hash, Role)
alt
[Password is Valid]
Return Token & Success
Redirect to Dashboard (Home)
[Password is Invalid]
Return Error "Invalid Password"
Display Error Message

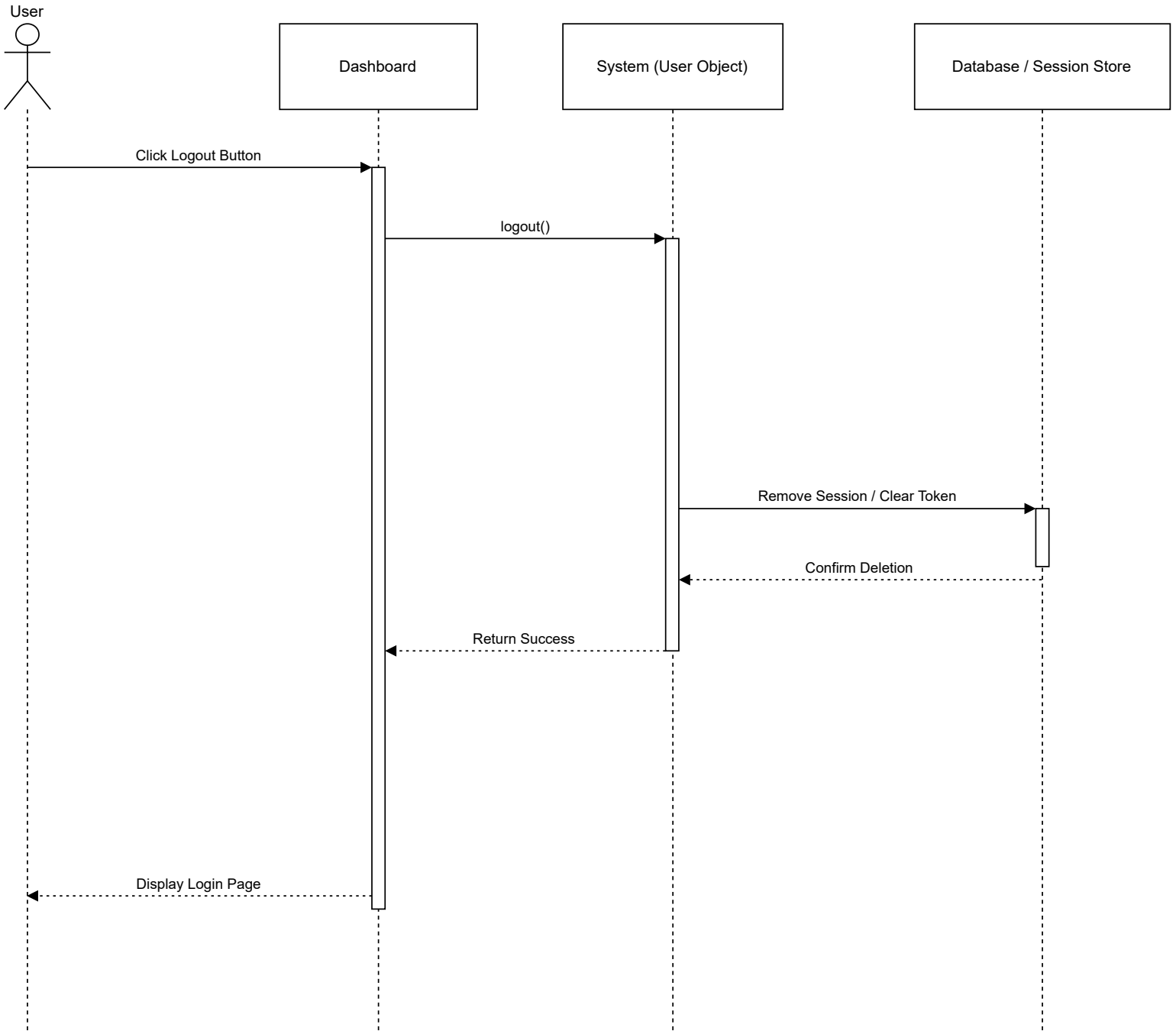

User
User Interface
System
File Storage
Database
Click "Verify Identity"
Display Document Upload Form
Upload National ID & Birth Certificate
Click "Submit Verification"
Send Files & Request Verification
alt
[Validation & Upload Successful]
Save Documents
Return File Paths/URLs
Update User Status = "Pending Verification"
Confirm Status Update
Return Success Response
Display "Verification Pending"
[Upload Failed (Format error or Server issue)]
Return Error Message
Display "Upload Failed, Please Try Again"

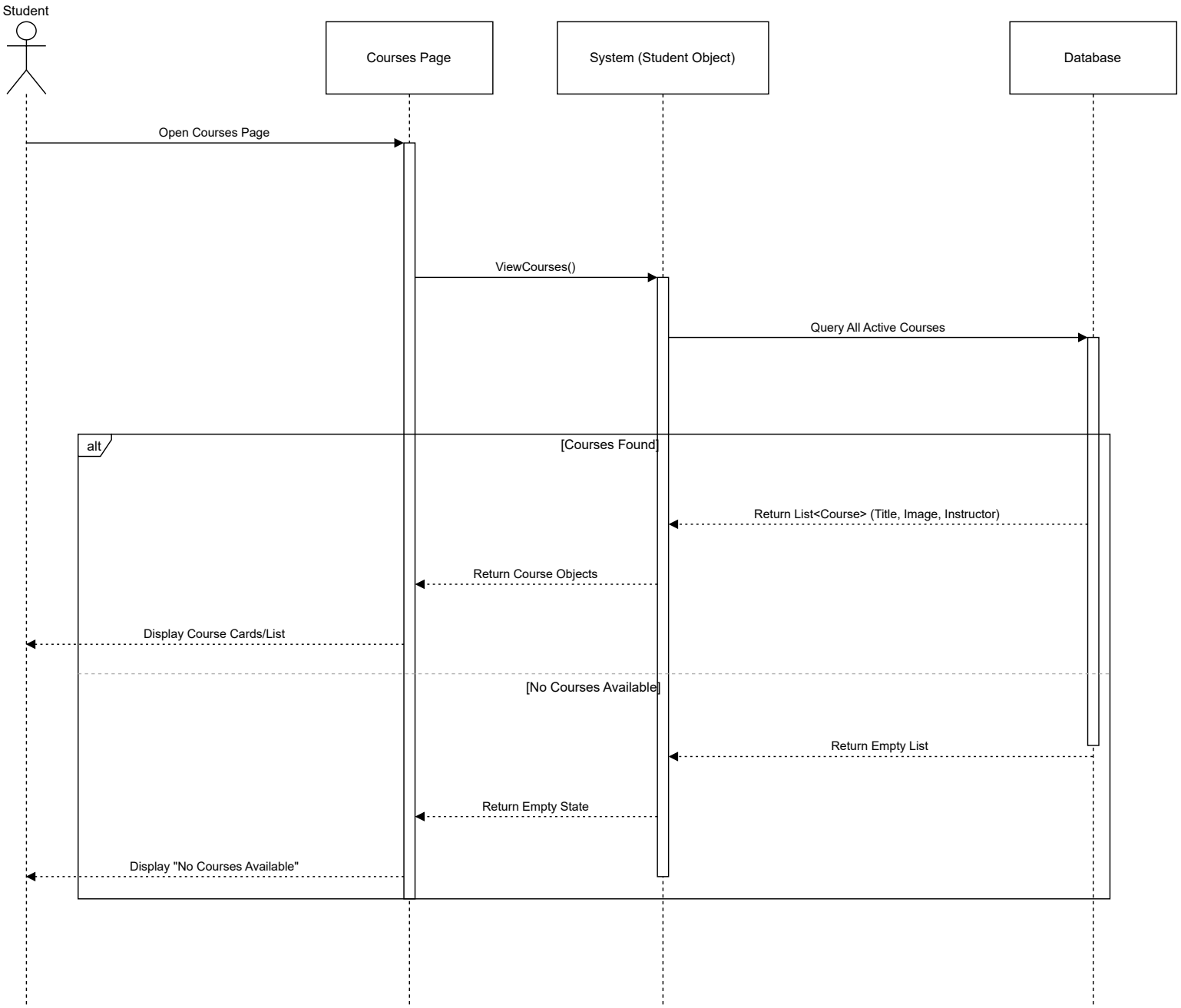

User
Profile Page
System (Student Object)
Database
Select "Upload National ID"
Prompt to Select File
Upload Image
uploadNationalId(file, user_id)
alt
[Invalid File Type]
Return Error "Invalid File Format"
Display Error Message
[Valid File Type]
Insert Image Data (Blob/Path)
Return Image Reference/Path
Update Student Record (Set national_id_front_url)
Confirm Update Success
Return Success Status
Display "National ID Uploaded Successfully"

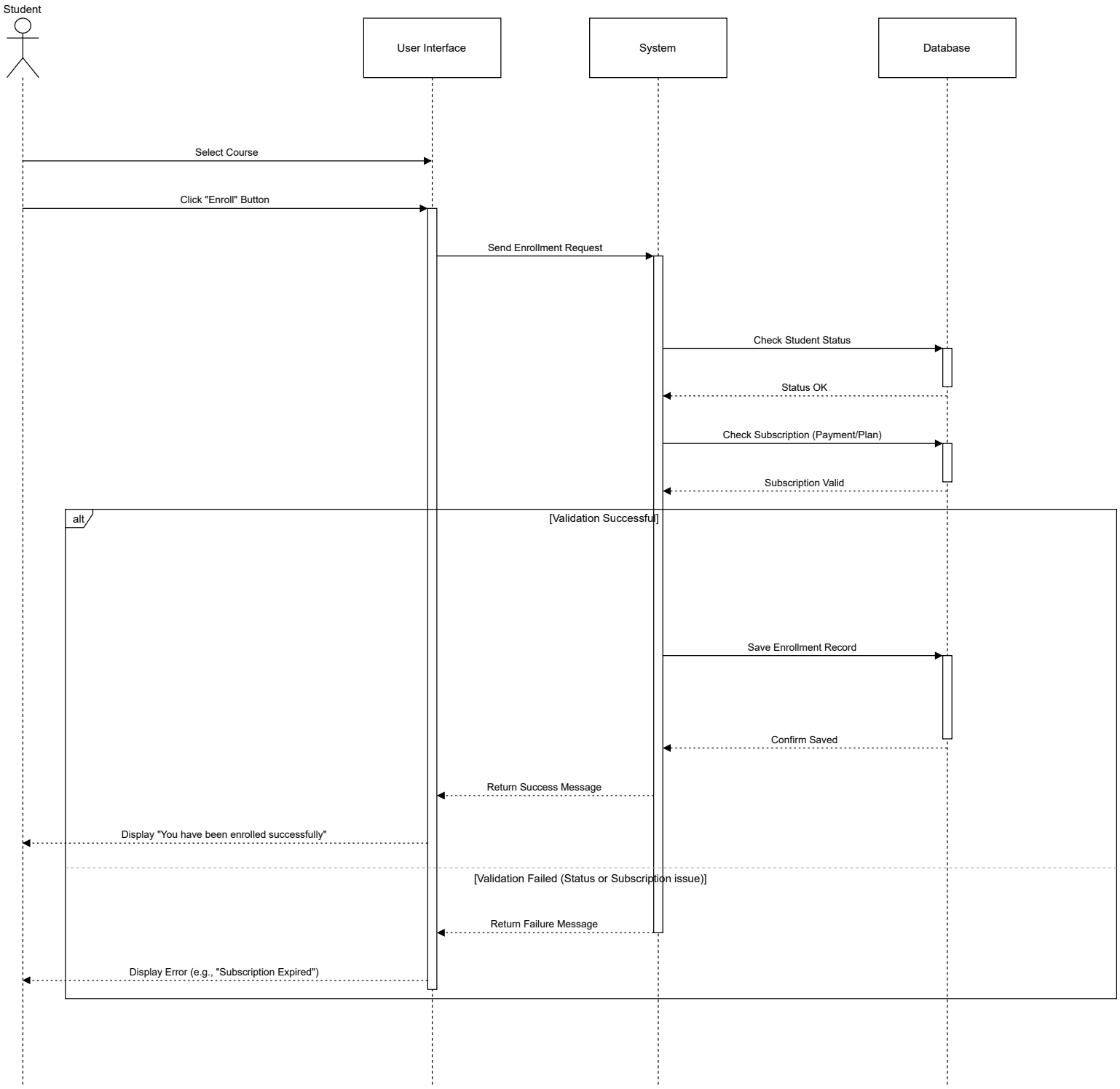

User
Profile Page
System (Student Object)
Database
Select "Upload Birth Certificate"
Prompt to Select File
Upload File
setBirthCertificate(file)
alt
[Invalid File]
Return Error "Invalid File"
Display Error Message
[Valid File]
Save File Blob/Object
Return File URL
Update Student Record (birth_certificate_url = URL)
Confirm Update
Return Success Status
Display "Certificate Uploaded Successfully"

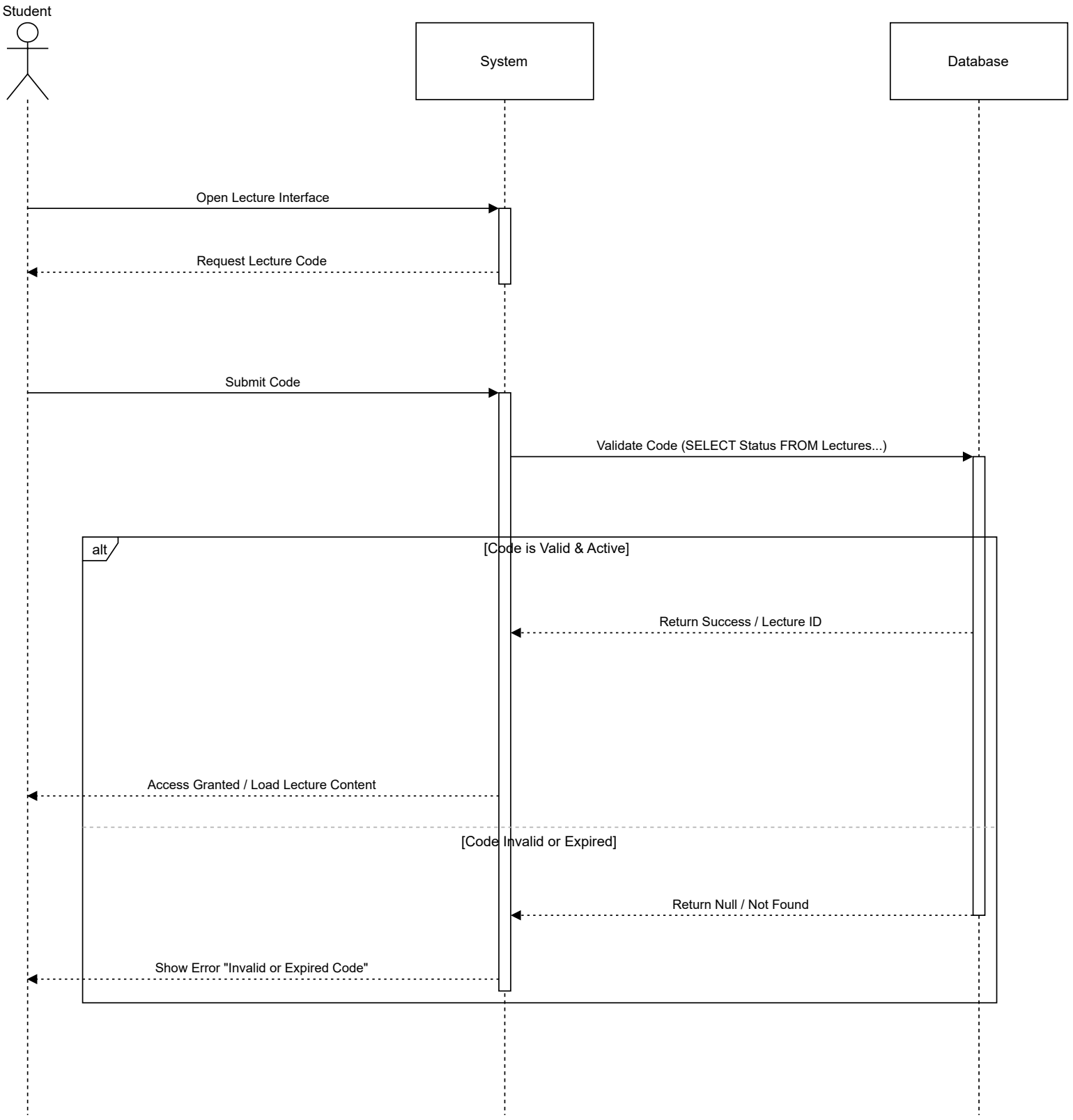

User
Profile Page
System (User Object)
Database
Open Profile Page
getUserDetails(user_id)
Query User Data by ID
alt
[User Found]
Return Data (Name, Email, Image, Role)
Return User Object
Display Profile Information
[User Not Found (Error Case)]
Return Null
Return Error
Display "Profile Not Available"

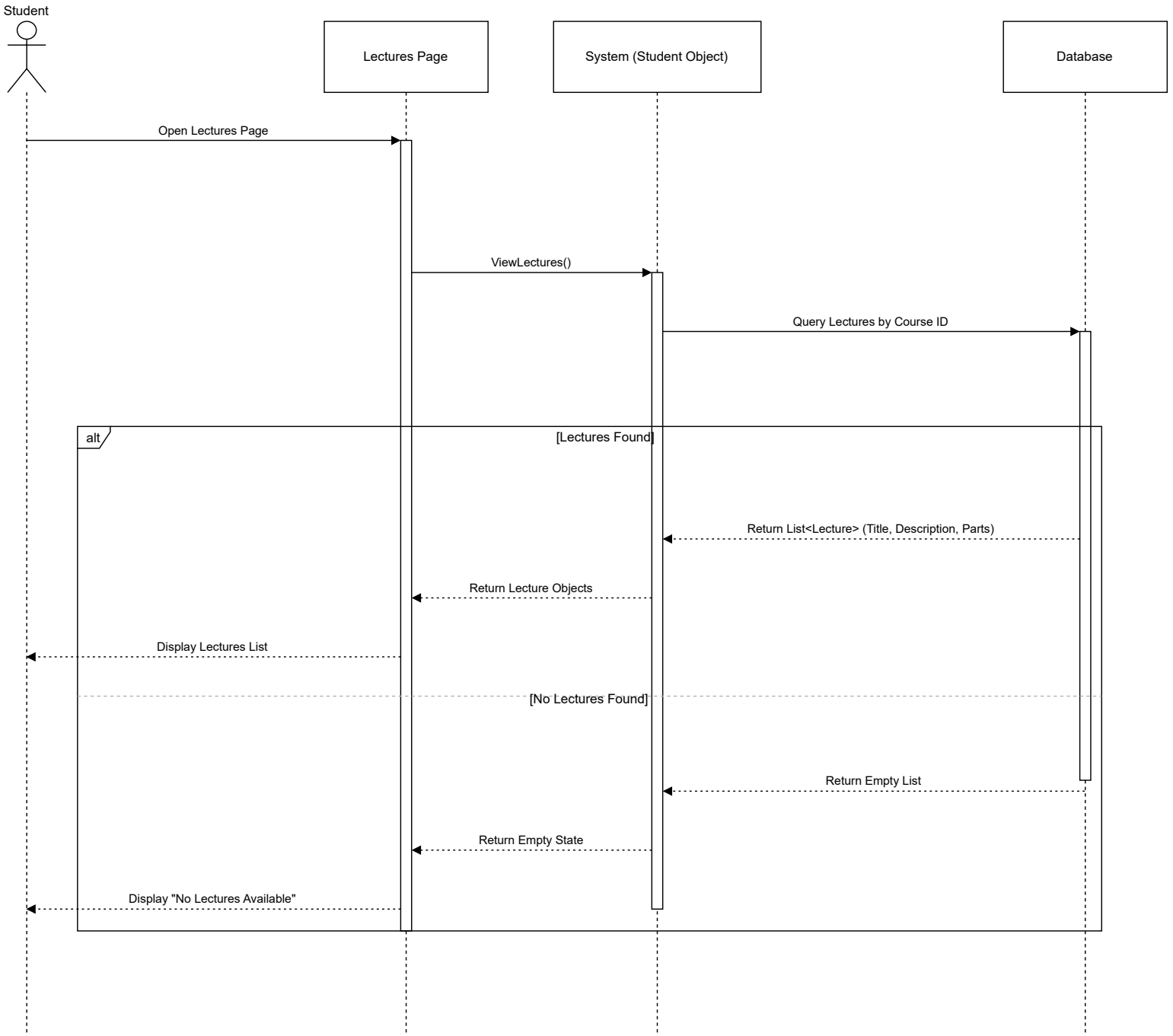

User
System
Database
Click "Update Profile"
Display Current Data
Submit Modified Data
alt
[Data Invalid (e.g. weak password)]
Return Validation Error
[Data Valid]
UPDATE User_Table SET...
Confirm Update
Return "Profile Updated Successfully"

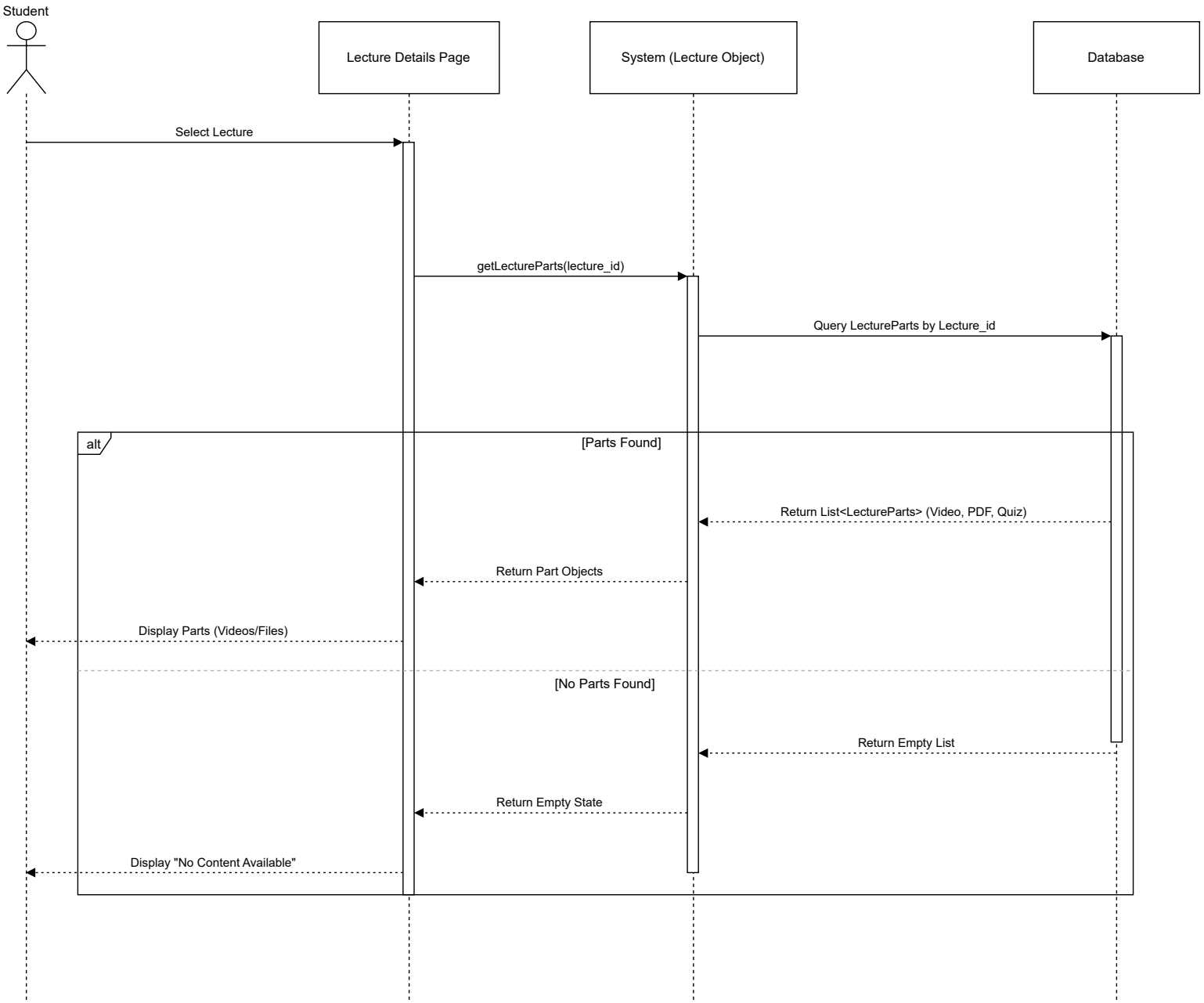

User
Dashboard
System (User Object)
Database / Session Store
Click Logout Button
logout()
Remove Session / Clear Token
Confirm Deletion
Return Success
Display Login Page

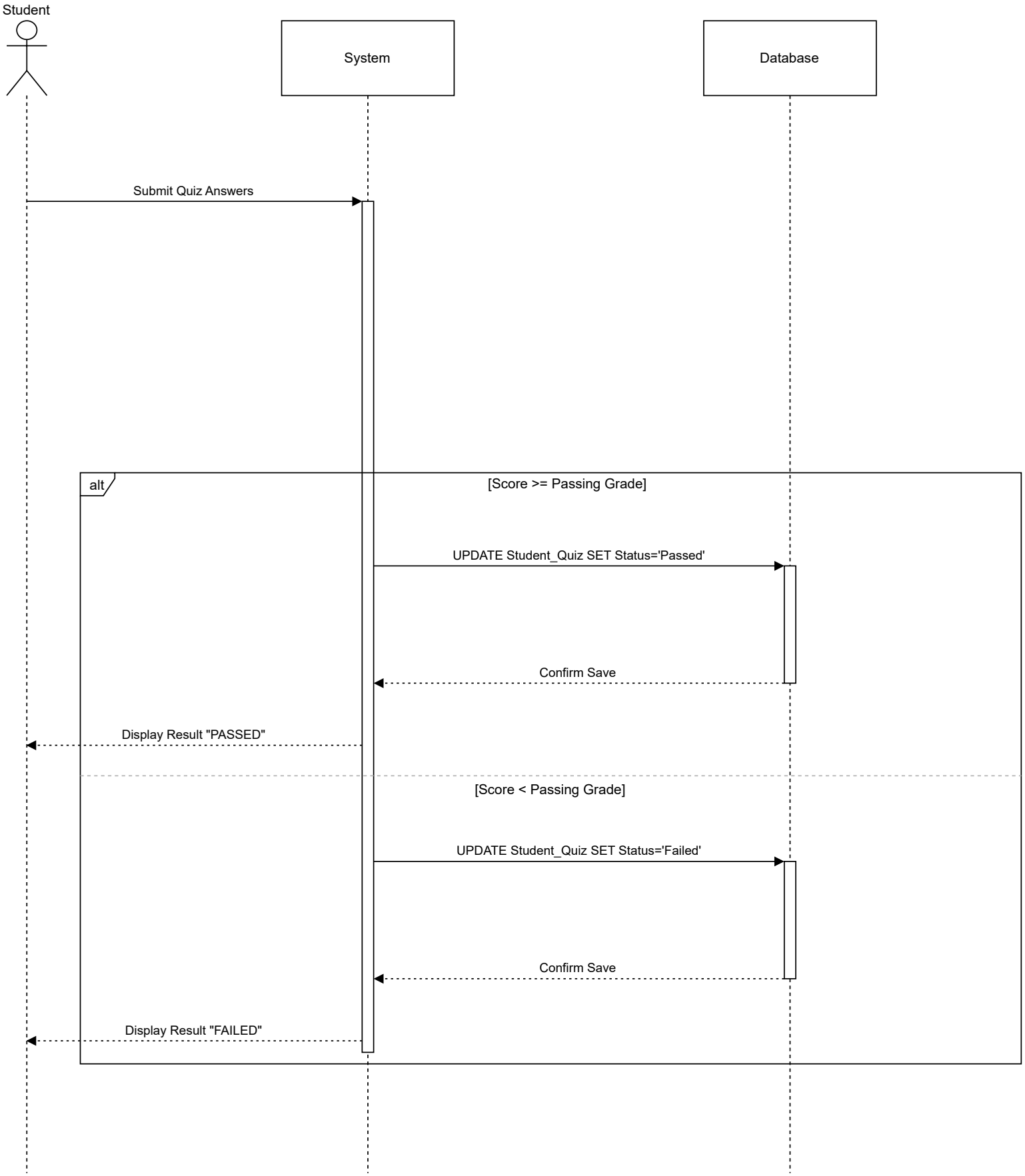

Student
Courses Page
System (Student Object)
Database
Open Courses Page
ViewCourses()
Query All Active Courses
alt
[Courses Found]
Return List<Course> (Title, Image, Instructor)
Return Course Objects
Display Course Cards/List
[No Courses Available]
Return Empty List
Return Empty State
Display "No Courses Available"

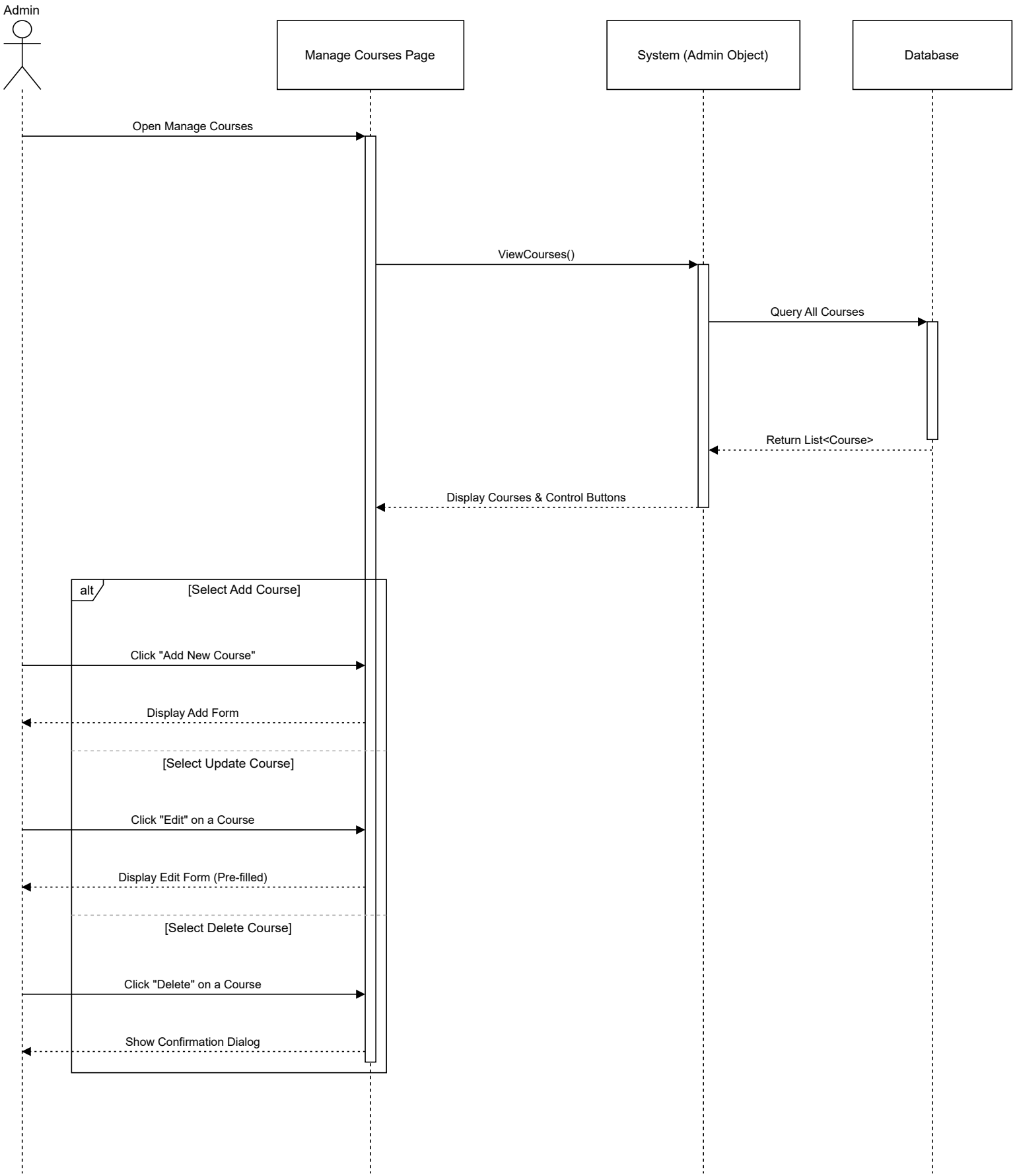

Student
User Interface
System
Database
Select Course
Click "Enroll" Button
Send Enrollment Request
Check Student Status
Status OK
Check Subscription (Payment/Plan)
Subscription Valid
alt
[Validation Successful]
Save Enrollment Record
Confirm Saved
Return Success Message
Display "You have been enrolled successfully"
[Validation Failed (Status or Subscription issue)]
Return Failure Message
Display Error (e.g., "Subscription Expired")

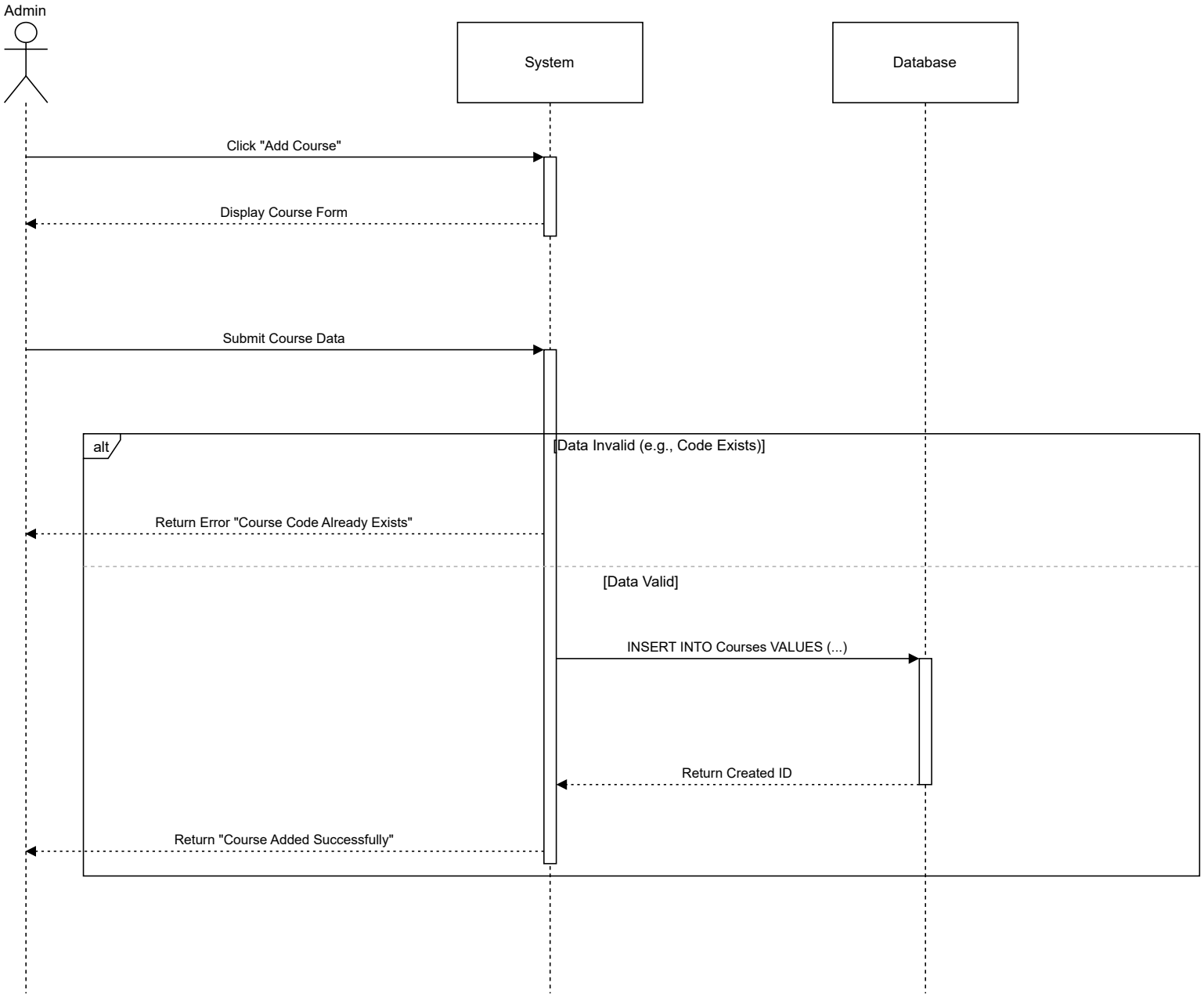

Student
System
Database
Open Lecture Interface
Request Lecture Code
Submit Code
Validate Code (SELECT Status FROM Lectures...)
alt
[Code is Valid & Active]
Return Success / Lecture ID
Access Granted / Load Lecture Content
[Code Invalid or Expired]
Return Null / Not Found
Show Error "Invalid or Expired Code"

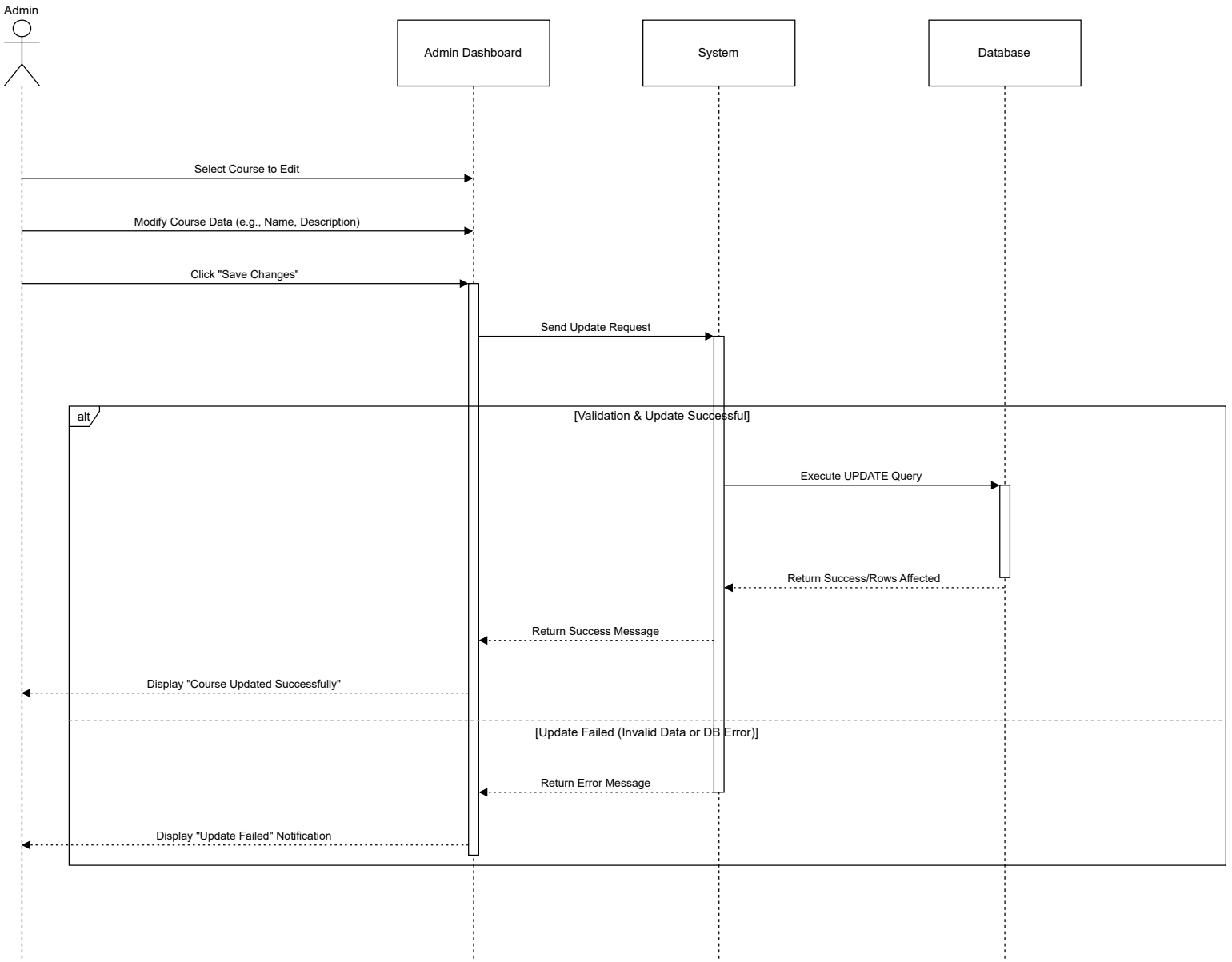

Student
Lectures Page
System (Student Object)
Database
Open Lectures Page
ViewLectures()
Query Lectures by Course ID
alt
[Lectures Found]
Return List<Lecture> (Title, Description, Parts)
Return Lecture Objects
Display Lectures List
[No Lectures Found]
Return Empty List
Return Empty State
Display "No Lectures Available"

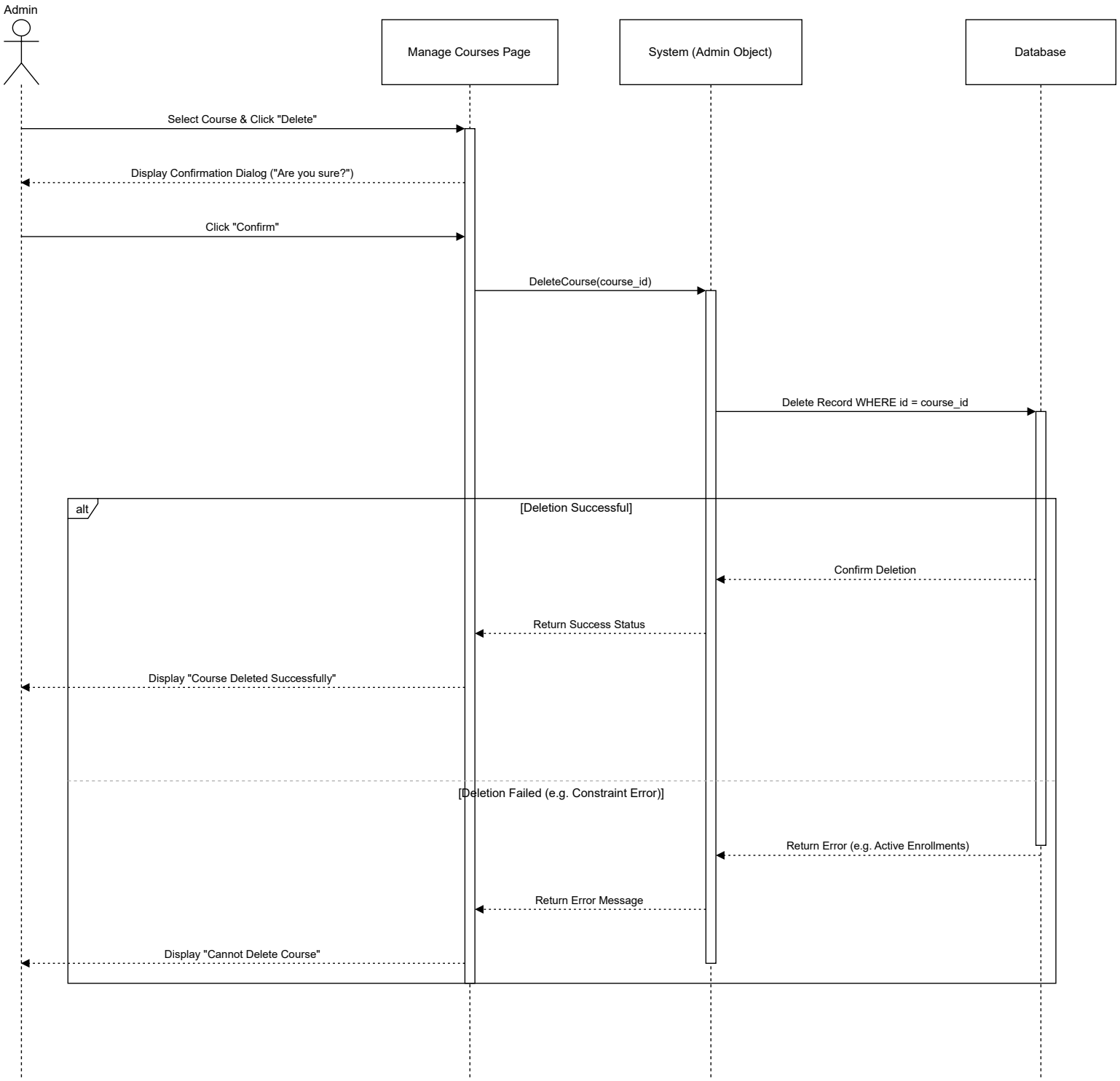

Student
Lecture Details Page
System (Lecture Object)
Database
Select Lecture
getLectureParts(lecture_id)
Query LectureParts by Lecture_id
alt
[Parts Found]
Return List<LectureParts> (Video, PDF, Quiz)
Return Part Objects
Display Parts (Videos/Files)
[No Parts Found]
Return Empty List
Return Empty State
Display "No Content Available"

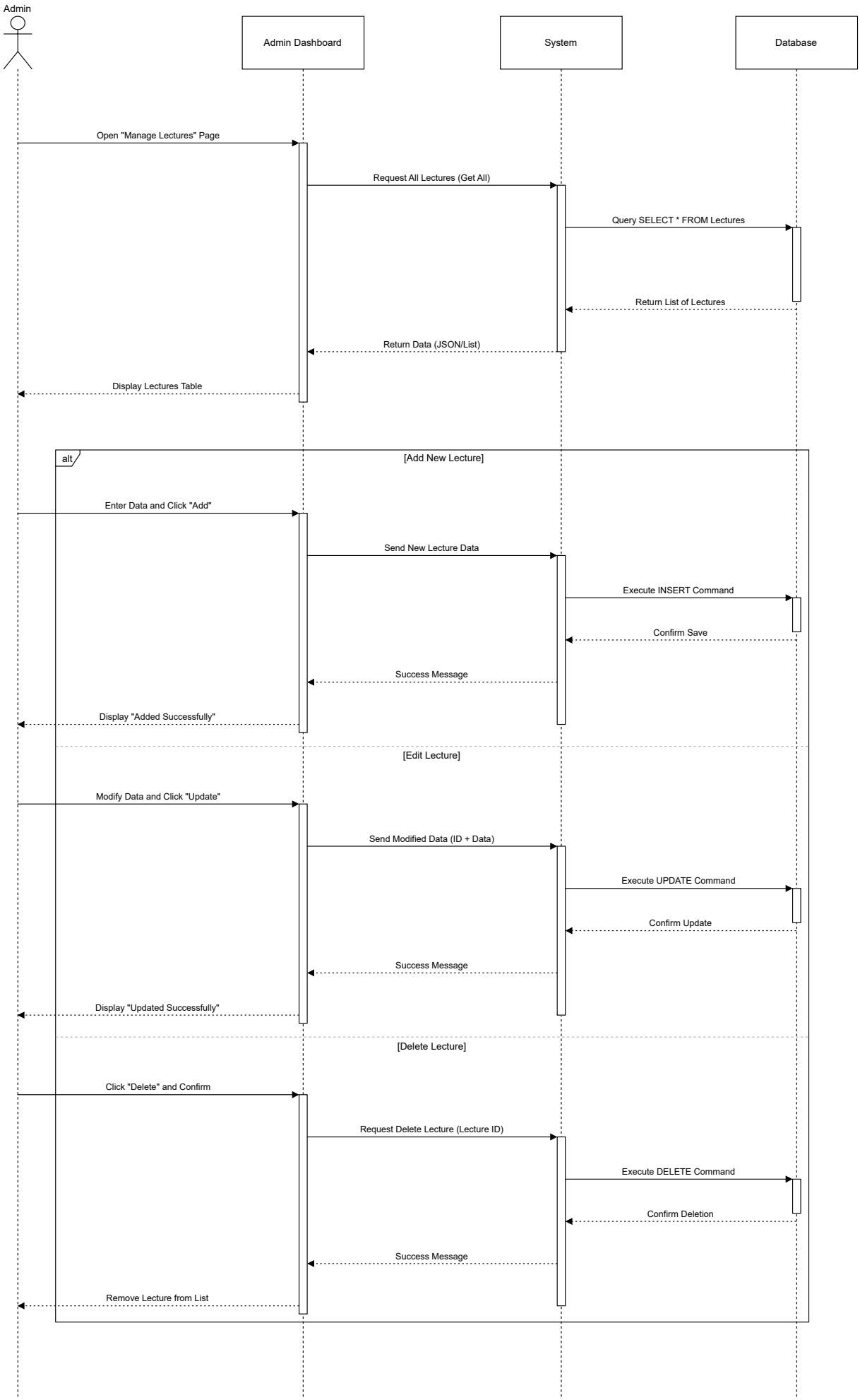

Student
System
Database
Submit Quiz Answers
alt
[Score >= Passing Grade]
UPDATE Student_Quiz SET Status='Passed'
Confirm Save
Display Result "PASSED"
[Score < Passing Grade]
UPDATE Student_Quiz SET Status='Failed'
Confirm Save
Display Result "FAILED"

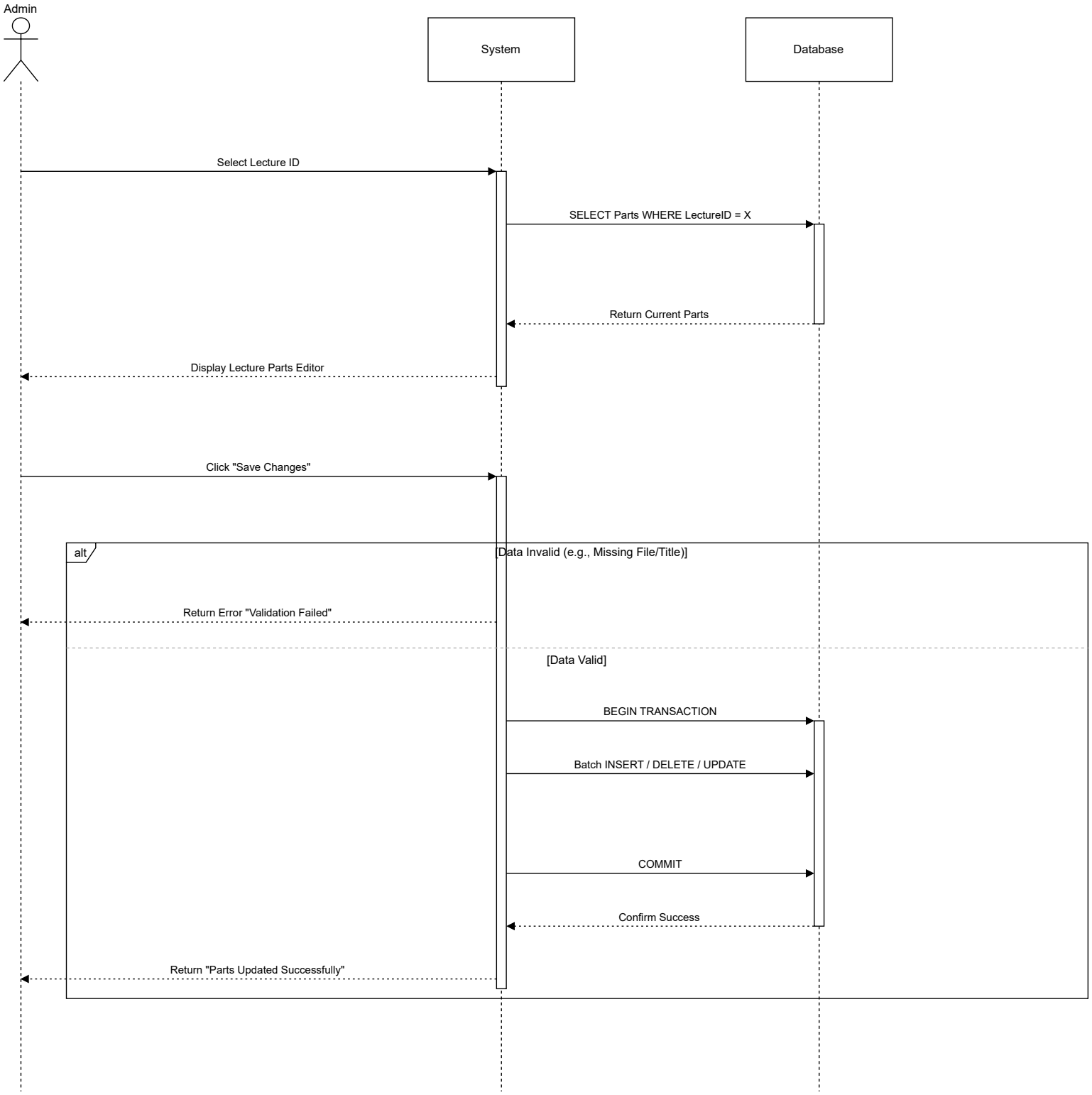

Admin
Manage Courses Page
System (Admin Object)
Database
Open Manage Courses
ViewCourses()
Query All Courses
Return List<Course>
Display Courses & Control Buttons
alt
[Select Add Course]
Click "Add New Course"
Display Add Form
[Select Update Course]
Click "Edit" on a Course
Display Edit Form (Pre-filled)
[Select Delete Course]
Click "Delete" on a Course
Show Confirmation Dialog

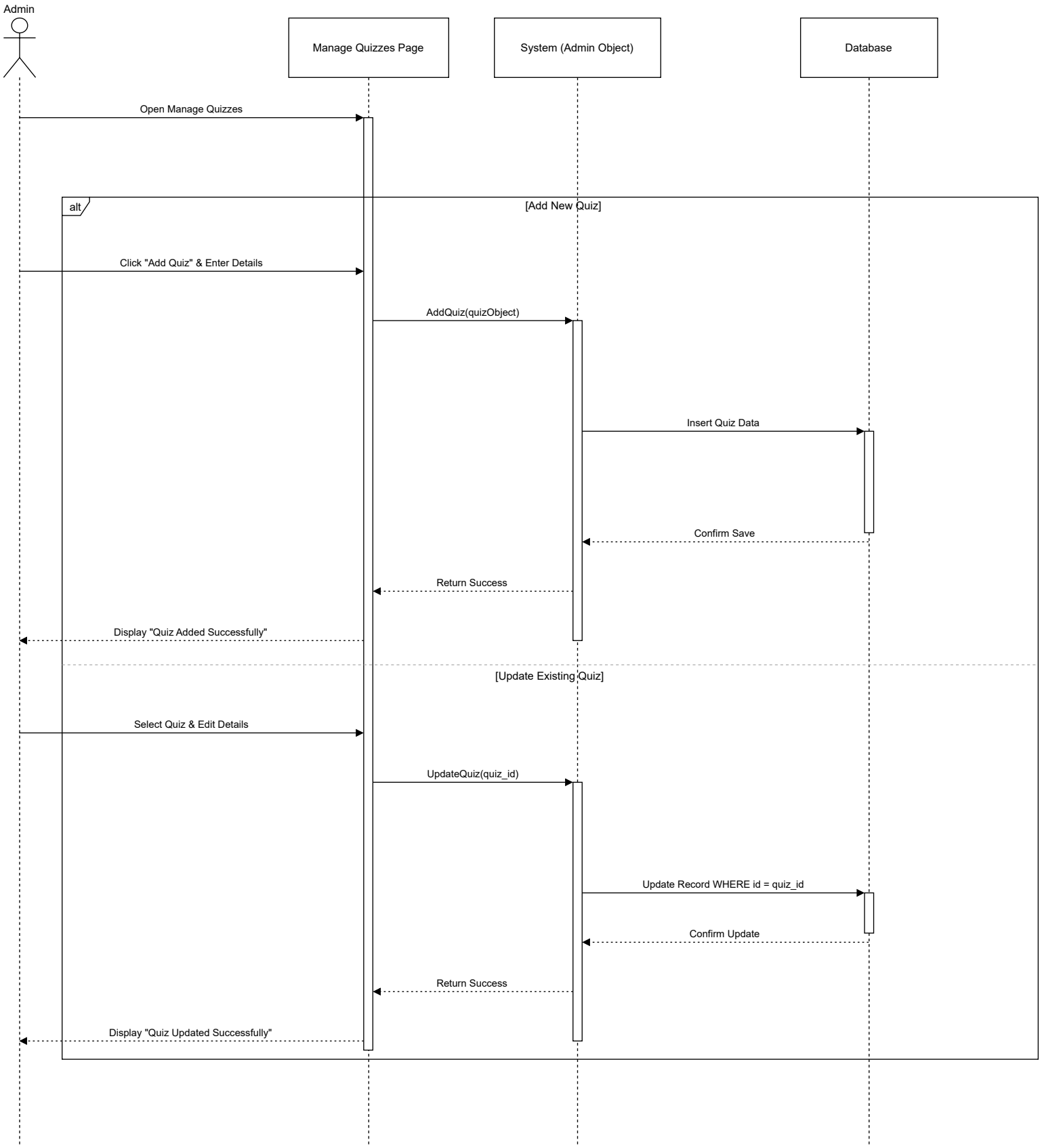

Admin
System
Database
Click "Add Course"
Display Course Form
Submit Course Data
alt
[Data Invalid (e.g., Code Exists)]
Return Error "Course Code Already Exists"
[Data Valid]
INSERT INTO Courses VALUES (...)
Return Created ID
Return "Course Added Successfully"

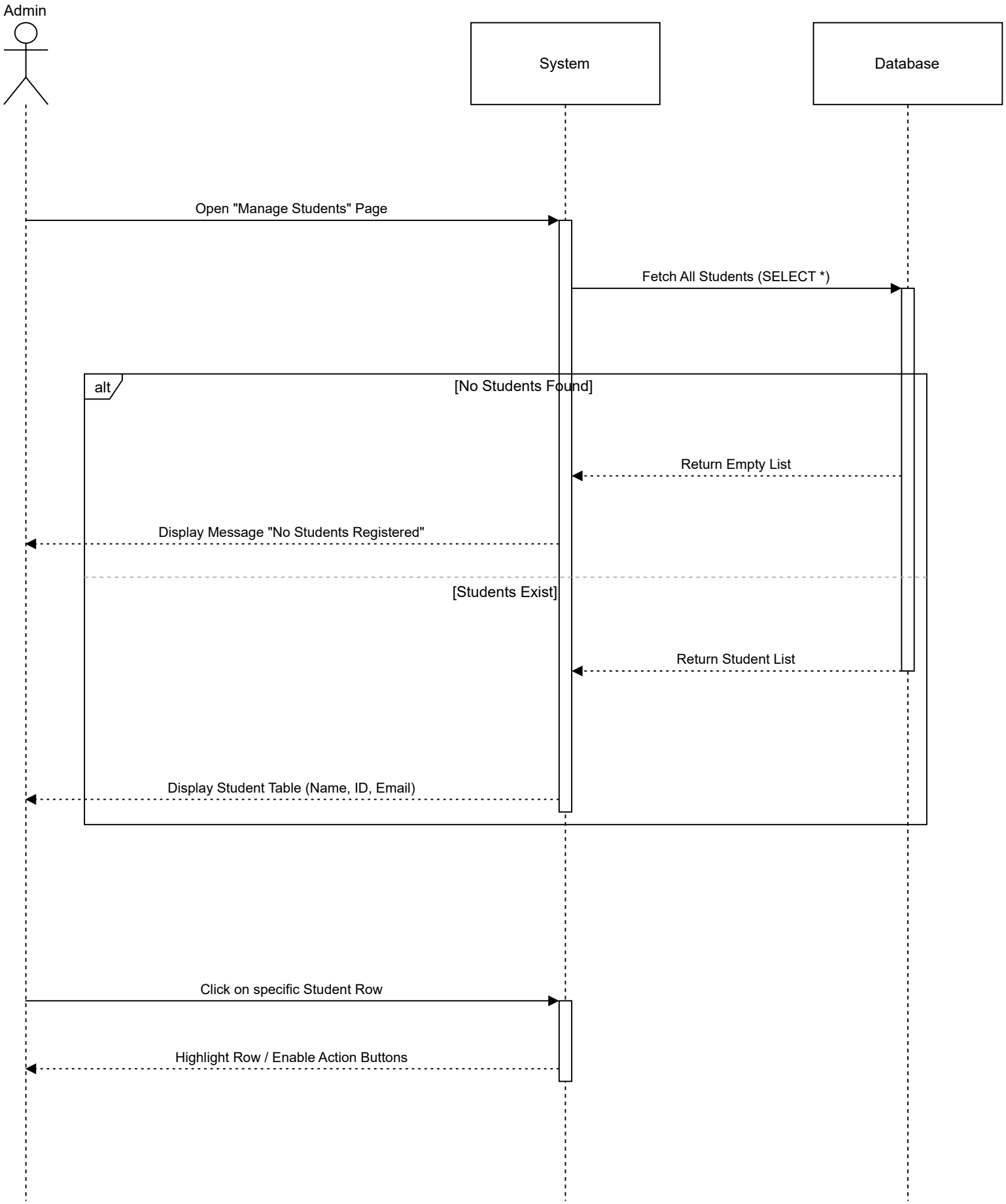

Admin
Admin Dashboard
System
Database
Select Course to Edit
Modify Course Data (e.g., Name, Description)
Click "Save Changes"
Send Update Request
alt
[Validation & Update Successful]
Execute UPDATE Query
Return Success/Rows Affected
Return Success Message
Display "Course Updated Successfully"
[Update Failed (Invalid Data or DB Error)]
Return Error Message
Display "Update Failed" Notification

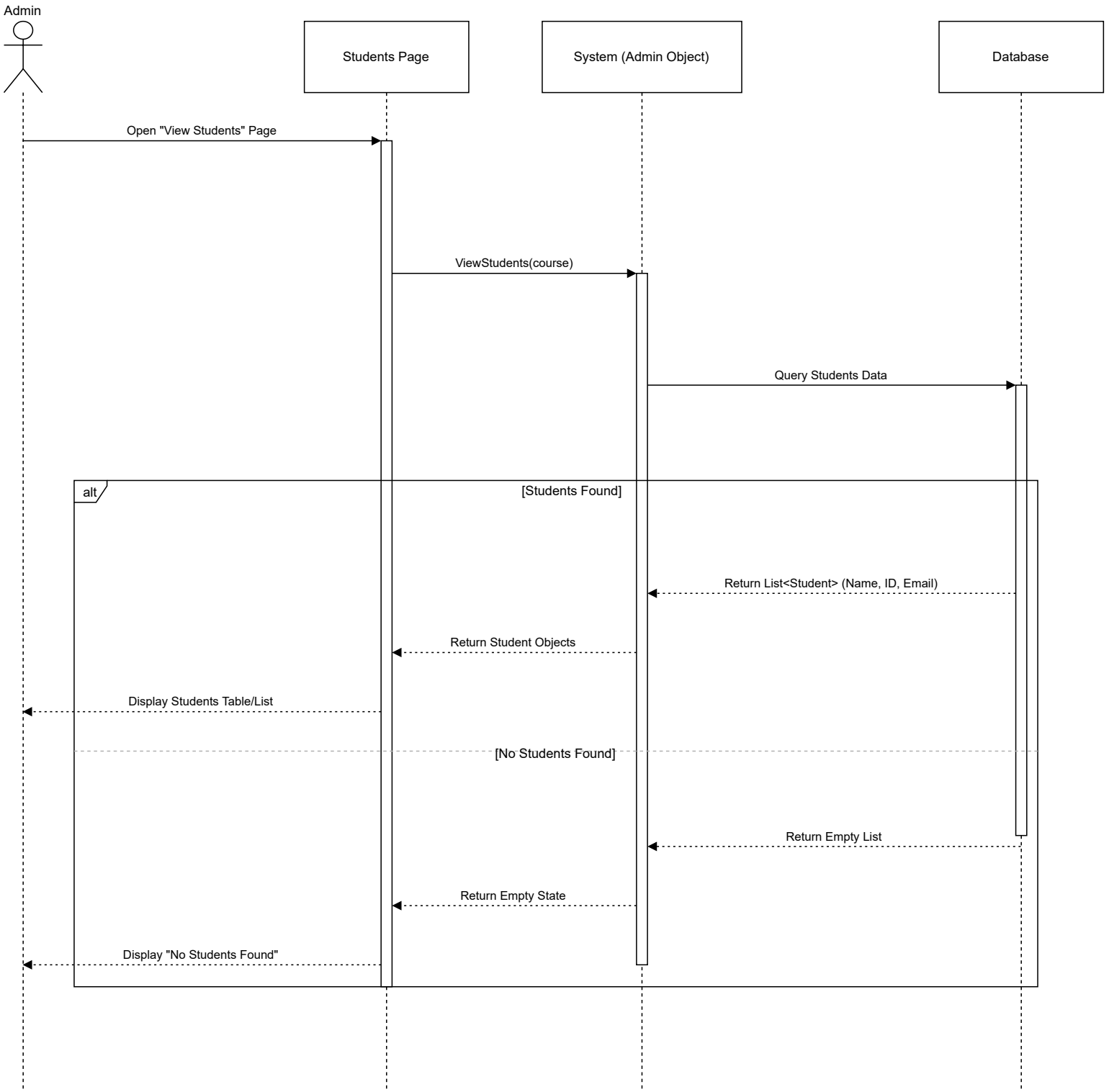

Admin
Manage Courses Page
System (Admin Object)
Database
Select Course & Click "Delete"
Display Confirmation Dialog ("Are you sure?")
Click "Confirm"
DeleteCourse(course_id)
Delete Record WHERE id = course_id
alt
[Deletion Successful]
Confirm Deletion
Return Success Status
Display "Course Deleted Successfully"
[Deletion Failed (e.g. Constraint Error)]
Return Error (e.g. Active Enrollments)
Return Error Message
Display "Cannot Delete Course"

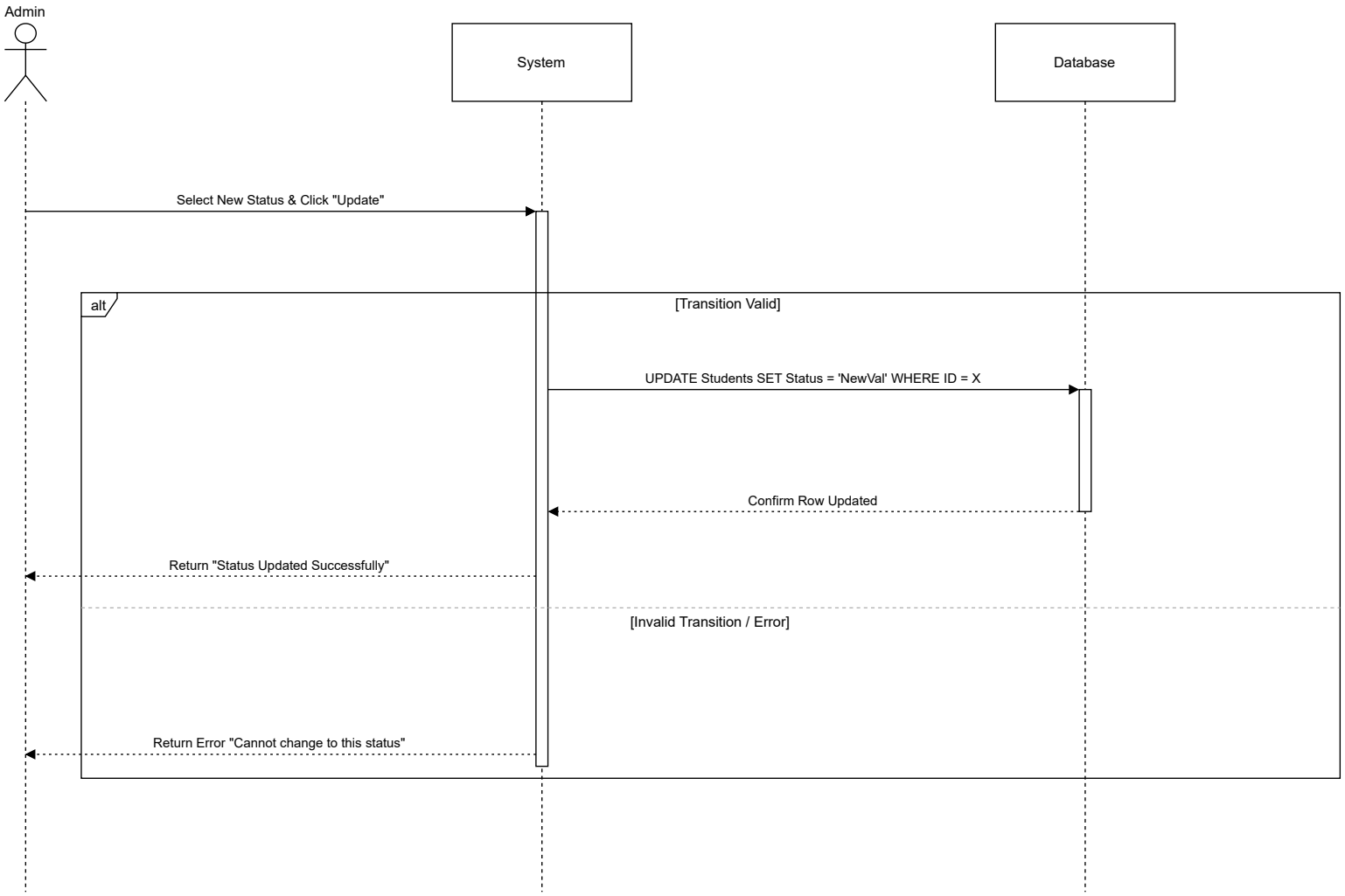

Admin
Admin Dashboard
System
Database
Open "Manage Lectures" Page
Request All Lectures (Get All)
Query SELECT * FROM Lectures
Return List of Lectures
Return Data (JSON/List)
Display Lectures Table
alt
[Add New Lecture]
Enter Data and Click "Add"
Send New Lecture Data
Execute INSERT Command
Confirm Save
Success Message
Display "Added Successfully"
[Edit Lecture]
Modify Data and Click "Update"
Send Modified Data (ID + Data)
Execute UPDATE Command
Confirm Update
Success Message
Display "Updated Successfully"
[Delete Lecture]
Click "Delete" and Confirm
Request Delete Lecture (Lecture ID)
Execute DELETE Command
Confirm Deletion
Success Message
Remove Lecture from List

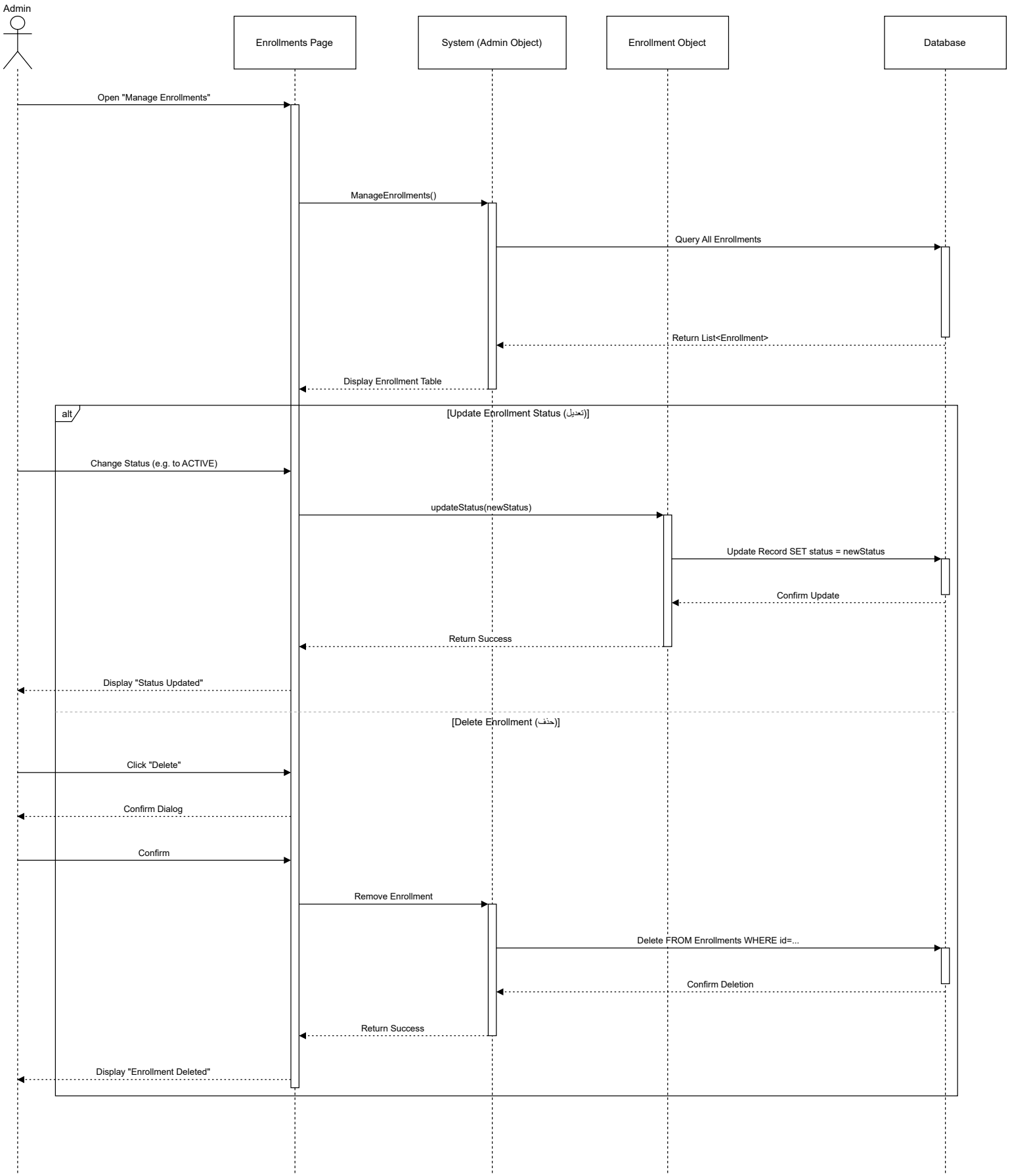

Admin
System
Database
Select Lecture ID
SELECT Parts WHERE LectureID = X
Return Current Parts
Display Lecture Parts Editor
Click "Save Changes"
alt
Data Invalid (e.g., Missing File/Title)]
Return Error "Validation Failed"
[Data Valid]
BEGIN TRANSACTION
Batch INSERT / DELETE / UPDATE
COMMIT
Confirm Success
Return "Parts Updated Successfully"

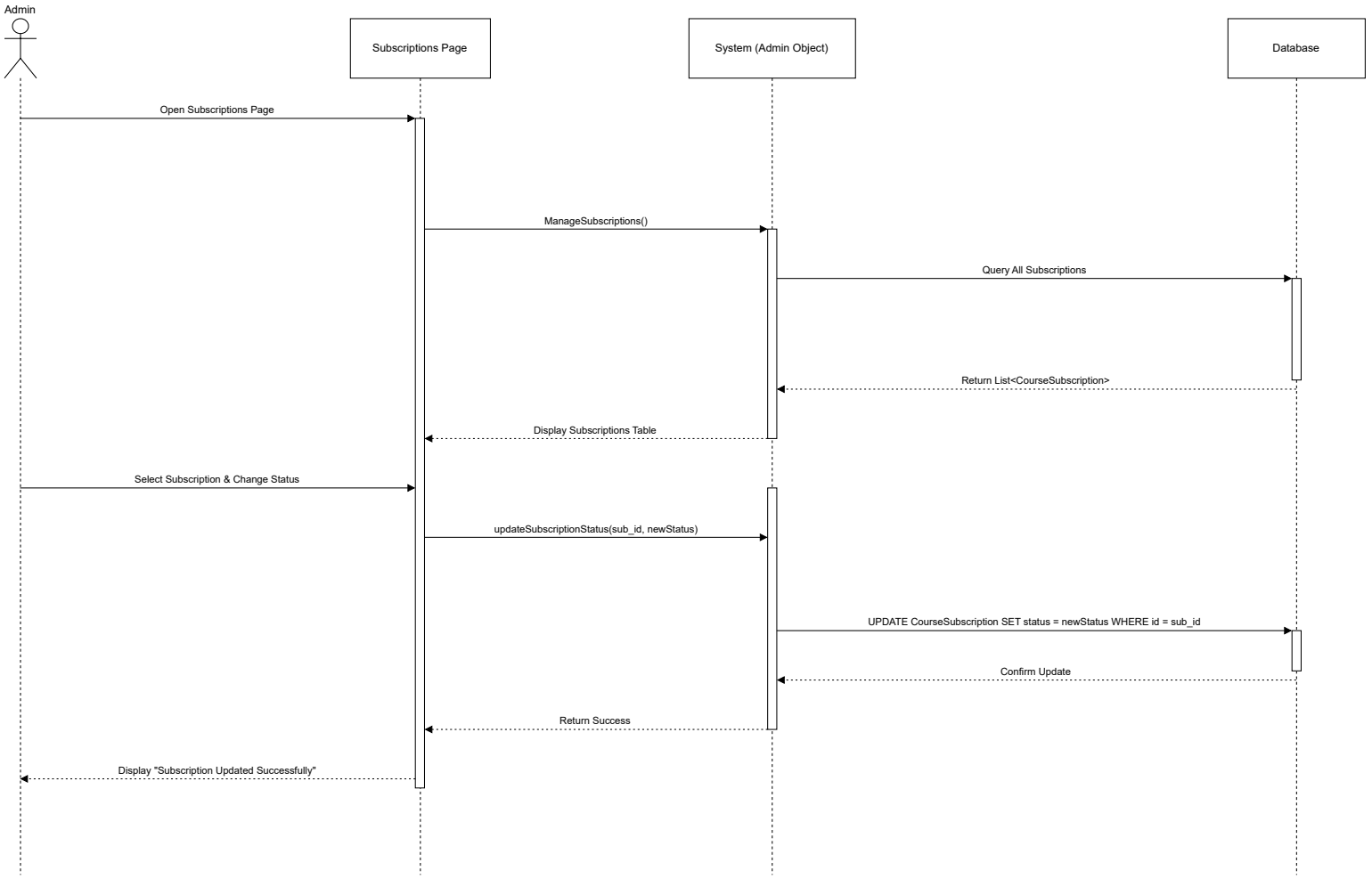

Admin
Manage Quizzes Page
System (Admin Object)
Database
Open Manage Quizzes
alt
[Add New Quiz]
Click "Add Quiz" & Enter Details
AddQuiz(quizObject)
Insert Quiz Data
Confirm Save
Return Success
Display "Quiz Added Successfully"
[Update Existing Quiz]
Select Quiz & Edit Details
UpdateQuiz(quiz_id)
Update Record WHERE id = quiz_id
Confirm Update
Return Success
Display "Quiz Updated Successfully"

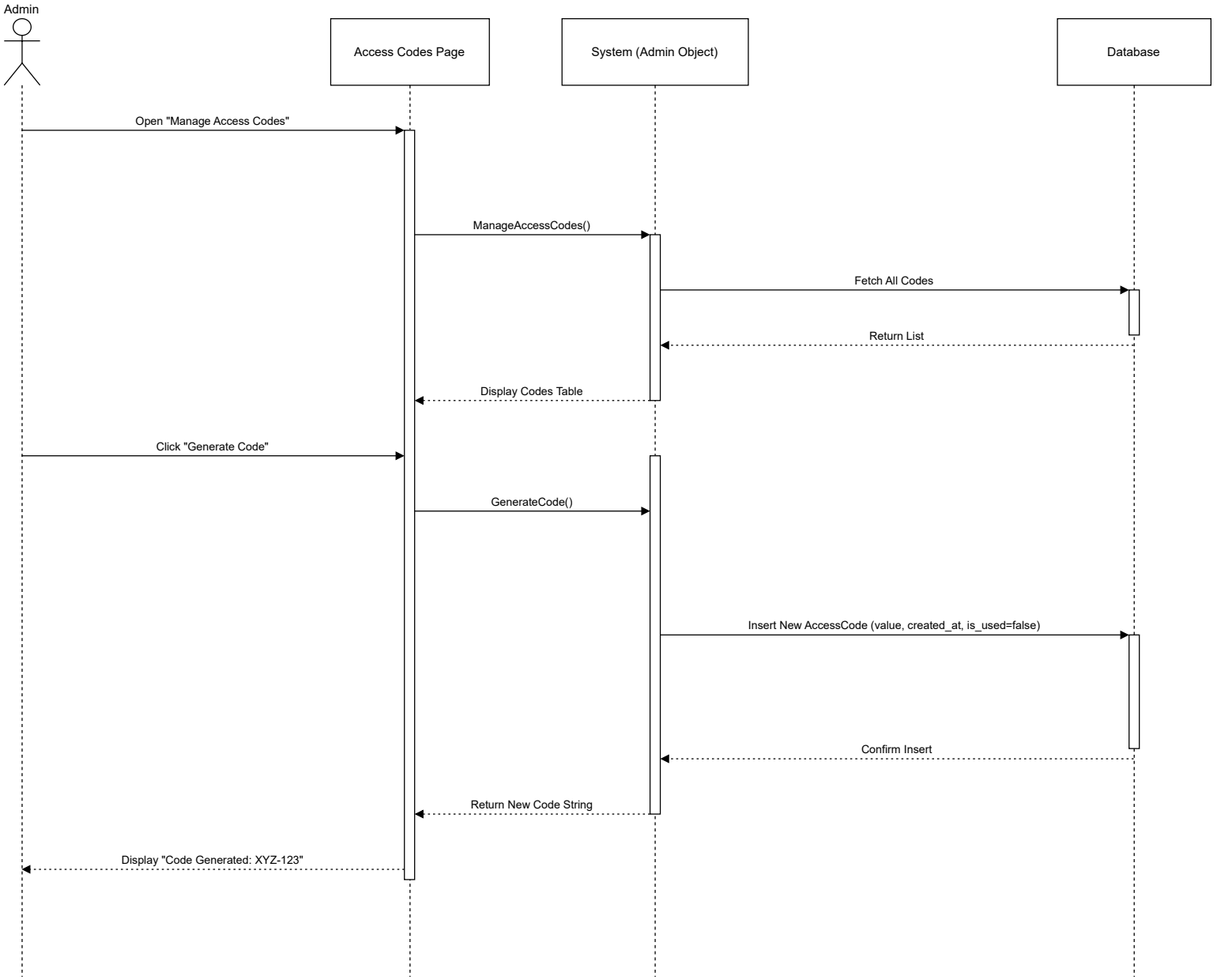

Admin
System
Database
Open "Manage Students" Page
Fetch All Students (SELECT *)
alt
[No Students Found]
Return Empty List
Display Message "No Students Registered"
[Students Exist]
Return Student List
Display Student Table (Name, ID, Email)
Click on specific Student Row
Highlight Row / Enable Action Buttons

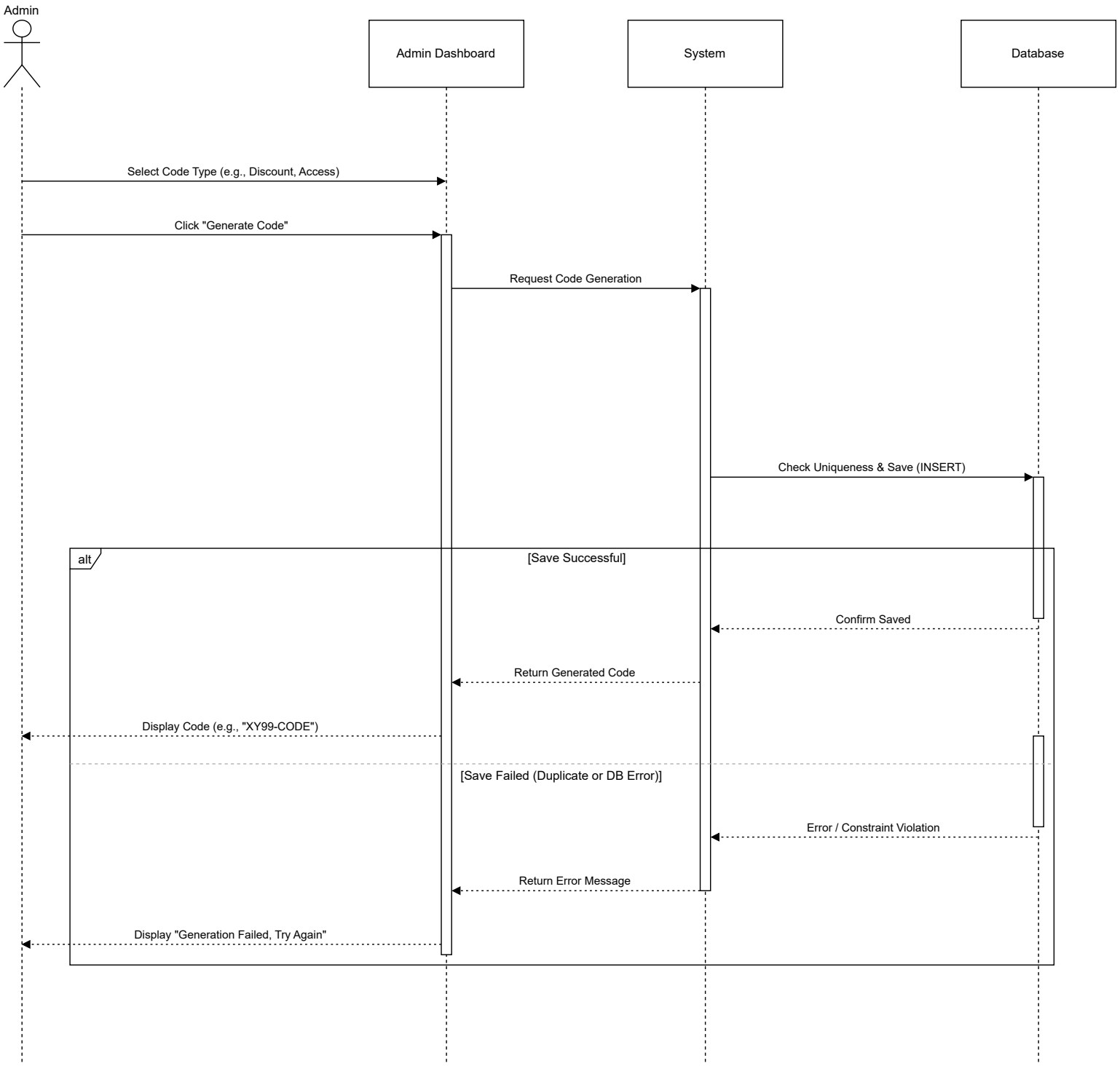

Admin
Students Page
System (Admin Object)
Database
Open "View Students" Page
ViewStudents(course)
Query Students Data
alt
[Students Found]
Return List<Student> (Name, ID, Email)
Return Student Objects
Display Students Table/List
[No Students Found]
Return Empty List
Return Empty State
Display "No Students Found"

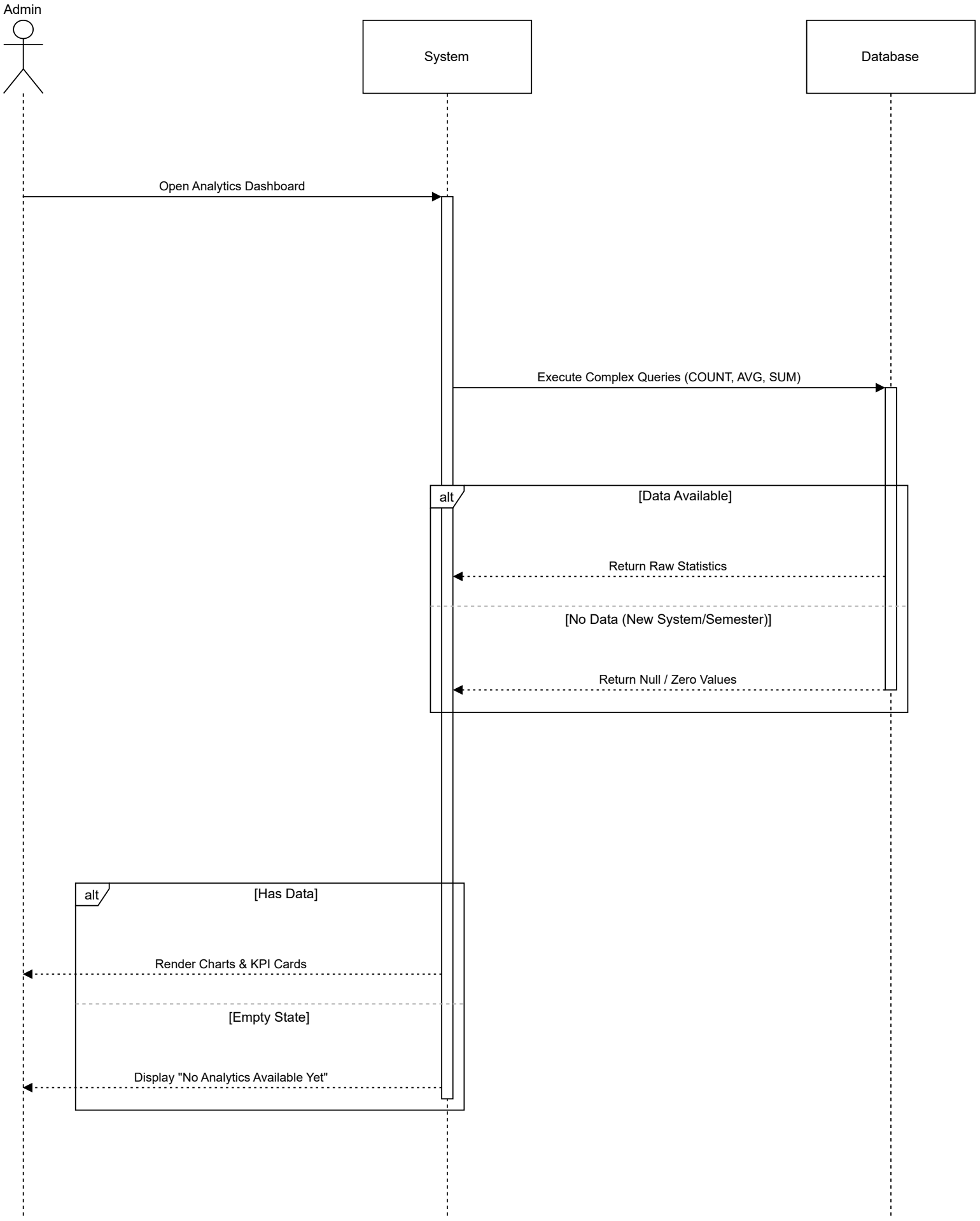

Admin
System
Database
Select New Status & Click "Update"
alt
[Transition Valid]
UPDATE Students SET Status = 'NewVal' WHERE ID = X
Confirm Row Updated
Return "Status Updated Successfully"
[Invalid Transition / Error]
Return Error "Cannot change to this status"

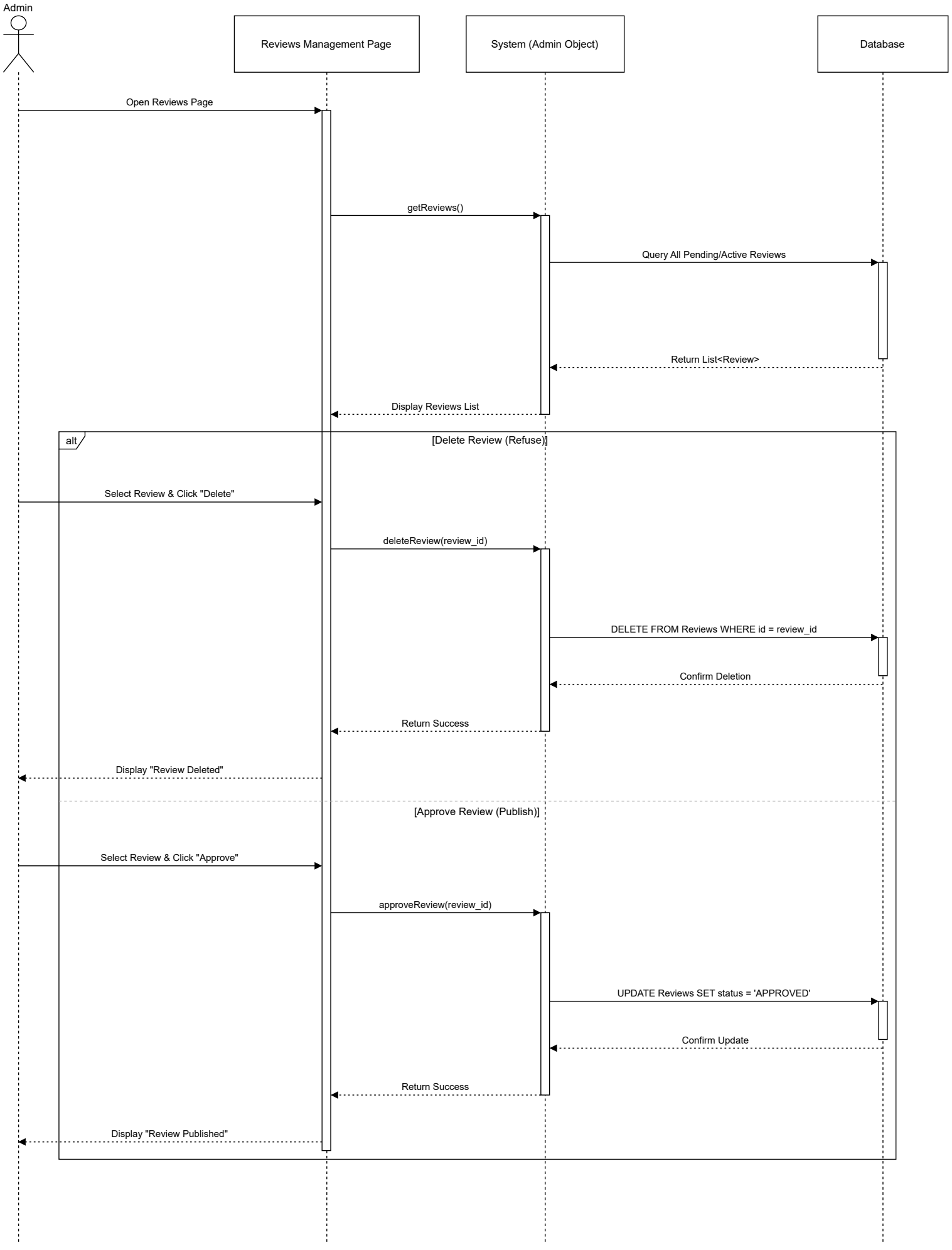

Admin
Enrollments Page
System (Admin Object)
Enrollment Object
Database
Open "Manage Enrollments"
ManageEnrollments()
Query All Enrollments
Return List<Enrollment>
Display Enrollment Table
alt
[Update Enrollment Status (تعديل)]
Change Status (e.g. to ACTIVE)
updateStatus(newStatus)
Update Record SET status = newStatus
Confirm Update
Return Success
Display "Status Updated"
[Delete Enrollment (حذف)]
Click "Delete"
Confirm Dialog
Confirm
Remove Enrollment
Delete FROM Enrollments WHERE id=...
Confirm Deletion
Return Success
Display "Enrollment Deleted"

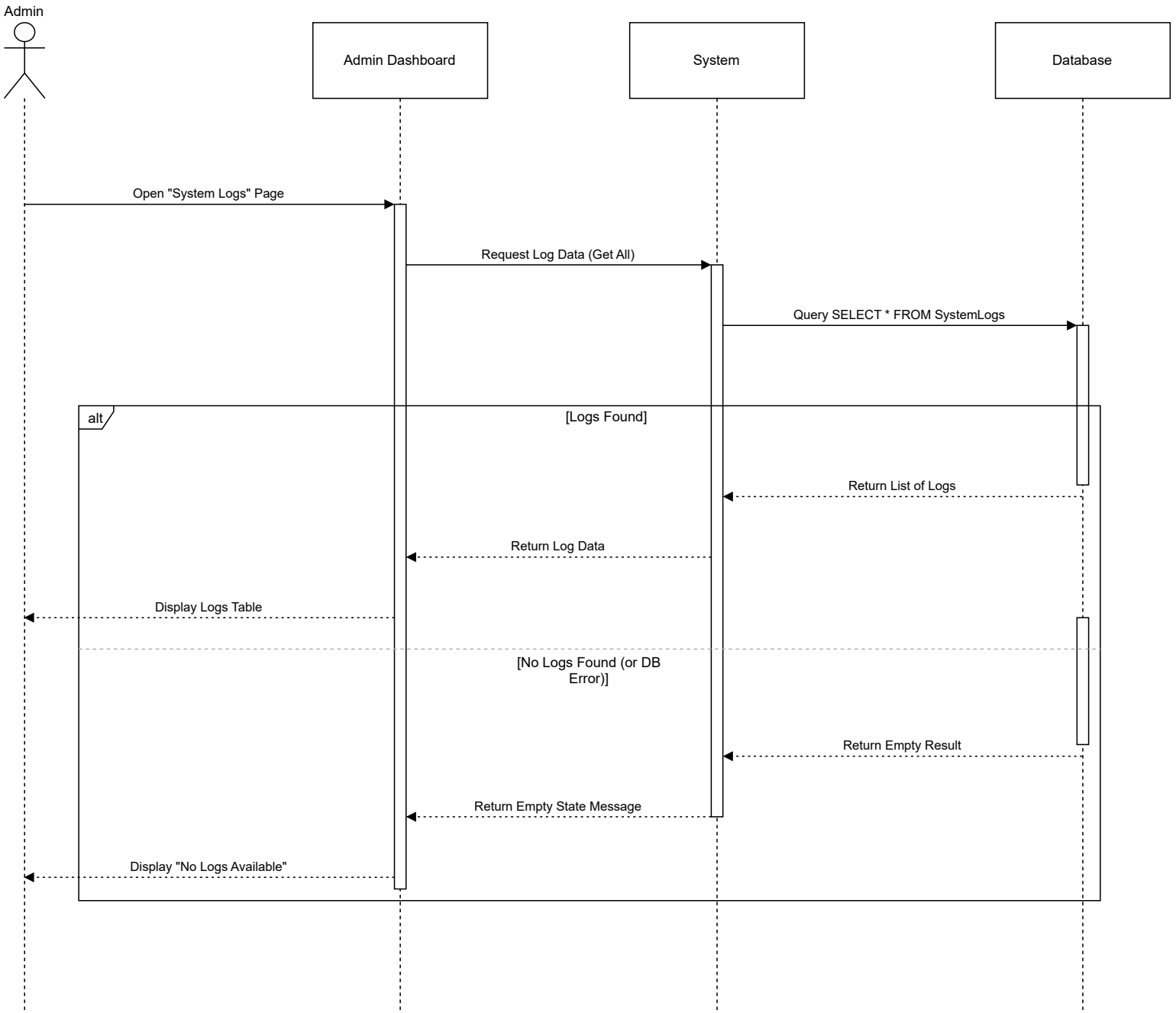

Admin
Subscriptions Page
System (Admin Object)
Database
Open Subscriptions Page
ManageSubscriptions()
Query All Subscriptions
Return List<CourseSubscription>
Display Subscriptions Table
Select Subscription & Change Status
updateSubscriptionStatus(sub_id, newStatus)
UPDATE CourseSubscription SET status = newStatus WHERE id = sub_id
Confirm Update
Return Success
Display "Subscription Updated Successfully"


Admin
Access Codes Page
System (Admin Object)
Database
Open "Manage Access Codes"
ManageAccessCodes()
Fetch All Codes
Return List
Display Codes Table
Click "Generate Code"
GenerateCode()
Insert New AccessCode (value, created_at, is_used=false)
Confirm Insert
Return New Code String
Display "Code Generated: XYZ-123"


Admin
Admin Dashboard
System
Database
Select Code Type (e.g., Discount, Access)
Click "Generate Code"
Request Code Generation
Check Uniqueness & Save (INSERT)
alt
[Save Successful]
Confirm Saved
Return Generated Code
Display Code (e.g., "XY99-CODE")
[Save Failed (Duplicate or DB Error)]
Error / Constraint Violation
Return Error Message
Display "Generation Failed, Try Again"


Admin
System
Database
Open Analytics Dashboard
Execute Complex Queries (COUNT, AVG, SUM)
alt
[Data Available]
Return Raw Statistics
[No Data (New System/Semester)]
Return Null / Zero Values
alt
[Has Data]
Render Charts & KPI Cards
[Empty State]
Display "No Analytics Available Yet"


Admin
Reviews Management Page
System (Admin Object)
Database
Open Reviews Page
getReviews()
Query All Pending/Active Reviews
Return List<Review>
Display Reviews List
alt
[Delete Review (Refuse)]
Select Review & Click "Delete"
deleteReview(review_id)
DELETE FROM Reviews WHERE id = review_id
Confirm Deletion
Return Success
Display "Review Deleted"
[Approve Review (Publish)]
Select Review & Click "Approve"
approveReview(review_id)
UPDATE Reviews SET status = 'APPROVED'
Confirm Update
Return Success
Display "Review Published"


Admin
Admin Dashboard
System
Database
Open "System Logs" Page
Request Log Data (Get All)
Query SELECT * FROM SystemLogs
alt
[Logs Found]
Return List of Logs
Return Log Data
Display Logs Table
[No Logs Found (or DB Error)]
Return Empty Result
Return Empty State Message
Display "No Logs Available"