

PROJECT X - TRACEABILITY MATRIX

Requirement ID	UC1	UC2	UC3	Requirement Description	Test Case ID	Test Description	Status
R1.1	✓	✓	✓	The system has three main roles: Lecturer, Student, and Administrator.	TC1	Verify that the system includes Lecturer, Student, and Administrator roles.	Tested
R1.2	✓	✓	✓	Only registered lecturers can record attendance.	TC2	Ensure that only registered lecturers can record attendance.	Tested
R1.3	✓	✓	✓	Attendance can only be recorded using authorized devices.	TC3	Confirm that attendance can only be recorded using authorized devices.	Tested
R1.4	✓	✓	✓	Administrators have full control over system data, including managing students, lecturers, devices, and courses.	TC4	Check that administrators have full control over system data management.	Tested
R2.1	✓	✓	✓	Lecturers can record attendance via registered devices (mobile, tablet, or computer).	TC5	Test that lecturers can record attendance via registered devices.	Tested
R2.2	✓	✓	✓	Attendance records are stored in a cloud-based MySQL database.	TC6	Validate that attendance records are stored in a cloud-based MySQL database.	Tested
R2.3	✓	✓	✓	Each attendance entry is linked to a course and includes details such as student, lecturer, date, and time.	TC7	Confirm that attendance entries link to course details, student, lecturer, date, and time.	Tested
R2.4	✓	✓	✓	Attendance records can be accessed in real-time.	TC8	Ensure that attendance records are accessible in real-time.	Tested
R3.1	✓	✓	✓	Lecturers can register multiple devices for attendance tracking.	TC9	Check that lecturers can register multiple devices for tracking.	Tested
R3.2	✓	✓	✓	The system can track device locations for assistance.	TC10	Verify that the system can track device locations for assistance.	Tested
R3.3	✓	✓	✓	Only registered devices can interact with the attendance system.	TC11	Ensure that only registered devices can interact with the attendance system.	Tested
R4.1	✓	✓	✓	Students can enroll in courses through the system.	TC12	Test that students can enroll in courses through the system.	Tested
R4.2	✓	✓	✓	The system maintains student details, including name, university ID, and profile picture (captured via the system).	TC13	Check that the system maintains student details, including name, university ID, and profile picture.	Tested
R4.3	✓	✓	✓	Administrators can add, update, and delete student records.	TC14	Ensure that administrators can add, update, and delete student records.	Tested
R5.1.1	✓	✓	✓	Attendance reports by student, course, or date range.	TC15	Validate that attendance reports can be generated by student, course, or date range.	Tested
R5.1.2	✓	✓	✓	Student enrollment per course.	TC16	Verify that student enrollment per course reports are available.	Tested
R5.1.3	✓	✓	✓	Lecturer and registered device lists.	TC17	Confirm that lecturer and registered device lists can be generated.	Tested
R5.2	✓	✓	✓	Reports are accessible to lecturers and administrators.	TC18	Ensure that reports are accessible to lecturers and administrators.	Tested
R6.1	✓	✓	✓	Lecturers can capture student photos for attendance verification.	TC19	Check that lecturers can capture student photos for attendance verification.	Tested
R6.2	✓	✓	✓	Photos are stored securely, with IDs and names recorded in the database.	TC20	Confirm that photos are securely stored with IDs and names in the database.	Tested
R7.1	✓	✓	✓	The system operates via a REST API for database interactions.	TC21	Test that the system operates via a REST API for database interactions.	Tested
R7.2	✓	✓	✓	All actions, including attendance, enrollment, and reporting, are managed through the API.	TC22	Validate that all actions (attendance, enrollment, reporting) are managed through the API.	Tested
R7.3	✓	✓	✓	API requests are authenticated and authorized.	TC23	Ensure that API requests are authenticated and authorized.	Tested
R8.1	✓	✓	✓	Unit Testing: Each function (e.g., attendance logging, student enrollment) is tested individually.	TC24	Perform unit testing on each function (e.g., attendance logging, student enrollment).	Tested
R8.2	✓	✓	✓	System Testing: End-to-end testing ensures all workflows function correctly.	TC25	Conduct system testing to ensure all workflows function correctly.	Tested
R8.3	✓	✓	✓	User Acceptance Testing (UAT): The system is tested against user requirements.	TC26	Execute User Acceptance Testing (UAT) to verify compliance with user requirements.	Tested