**PROJECT X - AUTOMATED ATTENDANCE APP**

**Functional and Non-functional Requirements**

Group Name:

May 15, 2025

**TRIPLE THREAT (+1)**

Submitted by:

**John Kenneth Gade**

**Cyril Lloyd Balanay**

**Ivan Vasay**

**Keynt Harly Adol**

Submitted to:

**Terry Watts**

1. **Functional Requirements (FR)**

These define what the system shall do:

* 1. **Attendance & Authentication**
     1. The system shall record roll call attendance by scanning the registered Student ID via QR code.
     2. The system shall validate student identity using their Student ID encoded in QR codes.
     3. Only registered devices (phone, tablet, computer) shall be used to identify students.
     4. Each instructor may have multiple registered devices, but each device shall be linked to only one instructor.
  2. **Roles & Permissions**
     1. The system shall support three roles: Administrator, Instructor, and Student.
     2. Only authorized users shall:
     3. Assign course schedules
     4. Enroll or remove students from a course
     5. Perform CRUD operations (Create, Read, Update, Delete) on courses
     6. Access course-related data including student enrollment, attendance, and course details
  3. **Device Registration**
     1. The system shall allow administrators to register and assign devices to instructors.
     2. Only registered devices shall be able to interact with the system for attendance tracking.
  4. **Report Generation**

The system shall generate the following reports:

* + 1. Attendance reports
    2. List of students
    3. List of lecturers
    4. List of courses
    5. Student enrollment per course
  1. **Student Interface**

Students shall:

* + 1. Be able to view their attendance records
    2. Not be allowed to modify or delete any attendance data

1. **Non-Functional Requirements**

These define how the system should perform and additional standards to be met:

* 1. **Infrastructure & Deployment**
     1. The system database shall be hosted on a cloud server.
  2. **Testing & Quality Assurance**

The system shall undergo:

* + 1. Unit Testing: Validate individual components
    2. System Testing: Verify full system integration
    3. User Acceptance Testing (UAT): Confirm system meets user needs
  1. **Documentation & Version Control**

The system shall include:

* + 1. Complete documentation: Requirements, Design, and UAT documentation
    2. High-Level and Detailed Design diagrams (Use Case, UML, Class, Component, Sequence, Activity)
    3. Use of GIT for version control with shared access for clients
  1. **Code Standards**

Code shall:

* + 1. Be clear, structured, and commented
    2. Include standard headers for classes and methods
  1. **Development Process**
     1. Development shall include:
     2. Daily stand-up logs detailing work progress and blockers
     3. Code review evidence showing reviewers and presented code
  2. **Project Management**
     1. Developers shall manage time efficiently to avoid delays.
     2. A partially complete but working system is preferred over a complete but non-functional one.