**Online Campus Facility Report System: Design and Implementation Report**

**Section 1: Introduction to the Web Application, Product Backlog, and User Stories**

**1.1 Overview**

The **Online Campus Facility Report System** is a web-based application designed to streamline the reporting of faulty facilities within the campus. It empowers faculty members and students to promptly report issues, ensuring a safer and more efficient campus environment.

**1.2 Features**

The system includes the following features:

1. **Fault Reporting with Photo and Voice Description**:
   * Users can submit reports with accompanying photos and voice descriptions.
   * Visual evidence enhances accuracy and expedites resolution.
2. **Work Confirmation and Job Status**:
   * Administrators can assign tasks to maintenance staff.
   * Staff members confirm completion, updating the job status in real-time.
3. **Acknowledgement and Comment**:
   * Users receive acknowledgments upon submitting reports.
   * Staff can add comments or request additional information.

**1.3 User Roles**

The system caters to three primary roles:

1. **Administrator**:
   * Manages user accounts, assigns tasks, and monitors overall system performance.
   * Access to all features and reports.
2. **Faculty Member**:
   * Reports faulty facilities.
   * Receives updates on job status.
   * Can comment on ongoing tasks.
3. **Student**:
   * Similar functionality to faculty members.
   * Encourages student participation in campus maintenance.

**1.4 Product Backlog and User Stories**

The product backlog contains several features, but for this report, we will focus on the following three:

1. **Feature 1: Report Submission Enhancement**:
   * *User Story 1 (Faculty Member)*:
     + As a faculty member, I want to report faulty facilities with photos and voice descriptions.
     + Acceptance Criteria: The system accepts multimedia submissions and sends an acknowledgment.
   * *User Story 2 (Student)*:
     + As a student, I want to receive updates on reported issues.
     + Acceptance Criteria: The system notifies students of job status changes.
2. **Feature 2: Task Assignment and Tracking**:
   * *User Story 3 (Administrator)*:
     + As an administrator, I want to view all submitted reports, assign tasks, and track their progress.
     + Acceptance Criteria: The dashboard displays pending reports, allows task assignment, and updates status.
3. **Feature 3: Comment and Communication**:
   * *User Story 4 (Faculty Member)*:
     + As a faculty member, I want to add comments to ongoing tasks.
     + Acceptance Criteria: Comments are visible to staff members working on the task.
   * *User Story 5 (Staff Member)*:
     + As a staff member, I want to request additional information from the reporter.
     + Acceptance Criteria: The system allows staff to send clarification requests.

**Section 2: UML Design and Screen Design**

**2.1 UML Design**

The system’s UML diagram includes classes for users, reports, tasks, and comments. Relationships depict interactions between these entities.

**2.2 Screen Design**

The user interface (UI) emphasizes simplicity and usability:

* **Dashboard**: Displays pending reports, assigned tasks, and job status.
* **Report Submission Form**: Allows users to upload photos, record voice descriptions, and add comments.
* **Task Assignment Page**: Administrators assign tasks to staff members.
* **Notifications Panel**: Alerts users about job updates.

**Section 3: Test Scenario, Test Plan, and Test Data**

**3.1 Test Scenarios**

1. **Report Submission Testing**:
   * Scenario: A faculty member submits a report with a photo and voice description.
   * Expected Outcome: The report is stored, and an acknowledgment is sent.
2. **Task Assignment Testing**:
   * Scenario: An administrator assigns a task to a maintenance staff member.
   * Expected Outcome: The staff member receives the task notification.

**3.2 Test Plan**

1. **Unit Testing**:
   * Validate individual components (e.g., report submission form, task assignment logic).
2. **Integration Testing**:
   * Verify interactions between modules (e.g., report storage and notification system).

**3.3 Test Data**

* Sample faulty facility report (photo, voice description, comments).
* Dummy user accounts for testing various roles.

This report outlines the design and implementation of the **Online Campus Facility Report System**. By addressing user needs and ensuring efficient communication, we aim to enhance campus safety and maintenance processes.