# JoseniCare
USE CASE DIAGRAM

## JoseniCare

**System**
- Send automated alerts and notifications
- Perform data backup and recovery
- Auto-award gamification stamps
- Generate system analytics reports
- Trigger health trend updates
- Detect potential outbreaks
- Log all major user activities

**Administrator**
- Manages user accounts
- Configure system settings (security, access rules, audit trails)
- Set and update gamification criteria
- Access admin dashboard

**USJ-R Tertiary Students**
- Book and view clinic / dental appointments
- Submit daily health survey
- View digital health record
- View appointment history
- Report accidents through SSD emergency channel
- Interact with Jose the chatbot
- Track gamification progress

**Security & Safety Department**
- Receive Emergency Reports
- Access Allergy Information (Limited View)
- Manage Emergency Reports

**Clinic Staff**
- Manage Appointment Scheduling
- Track Anonymized Survey Results
- View Doctor's prescriptions/treatment notes
- Manage Resource Dashboard (Inventory)
- View Health Dashboards
- Export or print patient consultation records

**Doctor**
- View Student Appointments
- Access and Update Digital Health Records of Patient
- View Anonymized Health Trends (Dashboard)
- View Medicine & Resource Utilization Dashboard

# SYSTEM USE-CASES

ACTOR

# **UML Use Case Description:** Send Automated Alerts and Notifications

| USE CASE #1: | **SEND AUTOMATED ALERTS AND NOTIFICATIONS** |
|---|---|
| Primary Actor: | System |
| Goal | The system automatically sends notifications to users (students, clinic staff, or SSD) based on events such as appointment reminders, survey prompts, or emergency updates. |
| Preconditions | • User accounts and notification preferences are active. |
| Postconditions | • Users receive appropriate and timely alerts. |
| Trigger | Detect event passed to System. |
| Main Flow | 1. The System detects an event that requires a notification, such as:<br>• Upcoming appointment<br>• Health survey reminder<br>• SOS confirmation or status update<br>2. The System generates the appropriate notification and sends it via:<br>• In-app alert<br>• University e-mail<br>3. The user receives the notification and can act on it as needed. |
| Alternative Flows | **A1. Notification service unavailable:** If the system cannot send notifications (in-app or email), it retries and logs the failure.<br>**A2. User opted out:** If the user has disabled notifications, the alert is not sent but logged for tracking purposes.<br>**A3. Invalid event detected:** If the event triggering the notification is malformed or missing, the system skips sending and logs the issue. |

# **UML Use Case Description:** Perform Data Backup and Recovery

| USE CASE #1: | **PERFORM DATA BACKUP AND RECOVERY** |
|---|---|
| Primary Actor: | System |
| Goal | The system automatically performs periodic backups of critical health and appointment data to prevent data loss. |
| Preconditions | • Backup schedule and storage configuration are active. |
| Postconditions | • Data backups are successfully stored.<br>• Recovery option is available in case of system failure. |
| Trigger | Scheduled event every 8 pm from Monday to Saturday. |
| Main Flow | 1. The System initiates a scheduled backup according to the configured interval.<br>2. The System compresses the relevant data and stores it securely in the designated backup storage.<br>3. The System generates a confirmation log indicating the success or failure of the backup. |
| Alternative Flows | **A1. Backup storage unavailable:** If storage cannot be accessed, the system retries and alerts the administrator.<br>**A2. Data compression error:** If compression fails, the system logs the error and continues with uncompressed backup if possible.<br>**A3. Confirmation log generation fails:** If log cannot be created, system retries and sends alert to administrator. |

# **UML Use Case Description:** Auto-Award Gamification Stamps

| USE CASE #1: | **AUTO-AWARD GAMIFICATION STAMPS** |
|---|---|
| Primary Actor: | System |
| Goal | The system automatically awards points or stamps to students who meet certain health participation milestones (daily surveys). |
| Preconditions | • Gamification rules are set by the administrator. |
| Postconditions | • Student profiles are updated with new rewards or progress points. |
| Trigger | Daily scheduled gamification checking per batch. |
| Main Flow | 1. The System checks the student's activity logs including:<br>• Daily health survey submissions<br>• Claiming of gamification reward<br>2. The System validates each action against the configured reward criteria<br>• (HP (Health Points) per check-in<br>• Milestone achievements<br>3. The System automatically awards the corresponding points or HP stamps and records them in the student's gamification profile.<br>4. The System updates the student's dashboard and reward progress in real-time. |
| Alternative Flows | **A1. Activity not logged:** If the student activity is missing or corrupted, no points/stamps are awarded, and an error is logged.<br>**A2. Reward criteria misconfiguration:** If the reward rules are invalid, system skips awarding and alerts the administrator.<br>**A3. Database save failure:** If points/stamps cannot be saved, retry occurs; if still failing, alert is sent to admin. |

# **UML Use Case Description:** Generate System Analytics Reports

| USE CASE #1: | **GENERATE SYSTEM ANALYTICS REPORTS** |
|---|---|
| Primary Actor: | System |
| Goal | The system compiles reports on user activity, health data trends, and system performance for administrative and medical review. |
| Preconditions | • System databases contain sufficient data for report generation. |
| Postconditions | • Reports are available for viewing or export by authorized personnel. |
| Trigger | System detects new data submissions. |
| Main Flow | 1. The System aggregates relevant data from various modules (Student health surveys, appointments, gamification activity, weather API).<br>2. The System processes the data and summarizes key metrics, such as:<br>• Trends in student health (common symptoms, consultation frequencies)<br>• Resource usage (medicine/dental supplies, inventory trends)<br>• Gamification statistics (points earned, check-in streaks)<br>• Noted Weekly Weather reports<br>3. The System stores the generated reports and makes them accessible through dashboards for authorized users (Doctors, Nurses, Administrators). |
| Alternative Flows | **A1. No data available:** If no data exists for the requested period, the system displays “No data available” in the dashboard.<br>**A2. Report generation error:** If data processing fails, the system logs the error and optionally retries the report generation.<br>**A3. Unauthorized access:** If a non-authorized user attempts to view reports, the system denies access and logs the attempt. |

# **UML Use Case Description:** Trigger Health Trend Updates

| USE CASE #1: | **TRIGGER HEALTH TREND UPDATES** |
|---|---|
| Primary Actor: | System |
| Goal | The system periodically updates health dashboards to reflect new survey inputs, appointment results, and clinic data. |
| Preconditions | • Latest user data and health inputs are available. |
| Postconditions | • Health dashboards display updated and accurate insights. |
| Trigger | System receives new records. |
| Main Flow | 1. The System scans for new student survey submissions or appointment records.<br>2. The System recalculates relevant health statistics, such as:<br>• Trends in reported symptoms<br>• Average consultation reasons<br>• Attendance patterns for check-ins or appointments<br>3. The Dashboard visuals are updated in real time, ensuring authorized users (Doctors, Nurses, Administrators) see the latest metrics. |
| Alternative Flows | **A1. No new records detected:** If no new surveys or appointments are found, the dashboard remains unchanged.<br>**A2. Update calculation fails:** If recalculation of statistics fails, system logs the error and keeps previous metrics.<br>**A3. Dashboard refresh error:** If dashboard fails to update, the system retries and logs the error if unsuccessful. |

# **UML Use Case Description:** Detect Potential Outbreaks

| USE CASE #1: | **DETECT POTENTIAL OUTBREAKS** |
|---|---|
| Primary Actor: | System |
| Goal | The system monitors aggregated health data to detect unusual symptom patterns that may indicate a potential outbreak. |
| Preconditions | • Active collection of daily health surveys and clinic records. |
| Postconditions | • An alert is sent to clinic and admin users if a potential outbreak is detected. |
| Trigger | System detects exceedance in defined spike levels in symptoms utilized for analysis. |
| Main Flow | 1. The System analyzes anonymized student health survey trends over time.<br>2. The System identifies abnormal spikes or unusual patterns in symptoms or illness reports.<br>3. When a potential outbreak is detected, the System sends an alert to authorized personnel (Doctors, Nurses, or Administrators) for further review and action. |
| Alternative Flows | **A1. Insufficient data:** If survey data is too sparse for meaningful trend analysis, no alert is generated.<br>**A2. False positive detection:** If abnormal spikes are detected but later invalidated (e.g., data entry error), the system retracts the alert and logs the correction.<br>**A3. Notification delivery failure:** If alert cannot be sent to personnel, the system retries and logs the failure for admin review. |

# **UML Use Case Description:** Log All Major User Activities

| USE CASE #1: | **LOG ALL MAJOR USER ACTIVITIES** |
|---|---|
| Primary Actor: | System |
| Goal | The system automatically records significant actions such as logins, record updates, and emergency reports for accountability and security purposes. |
| Preconditions | • Logging module is enabled. |
| Postconditions | • All activities are stored in the system audit log. |
| Trigger | Event-driven (Users interacts with system and logs new activities) |
| Main Flow | 1. The System detects a major event, such as:<br>• User login/logout<br>• Record creation, modification, or deletion<br>• Changes in system settings or permissions<br>2. The System records the activity details, including:<br>• User who performed the action<br>• Timestamp of the action<br>• Type of action performed<br>3. The logs are made available for administrator review to ensure accountability and system security. |
| Alternative Flows | **A1. Logging service unavailable:** If the log service fails, the system temporarily queues events until logging is restored.<br>**A2. Unauthorized action:** If an unpermitted action is attempted, the system blocks the action, logs it, and alerts the administrator.<br>**A3. Corrupted activity record:** If activity details cannot be saved due to data corruption, system logs the error and continues with subsequent events. |

# ADMIN USE-CASES

ACTOR

# **UML Use Case Description:** Manage Use Accounts

| USE CASE #1: | **MANAGE USER ACCOUNTS** |
|---|---|
| Primary Actor: | Administrator |
| Goal | To create, modify, or deactivate user accounts for students, clinic staff, SSD, and doctors. |
| Preconditions | • Administrator is logged into the system.<br>• System access is granted to admin-level users.<br>• A user management module is available. |
| Postconditions | • User accounts are successfully created, updated, or deactivated.<br>• Account changes are logged in the audit trail. |
| Trigger | Administrator selects “User Management” from the admin panel. |
| Main Flow | 1. The system displays a list of all registered user accounts.<br>2. The Administrator selects “Add,” “Edit,” or “Deactivate” for a specific user.<br>3. The Administrator enters or updates the required user details including:<br>• First and Last Name<br>• Role [ Student \| Clinic Staff ]<br>• University email<br>• Account status [Active \| Deactivated ]<br>4. The system validates the inputs and saves the changes.<br>5. A confirmation message appears, and the update is recorded in the system’s audit trail for accountability. |
| Alternative Flows | **A1. Invalid Input:** Display “Missing or invalid user details.”<br>**A2. Action Failed:** Display “Unable to update user account. Please retry.”<br>**A3. Mismatched role:** Display “Access denied.”<br>**A4. Unauthorized Access:** Display “You do not have permission to modify these settings.” |

# **UML Use Case Description:** Configure System Settings (Security, Access Rules, Audit Trails)

| USE CASE #2: | **CONFIGURE SYSTEM SETTINGS (SECURITY, ACCESS RULES, AUDIT TRAILS)** |
|---|---|
| Primary Actor: | Administrator |
| Goal | To configure system-level settings including access roles, security parameters, and audit logging. |
| Preconditions | • Administrator is logged into the system.<br>• A configuration module is available.<br>• Admin has system privileges. |
| Postconditions | • System configurations are updated and saved.<br>• New access and security settings take effect immediately. |
| Trigger | Administrator selects “System Configuration” from the admin panel. |
| Main Flow | 1. The system displays configurable options such as security settings, access permissions, and audit parameters.<br>2. The Administrator updates the necessary configurations:<br>  • Role permissions<br>  • Password policies<br>  • Audit parameters<br>3. The system validates all modified settings.<br>4. The Administrator reviews and confirms the changes.<br>5. The system applies the new configurations and logs the update in the audit trail. |
| Alternative Flows | **A1. Unauthorized Access:** Display “You do not have permission to modify these settings.”<br>**A2. Configuration Error:** Display “Failed to apply settings. Please try again.” |

# **UML Use Case Description:** Set and Update Gamification Criteria

| USE CASE #3: | **SET AND UPDATE GAMIFICATION CIRTERIA** |
|---|---|
| Primary Actor: | Administrator |
| Goal | To set, modify, or update gamification rules, such as HP stamp points, event rewards, and participation thresholds. |
| Preconditions | • Administrator is logged into the system.<br>• A Gamification module is accessible.<br>• Existing reward configurations are available. |
| Postconditions | • Gamification rules are updated in the system.<br>• Changes are reflected in student app interfaces and dashboards. |
| Trigger | Administrator selects “Gamification Settings” from the admin panel. |
| Main Flow | 1. The Administrator accesses “Gamification Settings.”<br>2. The system displays the current HP stamp, badge, and reward configurations.<br>3. The Administrator updates the desired criteria, such as:<br>  • Points awarded per daily check-in<br>  • Weekly event or milestone rewards<br>4. The system validates all modified inputs and saves the updated settings.<br>5. The students’ app interfaces automatically reflect the new gamification criteria. |
| Alternative Flows | **A1. Invalid Configuration:** Display “Invalid reward or point value.”<br>**A2. Save Failed:** Display “Unable to update gamification settings.” |

# **UML Use Case Description:** Access Admin Dashboard

| USE CASE #4: | **ACCESS ADMIN DASHBOARD** |
|---|---|
| Primary Actor: | Administrator |
| Goal | To view overall system analytics, including user activity logs, health statistics, and audit trails. |
| Preconditions | • Administrator is logged into the system.<br>• Data sources (users, health surveys, activity logs) are available. |
| Postconditions | • Dashboard metrics are displayed.<br>• Admin may export or review data insights. |
| Trigger | Administrator selects “Admin Dashboard” from the main menu. |
| Main Flow | 1. The system loads the Admin Dashboard.<br>2. The dashboard displays key data, including:<br>  • Total user count<br>  • System uptime<br>  • Recent activity logs<br>  • Active modules and components<br>3. The Administrator filters or refreshes the displayed reports as needed.<br>4. The system updates the dashboard visuals in real-time.<br>5. The Administrator may export analytics or logs for record keeping or auditing. |
| Alternative Flows | **A1. No Data Available:** Display “No data to display at this time.”<br>**A2. Dashboard Error:** Display “Failed to load dashboard data.” |

# STUDENT USE-CASES

ACTOR

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# **UML Use Case Description:** Book and View Clinic/Dental Appointments

| USE CASE #1: | **BOOK AND VIEW CLINIC/DENTAL APPOINTMENTS** |
|---|---|
| Primary Actor: | USJ-R Tertiary Students |
| Goal | To schedule and view clinic or dental appointments conveniently through the JoseniCare app. |
| Preconditions | • Student is logged into the app.<br>• Clinic system is online and has available appointment slots. |
| Postconditions | • Appointment is successfully booked and recorded in the system.<br>• Confirmation and details are displayed to the student. |
| Trigger | Student selects the “Book” option in the application under the Schedule Appointment section. |
| Main Flow | 1. Student opens the JoseniCare app.<br>2. Student selects the option to “Book” an appointment.<br>3. System asks which campus the student is located [BASAK \| MAIN \| QUADRICENNTENIAL].<br>4. System asks if the student is booking a dental session or general check-up → [DENTAL \| CHECK-UP].<br>a. If Dental, System will ask follow up questions such as: for [CLEANING \| DENTAL FILLING (pasta)]<br>b. If Check-up, System will ask: for [Event (Sportsfest, Intramurals) \| General]<br>5. After student answers the follow-up questions, System will show available and taken slots through visual calendar.<br>6. Student will select available slot; Specify [Date & time] and enter confirmation.<br>7. System confirms availability and saves the appointment if true.<br>8. Student views confirmation details showing date, time, and appointment purpose. |
| Alternative Flows | **A1. No Available Slot:** System will inform the student and suggest the nearest available schedule instead.<br>**A2. Connection Error:** Alert “Unable to process booking. Please try again later.” |

# **UML Use Case Description:** Submit a Daily Health Survey

| USE CASE #2: | **SUBMIT A DAILY HEALTH SURVEY** |
|---|---|
| Primary Actor: | USJ-R Tertiary Students |
| Goal | To submit daily self-health assessments for wellness tracking and potential outbreak detection. |
| Preconditions | • Student is logged into the app.<br>• Clinic system is online and survey form is open for the current date. |
| Postconditions | • Survey data is recorded in the system.<br>• Health status is updated in the Health Dashboard. |
| Trigger | Student selects the “Check-in” option in the application under the Daily Health Survey section. |
| Main Flow | 1. Student opens the JoseniCare app.<br>2. Student selects the option to “Check-in” their Daily Health Survey.<br>3. The system displays the Terms and Conditions before accessing the submission form.<br>4. The system prompts the student for a subjective physical assessment, asking them to rate their general health from 1 to 5 (Healthy → Sick).<br>i. If the rating is between 3-5, System will ask for temperature, symptoms, severity and duration.<br>ii. If the rating is between 1-2, the system provides a positive message acknowledging the student’s good health and asks them to confirm the absence of common symptoms.<br>5. After completing the questions, student confirms and submits their survey.<br>6. System will validate report and then save to database if true.<br>7. The student’s check-in progress is automatically updated and visually reflected (e.g., via progress stamp or indicator) |
| Alternative Flows | **A1. Failed Confirmation for Terms and Conditions:** Student will be asked to agree to answer the survey form.<br>**A2. Submission Error:** Display “Failed to submit form. Please try again.”<br>**A3. Report Mismatch:** Display “It seems there’s a small inconsistency. You rated your health as good but also reported some symptoms. Please review your rating to ensure it reflects how you feel.”<br>**A4. Duplicate Submission:** Display “You’ve already completed today’s survey.” |

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# **UML Use Case Description:** View Digital Health Record

| USE CASE #3: | **VIEW DIGITAL HEALTH RECORD** |
|---|---|
| Primary Actor: | USJ-R Tertiary Students |
| Goal | To access personal medical and dental records digitally. |
| Preconditions | • Student is logged into the app.<br>• Students' digital health record exists in the system.<br>• Has set their biometric login detail. Either [Fingerprint \| Facial] recognition. |
| Postconditions | • Health data are displayed securely |
| Trigger | Student selects the "View" option in the application under the Personal Records section for Digital Health Record. |
| Main Flow | 1. The student opens the JoseniCare app and navigates to the "Personal Records" page.<br>2. The student selects the option to "View" their Digital Health Record.<br>3. The system prompts the student to complete biometric login for verification.<br>4. The system retrieves the student's stored medical and dental records from the database.<br>5. The system displays the student's patient information as recorded by the clinic, including:<br>  • Name<br>  • School ID<br>  • Department<br>  • Course & Year<br>  • Noted Allergies<br>  • History of previous illnesses or accidents<br>6. The system summarizes and visualizes health data sourced from the student's submitted Health Surveys and clinic appointments, such as:<br>  • Frequency of specific symptoms (e.g., how many times cough, colds, fever occurred)<br>  • Average duration and severity of past conditions<br>  • Health trends over time (e.g., improved/stable/worsening)<br>  • Prescribed medicines<br>7. The student can interact with the visual summary (e.g., view charts or detailed breakdowns for each health category). |
| Alternative Flows | **A1. Failed Biometric login:** Prompt retry or alternative login.<br>**A2. No Health Record found:** Display "Sorry, you have no digital health record yet. Please inquire the Clinic READS for assistance."<br>**A3. Data retrieval error:** System displays "Unable to load records. Please try again later. |

# **UML Use Case Description:** View Appointment History

| USE CASE #4: | **VIEW APPOINTMENT HISTORY** |
|---|---|
| Primary Actor: | USJ-R Tertiary Students |
| Goal | To view the list and details of past clinic and dental appointments. |
| Preconditions | • Student is logged into the app.<br>• Students' appointment history record exists in the system. |
| Postconditions | • Appointment history is displayed securely |
| Trigger | Student selects the "Appointment History ->" option in the application under the Personal Records section. |
| Main Flow | 1. The student opens the JoseniCare app and navigates to the "Personal Records" page.<br>2. The student selects the button option "Appointment History ->".<br>3. The system prompts the student to complete biometric login for verification.<br>4. The system retrieves the student's stored medical and dental appointment history information from the database, including:<br>• Date & time<br>• Purpose for appointment<br>• Doctor in Charge<br>• Campus Clinic selected<br>5. The system displays the list of past appointments in chronological order (most recent first).<br>6. The student may select a specific appointment to view consultation notes or any further updates, such as follow-up check-ups or prescriptions issued by the doctor. |
| Alternative Flows | **A1. Failed Biometric login:** Prompt retry or alternative login.<br>**A2. No Appointment History found:** Display "You have no recorded clinic appointments yet."<br>**A3. Data retrieval error:** System displays "Unable to load appointment history. Please try again later. |

# **UML Use Case Description:** Report Accidents through SSD Emergency Channel

| USE CASE #5: | **REPORT ACCIDENTS THROUGH SSD EMERGENCY CHANNEL** |
|---|---|
| Primary Actor: | USJ-R Tertiary Students |
| Goal | To report accidents or emergencies directly to the Safety and Security Department (SSD). |
| Preconditions | • Student is logged into the app.<br>• Network connection is active. |
| Postconditions | • Emergency report is sent to the SSD channel.<br>• SSD receives the report and can respond. |
| Trigger | The student enters Emergency Mode and holds the “REPORT” button for 3 seconds. |
| Main Flow | 1. The student swipes from the bottom-right corner of the screen.<br>2. The SOS button appears with the prompt: “Hold for 3 seconds to send alert” and a Cancel option.<br>3. The student presses and holds the SOS button continuously for 3 seconds.<br>4. The System detects the sustained press and prompts the student to select their current floor level (e.g., Ground Floor, 2F, 3F).<br>5. The System automatically:<br>• Captures the student’s current GPS location,<br>• Records the selected floor level,<br>• Generates an emergency report, and<br>• Sends an instant alert to the SSD dashboard.<br>6. The SSD receives the alert containing the student’s name, floor level, location, and timestamp.<br>7. The System confirms to the student that the SOS has been successfully sent. |
| Alternative Flows | **A1. Premature Release:** If the student releases the SOS button before 3 seconds, the alert is canceled and no report is sent.<br>**A2. Location Service Disabled:** System prompts: “Enable location services to send emergency alert.”<br>**A3. Connection Error:** System retries sending the alert or queues it until a stable connection is available.<br>**A4. False Trigger:** If the student taps “Cancel” before the 3-second hold is completed, the alert is aborted and the screen returns to normal.” |

# **UML Use Case Description:** Interact with “Jose” Chatbot

| USE CASE #6: | **INTERACT WITH “JOSE” CHATBOT** |
|---|---|
| Primary Actor: | USJ-R Tertiary Students |
| Goal | To get quick responses to health-related inquiries, clinic doctor availability status, and app guidance through the AI chatbot “Jose.” |
| Preconditions | • Student is logged into the app.<br>• Chatbot system is active. |
| Postconditions | • Student receives helpful information or is directed to proper in-app services. |
| Trigger | Student opens and messages the Josenicare chatbot “Jose” |
| Main Flow | 1. The student opens the JoseniCare app chat interface.<br>2. The student types a question or request in the text box (e.g., “How do I book an appointment?” or “What are today’s clinic hours?”).<br>3. The system’s Chatbot processes the input using Natural Language Processing (NLP) to determine intent and context.<br>4. The Chatbot displays a relevant response or provides links and resources, such as:<br>• Health tips or self-care reminders<br>• Appointment details or scheduling assistance<br>• Doctor availability and clinic hours<br>• Guidance on how to use JoseniCare features<br>5. The conversation continues or ends depending on the student’s follow-up questions or satisfaction with the response. |
| Alternative Flows | **A1. Unrecognized Input:** Chatbot displays “I didn’t catch that, please rephrase for me.”<br>**A2. System Unavailable:** Display “Jose is taking a break. Please come back later :D”<br>**A3. Message limit reached:** Display “Limit reached. Please start new chat.”<br>**A4. Chatbot limitation:** If Chatbot can’t resolve inquiry, display “Please proceed to the nearest Clinic for further assistance.” |

# **UML Use Case Description:** Track Gamification Progress

| USE CASE #7: | **TRACK GAMIFICATION PROGRESS** |
|---|---|
| Primary Actor: | USJ-R Tertiary Students |
| Goal | To monitor earned HP stamps, weekly achievements, and event participation rewards. |
| Preconditions | • Student is logged into the app.<br>• Gamification system is active and updated with recent user activity. |
| Postconditions | • Gamification data through visual check-in stamp is displayed accurately. |
| Trigger | Student selects “My Progress” in the Health & Progress section. |
| Main Flow | 1. The student opens the My Progress dashboard within the JoseniCare app.<br>2. The system retrieves the student’s Health Points (HP) data, including stamps, badges, and reward summaries.<br>3. The system displays both weekly and cumulative points, visualized through stamp collections and coupon-style icons.<br>4. The student views detailed progress and may check reward eligibility or milestone achievements (consecutive daily check-ins → reapable benefits). |
| Alternative Flows | **A1. No Data Available:** Displays “No progress yet. Complete your daily health check-ins to start earning stamps!”<br>**A2. Data Retrieval Error:** Displays “Unable to load your progress. Please try again later.” |

# SSD
# USE-CASES

ACTOR

# **UML Use Case Description:** Receive Emergency Reports

| USE CASE #1: | **RECEIVE EMERGENCY REPORTS** |
|---|---|
| Primary Actor: | Security & Safety Department Officer |
| Goal | To receive and respond to emergency reports submitted by students through the SSD emergency channel. |
| Preconditions | • System is online and connected to the central database.<br>• Student has submitted a valid emergency report. |
| Postconditions | • Emergency report is logged in the system.<br>• SSD is notified and can take appropriate action. |
| Trigger | A student submits an emergency report through the emergency channel connected to the SSD. |
| Main Flow | 1. The SSD dashboard receives a real-time notification of an SOS alert.<br>2. The System displays the alert containing:<br>• The student's name and ID,<br>• Their GPS location and floor level (shown on a map), and<br>• The timestamp of the alert.<br>3. SSD personnel open the alert details to verify authenticity and urgency.<br>4. The SSD assigns the case to a responder team or directly logs response details.<br>5. The System updates the alert status to "In Progress."<br>6. The SSD monitors the response progress in real time.<br>7. Once the situation is resolved, the SSD closes the alert.<br>8. The System records the incident closure details in the emergency log. |
| Alternative Flows | **A1. Network Delay:** If the alert is delayed, the system retries data synchronization and marks the case with "Pending Confirmation."<br>**A2. Incomplete Data:** If GPS or user details are missing, the system flags the alert and allows SSD to request verification.<br>**A3. Duplicate Alert:** System detects duplicate reports and merges them under a single incident log. |

# **UML Use Case Description:** Access Allergy Information (Limited View)

| USE CASE #2: | **ACCESS ALLERGY INFORMATION (LIMITED VIEW)** |
|---|---|
| Primary Actor: | Security & Safety Department Officer |
| Goal | To access essential allergy or health restriction data of a student during an emergency. |
| Preconditions | • SSD officer has valid credentials and clearance.<br>• Student's record exists in the system. |
| Postconditions | • Allergy/health restriction information is displayed temporarily.<br>• Access is logged for audit. |
| Trigger | SSD officer requests allergy data during emergency. |
| Main Flow | 1. The SSD officer requests to view a student's health information during an emergency.<br>2. The System verifies the officer's access rights and authorization level.<br>3. Upon validation, the System retrieves and displays limited health data — specifically noted allergies and other critical medical alerts.<br>4. The SSD officer views and records the essential information for response purposes.<br>5. For privacy protection, the System automatically closes the record after viewing and logs the access in the audit trail. |
| Alternative Flows | **A1. Unauthorized Access Attempt:** System denies request and logs incident.<br>**A2. Record Not Found:** System notifies that student data is unavailable. |

# **UML Use Case Description:** Manage Emergency Reports

| USE CASE #2: | **MANAGE EMERGENCY REPORTS** |
|---|---|
| Primary Actor: | Security & Safety Department Officer |
| Goal | To monitor, update, and close emergency cases, ensuring accurate incident tracking, communication, and documentation. |
| Preconditions | • SSD officer is logged into the system.<br>• An emergency report exists in the system. |
| Postconditions | • Emergency report status is updated and saved.<br>• Notifications are sent to relevant users (student reporter, clinic staff, admin).<br>• Closed incidents are archived with complete closure details. |
| Trigger | SSD officer selects an emergency report from the system for update or closure. |
| Main Flow | 1. The SSD officer opens the list of active emergency reports.<br>2. The System displays all current reports along with their details and status.<br>3. The SSD officer selects a specific report to manage.<br>4. The SSD officer updates the report's status (e.g., Responding, Resolved).<br>5. The System validates and saves the updated status.<br>6. The System sends automated notifications to relevant parties (e.g., clinic, administrators, responders).<br>7. If the report is marked as "Resolved," the System prompts the officer to log closure details.<br>8. The SSD officer completes the closure form (actions taken, time resolved, incident summary).<br>9. The System validates and saves the closure report.<br>10. The System marks the incident as Closed and archives it. |
| Alternative Flows | **A1. Invalid Status Selection:** System displays an error and prompts for a valid status.<br>**A2. Missing Required Fields (during closure):** System prompts SSD officer to complete all mandatory fields.<br>**A3. Connection Failure:** System temporarily saves updates locally and syncs once the connection is restored.<br>**A4. Save/Submission Error:** System retries saving up to 3 times before displaying an error message. |

# CLINIC STAFF USE-CASES

ACTOR

# **UML Use Case Description:** Manage Appointment Scheduling

| USE CASE #1: | **MANAGE APPOINTMENT SCHEDULING** |
|---|---|
| Primary Actor: | Clinic Staff (Clinic READS and In-Charge Nurse) |
| Goal | To monitor, review, or adjust clinic and dental consultation schedules as needed. |
| Preconditions | • Nurse and Clinic READS is logged into the web.<br>• Appointment scheduling module is accessible.<br>• Student appointments are already being booked automatically by the system. |
| Postconditions | • Appointment records are updated if manually adjusted.<br>• Notifications are sent to affected students or doctors (if rescheduled or cancelled) |
| Trigger | Authorized individual opens the “Appointments Overview” page in the web app. |
| Main Flow | 1. The authorized nurse or clinic READS logs in to the JoseniCare Clinic Admin Dashboard.<br>2. The system displays a calendar-based view showing daily appointment slots and confirmed bookings (automatically scheduled through the student check-in system).<br>3. The nurse reviews upcoming appointments, including details such as:<br>  • Date and time<br>  • Student name and ID<br>  • Purpose of appointment<br>  • Assigned doctor or service type<br>4. The nurse may manually adjust appointments through the calendar interface — including rescheduling, cancelling, or reassigning slots if conflicts occur or verification is needed.<br>5. The system updates the appointment records accordingly.<br>6. The system sends notifications to all affected users (students, doctors, or SSD staff) reflecting the updated schedule or status changes. |
| Alternative Flows | **A1. No Appointments Found:** Displays: “No appointments booked for this date.”<br>**A2. Conflict Detected: Alerts:** “This slot conflicts with another booking. Please adjust or select a different time.”<br>**A3. Network or Update Error:** Displays: “Failed to update schedule. Please try again later.” |

# **UML Use Case Description:** Track Anonymized Survey Results

| USE CASE #2: | TRACK ANONYMIZED SURVEY RESULTS |
|---|---|
| Primary Actor: | Clinic Staff (Clinic READS and In-Charge Nurse) |
| Goal | To monitor overall student health trends from anonymized daily health surveys. |
| Preconditions | • Nurse and Clinic READS is logged into the web.<br>• Survey responses exist in the database. |
| Postconditions | • Summary of anonymized survey data is displayed in the dashboard. |
| Trigger | Authorized individual opens the “Survey results” dashboard in the web app. |
| Main Flow | 1. The nurse logs in and accesses the “Survey Results” section from the JoseniCare dashboard.<br>2. The system retrieves anonymized data collected from student health survey submissions.<br>3. The system processes and generates graphical summaries such as:<br>• Symptom frequency distributions (e.g., cough, fever, headache trends)<br>• Average reported temperature levels<br>• Health status trends over specific time ranges (e.g., weekly, monthly)<br>4. The nurse views and interprets the summarized results for monitoring campus health trends or identifying potential outbreaks. |
| Alternative Flows | **A1. No Survey Data Found:** Displays: “No survey data available for the selected period.”<br>**A2. Data Processing Error:** “Unable to generate summary. Please try again later.”<br>**A3. Network or Update Error:** Displays: “Failed to update dashboard. Please try again later.” |

JoseniCare
USE CASE DIAGRAM

# **UML Use Case Description:** View Doctor's Prescriptions or Notes

| USE CASE #3: | VIEW DOCTOR'S PRESCRIPTIONS OR NOTES |
|---|---|
| Primary Actor: | Clinic Staff (Clinic READS and In-Charge Nurse) |
| Goal | To access and review doctors' treatment notes or prescriptions for proper documentation and follow-up. |
| Preconditions | • Nurse and Clinic READS is logged into the web.<br>• Doctor's notes or prescriptions exist in the patient's record. |
| Postconditions | • Doctor's notes are displayed for viewing.<br>• Optional download or print function is available. |
| Trigger | Authorized individual selects a patient record and opens the consultation details. |
| Main Flow | 1. The nurse searches for or selects a patient from the clinic database.<br>2. The system retrieves the corresponding consultation data, including:<br>• Appointment Purpose<br>• Visit history<br>• Doctor's notes<br>• Prescriptions<br>3. The nurse views the doctor's notes, prescribed medications, and any related instructions.<br>4. The nurse may download or print the consultation file for official clinic documentation or follow-up use. |
| Alternative Flows | **A1. Patient Record Not Found:** Displays: "No consultation records found for this patient."<br>**A2. Access Restricted:** Displays: "You are not authorized to view this record."<br>**A3. Download/Print Error:** Displays: "Failed to export file. Please try again later." |

# **UML Use Case Description:** Manage Resource Inventory Dashboard

| USE CASE #4: | MANAGE RESOURCE INVENTORY DASHBOARD |
|---|---|
| Primary Actor: | Clinic Staff (Clinic READS and In-Charge Nurse) |
| Goal | To monitor and update the inventory of clinic resources such as medicines and medical supplies. |
| Preconditions | • Nurse and Clinic READS is logged into the web.<br>• Inventory module is functional. |
| Postconditions | • Resource quantities are updated (added/edited/removed) and saved.<br>• Alerts are triggered for low-stock or near-expiry items.<br>• Inventory audit trail logs the action. |
| Trigger | Authorized individual accesses “Resource Dashboard” |
| Main Flow | 1. System displays a list of current medical supplies and quantities.<br>2. Nurse chooses an action: Add Item, Edit Item, or Remove Item.<br>3. Nurse enters item details (name, SKU/code, quantity, unit, expiration date, notes).<br>4. System validates the input fields (required fields, numeric quantities, valid dates).<br>a. If adding a new item: system checks whether an item with the same SKU or matching name already exists.<br>◦ If no existing item found → system creates the new inventory record.<br>◦ If an existing item is found → system prompts the nurse to either merge quantities (update existing record), create separate batch/entry (if different lot/expiry), or cancel the add operation.<br>b. If removing an item: system asks for confirmation, then marks item as removed or archived.<br>5. System saves the changes and updates the dashboard in real time.<br>6. System logs the action in the audit trail and triggers low-stock/expiry alerts if thresholds are crossed.<br>7. System displays a success confirmation to the nurse. |
| Alternative Flows | **A1. Invalid Entry:** If required fields are missing or invalid (e.g., negative quantity, invalid date), system highlights errors and prompts correction.<br>**A2. Duplicate Item Detected (Add action):** If an item with the same SKU/name exists, system prompts the nurse with options:<br>• Merge quantities (add the entered quantity to existing record),<br>• Create separate batch/lot (if different expiry/lot), or<br>• Cancel the add operation.<br>*The chosen option is executed; if merge/create is chosen, system validates and saves accordingly.*<br>**A3. Update/Save Failed:** If the system cannot save changes (e.g., DB error, network issue), it displays “Inventory not updated. Please retry.” and queues the change for retry if possible; it also logs the error and alerts admin if repeated. |

# **UML Use Case Description:** View Health Dashboards

| USE CASE #5: | VIEW HEALTH DASHBOARDS |
|---|---|
| Primary Actor: | Clinic Staff (Clinic READS and In-Charge Nurse) |
| Goal | To view aggregated health data and insights from student health records and surveys. |
| Preconditions | • Nurse and Clinic READS is logged into the web.<br>• Health data exists in the system. |
| Postconditions | • Health trends are displayed for clinic reference. |
| Trigger | Authorized individual accesses “Health Dashboard” module. |
| Main Flow | 1. The nurse opens the “Health Dashboard” from the JoseniCare system interface.<br>2. The system retrieves aggregated health data, including:<br>• Commonly reported symptoms<br>• Average consultation reasons<br>• Student attendance and visit trends<br>3. The system displays the information through data visualizations, such as charts, graphs, and summary tables.<br>4. The nurse reviews and analyzes the results to support clinic planning, resource allocation, or early trend detection. |
| Alternative Flows | **A1. No Data Available:** Displays: “No recent health data available for dashboard display.”<br>**A2. Dashboard Error:** Displays: “Unable to load analytics.” |

# **UML Use Case Description:** Export or Print Patient Consultation Records

| USE CASE #6: | **EXPORT OR PRINT PATIENT CONSULTATION RECORDS** |
|---|---|
| Primary Actor: | Clinic Staff (Clinic READS and In-Charge Nurse) |
| Goal | To export or print records of student consultations for documentation or reporting purposes. |
| Preconditions | • Nurse and Clinic READS is logged into the web.<br>• Patient consultation records are available. |
| Postconditions | • Selected consultation record is exported or printed successfully. |
| Trigger | Authorized individual selects “Export” record from patient details. |
| Main Flow | 1. The nurse opens a patient’s consultation record from the clinic database.<br>2. The system displays available export and print options, such as PDF (.pdf) or WORD (.docx).<br>3. The nurse selects the preferred file format and confirms the export or print action.<br>4. The system generates the requested document and downloads or prints it for clinic documentation use. |
| Alternative Flows | **A1. No Record Selected:** Prompt nurse to select a record first.<br>**A2. File Generation Failed:** Display “Export failed. Please try again.” |

# DOCTOR USE-CASES

ACTOR

# **UML Use Case Description:** Access and Update Individual Digital Health Records

| USE CASE #1: | **ACCESS AND UPDATE INDIVIDUAL DIGITAL HEALTH RECORDS** |
|---|---|
| Primary Actor: | Doctor |
| Goal | To view a student's comprehensive health record for diagnosis and record consultation notes or prescriptions for future reference. |
| Preconditions | • Doctor is authenticated and authorized to access student records.<br>• Student's health record exists in the system.<br>• The student has an active or past appointment. |
| Postconditions | • Student's health record is displayed and may be updated.<br>• Any added notes or prescriptions are saved and timestamped.<br>• Access and modifications are logged for audit purposes. |
| Trigger | Doctor selects a student's record from the appointment list or search results. |
| Main Flow | 1. The doctor opens the appointment list and selects a student.<br>2. The System verifies the doctor's access permissions for that record.<br>3. Upon successful verification, the System retrieves the student's Digital Health Record, including:<br>  • Medical history<br>  • Allergies<br>  • Previous visits and consultations<br>4. The doctor reviews the existing health information.<br>5. The doctor adds or edits the diagnosis notes, treatment details, and prescriptions.<br>6. The System validates all entered information for completeness and format.<br>7. The doctor confirms and submits the updates.<br>8. The System saves the new information to the student's record.<br>9. The System logs all viewing and editing actions with corresponding timestamps for audit purposes.<br>10. A confirmation message appears indicating that the record has been successfully updated. |
| Alternative Flows | **A1. Unauthorized Access Attempt:** System denies access and logs incident.<br>**A2. Record Not Found:** System displays "No health record available."<br>**A3. Save/Update Failure:** System notifies the doctor of a failed save and prompts a retry.<br>**A4. Missing Required Information:** System prompts the doctor to complete mandatory fields |

# **UML Use Case Description:** View Anonymized Health Trends (Dashboard)

| USE CASE #2: | **VIEW ANONYMIZED HEALTH TRENDS DASHBOARD** |
|---|---|
| Primary Actor: | Doctor |
| Goal | To view aggregated and anonymized student health data for trend analysis. |
| Preconditions | • Doctor is authenticated.<br>• System is operational and health survey data is available. |
| Postconditions | • Dashboard displays anonymized health trend visuals. |
| Trigger | Doctor selects “Health Trends” dashboard option in interface. |
| Main Flow | 1. The doctor navigates to the Dashboard menu.<br>2. The System retrieves aggregated data from student health surveys and consultation records.<br>3. The System generates visual charts and summaries showing trends such as:<br>  • Most common illnesses or symptoms<br>  • Average recovery durations and<br>  • Health patterns per period or department<br>4. The doctor views and interprets the displayed data analytics.<br>5. The doctor may apply filters such as date range, category, or department to refine the analysis. |
| Alternative Flows | **A1. No Data Available:** System displays “No available data for selected filters.”<br>**A2. Dashboard Load Failure:** System retries loading and notifies the user. |

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USE CASE DIAGRAM

# **UML Use Case Description:** View Medicine Resource Utilization Dashboard

| USE CASE #3: | **VIEW MEDICINE & RESOURCE UTILIZATION DASHBOARD** |
|---|---|
| Primary Actor: | Doctor |
| Goal | To view and monitor the availability, usage trends, and expiration status of medicines in the clinic's inventory to support informed prescription decisions during consultations. |
| Preconditions | • Doctor is logged into the system.<br>• Clinic inventory data is up to date and synchronized.<br>• Doctor has viewing permission for resource utilization data. |
| Postconditions | • Dashboard displays accurate and real-time medicine inventory data, including availability and usage statistics. |
| Trigger | Doctor selects "Medicine & Resource Cabinet" dashboard option in interface. |
| Main Flow | 1. The doctor navigates to the "Medicine & Resource Dashboard."<br>2. The System verifies the doctor's account type and access rights based on their registry (Medical or Dental).<br>3. The System automatically displays the relevant resource information according to the doctor's registration:<br>a. If registered as a Clinic Doctor:<br>• Current stock levels of medicines<br>• Usage frequency per medicine<br>• Expiration alerts and soon-to-expire items<br>• Replenishment trends and availability indicators<br>b. If registered as a Dental Doctor:<br>• Current stock levels of dental supplies** (e.g., toothpaste, filling materials, sterilization tools, napkins)<br>• Usage frequency per supply item<br>• Expiration or sterilization alerts<br>• Restock and usage trend indicators<br>4. The System retrieves the latest data from the clinic inventory database in real time.<br>5. The doctor reviews the displayed data to make informed prescription or treatment decisions. |
| Alternative Flows | **A1. Inventory Data Unavailable:** System displays "Unable to fetch resource data."<br>**A2. Connection Error:** System retries connection or prompts to reload page. |