

## **SW9 Project CampusSafe User Stories and Traceability Matrix:**

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### **User Stories:**

#### **User Story / Feature 1: User Login / Account Creation (User Story ID: US01)**

##### **User Request:**

*As a registered user, I want to log into the application or create a new account so that I can access the application and make or view reports.*

##### **Scenarios for User Log-in:**

###### ***1.a: Successful Log-in***

Given that the user is on the log-in page,  
When the user attempts to log in,  
and both the username and password are filled,  
Then the user should be taken to a home page  
where they can submit or see reports.

###### ***Scenario 1.b: Empty Field(s)***

Given that the user is on the log-in page,  
When the user attempts to log in,  
And the password and/or username are left unfilled,  
Then the following text “Missing username/password” is displayed to the user  
and the user is not logged into the system

### ***Scenario 1.c: Account Creation***

Given that the user is on the log-in page,

When the user attempts to log-in and their credentials are not in the system

Then the user will be prompted to create a new account so that they can be logged into the application.

### **User Story 2 / Feature 2: Report an Incident (User Story ID: US02)**

#### **User Request:**

*As a user I want to report an incident that has happened or is currently happening so that others are informed and notified.*

#### **Scenarios for Report:**

##### ***2a: Successful Report***

Given that the user is on the “Report an Incident” Page,

When the user fills out their Name, Incident Type, Incident Information, and Incident Location, and whether the incident is ongoing or not.

Then when the user submits, the info is sent to the database and subsequently displayed as a notification to all users.

##### ***2b. Missing Information***

Given that the user is on the “Report an Incident” Page,

When the user leaves a field on the report blank (their name, incident location, incident description, and/or incident type),

Then the user is prompted to fill in the respective field as “Please fill in [missing field]” on the report and the report is not submitted.

### **User Story 3 / Feature 3: Find a Report (User Search) (User Story ID: US03)**

#### **User Request:**

*As a user, I want to access past reports based on date, location or type, so that I am informed about past incidents in the area.*

#### **Scenarios for Finding a Report:**

##### ***3.a Report Found/Not Found via Date***

Given that a user is on the “Find-A-Report” Page,  
When they write a valid date in MM/DD/YYYY,  
and there were or were no incident(s) occurring on that day,  
Then the user can see all incidents that occurred on that date,  
or “No incidents on MM/DD/YYYY” if no incidents had occurred on that date.

##### ***3.b Report Found/Not Found via Location***

Given that a user is on the “Find-A-Report” Page,  
When they request an incident based on a valid location stored in the database,  
And there were or were no incident(s) at that location,  
Then the user can see all incidents that occurred at that location from most recent to least recent,  
Or “No incidents occurred at [location].” if no incidents had occurred at that location

##### ***3.c Report Found/Not Found via type***

Given that a user is on the “find-a-report” page,  
When they request an incident based on incident types,  
And there were or weren’t any incident(s) of that type,  
Then the user can see all incidents of that type that have occurred from most recent to least recent,  
Or “No incidents of that type have been recorded as of [Date]” if no such incidents exist

## **User Story 4 / Feature 4: Easy Access to Safety Information (User Story ID: US04)**

### **User Request:**

*As a user, **I want** to access readily available information about safety such as guides and videos, **such that** I can improve my safety and the safety of others.*

### **Scenarios:**

#### **4.1 Access via Menu**

Given that the user is on any other page in the application,

When the user uses the menu at the top of the application and chooses the “Safety Resources” option.

Then the user is directed to the safety resources page where they can access the information.

## **User Story 5 / Feature 5: Emergency Alert Notification (User Story ID: US05)**

### **User Request:**

*As a user, **I want** to be able to receive notifications about incidents happening around campus, **such that** I stay informed of any situations that may threaten my safety.*

### **Scenarios:**

#### **5.a Receive Notification via Text [SECONDARY FORM OF CONTACT]**

Given that a user has a cell number attached to their user,

When an alert is pushed out by the system about an incident,

Then the user will receive a notification via SMS about the details of the incident.

#### **5.b Receive Notification via Email [PRIMARY FORM OF CONTACT]**

Given that a user has an email address attached to their user,

When an alert is pushed out by the system about an incident,

Then the user will receive a notification via email about the incident details.

#### **5.c Receive Notification via Application [PRIMARY FORM OF CONTACT]**

Given that a user is on the application,

When an incident is reported,

Then the application will display the warning on top of their page and any incident details thereafter.

## **User Story 6 / Feature 6: Follow-Up Information (User Story ID: US06)**

### **User Request:**

*As a user, **I want** to be able to receive any follow-up information, **so that** I can stay well-informed of a developing and ongoing situation.*

### **Scenario:**

#### ***6.a Reporting New Details about an Incident to send out a new Notification***

Given that the user is on the “Report-An-Incident” Page,

When the user is about to start a report, the user should be prompted on whether this report is about an ongoing situation or not,

If this report is about an ongoing situation, the user is given a list of ongoing situations and is prompted to choose which one this information is a part of before filling in the incident report.

Otherwise, the user can create a new incident report.

#### ***6.b Receiving Notification about New Details about an Incident***

Given that the user is online and receiving notifications,

When a user is notified of ongoing details and updates about an incident,

Then the notification will be displayed as:

“Notification of Ongoing [Type of] Incident at [Location]: New Details.”

## User Story 7 / Feature 7: Feedback Form (User Story ID: US07)

### User Request:

*As a user, I want to be able to submit feedback forms to the developers of this application, **such that** I can express any frustrations with the user experience or any unexpected bugs.*

### Scenarios:

#### **7.a Feedback Form Via Menu**

Given that the user is on the website

When they open the menu navigation and open “Feedback Form”

Then the user is directed to a simple form where they can add their email address and feedback.

##### *7.a.1 Missing Field(s)*

Given that a user is submitting a form

When a field is left blank (e.g. Feedback, email, etc.)

Then the user is notified that a field is left blank and needs to be filled in.

##### *7.a.2 Successful Submit*

Given that a user is submitting a form

When all fields are filled in

Then the form is successfully submitted.

## **User Story 8 / Feature 8: Timeline of Events (User Story ID: US08)**

### **User Request:**

*As a user, I want to be able to see all report(s) relating to an incident, **such that** I can see any timeline of events during said incident.*

### **Scenarios:**

#### ***8.a Multiple Reports Tied to One Incident***

Given that the user is on the “Find-An-Incident”,

When they choose an incident to look over and the incident has multiple reports attached to it (i.e. multiple people reported the same incident)

Then the user will be shown a pseudo-timeline of reports where the start of an incident is at the top of the list and the most recent report will be at the bottom of the list.

#### ***8.b One Report for One Incident***

Given that the user is on the “Find-An-Incident”,

When they choose an incident to look over, and the incident only has one report attached to it (i.e. only one report about the incident was made)

Then the User will only be shown the details of that single report.

## **User Story 9 / Feature 9: Priority Notifications (User Story ID: US09)**

### **User Request:**

*As a user, I want to receive emergency alerts and incident updates instantly, **such that** I can take immediate action to protect myself during an emergency.*

### **Scenarios:**

#### ***9a. Immediate Emergency Notification***

Given that the user is on campus,

When a critical emergency (e.g., active threat, fire, or severe weather) occurs and campus security sends an alert

Then the user will receive the notification within seconds to ensure they can react quickly and take necessary precautions.

#### ***9b. Delayed Notification Due to Network Congestion***

Given that an emergency alert is sent to thousands of users simultaneously,

When the system experiences high network traffic,

Then the system must prioritize delivering notifications to those closest to the incident area, ensuring critical information reaches users in real-time.

#### ***9c. Real-Time Incident Updates***

Given that there is an ongoing incident,

When campus security or other users provide updates on the situation,

Then the system will push updates in real-time, allowing users to stay informed as the event unfolded.



## User Story 10 / Feature 10: Secure data handling (User Story ID: US10)

### User Request:

*As a user, I want enhanced security measures like multi-factor authentication such that I can rest assured that only I log into my profile.*

### Scenarios:

#### ***10a. Two-Factor Authentication procedures***

Given that the user is trying to log in,

When a successful log-in attempt is completed,

Then the application will ask for a 6-digit authentication code that is sent to their email address.

##### ***10.a.1 Successful 2FA***

Given that the above situation has happened,

When the user submits a 2FA code that is equal to the one sent by the system,

Then the user will be logged into the application.

##### ***10.a.2 Unsuccessful 2FA***

Given that the above situation has happened,

When the user submits a 2FA code that is not equal to the one sent by the system,

Then the user will be denied log in.

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## **Use Cases:**

### **Use Case 1: User Log-in / Account Creation (Use Case ID: UC01)**

- **Actors:** User, System
- **Description:** The user logs into our application with existing credentials or they can create a new account.
- **Preconditions:** User is on the log-in / account creation page.
- **Basic Flow (Log-in):**
  - 1.1. User selects log-in
  - 1.2. If the user is new, the user will provide their email address and a password.
  - 1.3. If the user is already in the system, the user will attempt to log in using their email address and password.
  - 1.4. The system authenticates their email address and password and logs the user in
    - 1.4.1. If this is a returning user, the user will receive a challenge 6-digit number from the system as a form of multi-factor authentication. The challenge number and response must match to continue
  - 1.5. User is brought to the homepage of the application
- **Alternate Flows:**
  1. If the user attempts to create an account using an existing account's email, then the application will throw up an error message that the email is already in use.
  2. If the user logs in with a password that does not match the account email address, then the system will ask the user to try again.
    - If the user fails to log in multiple times with the wrong password, they will be prompted to change their password.
    - If the user continues to attempt to log-in with incorrect password, the user will be timed out (i.e. increased time between log-in attempts)
  3. If the user fails the MFA, they will be sent back to the log-in page and the system will say "MFA challenge failed. Returning user back to log-in page."
- **Post Conditions:** User is logged into the system with their existing account or their new account
- **Priority:** **High**/Med/Low

## Use Case 2: Report an Incident (Use Case ID: UC02)

- **Actors:** User, system
- **Description:** A user can submit a report to the application about any threats. The system will take that report and immediately send it out to all users, prioritizing those closest to the incident location.
- **Preconditions:** User is logged into the application
- **Basic Flow:**
  1. User navigates to the “report an incident” page and creates a new incident form
  2. The system will ask if this report is a part of any ongoing incidents or a new incident.
  3. If the report is about a new incident, the system will create a new incident
    - 3.1. The user fills out the fields: incident type, location, incident details
    - 3.2. User submits the report, and the system dispatches the report as a new incident
  4. If this is a part of an ongoing incident, the system will add it to the ongoing incident via Incident ID
    - 4.1. The user fills out the fields: location, new incident details
    - 4.2. User submits the report, and the system dispatches the report as an update to the ongoing incident
- **Alternate Flow:**
  1. If the user leaves a field blank in the report, the system will prompt the user to fill in the fields and the system will not accept the report until the respective empty fields are filled.
- **Post Conditions:** User report is added to database and promptly converted into an emergency notification.
- **Priority:** High/Med/Low

### Use Case 3: Find Report(s) (Use Case ID: UC03)

- **Actors:** User, System
- **Description:** All users have access to past incidents based on location, date, and type
- **Preconditions:** User is logged into the application
- **Basic Flow:**
  1. User navigates to the “Find A Report” Tab
  2. The system displays all reports in chronological order
  3. The user shrinks down the number of reports displayed by filtering reports based on date, incident type, and location
  4. Users can then click on the incident report that they want to look at
  5. The system opens all reports relating to the incident which include the original first incident report and any updates
- **Alternate Flow:**
  1. If no reports exist on a given date, at a given location, and/or of a given type, then the system will show that no incident has occurred on the given date, given location, or of that given type
- **Post Conditions:** User is on their incident report that they want to look at
- **Priority:** High/Med/Low

### Use Case 4: Safety Information (Use Case ID: UC04)

- **Actors:** User, System
- **Description:** The user has access to various types of safety information and help lines that are organized based on incident types.
- **Preconditions:** The user is logged into the application
- **Basic Flow:**
  1. User navigates to the “Helpful Resources Tab”
  2. Incident types are displayed (e.g. Active Shooter, sexual assault, etc.)
  3. Users can click on an incident type and the section expands to include all helpful information related to an incident type
- **Alternate Flow:**
- **Post Conditions:** The user has access to specified safety information and help lines.
- **Priority:** High/Med/Low

### Use Case 5: Emergency Alert Notification (Use Case ID: UC05)

- **Actors:** User, System
- **Description:** All users a part of the system will have an emergency notification sent to their email address.
- **Preconditions:** User has an account with a valid email address and a new incident report or an update on an ongoing incident has been submitted
- **Basic Flow:**
  1. The system takes the submitted report and determines if it is a part of an ongoing incident or a new occurring incident
  2. If the system determines the new report as a part of an ongoing incident, then the system will dispatch the information as follows to all user emails:
    - Subject: Update on ongoing incident [Incident ID]
    - Body: new incident location and information
  3. If the system determines the new report as the start of a new incident, then the system will generate a new incident ID and dispatch the information as follows to all user emails:
    - Subject: New Incident at [Incident Location]
    - Body: Incident details and Incident ID
  4. The email is sent to all user emails, prioritizing those who are closest to the incident location.
- **Alternate Flow:**
- **Post Conditions:** An emergency notification is sent to the user's email address
- **Priority:** **High**/Med/Low

### Use Case 6: Feedback Form (Use Case ID: UC06)

- **Actors:** User, System, Developers
- **Description:** The user can provide feedback on the application for any bug reports, grievances, and positives during the UX.
- **Preconditions:** The user is logged into the application
- **Basic Flow:**
  1. The user navigates to the “Feedback” tab
  2. The system can submit the type of report (e.g. bug report, user pros, user grievances) and any details that go along with the report
  3. The system takes the report and adds it to the database
  4. Developers can look at all submitted reports and determine the best course of action for future updates
- **Alternate Flow:**
  1. If a report type or details are missing, then the system will display an error message that the report type/description is missing, and the report is rejected.
- **Post Conditions:** The feedback form is sent to the developers for inspection and dealt with accordingly.
- **Priority:** High/**Med**/Low