

Assignment 5

Richard Bustamante

Osmosis Application

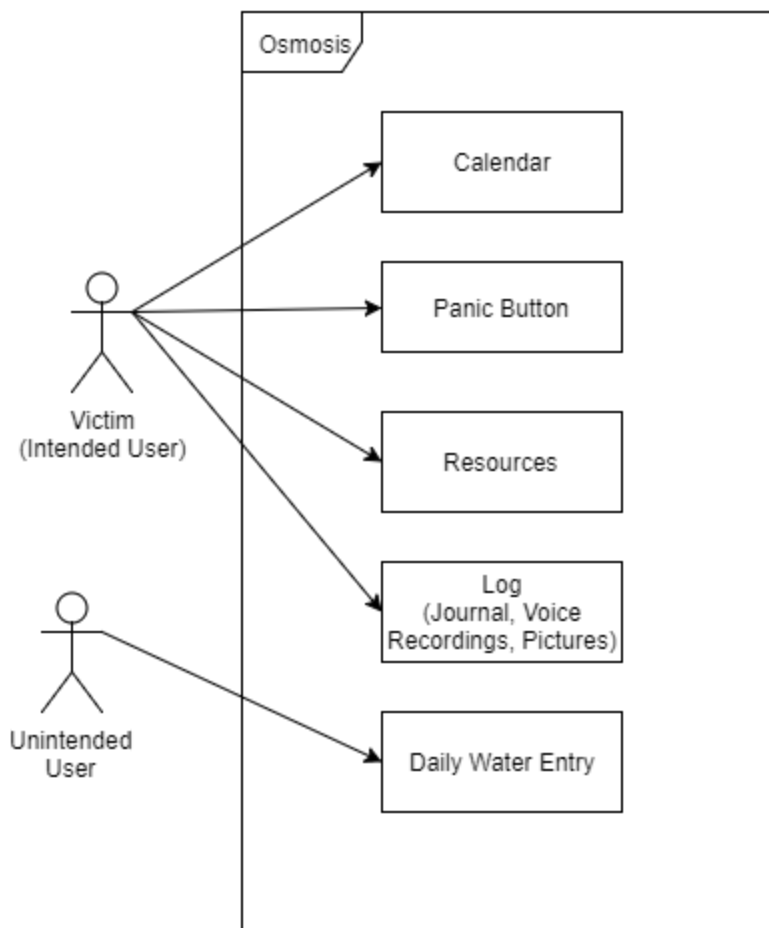
CSC 415-01

GitHub: <https://github.com/sancher6/OSS-Individual-Project->

WikiPage: <https://github.com/sancher6/OSS-Individual-Project-/wiki>

1.

Use Case Diagram:



Use Case Descriptions:

Leave a log

Iteration:

1, last modification: November 8 by Richard Bustamante

Use Case:

Access Safe N' Sound application in order to leave a log

Primary Actor:

Victim

Goal in Context:

To access logs and leave a log in the form of a voice recording, journal entry, or image.

Preconditions:

The Victim must login with the correct username and password in order to access the Safe N' Sound application.

Trigger:

The Victim has found time to leave a log based off of a domestic violence event that has occurred that day.

Scenario:

1. The Victim logs into the Osmosis-Safe N' Sound application.
2. The Victim enters in his or her username and password.
3. The Victim enters the correct parameters.
4. The Safe N' Sound application displays all major functions in the form of a navigation sidebar and a main button to leave a log.
5. The Victim selects to "Leave a log".
6. The Victim then decides to leave a log in the form of an image because that is most convenient at the time.
7. The Safe N' Sound application gives the option of taking a photo or accessing the Victims local photos.
8. The Victim takes a photo and the photo is logged with the date and time.
9. The Victim then closes the application.

Exceptions:

1. Username or password is incorrect or not recognized - see use case **Validate Username and Password**
2. Victim selects "Panic" button instead of "Leave a log" - see use case **Panic**
3. Victim selects "Calendar" instead of "Leave a log" - see use case **Calendar**
4. Victim selects "Resources" instead of "Leave a log" - see use case **Resources**

Priority:

High Priority, to be implemented before most basic functionality.

When Available:

Second increment.

Frequency of Use:

Frequent

Channel to Actor:

Via Android-based platform

Secondary Actors:

System Administrator

Channels to secondary Actors:

1. System Administrator: Database

Open issues:

1. What mechanism will be used to protect unauthorized use of this capability by unwanted users of the Safe N' Sound Application?
2. What mechanism will be used to hold all the logs and keep these logs protected from any unwanted viewers?
3. How will the microphone and camera be accessed?

Validate Username and Password

Iteration:

1, last modification: November 8 by Richard Bustamante

Use Case:

Access Osmosis application through login interface

Primary Actor:

Unwanted User

Goal in Context:

To successfully login to the Osmosis application

Preconditions:

The Unwanted User must open the Osmosis Application and wants to attempt to login to the application.

Trigger:

The Unwanted User wants to investigate the Osmosis application

Scenario:

1. The Unwanted User wants to investigate the Osmosis-Safe N' Sound application.
2. The Unwanted User opens the Osmosis-Safe N' Sound application and attempts login with an incorrect username and password.
3. The Osmosis-Safe N' Sound application denies access to the Unwanted User for incorrect parameters.
4. The Unwanted User attempts to login again with an incorrect username and password.
5. The Osmosis-Safe N' Sound application denies access to the Unwanted User for incorrect parameters.
6. The Unwanted User gives up and enters the application as a guest and is taken to the Osmosis application that is a water tracker.
7. The Unwanted User closes the Osmosis application

Exceptions:

1. Password is not guessed correctly (highly unlikely)
2. Unwanted User does not select "Forgot Password?", answers security question correctly, and accesses Victim's email to get login information

Priority:

High Priority, to be implemented after basic functions.

When Available:

Second Increment.

Frequency of Use:

Frequent.

Channel to Actor:

Via Android-based platform.

Secondary Actors:

1. System Administrator

Channels to secondary Actors:

1. System Administrator: Database

Open issues:

1. What mechanism will be used in order to prevent Unwanted Users from accessing the Safe N' Sound application?
2. What security measures will be implemented to prevent several failed login attempts?

Panic

Iteration:

- 1, last modification: November 8 by Richard Bustamante

Use Case:

Access Safe N' Sound application to use the Panic button.

Primary Actor:

Victim

Goal in Context:

To contact emergency contacts when Panic button is pressed.

Preconditions:

The Victim must enter the correct username and password to access the Safe N' Sound application.

Trigger:

It is an emergency and the Victim needs to get in contact with their emergency contact.

Scenario:

1. The Victim is in an emergency situation and needs to contact someone.
2. The Victim logs in and presses the Panic button.
3. The Safe N' Sound application is closed
4. The Victim's emergency contact is called.

Exceptions:

1. Victim inputs the wrong username and password - see use case **Validate Username and Password**.

Priority:

High Priority, to be implemented along with basic functions.

When Available:

Third Increment.

Frequency of Use:

Infrequent.

Channel to Actor:

Via Android-based platform.

Secondary Actors:

1. Emergency Contact

Channels to secondary Actors:

1. Emergency Contact: Phone Call

Open issues:

1. What mechanism will be used in order to implement an emergency phone call feature?
2. What security measures will be implemented to prevent emergency contact information from being viewed by Unwanted Users?

Calendar

Iteration:

1, last modification: November 8 by Richard Bustamante

Use Case:

Access Safe N' Sound application to view Calendar.

Primary Actor:

Victim

Goal in Context:

To view all logs in the form of a Calendar.

Preconditions:

The Victim must enter the correct username and password to access the Safe N' Sound application.

Trigger:

Victim wants to view logs and events in the form of a Calendar.

Scenario:

1. Victim logs into Osmosis-Safe N' Sound application with the correct username and password.
2. Victim selects "Calendar" from the sidebar within the Safe N' Sound application.
3. The Safe N' Sound application displays a calendar with all recent logs within their respective dates.
4. Victim then closes the Safe N' Sound application.

Exceptions:

1. Victim inputs the wrong username and password - see use case **Validate Username and Password**.

Priority:

Low priority, will be implemented at the end after basic functionality.

When Available:

Third Increment.

Frequency of Use:

Infrequent.

Channel to Actor:

Via Android-based platform.

Secondary Actors:

1. System Administrator

Channels to secondary Actors:

1. Emergency Contact: Phone Call

Open issues:

1. What mechanism will be used in order to prevent Unwanted Users from accessing the Calendar?

Resources**Iteration:**

1, last modification: November 8 by Richard Bustamante

Use Case:

Access Safe N' Sound application to view resources.

Primary Actor:

Victim

Goal in Context:

To view all resources to aid the Victim with their domestic abuse/violence.

Preconditions:

The Victim must enter the correct username and password to access the Safe N' Sound application.

Trigger:

Victim wants to view all available resources to aid them with their domestic abuse/violence.

Scenario:

1. Victim wants to view available resources to help aid them to cope with their domestic partner's abusive/violent tendencies.

Exceptions:

2. Victim inputs the wrong username and password - see use case **Validate Username and Password**.

Priority:

Low priority, will be implemented along with basic functionality.

When Available:

Second Increment.

Frequency of Use:

Frequent.

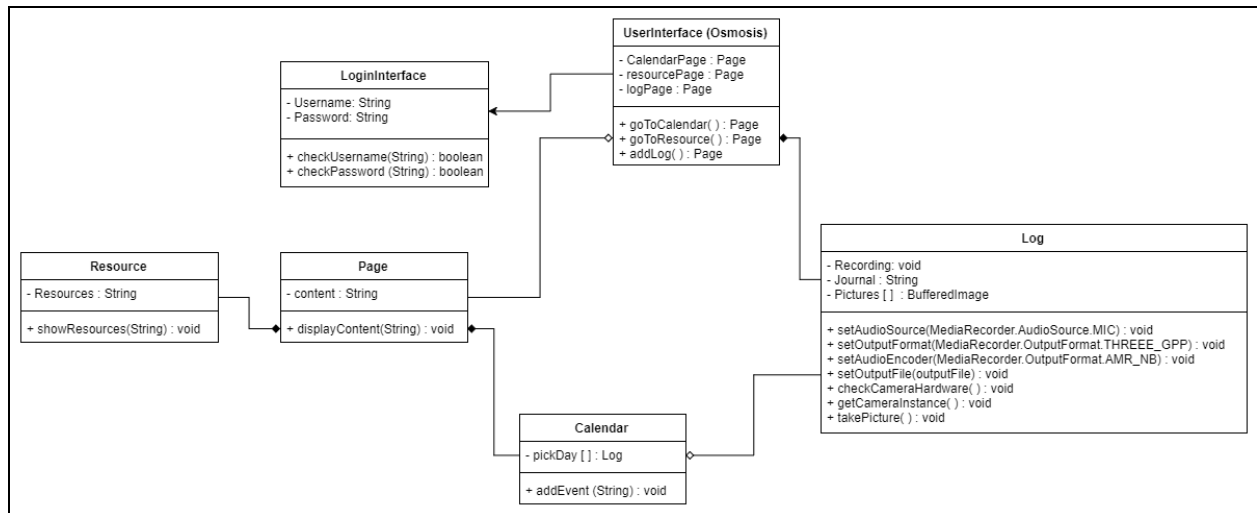
Channel to Actor:

Via Android-based platform.

Open issues:

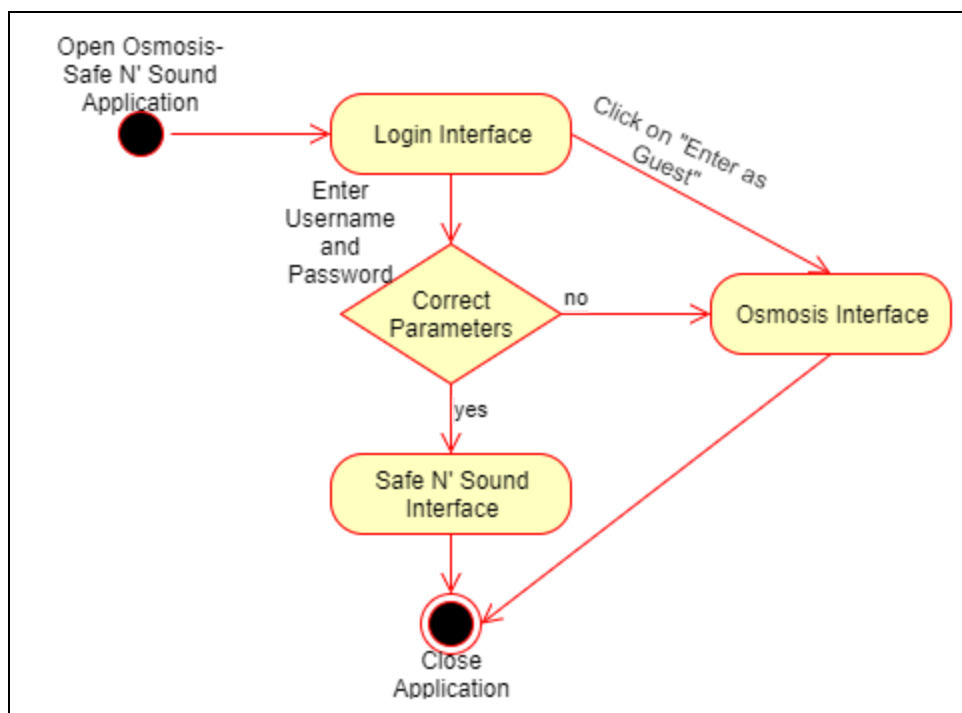
1. What mechanism will be used to update resource information?
2. What resources will be helpful to these victims?

Class Diagram:

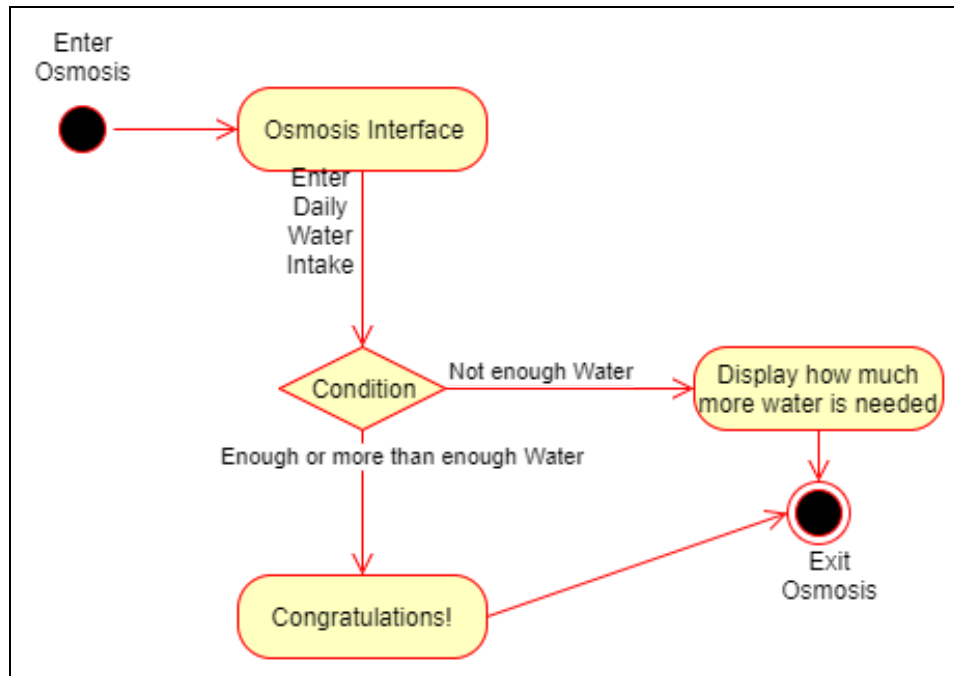


Statechart:

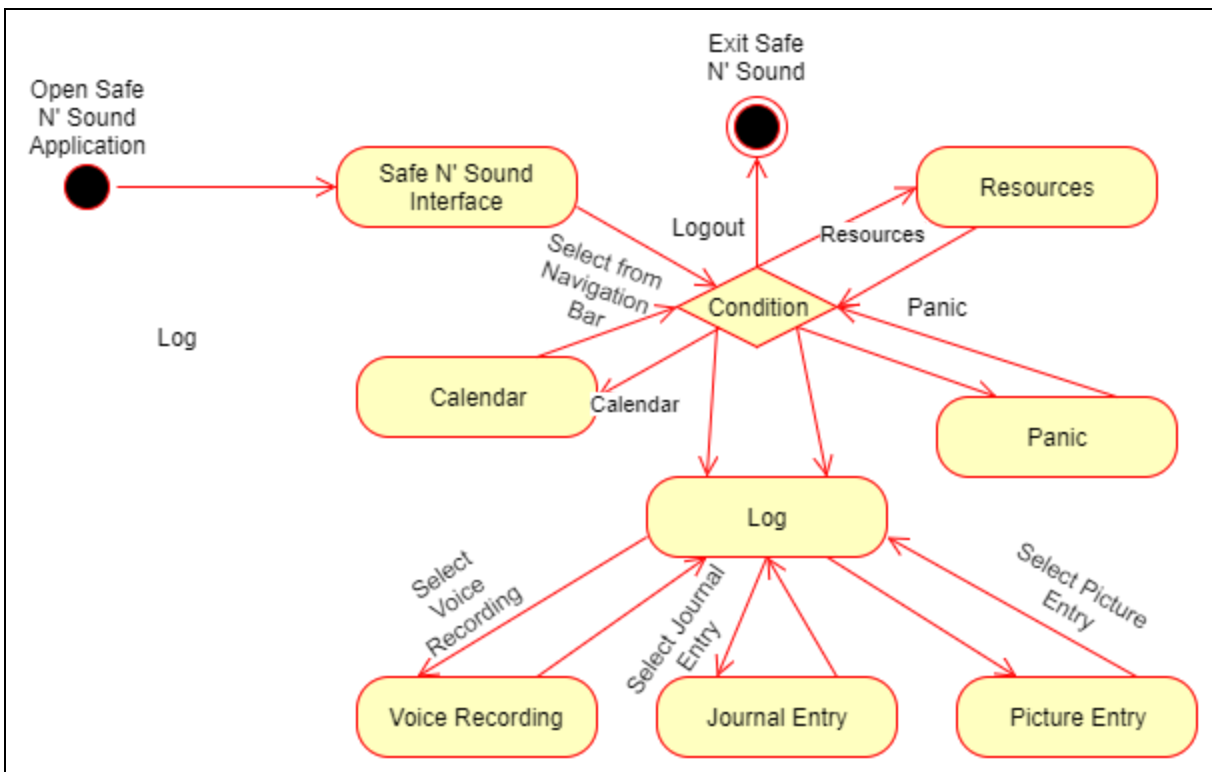
Login:



Osmosis Interface:

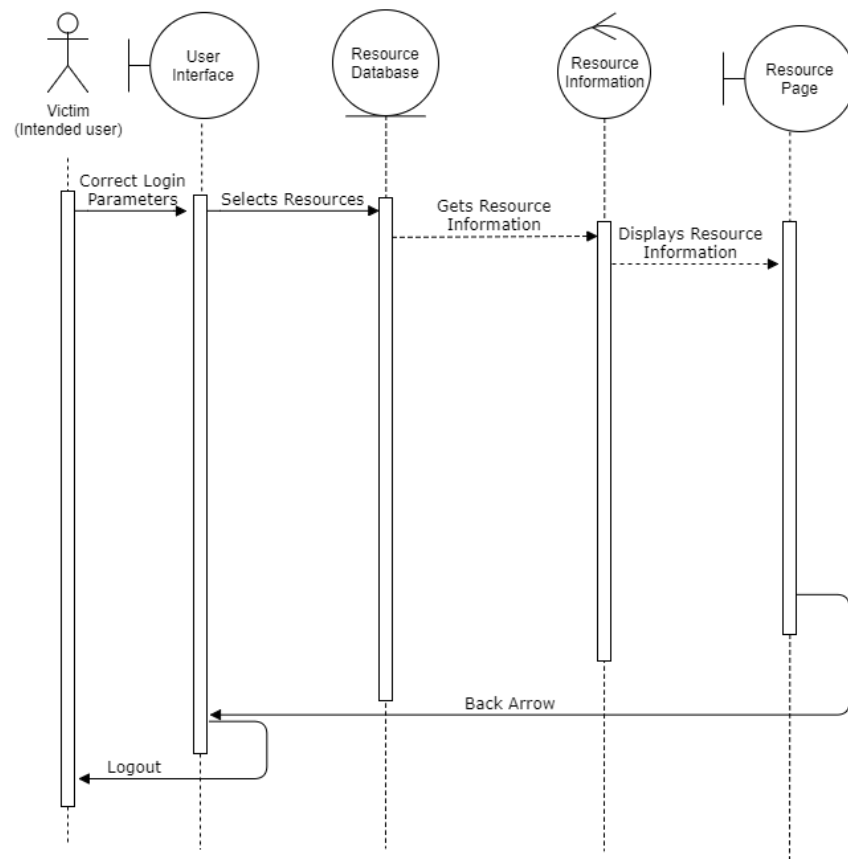


Safe N' Sound Interface:

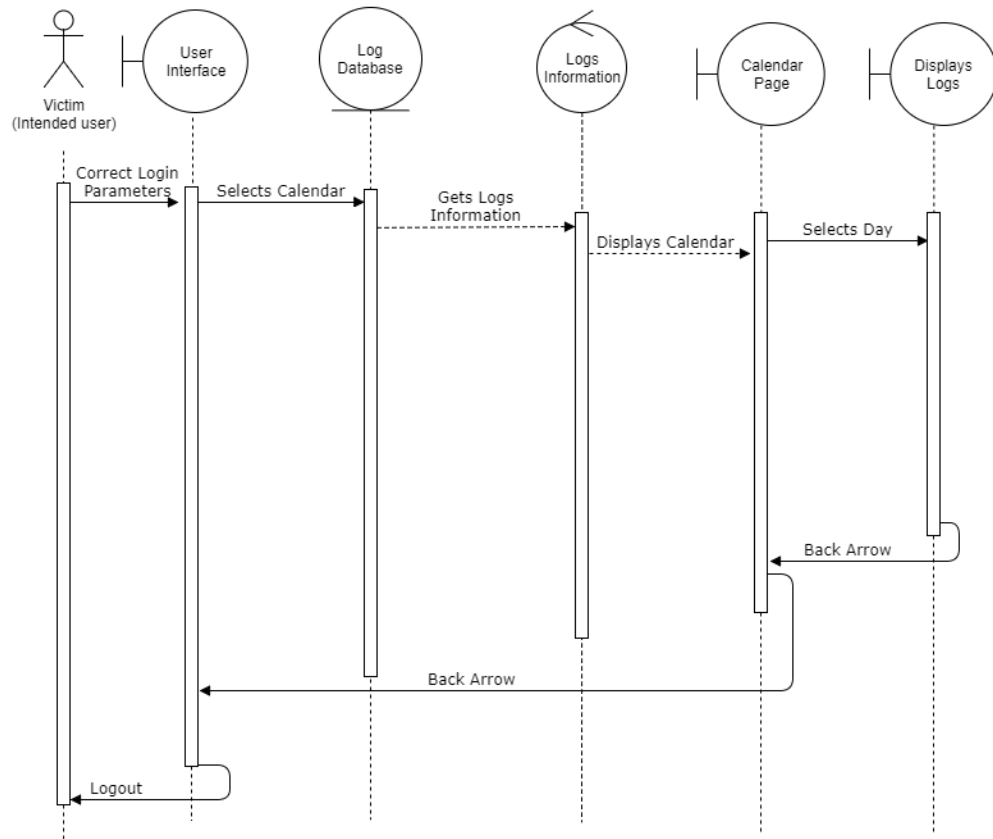


System Sequence Diagrams:

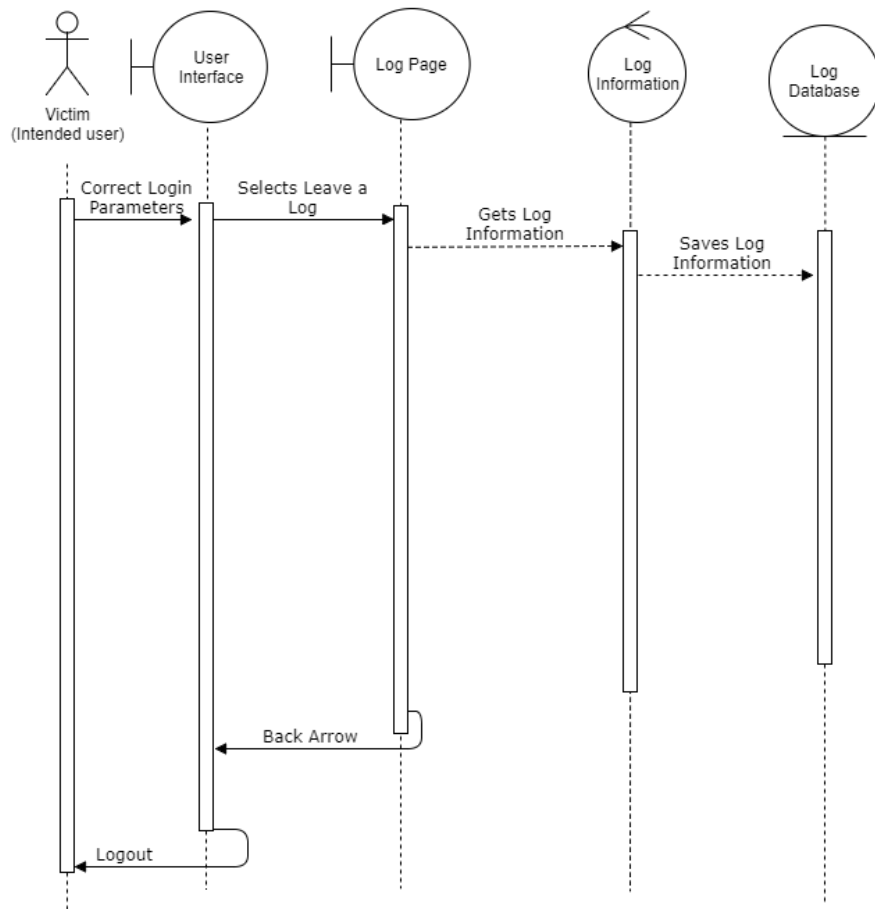
Resource Page:



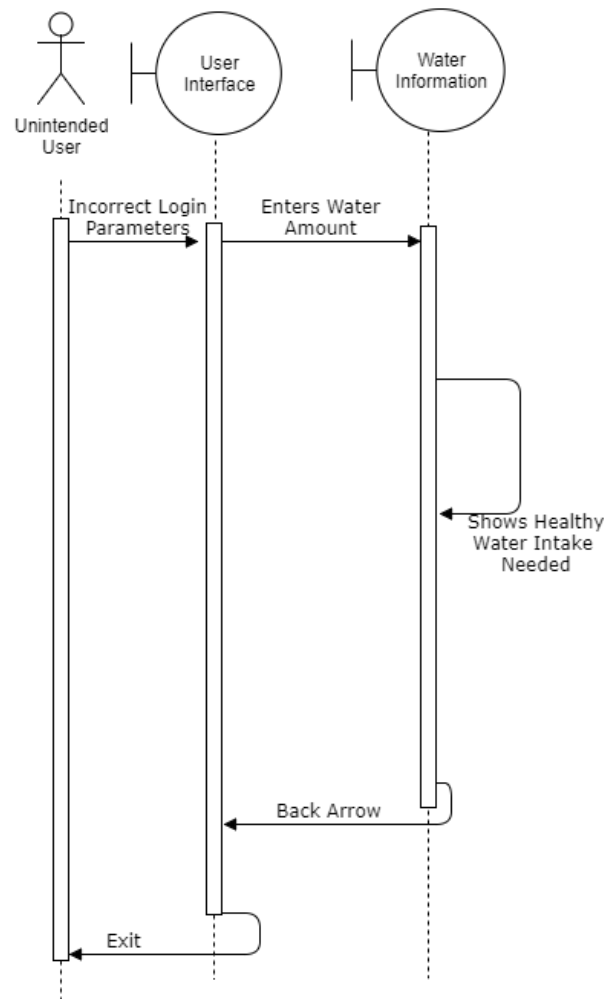
Calendar:



Log:

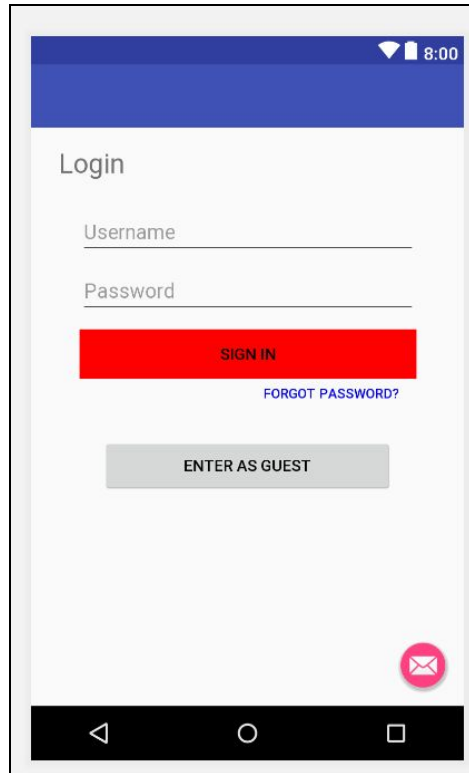


Water Tracker:

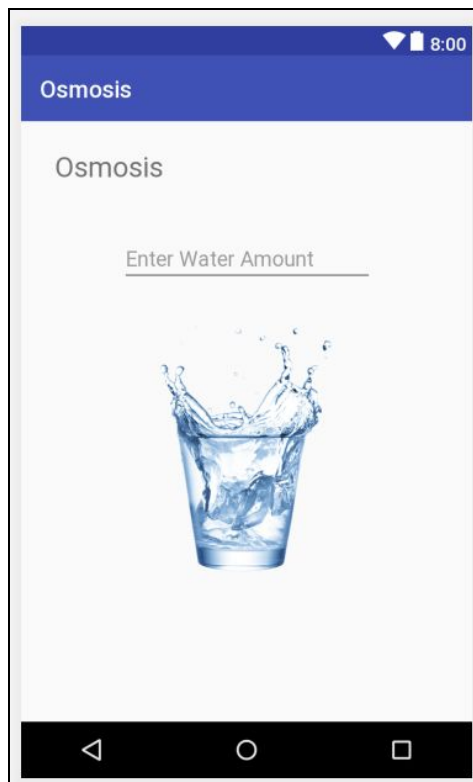


2. User Interfaces:

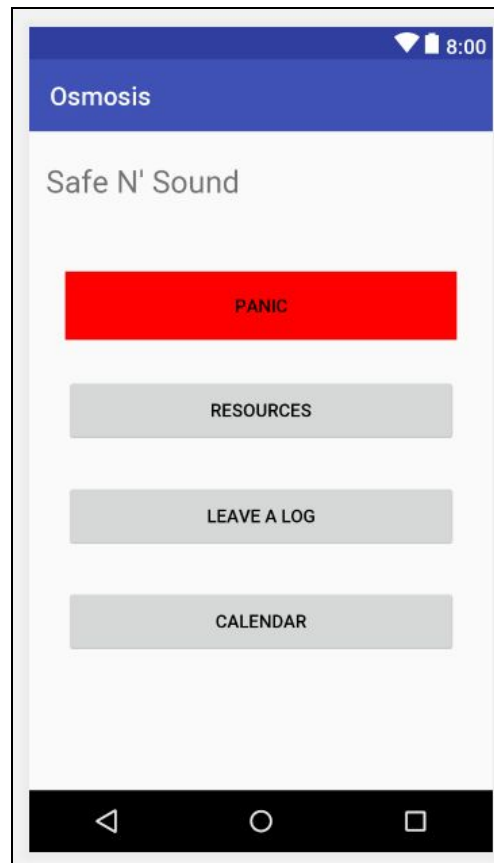
Login:



Water Tracker:



Safe N' Sound:



Eight Golden Rules

This application follows the first golden rule of consistency because the symbols used throughout the application remain consistent. This is evident because the back buttons remain the same throughout and the navigation bar on the side does not change in any way no matter what page you are currently on. This application also follows the second golden rule of giving frequent users shortcuts because after the first use it will no longer give a mini tutorial on how to use the application. The application also provides informative feedback from user actions, like buttons changing colors when pressed and pages updating after user actions. This application also provides dialogs to yield closure with the use of asking if a user is sure about exiting when a journal entry, voice recording, or image entry is not submitted or completed. This is a good way of ensuring that the user knows that their log has yet to have been saved. The application also provides simple error handling, in the form of a "Forgot Password?" hyperlink on the main login page for when a user forgets their username or password, this ensures that even when a password is lost they still will not lose all their logs. The application also provides an easy reversal of actions with the use of a back button on every page other than the User interface page. The application also provides an internal locus of control in the sense of the user has the option of picking any way to navigate through the application with the use of the navigation sidebar. Additionally, the application reduces the short-term memory load in the sense that the

user is not required to remember anything, the database takes care of saving logs based on the date and time.

3.

- **Modularity and encapsulation of data to facilitate information hiding and reuse:** to facilitate encapsulation and data hiding the application will work with Private Java Classes which will hide all attributes of the classes but will allow for access of all methods within the classes. Additionally the application will use a remote database to ensure that all data is hidden from any unwanted users. This is very important within this application because the logs will contain important private information. This database will be implemented with the use of SQLite.
- **Elegance and efficiency of the algorithms:** to provide elegance and efficient algorithms the application will use a form of recursive algorithm to ensure that all data within the calendar is being displayed properly and neatly with the correct dates and times. This is very important for this application because all logs may potentially be used in the court of law and all information needs to be accurate and true.
- **Appropriateness of the data structures used for the problem:** This will be done with the use of databases to ensure that all data is stored in one remote location. This database will hold the user's login information along with all of their logs. Additionally appropriate data types for buttons will include strings, colors will be implemented with the use of strings, and all voice recordings and images will be stored with the BufferedImage or appropriate recording data types to ensure that these logs are not lost and stored correctly and accurately.

Test Case Design:

Functionality Tested	Inputs	Expected Output	Actual Output
Login	Incorrect Parameters	Failed Attempt	
Login	Correct Parameters	Access to Safe N' Sound application	
Enter as Guest	Button Click	Access to Osmosis Application	
Forgot Password?	Button Click	Show Security Question	
Water Intake	Water Amount	Show how much more water is needed for healthy amount of water drank in a day	

Sidebar	Click on three bars	Show list of sidebar items	
Calendar	Click on Calendar	Show month, days, and dates	
Calendar	Click on day	Events planned for that day	
Resources	Click on Resources	List of Organizations	
Panic Button	Click on Panic	Emergency Contact is Contacted	
Leave a Log	Click on Log	Log template is entered	
Log Template Voice Recording	Click on Microphone	Microphone Access is requested, if given permission then recording begin, otherwise close request box	
Log Image	Click on Photo Icon	Camera Access is Requested, if given permission then Camera will open, otherwise close request box	
Log Journal Entry	Click on Text Box, write journal entry, click submit	Text will be added to text box, will be saved once submit is clicked	