Emergency Contact Component Description

The emergency contact component consists of the detection of a loss of location or a drop, and a prompt to the user which if accepted sends a message or call to emergency services.

**Input:**

The input to the Emergency Contact component will be the updated sensory data that gives the current location of the user and whether a drop has occurred, the index of emergency services, and access to the call/messaging features of the user’s phone. The input following a confirmation of either a drop or loss of contact would be a vocal response from the user.

**Output:**

The output to the Navigation component is the message or call that is placed to emergency services

**Implementation:**

The app will use the location data of the user along with sensor data to detect a fall. A referenced index of emergency services will be messaged or dialed using the phone’s mobile connection. The prompt for contact will be vocal, and the receiving input from the user (or lack of one) will also be vocal. The process will go like this:

1. App refreshes constantly to have updated location and sensor data from user
2. If a loss of location or a fall is detected, prompt user for emergency services
3. If user accepts, do not contact. If the user does accept or does not respond, place a call

**Validation**

The app will be tested based on its ability to complete the following actions:

* Update user location and sensor data
* Get access to call functionality from user
* Detect a fall
* Detect a loss of location
* Prompt the user for emergency contact
* Place call to emergency services

Unit tests for these can be generated by comparing the expected output to the actual output. For instance, we can generate a test that has a mock input for a fall, and check if this is properly categorized as one, as well as if this causes a prompt to the user.