Lab 3 – Care Corner Prototype Test Plan

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April 7, 2021

Version 1

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1. Objectives (O: Carpenter)

The intent of this test plan and procedure is to ensure the approach to developing and testing the Care Corner prototype can lead to a successful demonstration of Care Corner's product operation. Care Corner will be an application that is installed and run on an Android smartphone. Care Corner will consist of readily available safety features that are designed to add an extra layer of protection for women in uncomfortable situations. The test procedures described in this document will be used to ensure the successful implementation of the Care Corner prototype.

2. References (O: Carpenter)

Team Copper. (2020, December 7). Lab 1 - Care Corner Prototype Description. Retrieved March 29, 2021 from https://www.cs.odu.edu/~411copper/images/lab1teamv2.pdf

Team Copper. (2021, March 19). Lab 2 - Care Corner Prototype Product Specification. Retrieved March 29, 2021 from https://www.cs.odu.edu/~411copper/L2S3V2Team.pdf

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4. Test Procedures

The following section will describe the test that will be used to verify the functionalities of the Care Corner Prototype. Each test case will include a name, a description, a reference id,and the reference to the associated functional requirement from the Caro Corner Prototype Requirements Lab.

4.1 User Authentication Test Category

4.1.1 Account Creation (O: Grissom)

Test Category: Unit Test	Description: This will test the ability to create an account on Care Corner.		
Test Case: 4.1.1	**Case Name:** Account Creation	**Version:** 1.0	**Written By:** Kyle Grissom
Requirements Fulfilled: 3.1.1.1.1 3.1.1.1.2 3.1.1.1.3 3.1.1.1.4	**Purpose:** To ensure users can create an account on Care Corner, an account is required to access the majority of features.		

Setup Conditions:
1. Care Corner is opened, and *New User* is pressed from the welcome page bringing the user to the account creation screen.

Test Case Activity		Pass/Fail	Comments	Expected Result
1	An invalid email is entered. Registration is pressed.			User remains on the account creation page. Invalid email message is displayed
2	An invalid username is entered. Registration is pressed.			User remains on the account creation page. Invalid username message is displayed.

3	An invalid password is entered. Registration is pressed.			User remains on the account creation page. Invalid password message is displayed.
4	Any required field is empty. Registration is pressed. (The required fields are first name, last name, username, password, and email.)			User remains on the account creation page. Missing field message is displayed.
5	All required fields are valid. Registration is pressed.			"Account has been created" message is displayed. The fields are saved in the database. Users are brought to the welcome page.

4.1.2 Login (O: Grissom)

Test Category: Unit Test	Description: This will test the ability to login in with the correct username and password.		
Test Case: 4.1.2	Case Name: Login	Version: 1.0	Written By: Kyle Grissom
Requirements Fulfilled: 3.1.1.2	Purpose: The Care Corner application requires the user to login to their account to access most of the features.		

Setup Conditions:
1. Obtain credentials for a registered account, either by new user registration or an existing account.
2. Care Corner is opened, and *Login* is pressed from the welcome page bringing the user to the login screen.

Test Case Activity		Pass/Fail	Comments	Expected Result
1	Correct username is entered, correct password is entered. Login is pressed.			Users are brought to the main menu.
2	Correct username is entered, incorrect password is entered. Login is pressed.			User remains on the login page.Incorrect password message is displayed.

3	Incorrect username is entered, correct password is entered. Login is pressed.			User remains on the login page.Incorrect username message is displayed.
4	Incorrect username is entered, incorrect password is entered. Login is pressed.			User remains on the login page. Incorrect username message is displayed.
5	No username is entered, no password is entered.			User remains on the login page. Incorrect username message is displayed.

4.2 Panic Button Test Category (O: Adegun)

Test Category: Unit Test		Description: This test will show case the panic button functionality		
Test Case: 4.2		Case Name: Panic Button	Version: 1.0	Written By: Olayinka Adegun
Requirements Fulfilled: 3.1.2		Purpose: To verify the functionality of panic button and other events linked to the panic button		

Setup Conditions:
    1.   The Care Corner application must be installed on an Android Smartphone
    2.   The user must login into the application
    3. The Panic Button must be triggered by clicking on it from Main Menu, Armed Safe Walk or the Fake Phone call page				

Test Case Activity		**Pass/Fail**	**Comments**	**Expected Result**
1	User triggers the Panic Button by clicking.			The Panic Button counts down for 5 seconds to give the user an opportunity to cancel in case it was clicked in error, then in activation mode Panic Button results in sms being sent to user

				preset contact with current GPS location of user which also gets updated every three minutes. Then audio/ video recording also gets triggered.
2	User deactivates the Panic Button			The user is prompted to determine if Panic Button activation resulted in an Incident (3.1.2.5). Sms is also sent to the user's preset contacts with the user's current location upon deactivation of the Panic Button.
3	When prompted upon deactivating the Panic Button, the user indicates that there WAS an Incident.			A new Incident (3.1.2.5) is created through the Care Corner API on the server with date, time and GPS location of event, and the audio/video is also stored on the server via the Care Corner API. User is also taken to the journal login screen, prompted for pin after which user can document details of event in the journal
4	When prompted upon deactivating the Panic Button, the user indicates that there WAS NOT an Incident.			The audio recording and the GPS file is discarded and Care Corner application returns to home screen

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4.2.1 Incident Creation Test (O: Prudner)

Test Category: Systems Test	Description: Test that an incident is able to be created after ending an audio recording activated by the panic button.		
Test Case: 4.2.1	**Case Name:** Incident Creation Test Case	**Version:** 1.0	**Written By:** Gustin Prudner
Requirements Fulfilled: 3.1.2.5	**Purpose:** To verify that an incident is able to be created.		

Setup Conditions:
1. Panic Button is activated.
2. Wait 5 seconds for the countdown timer to finish.
3. Active audio recording.
4. Active GPS functionality.
5. Active notification functionality.

	Test Case Activity	Pass/Fail	Comments	Expected Result
1	Stop the active audio recording.			Prompt to input whether the scenario should be recorded as an incident.
2	Input that the scenario should be recorded as an incident.			The incident is recorded and available for review
3	Input that the scenario should not be recorded as an incident.			User is prompted with a dialogue that has options to go to the journal, call emergency contacts, or return to the main menu.

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4.3 Armed Safe Walk Test Category (O: Adegun)

Test Category: System Test	Description: This test will show case the Armed Safe Walk functionality		
Test Case: 4.3	**Case Name:** Armed Safe Walk	**Version:** 1.0	**Written By:** Olayinka Adegun
Requirements Fulfilled: 3.1.3.1 3.1.3.2 3.1.3.4 3.1.3.5 3.1.3.6 3.1.3.7	**Purpose:** To verify the functionality of Armed Safe Walk and other events linked to the Armed Safe Walk		

Setup Conditions:
1. The Care Corner application must be installed on an Android Smartphone
2. The user must login into the application
3. The Armed Safe Walk must be triggered by clicking on it from the startup page or activating through the Mombot.

Test Case Activity	Pass/Fail	Comments	Expected Result
1 User triggers the Armed Safe Walk Button from the startup page or activates through the Mombot.			User is prompted for destination address
2 Upon entering the destination address			a. GPS functionality gets activated b. GPS display estimated time of arrival to user c. Audio recording is activated. d. Notification functionality is also activated e. User selected trusted contact is notify every three minutes of user location f. Panic Button is made visible on Armed Safe Walk mode

3	User deactivates Armed Safe Walk			GPS functionality deactivates, all GPS generated text discarded

4.4 Fake Phone Call Test Category (O: Webb)

Test Category: Unit Test	Description: This will test the ability to set up the Fake Phone Call's caller id, phone number, and voice recording and have those displayed and outputted to the user. The panic button can also be activated by holding the end call button for a few seconds and video/audio will be recorded when the Fake Phone Call starts which will also be tested.		
Test Case: 4.4	**Case Name:** Fake Phone Call	**Version: 1.0**	**Written By:** Ernest Webb
Requirements Fulfilled: 3.1.4.3 3.1.4.4 3.1.4.5 3.1.4.6 3.1.4.7	**Purpose:** The Care Corner application will simulate a Fake Phone Call that the user can use as an excuse to escape awkward or potentially dangerous situations. When the Fake Phone Call is started, it records audio/video that can be used as evidence and it also gives the user quick access to the panic button functionality if the end call button is held down for a few seconds.		

Setup Conditions:
1. The caller ID is set to John Smith in the Fake Phone Call Menu.
2. The phone number is set to 757-123-4567 in the Fake Phone Call Menu.
3. The voice recording is set to Male1 in the Fake Phone Call Menu.
4. The wait time until the call is started is set to "Now".

Test Case Activity	Pass/Fail	Comments	Expected Result
1	The user presses the Call button on the Fake Phone Call Menu.			The Fake Phone Call Calling Screen should display immediately (wait time is set to "Now") with the Caller ID being John Smith from the

				number 757-123-4567 and the user will hear a generic ringtone.
2	On the Calling Screen, the User presses the reject call button.			The Fake Phone Call stops and returns to the Fake Phone Call Menu.
3	On the Calling Screen, the User presses the accept call button.			The Fake Phone Call Dialing Screen is displayed with a chronometer counting the elapsed time of the call, the Caller ID and Phone number are displayed, the usual set of buttons for outputting voice to speaker, mute, etc., and the voice recording will start to play.
4	On the Dialing Screen, the User presses the end call button.			The user will be prompted if they want to save the audio/video recording or not
5	On the Dialing Screen, the User presses the end call button for a few seconds.		.	The Panic Button functionality will start.
6	On the Dialing Screen, the User presses the end call button and at the prompt to save recording, they press the "Yes" button.		.	The audio/video will then be stored on the server via the Care Corner API.

7	On the Dialing Screen, the User presses the end call button and at the prompt to save recording, they press the "No" button.			The User is then sent back to the Fake Phone Call Menu where they can set up a new Fake Phone Call.
8	On the Fake Phone Call Menu, the User presses the Recordings button.		.	The User is sent to the Recordings Screen which displays all audio recordings that are stored in the Database for the User to view again.

4.5 Journal Test Category (O: Carpenter)

Test Category: Journal	Description: This test will verify the functionality of the journal feature inside the Care Corner application.		
Test Case: 4.5	**Case Name:** Journal Test	**Version:** 1.0	**Written By:** Casey Carpenter
Requirements Fulfilled: 3.1.5.1 3.1.5.2 3.1.5.3 3.1.5.5 3.1.5.6	**Purpose:** To verify the functionality of the journal feature in the Care Corner application.		
Setup Conditions: 1. User must navigate to the journal button from the main menu			

Test Case Activity		**Pass/Fail**	**Comments**	**Expected Result**
1	User will click on a new entry button			The application will move to the journal editor screen
2	User will save their new entry			The application will save the entry to the user's device and load the entry to the journal homepage

3	User will click on a previously created entry			The application will move to the journal reader screen
4	User will click on the edit button inside the journal reader screen			The application will move to the journal editor screen and carry the text from the previous journal reader screen
5	User will delete a journal entry			The application will remove the entry from the user's device and update the journal homepage screen.

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4.6 Mombot Test Category (O: Prudner)

Test Category: System	Description: Test the ability of Mombot to accept speech and suggest advice that is contextual to the input. This test exercises Mombot's lexical analyzer ability to match pertinent advice and potential checklists.		
Test Case: 4.6	Case Name: Mombot Test Case	Version: 1.0	Written By: Gustin Prudner
Requirements Fulfilled: 3.1.6.1 3.1.6.2.1 3.1.6.4	Purpose: To verify that Mombot returns contextualized advice and checklists for related keywords.		

Setup Conditions:
1. Keywords, contextual advice, and checklists are pre-populated in the database.
2. Launch the Care Corner Mobile App.

	Test Case Activity	Pass/Fail	Comments	Expected Result
1	Access the Mombot option from the Welcome Page.			The Mombot page loads displaying a picture of a microphone with the button text, "Tap on mic to speak"
2	Press the microphone icon.			The application starts to receive speech, stating that it is now listening.
3	Begin speaking the phrase, "going on a walk at night"			The microphone pulses while the speech is being recorded.
4	Pause speech when done.			The microphone stops pulsating. The application states that it is "now processing" the speech.

| 5 | Wait for results to be displayed. | | | The application responds with specific advice suggesting ways to protect oneself while walking at night:

 1. Night is the most dangerous time to walk alone.
 2. Ensure you have a charged phone with you.
 3. Ensure a close contact knows when you leave and are planning to arrive.
 4. Suggest use of the Care Corner Walk feature.

 A checklist of things to prepare for is returned:

 1. Charged phone
 2. Cell-phone service
 3. Communicate ETA to a contact
 4. Use Arm Walk |
| 6 | Begin speaking gibberish, "*Neque porro quisquam est qui dolorem ipsum quia dolor sit amet, consectetur, adipisci velit*" | | | The application states that results could not be determined, please rephrase. |

4.7 Reporting Assistance Test Category (O: Carpenter)

Test Category: Reporting Assistance	Description: This test will verify the functionality of the reporting assistance feature inside the Care Corner application.		
Test Case: 4.7	Case Name: Reporting Assistance	Version: 1.0	Written By: Casey Carpenter
Requirements Fulfilled: 3.1.7.2	Purpose: To verify the functionality of the reporting assistance feature inside the Care Corner application.		
Setup Conditions: 1. User must go to reporting assistance screen from the main menu			

	Test Case Activity	Pass/Fail	Comments	Expected Result
1	User will click on reporting assistance button			The application will display all previously saved incidents in a list
2	User will click on an incident			The application will display contents saved inside of the incident

4.8 Resources Test Category (O: Carpenter)

Test Category: Resources	Description: This test will verify the functionality of the resources feature inside the Care Corner application.		
Test Case: 4.8	Case Name: Resources	Version: 1.0	Written By: Casey Carpenter
Requirements Fulfilled: 3.1.8.3 3.1.8.4 3.1.8.5 3.1.8.6 3.1.8.7	Purpose: To verify the functionality of the resources feature inside the Care Corner application.		
Setup Conditions: 1. User must navigate to the resources screen from the welcome page or the main menu			

Test Case Activity		Pass/Fail	Comments	Expected Result
1	User will click on blog category button			Application will pull blogs from Care Corner API and post to the screen
2	User will click on national hotline category button			Application will pull national hotline information from Care Corner API and post to the screen
3	User will click on government sources category button			Application will pull government sources from Care Corner API and post to the screen
4	User will click on shelters button			Application will ask permission for the user's location and create a geofence with a 90 miles radius, and provide shelters to the screen within the radius.

4.9 Audio/Video Recording Test Category (O: Turner)

Test Category: Systems Test	**Description:** This will test the ability to record Audio, store it locally, and pass it to Care_corner API for cloud storage

Test Case: 4.9	**Case Name:** Audio	**Version:** 1.0	**Written By:** Thorrell Turner
Requirements Fulfilled: 3.1.2.2 3.1.2.5.5 3.1.3.7 3.1.4.5 3.1.9.1 3.1.9.4 3.1.9.5 3.1.9.6	**Purpose:** The Care Corner application will record audio in case the user needs this data as evidence. This data is stored on the server in case future access is needed and something happens to the user's device		

Setup Conditions:
  1. The Panic Button is activated, or
  2. The Armed Safe Walk mode is activated, or
  3. A Fake Phone Call is started.

	Test Case Activity	Pass/Fail	Comments	Expected Result
1	User activates the Panic Button, Armed Safe Walk Mode, or a Fake Phone Call is started.			The Android Media Recorder is activated and audio begins recording.
2	User Deactivates the Panic Button, Armed Safe Walk Mode, or Fake Phone Call.			The audio file that was recorded is saved locally on the user's device.
3	When prompted upon deactivating the Panic Button, the user indicates that there WAS an incident.			The audio file is stored on the server via the Care Corner API.
4	When prompted upon deactivating the Panic Button, the user indicates that there WAS NOT an incident.			The audio file is deleted from the user's device.
5	When prompted upon deactivating the Armed Safe Walk Mode or a Fake Phone Call, the user indicates that they WOULD like to save the recording audio file.			The audio file is stored on the server via the Care Corner API.
6	When prompted upon deactivating the Armed Safe Walk Mode or a Fake Phone Call, the user indicates that they WOULD NOT like to save the recording audio file.			The audio file is deleted from the user's device.

4.10 GPS Test Category (O: Turner)

Test Category: Systems Test			Description: This will test the ability to record Audio, store it locally, and pass it to Care_corner API for cloud storage		
Test Case: 4.10			**Case Name:** GPS Test	**Version:** 1.0	**Written By:** Thorrell Turner
Requirements Fulfilled: 3.1.2.3 3.1.2.5.4 3.1.3.5 3.1.10.4 3.1.10.5 3.1.10.6 3.1.10.7			**Purpose:** The Care Corner application will track and share a users GPS location with their in app contacts. This data is stored locally as well as on the server in case future access is needed and something happens to the user's device		

Setup Conditions:
  1. The Panic Button is activated, or
  2. The Armed Safe Walk mode is activated					

	Test Case Activity	Pass/Fail	Comments	Expected Result	
1	User activates the Panic Button			a. User's GPS is activated. b. Current coordinates are stored for use with Incident Tracking and Notification sending. c. A new file is created where the user's GPS location is tracked with one second intervals.	
2	User activates the Armed Safe Walk Mode.			a. User's GPS is activated. b. Current coordinates are stored for use with Notification sending. c. A new file is created where the user's GPS location is tracked with one second intervals.	
3	User Deactivates the Panic Button.			a. User's GPS is deactivated.	

				b. the new file containing the user's GPS location is saved and closed.
4	When prompted upon deactivating the Panic Button, the user indicates that there WAS an Incident.			The file containing the user's GPS locations is pushed to the cloud server via the Care_Corner API.
5	When prompted upon deactivating the Panic Button, the user indicates that there WAS NOT an Incident.			The local file containing the user's GPS locations is deleted from the local device.
6	User Deactivates the Armed Safe Walk Mode.			a. User's GPS is deactivated. b. the new file containing the user's GPS location is deleted from the device.
7	User activates Panic Button while in Armed Safe Walk Mode.			a. Current coordinates are stored for use with Incident Tracking and Notification sending. b. The GPS file will be passed to the Panic Button mode so that it can be properly tracked.

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4.11 Notification Test Category (O: Webb)

Test Category: Unit Test	Description: This test will verify the functionality of the notifications system inside the Care Corner application.		
Test Case: 4.11	Case Name: Notifications	Version: 1.0	Written By: Ernest Webb
Requirements Fulfilled: 3.1.2.4 3.1.3.6 3.1.11	Purpose: When the Panic Button or the Armed Safe Walk features are activated, all user preset contacts are to be notified via SMS with specific details such as the user's name and location.		

Setup Conditions:
1. The user must set up at least one contact who will be contacted.
2. The user must activate either the Panic Button or the Armed Safe Walk.

Test Case Activity	Pass/Fail	Comments	Expected Result
1 The user presses the Panic Button.			All preset contacts will receive an SMS message containing the user's name, location, and the current timestamp of when the panic button was pressed.
2 The user presses the "Start Armed Safe Walk" Button.			All preset contacts will receive an SMS message containing the user's name, location, and the current timestamp of when the Safe Walk was started, and an estimated time of arrival to their location.
3 After either the Panic Button or Armed Safe Walk is activated.			All preset contacts should receive an updated SMS every 3 minutes with an

				updated location for the user.
4	User reaches their destination.			All preset contacts should receive a final notification stating that the user reached their destination and the Panic Button or Armed Safe Walk should be deactivated.

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5. Traceability to Requirements

Traceability Matrix	4.1.1	4.1.2	4.2	4.2.1	4.3	4.4	4.5	4.6	4.7	4.8	4.9	4.10	4.11
3.1.1.1.1	✓												
3.1.1.1.2	✓												
3.1.1.1.3	✓												
3.1.1.1.4	✓												
3.1.1.2		✓											
3.1.2			✓										
3.1.2.2											✓		
3.1.2.3												✓	
3.1.2.4													✓
3.1.2.5				✓									
3.1.2.5.4												✓	
3.1.2.5.5											✓		
3.1.3.1					✓								
3.1.3.2					✓								
3.1.3.4					✓								
3.1.3.5					✓							✓	
3.1.3.6					✓								
3.1.3.7					✓						✓		
3.1.4.3						✓							
3.1.4.4						✓							
3.1.4.5						✓					✓		
3.1.4.6						✓							
3.1.4.7						✓							
3.1.5.1							✓						
3.1.5.2							✓						
3.1.5.3							✓						
3.1.5.5							✓						
3.1.5.6							✓						

Traceability Matrix	4.1.1	4.1.2	4.2	4.2.1	4.3	4.4	4.5	4.6	4.7	4.8	4.9	4.10	4.11
3.1.6								✓					
3.1.6.1								✓					
3.1.6.2.1								✓					
3.1.6.4								✓					
3.1.7.2									✓				
3.1.8.3										✓			
3.1.8.4										✓			
3.1.8.5										✓			
3.1.8.6										✓			
3.1.8.7										✓			
3.1.9.1											✓		
3.1.9.4											✓		
3.1.9.5											✓		
3.1.9.6											✓		
3.1.10.4												✓	
3.1.10.5												✓	
3.1.10.6												✓	
3.1.10.7												✓	
3.1.11													✓