

CS410 - Fall 2020

Care Corner - Team Copper

Olayinka Adegun, Casey Carpenter, Kyle Grissom, Thorrell Turner, Ernest Webb, Tremain Young

1. Introduction– [Casey]

Women are both taught and forced to have a plan no matter where they go in case something happens to them. 7 out of 10 women say that their phone is always prepared when they are walking alone[20]. 61% of women say that they regularly take steps to avoid being sexually assaulted[20]. This is the reality that, unfortunately, the majority of women have to live with daily.

Along with women not feeling safe walking alone, there is another huge problem surrounding this topic. Once women are assaulted, they don't know what to do or where to go for help. In conducting our background research into this topic, our group learned that one in three women are a victim of rape or attempted rape, but only 1/3 of those cases are ever reported[17]. Based on this research, it is concluded that there is a huge disconnect between an assault happening and reporting the crime.

All of this cumulates into a huge problem that too many women go through on a daily basis. Too often, women feel unsafe in situations when they are alone and live with a constant fear of being attacked. If an attack does happen, confusion about what to do following the attack is likely to follow.

Our product, Care Corner, is a solution to this problem. Care Corner is a mobile application that will provide safety features for responding to potentially unsafe situations, aid in the fight against sexual assault, and assist victims of assault in determining how to find resources and report the crime.

Care Corner aids in the fight against sexual assault through providing safety features for responding to potentially unsafe situations through these features:

1. **Panic Button:** When the panic button is triggered, it will send an alert to your trusted contacts as well as begin recording video and audio.
2. **Fake Phone Call:** The user will receive a fake phone call to chat with while walking alone or a fake emergency to get out of an uncomfortable situation.
3. **Mombot:** Mombot will analyze your words for keywords and return helpful feedback with relevant information to be cautious of.

Care Corner aids in the fight against sexual assault through assisting victims of assault in determining how to find resources and report the crime through these features:

4. Resources: Location-based resources including hotlines, help-sites, and more will be provided to the user.
5. Journal: Users are provided a private journal to assist in their recovery.
6. Education on Reporting: Users will be able to learn how to report a crime that happened to them and the different ways that there are to report.

2. Care Corner Product Description – [Kyle]

- a. Summary and objectives
 - i. Care Corner will work to make women less uncomfortable
 - ii. likelihood of sexual assault
 - iii. reduce severity of situations
 - iv. make recovery and educational resources more accessible

2.1 Key Product Features and Capabilities – [Thorrell]

- a. Armed Journey Mode
 - i. Share information about a trip with friends and family including:
 1. User scripted messages to inform recipient of trip information
 2. Users location
 3. User destination
 - ii. Users can activate the panic button from this armed mode.
- b. Fake Phone Call
 - i. Users can activate a fake phone call to use to excuse themselves from a situation.
 1. Fake calls can be programmed to occur at specific times, or
 2. Appear to come from a specified person
 3. say a key phrase to activate the panic button
- c. Panic Button
 - i. In case an emergency, a panic button can be activated, which can/will
 1. Message pre-selected contacts
 2. Send GPS location to pre-selected contacts
 3. Offer phone number of, or connection to, 911 or campus police
 4. Start recording video/audio
 5. Start recording gps location
 6. Time stamp the occurrence
- d. Mombot

- i. User can verbalize plans and receive feedback including
 - 1. Do you want to start an armed journey?
 - 2. Do you want to schedule a fake call?
 - 3. General advice/education
 - e. Journal
 - 1. User have a secure journal to use as appropriate
 - f. Resources/Education
 - i. User can get access to resources and Education
 - ii. Resources will be at a national level, or local to the use through the use of geofencing
 - iii. Resources include:
 - 1. Readings, including:
 - a. Govt/Official documents
 - b. Trusted blogs
 - c. National hotlines
 - 2. Geofenced Resources, including:
 - a. Shelters
 - b. Non-Profits
 - c. Counselors
 - d. Campus Police
 - 3. Websites, including:
 - a. Govt Official Sites
 - b. Trusted non-profits/ other
 - g. Reporting assistance/Education
 - i. User can time/location stamp at any time to assist in reporting accuracy
 - ii. User can fill in preset fields with information relevant to reporting an attack

2.2 Major Components (Hardware/Software) – [\[Ernest Webb\]](#)

- a. Hardware
 - I. File Server
 - II. Web Server
 - III. Cloud Based Database Server (AWS)
 - IV. Android/iOS Phone
- b. Software
 - I. Web Programming: HTML, CSS, JS, PHP
 - II. Operating Systems: Windows, Linux, Android, iOS
 - III. Github for collaborative development and software version control
 - IV. Build Manager: Gradle
 - V. Workflow: Gitlab
- c. Database
 - I. MySQL on AWS

3. Identification of Case Study [Kyle]

- a. Who is this product for
 - i. Directly: Mostly women but available to all
 - ii. Indirectly: Friends and family as it keeps their loved ones safer
- b. What will it be used for
 - i. Aid in the fight against sexual assault
- c. Who else might this benefit
 - i. Society as a whole
 - ii. Health Organizations
 - iii. Authorities
 - iv. Could be tailored to youth

4. Care Corner Product Prototype Description – [Yinka]

- a. Proof of concept
 - i. Users
 - 1. Customer
 - a.
 - i. 1.
 - ii. Admins
- b. Risk Mitigation
 - i.
- c. Customer Feedback
 - i.

4.1 Prototype Architecture (Hardware/Software) – [Ernest Webb]

- a. Hardware Utilized
 - i. Android/iOS Phone
 - ii. Desktop or Laptop Computer
 - iii. Internet Access
- b. Software Utilized
 - i. Database
 - 1. MySQL on AWS
 - ii. Web Server
 - 1. AWS
 - iii. HTML, CSS
 - iv. JavaScript
 - v. PHP
 - vi. Java
 - vii. Kotlin

- viii. Jsoup
- ix. Google Maps API

4.2 Prototype Features and Capabilities – [Yinka]

- a. Users can create an account after downloading APP, have access to profile after login and modify profile when necessary
 - 1. Preventive features
 - a. Mombot
 - b. Fake Call
 - c. Panic Button
 - 2. Resource features
 - a. Resource
 - i. Hotline
 - ii. Help sites
 - iii. Shelter
 - iv. Counsellor
 - b. Journal
 - c. Education

4.3 Prototype Development Challenges – [Tremain]

- a. Missing Knowledge
 - i. Mobile app development
 - ii. Database integration
 - iii. Third party API integration

5. Glossary – [Tremain]

Agile: Set of frameworks and practices where solutions evolve through collaboration between self-organizing cross-functional teams

Amazon Web Services (AWS): Cloud computing platform provided by Amazon

Android: Mobile operating system primarily developed by Google

API (Application Programming Interface): A set of functions that allow one program to access data and interact with an external program

Client-server: Computer system where a central server provides data to a number of networked workstations

Cloud Based Database Server: Virtual infrastructure that performs application and information-processing storage

Data Retention: Storage of an organization's data for compliance or business reasons

Database: Structured data held in a computer

File Server: Controls access to separately stored files

Geofencing: Using GPS to create a virtual geographic boundary

GitHub: Web-based collaboration platform for software developers

GPS (Global Positioning System): Provides users with positioning and navigation information.

Gradle: Build automation tool for multi-language software development

GUI (Graphical User Interface): The set of interactive visual components in software to improve the user experience.

HTML (Hypertext Markup Language): Standard markup language for documents designed to be displayed in a web browser

iOS: Mobile operating system developed by Apple

JavaScript: Object-oriented computer programming language commonly used to create interactive effects within web browsers

Jsoup: Open source Java library used mainly for extracting data from HTML

Kotlin: Object-oriented programming language initially designed for Android and Java Virtual Machine (JVM)

Linux: Unix-like, open source operating system for computers, servers, mainframes, etc.

MySQL: A freely available open source relational database management system that uses structured query language (SQL)

PHP (Hypertext Preprocessor): General-purpose scripting language suited to web development

RSS Feed (Really Simple Syndication Feed): Set of instructions on the computer server of a Web site. The feed tells the reader when new material has been published on the Web site

Scrum: A process framework used to manage product development and other knowledge work

Stakeholder (direct): Those involved in the company's day-to-day activities

Stakeholder (indirect): Those more interested in the result of the production

Twilio: A developer platform for communications

UI / UX (User Interface/ User Experience): The graphical layout of an application which includes components such as buttons, navigations bars, etc.

Web Scraping: Extracts and scrapes data from websites

Web Server: A computer that runs websites

Windows: Series of operating systems developed by Microsoft

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