

## **Lab 1 - Product Description**

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## **1 Introduction**

Women are both taught and forced to have a plan no matter where they go in case something happens to them. Seven out of ten 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  $\frac{1}{3}$  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. Many victims are left confused after an assault on how to and the right way to report the crime[22]. Additionally, people are not aware of the actions they could be taking to aid in the fight against sexual assault[23].

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.

## **2 Product Description**

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.

## **2.1 Key Product Features and Capabilities**

Care Corner has many key features that make it stand out from its competitors. The first of these features is the panic button. Once the panic button is clicked by the user, a lot of things are able to happen at once. These include messaging user-set contacts, sending the gps location to those contacts, start recording audio and video, and time stamp when the button was clicked.

Another key feature that Care Corner offers is the fake phone call. This is a pre-recorded fake conversation that can be used as a buddy when walking alone, or to get out of an uncomfortable situation. A key phrase can be pre-programmed by the user that, once said, activates the panic button.

Care Corner also offers Mombot, a smart speech-based bot that provides feedback and advice depending on what plans the user tells it. Mombot will run through activity based advice, but will also give a general checklist of things to do before going out for the night.

After an assault happens, unfortunately, statistics show that people do not know what their next step should be. Care Corner helps solve this problem by providing resources and education for the user to aid in their recovery. These resources include a private, protected journal for the user to talk about their road to recovery, location-based resources for the user to find local help based on their need, and general knowledge from official trusted websites and other sources. In addition to these resources, Care Corner also provides education on the reporting process,

including the different ways that there are to report, the results of reporting at different places, and how to start the reporting process.

## **2.2 Major Components (Hardware/Software)**

The hardware of Care Corner includes a file server, web server, a cloud based database server (AWS), and an Android or iPhone. The software of Care Corner is web programming in html, css, js, and php. Additionally, the operating systems that we are using are windows, linux, android, and iOS. Github will be used for version control within the team to put together individual work. Gradle will be the build manager. Gitlab will hold our team's workflow. The database that we are using is MySQL on AWS.

Once a user logs into their account, they get access to their profiles, resources, notifications, journal, reporting system, audio/video recording, fake calling system, and the panic button. The chat bot (used for mombot), geofencing (location-based help), and web scraping (finding resources) are all connected to the web server.

## **3 Identification of Case Study**

This product is being developed for anyone who is looking for extra safety precautions for themselves. This is also for anyone who has been assaulted and is looking for how to get help. Although the idea of our app came to life with the issues surrounding the safety of women, the design of Care Corner is applicable to anyone who feels like they need more protection in a

situation. For example, members of the LGBTQ+ community may also find our app to be useful to them to make them feel safer in certain situations. Care Corner is also useful for the loved ones of the main users of the app so they can have a place that the user feels safe reaching out to them.

## 5 Glossary

**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

**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:** The continued 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

**Gradle:** Build automation tool for multi-language software development

**GUI:** Graphical user interface

**HTML:** 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:** General-purpose scripting language suited to web development

**RSS 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

**Web Scraping:** Extracting/scraping data from websites

**Web Server:** A computer that runs websites

**Windows:** Series of operating systems developed by Microsoft

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