1. **Introduction**

Of the many societal vices, sexual assault is one that is quite challenging to deal with, especially because one moment everything may look good without any sign of danger and within split seconds a person may go from safe and cheerful mood to griming and sorrowful condition for being a victim of an assault without any warning. One thing that makes this society vice a little elusive is the rapidity of the occurrence of the event. This necessitates the importance of being well informed and prepared. Although sexual assault can happen both at a person’s home or outside the home but when an attack is outside the home, victims often feel too scared to fight back or resist. And more often, they hardly have any resource with which to fight or proofs to present if they seek to get justice when they eventually get the courage to seek redress. It is said that 1 in 3 women have been a victim of rape or an attempted rape, and only 1 in 5 of these get eventually reported due to fear not being believed, lack of evidence, or absolute confusion. According to the president of RAINN, (Rape, Abuse, incest national network) the first question most people ask when call is “was I raped”, showing the extent of confusion in their mind.

Having an APP that can be of help in the fight against sexual assault, especially one that can get a person armed with preventive strategies against an assault, resources for quick and easy recovery in the event of an assault, aid in the process of reporting and getting justice after an assault, offer rich education and knowledge to overcome the depression and low self-esteem that often accompany being a victim of assault, will make the society a little more of a safe haven.

**Care Corner** is the App, it combines all of these characteristics and perhaps a little more like:

1. **Panic button** that sends preset messages to specific trusted persons on contact list when triggered as well as automatically begin audio and video recording of activities with an inclusive geographic location.
2. **Fake Calls** that offer legitimate excuse to get out of an uneasy situation to avoid being a victim of an assault.
3. **Mombot** that offer mom-like safety tips prior to any outing.
4. **Personal Journal** which a user can use at their discretion, probably to track recovery progress after an assault
5. **Resources** that may include hotlines, safe sites, shelter, counsellors etc.
6. **Education** on how best to handle a situation as there is no blanket answer to every scenario, its mostly a case by case situation. Hence, proper education will help each person to address their scenario right
7. **Care Corner Product Description**
8. **Summary and objectives**

The main goal of care corner is to eliminate the occurrence of sexual assault as much as possible and where not possible, to reduce the pain of victims and the injustice of wrong judgement when they seek redress. Other objectives include:

* 1. Making women less uncomfortable as they go about their daily endeavor
  2. Connect people to necessary resource as needed
  3. Giving people the right knowledge through education which will enhance the best approach to each situation

* 1. **Key Product Features and Capabilities**

1. Armed Journey Mode
   1. 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
   2. Users can activate the panic button from this armed mode.
2. Fake Phone Call
   1. 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
3. Panic Button
   1. 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
4. Mombot
   1. 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
5. Journal
   1. Users have a secure journal to use as appropriate
6. Resources/Education
   1. User can get access to resources and Education
   2. Resources will be at a national level, or local to the use through the use of geofencing
   3. Resources include:
      1. Readings, including:
         1. Govt/Official documents
         2. Trusted blogs
         3. National hotlines
      2. Geofenced Resources, including:
         1. Shelters
         2. Non-Profits
         3. Counselors
         4. Campus Police
      3. Websites, including:
         1. Govt Official Sites
         2. Trusted non-profits/ other
7. Reporting assistance/Education
   1. User can time/location stamp at any time to assist in reporting accuracy
   2. User can fill in preset fields with information relevant to reporting an attack
   3. **Major Components (Hardware/Software)**
8. Hardware
   1. File Server
   2. Web Server
   3. Cloud Based Database Server (AWS)
   4. Android/iOS Phone
9. Software
   1. Web Programming: HTML, CSS, Java Script, PHP
   2. Operating Systems: Windows, Linux, Android, iOS
   3. GitHub: for collaborative development and software version control
   4. Build Manager: Gradle
   5. Workflow: Gitlab
10. Database
    1. MySQL on AWS

1. **Identification of Case Study**
2. Who is the APP for?
3. Mostly women
4. Friends and family
5. What will the APP used for
   1. Primarily to aid in the fight against sexual assault
6. Who else can benefit?
   1. Health organization
   2. Authorities
   3. Young people
   4. The society as whole

**4. Care Corner Product Prototype Description**

1. Proof of concept
   1. Users
      1. Customer
   2. Admins
2. Risk Mitigation
3. Customer Feedback

**4.1 Prototype Architecture (Hardware/Software)**

1. Hardware Utilized
   1. Android/iOS Phone
   2. Desktop or Laptop Computer
   3. Internet Access
2. Software Utilized
   1. Database
      1. MySQL on AWS
   2. Web Server
      1. AWS
   3. HTML, CSS
   4. JavaScript
   5. PHP
   6. Java
   7. Kotlin
   8. J Soup
   9. Google Maps API

**4.2 Prototype Features and Capabilities**

1. Users can create an account after downloading APP, have access to profile after login and modify profile when necessary

1. Preventive features
   1. Mombot
   2. Fake Call
   3. Panic Button
2. Resource features
   1. Resource
      1. Hotline
      2. Help sites
      3. Shelter
      4. Counsellor
   2. Journal
   3. Education

**4.3 Prototype Development Challenges**

1. Missing Knowledge
   1. Mobile app development
   2. Database integration
   3. Third party API integration

**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 infrastructurethat 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

**6. References**

“About 211.” 211.Org, www.211.org/pages/about. (1)

“List of Hotlines.” Please Live, Davo Productions, 15 Jan. 2020, www.pleaselive.org/hotlines/.  (2)

Amin. “Step by Step Guide on Scraping Data from a Website and Saving It to a Database.” How PC Rules My Life, 13 Dec. 2017, howpcrules.com/step-by-step-guide-on-scraping-data-from-a-website-and-saving-it-to-a-database/. (3)

Miles, Stephanie. “5 On-Demand Apps for Emergency Services.” Street Fight, 1 Apr. 2016, streetfightmag.com/2016/04/01/5-on-demand-apps-for-emergency-services/. (4)

Self-Care for Friends and Family. (n.d.). Retrieved September 27, 2020, from <https://www.rainn.org/articles/self-care-friends-and-family>. (5)

Staff, Psyche Central. “Common Hotline Phone Numbers.” Psych Central, 6 Mar. 2019, psychcentral.com/lib/common-hotline-phone-numbers/. (6)

Tips for Talking with Survivors of Sexual Assault. (n.d.). Retrieved September 27, 2020, from https://www.rainn.org/articles/tips-talking-survivors-sexual-assault. (7)

Questions & Answers on Sponsorship(2019). Alcoholics Anonymous World Services, Inc. https://www.aa.org/assets/en\_US/p-15\_Q&AonSpon.pdf. (8)

Jain, A. (2019, April 09). Database Hacking & Its Prevention. Retrieved October 07, 2020, from https://thecybersecurityplace.com/database-hacking-its-prevention/ (9)

“Suicide Statistics and Facts.” SAVE, save.org/about-suicide/suicide-facts/. (10)

“Preventing Suicide |Violence Prevention|Injury Center|CDC.” Centers for Disease Control and Prevention, Centers for Disease Control and Prevention, 21 Apr. 2020, www.cdc.gov/violenceprevention/suicide/fastfact.html. (11)

“The Relationship Between Mental Health Care Access and Suicide.” RAND Corporation, www.rand.org/research/gun-policy/analysis/essays/mental-health-access-and-suicide.html.) (12)

“Addiction Statistics - Facts on Drug and Alcohol Use.” Addiction Center, 18 Sept. 2020, www.addictioncenter.com/addiction/addiction-statistics/. (13)

Duration of Suicidal Crises.” Means Matter, 7 Mar. 2017, www.hsph.harvard.edu/means-matter/means-matter/duration/. (14)

Renninson, Callie. “Rape and Sexual Assault: Reporting to Police and Medical Attention.” Bureau of Justice Statistics (15)

“Why Don't They Tell?” Nctsn.org. (16)

What Is Sexual Abuse?” Hope Alliance, www.hopealliancetx.org/sexual-assault-statistics/. (17)

50 Obstacles to Leaving.” The Hotline, www.thehotline.org/resources/50-obstacles-to-leaving/. (18)

“Find Support.” Aspergillosis Patients and Carers, 29 May 2020, aspergillosis.org/find-support/. (19)

“Support Groups.” MHA Screening - Mental Health America, screening.mhanational.org/content/support-groups. (20)

Basler AG. “Sales and Support: Basler.” Basler AG, 7 Oct. 2020, www.baslerweb.com/en/sales-support/. (21)

“The US System Didn't Protect These Women - so Now They're Taking a Stand for Others.” *Amnesty International*, [www.amnesty.org/en/latest/news/2019/10/gun-violence-report/.(22)](http://www.amnesty.org/en/latest/news/2019/10/gun-violence-report/.(22))

Davey, Melissa. “Domestic Violence: Five Women Tell Their Stories of Leaving - the Most Dangerous Time.” *The Guardian*, Guardian News and Media, [www.theguardian.com/society/ng-interactive/2015/jun/02/domestic-violence-five-women-tell-their-stories-of-leaving-the-most-dangerous-time.(23)](http://www.theguardian.com/society/ng-interactive/2015/jun/02/domestic-violence-five-women-tell-their-stories-of-leaving-the-most-dangerous-time.(23))

“How Long Does It Take for an Addiction to Develop?” *Drug Rehab*, www.drugrehab.com/addiction/how-long-does-it-take-to-develop/.(24)

“SQL Injection Prevention.” OWASP, Open Web Application Security Project, cheatsheetseries.owasp.org/cheatsheets/SQL\_Injection\_Prevention\_Cheat\_Sheet.htmL (25)

Movil, Noticiero. “News.” Noticiero Movil, 22 Oct. 2016, noticieromovil.com/what-women-worry-about-when-theyre-out-at-night/(26).

“Parenting, Baby Names, Celebrities, and Royal News.” CafeMomcom, cafemom.com/lifestyle/215107-things-women-do-to-protect-themselves/255361-katz\_then\_compares\_the\_reaction\_and\_responses\_from\_the\_men\_in\_the\_room\_to\_the\_women\_and\_unsurprisingly\_they\_are\_drastically\_different (27)

Dewan, Shaila. “Why Women Can Take Years to Come Forward With Sexual Assault Allegations.” The New York Times, The New York Times, 18 Sept. 2018, www.nytimes.com/2018/09/18/us/kavanaugh-christine-blasey-ford.html.(28)

“SCRUM Methodology.” Zaynab's Blog, Zaynabzahra, 7 Oct. 2017, zaynabzahrablog.wordpress.com/2017/10/07/scrum-methodology/. (29)