



Women Safety with Sofiya (WSOFI)

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Abstract

Even in today's world, women in countries all around the world face harassment at least once in their lifetime. This has been a major problem ever since civilization came into being and many solutions and tools have been provided to resolve this problem. Moreover, with the advancement in technology, newer solutions have appeared. In this work, we have created a website with several features designed to provide women with the needed information and raise awareness about crime against them. "Women Safety with Sofiya" is a website that provides information about the existing safety tools, mobile-based applications, and other websites that provide women the information about safety resources and ways to protect themselves. Additionally, users can also share reviews of specific places, report unsafe locations, and describe their personal experiences using our website. This helps raise awareness, support other women, and create a safer community through shared knowledge. It is a unique repository in which we have compiled information about existing tools (with links to buy or use them), mobile-apps (with links to download them) and websites designed specifically for women. It also lists the help-hotline numbers for countries with high crime rates against women. This serves as a unified, one-stop portal, eliminating the need to search for scattered information across multiple platforms.

1. Introduction

Even in today's highly advanced and civilized era, an unspeakable number of women face harassment and such situations keep happening everywhere and at any time. Unfortunately, despite the growing number of such incidents, the society that we live in does not pay enough attention to the prevention of this issue. Harassment and violence are often treated as personal problems rather than social responsibilities. Lack of awareness and access to reliable information makes women more vulnerable in dangerous situations. A majority of women do not know where to get help. As a result, this lack of awareness makes the problem even worse.

With the advancement in technology, several projects have been implemented that attempt to serve as potential solutions towards fighting crime against women. A large number of websites have been created in order to provide passive information about women rights [1] [2]. Additionally, there are those which provide emotional and legal support to victims of crimes like domestic violence [3], abuse at workplace or gender-based violence [2]. Moreover, a large number of mobile-based apps [4] [5] [6] have also been developed to provide active support during crime. These apps provide features like location sharing [4] [5], alert systems or sirens [7] etc. Furthermore, a few devices [8][9] have been created for use during emergency situations.

Despite these several attempts by researchers and technicians all over the world, we often see that most of the women are ignorant about their rights, and are not aware of the ways in which they can protect themselves, during or after the crime. In this work, we have developed a comprehensive website that acts as a one-stop portal, providing an exhaustive repository of resources, both for passive and active information. Our website, named 'Women Safety with Sofiya (WSOFI)' includes information about websites, mobile apps and devices existing in the

market. Additionally, two important salient features of the website are:- first, the reviews feature, that allows users to leave safety-related reviews about a particular location, and second is the experience-sharing feature, wherein women can share their experiences of crime against them, and the ways they tackled it. These two features aim to bring women across the world together, and pour their reviews/experiences on to one single place, so that the information is widely disseminated. The goal of this website is to educate, inform, and empower women by offering safety tips, emergency instructions, and supportive information. Through awareness, the platform aims to contribute to a safer and more responsible society where women can feel protected.

The paper is organized into several sections, each addressing a different aspect. The first section provides an overview of our work and offers insights into the significance of our solution and the importance of providing a comprehensive repository of information related to women safety and crimes against them. The related works section discusses some of the existing works (websites and apps) that aim at providing passive and/or active information for women. The third section describes the functionality of the website, the user interface design and the technology used. Finally, the last section highlights the main goals of this work, the achievements and future enhancements.

II. Related Works

A number of platforms, including websites and mobile-apps, have been designed for women safety and the fight against crime. They all differ and have unique goals, but the main focus for all of them is either providing passive information and support or to provide active help during crime. In this section, we provide an overview of several existing websites and mobile apps designed for women safety, analyzing their main features, functionality, and approach.

Most websites dedicated to women's safety have a lot of resources and tips. They usually provide users with support and online help, which is absolutely crucial. Those works combine guidance and education, aiming to raise awareness of the relevant concern.

The website 'Women Helping Women' [10] is dedicated to preventing gender-based violence and empowering survivors, by providing services like 24/7 crisis intervention, helpline services, legal advocacy support, housing assistance and safety planning. In addition to supporting survivors directly, they focus on prevention and education by teaching communities and students about healthy relationships and how to recognize signs of abuse. This website provides passive information in the form of legal support, housing assistance and safety planning measures and active support through crisis intervention and helpline services.

Another web platform 'Women Against Abuse' [1] provides counseling support function that serves as a useful source and is focused on supporting survivors of intimate partner violence. Apart from other features, the website provides 24-hour domestic violence hotline and community education and prevention programs. It is predominantly a passive information website. Moreover, the website 'Women's Safety' [2] is targeted towards gender-based violence and aims at providing passive information through safety guides, self-protection tips, information about warning signs of abuse and articles about stalking, coercive control, and

online safety. It focuses on helping women recognize dangerous situations early and learn how to stay safe in everyday life.

The platform 'WomanAid Help' [11], focuses on sharing passive information, empowering women with knowledge and practical tools to stay safe and recover from abuse. It offers educational resources for survivors and allies, safety tips and strategies for everyday situations, and advice from trained social service professionals.

Another portal, named 'DomesticShelters.org' [3], is an online platform that provides passive information to help survivors of domestic violence find safe shelters and support programs across the U.S. and Canada. Similarly, another portal, named 'TheHotline' [12], which is a national domestic violence hotline in the United States and provides both passive information through safety planning, help finding shelters and services and active support through 24/7 phone and chat support and crisis intervention.

Since websites mostly provide passive support, researchers have also worked towards designing mobile apps for providing active help and support during a crime. Location tracking using GPS, alert calls, sirens are some of the features that most of these apps implement.

The I-Safe application [4] was developed based on the belief that threats to a person's safety may occur at any moment without notice. It allows a woman to contact help quickly by activating the application to send a notification and her current location to preselected contacts. The study emphasizes the importance of using one's phone as a resource to protect oneself, as opposed to merely communicating. Furthermore, the study also stresses that safety applications must be simple to use, cost-effective, and accessible to everyone.

ABHAYA [5] is a tool to provide relief from fear experienced by women during threatening situations. The application allows a woman to instantly send an alert to her selected contacts and share her location with them so they can assist her in reaching her location more quickly. The research discusses how fear creates hesitation, and how the straightforward design of the application eliminates that barrier. In addition to emergencies, the paper addresses developing awareness and preparedness among women. The authors present ABHAYA as a tool that will assist women to feel safer and less isolated.

SHIELD [6] is described by the researchers as a personal safety companion designed to facilitate immediate assistance and/or prevent potential threats from becoming actual events. It enables users to quickly dispatch emergency messages, share their current location in real-time, and maintain connection(s) with individuals they have designated as trustworthy during times of perceived risk or threat. In contrast to being viewed solely as an emergency resource, SHIELD is also described as a means of enhancing self-confidence among women, thereby enabling them to move around in both public and private environments with increased confidence.

The research paper [13] focuses on the idea of improving women's safety using an Android mobile application. It explains how smartphones, which most people carry every day, can be used as a quick and reliable tool in emergencies. The proposed app allows a woman to send an

alert when she feels unsafe, at the same time sharing her real-time location with selected contacts, such as family or friends. Some features discussed include GPS tracking, emergency messages, and alarms to attract attention. Overall, the paper highlights how simple technology can play an important role in helping women feel more secure and get help faster when they need it.

Unlike many previous studies, the study [14] views women's safety as a long-term process, not simply as an emergency response. By integrating alert systems, GPS-based location tracking, and communication features into a single application platform, LIFECRAFT [14] demonstrates how proactive measures can positively affect a woman's safety during and after a potentially threatening event or situation. The research highlights the importance of reliability in an application intended to provide continued assistance to users who may be unable to use their device for a prolonged period due to injury or other factors. As such, LIFECRAFT is characterized as a 'quiet support' to enhance a woman's perception of safety and independence.

GoFearless [15] is an application developed as an aid in times when someone may experience a feeling that something does not feel right. The application provides an easy-to-use interface that allows a woman to notify individuals that she trusts that she requires assistance, and send her current location immediately. The purpose of this application is to provide assurance through the elimination of hesitancy and quick action. The study describes how features such as GPS tracking and emergency notifications could be vital in providing timely assistance, which would be crucial in emergency situations.

The paper [7] presents a mobile-based women safety application created to address the rising number of crimes against women by providing immediate assistance during emergency situations. The application enables a woman to quickly alert her pre-registered emergency contacts by sending direct messages along with her real-time GPS location. In addition to location tracking, the system includes features such as a siren alarm to attract attention, voice recording to capture evidence, and direct access to emergency helpline numbers. The study highlights the use of smartphones as an effective safety tool.

Most of the website platforms discussed in this section provide limited passive information about women safety measures or available resources for victims. A majority of them do not provide any practical functions to the users, meaning that women who faced violence would not be able to raise awareness for others. Victims willing to share their experiences with others cannot share their voices with others. Similarly, the mobile-apps discussed are designed to help as safety devices during the crime.

On the contrary, the WSOFI project focuses not only on providing users with information but also on letting them share their own experiences and get to know other people whose problems were similar. For convenience, the website supplies information about other valuable sources, so that there is no need for the individual to search the entire Internet. Our main goal is to provide all the needed support for the user.

III. Women Safety with Sofiya (WSOFI)

The platform is designed to act as a comprehensive repository of passive information related to existing websites, mobile-apps, hotline numbers and safety devices, that help in supporting women against crime. Additionally, the functionality of sharing reviews of various locations and experiences by women would help other women to be more prepared against potential crimes and empower them to handle similar situations. In the next sub-section, we provide an overview of the technology used to design the platform and its architectural diagram. Finally, the last sub-section gives a detailed overview of the user interface design of the website.

A. Architectural Diagram of WSOFI

The website is designed using Flask, which serves as the web framework responsible for routing, request handling, and server-side processing. The system follows a multi-tier architecture, with the presentation layer (user interface) being designed using HTML and CSS. Flask/Python is used to handle the processing and logic at the application tier. Additionally, SQLAlchemy is used to manage database storage, retrieval, and object-relational mapping, with SQLite database, at the database tier. Fig. 1 shows the architectural diagram of WSOFI, depicting the technologies used at various tiers.

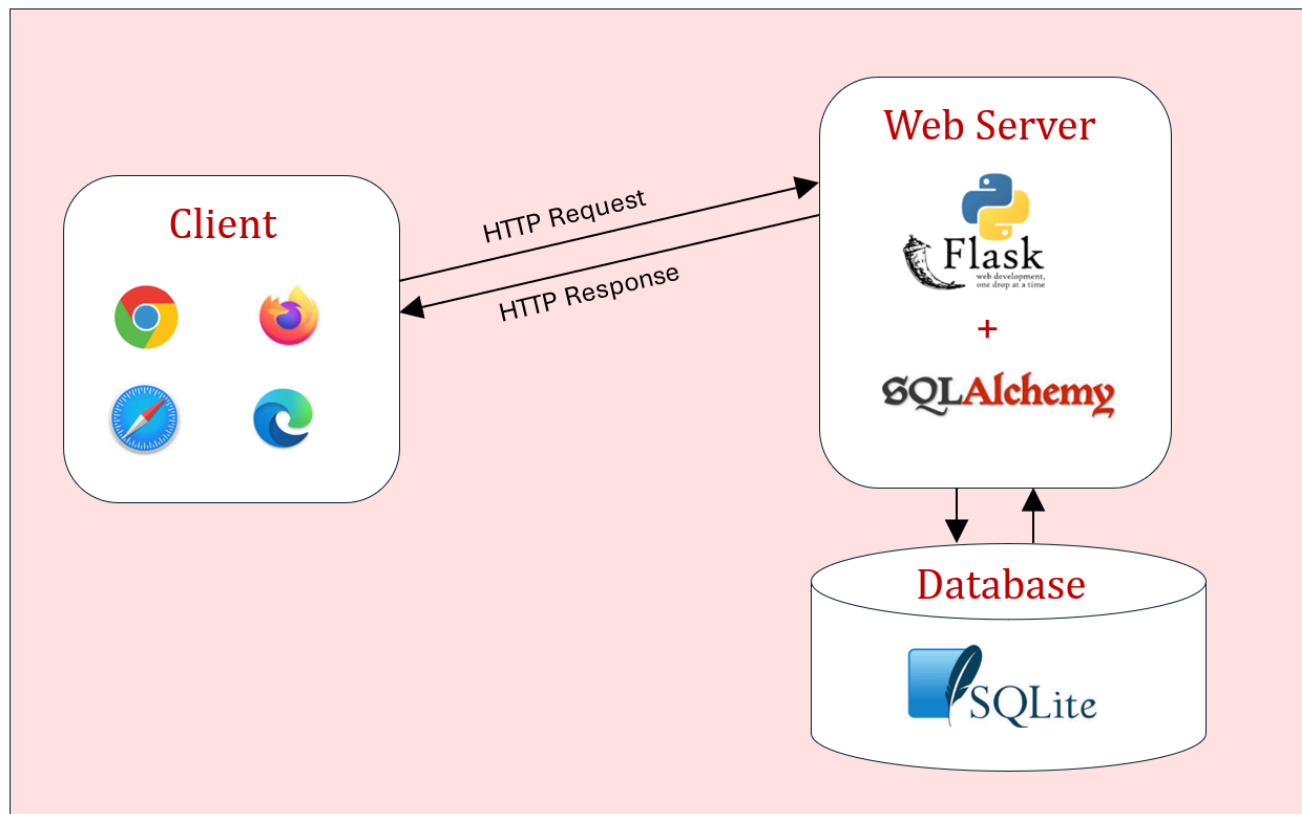
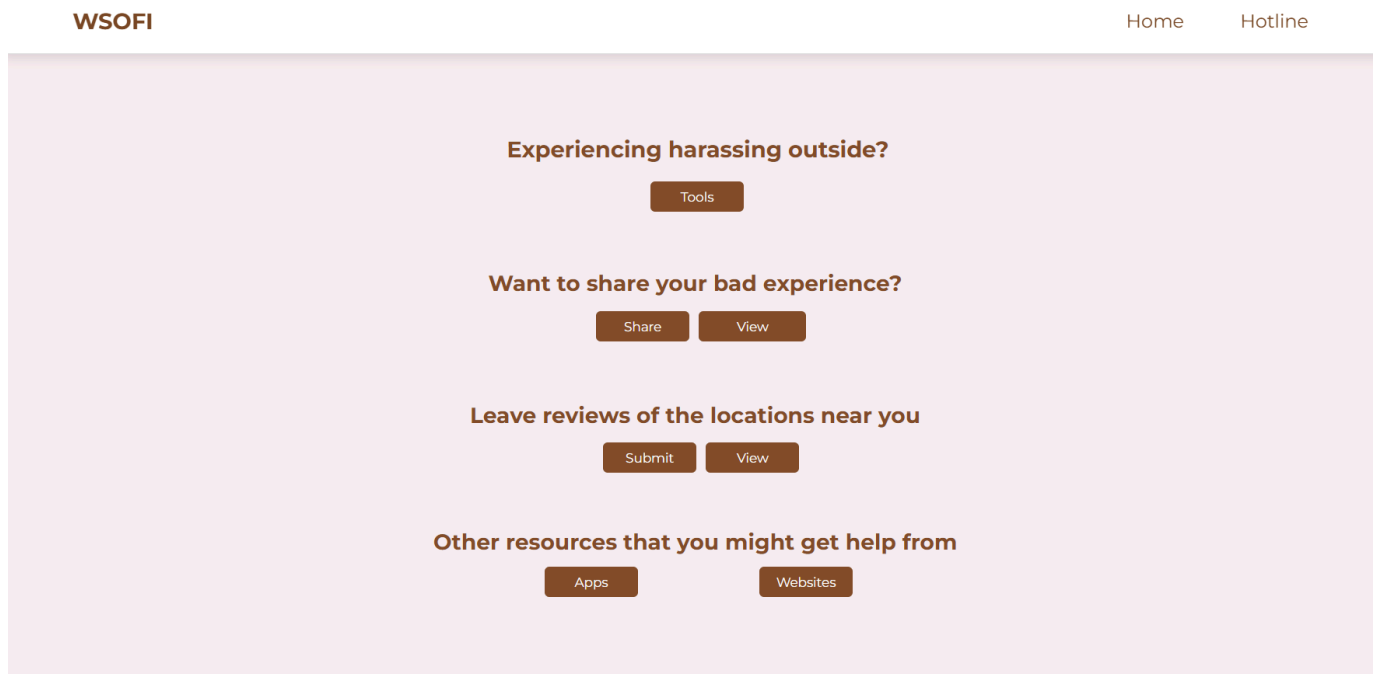


Fig. 1: Architectural Diagram of WSOFI website

B. User Interface Design of WSOFI

The user interface of the women's safety website is designed with a strong focus on clarity, accessibility, and ease of use. Since the website deals with sensitive and urgent topics, the interface is kept simple and organised to help users quickly find important information without confusion. Calm and neutral colour tones are used to create a sense of safety and trust, while readable fonts ensure that the content is easy to understand for users of all age groups. The home page of WSOFI (as shown in Fig. 2.) presents the user with several options in order to interact with the site, like reviews page, experience page, and other pages providing access to repositories of existing websites, apps and devices for women safety.



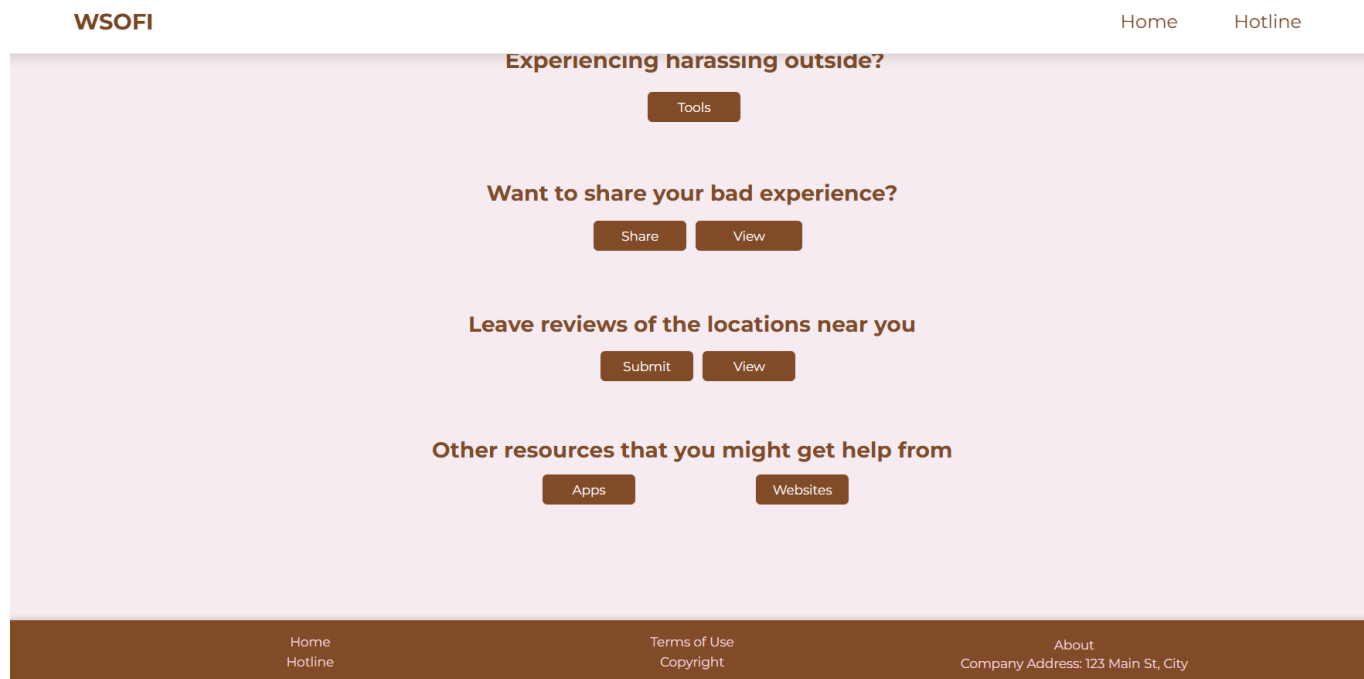


Fig. 2: Home page of WSOFI website

Website Page

This page enables quick access to a large repository of existing websites that either provide passive awareness information to support women, or provide mental and legal support to victims. The information includes a short description and a link that can be visited (see Fig. 3). This page makes it easy for users to navigate through important resources quickly and ensures they don't miss essential information about safety, legal support, or counseling services. It also serves as a central hub where all relevant websites are gathered in one place.

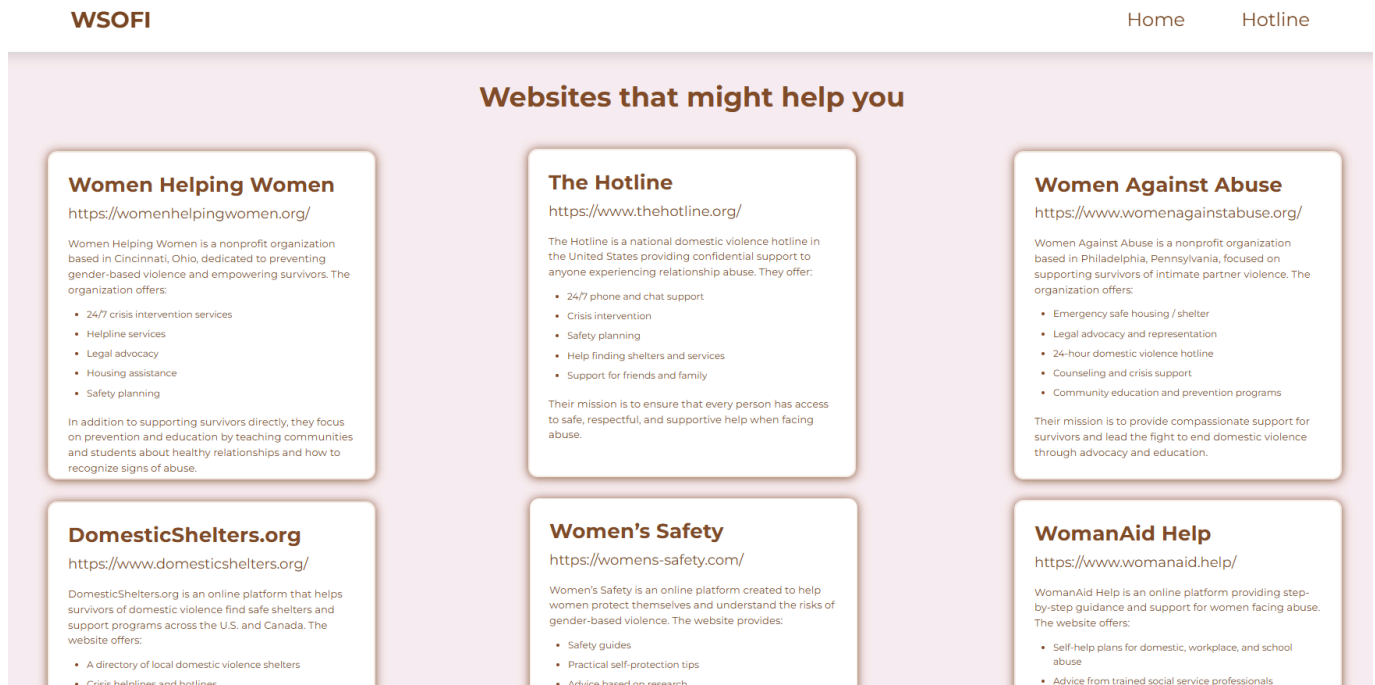


Fig.3: Website Page of the WSOFI

Apps Page

Similarly, the Apps Page (Fig. 4), provides a huge repository of existing mobile apps that have been designed to provide active/passive support for women. This page explains how these apps can help women stay safe by offering quick access to safety tools and resources. It describes the features of each app, such as emergency assistance, safety alerts, and easy communication. Each app includes a short description and a download link, allowing users to explore the apps without wasting time searching on app stores. The page provides clear guidance about how the app functions, helping users choose which one best fits their personal safety needs.

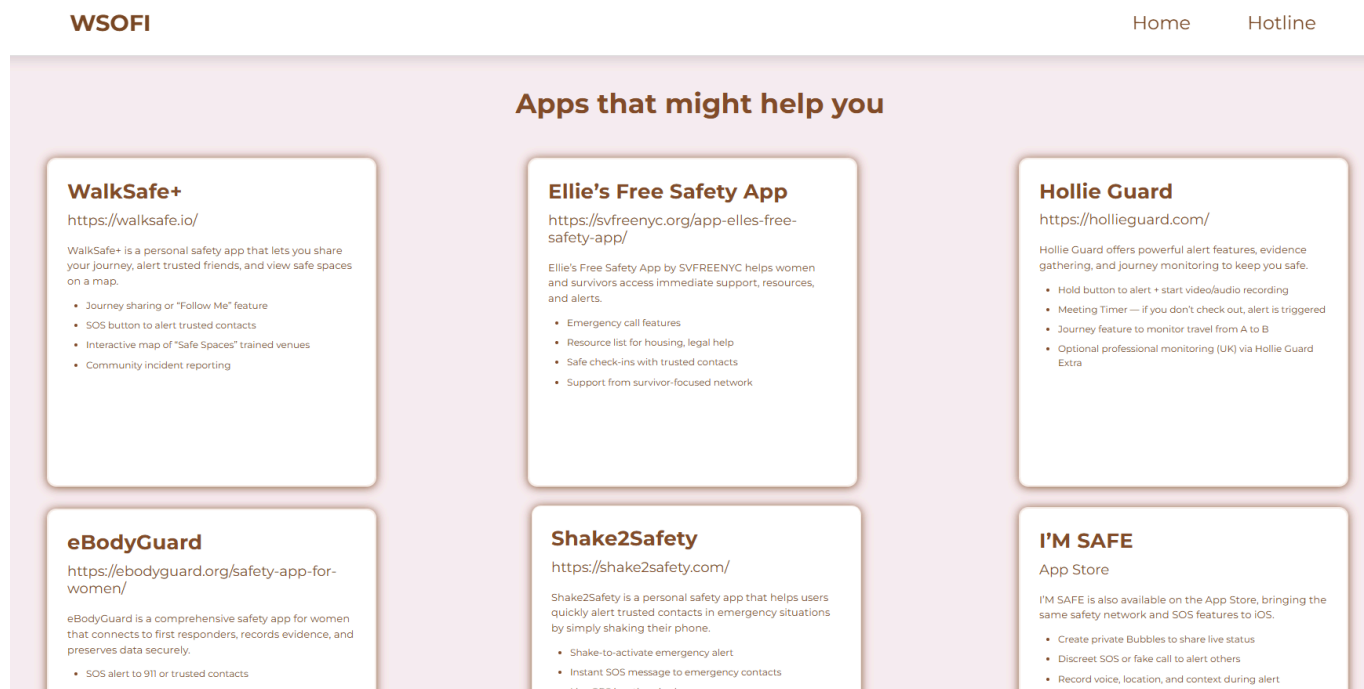


Fig. 4: Apps Page of the WSOFI

Hotline Page

Fig. 5 features the hotline page which is one of the most important sections of the website. It is accessible from the homepage and contains the official emergency contact numbers of various countries that users can access in urgent situations. The goal of this page is to ensure that users can quickly find and use emergency services without confusion or delay. The page is designed for ease of use, with numbers organized by type and easy-to-read. This feature ensures that help is always just a tap away, which can be crucial in emergencies.

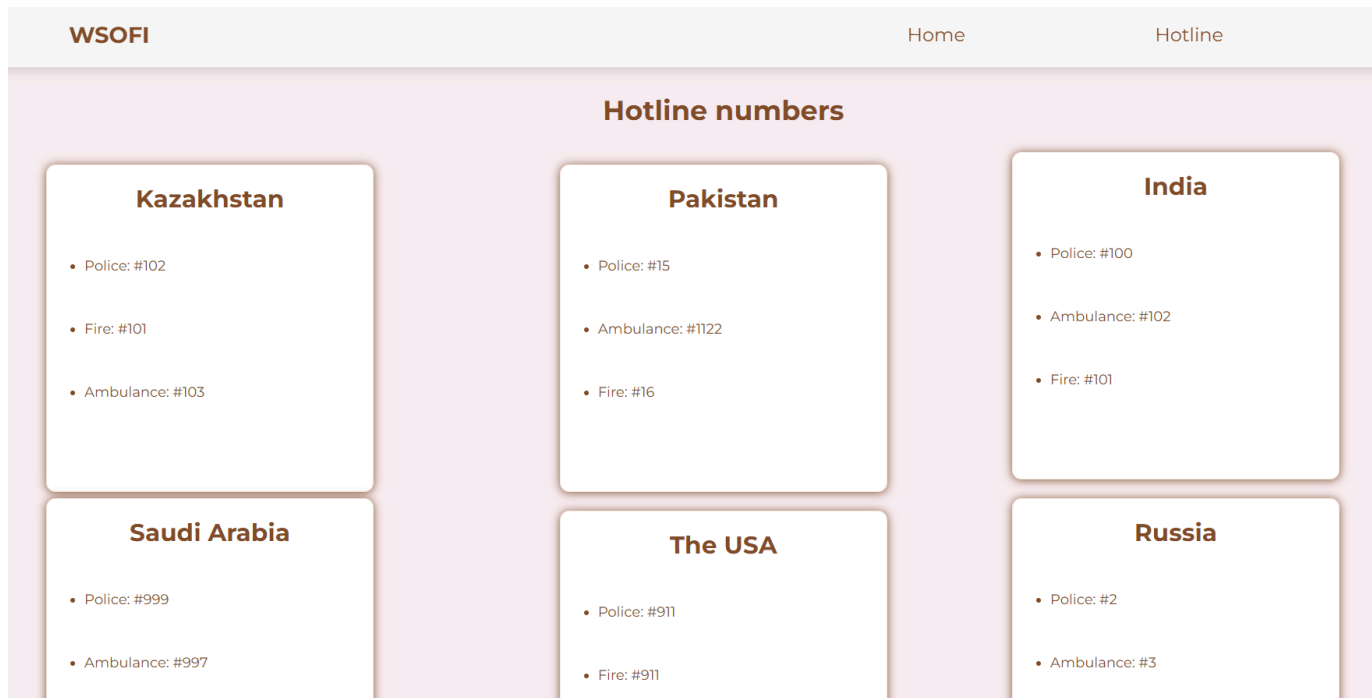


Fig. 5: Hotline Page of the WSOFI

[Share your Experience Page](#)

The “Share Your Experience” page allows users to express and share their personal experiences related to safety or harassment. This page is designed to create a safe and supportive space where women can speak openly and feel heard. Users can share their stories and gain encouragement (or information) from others who have faced similar situations. This page also promotes awareness and empathy, helping the community understand the challenges women face (see Fig. 6 and Fig. 7). For easier search and use, various categories of the possible experiences are available, like domestic violence, abuse on the road, and so on. This would help sort every experience by its topic, so that users who experienced a particular situation can quickly find someone who had the same issue.



The image shows a web form titled "Share your experience" on a light pink background. The form is a white rounded rectangle containing a large text area with the placeholder "Write your experience", a dropdown menu labeled "Select category", and a "Submit Experience" button.

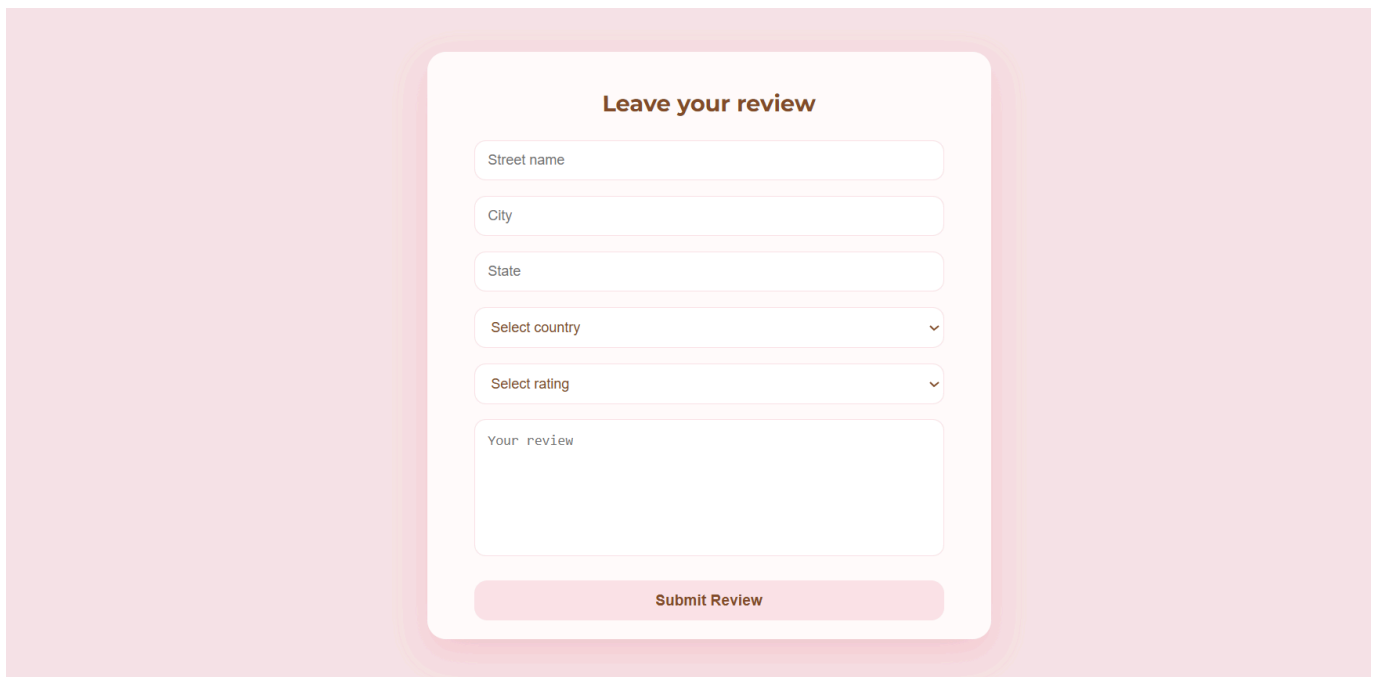
Fig. 6: Share your Experiences Page of the WSOFI

The image shows a web page titled "Experiences" on a light pink background. At the top is a dropdown menu set to "Abuse at workplace". Below are three white rounded rectangles, each containing the title "Abuse at workplace" and a paragraph of text describing workplace abuse scenarios.

Fig. 7: View Experiences Page of the WSOFI

The “Leave your Review” page (Fig. 8) enables users to give safety related feedback about the locations in their city. Users can share their opinions and experiences with different places. This page helps women raise awareness for others, as users can report unsafe areas and also highlight risky locations. Over time, this section can become a practical guide for safer navigation around cities. There is also a second page available, where users can view the reviews left by others, filtered by country (Fig. 9). On both these pages, category-based sorting is implemented in order to organize information such as the address and rating of the reviewed place. While entering the address, the user is required to enter the street name, city name, state as well as the country. While viewing, another user can filter the reviews on the country name. Additionally, while entering reviews, the user is required to categorize their reviews on the following ratings:

- 1- Highly Unsafe
- 2- Moderately Unsafe
- 3 - Neutral
- 4 - Safe
- 5 - Extremely Safe



The image shows a web form titled "Leave your review" centered on a light pink background. The form itself is white with rounded corners and a subtle shadow. It contains the following elements from top to bottom: a text input field for "Street name", a text input field for "City", a text input field for "State", a dropdown menu for "Select country", another dropdown menu for "Select rating", a larger text area for "Your review", and a pink button at the bottom labeled "Submit Review".

Fig. 8: Leave your Review Page of the WSOFI

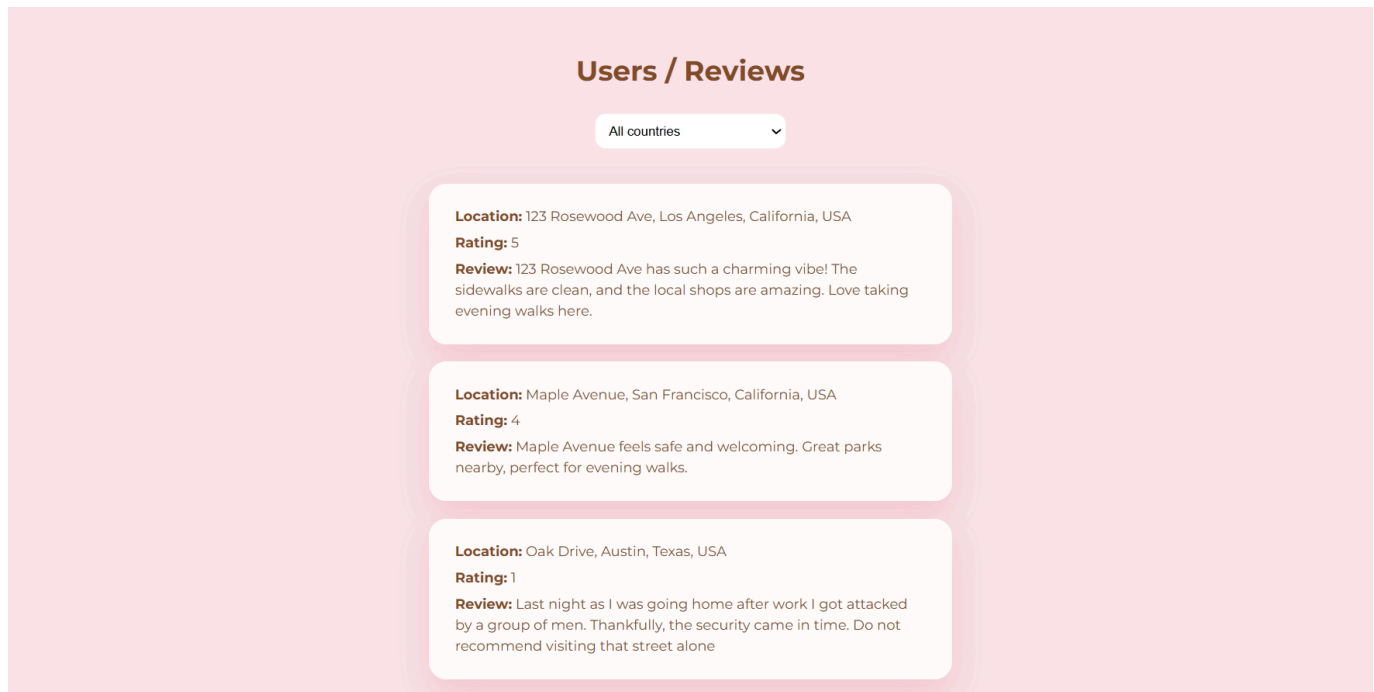


Fig. 9: View Review Page of the WSOFI

Safety Tools Page

Another important page that acts as an important repository of information is the “Safety Tools” page (Fig. 10). It includes details about different safety tools that might be extremely useful, and also a link for purchase on different online sites like eBay or Amazon. Safety tools may have a huge impact on an individual’s well-being. Each tool is accompanied by a brief description of its function and purpose, so users can quickly understand how it works and why it may be helpful. The page emphasizes practical applications and allows women to take direct action to improve their personal safety.

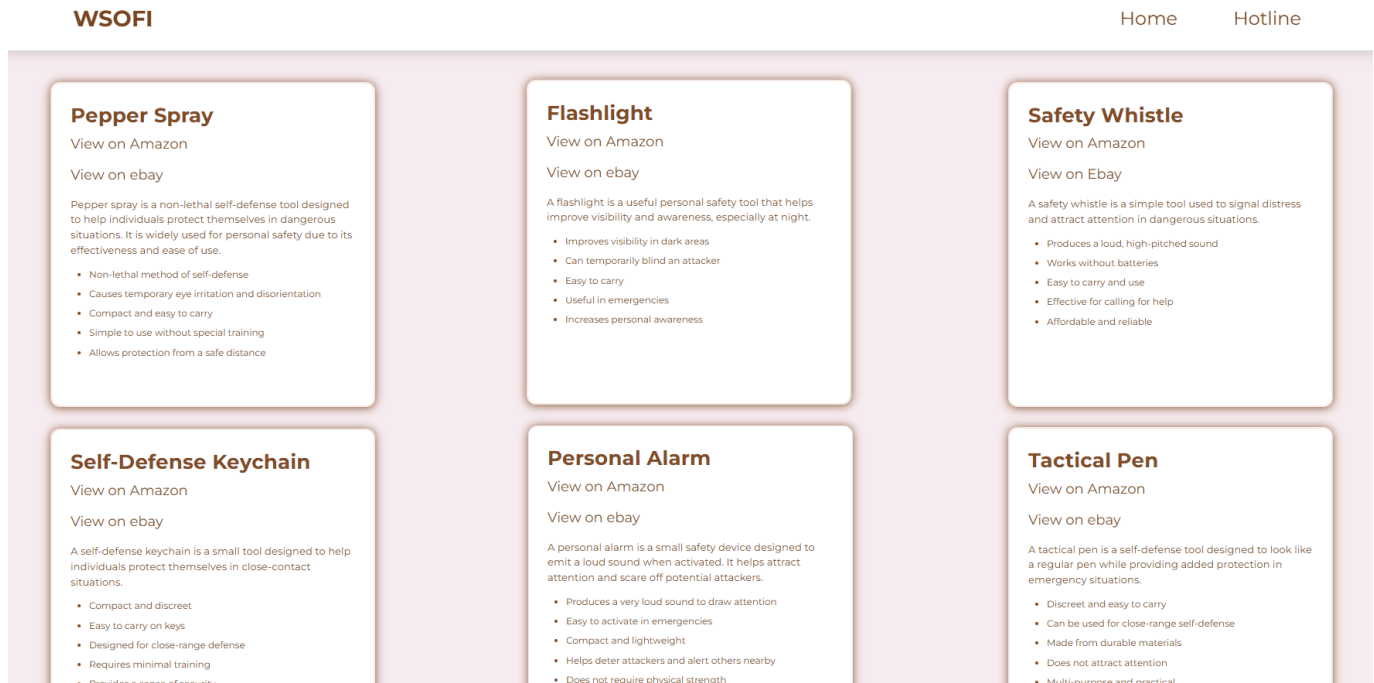


Fig. 10: Safety Tools Page of the WSOFI

IV. Conclusion and Future work

Despite technical and societal advancements, many women still face crime against them and end up in dangerous situations, or even fall victim to crime against them. Most of them do not know what to do and where to call for help. In this paper, we presented the design and functionality of a women's safety website called WSOFI. The advantage of this website is that it works both as an informational source and as an interactive platform. This website is crucial for women around the world for ensuring daily safety. It includes data about the hotline contacts and safety tools that will reduce the time of searching for the users. In other words, information presented is quickly accessible.

In its current form, our website predominantly provides passive information about existing tools, apps and other existing websites and acts as a one-point stop portal for this information. Furthermore, we plan to add features that would provide active support during the crime. Functions such as "Fake Call" and "Siren" would be integrated, giving opportunities to escape uncomfortable situations and attract attention during emergencies. These features will support women not only during serious threats but also in moments of unease, helping them feel more confident. Another important future work would be to upgrade the review page and integrate a map into it, so that the user can choose the exact location of the event and provide related reviews.

Moreover, the project will be enhanced in all possible ways in the future, with the use of newer

technology and by adding more details about existing websites, apps and safety devices. The website aims to provide a safe space for women around the world.

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