



# A Review of Women Safety website

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## Abstract

Any country cannot fulfill the fullness of its potential when women's security is disregarded. Unfortunately, the human being is not as adventurous as we have imagined but sometimes daily, 50% of the people on earth experience risk to their life. In the recent past, distressing scenario for women has been observed in India which has created a very adverse effect upon their lives. The nation of India suffered a grandiose amount of rape crimes ranked as the 10th worst globally for crimes against women. Women daring to go out in public and avoid night journeys. Impeccable might come from all side whether it is going back to home from a job or to the shops and so on. Their arrival at the camps might not always have happened safely. However, the relatives of these people would constantly worry about the well-being of their friends and family .

As per the data from the National Crime Records Bureau, this figure goes up to 21% where the women get impacted by physical or sexual abuse sometime. The offered assignment involves a website that applies Machine Learning model to secure the safety of women through suggesting the safer route of travel that can take them safely and safely to their intended destination.

Keywords: GPS navigations, cellular phones, women's safety website, Anaconda Jupiter file.

## Introduction

As is well known, India is a developing nation, and every segment of the populace plays a part in the development and prosperity of the state. Women's engagement in the workforce is growing because of this growth, and they are becoming more autonomous than they were in the past. The respect that women are receiving in many spheres of life, including education, is also contributing to an increase in criminality and sexual abuse against women. In the past, women lacked the autonomy and free will to work outside the home, but in the wake of globalization, things have changed, and society's mindset has improved.

When we compare, women are not much powerful physically then men in the situation of any mishappening or crisis. Hence our first goal is to empower girls and women in every field possible so that they become more confident, self-dependent as well as they can strongly oppose any eve-teasing. And second one is to change the mind-set of society towards women due to which such absurd crimes happen.

To demonstrate their dominance over women, the male-dominated culture employs a variety of instruments. Males utilize rape, sexual harassment, eve teasing, and domestic violence against women as tools to demonstrate their supremacy over females. This is a major contributing factor to the rise in violence and concerns about women's safety in India. We can take some safety precautions during such situations as they can call for help or people around them get alert that they are in some dangerous situation and need support. But every time there is not someone present there to guard them.

So, to ensure women's safety many gadgets or applications have been made from time to time. Following is the literature review of some developed applications.

An Android application was created by Kartik Hariharan [1] to gather data and anomalies, after which three machine learning models were applied to the data to conduct an accuracy comparison test.

Deepa Bura [2] has made a webpage with the use of Google Maps for finding routes between respective sources and destinations with some additional paths associated with it.

Sharon Levy [3] has provided a solution for navigating cities and avoiding crime. It introduced an application for picking the safest and shortest path with a reward for safety and efficiency.

Ruoyu Wang [4] has tried to measure neighbourhood safety using street view data and ML. The result of this confirms the positivity associated with mental health in the neighbourhood.

Using augmented reality (AR) and head-mounted displays (HMDs) as a potent tool for user navigation, Arnee Seeliger [5] has created a context-adaptive system for safe navigation.

Prof. Malan Sale [6] have developed number of new apps to provide girls with a security system via their phones. We've analysed various existing systems on women's security in this paper.

Aliasgar Eranpurwala [7] have made an app "GoWomaniya" which helps to predict the timeline of the user and based on that suggest the safest and shortest route possible for commuting.

Prof. khatal Sunil.S [8] have made a software that help the women to find which route is safe and if they have selected any unsafe route so they can send their location to register, contact for safe travelling.

Venkatesh Gauri Shankar [9] has developed a novel approach for determining the safest path. They have made use of most recent accident and crime statistics from NYC Open statistics.

A User Specific Safe Path Recommendation System created by Yash S. Asawa[10] shows the user a safe path displayed on maps.

These were very efficient also but as we know there are pros and cons to everything. Thus, more upgraded versions of these applications, devices and websites are always in progress.

So, we provide our contribution in this problem through SafeStreet a web-application which act as a personal safety map for women.

SafeStreet is a website which will provide you with safe and secure roadmap. Unsafe streets and roads forces women to miss those opportunities in life where they can feel proud and appreciated by people. They decrease women choices and kill their confidence. While Ministry of Women and Child development has installed CCTVs in streets with 24\*7 monitoring and equipped their smartphones with helpline numbers and panic buttons etc.

## I. Methodology

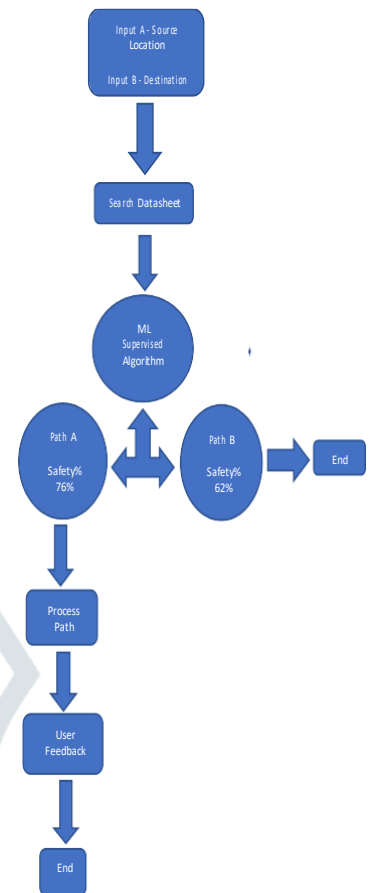


Fig 1. Block Diagram of SafeStreet process

*SafeStreet provides three services depending on user choice.*

### 1. Detects the safe route:

The user enters her origin and destination, then the website finds all the possible routes using Map box directions API, then it uses reverse geocoding API to find the street names in a particular route. For each street the nearest neighbour model is used to predict the safety score which lies between 1 and 4 as 4 being the highly safe and 1 being unsafe. Web-scraping is used to collect the data for the value of different factors specified. Safety score is calculated by taking an average of all the safety scores. Then this application provides each route with its safety score to user and marks the safest route with green. Then user choses her path accordingly.

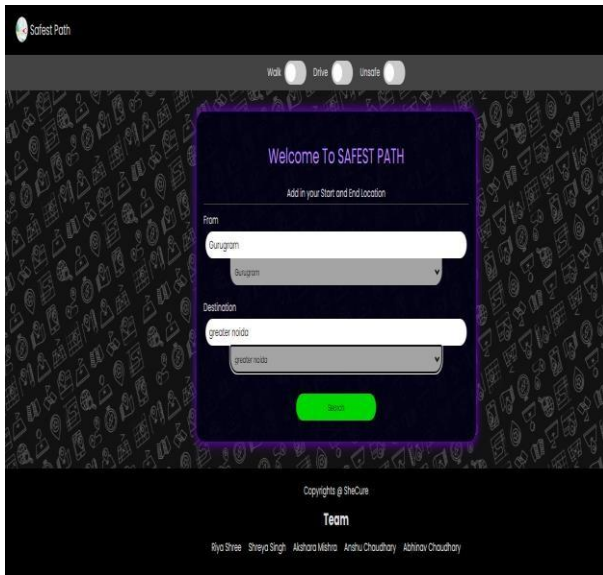


Fig 2. Login Page for source and destination.

2. Detects the safety score of current position:

The website calls the Map-box Direction API with the user's current location to get directions to their destination. Thereafter, Mapbox Geocoding API is used to extract street names that are lying within a 500-meter range once the Longitude and Latitude of the marked coordinate are marked. The location's safety ratings is predicted by using machine learning. Alert is activated, and SOS service instigates on the side of safety when the alarm is below the threshold established earlier. Aside from the above, by adding a unique feature of informing the zone's safety rating, the website will label the hazards zones green (safe) and red (unsafe).

3. Feedback form:

This website also contains the feature of feedback form to analyse whether the user feels the route safe or not. User enters the rating between 1 and 5 (1 as unsafe and 5 as safe) and sentimental analysis is done based on their remarks. Then average of the rating is taken out and if it is above the certain threshold then route is marked safe. This rating separately shows the percentage of users who found this route safe.

**FEEDBACK FORM**

Please help us improve by sharing your experience with us

How well fit the road was?

Low

Medium

High

How safe did you feel?

1

2

3

4

5

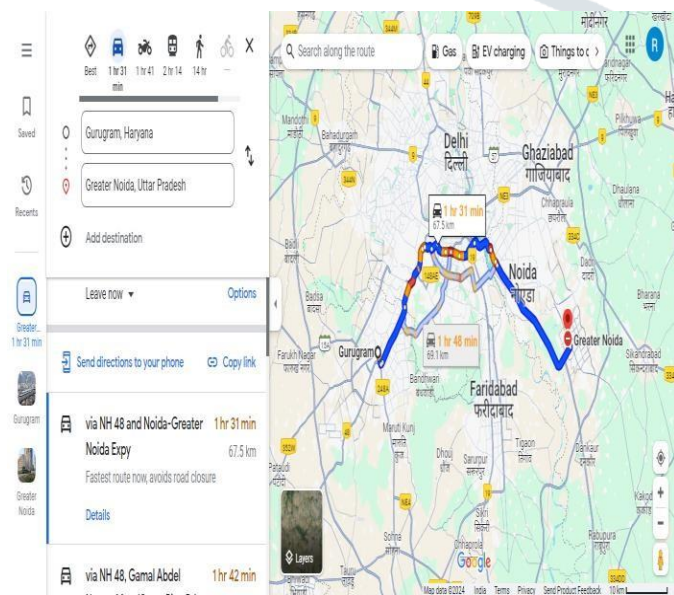
Enter Remarks please:

The experience was really nice

Fig 4. Feedback Form

4. Existing and Proposed Model

This table outline the key differences and similarities between the proposed model and the existing model, highlighting the unique features and improvements our model intends to offer .



Aspect	Existing Model	Proposed Model
Objective	Utilizing GPS tracking and alert systems for safety.	Enhancing women's safety through a route recommendation system.
Structure	Predominantly GPS tracking-based systems with alert functionalities.	Divided into two sections: Registered users can log in, provide feedback. Unregistered users can use the service without feedback provision.
Usage	Immediate access through mobile applications with SOS alerts and GPS tracking.	Requires registration for feedback submission; login credentials are necessary. Also accessible without login but without feedback provision.
Limitations Addressed	Acknowledges the limitations of safety gadgets if not within reach during an emergency.	Addresses the inability to access safety devices in emergencies by providing a web-based solution for route safety.
Technology Used	GPS tracking, mobile application development for alert systems.	Machine Learning algorithms via Anaconda Jupiter file; website designed using VS Code.
User Engagement	Utilizes GPS tracking and quick messaging for immediate help.	Offers registered users the ability to provide feedback for further enhancement.
Major Drawback Resolved	Addresses the limitation of safety gadgets being out of reach during emergencies.	Focuses on resolving the inability to access safety devices during emergencies by providing an alternate solution.

Table 1. Difference between Existing model and proposed model

### Conclusion

We have created a smartphone-based website within the suggested model with the goal of promoting women's safety. This website essentially uses a machine learning algorithm to choose the safest and most secure way via the Map Box Direction API. Another advantage offered by this is the ability for the user to share her experiences with us via a feedback form. This allows us to utilize her experiences as input into the algorithm once more, enabling the creation of forecasts that are more accurate due to real-world experiences.

Aside from these websites, apps, or gadgets dedicated to women's protection, there is one more thing: society's values and mindset need to shift. Using these tools and websites, we can lessen the ridiculousness, but unless we take the necessary and stern action against the offenders, we won't be able to stop them.

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