**Practical Implementation Scenario’s**

(All cases already mentioned in algorithms this is just to work out the practical feasibility of the idea)

**Target Audience**

The problem affects a major section of the society providing us with a huge and a widely distinct target audience. In General, our target audience will be the lower to higher-middle class section of the society which resides in the developed/developing cities and depend on road transport for commuting.

**Ways to enhance practical applications and avoid misuse**

*Credit System*

The app will also implement a credit system to restrict its misuse. People who submit false cases or fail to report to the point of accident after committing to help will lose credits. If credits reach a critical level they will not only be banned from the app but will also be subject to legal troubles.

**The law states that the offence of wasting police’s time carries a maximum penalty of six months' imprisonment and/or a fine.**

(On the contingency that our app reaches a level where a report is considered as an FIR the punishment takes an even more severe turn)

Priority Algorithm

TO provide the best possible help to the victim in the options available. The algorithm will look through the information of the volunteer who accepted the help request. The Data will be taken during registration. Some of the criteria could be:

* 1. Professional Degree in medicine
  2. Pre-requisites in medicine (CPR etc.)
  3. Availability of personal vehicle
  4. Credit Value
  5. Availability of first aid in vehicle
  6. Distance of Residence from point of accident
  7. Distance of volunteer from point of accident

Services to reduce accidents

Precaution is better than cure hence the following features will be available to save the driver from being distracted:-

1. Voice prompts- At points where frequency of accidents are high the user will be notified via voice prompt and will be suggested a pace to drive
2. Colour Coded Roads- Red i.e most dangerous to green ie safest
3. Blocking Notification
4. Allowing calls to ring only for a few seconds and informing the caller that user is driving
5. Suggesting the safest path to User

Informing the Emergency Contacts

In case the user becomes a victim to an accident and the phone is in usable condition. The emergency contacts can be informed from lock screen itself

Blocked Roads

Roads which experience very low traffic (let’s say 2 vehicles an hour) will be blocked for reporting an accident for safety reasons.

**Highly Improbable Scenarios which could boost boost the user base**

App used as a base to judge the participation in social services

If somehow we can take the app to appoint where companies take the credits of the app as an asset to judge the social involvement of a person we will see a higher participation rate

Currency Exchange (Brings a moral grey area but is useful)**(Can be removed)**

If the user-base appreciates the idea maybe we can provide the volunteers with a few bucks in exchange for their help through the victim’s family. Will engage more users but will also cause problems. Or if somehow government funding can be approved(Very very improbable)

**Honest Report Scenarios**

1. **( Highly Ideal Scenario) Accidents are prevented from happening**

Due to the functionalities of the app, the user while driving on the safest possible route isn’t distracted and is influenced by the voice prompts and color codes to dive safely avoiding a potential accident scenario.

**As Even after complete alertness and vigilance, Accidents are bound to happen. If the user can’t help due to scarcity of time:-**

1. **Best Case Scenario**
   1. The point of accident is a heavily used route and a potentially large user base helps us by generating a number of reports sufficient enough to straight away inform the cops as well as the nearest available medical support.
   2. Also a lot nearby volunteer available to help (Selection of volunteer is not pivotal as the required help is already on the way) the person with higher credit or the set priorities is chosen by algorithm.
   3. Once in range of accident location volunteer’s application is set to helping GUI i.e. confirm accident, false report, resolved, contact medical/cops buttons are added
   4. At this point there are two scenarios:-
      1. Volunteer Reaches Before The Medical team
         1. Volunteer helps via first aid or CPR in critical cases
         2. Volunteer contacts and directs the cops and medical team
      2. Medical Support Arrives prior to volunteers
   5. The volunteer can look for the victim’s phone
   6. If, the phone is found and in usable condition with app running
   7. He can click on the emergency notification on lock screen
   8. Once the timer counts down to 0, emergency contacts are informed
   9. One of the Emergency contact is nearby
      1. Emergency Contact has the app installed.
         1. clicks on the notification
         2. receives location of accident, hospital, live location
         3. Emergency Contact immediately leaves
      2. Emergency Contact doesn’t have the app
         1. Gets a message via preferred app
         2. Gets the location of accident
         3. Leaves immediately
   10. Volunteer gives the phone to medical support
   11. click on resolve button and leaves the location
   12. The volunteers on the way would be informed that the accident is resolved and all are thanked for being courteous
   13. All Volunteer and all the people who reported the accident get a credit boost and precious seconds are saved
2. **Highly Optimistically Realistic scenario**
   1. We get a 1-2 requests for accident at a location
   2. Notification is sent to all nearby volunteers and ten volunteers are found
      1. Volunteers found in the first search radius
         1. V1 is driving and can’t be late to office, ignores request
         2. V2 travels through public transport, difficult to reach
         3. V3 is in a meeting or is currently away from his phone
         4. V4 is injured and not in a state to help
         5. V5 is not in the mood to get out of his bed
         6. V6 is a nurse travelling home from clinic, accepts
         7. V7 has a personal transport with first aid kit, accepts
         8. V8 a local, the nearest and aware of the locality, accepts
         9. V9 , good person ready to help, average credit, accepts
         10. V10, available but no preferred traits , accepts
      2. Enough Volunteers not found in first Search
         1. The search radius is increased to find volunteers
         2. 4 volunteers found
   3. Priority Algorithm chooses V7, V6 and V8 according to preferred traits and credit values
   4. The local volunteer reaches early and volunteer’s application is set to helping GUI i.e. confirm accident, false report, resolved, contact medical/cops buttons are added
   5. He confirms accident, looks for phone and calls the hospital
   6. The volunteer with personal vehicle reaches with first aid, knows CPR but there isn’t any need
   7. Nurse reaches, apply first aid and communicates the sustained injuries to the medical team
   8. Medical team arrives
   9. Cops arrives
   10. Everyone click on resolve, leave they get a credit boost person who informed get a credit boost
3. **Real Life Scenario 1(Not too optimistic)**
   1. 2 Accident reports
   2. NO volunteers found in first search
   3. Number of reports extend to 8
   4. Cops and medical team informed
   5. Still no volunteers
   6. Medical team reaches in fastest possible time
   7. After reaching a certain radius and time query is dissolved
   8. People who reported get a credit boost
4. **Real Life Scenario 2**
   1. 2 people report an accident
   2. No volunteers found in first search
   3. When radius is extended 2 people accept request
   4. Both are called to help while the query is still on
   5. First person reaches for help in best possible time witnesses helping GUI i.e. confirm accident, false report, resolved, contact medical/cops buttons added
   6. He confirms accident and the search query is dismissed
   7. Volunteer looks for phone but doesn’t find it
   8. He contacts the medical staff and directs them
   9. As the volunteer doesn’t have first aid or prerequisites to medicine, he/she just waits for help to arrive
   10. Help arrives, volunteer clicks on resolved and the other volunteer is informed
   11. Volunteer leaves and everyone get a credit boost
5. **Pessimistic Scenario**
   1. One person reports an accident
   2. No Volunteers found in all search queries
   3. As a lot of time has already past cops are sent the request
   4. Cops reach the scene
   5. Call the medical team
   6. Medical team arrives and the person who reported the incident gets a credit boost
6. **Highly Pessimistic Scenario**
   1. One volunteer reports an accident
   2. NO Volunteers after all searches
   3. Cops unavailable to help
   4. Due to lack of evidence medical team can’t be called
   5. The person bleeds out but hey at least we tried
   6. What can we do if the world has reached a point where people are ok with other people dying, let this sort of world will end so that we all can rot in hell (I’ll remove this don’t worry)

**Unethical Scenarios**

1. **False Report Scenario 1**
   1. One false report at a specific location
   2. Three Volunteers are found using search query
   3. First volunteer reaches the location and experiences the emergency GUI
   4. Clicks on the false report button…is apologized to gets a credit boost
   5. Rest of volunteers are informed about the false report and get a credit boost
   6. The person who reported the incident gets a degraded credit and is informed about the legal actions which can be taken against him/her
2. **False Report Scenario 2**
   1. 2-3 false reports by trolls at a specific location
   2. NO volunteers found in all queries
   3. Police is informed
   4. Police realizes that the report is false
   5. Reporters credit is highly degraded
   6. Legal actions can be taken
3. **Inefficient Volunteer Scenario** 
   1. Algorithm selects 2-3 users for an accident report
   2. If the Volunteer’s location doesn’t change for long periods or nobody reaches to help in acceptable time frame
   3. Every volunteers query is degrade
   4. New search query is input
4. **Criminals**
   1. A report is submitted at a location from where it is easy to abduct people cause it experiences very little traffic
   2. Jokes on them cause that location is blocked for reporting for this very reason

**Implementations from Various perspectives**

**A general Scenario for any user**

When seated to drive:-

1. Volunteer is expected to open the app
2. The map like GUI will open up which will be kept on during the entire journey.
3. The user can input his destination in the search bar to acquire the safest route
4. The app access the user’s current location and keeps on displaying it on the map.
5. According to the location and route app will gather the statistics of that route from the past year.
6. Then the user is informed about the safety of the current route

*Colour coded pathways*

1. The routes, exits and turns on which most accidents take place will be coloured in red and safest ones in green
2. The location at which an accident took place recently(same day) will be marked in black
3. The colours will change dynamically.

*Voice Prompt*

1. If user’s location coincides with a location marked as accident-prone, a voice prompt which informs the user about the danger ahead is initiated and a certain pace is suggested to the user. The voice prompts then ends.

**Volunteer witnesses an incident:**

In case the volunteer witnesses an accident or a case of road rage:-

1. He can help the victim himself

*Or if the volunteer doesn’t have time to help he/she can report the incident using the app*

1. The volunteer clicks on report button (proposed to be at top right corner)
2. The focus changes to Report page activity
3. The volunteer can input some optional details
4. Volunteer clicks the submit button and the report page activity loses focus
5. The **General Scenario** Algorithm takes back the foreground
6. The volunteer can drive away
7. The truthfulness of the report will be calculated after the **app generates request** and **helping volunteer** algorithm takes place.
8. If the incident was reported truthfully, the volunteers credit value will be incremented
9. The user will also be given the details about the incident applauding his little effort.
10. If the incident was falsely reported, the volunteers credit value will be decrease drastically and the volunteer will be warned of legal consequences

**(The App on receiving a report) Helping Volunteer Finder:**

From the perspective of the app when an incident is reported:-

1. The app will pick up the location and input a query into the system.
2. Other volunteers will be notified based on their distance from the incident.
3. If a lot of people report the incident at the same location.
4. A notification will be sent to other volunteers based on their distance from the location of accident
5. The volunteers can accept or decline the request
6. If the app doesn’t get sufficient responses in a set time frame, the radius for volunteer search will be increased and the last 2 steps will be repeated
7. Once sufficient people respond positively the app will select 2-3 people based on their professional degree, availability of first aid and their credit.
8. Then the notification is dismissed
9. The volunteer who responded positively will get a mild increase to their credit
10. The selected helping volunteers will be sent the location of the incident alongside known details
11. If enough people report the accident a request will also be sent to a nearby police station and a hospital
12. In case of a road rage only the police station will be informed

**Helping Volunteer**

From the perspective of the volunteer who responded positively to the request:-

1. After being sent, the location if the user fails to report to the point of accident, his/her credit will be majorly degraded
2. If the volunteer’s location matches the location of the accident, a dialog box appears.
3. Through the dialog box, volunteer will be prompted to report the honesty of the report by clicking on Truthful Report or False Report button.
4. In case the volunteer clicks on the False Report Button, the volunteer will be prompted to leave the location and will be apologised for the inconvenience caused. The algorithm can skip to step 14.
5. Once the truthful report button is clicked the GUI of the volunteer’s app will turn red.
6. 3 new buttons (termed: Resolved, contact medical support and contact the Cops) will be introduced
7. If Incident Resolved button is clicked, volunteer will be asked to inform the concerned authorities (if informed) to save time. The algorithm can skip to step 14.
8. In case the incident hasn’t been resolved, the user can take decisions on his discretion
9. The user can apply first aid (if possible) to the patient
10. If Contact medical support or contact cops button is clicked the app will lose focus and a call will be made to the nearest authorities
11. Once the call is ended, the app starts to run in foreground once again
12. The volunteer can look up for victim’s phone and if the same app is running the volunteer can initiate Victim Volunteer algorithm
13. Once the medical and legal helped reaches the incident the user will click resolved button on the app and will be prompted to leave
14. The red GUI dissolves
15. The **General Scenario** algorithm is initiated again
16. At the end of the day the volunteer will receive a credit boost for his help and will be appreciated accordingly

**Victim Volunteer**

If a volunteer unfortunately experiences an accident:-

1. The volunteer who turns up to help will be prompted to search for the phone
2. If the victims phone is somehow alive and the app is found running in the background
3. The helping volunteer can just click the app notification on the lock screen
4. A 10 second countdown will begin in case the button was clicked by accident and the user wants to cancel the request
5. After the countdown ends the custom message will be sent to all of the victim’s emergency contact and Emergency Contact algorithm is initiated on Emergency contacts’ respective cell phone.
6. The focus returns **lock screen activity**.

**Emergency Contacts**

If the victim’s contacts do not have the app installed they will receive the custom message with the location of the incident

If the victim’s emergency contacts have the app installed:-

1. They will be sent an emergency notification in every few minutes until they respond
2. Once they click the notification, the app starts to run
3. A red GUI is initiated with the introduction of resolved button
4. They receive the location of the incident, the name of the hospital and the live location of the victim
5. They will also receive the status of help
6. Then they can plan their actions accordingly
7. Once resolved button is clicked, the **general scenario** algorithm starts to take place

**Call Intercept while Driving**

If any of the volunteer’s contacts call while the volunteer is driving:

1. The call will ring for a (user defined) duration
2. Once the ringing duration exceeds the user defined input the call will stop ringing and the call activity goes background
3. Once the call ends the contact gets the message (via this app or another app defined by the user) that the volunteer is currently driving.
4. **The General Scenario** algorithm will then sustain as usual

**Notification while Driving**

If any other installed app sends a notification on the volunteer’s cell phone while app is running:

1. The notification won’t cause a vibration or a ringtone
2. **The General Scenario** algorithm runs in foreground as usual