Description:

Trauma Care 60 puts everything you need after having a road accident, on your palm. This app has been

built to enhance the quality of care to trauma victims in Delhi.

This app is to be used by general public. This app can be used by the trauma victims to receive proper

care after having an accident and it can also be used by people who want to help a trauma victim to get

proper care after an accident.

This app focuses on improving outcomes for individuals in Delhi undergoing trauma care as a

consequence of accidents by: 1) decreasing the time to get to treatment or to get to a trauma center;

and/or 2) increasing availability of information related to treatment needs within the “Golden Hour.”

App features:

Perform emergency tasks: This feature lets the user send a message containing an emergency

message, user's location and the phone's battery level to emergency contacts, which is set up during

app installation (explained in detail later) and then makes a call to an ambulance service provider and

then puts the call on speaker.

Tips for managing road accidents: This feature tells the user how to handle a road accident[1] and

also provides additional tips[2].

Search for hospitals: This option displays the user's current location and nearby hospitals. The

information is updated in regular intervals. The user's location is displayed using red marker and the

hospitals are shown using blue markers. Tapping on a blue marker will display the hospital name and

the rating of that hospital.

Medical data: This feature is for accessing medical data of the trauma victims. If the care providers

get access to this data they can provide better quality care to the user. In research it was discovered

that India has a long way to go in digitisation of medical records. Some organisations have launched

their own solutions but none of them has been adopted widely[3][4]. In international level, the digitised

medical data storage solutions are not very successful[5]. In research it was also discovered that Indian

government is considering using Unique Identification Number (UID), also known as Aadhaar no. to

maintain medical records and that Microsoft offers a solution HealthVault[6] to store and maintain

health and fitness information. So this app feature displays the Aadhaar no. of the user and a button

which launches HealthVault in the browser.

Car stopper: This feature lets the user display a red screen which he/she can use to stop cars. For

instance, if the user's vehicle is heavily damaged but, he/she has sustained minor injury then he/she can

use this feature to stop another vehicle from the road and then request the driver of that vehicle to take

him/her to a nearby hospital.

Camera tasks: This feature lets the user capture images and record videos. This feature can be used

to explain the car crash in a vivid way to the doctor so that the user gets perfect treatment.

Update facebook status: This feature lets the user update facebook status after he/she has

received treatment so that his/her friends, colleagues and family members knows about the situation.

Tweet: This feature lets the user tweet after he/she has received treatment so that his/her friends,

colleagues and family members knows about the situation.

About: This feature provides the version information and developer information.

Installation, set up, Settings and places attribution information:

When this app is installed and launched for the first time the user sees the "Initial Setup" screen. The

user is required to select five contact numbers complete the set up. The user can skip this and add the

numbers at a later time but it is strongly recommended that he/she finishes the set up. After

completing the initial setup the user sees the "Main Menu".

The "Settings" can be launched from the "Main Menu" only and there the user can change the

preference values. In "Settings" following options are available:

*Auto mode:* If enabled, when a car crash is detected the app will be launched and the emergency

tasks will be performed automatically. If disabled, the app will be launched but emergency tasks will not

be performed. This option is enabled by default.

*Loudspeaker:* If enabled, call to ambulance service provider will be placed on speaker. This option is

enabled by default.

*Ambulance service provider:* This field contains the ambulance service provider. After research four

organisations were selected: CATS[7], MAX[8], Apollo[9] and Prime Ambulance[10]. The user can select

any of these four organisations as the ambulance service provider. The default option is CATS.

*Emergency contacts:* This field contains the comma-separated list of emergency contacts. The user

can add as many contacts as required. The numbers must not contain any spaces or other unnecessary

characters and must be separated by comma. The recommended number of emergency contacts

is five.

*Hospital finder range in km:* User can specify the radius in km within which hospitals will be searched.

Default value is 5 km.

*Aadhaar no:* The user should save his Aadhaar no.[11] here. If he/she does not save his/her Aadhaar

no. here, in "Medical Data" screen his/her Aadhaar no. will be displayed as not set.

In the "Nearby Hospitals" screen the places attribution information is available through the action bar

button situated on the top right.

How this app works:

This app installs and starts a service called CarCrashDetectionService in the phone. This service detects

car crash using accelerometer sensor[12][13] and then broadcasts an intent which is received by the

CarCrashDetectionServiceBroadcastReceiver which then launches the app and then the emergency tasks

are performed. The app's MainActivity has logic to detect whether it has been launched from the

Broadcast Receiver or not.

How Ford’s OpenXC platform could enhance a future iteration of this app:

While researching car crash detection algorithms it was discovered that there is one OpenXC library[14]

which can detect car crash. After a deep research it was found that the library is at the moment at a

very basic stage and it hasn't seen much attention in the last 3 months[15]. One issue was posted but

was not resolved[16]. Developing a new car crash algorithm requires huge testing and so it was not

considered a feasible approach. So, it was decided to use the well-known g-force based approach

to detect car crashes. If a good crash detection library is built on OpenXC platform by Ford, which has all

the resources for building it, it could be used to detect car crash in a better way in this app.

Other information:

SYNC® AppLink™ was not required to implement this app.

Blue Button XML was not used to implement this app because there is no widely used digitised health

data source and it doesn't really help in urgent situations[17].

This app is not intended to be used while driving.

[1]http://www.redcrossfirstaidtraining.co.uk/News-and-legislation/latest-news/2012/September/managing-road-traffic-incidents.aspx

[2]http://www.redcross.eu/en/What-we-do/Road-Safety-First-Aid/First-Aid-Saves-Lives/

[3]http://www.deccanherald.com/content/224906/it-giant-india-cant-digitise.html

[4]http://www.business-standard.com/article/beyond-business/medical-records-go-digital-in-india-109031300089\_1.html

[5]http://en.wikipedia.org/wiki/Google\_Health

[6]https://www.healthvault.com

[7]http://delhi.gov.in/wps/wcm/connect/doit\_cats/CATS/Home/About+CATS

[8]http://www.maxhealthcare.in/index.php/our-specialities/integrated-emergency-response-services

[9]http://www.apollohospdelhi.com/emergency-and-trauma-centre-overview

[10]http://www.primeambulance.in/

[11]http://uidai.gov.in/

[12]http://answers.google.com/answers/threadview/id/523539.html

[13]http://www.wired.com/2011/04/crashing-into-wall/

[14]https://github.com/openxc/SimCrashDetection

[15]https://groups.google.com/d/msg/openxc/-EeG7yPOX94/cQffvt63W5EJ

[16]https://github.com/openxc/SimCrashDetection/issues/1

[17]https://github.com/blue-button/bluebutton.js/issues/114