

**Hybrid Wound Detection & Analysis Application.
B.Tech. Final Year Report**

Submitted by

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1.ABSTRACT

A react-native based mobile application with backend powered by python. The primary aim of this system will be to detect wounds and scars(external) on the human body and then return the type of scar or name of the disease. The detection and analysis of wounds have always been a problem in the medical field especially when we do not have the availability of the proper skilled medical practitioner.

As per the geographical area, people roughly resides in rural, urban and suburban areas, the access to such a good medical facility varies from place to place and the rate of literacy. To automate the process with good accuracy in a systematic way is not a problem anymore. The application will have a python backend that will receive a simple image click by any standard mobile device. After receiving the image the backend will process the image and then return the results to the frontend application to let the end-user know what kind of problem do they have and then according to which they can have their basic primary first aid.

Keywords : Open CV; Wound Detection; Analysis; Reliability;

2. INTRODUCTION

The objective of this research is to discuss a safe, reliable and easily accessible way to detect and analyze some external injury of the human body in which could be some kind of burn, infection, scar, bite of some animal or insect. The quality of the proposed data model purely relies on the efficiency of the model as well as the data set used to train those models. Once fully trained the model would be able to recognize any external injury, scar, burn or wound and revert to the end-user giving some information regarding the same. This full-stack application is sectioned into two parts. The first one is front-end which will be implemented in react native and the backend of the application is implemented in python framework that is Django which will run the machine learning code for or detection and analysis.

The front-end and the backend will communicate with each other using an API (Application Programming Interface). The request and response will be in JSON format and requires an external package Django Rest Framework. The API is important as this can be given to any other kind of framework such as Electron Js, React Js even React Native which we are using for our current prototype implementation.

Django Rest Framework is a robust functional tool kit required for the development of web APIs. By giving us the capability to create web browsable API as well as serialization of both ORM and non-ORM model.

3.PROPOSED SYSTEM

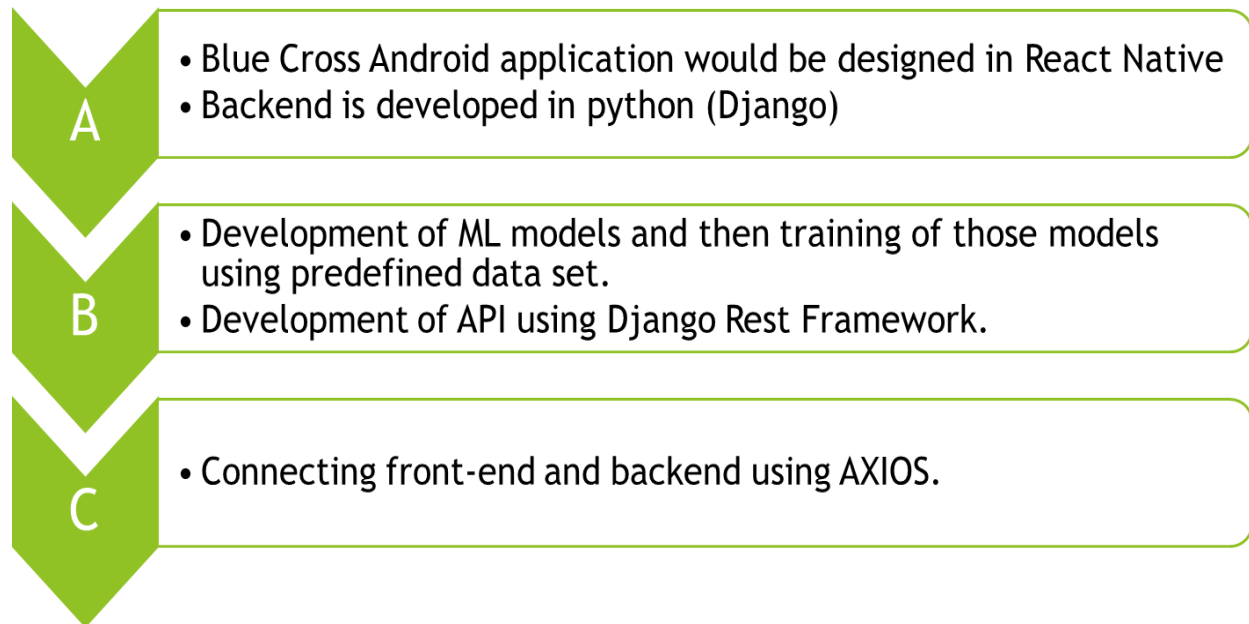
The paper solution is based on the fact that the people today have good access to mobile phones and knows very well how to use basic applications. the purpose of the application that is to click the picture of the scarred wound or infection and then send it back to the python backend with running open CV in its core. this would facilitate us in determining what kind of the problem our user is suffering from and then after recognizing the problem, the backend will automatically send the results to the end-user mobile phone. since we have a good number of population using phones this ensures us that it a good number of people will have access to our software which is easy to install and easy to use for even who isn't very much educated.

3.1 The Method

Here what we did is extended the capabilities of machine learning in the field of medical science to a small prototype level by scaling up the solution to the reach of every person, by using React Native, Django, Open CV.

The technology stack that we have used is optimized to a certain level even if it is scaled up it will perform well without disappointing us. Django latest 3.0 version ensures the async functionality integrated inside it thorough which we can do the async function calls smoothening the performance.

3.2 Technology Stack



You can apply these technologies along with the same concept to derive similar kinds of applications in almost every field with optimum performance as said computer systems only scales up the solution if used smartly.

3.3 Idea Extensions

Conventionally, in daily life, we try to use our knowledge or memory or previous experience which can help us in detecting various problems but in —reality, what we did is just scaled and used the recorded experience of other people to save and people's life from misery. And ease their work.

4.Existing System

Wound patterns: Detection, documentation, and analysis: Journal of Clinical Forensic Medicine Volume 3, Issue 1, March 1996, Pages 21-27.

Bruises and other injuries located in the skin can play a valuable role in the forensic investigation of a crime. This paper present details outlining how forensic odontology can be useful in detecting, documenting and analyzing such patterned injuries. Also, four illustrated case histories are included.

Viet Nam wound analysis.

A statistical study is reported of 17,726 wounded American soldiers in Viet Nam over 15 months from March 1966 to July 1967. Causes, location, treatment, and results were analyzed for various regions, organs, and tissues. Results of treatment were remarkably good, the best in the history of military surgery Major problems of resuscitation and treatment of local tissue injury which had not before been treated on a large scale were treated with excellent results.

5.IMPLEMENTATION

This section will cover up all the basic building modules of the system prototype and explain them briefly.

Open CV (Open Computer Vision Library)

At the core of this project, we will be using the Open CV a powerful utility that was originally implemented in C++ but now these days it has a wrapper of python so that it could be implemented in python as well. This is a computer vision and a machine learning software library that was built to speed up the application of computer vision products under the BSD License. As per the documentation, we can modify the code and use it for commercial purposes as well.

This library has more than 2, 500 enhanced algorithms with easy implementation. The library can detect analyze and classify various objects and patterns through a series of procedures baked in the library. The library is majorly optimized for camera-related tasks.

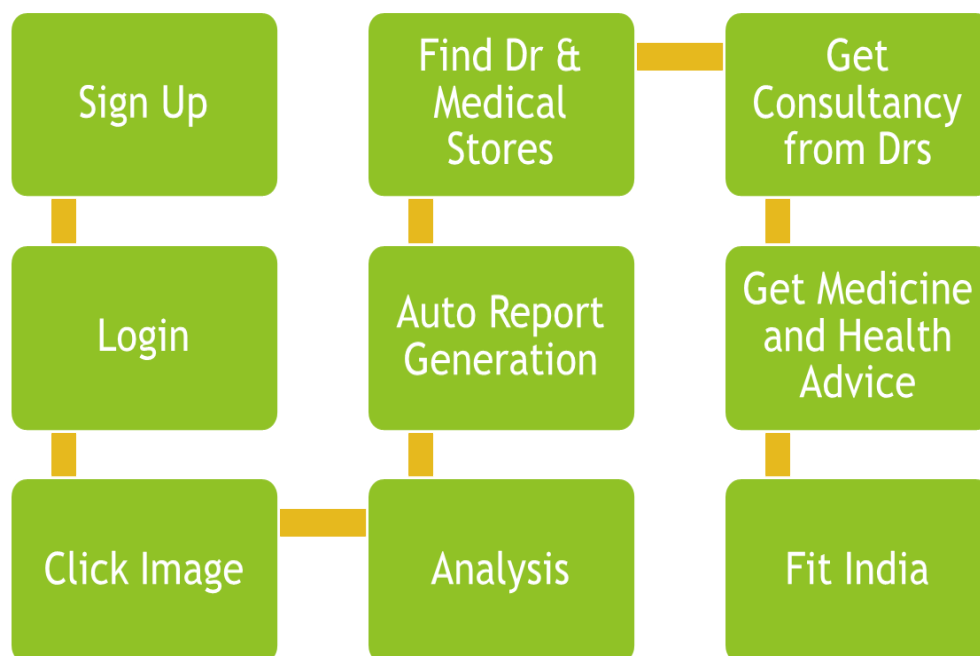
Since Open CV library has a python wrapper over the C++/C code, it can be easily merged with the main backend running the Django code. The main purpose of Open CV is to boost up the capabilities of the backend in a generic way. The proposed algorithms could be HoG (Histogram of Oriented Gradients) + Linear SVM i.e Linear Support Vector Machine but training an HoG filter requires a lot of training images. In case we want to speed up our system we can use Template matching, which requires a source image and a training image

Django

A python-based open-source web framework originally designed to accelerate the development process. The Django is preferred for this project as it tries to segment out everything in the project the named sections have small app integrations in the web application.

Each app is supposed to have only one task to perform which is recommended by Django developer as per the guidelines. Django's core was built from scratch to enhance its performance to a good level of standards in comparison to other frameworks in the market. This framework is fast, reliable and super scalable because of which it would be a good choice to implement it in our project.

The python code for models of our machine learning algorithms can easily be imported and



integrated into our Django section of backend which will give Django additional powers of machine learning and even deep learning if required. The whole backend will be in python from top to bottom.

6 - 7.RESULT / Output Screenshots

Application UI



BLUE CROSS

"Making you more aware"



BLUE CROSS

LOGIN

OR

REGISTER



BLUE CROSS

REGISTER

Basic Health Details
User Data Form



BLUE CROSS

" Making you more aware "



Find Medical Stores

Get your self first aid from these authorised stores.

LIST OF NEARBY MEDICAL STORES

Knowledge Park III
+91 9875xxxxxx

Chikitsa Medicine (MBBS, MS)
Neurologist
Greater Noida
Knowledge Park III
+91 9875xxxxxx

(MBBS, MS)
Neurologist
Greater Noida
Knowledge Park III



Lets fix this and find your doctor

LIST OF NEARBY DOCTORS

Knowledge Park III
+91 9875xxxxxx

(MBBS, MS)
Neurologist
Greater Noida
Knowledge Park III
+91 9875xxxxxx

(MBBS, MS)
Neurologist
Greater Noida
Knowledge Park III
+91 9875xxxxxx

(MBBS, MS)



Recent Analysis Reports

Name: John Doe
Scan Result: Wound
Consultancy: Yes
Medication: No
Date: 01 - January - 2019

Name: John Doe
Scan Result: Wound
Consultancy: Yes
Medication: No



Sign In

EMAIL ADDRESS

johndoe@xyx.com

PASSWORD

Enter your secure password

Sign In



Sign In or Create an Account

Sign In or create an account to access all the best Warden has to offer.

CONTINUE WITH EMAIL


Sign In

Create an Account

MORE WAYS TO SIGN IN

 Sign in with Facebook

 Sign in with Twitter

 Continue without login

Lets have a tour



Create Account

EMAIL ADDRESS

johndoe@xyx.com

CONFIRM EMAIL ADDRESS

Please enter your email address again

Continue

By continuing, I agree to the [Privacy Policy](#) and [Terms and Conditions](#)

Application UI Extension

DASHBOARD



SCAN HERE



History

Name: John Doe
Scan Result: Wound
Consultancy: YES
Medication: NO
Date: 01-Jan-2019

Name: Samantha Bee
Scan Result: Injury
Consultancy: YES
Medication: NO
Date: 01-Jan-2019

Verification

we just send you an otp code

Edit Phone Number

Verify Me

REPORT

Get the answers you need

There is a fair chance that you have a mild injury and need first AID that would be fine.

NEAR BY DOCTORS AND CHEMIST SHOPS

FIND DOCTORS

MEDICAL SHOPS



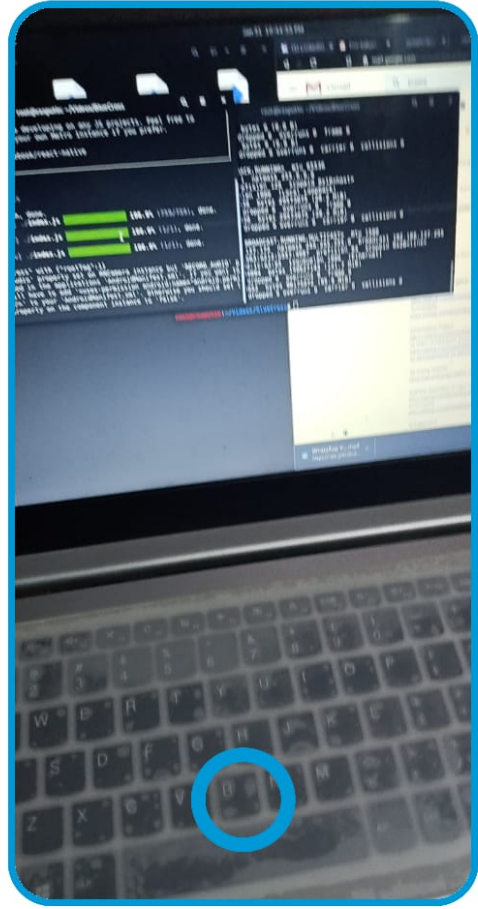
Get the answers you need

There is a fair chance that you have a mild injury and need first AID that would be fine.

NEAR BY DOCTORS AND CHEMIST SHOPS

FIND DOCTORS

MEDICAL SHOPS



Functionalities

DASHBOARD

SCAN HERE

History

- Name: John Doe
Scan Result: Wound
Consultancy: YES
Medication: NO
Date: 01- Jan- 2019
- Name: Samatha Bee
Scan Result: Injury
Consultancy: YES
Medication: NO
Date: 01- Jan- 2019

CLICK

REPORT

Get the answers you need

There is a fair chance that you have a mild injury and need first AID that would be fine.

NEAR BY DOCTORS AND CHEMIST SHOPS

FIND DOCTORS

MEDICAL SHOPS

Functionalities

☰ FIND DOCTORS

**Lets fix this and
and find your
doctor.**

List of nearby doctors

Dr. Rajeev Khanna
Neurologist (MBBS, MS)
Greater Noida
Knowledge Park II
+91 98771xxxxx

Dr. Satsangi Shukla
Orthopedician (MBBS, MS)
South Delhi
+91 98785xxxxx

☰ FIND MEDICAL STORES

**Get your self first
aid from these
authorised
stores.**

List of nearby stores

Om Medical Store
Neurologist
Greater Noida
Knowledge Park II
+91 98771xxxxx

**Chikitsa Medical
Store**
South Delhi
+91 98785xxxxx

8.SOURCE CODE

Below I am going to share my coding environment and setup in VS Code including directory structure and code snippets.

Maintained Git Repository: <https://github.com/iamshrikantjha/bluecross>

Operating System : Linux (while development)

package.json

```
{
  "name": "BlueCross",
  "version": "0.0.1",
  "private": true,
  "scripts": {
    "android": "react-native run-android",
    "ios": "react-native run-ios",
    "start": "react-native start",
    "test": "jest",
    "lint": "eslint ."
  },
  "dependencies": {
    "expo-camera": "^7.0.0",
    "expo-permissions": "^7.0.0",
    "lottie-react-native": "^3.3.2",
    "react": "16.9.0",
    "react-native": "0.61.4",
    "react-native-camera": "git+https://git@github.com/react-native-community/react-native-camera.git",
    "react-native-gesture-handler": "^1.5.1",
    "react-native-responsive-screen": "^1.3.0",
    "react-native-unimodules": "^0.6.0",
    "react-native-vector-icons": "^6.6.0",
    "react-navigation": "^4.0.10",
    "react-navigation-stack": "^1.10.3"
  },
  "devDependencies": {
```

```
"@babel/core": "^7.7.2",
"@babel/runtime": "^7.7.2",
"@react-native-community/eslint-config": "^0.0.5",
"babel-jest": "^24.9.0",
"eslint": "^6.6.0",
"jest": "^24.9.0",
"metro-react-native-babel-preset": "^0.57.0",
"react-test-renderer": "16.9.0"
},
"jest": {
  "preset": "react-native"
},
"rnpm": {
  "assets": [
    "./src/assets/fonts/"
  ]
}
}
```

```
indexjs - bluecross-master - Visual Studio Code
File Edit Selection View Go Run Terminal Help
EXPLORER
  OPEN EDITORS
    JS indexjs src/navigation
  BLUECROSS-MASTER
    .tests_
    .vscode
    src
      assets
        fonts
          circular-black.ttf
          circular-bold.ttf
          circular-book.ttf
          circular-medium.ttf
        camera.json
        logo.jpg
        logo.png
        components
          JS Header.js
          navigation
            JS indexjs
            screens
            .buckconfig
            .eslintrc.js
            .flowconfig
            .gitattributes
            .gitignore
            .prettierrc.js
            .watchmanconfig
            1.jpeg
            2.jpeg
            3.jpeg
            4.jpeg
            5.jpeg
        .OUTLINE
        NPM SCRIPTS
  src > navigation > JS indexjs > ...
1 import React, { Component } from 'react';
2 import { createStackNavigator } from 'react-navigation';
3 import { createStackNavigator } from 'react-navigation-stack';
4
5 import Welcome from '../screens/Welcome';
6 import Login from '../screens/Login';
7 import Register from '../screens/Register';
8 import GetIn from '../screens/GetIn';
9 import Dashboard from '../screens/Dashboard';
10 import Report from '../screens/Report';
11 import Click from '../screens/Click';
12 import Doctors from '../screens/Doctors';
13 import MedicalShops from '../screens/MedicalShops';
14 import exampleCamera from '../screens/exampleCamera';
15
16 console.disableYellowBox = true;
17
18 const AppNavigator = createStackNavigator(
19   {
20     Welcome: {
21       screen: Welcome
22     },
23     GetIn: {
24       screen: GetIn
25     },
26     Register: {
27       screen: Register
28     },
29     Login: {
30       screen: Login
31     },
32     Dashboard: {
33       screen: Dashboard
34     },
35     Click: {
36       screen: Click
37     },
38   }
);
```

C/C++ Extension: Downloading 3/3: Visual Studio Windows Debugger

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```
Header.js - bluecross-master - Visual Studio Code
File Edit Selection View Go Run Terminal Help
EXPLORER
  OPEN EDITORS
    JS Header.js src/components
  BLUECROSS-MASTER
    .tests_
    .vscode
    src
      assets
        fonts
          circular-black.ttf
          circular-bold.ttf
          circular-book.ttf
          circular-medium.ttf
        camera.json
        logo.jpg
        logo.png
        components
          JS Header.js
          navigation
            screens
            .buckconfig
            .eslintrc.js
            .flowconfig
            .gitattributes
            .gitignore
            .prettierrc.js
            .watchmanconfig
            1.jpeg
            2.jpeg
            3.jpeg
            4.jpeg
            5.jpeg
        .OUTLINE
        NPM SCRIPTS
  src > components > JS Header.js > Header
1 import React, {Component} from 'react';
2 import {View, Text, TextInput} from 'react-native';
3 import {
4   widthPercentageToDP as wp,
5   heightPercentageToDP as hp,
6 } from 'react-native-responsive-screen';
7
8 import Ionicons from 'react-native-vector-icons/Ionicons';
9
10 function Header(props) {
11   return (
12     <View style={{}}>
13       /* Icon */
14       <Ionicons
15         name="ios-arrow-dropleft-circle"
16         size={hp(3.8)}
17         color="#009908"
18         style={{
19           margin: hp(1.7),
20           position: 'absolute',
21         }}
22       />
23
24       /* Upper Header */
25       <View
26         style={{
27           width: wp(100),
28           height: hp(7),
29           // backgroundColor: 'pink',
30           alignItems: 'center',
31           justifyContent: 'center',
32           flexDirection: 'row',
33         }}>
34         /* Text */
35         <Text
36           style={{
37             fontFamily: 'circular-black',
38             fontSize: hp(2.1),
39           }}
40       />
41     </View>
42   );
43 }
```

C/C++ Extension: Downloading 1/3: C/C++ language components (Wi...

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Click.js

```
import React, {PureComponent} from 'react';
import {
  AppRegistry,
  StyleSheet,
  Text,
  TouchableOpacity,
  View,
} from 'react-native';

import Header from '../components/Header';
import {
  widthPercentageToDP as wp,
  heightPercentageToDP as hp,
} from 'react-native-responsive-screen';

import {RNCamera} from 'react-native-camera';

class Click extends PureComponent {

  render(props) {

    return (
      <View
        style={{
          flex: 1,
        }}>
        { /* Header */ }
        <Header name="Click" />

        { /* Big View */ }
        <View
          style={{
            width: wp(100),
            // justifyContent: "center",
            alignItems: 'center',
          }}>
          { /* Click Button */ }
          <TouchableOpacity
            onPress={() => this.props.navigation.navigate('Report')}
            style={{
              position: 'absolute',
              height: wp(20),
              width: wp(20),
              borderRadius: 100,
              borderWidth: 10,
              marginTop: hp(70),
            }}
          />
        </View>
      </View>
    );
  }
}
```

```

        zIndex: 1,
        borderColor: '#0099D8',
    }}</TouchableOpacity>

    { /* Camera View */
    <View
      style={{
        marginTop: hp(4),
        // backgroundColor: 'pink',
        borderRadius: 30,
        borderWidth: 5,
        width: wp(90),
        height: hp(80),
        borderColor: '#0099D8',
        //   zIndex: 10,
        overflow: 'hidden',
      }}>
      <RNCamera
        ref={ref => {
          this.camera = ref;
        }}
        //   style={styles.preview}
        style={{
          width: wp(90),
          height: hp(80),
          zIndex: 0,
        }}
        type={RNCamera.Constants.Type.back}
        flashMode={RNCamera.Constants.FlashMode.on}
        //   captureTarget={RNCamera.constants.CaptureTarget.temp}

        null={{
          title: 'Permission to use camera',
          message: 'We need your permission to use your camera',
          buttonPositive: 'Ok',
          buttonNegative: 'Cancel',
        }}
        androidRecordAudioPermissionOptions={{
          title: 'Permission to use audio recording',
          message: 'We need your permission to use your audio',
          buttonPositive: 'Ok',
          buttonNegative: 'Cancel',
        }}
        onGoogleVisionBarcodesDetected={({ barcodes }) => {
          console.log(barcodes);
        }}
      />
    </View>
  </View>
</View>
);
}

```

```
takePicture = async () => {
  if (this.camera) {
    const options = {quality: 1, base64: true, };
    const data = await this.camera.takePictureAsync(options)
  }
};
// takePicture() {
//   this.camera
//   .capture()
//   .then(data => this.saveImage(data.path))
//   .catch(err => console.error('capture picture error', err));
// }
}
```

```
const styles = StyleSheet.create({
  container: {
    flex: 1,
    flexDirection: 'column',
    backgroundColor: 'black',
  },
  preview: {
    flex: 1,
    //   justifyContent: 'flex-end',
    //   alignItems: 'center',
    height: hp(80),
    width: wp(90),
    zIndex: 0,
  },
  capture: {
    flex: 0,
    backgroundColor: '#fff',
    borderRadius: 5,
    padding: 15,
    paddingHorizontal: 20,
    alignSelf: 'center',
    margin: 20,
  },
});
```

```
export default Click;
```

Dashboard.js

```
import React, { useEffect } from 'react';
import {View, Image, Text, ScrollView, TouchableOpacity} from 'react-native';
import {
  widthPercentageToDP as wp,
  heightPercentageToDP as hp,
} from 'react-native-responsive-screen';

import Animation from 'lottie-react-native';
import anim from '../assets/camera.json';

import Header from '../components/Header';
import ReportCard from './ReportCard';

const Dashboard = (props) => {

  //useEffect
  useEffect(() => {
    animation.play();
  });

  return (
    <View
      style={{
        // backgroundColor: 'pink',
        flex: 1,
      }}>
      { /* Header */ }
      <Header name="Dashboard" />
      <TouchableOpacity
        onPress={() => props.navigation.navigate('Click')}
        style={{
          // backgroundColor: 'skyblue',
          height: hp(40),
          justifyContent: "center",
          alignItems: "center",
        }}>
        <Animation
          ref={animation => {
            this.animation = animation;
          }}
          style={{
            width: hp(40),
            height: hp(40),
          }}
          loop={true}
          source={anim}
        />
      </TouchableOpacity>
    </View>
  );
};
```



```

    />
  </TouchableOpacity>

  { /* History View */
  <View
    style={{
      // backgroundColor: 'yellow',
      width: wp(100),
      height: hp(50),
    }}>
    <View
      style={{
        backgroundColor: '#0099D8',
        height: hp(7),
        weight: wp(100),
        justifyContent: 'center',
        alignItems: 'center',
      }}>
      <Text
        style={{
          // backgroundColor: '#28A8E4',
          fontSize: hp(2.1),
          fontFamily: 'circular-black',
          color: 'white',
        }}>
        Recent Analysis Reports
      </Text>
    </View>

    { /* Report Cards */

    { /* Parent View */
    <ScrollView
      contentContainerStyle={{
        width: wp(100),
        justifyContent: 'center',
        alignItems: 'center',
      }}>
      <ReportCard />
      <ReportCard />
      <ReportCard />
      <ReportCard />
    </ScrollView>
    </View>
  </View>
);
};

```

```
export default Dashboard;
```

```
import React, {PureComponent} from 'react';
import {
  AppRegistry,
  StyleSheet,
  Text,
  TouchableOpacity,
  View,
} from 'react-native';

import Header from '../components/Header';
import {
  widthPercentageToDP as wp,
  heightPercentageToDP as hp,
} from 'react-native-responsive-screen';

import {RNCamera} from 'react-native-camera';

class Click extends PureComponent {

  render(props) {

    return (
      <View
        style={{
          flex: 1,
        }}>
        { /* Header */ }
        <Header name="Click" />

        { /* Big View */ }
        <View
          style={{
            width: wp(100),
            // justifyContent: "center",
            alignItems: 'center',
          }}>
          { /* Click Button */ }
          <TouchableOpacity
            onPress={() => this.props.navigation.navigate('Report')}
            style={{
              position: 'absolute',
              height: wp(20),
              width: wp(20),
              borderRadius: 100,
              borderWidth: 10,
              marginTop: hp(70),
              zIndex: 1,
              borderColor: '#0099D8',
            }}></TouchableOpacity>

          { /* Camera View */ }
```

```

<View
  style={{
    marginTop: hp(4),
    // backgroundColor: 'pink',
    borderRadius: 30,
    borderWidth: 5,
    width: wp(90),
    height: hp(80),
    borderColor: '#0099D8',
    // zIndex: 10,
    overflow: 'hidden',
  }}>
  <RNCamera
    ref={ref => {
      this.camera = ref;
    }}
    // style={styles.preview}
    style={{
      width: wp(90),
      height: hp(80),
      zIndex: 0,
    }}
    type={RNCamera.Constants.Type.back}
    flashMode={RNCamera.Constants.FlashMode.on}
    // captureTarget={RNCamera.constants.CaptureTarget.temp}

    null={{
      title: 'Permission to use camera',
      message: 'We need your permission to use your camera',
      buttonPositive: 'Ok',
      buttonNegative: 'Cancel',
    }}
    androidRecordAudioPermissionOptions={{
      title: 'Permission to use audio recording',
      message: 'We need your permission to use your audio',
      buttonPositive: 'Ok',
      buttonNegative: 'Cancel',
    }}
    onGoogleVisionBarcodesDetected={({barcodes}) => {
      console.log(barcodes);
    }}
  />
</View>
</View>
</View>
);
}

takePicture = async () => {
  if (this.camera) {
    const options = {quality: 1, base64: true, };
    const data = await this.camera.takePictureAsync(options)
  }
}

```

```
    }  
  };  
}  
  
const styles = StyleSheet.create({  
  container: {  
    flex: 1,  
    flexDirection: 'column',  
    backgroundColor: 'black',  
  },  
  preview: {  
    flex: 1,  
    // justifyContent: 'flex-end',  
    // alignItems: 'center',  
    height: hp(80),  
    width: wp(90),  
    zIndex: 0,  
  },  
  capture: {  
    flex: 0,  
    backgroundColor: '#fff',  
    borderRadius: 5,  
    padding: 15,  
    paddingHorizontal: 20,  
    alignSelf: 'center',  
    margin: 20,  
  },  
});  
  
export default Click;
```

DoctorCard.js

```
import React from 'react';  
import { View, Text } from 'react-native';
```

```

import {
  widthPercentageToDP as wp,
  heightPercentageToDP as hp,
} from 'react-native-responsive-screen';

function DoctorCard(props) {
  return (
    <View><View
      style={{
        height: hp(20),
        width: wp(90),
        borderRadius: 15,
        borderColor: '#0099D8',
        borderWidth: 3,
        marginTop: hp(3),
        paddingLeft: wp(5),
        paddingTop: hp(2),
      }}>
      <Text style={{
        fontFamily: 'circular-black',
        fontSize: hp(2.5),
      }}>
        {props.name} (MBBS, MS)
      </Text>
      <Text>
        Neurologist
      </Text>
      <Text style={{
        fontFamily: 'circular-black',
        fontSize: hp(2),
      }}> Greater Noida
      </Text>
      <Text style={{
        fontFamily: 'circular-black',
        fontSize: hp(2),
      }}>
        Knowledge Park III
      </Text>
      { /* Contact */ }
      <Text style={{
        fontFamily: 'circular-black',
        fontSize: hp(2),
      }}>
        +91 9875xxxxxxx
      </Text>
    </View>
  </View>)}
export default DoctorCard;

```

MedicalShopCard.js

```
import React from 'react';
import { View, Text } from 'react-native';

import {
  widthPercentageToDP as wp,
  heightPercentageToDP as hp,
} from 'react-native-responsive-screen';

function MedicalShopCard(props) {
  return (
    <View>
      <View
        style={{
          height: hp(20),
          width: wp(90),
          borderRadius: 15,
          borderColor: 'black',
          borderWidth: 3,
          // justifyContent: "center",
          // alignItems: "center",
          marginTop: hp(3),
          paddingLeft: wp(5),
          paddingTop: hp(2),
          borderColor: '#0099D8',
        }}>
        <Text style={{
          fontFamily: 'circular-black',
          fontSize: hp(2.5),
        }}>
          {props.name} (MBBS, MS)
        </Text>
        <Text>
          Neurologist
        </Text>
        <Text style={{
          fontFamily: 'circular-black',
          fontSize: hp(2),
        }}>
          Greater Noida
        </Text>
        <Text style={{
          fontFamily: 'circular-black',
          fontSize: hp(2),
        }}>
          Knowledge Park III
        </Text>
      </View>
    </View>
  );
}
```

```
    { /* Contact */ }
    <Text style={{
      fontFamily: 'circular-black',
      fontSize: hp(2),
    }}>
      +91 9875xxxxxx
    </Text>
  </View>

  </View>
)
}
```

```
export default MedicalShopCard;
```

MedicalShops.js

```
import React from 'react';
import {View, Text, ScrollView} from 'react-native';

import Header from '../components/Header';
import {
  widthPercentageToDP as wp,
  heightPercentageToDP as hp,
} from 'react-native-responsive-screen';

import MedicalShopCard from './MedicalShopCard';

const MedicalShops = () => {
  return (
    <View
      style={{
        flex: 1,
      }}>
      { /* Header */ }
      <Header name="Find Medical Stores" />

      { /* MedicalShops Text */ }
      <Text
        style={{
          fontFamily: 'circular-black',
          fontSize: hp(5),
          margin: wp(5),
          marginTop: hp(7),
          color: '#0099D8',
        }}>
        Get your self first aid from these authorised stores.
      </Text>

      { /* Generated MedicalShops */ }
      { /* <Text
        style={{
          fontFamily: 'circular-book',
          fontSize: hp(2.5),
          margin: wp(7.5),
          backgroundColor: 'pink',
        }}>
        There is a fair chance that you have a mild injury and need first AID
        that would be fine.
      */ }
    )
  );
}
```



```

</Text> */}

{/* Help Text */}
<Text
  style={{
    fontFamily: 'circular-black',
    fontSize: hp(2.5),
    margin: wp(5),
  }}>
  LIST OF NEARBY MEDICAL STORES
</Text>

{/* Two Cards */}
<ScrollView
  containerViewStyle={{
    justifyContent: 'center',
    alignItems: 'center',
    // backgroundColor: 'green',
  }}>

  {/* MedicalShop Card */}
  <MedicalShopCard name={'Om Medical Store'}/>
  <MedicalShopCard name={'Chikitsa Medicine'}/>
  <MedicalShopCard />
  <MedicalShopCard />
  <MedicalShopCard />
  <MedicalShopCard />
  <MedicalShopCard />
  <MedicalShopCard />
  <MedicalShopCard />
  <MedicalShopCard />
  <MedicalShopCard />
  <MedicalShopCard />
  <MedicalShopCard />

</ScrollView>
</View>
);
};

export default MedicalShops;

```

Register.js

```
import React, { Component } from "react";
import { View, Text, TextInput, TouchableOpacity } from "react-native";
import {
  widthPercentageToDP as wp,
  heightPercentageToDP as hp
} from "react-native-responsive-screen";

import Header from '../components/Header';
import Ionicons from "react-native-vector-icons/Ionicons";

class Register extends Component {
  render(props) {
    return (
      <View
        style={{
          flex: 1
        }}
      >
        <Header name='Create Account' />

        { /* Left Over */ }
        <View
          style={{
            margin: wp(5),
            marginTop: hp(4)
            // backgroundColor: 'pink',
          }}
        >
          { /* Input Email */ }
          <View
            style={{
              height: null,
              width: null,
              borderBottomWidth: 1
            }}
          >
            <Text
              style={{
                fontFamily: "circular-black",
                color: "grey"
              }}
            >

```

```

    EMAIL ADDRESS
  </Text>
  <TextInput
    style={{
      // paddingLeft: wp(2),
      fontFamily: "r1"
    }}
    placeholder={"    johndoe@xyx.com"}
    selectionColor={"pink"}
  />
</View>

{/* Confirm Password */}
<View
  style={{
    height: null,
    width: null,
    borderBottomWidth: 1,
    marginTop: hp(3)
  }}
>
  <Text
    style={{
      fontFamily: "r1",
      color: "grey"
    }}
  >
    CONFIRM EMAIL ADDRESS
  </Text>
  <TextInput
    style={{
      // paddingLeft: wp(2),
      fontFamily: "r1"
    }}
    placeholder={"    Please enter your email address again"}
    selectionColor={"red"}
  />
</View>
  {/* SignIn Button */}
  <TouchableOpacity
    onPress={() => this.props.navigation.navigate('Login')}
    style={{
      width: null,
      height: hp(6.5),
      backgroundColor: "#0099D8",
      alignItems: "center",
      justifyContent: "center",
      marginTop: hp(5)
    }}
  >
    <Text
      style={{

```

```

        fontFamily: "b1",
        color: "white",
        fontSize: hp(2.5)
      }}
    >
    Continue
  </Text>
</TouchableOpacity>

{/* Terms and conditions */}
<Text style={{
  marginTop: hp(1.5),
  fontSize: hp(1.5),
}}>
  <Text>
  By continuing, I agree to the{" "}
  </Text>
  <Text style={{
    textDecorationLine: 'underline'
  }}>
    Privacy Policy{" "}
  </Text>
  <Text>
    and{" "}
  </Text>
  <Text style={{
    textDecorationLine: 'underline'
  }}>
    Terms{" "}
  </Text>
  <Text>
    and{" "}
  </Text>
  <Text style={{
    textDecorationLine: 'underline'
  }}>
    Conditions
  </Text>
</Text>

</View>
</View>
);
}
}

```

```
export default Register;
```

Login.js

```
import React, {Component} from 'react';
import {View, Text, Image, TextInput, TouchableOpacity} from 'react-native';
import {
  widthPercentageToDP as wp,
  heightPercentageToDP as hp,
} from 'react-native-responsive-screen';

import Ionicons from 'react-native-vector-icons/Ionicons';
import Header from '../components/Header';

class Login extends Component {
  render(props) {
    return (
      <View
        style={{
          flex: 1,
        }}>
        <Header name={'Sign In'} />

        { /* Left Over */ }
        <View
          style={{
            margin: wp(5),
            marginTop: hp(4),
            // backgroundColor: 'pink',
          }}>
          { /* Input Email */ }
          <View
            style={{
              height: null,
              width: null,
              borderBottomWidth: 1,
            }}>
            <Text
              style={{
                fontFamily: 'circular-book',
                color: 'grey',
              }}>
              EMAIL ADDRESS
            </Text>
            <TextInput
              style={{
```

```

        // paddingLeft: wp(2),
        fontFamily: 'circular-book',
    }}
    placeholder={' johndoe@xyx.com'}
    selectionColor={'pink'}
  />
</View>

{/* Input Password */}
<View
  style={{
    height: null,
    width: null,
    borderBottomWidth: 1,
    marginTop: hp(3),
  }}>
  <Text
    style={{
      fontFamily: 'circular-book',
      color: 'grey',
    }}>
    PASSWORD
  </Text>
  <TextInput
    style={{
      // paddingLeft: wp(2),
      fontFamily: 'circular-book',
    }}
    secureTextEntry={true}
    placeholder={' Enter your secure password'}
    selectionColor={'red'}
  />
</View>

{/* SignIn Button */}
<TouchableOpacity
  onPress={() => this.props.navigation.navigate('Dashboard')}
  style={{
    width: null,
    height: hp(6.5),
    backgroundColor: '#0099D8',
    alignItems: 'center',
    justifyContent: 'center',
    marginTop: hp(5),
  }}>
  <Text
    style={{
      fontFamily: 'circular-black',
      color: 'white',
      fontSize: hp(2.5),
    }}>
    Sign In

```

```
        </Text>
      </TouchableOpacity>
    </View>
  </View>
);
}
```

```
export default Login;
```

Report.js

```
import React from 'react';
import {View, Text, TouchableOpacity} from 'react-native';

import Header from '../components/Header';
import {
  widthPercentageToDP as wp,
  heightPercentageToDP as hp,
} from 'react-native-responsive-screen';

const Report = (props) => {
  return (
    <View
      style={{
        flex: 1,
      }}>
      { /* Header */ }
      <Header name="Report" />

      { /* Report Text */ }
      <Text
        style={{
          fontFamily: 'circular-black',
          fontSize: hp(5),
          margin: wp(5),
          marginTop: hp(7),
          color: '#0099D8',
        }}>
        Get the answers you need
      </Text>

      { /* Generated Report */ }
      <Text
        style={{
          fontFamily: 'circular-book',
          fontSize: hp(2.5),
          margin: wp(7.5),
          // backgroundColor: 'pink',
        }}>
        There is a fair chance that you have a mild injury and need first AID
        that would be fine.
      </Text>
    </View>
  );
};
```



```

{/* Help Text */}
<Text
  style={{
    fontFamily: 'circular-black',
    fontSize: hp(2.5),
    margin: wp(5),
    color: '#0099D8',
  }}>
  NEAR BY DOCTORS AND CHEMIST SHOPS
</Text>

{/* Two Cards */}
<View
  style={{
    justifyContent: 'center',
    alignItems: 'center',
    // backgroundColor: 'green',
  }}>

  {/* Doctor Card */}
  <TouchableOpacity
    onPress={() => props.navigation.navigate('Doctors')}

    style={{
      height: hp(13),
      width: wp(90),
      borderRadius: 15,
      borderColor: '#0099D8',
      borderWidth: 3,
      justifyContent: "center",
      alignItems: "center",
      marginTop: hp(3)
    }}>
    <Text style={{
      fontFamily: 'circular-black',
      fontSize: hp(3),
    }}>
      FIND DOCTORS
    </Text>
  </TouchableOpacity>

  {/* Medical Card */}
  <TouchableOpacity
    onPress={() => props.navigation.navigate('MedicalShops')}

    style={{
      height: hp(13),
      width: wp(90),
      borderRadius: 15,
      borderColor: '#0099D8',
      borderWidth: 3,

```

```
        justifyContent: "center",
        alignItems: "center",
        marginTop: hp(5)
    }}>
    <Text style={{
        fontFamily: 'circular-black',
        fontSize: hp(3),
    }}>
        MEDICAL SHOPS
    </Text>
</TouchableOpacity>
</View>
</View>
);
};

export default Report;
```

9.CONCLUSION

As per the introduction we want to enhance the procedure of medical treatment by facilitating a normal user to know about their issues regarding basic injuries and problems. In the majority of the cases, people weren't aware of the general health problems which are directly proportional to the literacy rate of the particular region. Ignorance can lead to poor health or even death. If there is some wired infection or burn or any external problem then how one can know about that issue if he/ she doesn't have any doctor available.

To ensure that all people should have the knowledge the software will be there to help people the basic prototype will be able to detect the scar, wound, infection or burn on the skin and then after analyzing it will give the user back the vital information about what are the necessary step one should take.

This software can help in the reduction of such cases where the person is unaware of what problem they are suffering from. The backend of the application is implemented in the python framework that is Django which will run the machine learning code for or detection and analysis. The installation of the application is very simple as it would be just a simple Android application that can be downloaded from Play Store. the application would be able to reduce such kind of problems in which the end-user for our patient was unable to recognize what kind of external problem he has in India there is a huge number of people who got themselves into bad situations especially women in rural areas who are unaware of those infections burns scars or other injuries which later on develop serious issues for their health which affects the whole family as well.

Even if a person is educated but doesn't have proper access to the doctor he can use the application to know about such kind of issues and then can search for his first aid.

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