ISSN 2319 – 7595
Volume 8, No.2, March - April 2019
International Journal of Information Systems and Computer Sciences
Available Online at http://warse.org/IJISCS/static/pdf/file/ijiscs04822019.pdf
https://doi.org/10.30534/ijiscs/2019/04822019

U-REPORT:Helping Hand In Defendless Situation

Aishwarya Babu, Aksa Susan Kurian, Ammu Priya P M, Elsa Susan Cherian,Sheeba Babu
APJ Abdul Kalam Technological University, India, aishwaryababupranavam@gmail.com
APJ Abdul Kalam Technological University' India, aksa.susan68@gmail.com
APJ Abdul Kalam Technological University, India, ammumohanan999 @gmail.com
APJ Abdul Kalam Technological University' India, elsacherian1@gmail.com
APJ Abdul Kalam Technological University' India, sheebababu@saintgits.org

ABSTRACT

This system is mainly developed to reduce robbery attack, increase women safety and elderly care. Now a days some of elderly people may be staying alone at their houses their dead matters is failed to be noticed by public and police. The attack against women are also increasing so the current system has a lot of limitations by using the webcam installed at houses we can monitor from distant location, but it is not practical to monitor all the time. By using the current system, we can't prevent the attack, real time monitoring of video creates privacy problem. The proposed system eliminates the privacy problem by converting streamed videos into frames and stores and process the frames within the client side. The image and details of the family members are stored in the database. When a third party enters the house, the system detects their presence and stores the image as frames in client side, thus we can ensure the privacy. If the motion of the family member is not detected for long time, if any attack or health issues occur to family member then their emotions are captured then the system provides an interactive platform for the family members. If the response from the interactive system is 'no' or not any reply an alert will be generated and send to corresponding guardian with detected image and he can send alert to emergency centers or police station. If the person is going out of the house or engaged in some activity, they can set the status with the app so that the system can stop monitoring. They alert includes the location of the person who are in trouble.

1.INTRODUCTION

Image processing technic is used to automatically update the status of the people. In case of any emergencies it transfers the messages to nearest police station. They can check the presence of people at the houses and take immediate actions. The other advantage is that when a fire or any accidents occur for the housemates, they can immediately report to the police station through this system. They can seek help from the hospital through the concept of natural language processing. The robbery rate is also increasing now a day. In order to help the local people from this situation the system can be used. The system stores the details of person at their house and if a third party arrives at their house and causes harm to them this system will record the third-party picture and immediately send an alert message to the police. If a robber arrives at the home in the presence of the housemate there is a mechanism to sense the emotions or behaviors of the housemates and an alert will be given to the police immediately. We are planning to develop a software system that act as a better solution to many of the problem faced by our people in the society.

To develop a motion tracking mechanism to update the status of people to nearest police station and to protect common people from the attack of robbers. Providing a provision for the people to seek help from police station or hospitals during emergency situations: Using this project we can do: Face Detection, Face Identification, Real Time Monitoring, Automated Calling, Database History Storing, Image Processing. This project provides a helpful platform for common people to seek help during emergency from police station, hospitals, or any fire stations etc. This system reduces the burden for the police department from moving to each house to check the status of the people when something had occurred. This system informs such situation to the nearest police station. It will send an alert or message immediately in case of robbery. Using this system, we can track the third-party entered our house when we are out of home. Using our emotion and audio it will send an alert /message to police station. It provides a platform to respond to any issue when we are under control of third party

1.1 Final Stage

We develop a system that mainly help to reduce robbery attack, increase women safety and elderly care. If any problem occurs an alert will be generated at the time itself. Using the voice recognition, we can seek help from emergency centers,

hospitals and police station. When a third party enters the house, the system detects their presence and stores the image as frames in client side and an alert will be generated. If any attack or health issues occur to family member then their emotions are captured, and alert will be generated to respective centers.

1.2 Figure

The design consists of 4 blocks client, Emergency Services, Server, Administrator. The client block is get connected with server. The client block consists of camera and android application. The camera can be activated either by the client-side website or by android application. The server is a database that stores the details of face detection &facial expressions. If emergency arises then the server will generate an alert to the client side. The android application handled by the guardian will generate a request to the emergency centers. The emergency center block consists of hospital, police station, fire station etc. The administrator has the capability to add new users, new services and register the services with each houses and emergency centers' website portal available for the police department to get more details about the incident. While generating the alert by a call/ message it provides the current location and the detected images to the emergency centers

1.3 Figure

In this use-case diagram we have 3 actors on scene they are:
1)Users
2)Admin
3)Police and Rescue team
So, users are mainly common people who use this system, they can login in to this system can also access the android application to update their status. And the admin is main actor who control whole the activities in the system, and they can control all modules. And the third one is Police and Rescue team they can login into this system via Web application, they will get the alert message, when any emergency occurs. So, by using the registered information of the user police and rescue team can identify the location of person who want the help. The camera placed at the home and it detects the emotions. If any unwanted situation occurred, then the system acts as an interactive system. After obtaining the confirmation system send an alert to the guardian's phone with 3rd party image, if 3rd party detection occurred guardian can send alert to police or rescue team or hospital based on the situation.

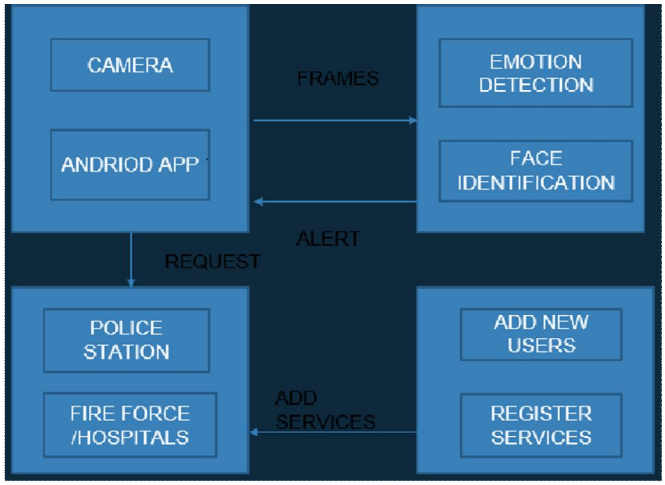

Figure 1.2: Architecture of U-REPORT

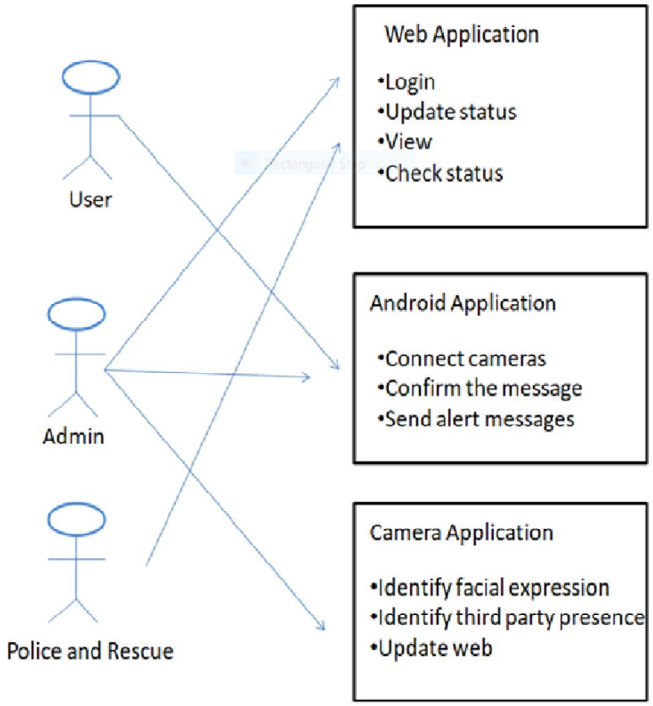

Figure 1.3 Use case diagram

2.METHODOLOGY

The video captured using camera is then give to video preprocessing module here for **Processing** of the **video** signal prior to MPEG2 encoding can provide dramatic quality improvements in the subjective quality of the reconstructed **video** or bit-rate reductions in the generation of the compressed bit-stream. Similarly, audio taken from microphone is then given to audio preprocessing module. Audio pre-processing is a two-stage process, the aim of which is to ensure audio assets from one session to another match before you begin using them in a project. The first stage being the pre-edit and processing of raw audio, this typically

involves the removal of unwanted sections, such as chatter between takes, coughs, sneezes and any aberrant peaks, such as clicks, thumps, paper rustling, to leave a clean audio file, and then measuring the RMS level and normalising the audio to a predetermined RMS level so that the audio files are at the same RMS level prior to any FX processing. The second stage is the use of FX to remove unwanted noise, rumble and hum and tonal and overall levelling, using Noise reduction, EQ, harmonic enhancement, dynamics etc. to provide a set of clean, levelled audio assets. The output from audio and video preprocessing are inputted to analyzing module here Multimedia content analysis refers to the computerized understanding of the semantic meanings of a multimedia document, such as a **video** sequence with an accompanying **audio** track. Then output given to the server side if something wrong occurs a notification will be generated to the android application. Shown in Figure.2.1.

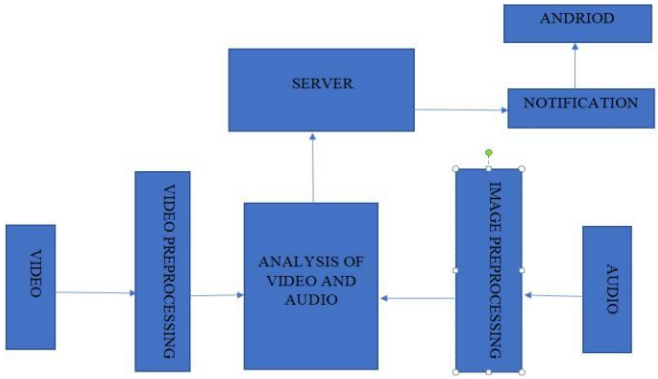

Figure2.1: Methodology

2.1 Video Processing

Video processing consists of two processes:Training and Testing. During the training process the data set is collected and the model is collected and tested. During the next step the model is saved. During the testing phase collecting of videos, loading of model and prediction is carried out ,And it shown in Figure 2.2.

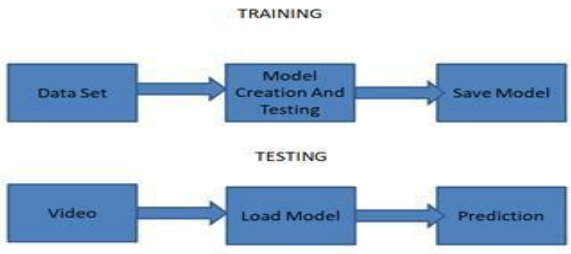

Figure.2.2: Video processing

2.2 Audio Preprocessing

Audio is a signal representation of sound typically using a level of electrical voltage for analog signals. The audio received from the home is usually used in our project. Audio preprocessing is a huge part of any production and can make or break the viewing experience. Adjusting volume, normalization, compression and noise reduction are the techniques. Google API is a set of application programming interfaces developed by Google which allow communication with Google services and other service. Audio to text means converting the audio taken to text messages. By the Google API the audio is converted to text and the text message is compared with the original. It is then passed or uploaded to the server.It shown in the Figure.2.3.

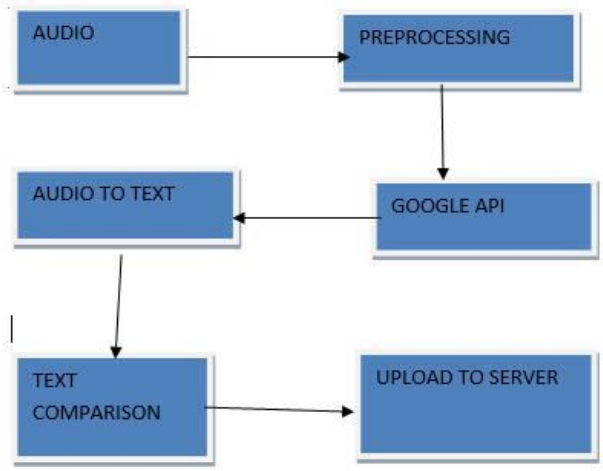

Figure.2.3: Audio processing

3. LITERATURE SURVEY

Patient's health history is very important during emergency interventions. The ubiquitous smart phones combined with the cloud resources could play an important role in providing such health history and data when needed the most. The application uses Android smart phones and cloud computing that can be used in emergency situations. The application can be used especially by elderly people living alone or in assisted living centers. The application enables the retrieve of data remotely from the doctors' database. Taking into consideration when the emergency situation occurs the patient can send only voice messages. Then the message is converted into text, which is sent as a request into a server connected to the doctor's database. [1]

Though there are unprecedented numbers of laws against domestic violence, sexual assault and other forms of violence in each and every country to protect their female citizens to become a victim of any such violence, but they are facing major challenges in implementing such laws. Thus, making the society insecure for the women as in majority of cases the violator remains unpunished. Women suffering violations are even denied of the basic human rights. Gender based violence has become a national as well as international agenda because of decades long struggles by civil society accompanied by women's movements. Though there are unprecedented numbers of laws against domestic violence, sexual assault and other forms of violence in each and every country to protect their female citizens to become a victim of any such violence, but they are facing major challenges in implementing such laws. Thus, making the society unjust and insecure for the women as in majority of cases the violator remains unpunished.

The device has been made in the form of a glove and is completely electronic. The person using the glove only has to activate the circuitry installed within the glove to attack the oppressor and protect herself from any danger. The circuitry is mounted within the glove between the protecting and insulating layers of the glove. The outer portion of the circuit has been well insulated, so that it does not cause any danger to The wearer and the person using it is completely safe.

The palm side of the glove is the conducting layer which can be activated by the wearer on encounter of any violent activity. The conductive layer on activation gives a daunting shock to the oppressor. The shock will be tight and frightening and only muscle contraction will take place. The shock is not lethal but has a profound impact on the muscular activity of the oppressor. This will render the oppressor stunned and intimidated. Thus, the wearer can easily overpower any aggressor with absolute ease and no apprehension. Constant efforts for further changes and improvements are in progress to make it a vital tool, eradicating violence against women. [2] Women from all walks of life are struggling to be safe and protect themselves from the roving gaze of the horribly insensitive men who molest assault and violate the dignity of women daily. A smart security wearable device for women based on Internet of Things is proposed. It is implemented in the form of a smart ring (SMARISA) and comprises of Raspberry Pi Zero, Raspberry Pi camera, buzzer and button to activate the services. This device is extremely portable and can be activated by the victim on being assaulted just by the click of a button that will fetch her current location and also capture the image of the attacker via Raspberry Pi camera. The location and the link of the image captured will be sent to predefined emergency contact numbers or police via smart phone of the victim thus preventing the use of additional hardware devices/modules and making the device compact. [3]

Smart home refers to the application of various technologies to semi-unsupervised home control It refers to systems that control temperature, lighting, door locks, windows and many other appliances. The aim of this study was to design a system that will use existing technology to showcase how it can benefit people with disabilities. This work uses only off-the-shelf products (smart home devices and controllers), speech recognition technology, open-source code libraries. The Voice Activated Smart Home application was developed to demonstrate online grocery shopping and home control using voice comments and tested by measuring its effectiveness in performing tasks as well as its efficiency in recognizing user speech input. [5]

4.ALGORITHM

The establishment of the convolution neural network model is as follows:

STEP1: Image preprocessing

STEP2: Set up convolution neural network model

STEP3: Select the convolution kernel function and convolution parameter according to the size of the input picture, and determine the convolution layer

STEP4: 200 groups of input networks were randomly selected from images for training

STEP5: The remaining 100 groups of pictures in each type of image input network to identify the classification of mine facies map. If the test results are satisfactory continue to STEP6. otherwise return STEP3, modify parameters;

STEP6: Output classification Result

5. CONCLUSION

As part of our project we decided to find a topic which is socially relevant and decided to do project on the topic U-REPORT a helping hand for the defend less situation. The project mainly focuses on the elderly people who are living alone in their homes. Sometimes any emergency situations or the dead matters are not known to others. Our project mainly gives a helping hand to them. It also focuses on the woman safety and reduces the theft cases. It reduces the burden of work to the police as they can know it. The people got help from police station, hospitals and the fire stations. Emotion tracking mechanism is also connected with our system so that the third-party entry can be found. It is really a helpful system to the elderly people. Violence against women also can be identified through this system which is reported to the police station. So that the police can take any immediate action against this. The system connects the police station, hospitals

and the fire station so that any immediate rescue needed is converted to some message or alert and is send to the required.

ACKNOWLEDGEMENT

We express our gratitude to our principal, Dr. M.D. Mathew, Principal, Saintgits College of Engineering for providing us with excellent ambiance that laid potentially strong foundation for our work.

We express our heartfelt thanks to Dr. M Wilscy, Dean of CSE & IT and Prof.Dr. Jubilant J Kizhakkethottam, Head of the Department of Computer Science and Engineering, Saintgits College of Engineering who has been a constant support in every step of our seminar and the source of strength in completing this project.

We express our sincere thanks to Prof.Dr.Anju Pratap, Er. Gokulnath G and Er. Sheeba Babu of the Computer Science and Engineering Department for providing us all the facilities, valuable and timely suggestions and constant supervision for the successful completion of our project.

We are highly indebted to all the faculties of the department for their valuable guidance and instant help and for being with us. We extend our heartfelt thanks to our parents, friends and well-wishers for their support and timely help.

Last but not the least we thank Almighty God for helping us in successfully completing this project.

REFERENCES

1. Tamara Luarasi, Mimoza Durresi, and Arjan Durresi **Health care based on cloud computing**,*2013 16th International Conference On Network Based Information systems*. https://doi.org/10.1109/NBiS.2013.20
2. Navya R Soji, Priya Chatterjee, U Nethra, and V Suma.**SMARISA:A Rasberry Pi Based Smart RingFor Women Safety Using IOT**,*2018 InternationalConference On Inventive Research In Computing Applications*.
3. Divya Chitkara, Nipun Sachdeva and Yash Dev Vashisht.**Design Of a Women Safety Device**,*2016 IEEE Region 10 Humanitarian Technology Conference*. https://doi.org/10.1109/R10-HTC.2016.7906858
4. Biulie J Freitas, Tiago B Marcondes, Luis H V Nakamura, and Rodolf I Meneguette **Health Smart Home SystemTo Report Incidence For Diasbled People** , *2015International Conference On Distributed Computing In Sensor Systems*. https://doi.org/10.1109/DCOSS.2015.28
5. Bekir Busatlic Nejdet Dogru, Isaac Lera, Enes Sukic **Homes With Voice Activated Systems For Disabled People,***Tem Journal. Volume 6, Issue 1, Pages 103-107,Issn 2217-8309, Doi: 10.18421/Tem61-15, February 2017.*