WATSON DEEP LEARNING FOR FINDING MISSING PERSONS

INTRODUCTION

A **missing person** is a person who has disappeared and whose status as alive or dead cannot be confirmed as their location and condition are not known. A person may go missing through a voluntary disappearance, or else due to an accident, crime, death in a location where they cannot be found (such as at sea), or many other reasons. In most parts of the world, a missing person will usually be found quickly. While criminal abductions are some of the most widely reported missing person cases, these account for only 2–5% of missing children in Europe.

By contrast, some missing person cases remain unresolved for many years. Laws related to these cases are often complex since, in many jurisdictions, relatives and third parties may not deal with a person's assets until their death is considered proven by law and a formal death certificate issued. The situation, uncertainties, and lack of closure or a funeral resulting when a person goes missing may be extremely painful with long-lasting effects on family and friends

in this project we are going learn how we gone find the missing person using watson deep learning

Watson Discovery is an award-winning enterprise search tool and AI search technology that breaks open data silos and retrieves specific answers to your questions while analyzing trends and relationships buried in enterprise data.

From this project we can find the missing person using watson deep learning when the person is missed form various locality

LITEARTURE SURVEY

Each year approximately 100000 peoples gets lost in India. In some cases lost person gets found easily, but in some critical cases missing persons are never reunited with their relatives. Finding lost person can be difficult task.

The currently available Manual System for finding missing person have very long procedure and takes more time. More time is require for launching an FIR (First Information Report) in police station. Also time required for finding lost person is more. Also during manual process number of manpower for searching lost person is less. And in some missing person related website they required FIR No for upload complaint on their website.The web-database is a system where the web server will store the data in table format where the data are filled in column and other parameters. There are n-numbers of database available in the market but for this system we have used MySQL since it’s an open source relational database management system. It also widely used by web application developers, together with PHP and APACHE. MySQL is a three layer model they are Application layer, Logical layer and Physical layer.

THEORITICAL ANALYSIS

A. Hardware Requirement:
Processor: Intel 1.66GHz Processor Pentium 4 RAM: 256MB Hard disk: 80GB Device: GPRS enabled Mobile Phone with Android OS B.
Software Requirement:
1) Eclipse or Android Studio

2) SDK for Android API 8 & Higher

3) JDK:

4) XAMPP Server with APACHE and MYSQL

Proposed System will contain following features:

Display Information about missing person.
Adding new complaint.
Removing Complaints.
Searching person by particular attribute such as name, location etc.
Notification Portal.

A. Block Diagram/ Architecture:

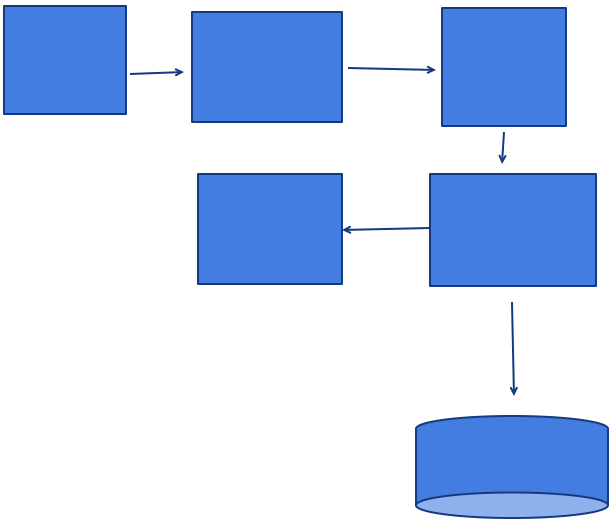
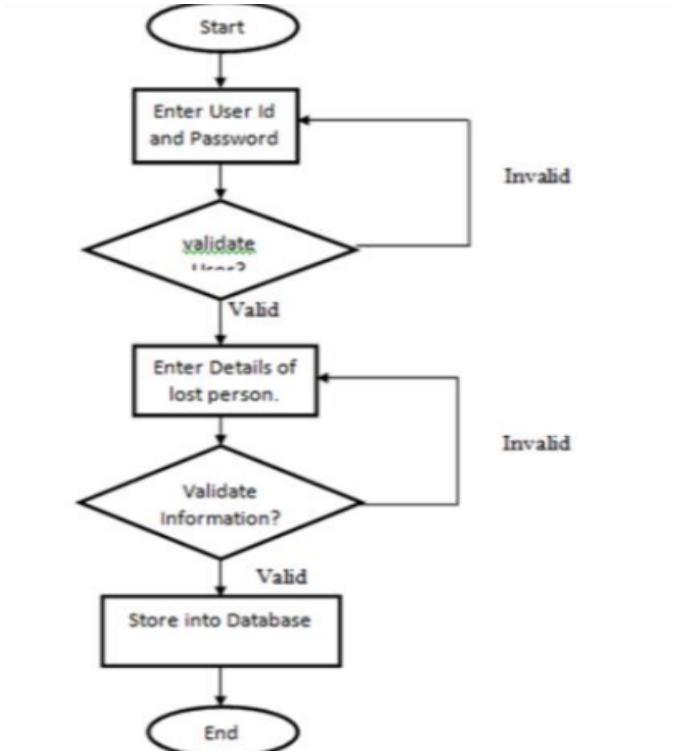


Fig. 1: Architecture of Proposed system

1) Presentation Layer: It is front end component, which is responsible for providing portable presentation logic. Mobile phone will act as thin client. Phone will contain Application. User will

interact with application to add complaint and send this data to web service
2) Business Layer (Web Service): The business layer function (web service) between presentation layer and Database layer sending the client's request to database. Web service will be responsible to fetch data from client, process it and then store it in database. Web service act as middleware for Application and Database. In our project used JSON web service for connectivity.
3) Database Layer: Database is responsible for storing all information in well-defined format. Also it responses to the queries fired by client to add, update, remove or search records. In Our project we have used PHP, MYSQL database for storing Information.

Work Flow Chart for User:



Advantages of Proposed System over Existing System:

- Easy to upload and view Complaint.
- All trust users can add complaint.
- Simple GUI.
- Easy to view information

Disadvantages of Proposed System:

Require Internet connection.

Require android phone with camera.

WORKING AND EXPERIMENTAL RESULTS

Our App is named as “Missing person finder” as the app is opened first a window is opened showing two options

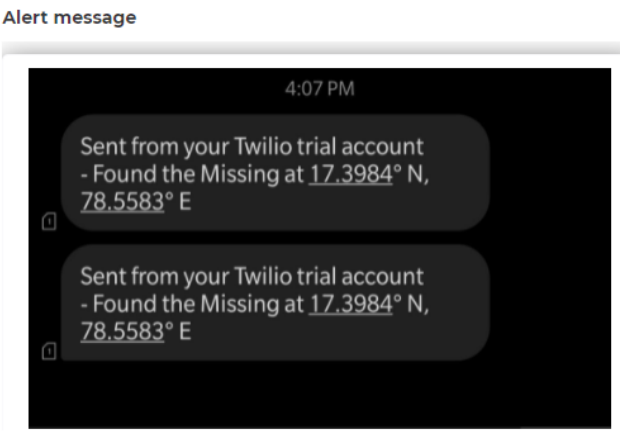
1)User registration tab and

2) User login tab. User can register on the app by entering details using Name,Age ,UserID and Password. User can directly login to app using UserID and password .As the user is logged in the app will show two windows one for missing persons and second for found persons with their details such as Photo, Name, Age, Address, Contact no. In missing person window list of all missing peoples with their details will be shown there, An upload button is also provided in that window where user can upload data of missing persons with their Name, Photo, Age, Address. In found person window list of all found peoples with their details will be shown there, An upload button is also provided in that window where user can upload data of found persons with their Name, Photo, Age, Address

RESULTS

when we open jupyter notebook we run all code.when we import all libaries we dont get an error. Login successful when correct credentials are entered App shows error message when wrong UserID is entered and make login only when correct credentials are entered. App shows error message when wrong Password is entered and make login only when correct credentials are entered. App shows error message when numerical values are entered at the place of name. App shows error message when alphabets are entered at the place of age. App shows error message when incorrect date is entered

we use twilio app to detect the person

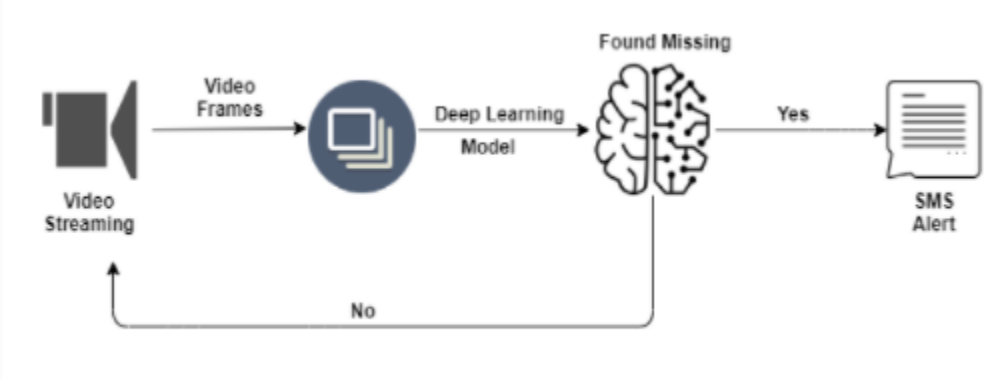


FUTURE SCOPE

The future work on which we are focusing now is to implement and measure the performance of our proposed system so that we can justify that our proposed system is better in Finding Missing Person than all the previous proposed system. Also we are going to add following features in future to improve functionality of our system. Automatically periodic report generation and Automatic Data Backup.

CONCLUSION

An effort is made towards recognition of face and the obtained recognition accuracy is much. This method will be very beneficial for finding missing person. This application will upload complaint on web server which can be accessed by any of the trust member having this application. This project Finding Missing Person using Face Detection on Android Application presents the solution for this problem. We are using four modules User, Police, Compliant holder, Admin for getting appropriate result. Admin continuously Update database and Delete unnecessary data.



REFERANCE

[1] Lowe D G. Object recognition from local scale-invariant features. In: Proc. of the International Conference on Computer Vision. Corfu, Greece, 1999 [2] Ke Y, Sukthankar R. PCA-SIFT: A more distinctive representation for local image descriptors. In:Proc. of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition.Washington DC, USA, 2004. [3] Kisku D R, Tistarelli M, Sing J K, et al. Face recognition by fusion of local and global matching scores using DS theory: An evaluation with uni-classifier and multiclassifier paradigm. In: Proc. of IEEE Computer Vision and Pattern Recognition (CVPR) Workshop on Biometrics. Miami, USA,2009. [4] Lowe D G. Distinctive image features from scale invariant keypoints. International Journal of Computer Vision, 2004 [5] Fredlund. Benac Earle. Marino, J. PropertyBased testing of JSON

BasedWeb Service: Web service (ICWS) 2014 IEEE Inernational Conference [6] Mumtaz AL Mukhtar, Sharmad Hadi Developing a Three Tier web data Management Application for Higher Admission Environment-International Arab Journal ofe- Technology,Vol.2,No.4,june 2012 [7] MCIA missing person Alert Android Application On Google play [8] Missing Child Android Application [9] http://missingperson.ap.nic.in/ [10] http://developer.android.com/ 11] https://wiki.servicenow.com/index.php?title =JS

APPENDIX

In [1]:
```
import keras
from keras.preprocessing.image import ImageDataGenerator
```
```
Using TensorFlow backend.
```

In [2]:
```
train_datagen=ImageDataGenerator(rescale=1./255,
                                 shear_range=0.2,
                                 rotation_range=180,
                                 horizontal_flip=True,
                                 zoom_range=0.2)
test_datagen=ImageDataGenerator(rescale=1./255)
```

In [3]:
```
x_train=train_datagen.flow_from_directory(r'C:\Users\Harsha reddy\Downloads\Dataset\Dataset\trainset',
                                          target_size=(64,64),batch_size=32,
                                          class_mode='binary')
```
```
Found 240 images belonging to 2 classes.
```

In [4]:
```
x_test=train_datagen.flow_from_directory(r'C:\Users\Harsha reddy\Downloads\Dataset\Dataset\testset',
                                         target_size=(64,64),batch_size=32,
                                         class_mode='binary')
```
```
Found 60 images belonging to 2 classes.
```

In [5]:
```
print(x_train.class_indices)
```
```
{'Found Missing': 0, 'Normal': 1}
```

In [6]:
```
from tensorflow.keras.models import Sequential
from tensorflow.keras.layers import Dense
from tensorflow.keras.layers import Conv2D
from tensorflow.keras.layers import MaxPool2D
from tensorflow.keras.layers import Flatten
```

In [7]:
```
model=Sequential()
```

In [8]:
```
model.add(Conv2D( 32,3,3,input_shape=(64,64,3),activation='relu'))
```
```
WARNING:tensorflow:From C:\Users\Harsha reddy\AppData\Local\Continuum\anaconda3\lib\site-packages\tensorflow\python\ops\init_ops.py:1251: calling VarianceScaling.__init__ (from tensorflow.python.ops.init_ops) with dtype is deprecated and will be removed in a future version.
Instructions for updating:
Call initializer instance with the dtype argument instead of passing it to the constructor
```

In [9]:
```
model.add(MaxPool2D(pool_size=(2,2)))
```

In [10]:
```
model.add(Flatten())
```

In [11]:
```
model.summary()
```
```
Model: "sequential"
_________________________________________________________________
Layer (type)                 Output Shape              Param #
=================================================================
conv2d (Conv2D)              (None, 21, 21, 32)        896
_________________________________________________________________
max_pooling2d (MaxPooling2D) (None, 10, 10, 32)        0
```

```
flatten (Flatten)            (None, 3200)              0
=================================================================
Total params: 896
Trainable params: 896
Non-trainable params: 0
_________________________________________________________________
```

In [12]:
```
model.add(Dense(units=128,kernel_initializer='random_uniform',activation='relu'))
```

```
WARNING:tensorflow:From C:\Users\Harsha reddy\AppData\Local\Continuum\anaconda3\lib\site-packages\tensorflow\python\keras\initi
alizers.py:119: calling RandomUniform.__init__ (from tensorflow.python.ops.init_ops) with dtype is deprecated and will be remov
ed in a future version.
Instructions for updating:
Call initializer instance with the dtype argument instead of passing it to the constructor
```

In [13]:
```
model.add(Dense(units=128,kernel_initializer='random_uniform',activation='relu'))
```

In [14]:
```
model.add(Dense(units=1,activation='sigmoid',kernel_initializer='random_uniform'))
```

In [15]:
```
model.compile(optimizer='adam',loss='binary_crossentropy',metrics=['accuracy'])
```

```
WARNING:tensorflow:From C:\Users\Harsha reddy\AppData\Local\Continuum\anaconda3\lib\site-packages\tensorflow\python\ops\nn_imp
l.py:180: add_dispatch_support.<locals>.wrapper (from tensorflow.python.ops.array_ops) is deprecated and will be removed in a f
uture version.
Instructions for updating:
Use tf.where in 2.0, which has the same broadcast rule as np.where
```

In [*]:
```
model.fit_generator(x_train , steps_per_epoch=8 , epochs=128 , validation_data = x_test, validation_steps = 2 )
```

```
Epoch 1/128
8/8 [------------------------------]  - 27s 3s/step - loss: 0.6531 - acc: 0.6667 - val_loss: 0.6401 - val_acc: 0.6667
```


```
Epoch 127/128
8/8 [==============================] - 7s 908ms/step - loss: 0.3780 - acc: 0.8417 - val_loss: 0.7562 - val_acc: 0.7000
Epoch 128/128
8/8 [==============================] - 8s 954ms/step - loss: 0.3667 - acc: 0.8542 - val_loss: 0.9339 - val_acc: 0.6000
```

Out[16]:
```
<tensorflow.python.keras.callbacks.History at 0x2171f2000f0>
```

In [17]:
```
model.save('Missing_1.h5')
```

In [18]:
```
import cv2
import numpy as np
import smtplib
from keras.preprocessing import image
import tensorflow as tf
import os
name = ["Found Missing","Normal"]
```

In [19]:
```
model = tf.keras.models.load_model('Missing_1.h5')
```

```
WARNING:tensorflow:From C:\Users\Harsha reddy\AppData\Local\Continuum\anaconda3\lib\site-packages\tensorflow\python\ops\init_op
s.py:97: calling GlorotUniform.__init__ (from tensorflow.python.ops.init_ops) with dtype is deprecated and will be removed in a
future version.
Instructions for updating:
Call initializer instance with the dtype argument instead of passing it to the constructor
WARNING:tensorflow:From C:\Users\Harsha reddy\AppData\Local\Continuum\anaconda3\lib\site-packages\tensorflow\python\ops\init_op
s.py:97: calling Zeros.__init__ (from tensorflow.python.ops.init_ops) with dtype is deprecated and will be removed in a future
version.
Instructions for updating:
Call initializer instance with the dtype argument instead of passing it to the constructor
```

In [27]:
```
img = image.load_img(r"C:\Users\Harsha reddy\Pictures\image4.jpg",target_size = (64,64))
```

```
Instructions for updating:
Call initializer instance with the dtype argument instead of passing it to the constructor
```

In [27]:
```
img = image.load_img(r"C:\Users\Harsha reddy\Pictures\image4.jpg",target_size = (64,64))
x=image.img_to_array(img)
x=np.expand_dims(x,axis=0)
```

In [28]:
```
pred=model.predict_classes(x)
```

In [29]:
```
pred[0][0]
```

Out[29]:
```
1
```

In [30]:
```
index=['Found missing','normal']
```

In [31]:
```
a = index[pred[0][0]]
```

In [32]:
```
a
```

Out[32]:
```
'normal'
```

In [ ]:
```
import cv2
import numpy as np
from keras.preprocessing import image
import tensorflow as tf
from twilio.rest import Client

model = tf.keras.models.load_model('Missing_1.h5')
video = cv2.VideoCapture(0)
name = ["Found Missing","Normal"]
```

```
while(True):
    success, frame = video.read()
    cv2.imwrite("image.jpg",frame)
    img = image.load_img("image.jpg",target_size = (64,64))
    x = image.img_to_array(img)
    x = np.expand_dims(x,axis = 0)
    pred = model.predict_classes(x)
    p = pred[0][0]
    print(p)
    cv2.putText(frame, "predicted class = "+str(name[p]),(100,100),
                cv2.FONT_HERSHEY_SIMPLEX, 1, (0,0,0), 1)

    if pred[0][0]==0:
        account_sid='AC22bf14c271adb976e3f3f545521c182d'
        auth_token='d38c333a8d9c3daddb4b4120f944ec9f'
        client=client(account_sid,auth_token)
        message=client.messages.create(
        to="+919390537480",
        from_= "+17579414316",
        body=" Found the Missing at 17.3984 N, 78.5583 E"
        )
        print(message.sid)
        print("Found Missing")
        print('SMS Sent')
    else:
        print("Normal")

    cv2.imshow("frame",frame)

    if cv2.waitKey(1) & 0xFF == ord('a'):
        break
```

```
        client=client(account_sid,auth_token)
        message=client.messages.create(
        to="+919390537480",
        from_= "+17579414316",
        body=" Found the Missing at 17.3984 N, 78.5583 E"
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    cv2.imshow("frame",frame)

    if cv2.waitKey(1) & 0xFF == ord('a'):
        break



video.release()
cv2.destroyALLWindow()
```