MISSING INFANT FINDER ANDROID APPLICATION

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Abstract -- Today, it is exceedingly difficult for people or the police to locate a missing person; it requires a lot of paperwork and labour, takes a long time, and there is no guarantee that the search will be successful. This programme has features for adding complaints and viewing existing ones. Members of the Trust will use these complaints to look for the missing individual in numerous locations. Any trust member who has this application will be able to access the complaint that is uploaded on the web server by this application. The answer to this problem is shown in the project Finding Missing Person using Face Detection on Android Application. In order to acquire the right results, we use four modules: User, Police, Compliant Holder, and Admin.Continuous database updates and data purging by the administrator Indexed Terms: Android Application, Face Detection Layer.

KEYWORDS: Android, app, Missing Person Finder.

INTRODUCTION

We created an Android application to simplify the work of discovering the missing individual simple. Members of the trust will utilise this application so they can quickly locate a lost individual.

This project, Finding Missing Person using Face Detection on Android Application, proposes a solution to this issue. It uses an Android mobile device to take pictures, submit them to the application, and then receive results based on face detection. We use the SWF-SIFT technique to compare two photos, and the system guarantees that 70 to 80 results each set of compared images. For the purpose of obtaining the proper results, we utilise four modules: User, Police, Compliant Holder, and Admin. Administrators regularly update databases and delete extraneous data. The suggested technique aids in locating a specific person with the least amount of time and effort.

Face recognition technique can be used for many things and finding the missing person is a biggest advantage for any face recognition technique. To make the task of finding the missing person easier we are planning to make an application which will be accessed by some volunteers through which we can find missing person in short span of time. This will make the work of police to find a particular person easier. Meanwhile, there is a need of automation for automating the task of finding the particular person by recognizing particular image and comparing that image with other image in order to check whether both images has same characteristics or not. By doing this we will come to know whether the missing person in the image clicked from particular location is correct or not, and if it is correct then police can start their next steps to find the person from that area.

Here in our Android application we have built face detection system where if match found volunteer will be redirected to the missing persons profile where user will be able to get exact location of missing person with Google map integration also user can chat with the person who posted that profile and get the update from him as well.

Although it may take some work, using Tensor Flow to create face recognition and detection models is ultimately worthwhile. Tensor Flow, the most popular Deep Learning framework, contains pre-trained models that make picture classification simple. CNN is used to classify the photos. The classification of the photos typically only requires to supply a similar image, which is the positive image, in order to construct a model. Then, using a technique called anchoring or transfer learning, the picture is trained and retrained.

LITERATURE SURVEY

We conducted extensive research and came to the following conclusions on the literature review. To start, S. AYYAPPAN and his engineering classmates from the IFET College of Engineering delivered a work that addresses a problem statement and purpose that are comparable to our own. They use a layered convolutional auto encoder and facial feature extraction and matching based on deep learning in their suggested solution (SCAE). A database contains the photos of the missing people. From those photographs, faces are recognised, and a convolutional neural network picks up features. A multi-class SVM classifier was trained using these newly acquired characteristics. They successfully labelled and identified the child using this technique. The primary distinction between our approach and theirs is that we intend to compile a dataset of lost persons with the help of people who want to contribute to society (voluntary work). And their system involves complex algorithms which make the process of extraction and classification slower [1].

Shefali Patil and his colleagues from SNDT Women's University in Juhu, Mumbai, have already submitted a study that addresses a related problem definition and purpose. They use the KNN Algorithm, which requires 136 * 3 data points to detect faces, in their suggested system. The accuracy of the KNN approach, which is 71.28%, is its biggest drawback. The primary distinction between our work and theirs is that in this case, we'll use volunteer work from individuals to construct a dataset utilising a mobile application. For facial recognition, we'll combine a trained model with Tensor Flow. Additionally, our dataset will be kept in a cloud database, such as Firebase.[2]

A paper on the use of Principal Component Analysis (PCA) to build a face recognition system was presented by Rohit Satle and his team in August 2016. The computational complexity of the PCA method and the fact that it can only analyse faces with comparable facial expressions are its two key limitations. The primary distinction between our project and theirs is that we use an Android application to voluntarily compile a database of people who have gone missing. Tensor flow will also be used for facial recognition.[3]

According to the research paper presented by Birari Hetal and her fellow mates from Late G.N. Sapkal College of Engineering, who had also deal with the similar problem statement and objective. They have made the Android application for making the task of missing person easier. The Android Application proposed by them makes use of SWFSIFT algorithm for comparing two images. In their application, only Admin and some trusted people like police, etc., can update the data set continuously. The main difference between their system and our system is that we are going to allow application users for uploading images (update data sets) of suspicious peoples like child beggars whom they think that they are missing. Although the images uploaded by that particular user is not viewed on our application. So we are trying to keep that data in safe hands.[4]

In India, there are thought to be 100000 lost individuals annually. A lost person may occasionally be quickly located, but in some tragic circumstances, a missing person may never be reunited with their family. Finding a lost person might be a challenge. [5]

The manual system for missing person searches that is now accessible is a highly drawn-out process and requires extra time. An FIR (First Information Report) must be launched in the police station over a longer

period of time. Additionally, it takes longer to find a lost person. Additionally, there is less labour available to hunt for lost persons during manual processes. Additionally, several missing person-related websites demanded a FIR No in order to upload a report. [6]

The web-database is a technology that allows the web server to store data in a table format with columns and other parameters filled in. There are several databases on the market, however since MySQL is an open source relational database management system, we chose it for this system. Along with PHP and APACHE, web application developers also frequently use it. The Application layer, Logical layer, and Physical layer make up the three layers of the MySQL model. [7]

A smart mobile phone offers us a variety of modern services. We can use the global positioning system (GPS) to determine the precise location of our gadgets and communicate with others via SMS. These two services were employed in the system that Al-Mazloum et al. suggested. They released a smart phone-based GPS and SMS child tracking solution. [8].

This essay explains how a smart mobile phone enables parents to keep tabs on their kids in real time. Most parents and children use android smartphones, and they are aware of the services that are offered by these devices. The parent side and the child side make up the two sides of their suggested system. To find out the child's precise location from the parent device, an SMS is sent to the child's device. The child's device responds to the parent's device's GPS location after receiving the request SMS on it. A system with a "multi-platform application for parent and school employing GPS tracking" was suggested by Kothawade et al. [9].

In this study, they created a mobile application system based on face detection for use by businesses and parents. This programme can be used by the company to keep tabs on and track the whereabouts of the school buses. Parents may find their kids on their mobile devices and receive their addresses. The safety of the children is ensured by the school authority's prompt monitoring and tracking of the school buses. It also allows parents to track real-time information regarding the school bus during journeys. For a user facility, Almomani et al. [10] developed a system with two different types of apps: online applications and mobile applications. This system is accessible by any user, from anywhere, at any time.

METHODOLOGY

We are building a proposed system called "Finding Missing Person (FMP)" to address these shortcomings. This programme is basically made to do everything that the previous system could do, including all of the functionality offered by other applications while also providing users with more features. It will be compatible with all Android devices running at least Android 2.1. This Android application gave us ideas for the interface that should be used for adding new complaints (how to add complaint form users).

Following features will be present in the proposed system:

- Display missing person information.

- Adding a new grievance.

- Getting rid of complaints.

- Finding people using certain criteria like name, location, etc.

- Notification Portal.

1) Presentation Layer:

      The front end component is in charge of offering transportable presentation logic. A thin client will be a mobile device. The application will be on the phone. When adding a complaint, the user will interact with the application and send the data to the online service..

2) Business Layer:

The client's request is transmitted to the database by the business layer function (web service) that exists between the presentation layer and the database layer. Data from the client will be fetched by the web service, processed, and then stored in the database. Web services serve as a bridge between databases and applications. JSON web services were utilised in our project for connectivity.

3) Database Layer:

All information must be stored in a specific format in the database. Additionally, it responds to client-issued requests to add, update, remove, or search records. We used PHP and a MySQL database in our project to store information.

Proposed System over Existing System:

- Simple to view and upload complaints.

- Any user with trust may add a complaint.

- Simple GUI.

- Easily readable information.

4. IMPLEMENTATION

As shown in Figures 1 and 2, this child monitoring system offers two account options: one for parents and one for children. This software requires registration and then logging in before it can be used. A child must use their email address and password to sign up for the system, but the parents must do so on the kids' smartphones without telling them. The child page's login page is likewise depicted in Figure 3. In addition, parents are required to download the same software on their smartphone and register using their Name, Email address, and Password as shown in Figure 4. After that parents can view the missing kids details.
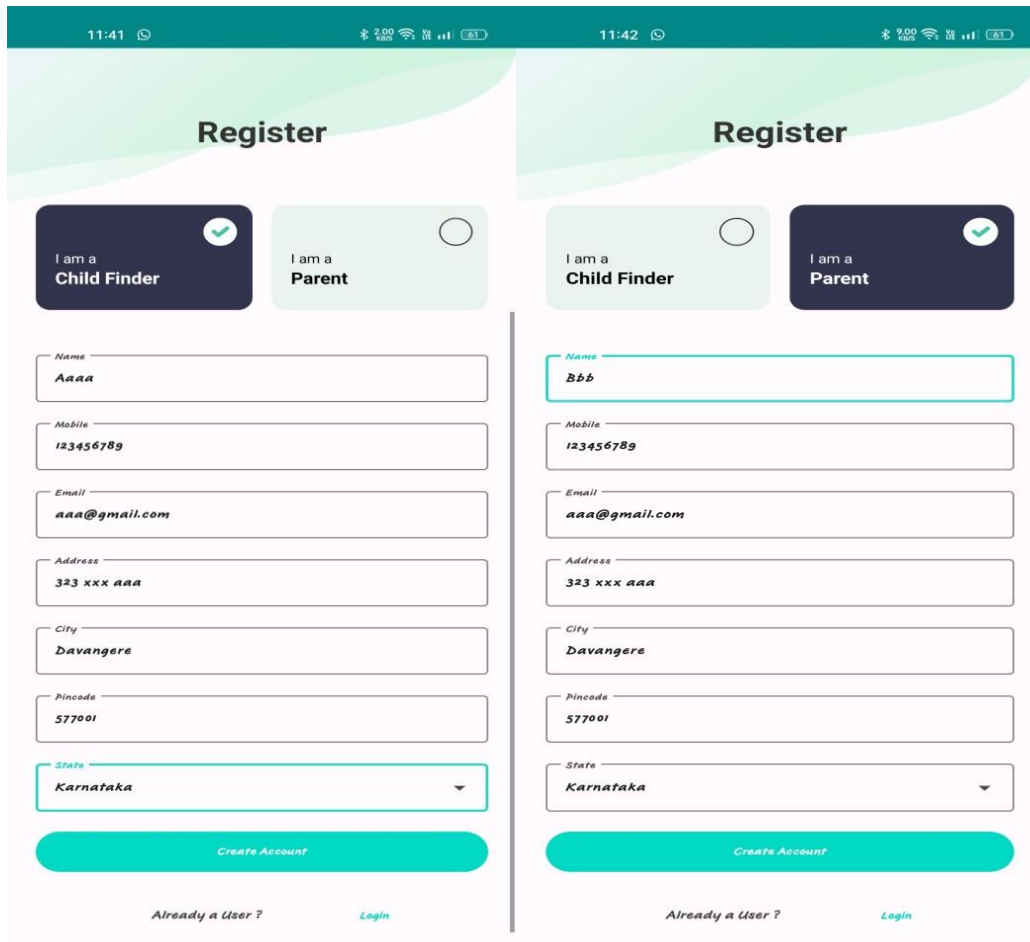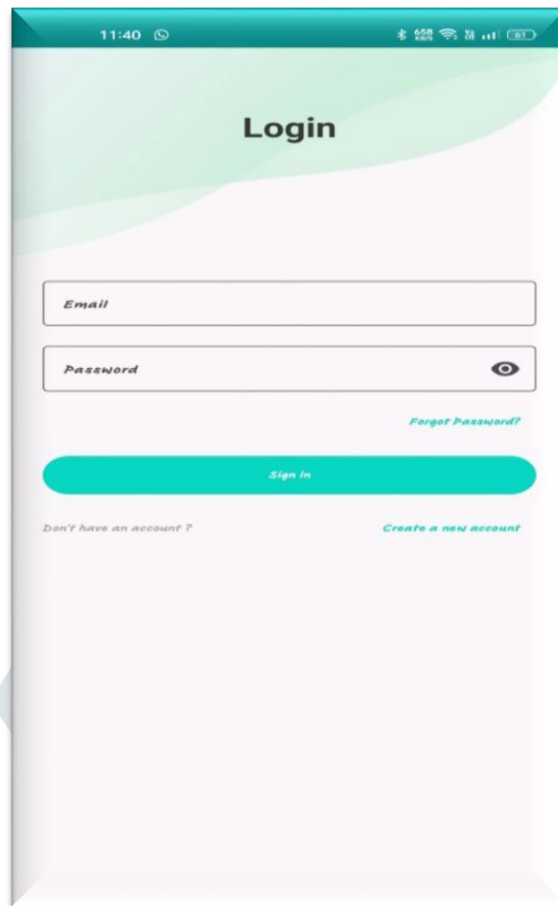

Fig 1& 2: Registration of both child and parent

Fig 3: Login page for child & parent

RESULTS AND COMPARISONS OF WORKS CARRIED OUT

The results of our suggested method are discussed in this section. A subsection focuses on the missing child status and the parent login process. The next subsection explains the parent and police registration process and their actions.

Parents section

We focused on the parent portion first. Parents must register in the system by providing all necessary information, such as a name and password, before they may log in using their email address and password, as shown in Figure 4. If everything matches up with the database, parents can log in and add their children's information, as shown in Figure 5, which displays adding a child.

Furthermore, a parent can check the listed children's in the app and find the match as in Figure 6 if the match found then it pop up the message match found. After match found parents can update his/her children status as shown in Figure 7.
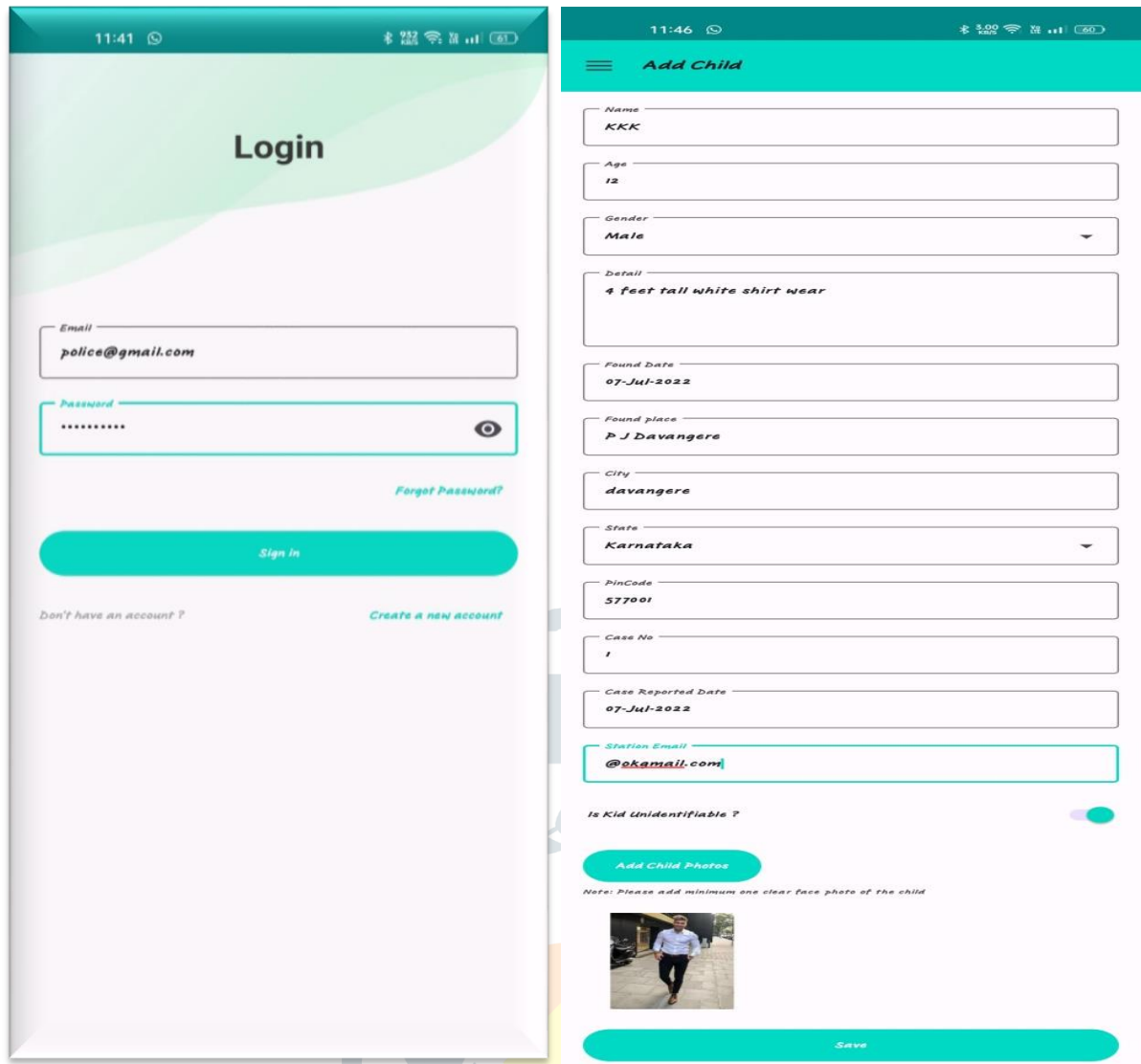
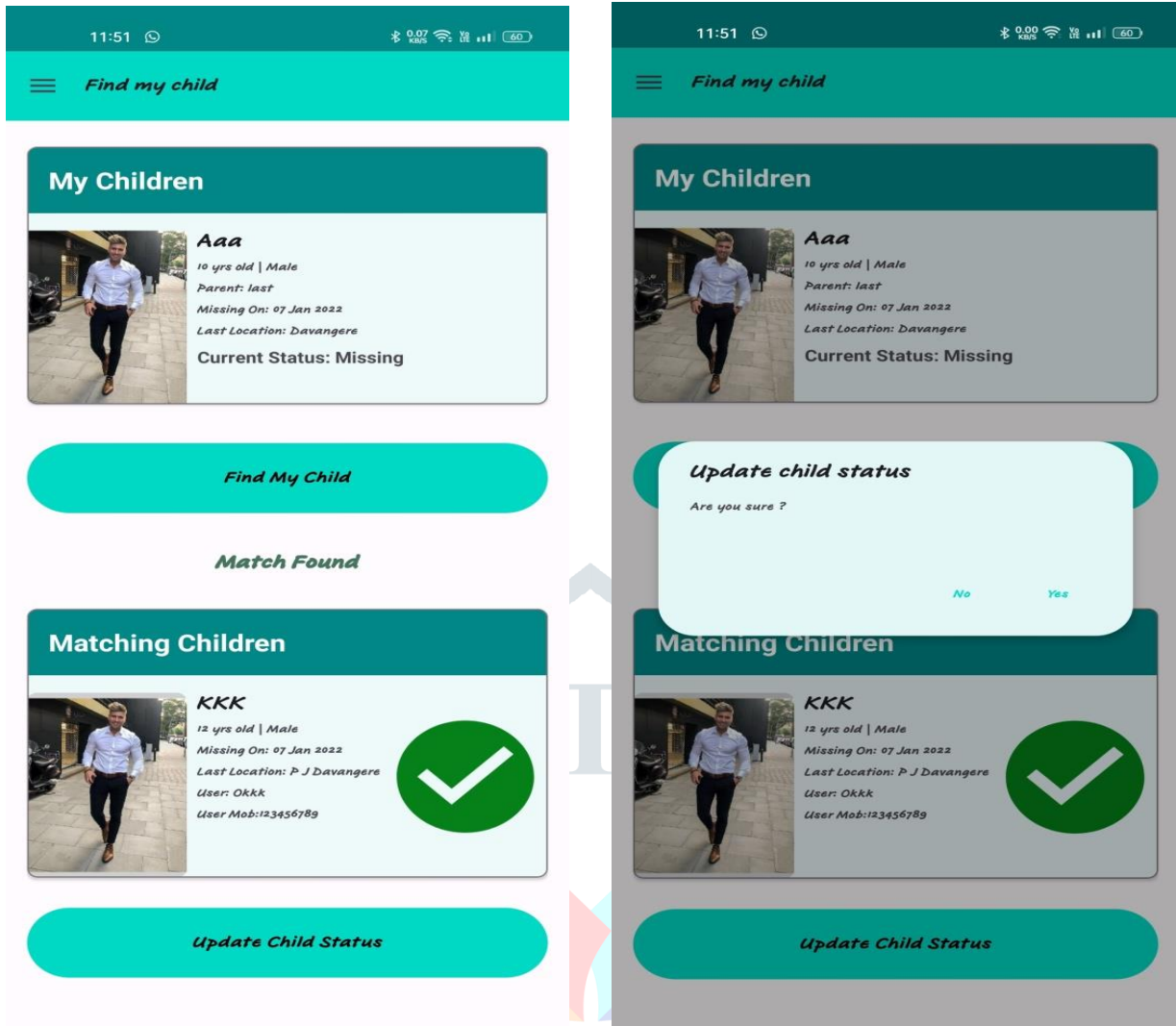Fig 4 & 5: Parent's Login & adding Missing person data

Fig 6 & 7: Person's Matching fond & updating Status

Police section

The second topic covered in this section will be the kids' activities in this app. The police station cellphones must first have this app installed before users can log in using an email and password if the credentials match the database as shown in figure 8. The missing child window shown in figure 9 allows parents to report their missing child to the police.

In the figure 10 police can view the all the missing children details and they can also update the case status of the missing child if the child found then police update case as child found or otherwise it does not updated and police can also add the child.
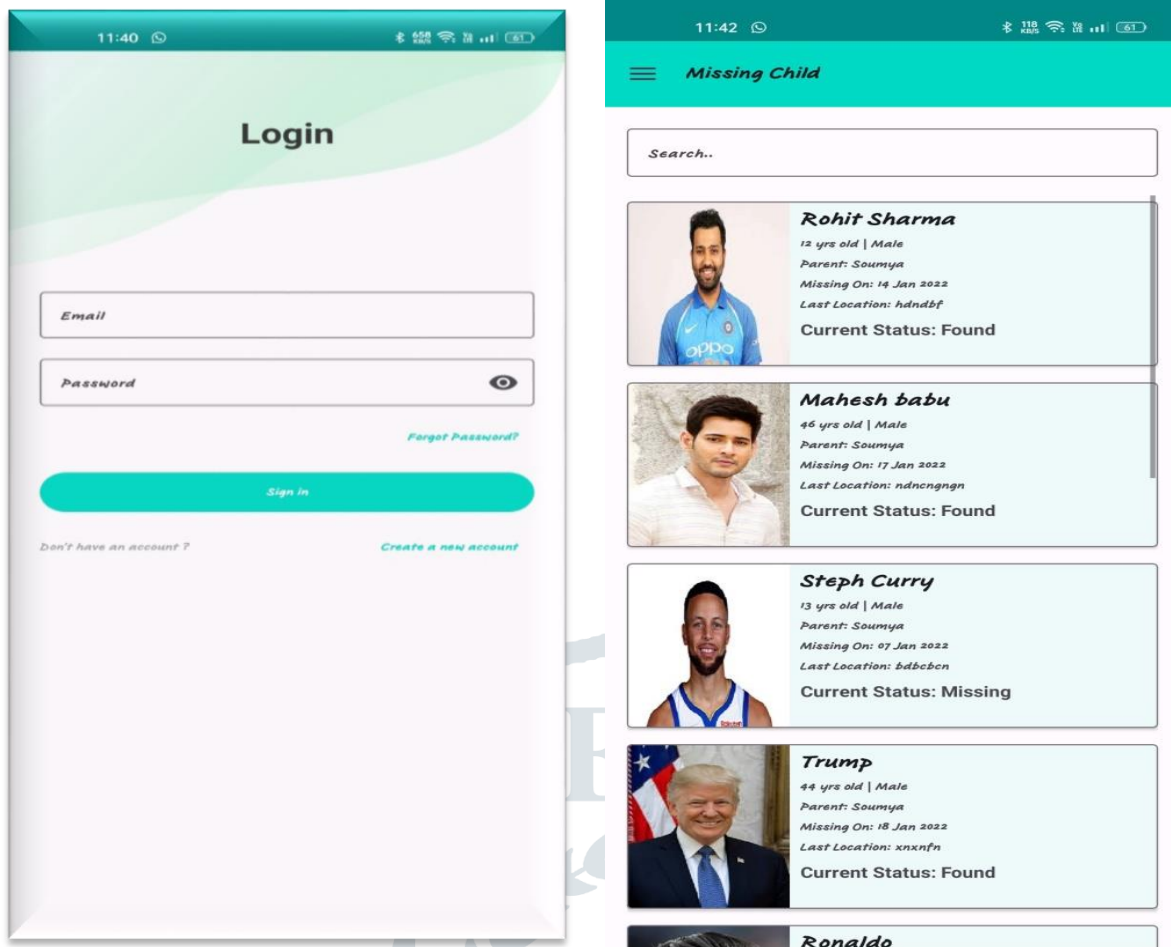
Fig 8 & 9: Police Login & adding Missing Person

Fig 10: Updating details of missing person

CONCLUSION

By putting our concept into practise, we are confident that the issues with the current system will be resolved. We are happy with how our project, "Infant Tracking," which involved the concept, programming, implementation, and testing of the application, turned out. In addition to offering a strong security mechanism, SQL Server is a very capable backend server with several error recovery options.App for Missing Children Application is designed to trace the missing children. It also helps to post unidentified children details. So, it helps parents to browse and search their children.This Portal for Missing Children was created as a standard Android application utilising SQL Server and ASP.Net. With the use of several test cases, the application's effectiveness and correctness are assessed. Although the efforts made might not completely satisfy the user, we anticipate that it will get close. Working on our project was a rewarding experience overall because it allowed us to develop our talents in the finer aspects.

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