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FINCHILD: Real Time Missing Child Finder Application

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Abstract: ***"FINCHILD" is an innovative and user-friendly mobile application designed to address the critical issue of missing children by leveraging real-time tracking technology. The application aims to empower parents, guardians, and law enforcement agencies with an effective tool to locate and recover missing children swiftly and efficiently. In a world where child safety is paramount, FINCHILD fills a significant gap by harnessing the power of real-time location tracking, geofencing, and community engagement. The application provides a comprehensive platform that integrates the latest advancements in mobile technology and data analytics to ensure a rapid and coordinated response in the event a child goes missing. The FINCHILD application is a cutting-edge real-time solution designed to address the critical issue of missing children. Leveraging advanced technologies, including GPS tracking, facial recognition, and realtime data analytics, FINCHILD aims to significantly reduce the response time and enhance the efficiency of locating missing children.***

Keywords: GPS Tracking, Facial Recognition, Real-Time Alerts, Community Engagement.

I. INTRODUCTION

In a world where ensuring the safety and well-being of children is of paramount importance, technological advancements have become invaluable tools in addressing critical issues such as child abduction and disappearance. Recognizing the urgency of swift response and community collaboration, we introduce FINCHILD- a groundbreaking Real-Time Missing Child Finder Application. Developed with a commitment to leveraging stateof-the-art technologies, FINCHILD represents a significant leap forward in enhancing the efficiency and effectiveness of locating missing children. As we delve into the features and functionalities of FINCHILD, it becomes evident that this application is more than a technological solution — it is a lifeline for families and communities. By prioritizing user privacy, ensuring security, and offering accessibility across various platforms, FINCHILD seeks to redefine the landscape of child safety applications. This introduction sets the stage for a comprehensive exploration of how FINCHILD is poised to make a significant impact on the collective efforts to ensure the safety and security of our children in real-time. The alarming frequency of missing child cases necessitates a proactive and technologically advanced solution. FINCHILD addresses this challenge by combining the power of real-time GPS tracking, advanced facial recognition, and seamless community engagement. By fostering immediate communication between parents, guardians, law enforcement, and the community, FINCHILD aims to create a comprehensive network dedicated to the swift and safe recovery of missing children. This application goes beyond conventional approaches, embracing a multi-faceted strategy that not only empowers parents and guardians with real-time tracking capabilities but also harnesses the collective strength of the community through crowdsourcing. The integration of cutting-edge technologies ensures that every moment counts in the critical early stages of a child's disappearance. Our app is dedicated to helping locate missing children swiftly and efficiently, using advanced technology and collaborative efforts. A database of missing children, with information such as the child's name, age, date of birth and physical description. A way for users to report missing children. A way for users to search for missing children. A way for users to share information about missing children with others.

II. LITERATURE SURVEY

1) Paper Name:- Identifying Missing Children: Face Age-Progression via Deep Feature Aging
Author Name:- Debayan Deb, Divyansh Aggarwal, Anil K. Jain
This research presents an innovative solution to a critical societal issue, demonstrating the importance of adapting biometric technologies to the unique challenges posed by the age progression of individuals, especially children, in the context of missing persons cases. Human trafficking, especially involving children, is a significant global issue, with a substantial number of cases going unreported.Face recognition is a promising biometric technology for recovering missing children, given the availability of facial photographs compared to other biometrics. AFR systems have achieved high identification rates in various domains but face

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limitations in recognizing individuals as they age. Facial aging introduces changes in skin texture, morphology, and facial hair, leading to performance degradation over time, especially for younger individuals. [1]

2) Paper Name:- FIND MISSING PERSON USING AI (ANDROID APPLICATION)
Author Name:- Sanskar Pawar1 , Lalit Bhadane2 , Amanullah Shaikh3 , Atharv Kumbhejkar4 , Swati Jakkan5 Face recognition is a biometric-based technology that mathematically maps a particular person's or individual's facial features and stores all that data as a face print. By using this technique, the information of the face of a person is saved mathematically or in the format of graphs in the database, which is used for detecting that particular face. Face recognition model in our system will find a match of that person in the database. If a match is found, it will be notified to the police and the guardian of that person. In this paper we will use the ideas of the Tensor Flow which is based on Machine Learning (ML) and will detect faces with the maximum accuracies to find the missing person.[2]

3) Paper Name:- Android based Application – Missing Person
Author Name:- Ahtasham Ansari1, Aditya Singh1, Abhishek Sagar1, Komal1
The task of finding missing person is not an easy process to chase the kidnappers and find the victim by people or police department. Varioussteps of filing a report and hard work isthere, even manual process consumes a lot oftime and there is no guarantee of finding the lost person. This application contains functionality to add complaint of lost person. By using these complaints, Government Officials and local people can put their efforts to find missing person in their areas. To overcome the present problem, an application is made to upload complaints on AWS web server which allows accessing the details by any ofthe Government Officials and also accessible to local people for matching the faces. This project matches the image of missing people using Face Recognition on any Android platform and hereby, presenting the solution for the problem.Here, we used threemodules, User, Police and Admin for getting the desired results.
Database Updates automatically asthe user usesthe application and deletes unnecessary data[3]

4) Paper Name:- Children Security and Tracking System Using Bluetooth and GPS Technology
Author Name:- Tengku Nadzlin Tengku Ibrahim, Muhammad Shukri Ahmad, Nur Adilah Abd Rahman, and Mohamad Nazib Adon.
This paper presents, the child-tracking system presented in the literature serves as a promising solution to enhance child safety in public places. By integrating GPS and Bluetooth technologies, the project aligns with the contemporary need for advanced measures in preventing incidents of missing children. The educational context further emphasizes the practical application of engineering skills in addressing real-world challenges. GPS is highlighted as a crucial technology for providing accurate and global location information independently of time and weather conditions. The system exploits GPS to track the location of people, vehicles, and, in this case, children.[5]

5) Paper Name:- Criminals And Missing Children Identification Using Face Recognition And Web Scrapping Author Name:- S.Ayyappan and Dr.S.Matilda
The Paper presents a comprehensive system for face recognition with a focus on criminal identification and locating missing children. By addressing challenges in image quality, utilizing web scraping for dynamic data extraction, and incorporating robust technologies like OpenCV and Haar Cascade Classifier, the proposed system aims to contribute to crime prevention and societal security. The web application aspect enhances accessibility and real-time updates for the identification process. The system incorporates web scraping techniques, particularly using Python Beautifulsoup, to extract data and information from websites. This dynamic data extraction ensures that the system stays updated with the latest information.[6]

6) Paper Name:- Missing Child Identification System using Deep Learning and Multiclass SVM.
Author Name:- Pournami S. Chandran1, Byju N, Deepak R, Nishakumari K, Devanand, and Sasi P.
The Paper presents a robust and innovative approach to missing child identification using deep learning techniques. The integration of CNN, VGG-Face architecture, and SVM classifier addresses the challenges specific to child recognition, making the system effective in real-world scenarios. The inclusion of a public upload portal enhances community participation, contributing to a comprehensive solution for locating missing children in India. The deep learning model acts as a feature extractor, and a Support Vector Machine (SVM) classifier is trained for child recognition. This approach proves to be more effective in handling noise and variations compared to traditional deep learning applications.[7]

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III. SYSTEM ARCHITECTURE

The architecture of the FINCHILD application is designed to seamlessly integrate cutting-edge technologies to provide a robust and efficient platform for real-time tracking and locating missing children. The system is structured with several key components working collaboratively to ensure accuracy, speed, and user accessibility.

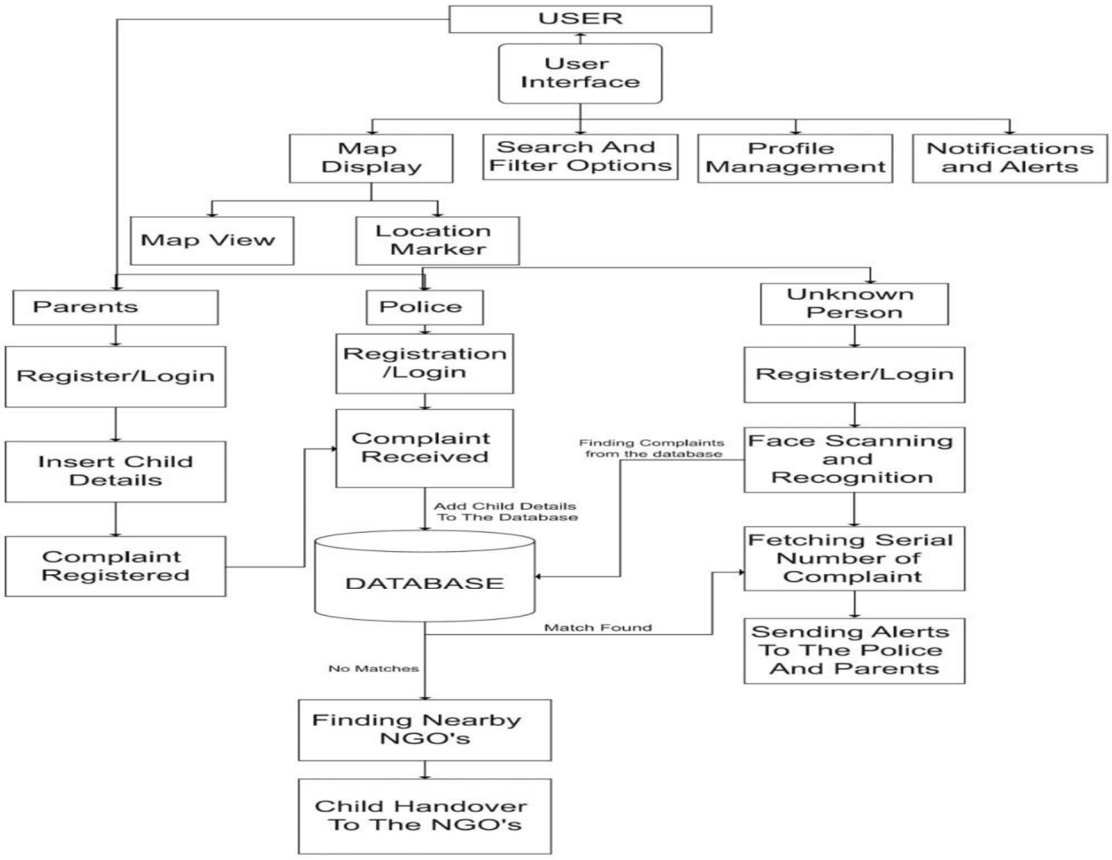


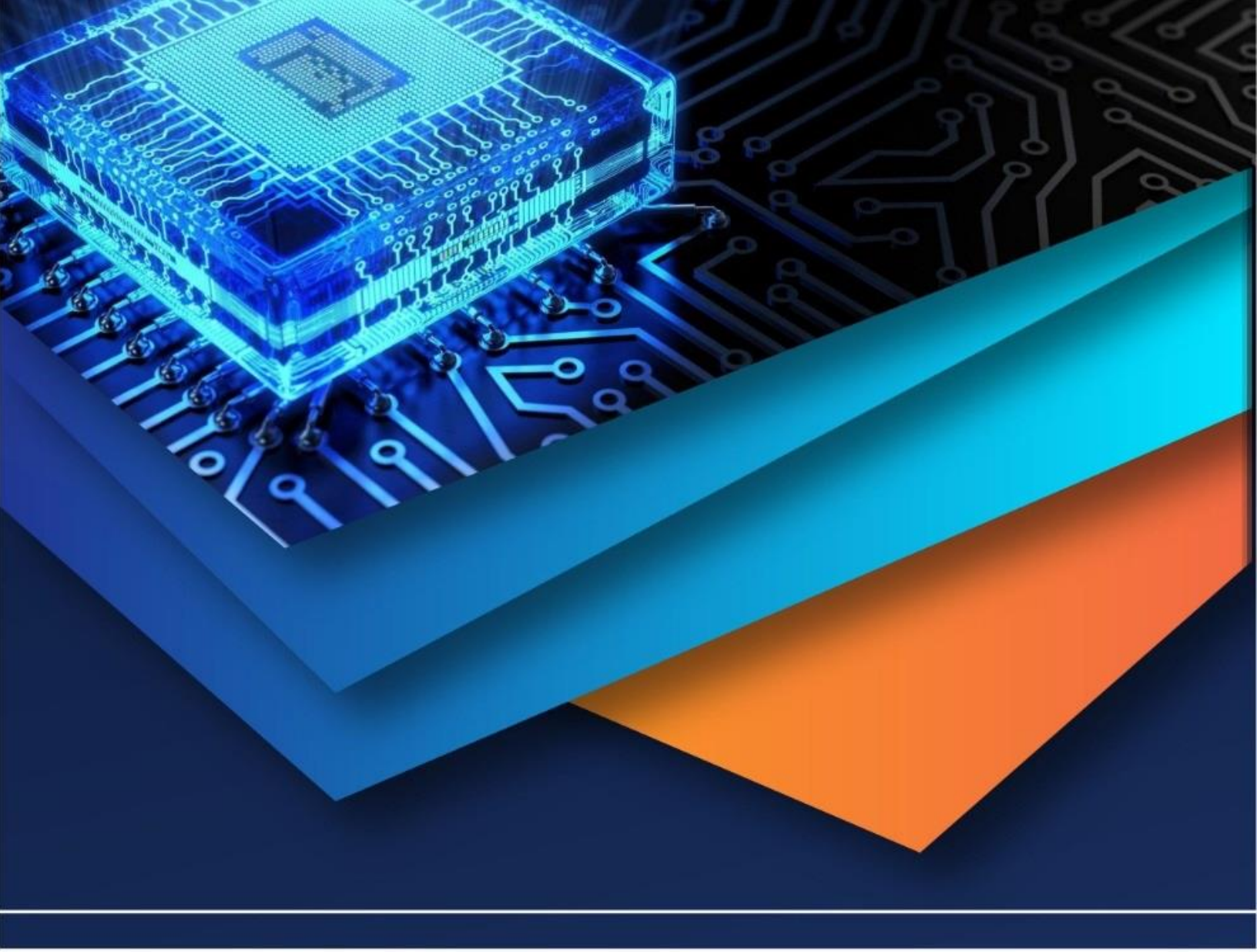
Fig1.

IV. CONCLUSION

The missing child finder application employs advanced technology to swiftly locate missing children, aiding law enforcement and communities. By utilizing facial recognition, and instant alerts, the app offers hope to worried families, fostering unity and safety for all. FinChild is a ground-breaking real-time missing child finding software that makes efficient use of cutting-edge technology to help families safely and quickly find missing children. FinChild highlights the critical role that technology plays in guaranteeing child safety by encouraging active community involvement and collaboration with law enforcement through the provision of a user-friendly interface, real-time warnings, and secure data management.

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