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A Secure Website For Retina and Face Based Missing Children Logging And Searching

Ms. N. USHA, MCA Student, Department of Master of Computer Applications,

Vignan's Institute of Information Technology(A), Beside VSEZ, Duvvada, Vadlapudi Post,Gajuwaka, Visakhapatnam-530049.

Mrs. P. PAVITHRA Assistant Professor, Department of Information Technology, Vignan's Institute of Information Technology(A), Beside VSEZ,Duvvada,Vadlapudi Post, Gajuwaka, Visakhapatnam-530049.

Abstract

Given that it conveys a person's identity, the human face is an essential instrument for social interaction. In their daily lives, people utilise face recognition software often and effortlessly. Due to the rapid advancement of digital cameras, the Internet, and mobile devices, together with the escalating security needs, Facial recognition, main biometric technologies, has grown in significance. A computer programme that recognises or authenticates a person from an electronic image or footage frame from a video source is called a system that recognises faces.

Computer-based digital technologies, such as face recognition systems, are currently the subject of research. It reduces the dimensionality of the image while retaining some of the variability in the picture data. The method works by projecting a face image onto a feature space that includes the significant distinctions between identified face images. They are called "Individual faces" even if their unique characteristics may not always match up with features like eyes, noses, or ears. This is due to the characteristic features indicate the characteristics of the eigenvectors (The principal Factor) of the group of appearances. Since the projection operation describes each individual face as a weighted sum of the Eigen faces attributes, all that is needed to identify These weights are to be compared to those specific faces.

Keywords : Missing child and open cv

Introduction

The most promising method of identifying people these days is biometric-based identification. In lieu of personal identification numbers (electronic, card-based ,coins, keys, and passwords, and other authentication mechanisms, these techniques analyse an individual's physiological and/or behavioural traits to determine and/or ascertain his identity in order to authenticate and grant him access to both physical and virtual domains. It is possible for magnetic cards to get damaged and unreadable, and similar items like keys, tokens, and cards to get lost, stolen, or duplicated. PINs and passwords are hard to remember and can be guessed or stolen. Contrarily, biological traits are immutable and cannot be replaced, stolen, lost, or faked. Biometric-based systems provide identification utilising physiological parameters(facial, tracks, hand veins, fingers, palm, eyes, cornea, ear, and voice) as well as behavioural traits (walking, authorization, and keystroke dynamics). Compared to other biometric techniques, face recognition seems to have a number of benefits, some of which are listed below: For the purpose of detecting fingerprints or hand geometry, the user must place his hand on a handrest in order to identify an iris or retina, the user needs to remain still in front of a camera. Nearly all of these techniques need the user to engage in some voluntary activity. Still, given that face photos are available Voice recognition is susceptible to noise in the background and auditory fluctuations on a phone line or tape recorder.

Literature Survey

[1] Boon Kee Low and Erik Hjelmas "Face Recognition: An Overview": We provide a thorough and critical analysis of face detection methods in this study. In order to locate and Face detection is a crucial initial step in face recognition systems that involves removing the face region from the backdrop. Additionally, it finds use in a number of fields, including intelligent human–computer interfaces, video coding, crowd surveillance, video conferencing, and content-based picture retrieval. Nevertheless, academics have only recently given the face detection issue a lot of attention. Because the human face is a dynamic object with a wide range

of appearances, face identification in computer vision is a difficult problem. Many techniques have been proposed, starting from simple edge-based algorithms. This study's algorithms are divided into two categories: feature-based and image-based. Their technical methodology

and performance are examined. We do not offer a thorough comparative analysis because standardised tests are not available; nonetheless, comparisons are provided when findings are given on shared datasets. Additionally, we show some suggested applications and potential areas of use.

[2] Anupam Dubey and Sandeep Mishra A SURVEY OF FACE RECOGNITION APPROACHES The earliest attempts at face detection date back to the early 1970s, when anthropometric and heuristic methods were employed [162]. Due to numerous presumptions including a frontal face and a plain background—a typical passport photograph scenario—these techniques are essentially stiff. Any alteration to the imaging circumstances would require fine-tuning, if not a total redesign, for these systems. Notwithstanding these issues, the pace of research interest growth stagnated until the advent of workable video coding and facial recognition systems in the 1990s. Many significant elements of face detection have attracted a lot of scientific interest over the last ten years. There have been more substantial segmentation techniques introduced, especially ones that make use of motion, colour, and generalised data. Additionally, faces at various distances from the camera may now be recognised from congested scenes thanks to the application of statistics and neural networks

Existing System

The identification of missing children has the potential to cause postponed or unsuccessful efforts to find and rescue missing children. When a child disappears, every minute matters and time is of the essence. The likelihood of finding the missing youngster decreases when identify recognition is delayed.through the LSTM, and it achieved accuracy

Drawbacks:

- Expensive time
- Inverse effects on society

• Elevated intricacy

Proposed System

One way to get around featured-based strategies is to use methods that are more resilient to changes in location in the input image since they extract feature points before matching the image to a known person. It is possible to make feature-based schemes invariant to lighting, size, and/or orientation in theory. Additional advantages of these programmes include the come Benefits:

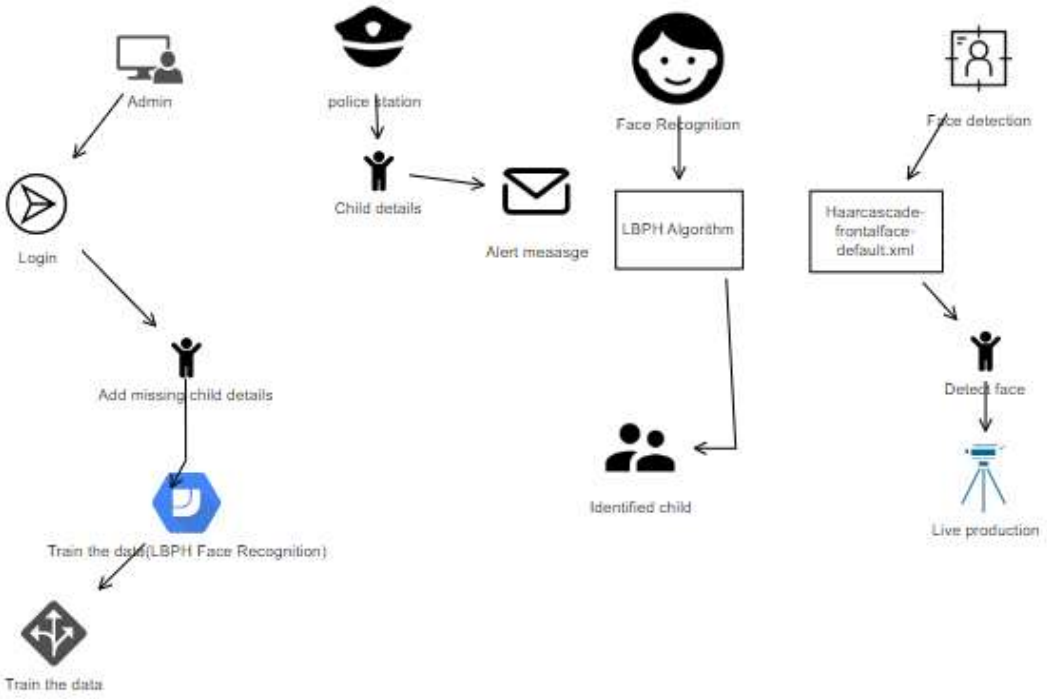
• It improves precision.

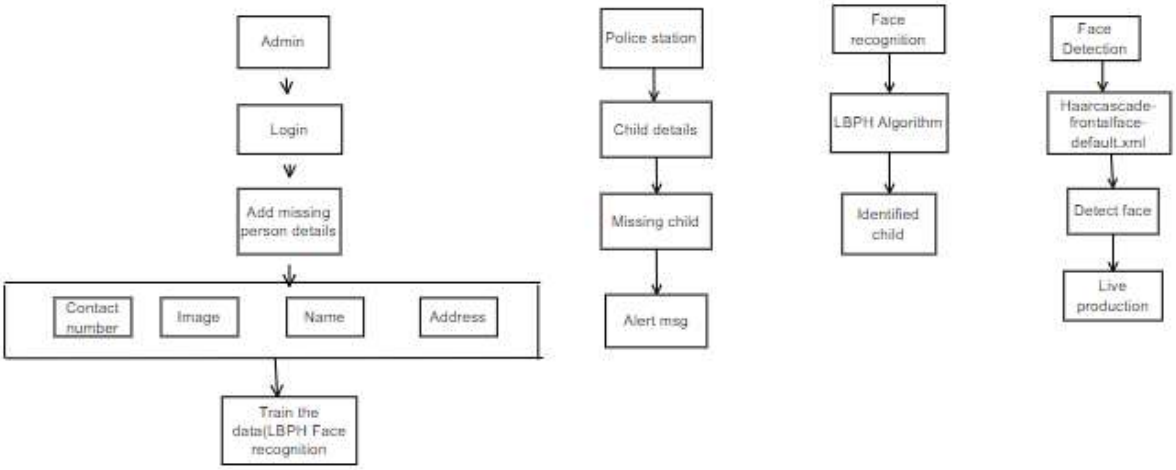
• Data quality

• Time complexity

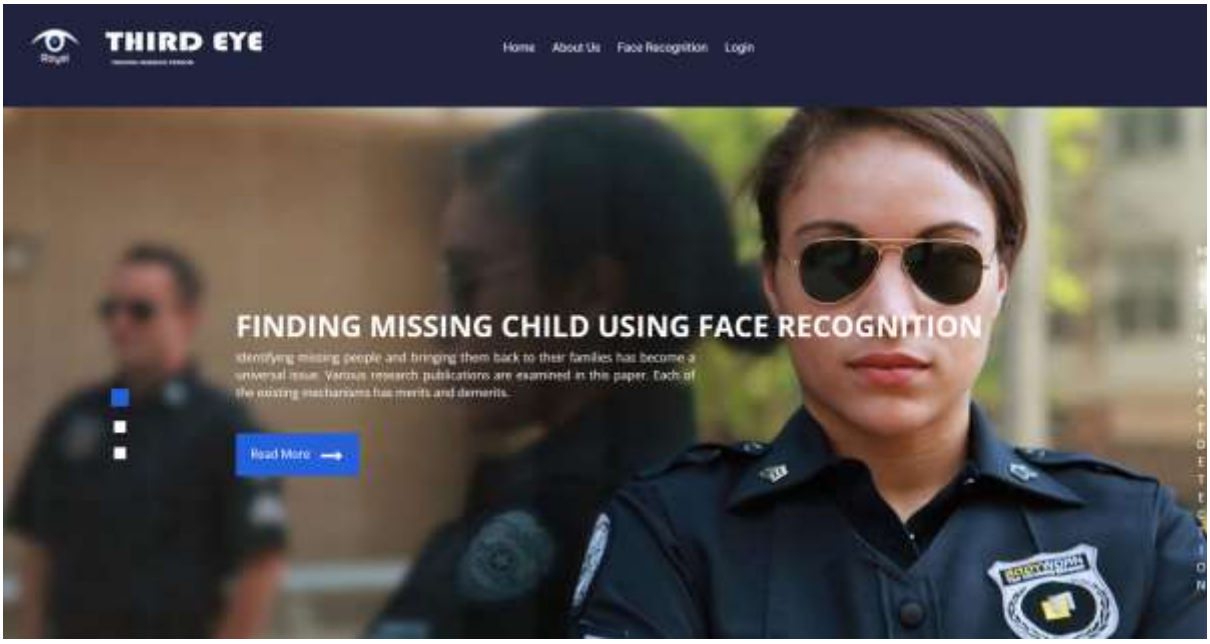
• Less expensive

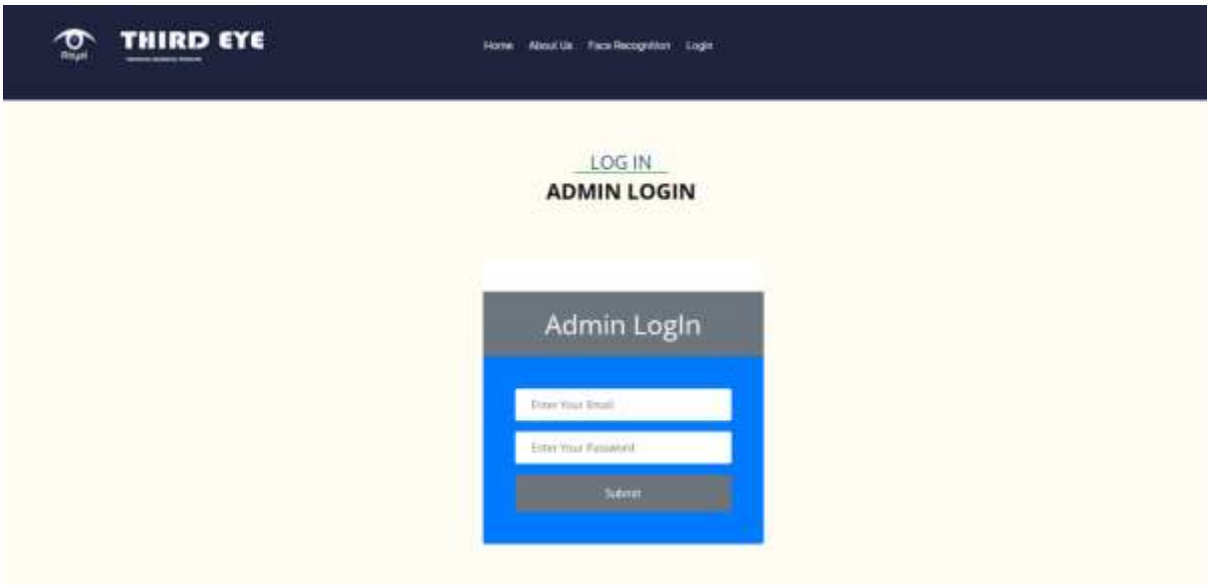
Architecture

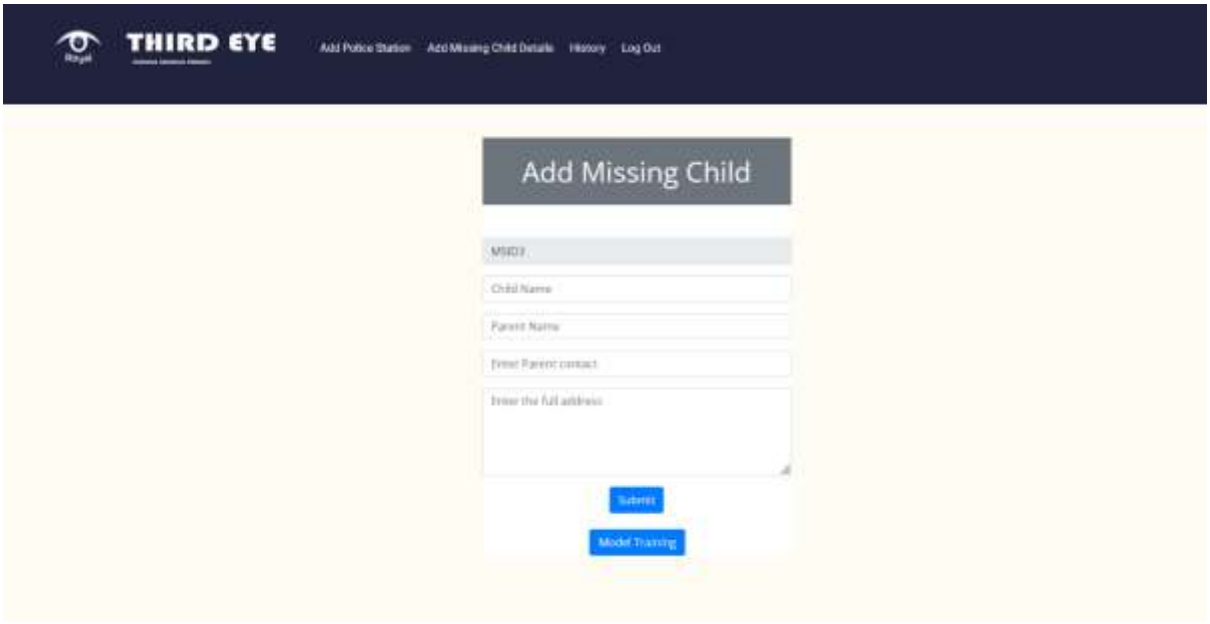




Experimental Results







Conclusion

it is impossible to exaggerate the importance of facial recognition technology in modern life. Facial recognition is an essential component of human contact and is important in many areas, from security procedures to interpersonal connections. Robust and efficient face recognition systems are in greater demand due to the rapid expansion of digital technology including digital

cameras, the Internet, and mobile devices.

As computer programmes that can recognise or authenticate people from digital photos or video clips, facial recognition systems stand at a critical nexus between technology and human perception. These systems use complex techniques to reduce the dimensionality of images while maintaining important facial variations, such as Eigenfaces and Principal Component Analysis (PCA). Face images are projected onto a feature area that is specified