CRIMINAL INVESTIGATION SYSTEM

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Under Dr. Sk. Mohammad Masudul Ahsan's mentorship, the system was developed to include a Crime Reporting facility in the user profiles, an Administrative Reporting feature, and functionalities for adding or updating criminal records. The inclusion of a Super-admin role, responsible for dynamically configuring system values and creating admin profiles for each allocated thana.

The project presented several challenges. One of the major challenges we encountered during the project was the extraction of facial gestures from images. Dr. Sk. Mohammad Masudul Ahsan provided important insights on this issue and suggested using a masking facility to identify hair color, hair length, and other features. Beyond these technical problems, Dr. Sk. Mohammad Masudul Ahsan also offered valuable suggestions on design improvements. His attention to detail was incredible as he notified us about many small sectors that are often overlooked in the development process, ensuring a comprehensive and polished final system.

Once again, I would like to express my sincere appreciation to Dr. Sk. Mohammad Masudul Ahsan and Allah for their invaluable contributions to the project.

Authors

ABSTRACT

The police force serves as a crucial public servant and in their pursuit of criminals, they often employ various methods, including the utilization of sketch artists who create facial depictions based on victims' descriptions. Subsequently, these sketches are compared with a criminal database to identify potential matches. Regrettably, these procedures are time-consuming, and in the realm of law enforcement, time is of paramount importance.

To address this issue, our proposed system seeks to enhance efficiency by incorporating deep-learning models to capture facial features with a moderate degree of precision. The resulting data is then stored in a local database, facilitating expedited searches for potential matches, improving both time efficiency and accuracy.

Moreover, our system introduces an online First Information Report (FIR) filing system, allowing individuals to submit reports from any location. This not only alleviates the inconvenience of visiting a police station but also enhances consistency while embracing a digital approach to record-keeping.

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1 Introduction

1.1 Background

The current operational model of our police station presents several challenges in the effective handling of criminal activities. Currently, the police station lacks an extensive online FIR filing system, as well as the reliance on a manual sketch artist for suspect identification which poses significant drawbacks. The sketching process is time-consuming, often leading to delays in investigations.

To address these challenges, we propose the implementation of an innovative solution – an AI-powered Online FIR Filing and Suspect Identification System. This system will enable users to file FIRs online, Additionally, the system will leverage facial recognition technology to extract features from facial images of criminals and store them in a database, facilitating a more efficient and accurate matching process. When a user submits a case and describes the criminal, the system will utilize the stored data to generate potential matches, presenting the results to the user.

1.2 Objectives

- Implement Online FIR Filing System:
    - Develop a user-friendly online platform for citizens to file FIRs for all criminal activities.
- Integrate AI-Powered Facial Recognition:
    - Incorporate advanced facial recognition technology to extract features from facial images of criminals.
- Database Implementation
    - Establish a robust database system to store the extracted facial features and criminals information which is later used for suspect matching.
- User Notification System
    - Implement a notification system to keep users informed about the status and progress of their FIRs.
- Online FIR Submission and Documentation
    - Enable users to submit FIRs online, with the system capturing and documenting relevant details efficiently.
- Admin Control and Database Management

    - Empower administrators with the capability to update and manage criminal records and FIRs.
- Emergency Notification System
    - Implement a feature allowing users to send SOS notifications to administrators in emergency situations.
- User access to Notices and News
    - Provide users with access to notices and news posted by administrators on the platform.

1.3 Scope

The main attraction of this project is to present a modified Physarum inspired technique to construct bicycle lane network design.

1.4 Unfamiliarity of the problem

- Facial Recognition Technology:
    - The integration of facial recognition technology for suspect identification represents a relatively unexplored territory.
- User-Friendly Online FIR Filing:
    - Shifting from traditional, in-person FIR filing to an online platform introduces unfamiliarity for both users and law enforcement personnel.
- Emergency SOS Notification System:
    - Understanding the dynamics of emergency response in the digital realm, system reliability, is a critical aspect.
- Public Awareness and Adoption:
    - The unfamiliarity of users with the online FIR filing system and AI-powered suspect identification may impact the adoption phase.

1.5 Project planning

The main attraction of this project is to present a modified Physarum inspired technique to construct bicycle lane network design.

2 Related Works

2.1 Related works

OnlineGD.com:

The current online law enforcement website exclusively facilitates the online filing of First Information Reports (FIR) for lost items and missing persons. Unfortunately, it does not facilitate reporting a broader spectrum of criminal activities. Furthermore, the platform lacks regular updates regarding news and notices to provide information to the public effectively.

In addition to these limitations, the website does not incorporate features enabling users to identify potential suspect descriptions. Moreover, there is an absence of technological tools that could assist users in identifying suspects by matching facial features against a criminal database.

3 System Design

There exist lots of challenges in some of mega cities like Dhaka such as road conditions are not good enough, cycling lanes ……

3.1 Analysis of the system

This research aims at extending a construction pattern for our network to Dhaka, Bangladesh's capital city. The main challenges with Dhaka city are described in followings…….

3.2 System architecture

Green City also named as Eco-city or Sustainable city is a city designed with consideration for the social, economic, environmental impact which consists of several elements such as Green Transports. A simple network in shown in Fig. 3.1. It shows that ……

Figure 3.1: Real traffic network.

3.3 Tools used

In more ways than one, driving a bicycle has a positive impact on the environment. They are also less expensive than other forms of ……

4 Project Implementation

This chapter implements the…….

4.1 System implementation

At first, a selected portion of Dhaka city is considered to construct the network using Physarum inspired technique…….

4.2 Morality or ethical issues

At first, a selected portion of Dhaka city is considered to construct the network using Physarum inspired technique. And it can also lead to better mental health and energy by bicycling 30 minutes a day [3], [4]…….

4.3 Socio-economic impact and sustainability

At first, a selected portion of Dhaka city is considered to construct the network using Physarum inspired technique…….....

4.4 Financial analyses and budget

At first, a selected portion of Dhaka city is considered to construct the network using Physarum inspired technique…….

5 Conclusion

A modified Physarum-inspired model is presented in this project to address the design of the bicycle lane network…….

5.1 Conclusion and challenges faced

The network design technology inspired by Physarum is believed to have balanced costs, effectiveness, and resilience. Inside Dhaka city, an unorganized and unplanned city, we have developed an electric bicycle ……

5.2 Future Study

In the future, parallel computing and the optimal model for the design of the transport network are part of our work. Furthermore, our research includes the implementation of the Physarum …….

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