

Digital Bangladesh: An Electronic Automated System for Bangladesh Police Administration

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Abstract - We are living in an era of technological revolution that is disrupting and transforming government and society alike. The world is evolving quickly where the old arrangements no longer work. All are being challenged to adapt and keep the change and the technological revolution provides unique opportunities to reintroduce the status of developing countries. The time has come for Bangladesh, one of the least developing countries to become a champion of digitization. The scope is very wide to make the digital Bangladesh. It is not only about the e-governance, e-commerce, e-banking, or working on a nationwide cellular telephone system through which one can get to everyday daily news or other web gadgets. To make a digital Bangladesh every office has to be automated or computer-based and share information in blockchain technology. To become part of fulfilling the mission of digital Bangladesh this paper presents a framework of an electronic police system in order to maintain each police station with a computerized paperless operation.

Keywords: E-Government, Digital Government Services, Electronic Police Database System, Bangladesh Police Database, Digital Police Database, Automated Police Operation

I. INTRODUCTION

Bangladesh is a highly densely populated developing country in the world today of population over 160 million. Similar to any other developing country, here the organizational corruption and nationwide criminal activities of various types are very common where crimes are sometimes opportunistic led by unethical individuals and often conducted with prior planning led by an organized group of people. The commonly convicted crimes in Bangladesh are robbery and hijacking in houses and roads, fraud, and illegal business often with drugs, rape and eve teasing in the lower level of the society, kidnapping, assault, and assassinations are often motivated to fulfill political ambitions. In the context of developing countries, the common people are suffering more from criminal activities rather than diseases and poverty (Travel State Gov., 2019).

For the enforcement of the law in the country, Bangladesh Police administrated by the Home Affairs Ministry is primarily responsible public organization. In maintaining the stability and peace in the country, Bangladesh Police plays a very significant role by enforcing the law and order within the country since the birth of the country. However,

day-by-day the law enforcement process becomes difficult to provide effective and convenient police services to the citizens and related organizations because of the growing number of populations (Travel State Gov., 2019). The power of ICTs and its abilities in the process of effective and efficient law enforcement has been realized by the Bangladesh Government lately. Hence, the nationwide ICT policy enacted in 2009 summons electronic services to be established in the nationwide public sectors in Bangladesh to provide cost and time effective e-services to the citizens and related business organizations. Therefore, this will enhance the transparency of the public organizations and hold them accountable for their daily operations (Billah and Raihan, 2009).

However, Bangladesh police as one of the most demanded public services providing organization is still using a paper-based manual process despite its long years of nationwide operations. Hence, the objective of this paper is two folds. Firstly, explore the current state-of-the-art operations of the police organization. And secondly, propose an electronic operation framework from the organizational perspective of Bangladesh police. This study follows the research question

What are the Current State-of-the-Art Operations of Bangladesh Police and how it can be Electronic?

The remaining paper is organized as follows: In section 2 the methodology of this study has been described, in section 3 the existing operation of police organization has been described and the framework of electronic police operation has been proposed, and finally, in section 4 the conclusion of this study has been described with the concluding remarks as well as the study limitation and future research scope has been noted.

II. METHODOLOGY

The primary objective of this paper is to provide a comprehensive overview of the current state-of-the-art operational context of the Bangladesh police organization. Hence, the qualitative case study research approach is followed in this study as it provides an in-depth understanding of the subject matter (Hunt, 2001).

As for the data collection techniques, an interview has been used in this study for data collection. For the qualitative case study, an interview is a very effective data collection technique to get comprehensive information about a subject matter by asking various questions to an individual or a group of people (Oates, 2006). For data collection, Banani and Tejgaon police stations under Dhaka metropolitan police has been selected to interview with the duty officers.

A questionnaire (Appendix I) was carefully generated prior to conducting the face-to-face interview. Among some other interviewing techniques such as internet, email, telephone, etc. the face-to-face interviewing technique is better used for its synchronous communication with the interviewee and interviewer at the same time and place where some additional information can be derived from the interviewee’s voice and body language to maximize the data quality and minimize the possibility of interview non-response (Opdenakker, 2006; Dialsingh 2008). Furthermore, the police reference guidebook and Bangladesh police web portal have been visited to explore the current information regarding the structure and operations of the police organization in various operational zones.

III. RESULTS AND ANALYSIS

This section presents the results of the current status of the police operation and proposes an electronic police operation framework base on the interview data collected from the police officials as well as the police web portal and the police reference guidebook.

A. State of the Art of Current Police Operation

According to the Sub-inspector and Sergeant police appointing guidebook, there are seven police divisions that administrate seven ranges of police operations across the country. Among them, the DMP-Dhaka Metropolitan Police is operating in the capital city of Bangladesh (Dhaka) which has forty-one police stations in various places in the city. These police stations are administrated by the government’s home ministry which is authorized to recruit new police employees as well as suspend, promote, and transfer police officials all over the country (Bangladesh Police, 2019).

Apart from some model thana (police station) in Dhaka Metropolitan areas, the police operation is still using a traditional paper-based manual processes to maintain the police information and the records of the crimes and criminals. The duty officers use a paper-based registry book to record and process FIR-first information reports, GD-general diaries, charge sheets, police clearance, etc. authorized by the officer in charge (OC) in the police stations. Hence, the search options for any necessary information regarding crime and criminal records are fully a manual process from the paper-based registry book. And it is also not accessible directly from other police stations in case of any real-time information required to investigate persons with suspicious activities who might have committed crimes in other places of the country.

Furthermore, manual paper-based file systems are also being used in storing information regarding police officials which is very inconvenient to access the information.

B. Electronic Police Operation Framework

This section proposes the framework of paperless electronic police (e-police) system for maintaining the records of criminals and crime activities as well as the information regarding the police officials towards developing digital Bangladesh (Figure 1).

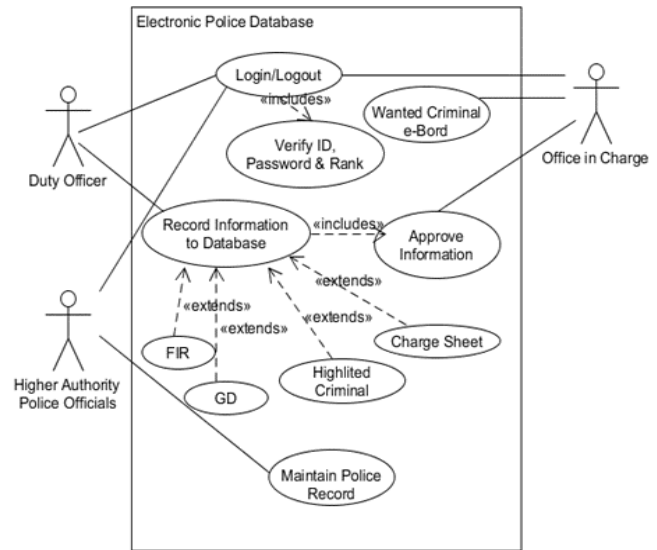
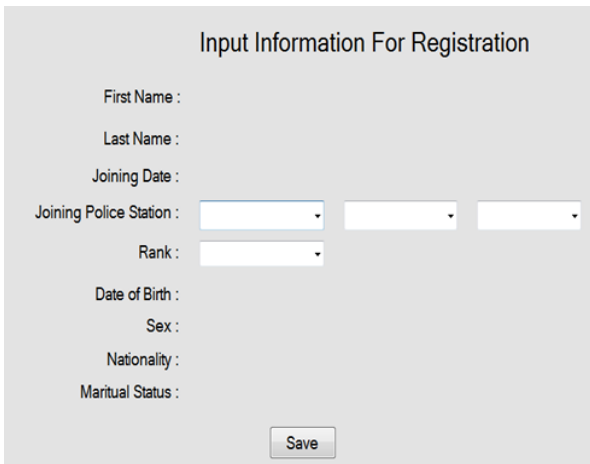


Fig. 1 Electronic Police Operations

To operate the e-police system, firstly a login interface will be provided to the users which authorizes the responsible police officials to get access to the information regarding the records of the criminal activities and police officials. However, to get access to the information the police officials need to be registered in the system beforehand with their unique police identification number, password, and employee rank provided by the police headquarters (Figure 2). So, each police official can get specific permission to access specific information and perform specific tasks based on their rank and responsibilities.



Fig. 2(a) User Login



Input Information For Registration

First Name : _____

Last Name : _____

Joining Date : _____

Joining Police Station : _____

Rank : _____

Date of Birth : _____

Sex : _____

Nationality : _____

Marital Status : _____

Fig. 2(b) User Registration Details

The e-police system database will be used to maintain primarily two categories of information. The information regarding the criminals and their convicted crimes such as the description of crime occurrence, place of crime occurrence, charges and punishments given for the crimes, etc. Moreover, a highlighted dashboard regarding wanted criminals will be posted in the system’s dashboard so that every police station knows about the details of the criminal and their crime activities (Figure 3). As a result, the criminals can be identified easily in any police operating zones which will put fear in the criminal activities to be caught in any area they would try to hide after committing crimes.



Global Criminals Dashboard

| | | | | | |
|-------------|----------------|------------------|-------------|--------------------|-----------------|
| | | | | | |
| 01 | 02 | 03 | 04 | 05 | 06 |
| Kala Farabi | Group of Gang | Fahmid Pagla | Kala Vai | Picci Bhai | Goni Vai |
| Age :42 | Crime Type : | Age :37 | Age :35 | Age :36 | Age :37 |
| Sex :Male | Godown Robbery | Car, C.N.G. Bike | Land Mafia | Strange Pied Piper | Traitor of 1971 |
| Murderer | Bank Robbery | Theft | Most Wanted | Most Wanted | Most Wanted |
| Most Wanted | Most Wanted | Most Wanted | | | |

Fig. 3 Electronic Criminals Dashboard

Moreover, using general diary options in the e-police system a citizen can inform about the loss or theft of their valuable documents such as certificates and identity cards without visiting the police station in person. Also, the house owner can register their newly appointed tenant, maid, and caretaker information using the e-police general diary system for any further necessity (Hasan, 2015). Furthermore, reporting FIR, charge sheet, police clearance, etc. can also be performed by the duty officer approved by the office in charge (OC) using this electronic operation of the e-police system (Figure 4). As a result of the electronic police operation, it will be possible to easily track the information reported in the police stations for any further

inquiry, for example, the time and place of reported information, who reported the information, and who oversees necessary actions based on the information, etc.





First Name : Last Name :

Father/Husband Name: Age:

Address: Mobile Number:

Please select your complain type

Police Clearance

General Dairy

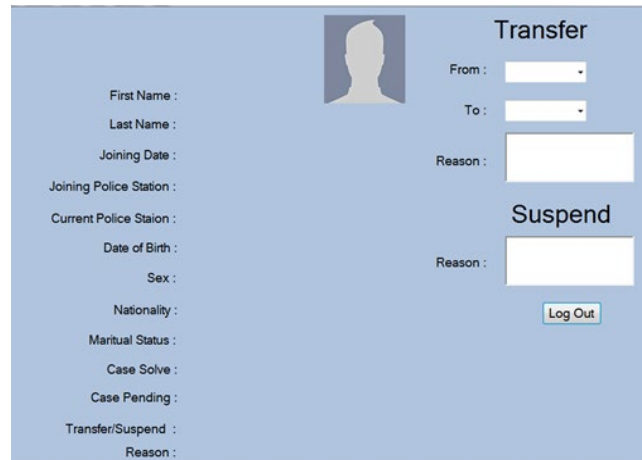
First Information Report (FIR)

Details about complain

Send for office in charge approval

Fig. 4 Electronic Records Keeping

From another point of view, the e-police system will store the police official’s information such as name, address, joining date, rank, the number of working places in various police stations, number of cases solved and pending in hand, records regarding transfer and suspension history, etc. The authorized officials in the higher authority can only get access to this information which will assist them in the process of various decision making such as assigning cases, transfer, suspension, promotion, etc.



Transfer

From :

To :

Reason :

Suspend

Reason :

First Name : _____

Last Name : _____

Joining Date : _____

Joining Police Station : _____

Current Police Station : _____

Date of Birth : _____

Sex : _____

Nationality : _____

Marital Status : _____

Case Solved : _____

Case Pending : _____

Transfer/Suspend : _____

Reason : _____

Fig. 5 Electronic Police Information

IV. CONCLUSION

Although, Bangladesh police has been enforcing the law of the country for long years however the traditional paper-based process in its operation often makes their duties difficult and inefficient. The above discussion regarding the state-of-the-art of current police operation implies that the study will have an initial initiative to actualize the assurance

to achieve the vision of digital Bangladesh. The aim of this study is to become part of the government initiatives in making digital Bangladesh by proposing a framework for automated e-police station which provides electronic police services to the citizens. The contribution of this study is the evaluation of current police operations and propose a framework for implementing electronic police operations. This study is in its primary stage where the real-time project implementation data of piloting this project would enhance the conceptualization of the digitization of police operations.

APPENDIX - I: QUESTIONNAIRE

1. What are the police ranks?
2. What tasks do they perform according to their respective rank?
3. Who administrates the police stations?
4. How does the information regarding police officials?
5. Maintained (e.g., transfer, suspension, employment records)
6. What are police activities performed electronically?
7. Is there any unique ID for all police employees?
8. Is it possible to show one police employee's information to another employee?
9. What are the routine tasks in the police station and who performs which tasks?
10. How and where do the crime and criminal information recorded and stored?
11. How do you access information on crime occurrences in other areas of the police stations?
12. How do you share the information of wanted criminals?
13. How do you find information regarding past crime occurrences?
14. How are FIR and GD received and recorded?

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