

# Smart QR-Code System for E-Documents using Keylogging Security

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**Abstract**— In this digital era of computer and technology, we are still lacking behind when it comes to government offices documentation work and processes. In order to get nay work done which involves our national government, there is a long procedure and unnecessary queues. Moreover, its harsh reality that government official takes more than instructed time to accomplish any work related to public. It's difficult for senior citizens to be present every time and wait in long queue Worst case scenario is that sometimes after submitting al the required documents, they inform us that they have misplaced or not received any one of the document. In this case even though we have submitted we do not have any option rather than resubmitting again so that our process is completed. This is too tedious and time consuming. Thus to avoid all this document loss and steady up the current procedure we have come up with a digital solution that guarantees reliability, no document loss and safety along with fast processing and thus not only helping working citizens but also senior citizens from standing in long queue.

**Key words:** E-Documentation, QR Code, Digital Processing, Encryption, Cryptography, Government Key Logger

## I. INTRODUCTION

We have come in digital era where everything is being digitized from email, messages, payments and everything is just a click way. But in this digital era also when it comes to government process we still have the old mundane tedious process of standing in queue and getting our work done. Also its harsh reality that most of the time we have to pay bribes to get things done faster. Thus there is no transparency and no methodology which can be followed. Currently to acquire any government document we need to follow old lengthy procedure which is time and energy consuming. Hence to overcome these issues we are proposing an E-Documentation system using QR code. This proposed system not only saves time but money and resource and guarantees a secure transmission of documents online. These can be easily shared, can have a transactional log file in case lost and can be easily recoverable unlike the current scenario. Also the original documents can be always safeguarded and need not to be used once while waiting for other procedure to be completed. Our proposed system cover all the drawbacks of current system and provides a solution which is more secure, reliable and time saving.

## II. EXISTING SYSTEM

In existing system we have the long tedious queue wait and procedure to follow if we have to get any government document created. Moreover most of the time we have location constraints, for example if I am working or living as a student in some different place and I need to get any government document created then I need to get it done from my home place or birth place. Thus we do not have any

centralized process to follow. We do not have any guaranteed timeline when process will be completed. Also worst case is when we loose any document then we need to follow twice the current process which is hectic. Also it is time and resource consuming. There is no transparency in current existing system. There is no record or database maintained for the process being followed and all the work is done manually. To overcome all these drawbacks we have proposed a secure, encrypted with latest QR code technology an E-documentation system.

## III. PROPOSED SYSTEM

In our proposed system, we are building a secure, encrypted and complimented with QR code an E-Documentation system. This is more secure and reliable and deprived of any external attacks. Here we would be having an user portal and a web portal along with an android application to scan the QR code. The basic functionality of this system is that whenever an user want to get any government document created or services which require to submit government documents; he needs to first register and login to the system. Here login functionality is completed using an OTP which user will receive and later needs to change as per their convenience. Once successfully logged in, there an option for uploading the required documents. Each document has a unique document ID or number, for example adhar card has 12 digit adhar number. All these documents would be encrypted using encryption algorithm. But as we know there are slight chances of attacks and data can be easily decrypted hence we have added a more secure QR code functionality. All these documents and encrypted documents will be hidden behind a QR code. Third party such as government officials will have a unique R code scanner through which they can decrypt the data behind QR code and thus proceed with the process. This system maintains transparency, security and reliability and is more time and energy saving.

## IV. APPLICATIONS

- 1) System can be used in government officials
- 2) System also used in income tax organizations.
- 3) System also useful in corporate offices.
- 4) System also used in colleges for documentations.

## V. HARDWARE REQUIREMENTS

- System: Intel I3.
- Hard Disk: 40 GB.
- Monitor: 15 VGA Colour.
- Mouse: Logitech.
- Ram: 3 GB.

## VI. SOFTWARE REQUIREMENT

- Operating system: Windows XP Professional/7LINUX.

- Coding language: JAVA/J2EE, ANDROID
- IDE: Eclipse Kepler.
- Database: MYSQL/XAMPP DATABASE

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## VII. MATHEMATICAL MODULE

- Let  $W$  be the whole system which consists of,
- Input =  $U, M, C, k, S, M$ .
- Let  $u$  is the set of number of users.
- $U = u_1, u_2, \dots$
- $K$  is the secret key used for encryption.
- $M$  is the message sent from the set  $M$ .
- $C$  is the cipher - text in the set  $C$ .
- $S$  is the signature generated for sending message.

### A. Functions

- 1) QREnc (): a QR encoding algorithm which takes a string  $S$  in  $S$  and outputs a QR code.
- 2) QRDec (): a QR decoding algorithm which takes a QR code and returns a string  $S$  in  $S$ .

## VIII. CONCLUSION

In this work, we have proposed digital, hassle free, time saving system for documentation system. Our proposed system not only provides security but also has unique QR code scanner which can only be used by authorized personnel only.

This system maintains transparency and keeps record of each and every transaction. Third party will have a portal which they can log in using user id and password. All the documents which user has sent for processing can be decrypted using QR code scanner only. All the data would be verified and kept in database for processing and future reference. Thus there would be no document loss and a user need not to be physically present and wait in long queues. This system is more user friendly, easy, convenient and secure and also reduces manual effort to great extent.

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