Review on Smart Student Card

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ABSTRACT: The project that we are going to make is to help the college to avoid maintaining the registry book. This project uses a barcode scanner. We use Barcode scanner to retrieve the documents of students which they want as per their uses. Each student's ID card will have a barcode at the back side of it. This barcode contains unique data of the student such as collage id no., roll number, branch and year. Etc. The display screen will show the documents of the respective student after scanning the barcode. For more Security we have provided Face Recognition System so that student can't proxy their Identification. Teachers and administrator will only have access to the system with their respective login ID's and passwords

KEYWORDS: Barcode, Face Recognition.

I. INTRODUCTION

Barcode is a visual representation of information in the form of bars and spaces on a surface. The bars and spaces are designed with different widths and consist of numbers, characters and symbols such as dot, colon and others. Different combinations of these alphanumeric characters are used to represent information. There are various types of barcodes in use today. The successful of barcode technology has been constantly improving in order to accommodate more information in the minimum possible space. Today barcodes are widely used on books and at retail stores in order to keep track of the productsavailable and easy checkout of the products. In facilitating numerous identification processes Barcodes have played a great role since their invention in 1952. In fact for machine readable digital data storing on product packages or paper, barcode is a cost-effective and simple method. Even faster data transfer as pressing needs and there have been many improvements with high reliability have emerged on the original barcode design that was made. For these cost-effective codes as well as their application opened a new front by invention of HC2D barcodes in scenarios like storing contact information which transfer more complex data, URLs among other things, there have become increasingly popular in which QR codes.

II. RELATED WORK

Literature Survey:

Smart Card use the concept of DigiLocker which already been implemented by various companies like BHIM (Bharat Interface for Money), CBECGST etc. DigiLocker is a "digital locker" service operated by the Government of India that enables Indian citizens to store certain official documents on the cloud. The service is aimed towards reducing the need to carry physical documents, and is part of the government's Digital India initiative.

Hence our idea of creating Smart Card is influenced by DigiLocker in which we are enhancing the DigiLocker by adding a barcode or QR code with Facial Recognition. Facial Recognition will provide the security and barcode or QR code will act as key for our digital data storage

QR Code Detection:

Through creation of links between Internet resources and physical objects, there enable rich context interaction by applications of Quick Response (QR) codes. There are this kind of barcode applications are not common in spite of

the widespread use for people and robots which are visually impaired because during image acquisition that the symbol is properly by existing decoders framed are assumed. To perform accurate detection of QR code symbols a two-stage component-based approach proposed by this work in arbitrarily acquired images. With the help of the framework which detect the objects proposed by Viola-Jones to detect parts of the symbol is trained, a cascade classifier in the first stage. In the second stage, in order to evaluate the detected patterns are aggregated if they are spatially arranged with the components of a QR code symbol in a way that is geometrically consistent. With the help of the framework which detect the objects proposed by Viola-Jones to detect parts of the symbol is trained, a cascade classifier in the first stage. In the second stage, in order to evaluate the detected patterns are aggregated if they are spatially arranged with the components of a QR code symbol in a way that is geometrically consistent. There was performed an extensive study of both stages parameter variation and in terms of computational efficiency, recall and precision the results were analysed. With precision of 76: 8% there achieved average recall of 91: 7% by the proposed QR code detector while at 22 fps being capable of processing a 640 by 480 pixels video stream.

1D bar code reading on camera phones:

In this paper, using a NOKIA 7650, VGA camera phone on the bar code reading algorithms we present the research effort. From poor-quality images to extract bar code characters knowledge-based bar code segmentation and a wavelet-based bar code region location scheme is applied. For the recognition engine there are input all the characters which are segmented bar code, and the bar code character string as the final recognition result with the smallest total distance is output of the bar code based on the recognition distance. For optimizing the class reference vectors and a feature extraction matrix in order to train an efficient recognition

Two-Dimensional Barcodes for Mobile Phones:

For a high data density barcode there are several potential applications by mobile phones, that can be easily decoded and photographed, but currently no such symbology exists. As a result, for exploiting the camera phone channel's lowpass characteristic a new barcode was designed and with mobile phones as a means of facilitating wireless optical communication is presented. With encoding done in the Discrete Cosine Transform domain a channel model was established and subsequent simulation results led to the design of a colour barcode.

2D barcodes

There enhance performance by a water-filling process and while for rotational and size invariance a noise-shaping algorithm, a new fast acquisition method allows. . According to spatial frequency with a rate varying an outer Accumulate Repeat-Accumulate code is employed, by an inner Reed Muller code which followed.

To various impediments imposed by camera phones for the leading has proven and symbology robust there is 3.5 times greater the final barcode data-density.

III. PLAN OF EXECUTION

As the implementation of the proposed system we have developed application which will help us to store the documents of the student in the database which can be access by them anytime and anywhere from the database according to their login ids. So in order to identify whether student is there in the database or not first of all we have to enrol the student in the database of our system. So when the student is going to enrol in the database our system will perform sum number of enrolment steps which are mentioned below.

• **Following steps are performed in order to register in the database**
  Step 1: Initialize.
  Step 2: Get the user name and password information.
Step 3: Create a new row in database.
Step 4: Wait for it to get created.
Step 5: Check if user name is already present if yes go to step 8.
Step 6: Register the user name and password in database.
Step 7: Particular space allocated to that user name.
Step8: User name is already exists go to step 2.
Step 9: Save to database.
Step10: Print Successful message.

• **Following steps are performed by Student** Step 1: LOG IN to Student ACCOUNT ii Step 2: UPLOAD NEW documents iii Step 3: SAVE documents of updated database   iv Step 4: DELETE if want from the database.

IV. CONCLUSION

Expected Conclusion
• Smart Student Card (SSC) simplifies the work of college system as well as student.
• SSC provides simpler way to maintain the documents of the student.
• Smart Student Card (SSC) can also be used as student attendance system.
• It helps in making paper less transaction.
• It's a step towards Digital India.

REFERENCES

[1] X.Liu,D.Doermann,andH.Li,—Vcode-pervasive data transfer using video barcode,‖ IEEE Trans. Multimedia, vol. 10, no. 3, pp. 361–371, Apr. 2008.
[2] S. D. Perli, N. Ahmed, and D. Katabi, —Pixnet: In terference-free wireless links using LCD-camera pairs, ‖ in Proc. MobiCom, 2010, pp. 137–148.
[3] J. Memeti, F. Santos, M. Waldburger, and B. Stiller, —Data transfer using a camera and a three dimensional code,‖ Praxis der Informationsverarbeitung und Kommunikation, vol. 36, no. 1, pp. 31–37, 2013.
[4] C. Pei, Z. Zhang, and S. Zhang, —Softoc: Real-time projector-wall-camera communication system,‖ in Proc. ICCE, Jan. 2013, pp. 100–101.
[5] S. Kuzdeba, A. M. Wyglinski, and B. Hombs, —Prototype implementation of a visual communication system employing video imagery, ‖ in Proc. CCNC, 2013, pp. 184–189.
[6] M. Mondal and J. Armstrong, —Impact of linear misalignment on a spatial OFDM based pixelated system,‖in Proc. 18th Asia-Pacific Conf. Commun., Oct. 2012, pp. 617–622.
[7] M. Mondal and J. Armstrong, —The effect of defocus blur on a spatial OFDM optical wireless communication system, ‖ in Proc. 14th Int. Conf. Transparent Opt. Netw., Jul. 2012, pp. 1–4.
[8] M. R. H. Mondal and J. Armstrong, —Analysis of the effect of vignetting on mimo optical wireless systems using spatial OFDM, ‖ J. Lightw. Technol., vol. 32, no. 5, pp. 922–929, Mar. 1, 2014.
[9] R. Gonzalez and R. Woods, Digital Image Processing, 3rd ed. Upper Saddle River, NJ, USA: Pearson Education, 2007.
[10] A. Sripad and D. Snyder, —A necessary and sufficient condition for quantization errors to be uniform and white,‖ IEEE Trans. Acoust., Speech, Signal Process. , vol. ASSP-25, no. 5, pp. 442–448, Oct. 1977.
[11] J. Proakis and M. Salehi, Digital Communications, 5th ed. New York, NY, USA: McGraw-Hill Education, 2007.
[12] T. Cover and J. Thomas, Elements of Information Theory, 2ndEd. ed. Hoboken, NJ, USA: Wiley, 2006.121–130.