



# International Journal of Innovative Research in Computer and Communication Engineering

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## Contactless Vein Structure Sensing Authentication Technology

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**ABSTRACT:** Palm vein and foot vein authentication has high level of accuracy because it is located inside the body and does not change over the life and cannot be stolen. This paper presents an analysis of palm vein and foot vein pattern recognition algorithms, techniques, methodologies and systems. It discusses the technical aspects of recent approaches for the following processes; detection of region of interest (ROI), segment of palm vein pattern, feature extraction, and matching. For all processes, there are many machine learning techniques with very high accuracy.

Identification of people among each other has always been a tough and challenging task for the researchers. There are many techniques which are used for identifying a person but biometric technique is the standard one which allows us for online identification of individuals on the basis of their physiological and behavioral features. The veins based systems include finger veins, face veins, palm veins, head veins, heart veins, iris, palatal veins of the tongue etc. The multi-veins based systems use the veins of different physiological traits for identifying a person. It discusses the technical aspects of recent approaches for the following processes; detection of region of interest (ROI), segment of vein pattern, feature extraction, and matching. The results show that, there is no benchmark database exists for palm vein recognition. This type of authentication is used in various fields such as government sectors and banking application.

**KEYWORDS:** Biometric extraction, pre-processing image.

### I. INTRODUCTION

The omnipresent network society, where people will simply access their info anytime and anywhere, individuals also are baby-faced with the danger that others will simply access a similar info anytime and anywhere.

Because of this risk, personal identification technology is employed which has Passwords, personal identification numbers and identification cards. However, cards are often taken and passwords and numbers are often guessed or forgotten. To resolve these issues, four strategies are developed: fingerprints, faces, voice prints and palm veins. In the present network society, where people will simply access their data anytime and anywhere, folks are featured with the chance that others will simply access constant data anytime and anywhere. As a result of this risk, personal identification technology is employed which has Passwords, personal identification numbers and identification cards. However, cards are purloined and passwords and numbers are guessed or forgotten. To unravel these issues, four strategies are developed: fingerprints, faces, voice prints and palm veins. Among these, as a result of its high accuracy, contactless palm vein authentication technology is being incorporated into varied monetary resolution merchandise to be used in public places. Palm vein authentication is one amongst the vascular pattern authentication technologies. Vascular pattern authentication includes vein pattern authentication. The vein patterns of the palm, back of the hand or fingers are used as personal identification knowledge, and membrane recognition uses the vascular patterns at the rear of the hand as personal identification.



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Recently, several researchers investigated the finger, hand, and palm vein recognition for machine-controlled personal identification. By mistreatment fashionable technology someone will management their personal data simply at any time and anyplace, however conjointly there area unit some risks that people will lead of this data. as a result of these risks researchers tried to use identification technologies . Biometry is machine-controlled strategies of recognizing someone supported a physiological or activity characteristic. Associate degree example of activity characteristic area unit face recognition, fingerprints, hand pure mathematics, signature verification, iris, retinal, finger/hand/palm vein recognition, ear recognition, and voice recognition.

## II. PROPOSED SYSTEM

The Application that is helpful for authentication purpose we use the application for palm vein and foot vein authentication

Purpose here we had used the dataset for authentication purpose .The application is useful for the authentication

During the transaction process there are two way for transaction Inner transaction and the outer transaction during transaction OTP is generated for particular user and for authentication purpose we use the palm image or foot image as input for processing during transaction is authentication do sent match then transaction can't process with unauthorised user.

## III. IMPLEMENTATION





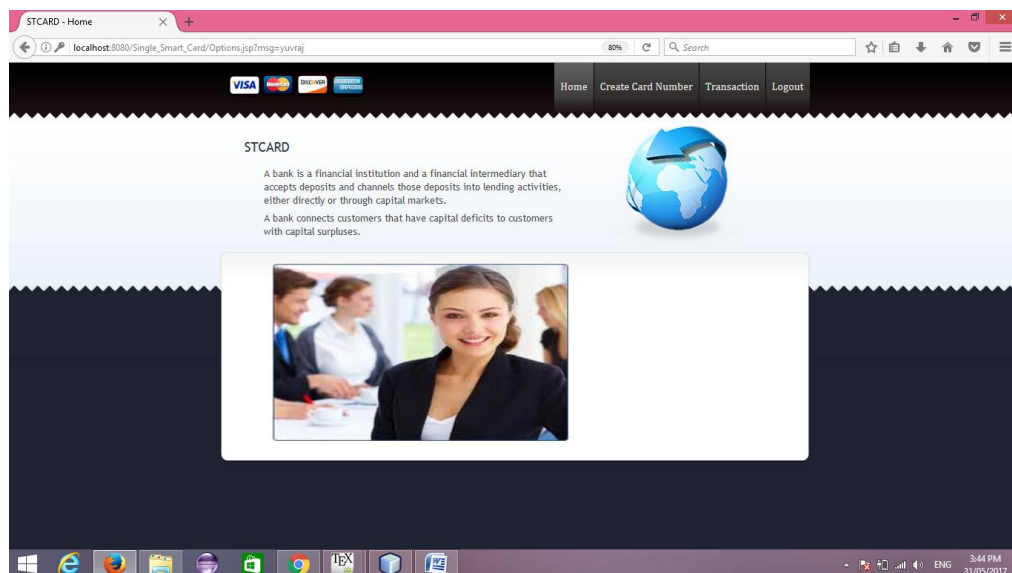
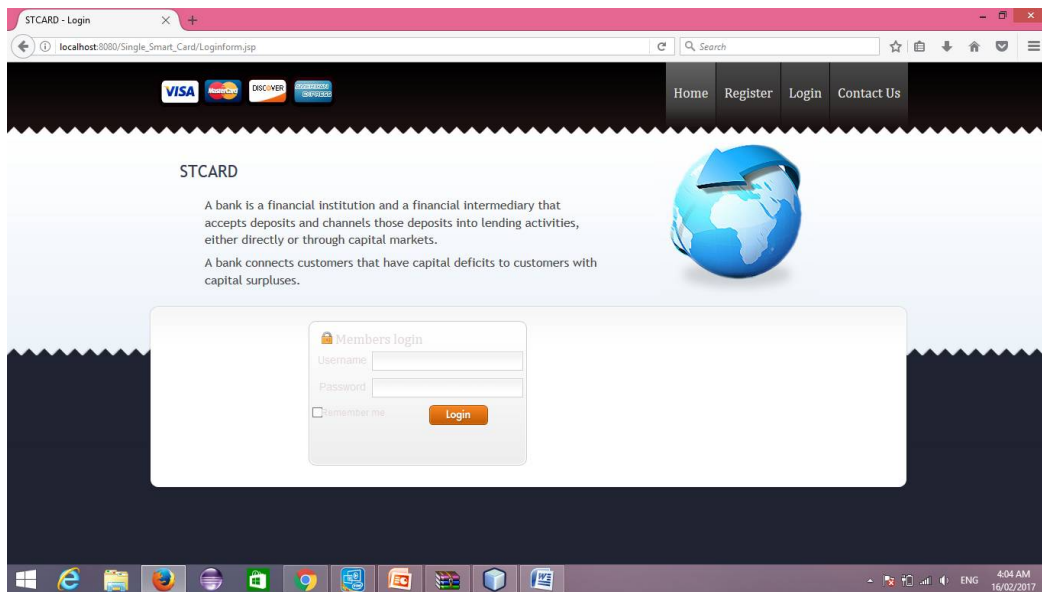
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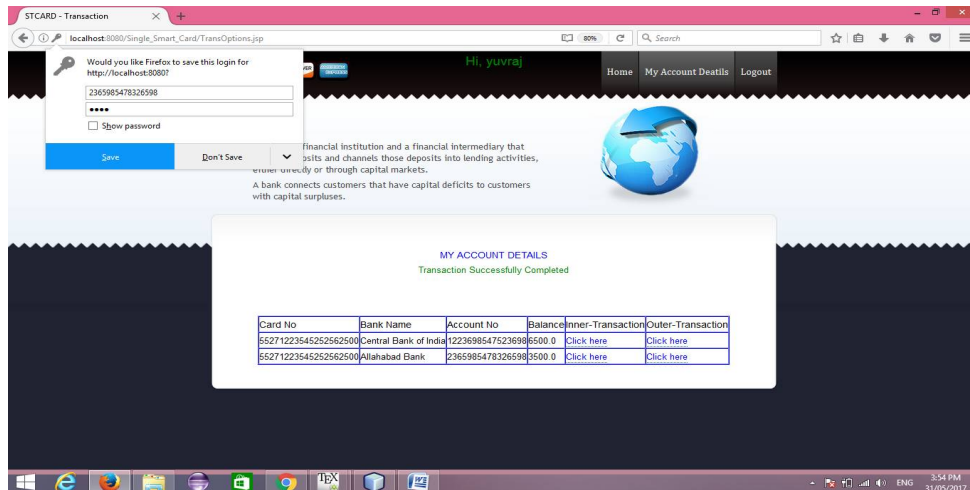
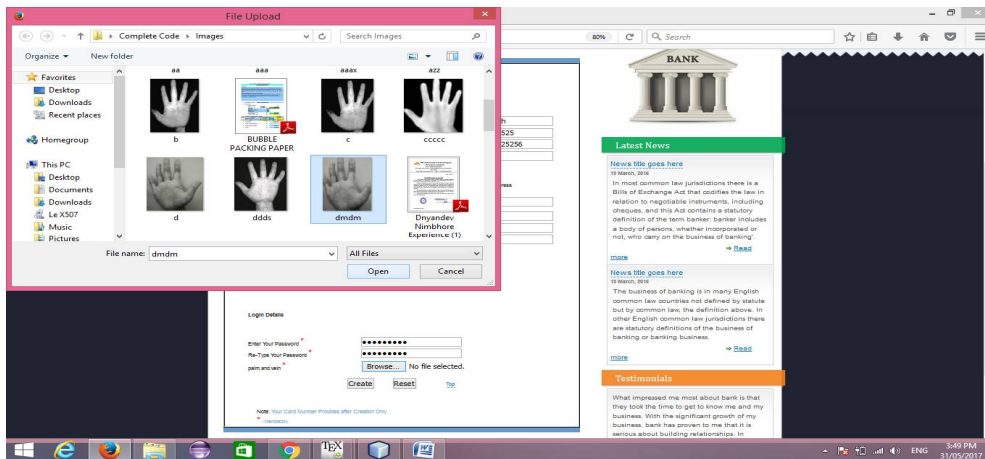
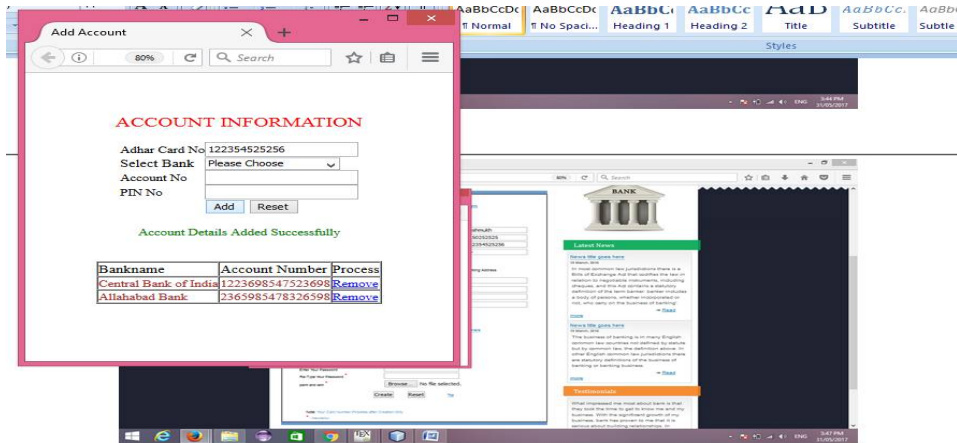


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## IV. CONCLUSION AND FUTURE WORK

Palm vein and foot vein technology supply user palm image and foot image as input for authentication according to user palm image the binarization value is generated and authentication done according to user. Transaction process is done for particular user based on user authentication.

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