

# ATM transactions Security using Biometric Authentication

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**Abstract:** *Due to advanced development in science and technology, innovations are being built-up with strong security. But on another side, threats are also imposed to destroy the security level. Though enhancement in automation has made a positive impact overall, but various financial institutions like banks and applications like ATM are still in trouble due to thefts and frauds. The existing banking system uses ATM card and a PIN which increases threats of stolen cards, Personal Identification Number (PIN) cannot provide protection against identity theft. Anyone carrying the card can access the account if they know ATM card PIN. To overcome these threats hybrid system which consists of conventional features along with additional features like face recognition, biometric finger print recognition and one-time password (OTP) is used. Database holds information about a user's account details, images of his/her face, finger print ID and a mobile number which enhance security to a large extent. First, the user needs to place finger on finger print sensor. If system is unable to identify authenticate finger, a live image is captured automatically through a webcam installed on the ATM, which is compared with the images stored in the database. If it is identical with stored image, an OTP will be sent to the corresponding registered mobile number. This OTP has to be entered by the user in the text box. If the user correctly enters the OTP, the transaction can proceed. Thus, the combination of face recognition algorithm or finger print authentication and an OTP reduces the chances of fraud and free a customer from remembering complex passwords. It finds the valid or invalid user and avoid the wrong person to access the ATM.*

**Keywords:** ATM, Biometrics, Fingerprint Authentication, Face Recognition, PIN, OTP

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