There is a pressing need for more security in banking in dustry. With ATM technology, banking became much easier at the same time more vulnerable. The possibilities of misuse of this technological product (ATM) are attributable to the exponential growth of intelligent criminals day by day. ATM systems nowadays use an access card and PIN for biometric identification. These Authentications alone are unfortunate not sufficient as card could be easily misplaced and pin can be compromised either by shoulder surfing or carelessly handled. Thus tremen dous progress has been created in identity verification techniques that can add to the authentication verification of ATM. This research work proposes the development of a system that integrates dynamic graphical password authentication (DGPA) technology into the identity verification process used in ATMs. The development of such a system would help to protect consumers and financial institutions alike from fraud and other breaches of security.