

## **17. MEMS AUTHENTICATION FOR SMART CARD ACCESS USING MOBILE DEVICE**

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Smart card is being used in various domains as they provide security against fraud and theft. They are more reliable compare to other machine readable cards, so they are deployed in public transport, hospitals, parking, and governments. But, in case of theft or loss, such great usage smartcard would be granted access for availing service by anyone who carries it. This unsecured authentication problem is addressed in this paper. In general authentication can be provided by password or PIN numbers which are easy breachable and bio metric authentication methods are costly, cannot be shared with trusted person. So the proposed system designs a contactless smart card with dual efficient authentication. The smart card is designed with RFID and MEMS sensor. The static encode information of RFID is combined with MEMS sensor information to authenticate in first step. And in second step user avails the service of smart cardonly after receiving the MAC implemented OTP, before which the unique IMSI number of mobile is verified. This dual authentication contactless smartcard will provide high secured authentication and prevent unauthorized use.

Keywords—Authentication; Message Authentication code; Smart card.

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