

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511061355 A

(19) INDIA

(22) Date of filing of Application :27/06/2025

(43) Publication Date : 11/07/2025

(54) Title of the invention : A WEARABLE MULTI-FACTOR AUTHENTICATION DEVICE FOR SECURE SYSTEM ACCESS

(51) International classification :H04L0009400000, G06F0021320000, A61B0005145500, A61B0005000000, H04L0009320000

(86) International Application No :NA  
Filing Date :NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA  
Filing Date :NA

(62) Divisional to Application Number :NA  
Filing Date :NA

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(57) Abstract :

A wearable multi-factor authentication device (100) is disclosed, incorporating a fingerprint sensor (101), pulse oximeter (102), motion sensor (103), BLE module (104), microcontroller (105), vibration motor (106), and OLED display (107). The device performs continuous, real-time user authentication based on biometric, motion, and proximity inputs. Secure session tokens are generated for system access, ensuring non-intrusive verification. The device enhances security in sensitive environments by combining physiological, behavioral, and contextual checks into a compact, energy-efficient wearable form factor.

No. of Pages : 14 No. of Claims : 5