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(57) Abstract :
 The invention pertains to a smart helmet designed to enhance electrical safety by detecting alternating current (AC) in electrical circuits. The helmet integrates a coil and piezoelectric sensor to sense electromagnetic fields generated by AC current, triggering an alert system comprising an audible buzzer and visual LED indicators. Powered by a rechargeable Li-ion battery, the helmet operates independently of external power sources and is suitable for use in various environments. The device alerts users to the presence of AC current, thereby reducing the risk of electric shocks and improving safety for electrical technicians and other individuals working with or near electrical systems.

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