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Accident Prevention and Detection System

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Abstract: *Road traffic accidents have, therefore, remained one of the persisting leading causes of public health burdens all over the world, involving millions of deaths and severe injuries annually. The traditional emergency response systems have remained stricken by delay problems in accident detection and notification; hence, the severity of the outcome for the accident victim is increased. One of the recent, novel solutions for the challenge of time delay in expediting the emergency response process is the Emergency Response Delay Management System (ERDMS), a smartphone sensor and cloud-based communication recently proposed for this challenge. This paper will provide clear methods for identifying the key features of the ERDMS. It is divided into two major phases: accident detection, emergency response, and notification. ERDMS may thus easily detect an accident for necessary emergency response without delay since the smartphone uses sensors such as an accelerometer, GPS, and a microphone. The cloud-based communication platform ensures smooth coordination and informs the authorities and designated pre-selected contacts in the event of an accident. The primary focus of ERDMS is on accessibility, and secondly, it is very cheap since it needs very little hardware and relies primarily on smartphone technology. By innovatively changing the way emergency responses are done and using user-centered design principles, the ERDMS bears the enormous potential to save countless lives by helping reduce critical delays in emergency response following road traffic accidents and improving road safety.*

Keywords: Emergency Response, Road Traffic Accidents, Accident Detection, Smartphone Sensors, Cloud-Based Communication, Road Safety