

Automated Toll Collection and Accident Detection System

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Abstract. Nowadays almost all highway tolls are manually controlled, with an operator collecting cash from the driver and issuing a receipt because this procedure can be time-consuming. Frequently we can see traffic delays at toll gates now. That is not all a significant number of people die via road accidents all around the world. This research mainly aims to provide a sustainable solution by incorporating a more effective payment option and automatic traffic accident detection system. So, traffic congestion is reduced and alleviates the time duration when an accident occurs and when first emergency responders are dispatched to the destination where the accident locates. Current using mechanisms are systemized to make use of a vehicle's built-in automatic accident detection and warning systems. Those systems are effective, but they are costly and not user-friendly either. Also, maintenance of those systems is intricate and not available in all vehicles. The capability of detecting traffic accidents using smartphones. On the other hand, it has just gradually been possible due to developments in processing power and sensors which are attached to smartphones. The proposed system is divided into two stages: Payment is made through the application which is used the top-up amount of cash. During the acknowledgement of the mishap scenario soon after and it will be reported to the relevant parties. Evident information such as location is sent to the emerging sectors for a quick response. This system also contains a controller which transmits an alert if a vehicle is detected when it is exceeding the speed limits

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