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Application
Group

「一觸即發、內外兼顧」不當開車門防撞設計

"One Touch To Launch, Concerning
Inside and Outside"
Crash-Prevention Design for
Inappropriate Open Car Door

隊伍名稱 「一觸即發」小組 /
"One Touch To Launch" Group

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作品摘要

每年不當開車門肇事意外持續攀升，最近3年傷亡人數統計由4,101人逐年增加已達4,386人〔官方統計數字〕。目前汽車車門開啟結構絕大多數採用側向外推方式，所以車門開啟時會佔據車道。若用車人開車門時未注意車後方用路人，很容易發生交通意外造成用路人傷亡。有鑑於此，許多廠商與研究單位積極開發汽車開車門預警系統。綜觀目前的車門開啟預警裝置，若車主有意安裝時，通常要大幅改造車體才能安裝，會影響汽車的美觀，以致於車主安裝意願低。因此，本作品開發之目的，即在提供可不破壞汽車現有結構，且方便安裝的汽車開車門防撞預警設計。本智慧防撞系統設置自動關閉的功能，可以有效節省電力消耗。透過新開發即時偵測裝置，我們就能夠防止突然開啟車門的意外事件再次發生，提供用路人生命安全的保障。

Abstract

Inappropriate open-car-door accidents continue to rise in every year, and last-three-years statistics indicate the number of casualties by the 4,101 people increases every year has reached 4,386 people (official statistics). Currently, the vast majority of car-doors-open structure using side-push-outward way, and they will occupy the lane when opening the doors. If the car user did not pay attention behind the vehicle with passers-by, it is prone to traffic accidents caused by passers casualties. From this point of view, many manufacturers and research institutions are actively developing automotive car door warning system. Looking at the current door-opening warning device, if the owners wishing to install, it is usually a substantial transformation of the body can be installed, and it will affect the car's appearance, resulting in lower installation willingness owners. Accordingly, the purpose of the development of this work, which may not provide car damages to the existing structure, is for easy installation of car-door- collision warning design. This intelligent collision-avoidance system sets up automatic shutdown function, which can effectively save power consumption. Through the newly-developed instant detection device, we can prevent sudden unexpected incidents from happening again, and provide passers-by the protection of the safety of life.



圖 1. 安裝開車門智慧防撞系統之完整車體



圖 2. 後方行車紀錄器安裝圖及駕駛側安裝開車門智慧防撞設計



圖 3. 駕駛側安裝開車門智慧防撞設計