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# IoT-Based Automated and Contactless Shopping Cart during Pandemic Diseases Outbreak

 Faang H.Y.<sup>a</sup>, Yaakob N.<sup>a,b</sup> , Elshaikh M.E.<sup>a,b</sup>, Sidek A.K.<sup>c</sup>, Lynn O.B.<sup>a,b</sup>, Almashor M.<sup>d</sup>
 Save all to author list

<sup>a</sup> Advanced Computing, Centre of Excellence (CoE), Universiti Malaysia Perlis (UniMAP), Perlis, Malaysia

<sup>b</sup> Faculty of Electronic Engineering Technology, Universiti Malaysia Perlis (UniMAP), Perlis, Malaysia

<sup>c</sup> Department of Electrical and Computer Engineering, Kulliyah of Engineering, International Islamic University Malaysia (IIUM), Selangor, Malaysia

<sup>d</sup> Data61, Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia

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Coronavirus (COVID-19) is an alarming disease outbreak that has affected more than 180 countries worldwide. It has caused close to 2.5 million deaths and has infected 114 million of the global population as of February 2021. This unprecedented pandemic, has caused severe socio-economic problems globally, catching many sectors off-guard and in a state of suspended uncertainty. While vaccines are just starting to circulate, there is still a need to practice new social norms, including social distancing during daily activities such as supermarket shopping. As such, contactless technology is critically needed and preferable to minimize physical contact and mitigate virus spread. In this paper, an automated shopping cart is proposed as a potential solution to avoid item scanning at cashiers and long queues at payment counters. This innovation leads to reduced risk of exposure to COVID-19. This is done by integrating a typical shopping trolley with Internet of Things (IoT) technology. A radio frequency identification (RFID) tag is attached to every product and automatically read whenever they are placed in a shopping cart. Payment and weighing processes can be conducted at the trolley itself which reduces direct and prolonged contact with both cashiers and other patrons, and at both checkout queues and weighing counters. This proves to be a critical way to break transmission chains. © Published under licence by IOP

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