

# Smart Shopping Cart System

Snehal Kulkarni<sup>1</sup>, Dr. Supriya Shanbhag<sup>2</sup>, Tejaswini Kamat<sup>3</sup>, Tejaswini Thorwat<sup>4</sup>

Assistant Professor, Department of Electronics & Communication Engineering<sup>1</sup>

Professor & Head, Department of Electronics & Communication Engineering<sup>2</sup>

Students, Department of Electronics & Communication Engineering<sup>3,4</sup>

Gogte Institute of Technology, Belagavi, Karnataka, India

**Abstract:** *The billing system for shopping malls is usually time consuming. When there are a lot of items in the list, the time duration for billing is long as there is a queue for billing the items at the counter. This paper presents a model that reduces the time for billing using Radio-frequency identification (RFID). The smart shopping displays the bill and the customer can pay the bill online.*

**Keywords:** Smart Trolley, Smart Shopping, RFID, IoT (Internet of Things), Smart Cart

## REFERENCES

- [1]. R. Singh, S. Verma and M. Kriti, "RFID and IR based Smart Shopping Mart Management System," 2018 International Conference on Advances in Computing, Communication Control and Networking (ICACCCN), 2018, pp. 536-540, doi: 10.1109/ICACCCN.2018.8748820.
- [2]. C. Paul, S. Sabu, R. Angelin and A. Pardeshi, "Smart Shopping Application using IoT and Recommendation System : An effective mobile assisted software application for grocery shopping," 2021 7th International Conference on Advanced Computing and Communication Systems (ICACCS), 2021, pp. 522-526, doi: 10.1109/ICACCS51430.2021.9441762.
- [3]. T. K. Das, A. K. Tripathy and K. Srinivasan, "A Smart Trolley for Smart Shopping," 2020 International Conference on System, Computation, Automation and Networking (ICSCAN), 2020, pp. 1-5, doi: 10.1109/ICSCAN49426.2020.9262350.
- [4]. C. Wang, P. Jiang and T. Lu, "The production instruction system for smart job shop," 2016 IEEE International Conference on Mechatronics and Automation, 2016, pp. 1850-1854, doi: 10.1109/ICMA.2016.7558846.
- [5]. A. Yong, M. E. Rana and K. Shanmugam, "Improved Shopping Experience Through RFID Based Smart Shopping System," 2022 International Conference on Decision Aid Sciences and Applications (DASA), 2022, pp. 635-644, doi: 10.1109/DASA54658.2022.9765064.
- [6]. P. Chandrasekar and T. Sangeetha, "Smart shopping cart with automatic billing system through RFID and ZigBee," International Conference on Information Communication and Embedded Systems (ICICES2014), 2014, pp. 1-4, doi: 10.1109/ICICES.2014.7033996.
- [7]. T. Arciuolo and A. -s. Abuzneid, "Simultaneously Shop, Bag, and Checkout (2SBC-Cart): A Smart Cart for Expedited Supermarket Shopping," 2019 International Conference on Computational Science and Computational Intelligence (CSCI), 2019, pp. 1162-1167, doi: 10.1109/CSCI49370.2019.00219.
- [8]. S. Mekruksavanich, "Supermarket Shopping System using RFID as the IoT Application," 2020 Joint International Conference on Digital Arts, Media and Technology with ECTI Northern Section Conference on Electrical, Electronics, Computer and Telecommunications Engineering (ECTI DAMT & NCON), 2020, pp. 83-86, doi: 10.1109/ECTIDAMTCON48261.2020.9090714
- [9]. V. Perera, L. Ekanayake, A. Bandara, D. Shakya and U. S. Oruthota, "IOT Based Smart Shopping System," 2021 10th International Conference on Information and Automation for Sustainability (ICIAfS), 2021, pp. 225-229, doi: 10.1109/ICIAfS52090.2021.9606124.
- [10]. T. Athauda, J. C. L. Marin, J. Lee and N. C. Karmakar, "Robust Low-Cost Passive UHF RFID Based Smart Shopping Trolley," in IEEE Journal of Radio Frequency Identification, vol. 2, no. 3, pp. 134-143, Sept. 2018, doi: 10.1109/JRFID.2018.2866087.

- [11]. V. V., P. K. P. and C. R. S., "Smart Shopping Cart," 2018 International Conference on Circuits and Systems in Digital Enterprise Technology (ICCSDET), 2018, pp. 1-4, doi: 10.1109/ICCSDET.2018.8821103.
- [12]. R. Li, T. Song, N. Capurso, J. Yu, J. Couture and X. Cheng, "IoT Applications on Secure Smart Shopping System," in IEEE Internet of Things Journal, vol. 4, no. 6, pp. 1945-1954, Dec. 2017, doi: 10.1109/JIOT.2017.2706698.
- [13]. Z. Ali and R. Sonkusare, "RFID based Smart Shopping: An overview," 2014 International Conference on Advances in Communication and Computing Technologies (ICACACT 2014), 2014, pp. 1-3, doi: 10.1109/EIC.2015.7230698.
- [14]. K. Yusuf, M. Abdurrohman and A. G. Putrada, "Increasing Passive RFID-Based Smart Shopping Cart Performance using Decision Tree," 2019 5th International Conference on Computing Engineering and Design (ICCED), 2019, pp. 1-5, doi: 10.1109/ICCED46541.2019.9161139.
- [15]. R. Padaya, S. Suvarna, A. Channe and C. Shah, "Smart Local Shopping System," 2018 Second International Conference on Electronics, Communication and Aerospace Technology (ICECA), 2018, pp. 868-871, doi: 10.1109/ICECA.2018.8474636.
- [16]. R. Li, T. Song, N. Capurso, J. Yu and X. Cheng, "IoT Applications on Secure Smart Shopping," 2016 International Conference on Identification, Information and Knowledge in the Internet of Things (IIKI), 2016, pp. 238-243, doi: 10.1109/IIKI.2016.25.
- [17]. V. V., P. K. P. and C. R. S., "Smart Shopping Cart," 2018 International Conference on Circuits and Systems in Digital Enterprise Technology (ICCSDET), 2018, pp. 1-4, doi: 10.1109/ICCSDET.2018.8821103.
- [18]. P. K. G., B. S. B., K. M., V. M. and A. R., "Smart-Cart for Smart-Cities," 2018 Second International Conference on Advances in Electronics, Computers and Communications (ICAIECC), 2018, pp. 1-5, doi: 10.1109/ICAIECC.2018.8479485.
- [19]. R. Li, T. Song, N. Capurso, J. Yu, J. Couture and X. Cheng, "IoT Applications on Secure Smart Shopping System," in IEEE Internet of Things Journal, vol. 4, no. 6, pp. 1945-1954, Dec. 2017, doi: 10.1109/JIOT.2017.2706698.
- [20]. Z. Cai, Z. He, X. Guan and Y. Li, "Collective Data-Sanitization for Preventing Sensitive Information Inference Attacks in Social Networks," in IEEE Transactions on Dependable and Secure Computing, vol. 15, no. 4, pp. 577-590, 1 July-Aug. 2018, doi: 10.1109/TDSC.2016.2613521.
- [21]. C. Hu, R. Li, W. Li, J. Yu, Z. Tian, and R. Bie, "Efficient privacy-preserving schemes for dot-product computation in mobile computing," in Proceedings of the 2st ACM Workshop on Privacy-Aware Mobile Computing. ACM, 2016, pp. 51-59.
- [22]. M. Jaishree., K. R. Lakshmi prabha., S. Jeyaprabha. and K. Mohan., "Smart Shopping Trolley Using IOT," 2021 7th International Conference on Advanced Computing and Communication Systems (ICACCS), 2021, pp. 793-796, doi: 10.1109/ICACCS51430.2021.9441786.
- [23]. S. Shailesh, P. Shrivastava Deb, R. Chauhan and V. Tyagi, "Smart Trolley," 2021 International Conference on Advance Computing and Innovative Technologies in Engineering (ICACITE), 2021, pp. 242-245, doi: 10.1109/ICACITE51222.2021.9404582.