



## A Short Communication Article on Contactless Menu

K. Shweta Ranjan\*, B. Singh, D. Aggarwal

Department of MCA, School of Computer Science and IT, Jain (deemed-to-be) University, Bengaluru,  
Karnataka, India.

(\*Corresponding Author's Email Address: shwetar086@gmail.com)

### ABSTRACT

In this Pandemic situation after dealing with contactless delivery, we introduce a "contactless menu", this feature help restaurants to gain the trust and confidence of customers in their safety and hygiene measures post-lockdown. The contactless menu will have two main components and, in the future, we are planning to include contactless payment.

**Keywords:** Contactless, QR menu, 3D model.

 **Article history:** Received:11 August 2020 Reviewed:30 August 2020 Revised:19 October 2020 Accepted: 21 November 2020

## 1. Introduction

The enhancement of science and technology leads to make life more comfortable than in older days. The emerging technologies like neutrosophic shortest path [1-5], transportation problem [6-8], uncertainty problem [9-14], fuzzy shortest path [15-18], PowerShell [19], wireless sensor network [20-27], computer language [28, 29], neural network [30], routing [31], image processing [32] making the products more intelligent and self-healing based. The smart city applications like smart water [33, 34], smart grid, smart parking, smart resource management, etc. are based on IoT and IoE [35-38] technologies. In this manuscript, the contactless menu system is proposed. It is the strategy within which customers specify their desired menu to the waiter who takes the order on paper. So, it was a process that took a protracted time. It leads to wasted paper and also requires reprinting of all menu cards. Also, in many cases to make small changes to menu cards, it is not convenient to print all menu cards over and over again. Simply saying that the menu card once printed cannot be changed. After a few days, the menu card lost its worthy appearance and appeal.

## 2. Existing System

In this pandemic situation, we are experiencing contactless delivery and we are dealing with it well. Post-lockdown many companies are introducing a system "QR menu" to help restaurants

and hotels to increase trust and confidence in customers. QR menu contains contactless menu and contactless ordering.

### 3. Proposed System

In this pandemic situation, we are experiencing contactless delivery and we are dealing with it well. I am introducing a system 'contactless menu' to help restaurants and hotels to increase the trust and confidence of customers. In this system, I am making an AR mobile application for restaurants and hotels which is more attractive and more effective. With a contactless menu, customers will be able to order the food on the table to explore the restaurant menu differently. After selecting the food, by seeing the 3D model of that then they will be able to order that. 'Contactless menu' also ensures that consumers don't have to wait to place their order. Thus, making the entire experience far more seamless and convenient for the users.

### 4. Objectives

Over the last 10 years, India has developed significantly. People's living has changed a lot and also their passion for food has increased. In this pandemic, touchless menus are helping restaurants and hotels to increase customer confidence [39].

### 5. Algorithms

#### Customer.

Step 1: Start.  
Step 2: If (b = 1).  
THEN Go to Step 3.  
ELSE Go to Step 8.  
Step 3: View Menu.  
Step 4: Select Food.  
Step 5: Enter Table no.  
Step 6: Confirm Food.  
Step 7: Place Order.  
Step 8: End.

**Admin.**

Step 1: Start.

Step 2: Input Username Password.

Step 3: If (Username == "Admin" && Password == "Admin").

THEN Go to Step 4.

ELSE Go to Step 7.

Step 4: View Order.

Step 5: Dispatch Order.

Step 6: Add/Delete/Update Item.

Step 7: End.

**6. Conclusion**

The main purpose of applying is to assist students of master of computer application to understand the fundamentals knowledge of the programming languages.

- Should enable Master of Computer Application students to flick through the code and application: this will be achieved when students are ready to run and install the appliance. After they run the appliance, they'll use it through the implementation of various objects.
- Should allow users to flick through different product categories: this is often achieved through a straightforward to use of graphical interface menu options.

**6. Future Scope**

- Customize orders: Customers can customize their food orders as per their choice.
- Adding more user interactive features will enhance the user interface.
- In the future, we will add a delivery option in the system.
- A visual graphical order status bar will be provided to the customer.
- Only restaurant employees can show active orders.

**References**

- [1] Broumi, S., Dey, A., Talea, M., Bakali, A., Smarandache, F., Nagarajan, D., ... & Kumar, R. (2019). Shortest path problem using Bellman algorithm under neutrosophic environment. *Complex and intelligent systems*, 5(4), 409-416.
- [2] Kumar, R., Dey, A., Broumi, S., & Smarandache, F. (2020). A study of neutrosophic shortest path problem. In *Neutrosophic graph theory and algorithms* (pp. 148-179). IGI Global.

- [3] Kumar, R., Edalatpanah, S. A., Jha, S., Broumi, S., Singh, R., & Dey, A. (2019). A multi objective programming approach to solve integer valued neutrosophic shortest path problems. *Neutrosophic sets and systems*, 24, 134-149. [https://digitalrepository.unm.edu/nss\\_journal/vol24/iss1/13](https://digitalrepository.unm.edu/nss_journal/vol24/iss1/13)
- [4] Kumar, R., Edalatpanah, S. A., Jha, S., & Singh, R. (2019). A novel approach to solve gaussian valued neutrosophic shortest path problems. *International journal of engineering and advanced technology*, 8(3), 347-353.
- [5] Kumar, R., Edalatpanah, S. A., Jha, S., Broumi, S., & Dey, A. (2018). Neutrosophic shortest path problem. *Neutrosophic sets and systems*, 23, 5-15. [https://digitalrepository.unm.edu/nss\\_journal/vol23/iss1/2](https://digitalrepository.unm.edu/nss_journal/vol23/iss1/2)
- [6] Pratihari, J., Kumar, R., Dey, A., & Broumi, S. (2020). Transportation problem in neutrosophic environment. In *Neutrosophic graph theory and algorithms* (pp. 180-212). IGI Global.
- [7] Kumar, R., Edalatpanah, S. A., Jha, S., & Singh, R. (2019). A Pythagorean fuzzy approach to the transportation problem. *Complex and intelligent systems*, 5(2), 255-263. <https://doi.org/10.1007/s40747-019-0108-1>
- [8] Pratihari, J., Kumar, R., Edalatpanah, S. A., & Dey, A. (2020). Modified Vogel's approximation method for transportation problem under uncertain environment. *Complex and intelligent systems* 1-12. <https://doi.org/10.1007/s40747-020-00153-4>
- [9] Gayen, S., Jha, S., Singh, M., & Kumar, R. (2019). On a generalized notion of anti-fuzzy subgroup and some characterizations. *International journal of engineering and advanced technology*, 8, 385-390.
- [10] Gayen, S., Smarandache, F., Jha, S., & Kumar, R. (2020). Interval-valued neutrosophic subgroup based on interval-valued triple t-norm. In *Neutrosophic sets in decision analysis and operations research* (pp. 215-243). IGI Global.
- [11] Gayen, S., Smarandache, F., Jha, S., Singh, M. K., Broumi, S., & Kumar, R. (2020). Introduction to plithogenic subgroup. In *Neutrosophic graph theory and algorithms* (pp. 213-259). IGI Global.
- [12] Gayen, S., Smarandache, F., Jha, S., Singh, M. K., Broumi, S., & Kumar, R. (2020). Soft subring theory under interval-valued neutrosophic environment. *Neutrosophic sets and systems*, 36, 193-214. [https://digitalrepository.unm.edu/nss\\_journal/vol36/iss1/16](https://digitalrepository.unm.edu/nss_journal/vol36/iss1/16)
- [13] Gayen, S., Smarandache, F., Jha, S., & Kumar, R. (2020). Introduction to interval-valued neutrosophic subring. *Neutrosophic sets and systems*, 36, 81-95. [https://digitalrepository.unm.edu/nss\\_journal/vol36/iss1/7](https://digitalrepository.unm.edu/nss_journal/vol36/iss1/7)
- [14] Gayen, S., Smarandache, F., Jha, S., Singh, M. K., Broumi, S., & Kumar, R. (2020). Introduction to plithogenic hypersoft subgroup. *Neutrosophic sets and systems*, 33, 208-233. [https://digitalrepository.unm.edu/nss\\_journal/vol33/iss1/14](https://digitalrepository.unm.edu/nss_journal/vol33/iss1/14)
- [15] Kumar, R., Edalatpanah, S. A., & Mohapatra, H. (2020). Note on "Optimal path selection approach for fuzzy reliable shortest path problem". *Journal of intelligent and fuzzy systems*, (Preprint), 39 (5), 7653- 7656.
- [16] Kumar, R., Jha, S., & Singh, R. (2020). A different approach for solving the shortest path problem under mixed fuzzy environment. *International journal of fuzzy system applications (IJFSA)*, 9(2), 132-161.
- [17] Kumar, R., Jha, S., & Singh, R. (2017). Shortest path problem in network with type-2 triangular fuzzy arc length. *Journal of applied research on industrial engineering*, 4(1), 1-7.
- [18] Kumar, R., Edalatpanah, S. A., Jha, S., Gayen, S., & Singh, R. (2019). Shortest path problems using fuzzy weighted arc length. *International journal of innovative technology and exploring engineering*, 8(6), 724-731.
- [19] Singh, A., Kumar, A., & Appadoo, S. S. (2019). A novel method for solving the fully neutrosophic linear programming problems: Suggested modifications. *Journal of intelligent and fuzzy systems*, 37(1), 885-895.
- [20] Mohapatra, H., Panda, S., Rath, A., Edalatpanah, S., & Kumar, R. (2020). A tutorial on powershell pipeline and its loopholes. *International journal of emerging trends in engineering research*, 8(4), 975-982.

- [21] Mohapatra, H., Rath, S., Panda, S., & Kumar, R. (2020). Handling of man-in-the-middle attack in WSN through intrusion detection system. *International journal of emerging trends in engineering research*, 8(5), 1503-1510.
- [22] Mohapatra, H., Debnath, S., & Rath, A. K. (2019). Energy management in wireless sensor network through EB-LEACH. *International journal of research and analytical reviews (IJRAR)*, 56-61.
- [23] Mohapatra, H., Rath, A. K., Landge, P. B., & Bhise, D. (2020). A comparative analysis of clustering protocols of wireless sensor network. *International journal of mechanical and production engineering research and development (IJMPERD) ISSN (P)*, 10(3), 8371-8386.
- [24] Mohapatra, H., & Rath, A. K. (2020). Survey on fault tolerance-based clustering evolution in WSN. *IET networks*, 9(4), 145-155.
- [25] Mohapatra, H., Debnath, S., Rath, A. K., Landge, P. B., Gayen, S., & Kumar, R. (2020). An efficient energy saving scheme through sorting technique for wireless sensor network. *International journal of emerging trends in engineering research*, 8(8), 4278-4286.
- [26] Mohapatra, H., & Rath, A. K. (2020). Fault tolerance in wsn through uniform load distribution function. *International journal of sensors, wireless communications and control*, 10(1), 1-10.
- [27] Mohapatra, H., & Rath, A. K. (2019). Fault tolerance through energy balanced cluster formation (EBCF) in WSN. In *Smart innovations in communication and computational sciences* (pp. 313-321). Springer, Singapore.
- [28] Mohapatra, H., & Rath, A. K. (2019). Fault tolerance in WSN through PE-LEACH protocol. *IET wireless sensor systems*, 9(6), 358-365.
- [29] Mohapatra, H. (2018). *C programming: practice*. Amazon.
- [30] Mohapatra, H., & Rath, A. K. (2020). *Fundamentals of software engineering: designed to provide an insight into the software engineering concepts*. BPB Publications.
- [31] Mohapatra, H. (2009). *HCR by using neural network* (PhD Deserption, a Constituent College of Biju Patnaik University of Technology, Odisha, Techno Capmus, Ghatikia, Kalinganagar, Bhubaneswar-751003, India).
- [32] Panda, M., Pradhan, P., Mohapatra, H., & Barpanda, N. K. (2019). Fault tolerant routing in heterogeneous environment. *International journal of scientific and technology research*, 8, 1009-1013.
- [33] Nirgude, V. N., Nirgude, V. N., Mahapatra, H., & Shivarkar, S. A. (2017). Face recognition system using principal component analysis & linear discriminant analysis method simultaneously with 3d morphable model and neural network BPNN method. *Global journal of advanced engineering technologies and sciences*, 4, 1-6.
- [34] Mohapatra, H., & Rath, A. K. (2020, October). Nub less sensor based smart water tap for preventing water loss at public stand posts. *2020 IEEE microwave theory and techniques in wireless communications (MTTW)* (pp. 145-150). IEEE.
- [35] Mohapatra, H., & Rath, A. K. (2020). IoT based smart water. In F. AI-Turjman & M. Imran (Eds.), *IoT technologies in smart cities: from sensors to big data, security and trust* (pp. 63-82). DOI: 10.1049/PBCE128E\_ch3
- [36] Mohapatra, H. (2020). Offline drone instrumentalized ambulance for emergency situations. *International journal of robotics and automation (IJRA)*, 9(4), 251-255.
- [37] Mohapatra, H., & Rath, A. K. (2019). Detection and avoidance of water loss through municipality taps in India by using smart taps and ICT. *IET wireless sensor systems*, 9(6), 447-457.
- [38] Panda, H., mohapatra, H., & rath, A. K. (2020). WSN-based water channelization: an approach of smart water. In *Smart cities—opportunities and challenges* (pp. 157-166). Springer, Singapore.
- [39] Umap, S., Surode, S., Kshirsagar, P., Binekar, M., & Nagpal, N. (2018). Smart menu ordering system in restaurant. *IJSRST*, 4(7).

