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# Design and Development of IoT Enabled Smart Sandal

Pranali Patle<sup>1</sup>, Anushree Mankar<sup>2</sup>, Aniket Bagde<sup>3</sup>, Manish Kshisagar4, Sonam Chopade<sup>5</sup>, Ashish Labade<sup>6</sup>

S. B. Jain Institution of Technology, Management and Research, Nagpur, Maharashtra, India pranalip.it@sbjit.edu.in<sup>1</sup>, anushreem.it@sbjit.edu.in<sup>2</sup>, aniketb.it@sbjit.edu.in<sup>3</sup>, manishk.it@sbjit.edu.in<sup>4</sup>, sonamchopade.it@sbjit.edu.in<sup>5</sup>, ashishlabade.it@sbjit.edu.in<sup>6</sup>

**Abstract:** In this paper, an attempt has been made to develop a smart device that can assist women when they feel unsafe. This smart device will be clipped to the footwear of the user and can be triggered discreetly. On tapping one foot behind the other four times, an alert is sent via Bluetooth Low Energy communication to an application on the victim's phone, programmed to generate a message seeking help with the location of the device attached. The results obtained were analysed using Naïve Baye classifier. In such situations, the aid of a safety device that will inform the victim's family members or the authorities (in severe situations) may help women feel safer, confident and reduce the chances of harassment.

Keywords: Internet of Things, Bluetooth Low Energy, Acceleration Sensor Wearable Device, Woman Safety

#### REFERENCES

- [1]. Shreyas R.S, Varun B.C, Shiva Kumar H. K, Punith Kumar B.E, Kalpavi, C. Y. (2016), "Design And Development of Woman Self Defence Smart Watch Prototype", International Journal of Advanced Research in Electronics and Communication Engineering, Vol. 5, Issue. 4, pp. 1179 1185.
- [2]. Wearable Technology: The bra designed to shock attackers BBC News, retrieved date: September, 2020, [Online], Available: https://www.bbc.com/ news/ business-221 10443,
- [3]. Basavaraj Chogula, Archana Naik, Monika Monu, Priya Patil, Priyanka Das. (2014), "Smart Girls Security System", International Journal of Application on Innovation in Engineering and Management, Vol. 3, Issue. 4, pp. 281-284.
- [4]. Vishesh Sharma, Yati Tomar, D. Vydeki, (2019) "Smart Shoe For Women Safety", In Proceedings of 2019 IEEE 10th International Conference on Awareness Science and Technology (iCAST), DOI No: 10.1109/ICAwST.2019.8923204
- [5]. G C Harikaran, Karthik Menasinkai, Suhas Shirol, (2016) "Smart Security for Women Based on Internet of Things(IoTs)", IEEE International Conference on Electrical, Electronics and Optimization Techniques (ICEEOT), DOI No: 10.1109/ICEEOT.2016.7755365
- [6]. Remya George, Anjaly Cherian. V, Annet Antony, Harsha Sebestian, Mishal Antony, Rosemary Babu. T, (2014) "An Intelligent Security System for Violence against Women in Public Places", International Journal of Engineering and Advanced Technology, Vol. 3, Issue. 4, pp. 64-68.
- [7]. Nishant Bharadwaj, Nitish Aggarwal, (2014) "Design and Development of Suraksha A Women Safety Device", International Journal of Information and Computation Technology, Vol. 4, No. 8, pp. 787-792.
- [8]. Nandita Viswanath, Naga Vaishnavi Pakyala, G. Munneswari, (2016) "Smart Foot Device for Women Safety", IEEE Region 10 Symposium (TENSYMP), DOI No:10.1109/TENCONSpring.2016.751939 1.
- [9]. Alexandros Pantelopoulos, Nikolas G. Bourbakis, (2010) "A Survey on Wearable Sensor-Based Systems for Health Monitoring and Prognosis", IEEE Transactions on Systems, Man and Cybernetics Part C: Applications and Reviews, Vol. 40, No. 1, DOI No: 10.1109/TSMCC.2009. 2032660.

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- [10]. Arduino Nano 3.0 Data Sheet, retrieved date: September, 2020 [Online], Available: https://www.arduino.cc/.
- [11]. SIM800L GSM Module Data Sheet, retrieved date: August, 2020 [Online], Available: https://simcom.ee/.

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- [12]. NEO- 6M GPS Module Data Sheet, retrieved date: September, 2020 [Online]. Available: https://www.u-blox.com.
- [13]. FS100A RF Tx and Rx Module Data Sheet, retrieved date: September, 2020 [Online], Available: http://www.mantech.co.za.
- [14]. Google Maps [Online], Available: https://www.goo.gle.com/maps, Google LLC, 1600 Amphitheatre Parkway, Mountain View, CA 94043, USA.

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