Abstract

The present solutions for the navigational purposes that are available in the market are not tailored specifically for the needs of bikers/cyclists. Hence, in this system we design a system based in a shoe that guides the motorcyclist along the route from source to destination. Since the system is implemented in shoes we use a battery for power supply. Bluetooth is used to get the location coordinates from a mobile phone that uses GPS for location services. An android app for searching the source to destination route. The control unit vibrates according to the route to inform the motorcyclist to take a left/right turn after a certain distance or to keep on heading straight or to take a U-Turn.

References

1. Ying-Xun Lai, Yi-Wei Ma1, Yueh-Min Huang1, JiannLiang Chen, and Subhas Chandra Mukhopadhyay.” Ubiquitous Motion Sensing Service Using Wearable Shoe Module and Mobile
Smart Navigational Shoes for Bikers/Cyclists

Device”, 1National Cheng Kung University, Tainan, Taiwan 2016.
2. Miss. Smita S. Auti*, Prof. Nagnath B. Hulle,” Advanced shoes with embedded position tracking and path guidance to keep track of Alzheimer’s patients”, Electronics & Telecommunication Dept., GHRCOEM, Chas, Ahmednagar, India, January 2015.
3. Diksha M. Wasekar ,Purva D. Thakare , Prof. R. P. Bijwe ,” Lechal Footwear Technology”, Associate Professor CSE, H.V.P.M's COET Amravati, Maharashtra, India, April 2016.
4. Battin, Pradnya, and S. D. Markande. "Location based reminder Android application using Google Maps API." Automatic Control and Dynamic Optimization Techniques (ICACDOT), International Conference on. IEEE, 2016.
5. Chang, Chau, et al. "Design and implementation of the travelling time-and energy-efficient android gps navigation app with the vanet-based a* route planning algorithm." Biometrics and Security Technologies (ISBAST), 2013 International Symposium on. IEEE, 2013.
6. Li, He, and Lai Zhijian. "The study and implementation of mobile GPS navigation system based on Google Maps." Computer and Information Application (ICCIA), 2010 International Conference on. IEEE, 2010.
7. Rahman, Md Marufi, et al. "Real time Google map and Arduino based vehicle tracking system." Electrical, Computer & Telecommunication Engineering (ICECTE), International Conference on. IEEE, 2016.
8. Erol, Mehmet Hamza, and Faruk Bulut. "Real-time application of travelling salesman problem using Google Maps API." Electric Electronics, Computer Science, Biomedical Engineering's' Meeting (EBBT), 2017. IEEE, 2017.
9. Rosen S. Ivanov “Algorithm for GPS Navigation, Adapted for Visually Impaired People”.
10. Li Yang, “Smart Shoe": an autonomous inkjet-printed RFID system scavenging walking energy" 2011.

Index Terms
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