



SDI Review Form 1.6

Journal Name:	<u>British Journal of Applied Science & Technology</u>
Manuscript Number:	2015_BJAST_18607
Title of the Manuscript:	Hardware Efficient Scheme for Indoor Environment Using Grid Mapping
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<u>Compulsory</u> REVISION comments	1. Authors need to make an extensive state-of-the-art bibliographical search to locate recently published key papers on the field. Try using IEEE Xplore and Scopus databases for locating these papers. A non exhaustive list of recently published papers in the field follows: Algabri, M., Mathkour, H., Ramdane, H., Alsulaiman, M. Comparative study of soft computing techniques for mobile robot navigation in an unknown environment (2015) Computers in Human Behavior, 50, pp. 42-56. Chinnaiah, M.C., Divyavani, G., Satyasavithri, T., Rajeshkumar, P. Implementation of Shortest path planning algorithm without track using FPGA robot: A new approach (2014) 2014 International Conference on Advances in Electrical Engineering, ICAEE 2014, art. no. 6838555, . Abdelmoula, C., Chaari, F., Masmoudi, M. Real time algorithm implemented in Altera's FPGA for a newly designed mobile robot: Autonomous navigation and parallel parking (2014) Multidiscipline Modeling in Materials and Structures, 10 (1), art. no. 17112943, pp. 75-93. Baturone, I., Gersnoviez, A., Barriga, Á. Neuro-fuzzy techniques to optimize an FPGA embedded controller for robot navigation (2014) Applied Soft Computing Journal, 21, pp. 95-106.	Comment 1: We incorporated all papers suggested by reviewers Comment 2: We also extended the introduction and literature survey. Comment 3: Given detailed vlsi architecture and Xilinx soft core utilization at section 3.1 . Comment 4: Changed the simulation results and mapped with the explanation. Comment 5: The novelty of the algorithm and differentatives are mention in section 4.5 Comment 6: The Conclusion (section 5) are extended with the reviewers comments.



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	Howard, T., Pivtoraiko, M., Knepper, R.A., Kelly, A. Model-predictive motion planning: Several key developments for autonomous mobile robots (2014) IEEE Robotics and Automation Magazine, 21 (1), art. no. 6740036, pp. 64-73. Cited 4 times. Supakar, N., Senthil, A. PSO obstacle avoidance algorithm for robot in unknown environment (2014) 2013 International Conference on Communication and Computer Vision, ICCCV 2013, art. no. 6906739, . Das, A., Diu, M., Mathew, N., Scharfenberger, C., Servos, J., Wong, A., Zelek, J.S., Clausi, D.A., Waslander, S.L. Mapping, planning, and sample detection strategies for autonomous exploration (2014) Journal of Field Robotics, 31 (1), pp. 75-106. Authors need to discuss these papers and other papers in the introduction section to place in context their proposal in fair comparison to the published methods. 2. It is recommended that authors describe their proposal supported by theoretical background. 3. Authors need to describe in more detail the implemented system in the FPGA. Which processor is used? A Xilinx softcore or a proprietary core? Which cores were developed by authors and which were generated with the core generator? 4. Figures from simulation are not really informative. It is better that authors describe in the text the operating	
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	conditions of the analyzed cases (initialize, etc.) 5. It is strongly recommended that authors could make a technical comparison of their proposed methodology and other methodologies. For instance, in section 4.5 authors claim: "The other robot path planning algorithms like D*, A* is not perfectly fitted towards service environment. The proposed algorithm perfectly drive the robot path by landmark determination. The efficiency is improved in driving the path and hardware scheme made parallel processing with low power consumption". This statement needs to be sustained with technical data, for example, you can provide the information related to precision of your proposal and other methods. Also you can provide the power consumption of your proposal and other techniques. 6. Conclusions are too brief. Conclusions need to be extended and reinforced with the comparison between your method and other methods.	
<u>Minor</u> REVISION comments	A general revision of language is recommended to improve English.	
<u>Optional/General</u> comments		