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<b>Author(s) Name:</b>	Hasan Sayeed, Md. Nahian Al Subri Ivan, Hasan Ratiqul, Ehsan Maisa Mahjabeen, Amir Fakir Saykot, Chowdhury Akram Hossain
<b>Contact Email(s):</b>	chowdhury.akram@aiub.edu
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## Abstract:

Generally Internal Combustion (IC) engine based power generating unit requires a battery pack for ignition. Use of Lead acid batteries for this purpose is very common for this type of engine as lead acid batteries are comparatively safer and cheaper. Most of the cases it has been seen that the backup generator which uses IC engine remains idle for several days which causes capacity degradation. In this paper a lead acid battery monitoring and charging system is proposed which will be used for these kind of backup generators to monitor the health of the battery and two state charging mode is introduced in the system to charge the battery safely while necessary. The system monitors the parameters such as voltage, charging current, temperature and electrolyte level of the battery. It can also connect to internet via Wi-Fi which allows remote monitoring of the battery.