



5th International Symposium on
Applied Engineering and Sciences (SAES2017)
14th–15th November 2017 | MALAYSIA
UNIVERSITI PUTRA MALAYSIA, SERDANG, SELANGOR



Presentation code:

E27

A Preliminary Study on Operation Management for One-way EV Car Sharing System in University Campus

K. Katamine¹, M. Umeda¹, K. Ueno¹, Shaiful J. Hashim², Syed Al-Haddad²,
Rusli Abdullah³, Khaironi Y. Sharif³

¹Department of Creative Informatics, Graduate School of Computer Science and Systems Engineering,

Kyushu Institute of Technology, 680-4 Kawazu, Iizuka, Fukuoka 820-8502, Japan.

²Department of Computer and Communication Systems Engineering, Faculty of Engineering, Universiti Putra Malaysia, 43400 UPM Serdang, Selangor, Malaysia.

³Department of Software Engineering and Information System, Faculty of Computer Science and Information Technology, Universiti Putra Malaysia, 43400 UPM Serdang, Selangor, Malaysia.

*Corresponding author's e-mail: katamine@ci.kyutech.ac.jp

Abstract. Car sharing using electric vehicles (EVs) is effective in local society and community from the viewpoint of economy and the protection of the natural environment. For instance, Universiti Putra Malaysia (UPM), which has two large campuses, has a plan to use a small number of small EVs as one of transportation methods. When a large number of people share a small number of vehicles in this way, the conflict of usage requests by users may cause inconvenience to users and ineffective operation of vehicles. In addition, because the degree of legal compliance with usage time and operation rules relies on social and cultural backgrounds, operation methods may be affected by them. Therefore, a framework for supporting operation management in consideration of characteristics of the local society and community is necessary in order to efficiently operate a limited number of vehicles without detracting from the convenience of users. We have been developing an operation management support system for one-way EV car sharing in the university campus to improve user convenience and vehicle operation efficiency. In this presentation, we clarify the issues of operation management for car sharing system. We also introduce an overview of the operation management support system and propose several reservation methods of vehicles.