

## **ABSTRACT**

*Electric motorcycle is require a battery to be used. When the battery's energy has been depleted, the battery needs to be recharged. But with the duration of the charging the battery is relatively old and limited places to do the charging to occur the limited distance that can be traveled by electric motorcycles. so, needed battery charging system that can shorten charge time and extend the mileage of electric motorcycles.*

*Therefore the author conducting research on battery swapping system. In this final Task, author of designing simulation of Battery Swapping Station Management (SPB) to electric motorcycles. It contains the research component of the final project is among other things, the procedure of replacing the batteries and replacement battery time estimation, monitoring system by the station battery replacement and battery replacement costs.*

*Results from the making of the final project, the design of the battery replacement procedure is applied to the SPB, among others: the user account into the replacement battery by inserting a PIN for a user, the selection of rechargeable batteries will be switched with the user's battery, the process of inserting the batteries into the empty slot user available, payment replacement batteries, and batteries that have been selected by the user. For the estimated duration of the battery replacement in SPB based on data that is 1 minute 13 seconds. For system monitoring, the SPB can monitor battery available in SPB, the condition of the battery slot and battery replacement. Of the process of monitoring the battery, the battery serial number information is obtained, the percentage of energy battery and battery life. For monitoring slot slot number information is obtained, the battery and the slot. For the replacement cost of the battery is at a range of Rp 18,117 up to Rp 36,839 depend on battery condition taken and exchanged in SPB.*

*Keywords : Electric Motorcycle, Battery Swapping Station.*