

## ABSTRACT

*Along with the development of the times, the use of electrical devices has increased, especially in the use of smartphones. A smartphone needs a battery source to work well. Each battery has its own endurance which is influenced by various factors, one of which is when we do the battery charging. During the battery charging process, the State of Charge (SoC) can be increased by up to 100%. Batteries that are already in 100% condition but still connected to the charger will continue to receive an electric current input even if it is of little value if left for a long time will cause a reduction in battery life and durability on the smartphone.*

*This final project aims to create an automatic battery charging system based on the Android operating system. The result of this system is when the percentage we have set is in accordance with the percentage of the battery on the smartphone, the system will automatically cut off the incoming current so that the charging process will stop. This system will be designed using a microcontroller, Bluetooth module, relay module, Android application, and smartphone that has an Android operating system.*

*Keywords: Smartphone, State of Charge, Android*