

ABSTRAK

Supermarket biasanya cukup luas dengan banyak barang yang dijual di berkelompok tergantung jenis barang. Terkadang pembeli yang sedang buru buru bingung dimana mencari barang yang sedang dibutuhkan. Dalam perancangan ini penulis menggunakan VLC (*Visible Light Communication*), photo diode, mikrokontroler, baterai, serta *LCD*. Rangkaian VLC dapat dibedakan frekuensinya dengan cara membedakan nilai resistor yang terhubung ke kaki R1 dan R2 di IC NE555. Data frekuensi dikirim melalui cahaya lampu yang menyorot ke receiver photo dioda sehingga rangkaian receiver photo dioda dapat membedakan frekuensi VLC di rak 1 atau VLC di rak 2. Nama barang, harga barang dan diskon sudah tersimpan di memori Arduino yang terdapat di troli, cahaya lampu yang menyorot ke receiver photo dioda dari VLC di rak 1 dan VLC di rak 2 hanya sebagai remote untuk memilih data barang di rak 1 atau di rak 2 yang mau ditampilkan.

Kata Kunci: VLC, photo diode, mikrokontroler, baterai, *LCD*.

ABSTRACT

Supermarkets are usually quite spacious with many items sold in groups depending on the type of goods. Sometimes buyers who are in a hurry are confused where to find items that are needed. In this design the author uses VLC (Visible Light Communication), photo diode, microcontroller, battery, and LCD. The VLC circuit can be distinguished in frequency by distinguishing the value of the resistor connected to the foot R1 and R2 in IC NE555. Frequency data sent through the light that highlights the receiver photo diode so that the photo diode receiver circuit can distinguish the VLC frequency on rack 1 or VLC on the shelf 2. The name of the item, the price of the item and the discount are stored in the Arduino memory contained in the trolley, the light highlight the receiver photo diode from VLC on rack 1 and VLC on rack 2 just as a remote to select data items on shelf 1 or on shelf 2 that you want to display.

Keywords: VLC, photo diode, microcontroller, battery, LCD