Ballistic

Calculator

Two files initially, one for rifle and one for calibre

The rifle file contains the rifle identifier (key) and name (value.

The cartridge file contains the rifle identifier, the cartrige identifier and name. It will also contain the weight, ballistic coefficient and muzzle velocity.

Because of limited computational and memory capacity of the ESP32, a number of compromises are required for any “database” that it uses. I will set an arbitrary maximum for the number of records permitted in each file. Each of the files described above contains two partitions. The first partition contains a list of Ids and the offset of the relevant record into the second partition. The data is stored as json structures.

Records in each partition are of fixed length. The record length varies with the type.

Rifle table

Partition 1:

rifleid 2 characters

offset 4 characters

The record length therefore is characters

Partition 2

rifleid 2 characters

desc 20 characters

count 2 characters The number of cartridges recorded for this rifle

The record length 50 characters

Cartridge table

rifleid 2 characters

cartridgeid 2 characters

desc 20 characters

weight 4 characters

muzzle velocity 5 characters

Ballistic coefficient 6 characters

The record length 85 characters