# The PyBinaryClock

User manual, version 2019.1

Introduction

This is a binary clock with a specially designed circuit-board and a raspberry pi zero.

How to read the time

The clock is in binary code with each figure as a column as HH:MM:SS.

A green led in the lowest row means '1' and in the next '2', '4' and '8' respectively. A red led means that this position is '0' and to get the correct time each figure is a sum of the positions with green leds in that row.
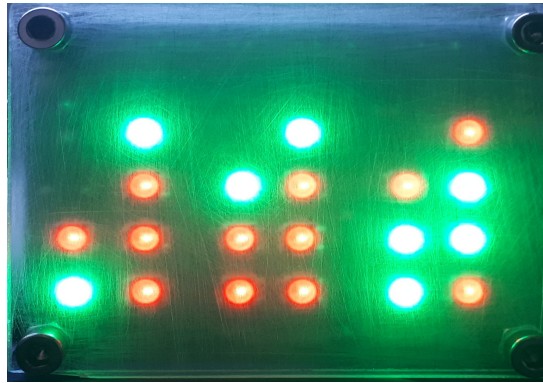
Example: The time is 18:48:36

Connections, on the backside of the raspberry pi:

Power: 5V micro USB (phone charger)
I/O: Micro USB to USB, OTP cable for connecting keyboard/LAN/etc via USB
HDMI: Micro HDMI for a screen

Buttons, on the backside of the circuit-board:

            'Long-press'
S1:   Set WiFi-connection-mode,
S2:   not used yet
S3:   not used yet

Simple set-up of WLAN

This method can be used if you have a router with a 'WPS' button.

1. Start the clock and wait until a time-pattern is shown
2. Press S1 for at least 3 seconds .
3. The display switch to 'WPS-connection-mode' (all yellow for a short time) and starts to count by lighting one blue led at a time.
4. Press the 'WPS-button' on your router for a couple of seconds.
5. When the connection is established (it can take a minute), a led turns green and the the clock starts with the correct time for central European time.
6. The battery powered real-time clock is now also set to the correct time.

Github project page: https://github.com/teddycool/BinaryClock