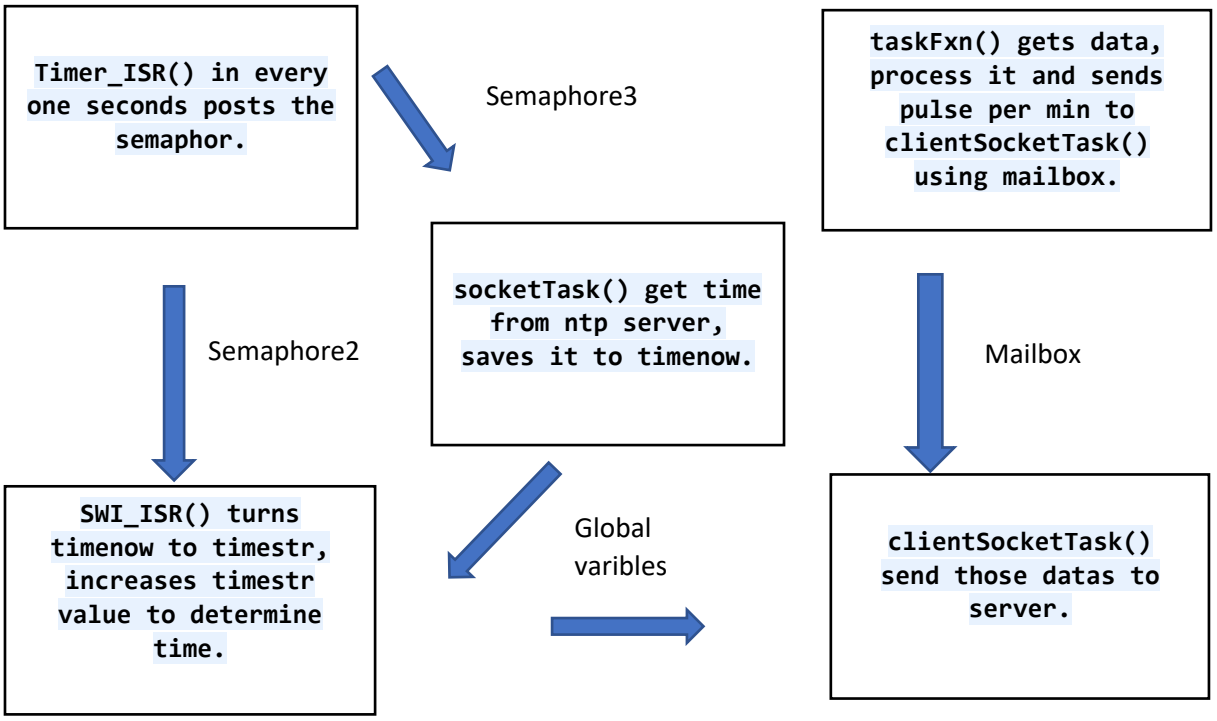
The main purpose of this project is to write a code that gets a pulse value, then sends that to a server. A mailbox, a semaphore, a timer and 4 task are used. Using a MAX30100 IR sensor, the time between each pulse is determined, dividing 60000 with this time value gives as avarage pulse in minute. In the figure below, it can be seen, for which functions these are used.



In socketTask() gets time value from ntp server, saves it on takenTime[] global variable.

In SWI_ISR() task activates every one second using timer turns takenTime[] to timenow integer, adds counter to increment the value when time passes.

clientSocketTask() task is used to process data from taskFxn to send to server. Using sendData2Server() function which creates a socket to connect with hercules data is sended to the server.

taskFxn() task cominicates with max30100 using I2C protocol. It sets its mode, sampling rate, pulse width and led current. Then using its fifo register, it gets IR data. With a DC ofsett filter and a butterworth filter it process this data to pulse per min.