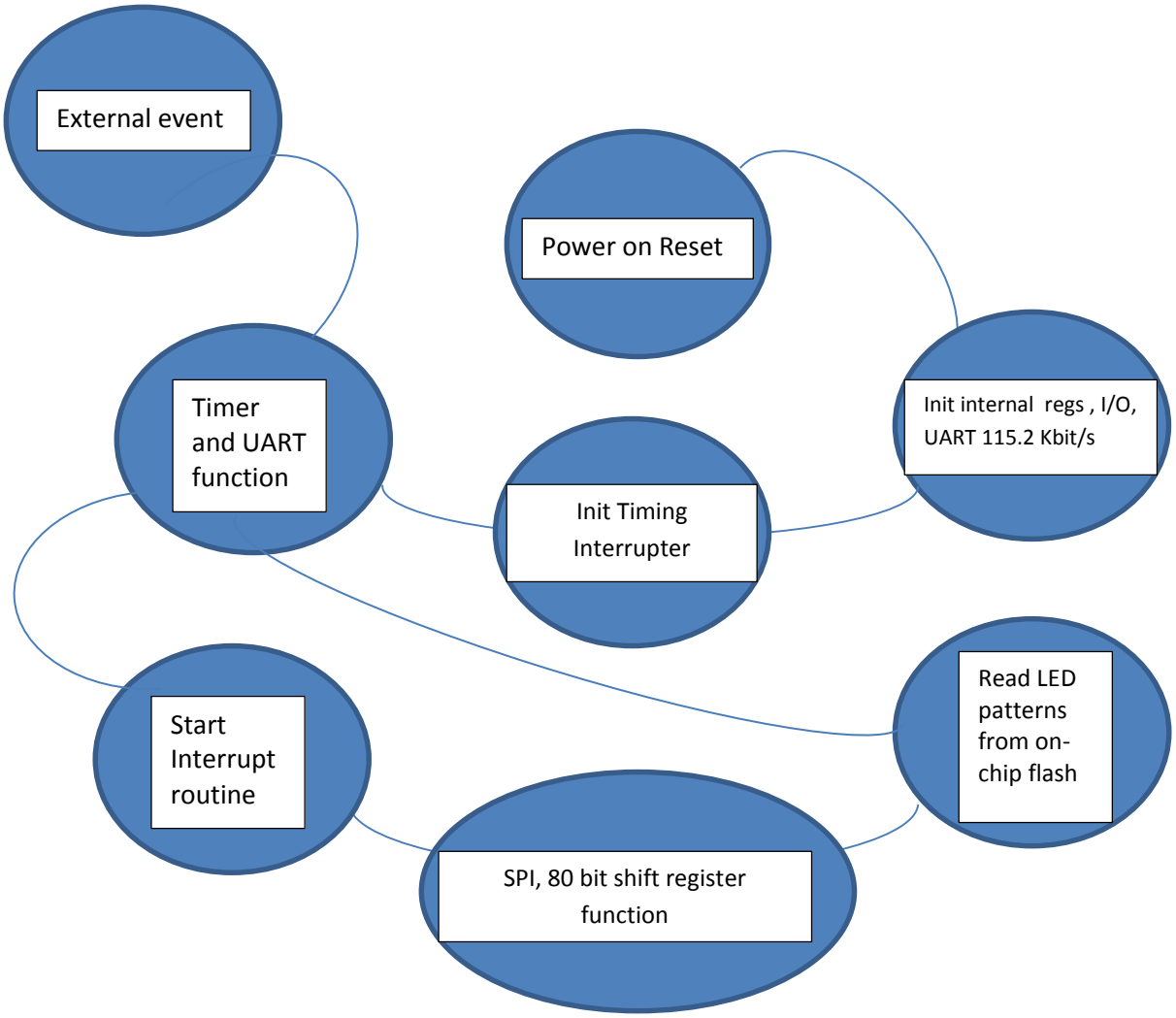
IR evaluation board implements 40 IR IR LEDs which are driven by 80 bit shift register with LED driver outputs. Each two outputs of shift registers drive one IR led. The board implements causes each of the 40 LEDs to flash in a unique 16-bit pattern. The pattern was designed to minimize pattern overlap between LEDs and to minimize energy consumption by reducing “ON” states

The LEDS change pattern simultaneously as a result of an external trigger or a timeout. Sixteen 80 bit patterns (2 x 40 bit) are stored inside flash memory of STM8 microcontroller.

Program flow:



The firmware of this microprocessor implements UART communication for debug. Implemented protocol:

Baud rate: 115200 bit/sec,
Number of bits: 8
No parity
1 stop bit

The user can read or temporary change work parameters of the algorithm by typing the following commands:

Command	**Meaning**
FR	Read flash period
FW:[flash period hex]	Set flash period
BR	Read blank period
BW:[blank period hex]	Set blank period
IR	Read interval period
IW:[interval period hex]	Set interval period
SR	Read simulation period
SW:[simulation period hex]	Set simulation period
PR: :[pattern hex(0-F)]	Read one of the 16 patterns
PW:[pattern hex(0-F)]	Set one of the 16 patterns
HW	List of commands

For example: