PART 2 – OK, the main project requires multiple nodes -

The first and simplest client requires a large 4-digit LED display. I had a SURE Electronics display board on hand… it also uses an SPI interface, but I wanted to keep the LoRa radio's SPI interface separate – so this uses the standard Arduino ShiftOut() functions to drive the display.
(A different client node will require a different SPI display – so I plan to repurpose this shift-interface when it arrives.)

As noted earlier – the LoRa server node is running, and working as intended with the first client being described here. This is the simplest client – picked as a learning base, and some elements can be carried over to the other more complex nodes later.

In fact - the server node already has a few blocks of code to deal with the other clients already… they're already written around the same core of software. I just change two #defines to select which node is being built… this saves memory, rather than having all server and multiple client features compiled into every node.

Here's the dev-board with the important bits loaded up…
The 5V/3V3 level-converter is mounted on the proto shield. At left you can see the 10-way ribbon cable used for the LED display module. The +12/GND supply input are shown at the top RH side o f the photo.
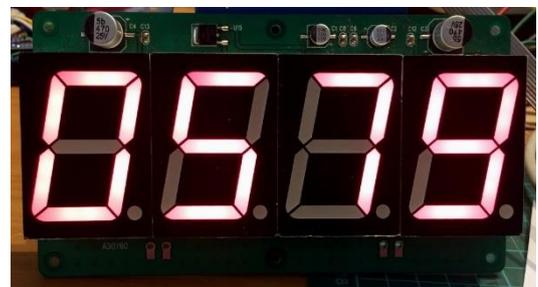The USB cable is behind that – won't be required after the unit is complete.
The LoRa radio module and antenna is on the right – connected back to the shield with seven hook-up wires.
Heat-shrink sleeving & epoxy / plastic paint has been used to minimise the risk of accidental shorts while tossing these modules around the desk
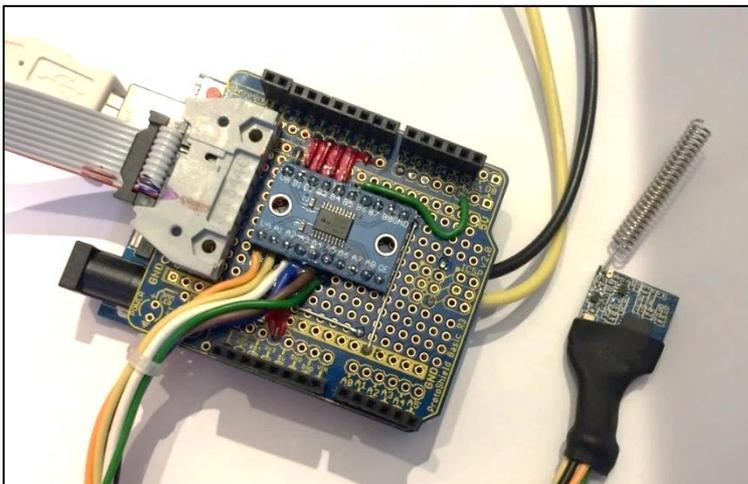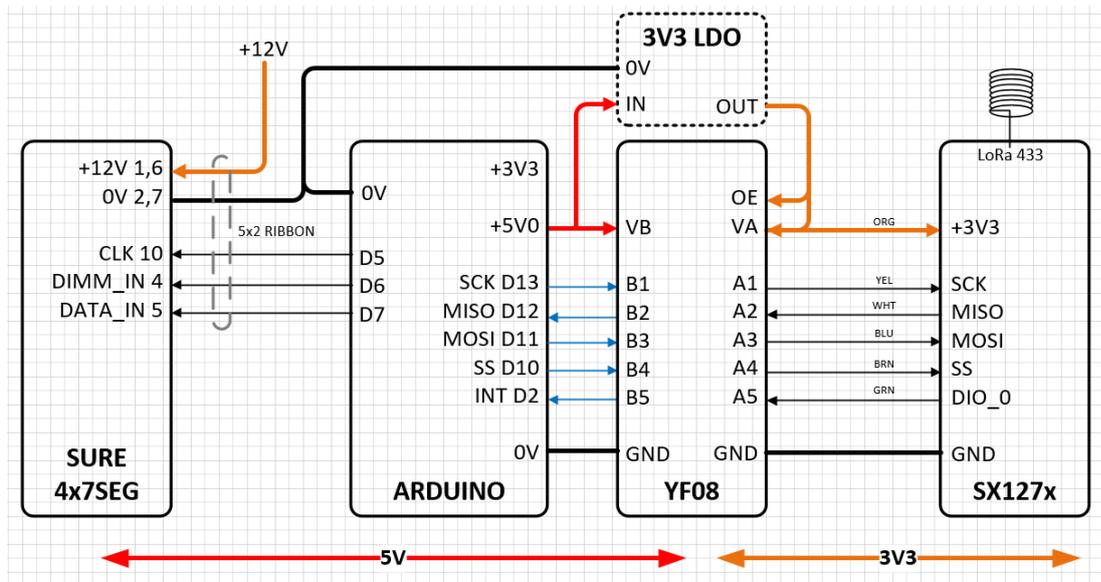

Yes, the LED display works as hoped!

The hardware isn't all that tidy – as it's a PROTOTYPE – and often requires minor rework during development.

(FOURTH schematic draft)

3V3 LDO

+12V

0V

IN   OUT

LoRa 433

SURE 4x7SEG		ARDUINO		YF08		SX127x
+12V 1,6		0V	+3V3		OE	LoRa 433
0V 2,7			+5V0	VB	VA	+3V3
CLK 10	D5					
DIMM_IN 4	D6		SCK D13	B1	A1 (YEL)	SCK
DATA_IN 5	D7		MISO D12	B2	A2 (WHT)	MISO
			MOSI D11	B3	A3 (BLU)	MOSI
			SS D10	B4	A4 (BRN)	SS
			INT D2	B5	A5 (GRN)	DIO_0
			0V	GND	GND	GND

5x2 RIBBON

◄───── 5V ─────► ◄──── 3V3 ────►

Cleaned up the wire-lines, and add 7-segment display on the left
Note the +12V supply needed for the display – and the common 0V/GND wiring

OK, that's all for today.
The next subproject will be the Server node to capture input and share it around.

To be continued…