IR   KB   LCD

uC

ARM

I2c
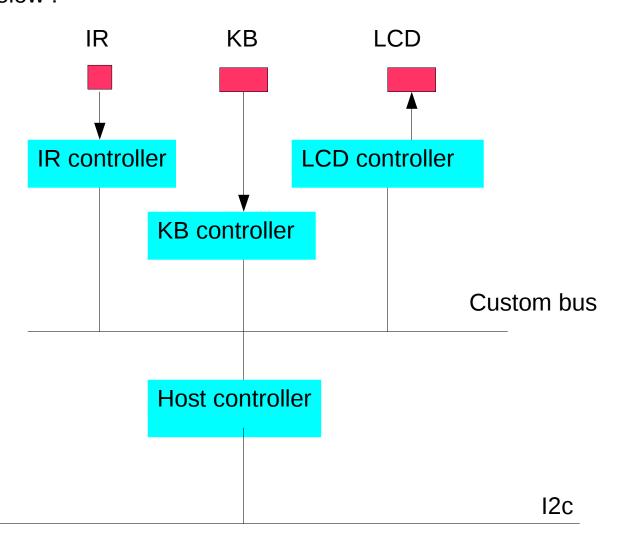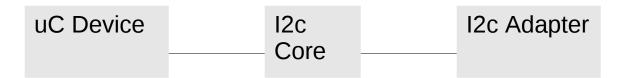
uController has API : IR_read(), KB_read(), LCD_write()
(Real API is more complex of course).
uController can be seen as an emulation of the SOC
below :

IR   KB   LCD

IR controller

LCD controller

KB controller

Custom bus

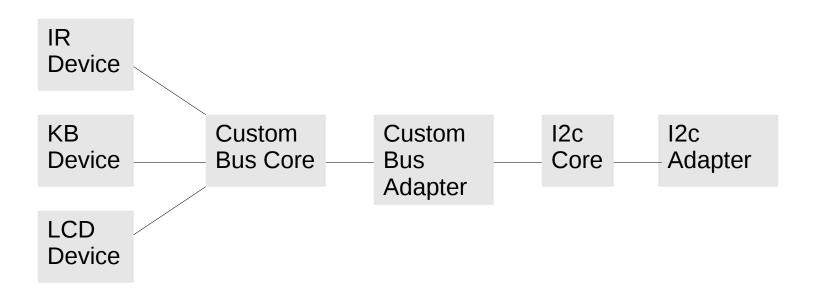Host controller

ARM

I2c

| uC Device | I2c Core | I2c Adapter |

For an ARM driver writer the device model can be the drawing upside (uController is seen as a monolithic i2c device) or the drawing downside (uController is seen as a SOC) :

IR Device				
KB Device	Custom Bus Core	Custom Bus Adapter	I2c Core	I2c Adapter
LCD Device				

I have a uController connected to a i2c bus as seen in slide 1 but i want the device model of the drawing downside. How can i implement this kind of custom subsystem in the embedded linux of ARM host ?
(something very simple much like platform bus).