Inter Integrated Circuit Module I2C

The I2C-bus is a de facto world standard that is now implemented in over 1000 different ICs manufactured by more than 50 companies. Additionally, the versatile I 2C-bus is used in various control architectures such as System Management Bus (SMBus), Power Management Bus (PMBus), Intelligent Platform Management Interface (IPMI), Display Data Channel (DDC) and Advanced Telecom Computing Architecture (ATCA).

This system will have multiple control inputs which can be used to set the simulator to read or write and reading will give pre generated values and writing will send data to the slave address

We can send multiple bytes of data to the slave with the input.

Usage Steps:

- This application can be started with the help of the ON/OFF button from the control, Slide the button to the right to turn on the system.
- Then sliding the button to the left will turn off the system.
- Then give data like slave address the mode of operation, address mode, voltage, Frequency and data needed to be transmitted.
- Then click on write, this operation will write data to the slave.
- The click on write again to enable the controls.
- If you need to read data, then just click read button to read data which is auto populated.
- The data and address of slave must be given in hexadecimal format.
- You can give the panel close or slide the ON/OFF button to terminate the application.
- This system can be used to send data to one slave at a time.

Handling Bus Capacitance:

To optimize the I2C speed, you can try to reduce the bus capacitance by using shorter and thinner wires, fewer devices, and lower pull-up resistors. You can also use a higher clock frequency if your devices support it, or switch to a faster mode, such as fast mode

plus (1 MHz) or high-speed mode (3.4 MHz). This can also be reduced by connecting lesser number of slave devices to reduce bus capacitance.