Child Discovery Process (setup)

Mother   Child 1   Child 2

childSetup()

Ask what types of input the
child has, and how many it has

childSetup()

Write 0x69

Request 2 bytes

byte 1: no. of buttons
byte 2: no. of rotaries

childSetup()

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child has, and how many it has

childSetup()

Write 0x69

Request 2 bytes

byte 1: no. of buttons
byte 2: no. of rotaries
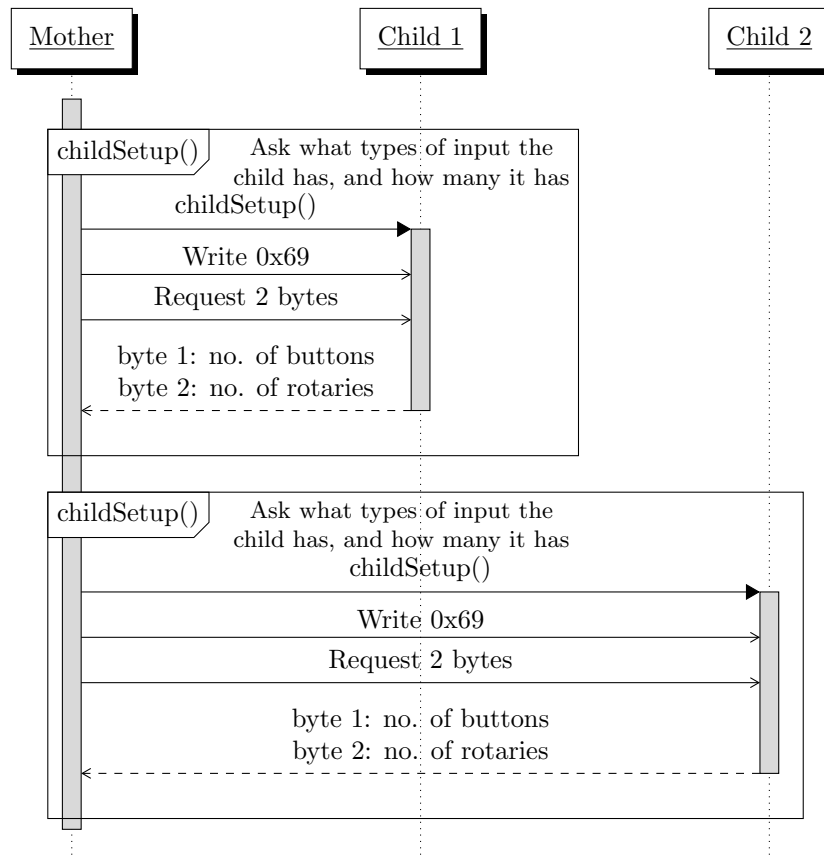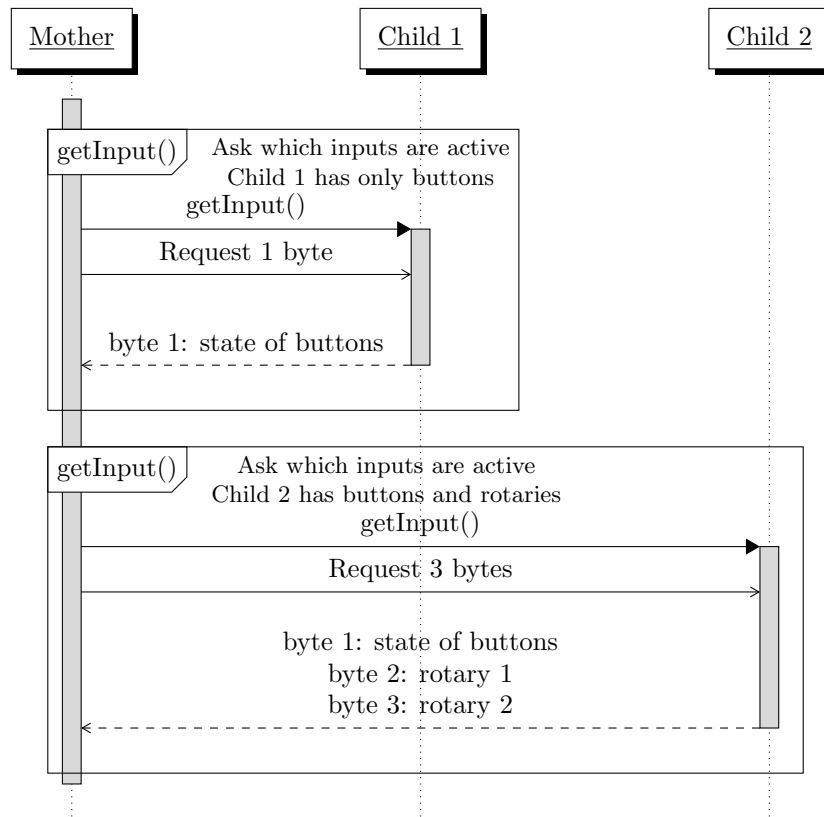
This process continues until all i2c addresses have been polled. Addresses are polled from low to high, with buttons allocated on the same basis. This ensures that the same boards, connected to the same host, represent the same buttons to the OS.

Data Request Process (loop)

Mother | Child 1 | Child 2

getInput() — Ask which inputs are active
Child 1 has only buttons
getInput()

Request 1 byte

byte 1: state of buttons

getInput() — Ask which inputs are active
Child 2 has buttons and rotaries
getInput()

Request 3 bytes

byte 1: state of buttons
byte 2: rotary 1
byte 3: rotary 2

This process cycles through all known active i2c addresses (discovered in child discovery process). Number of bytes varies depending on number of rotaries - first byte is always state of buttons, while subsequent bytes are rotaries