PID project presentation

Controller for live audio effect

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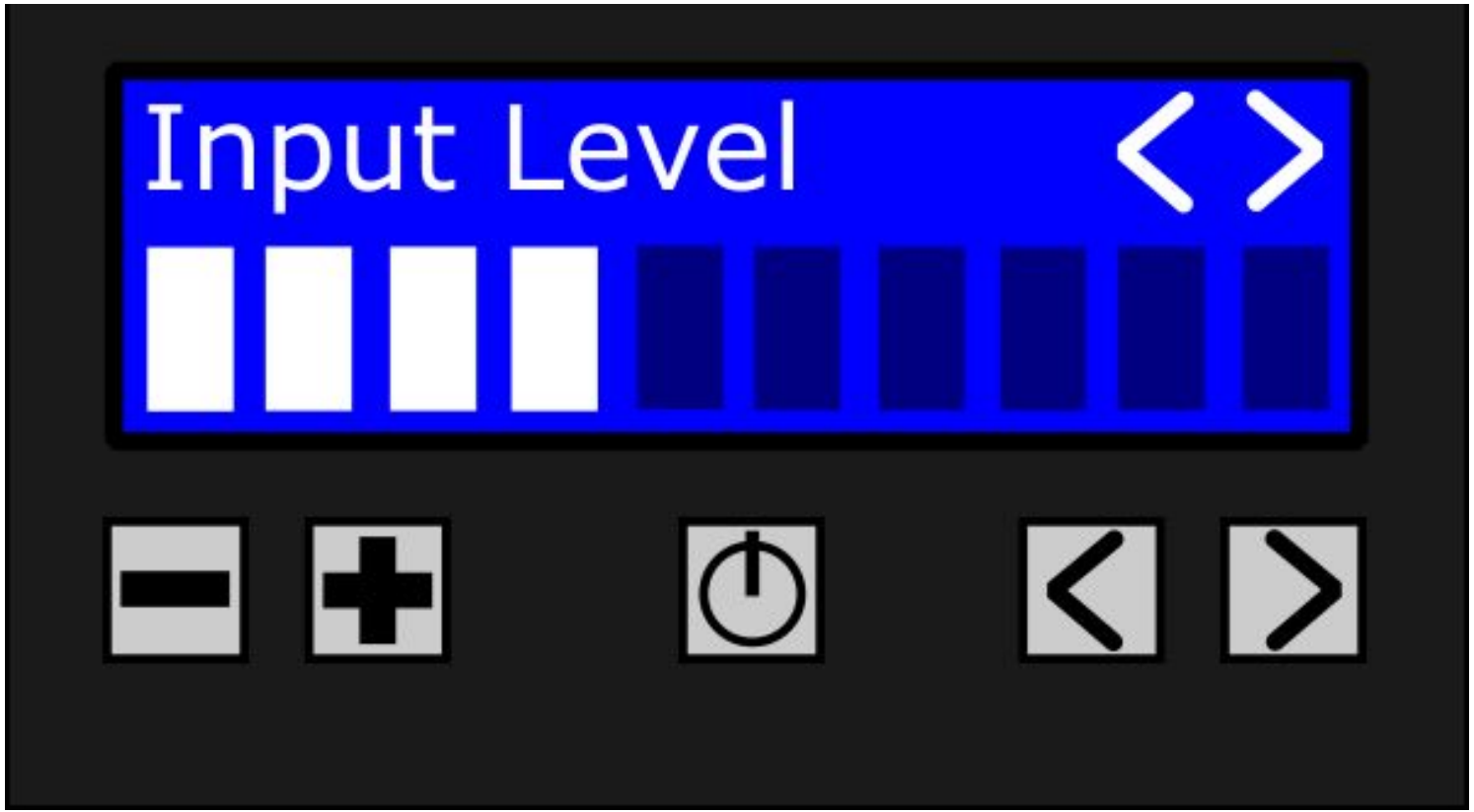
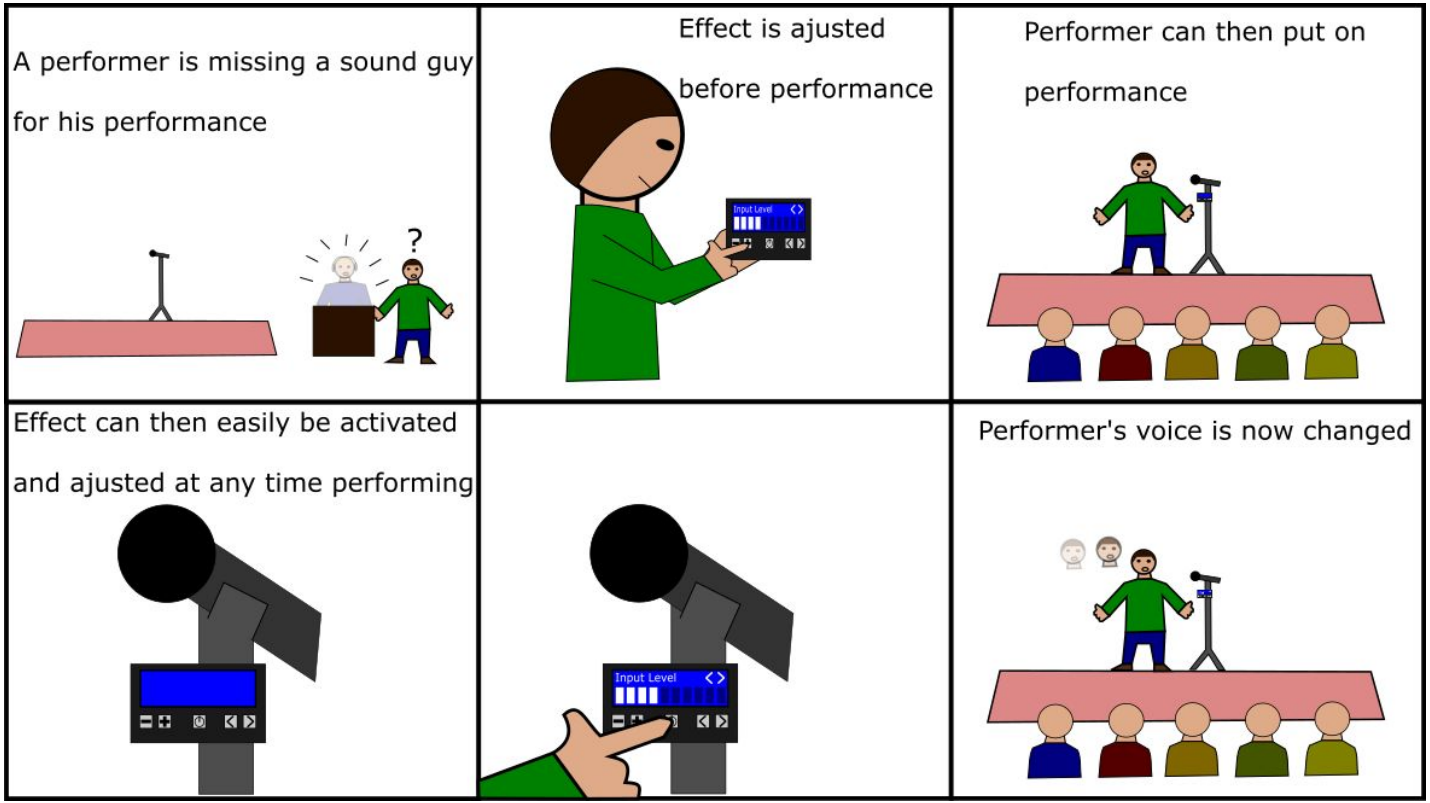
Morten Muhlig
Simon Brøndum

Design



Use Case

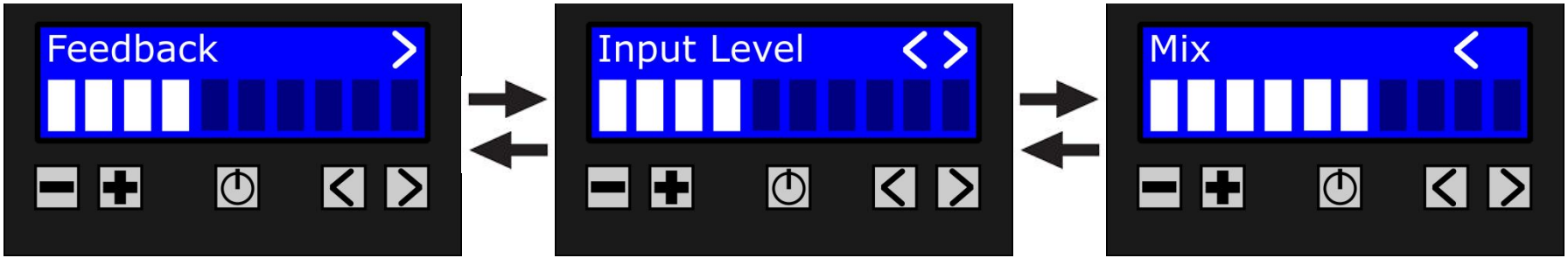

A performer is missing a sound guy
for his performance
?
Effect is ajusted
before performance
Input Level
Performer can then put on
performance
Effect can then easily be activated
and ajusted at any time performing
Input Level
Performer's voice is now changed

Design

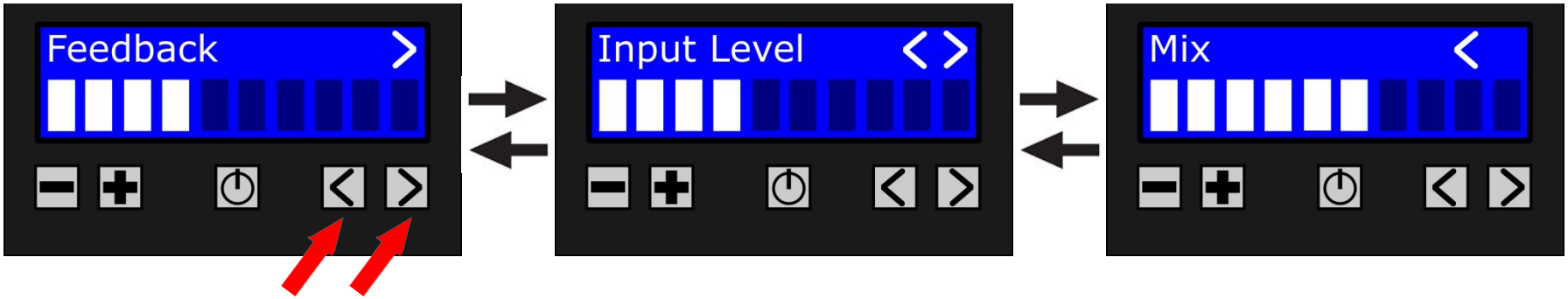
First variable

Middle variable

Last variable



Design



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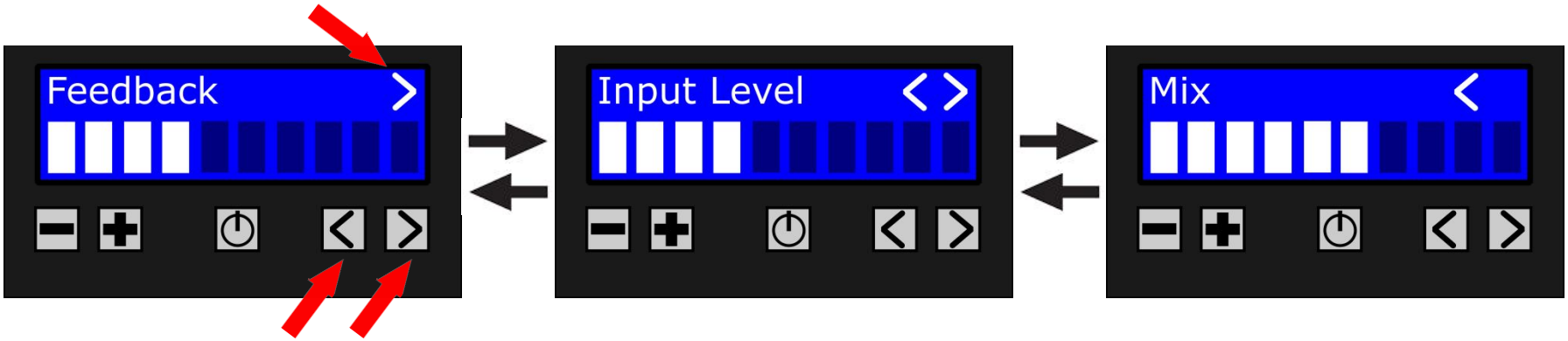

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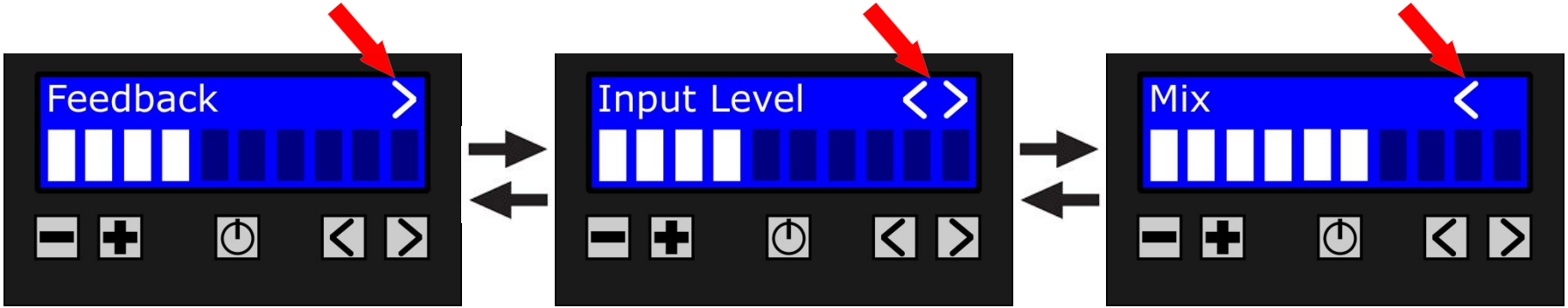

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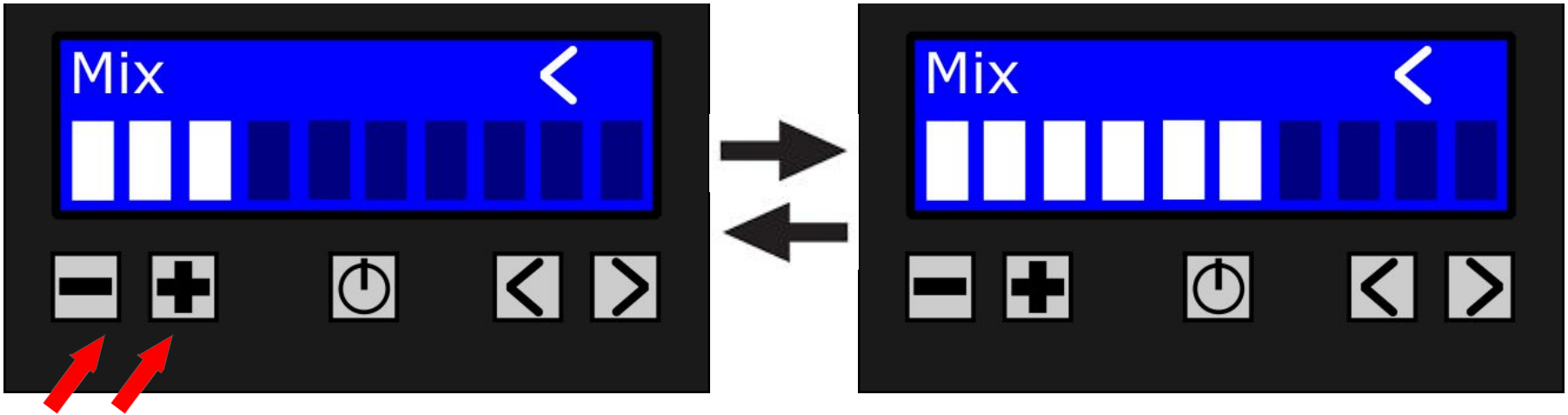
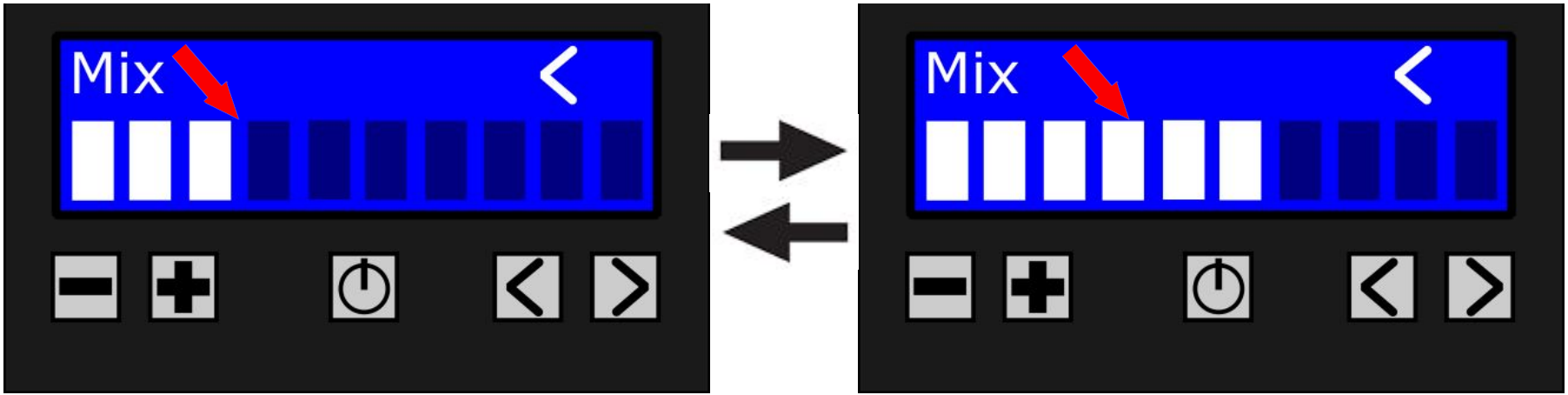


Design



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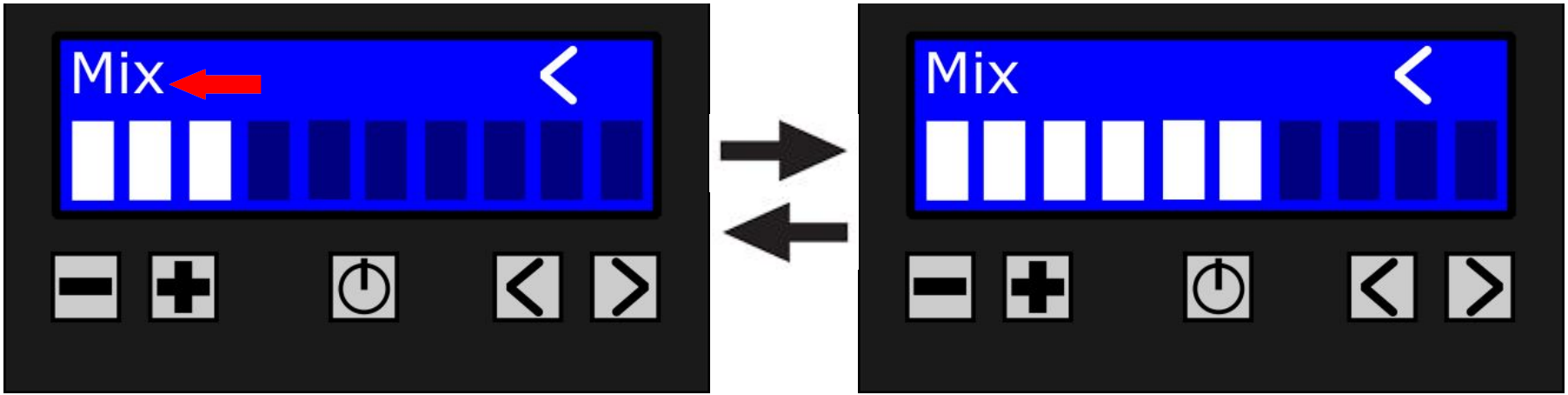

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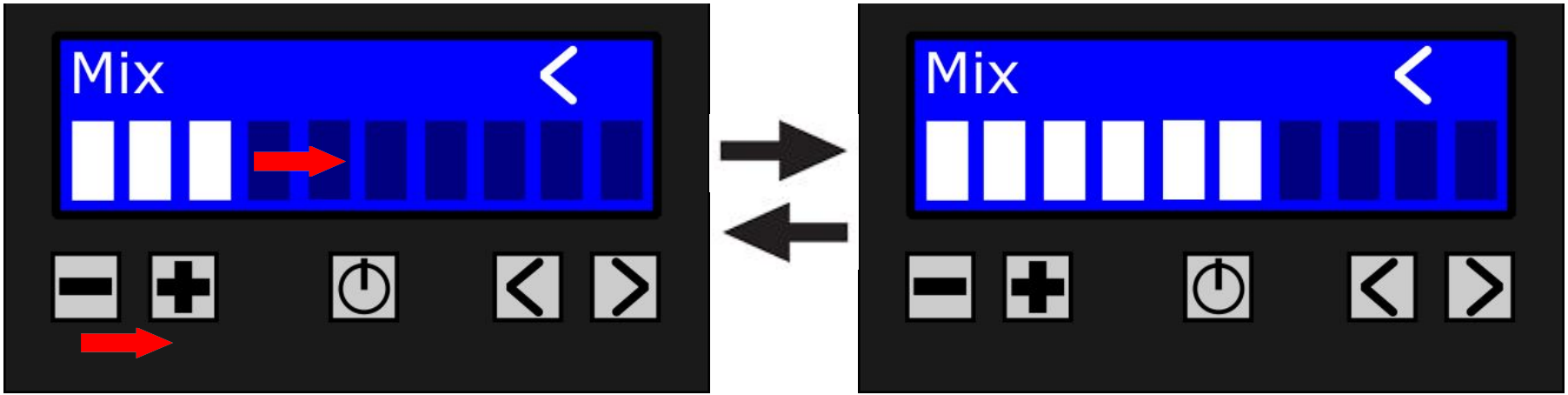

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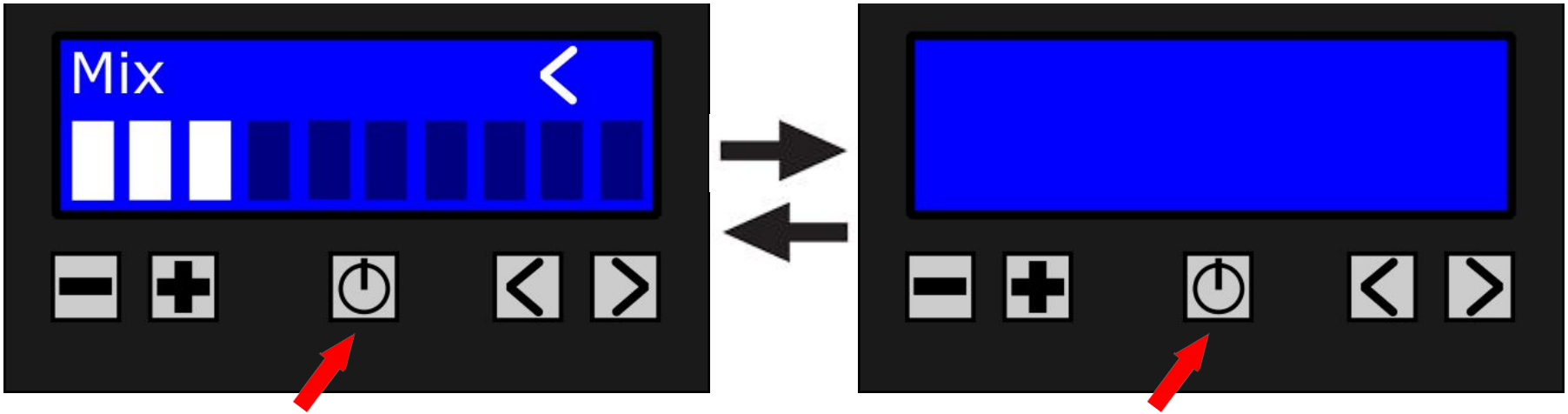

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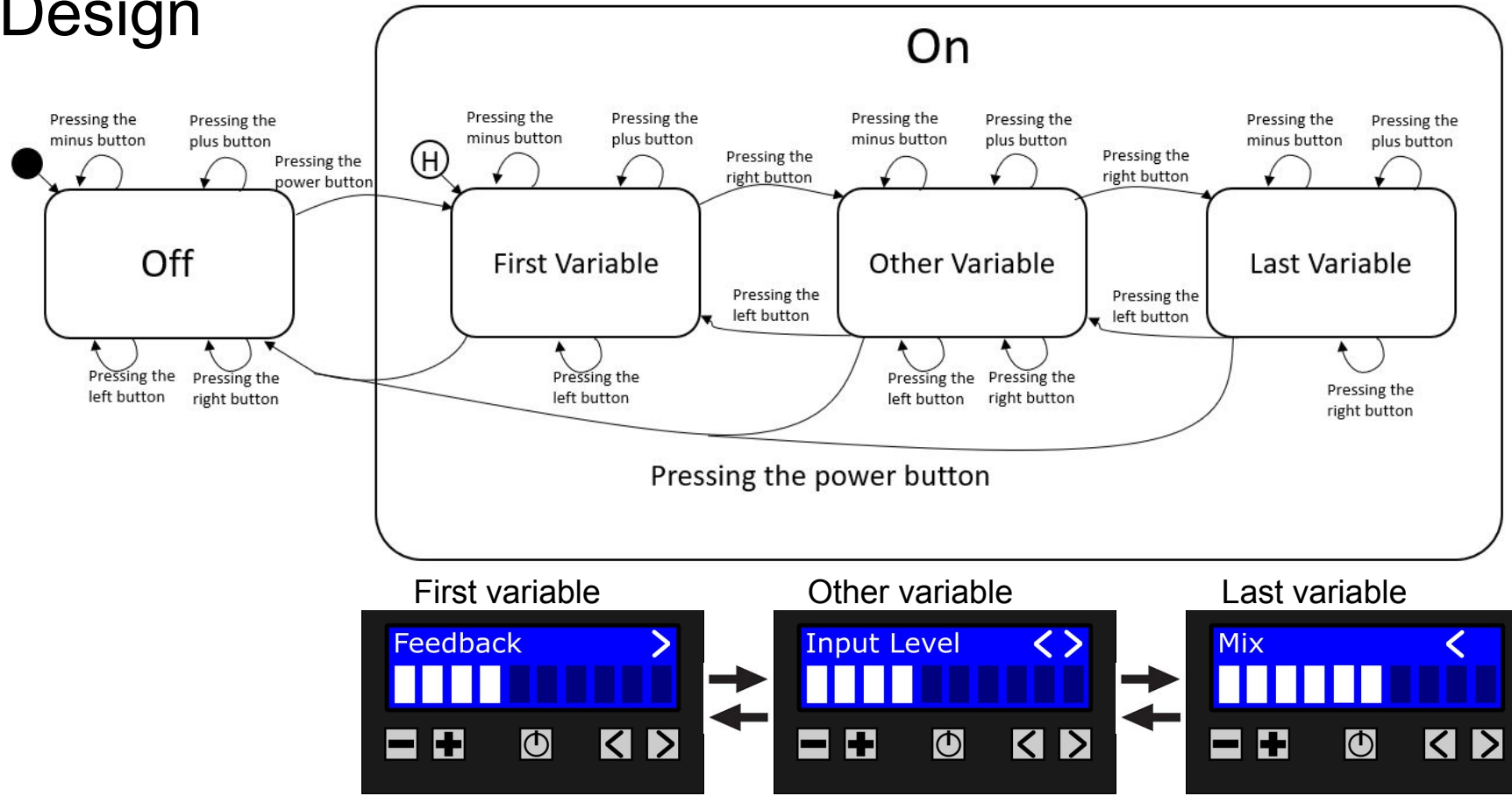
On
Off
First Variable
Other Variable
Last Variable
Pressing the minus button
Pressing the plus button
Pressing the power button
Pressing the left button
Pressing the right button
Pressing the right button
Pressing the power button
First variable
Other variable
Last variable
Feedback
Input Level
Mix

Design

state	indicator of current state	affordance	signifier	feed-forward	feedback	new state	indicator of new state
Off	Display turned off	Pressing the power button turns on device	The power symbol on the button	Display could be turned on	Display off is telling the device is off	On	Display turns on
On (First Variable)	Display is on and only right arrow is lit up	Arrows on display show arrows that can be pressed	Arrows on display and on buttons a similar	Arrow indicates multiple variables	Name and size of variable, is shown, only arrow to the right shows	Off, On(middle variable)	Display turns off, both arrows light up
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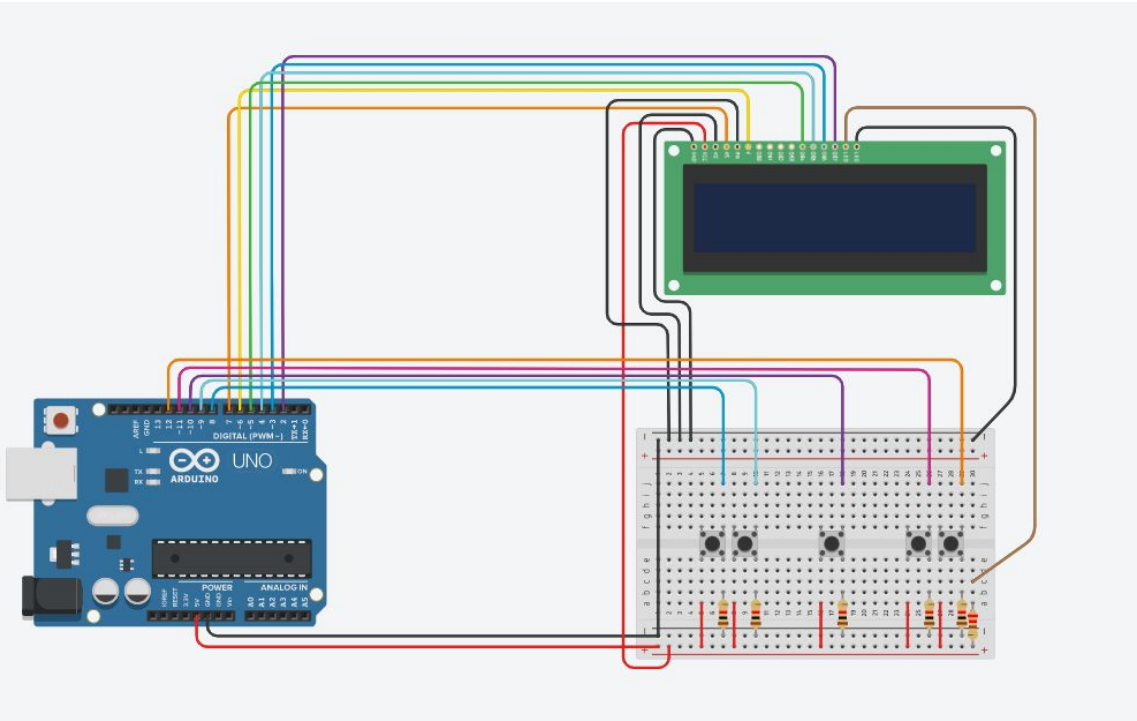
On (Last Variable)	Display is on and only left arrow is lit up	Arrows on display show arrows that can be pressed	Arrows on display and on buttons a similar	Arrow indicates multiple variables	Name and size of variable, is shown, only arrow to the left shows	Off, On(middle variable)	Display turns off, both arrows light up

Demonstration of Prototype

Cut to showcase

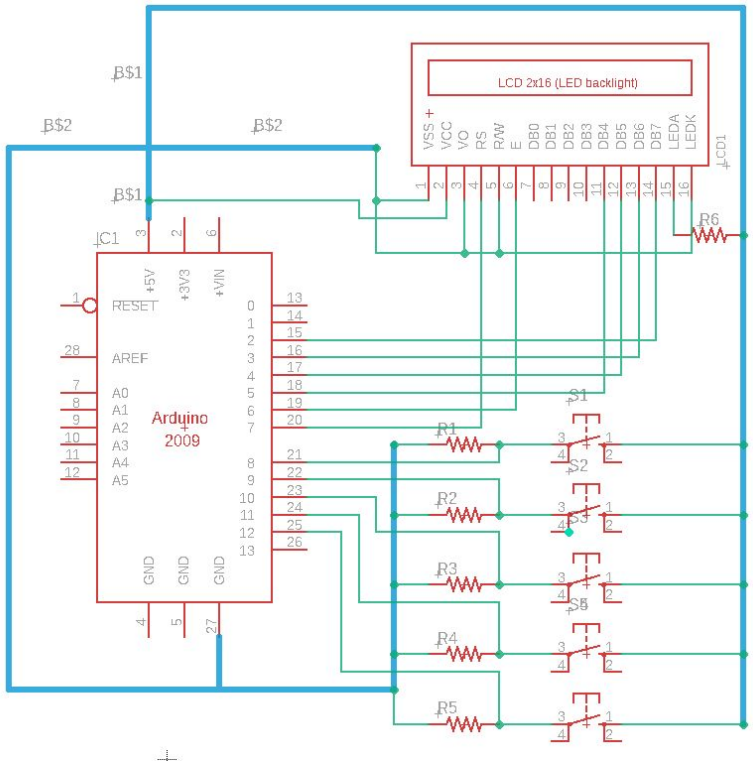
Circuit

- 1 Arduino
- 1 16x2 LCD
- 1 200 Resistor
- 5 1k Resistors
- 5 Buttons



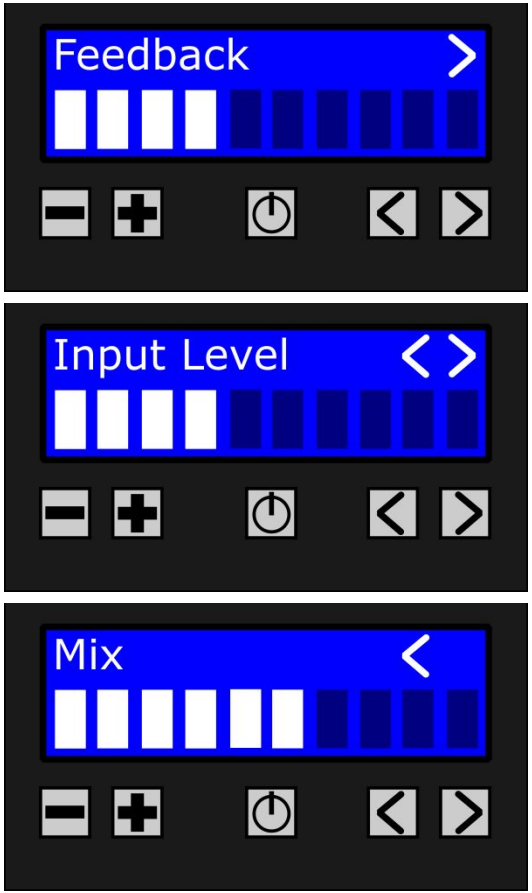
Circuit

- The system has buttons
- Could have used potentiometer
  - Would be problematic for different variables



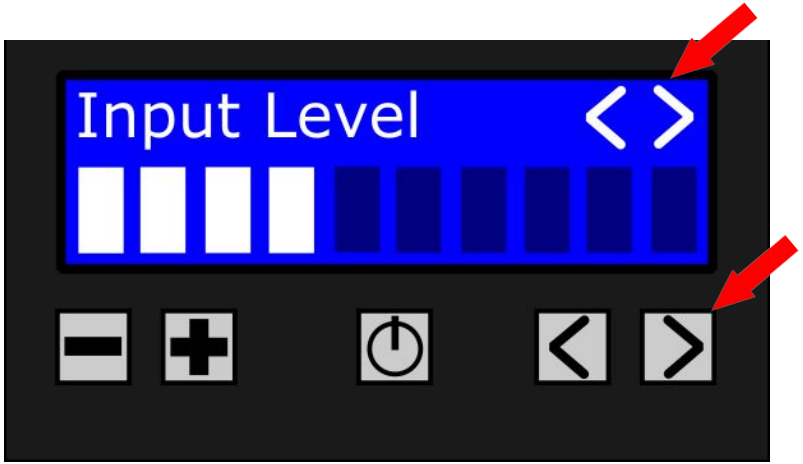
Testing

- Had to be done safely
- Participants were shown the three states and explained the basic premise of the device
- They were then asked to explain what they thought different parts meant
- Their thoughts were then noted down



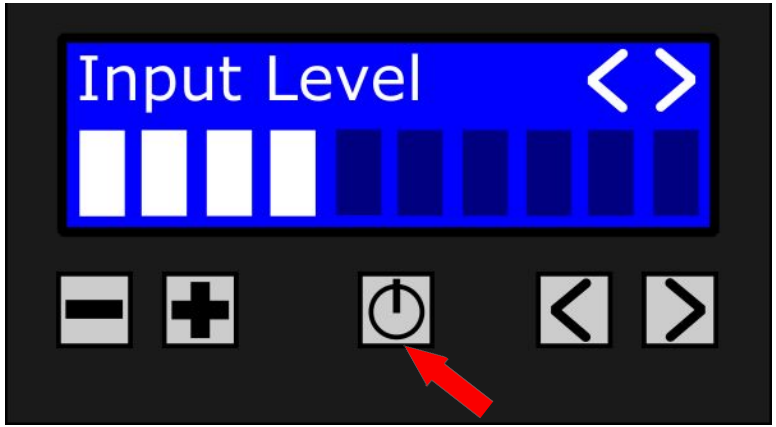
Testing

- The relation of the arrows was slightly confusing
- What they did & meant



Testing

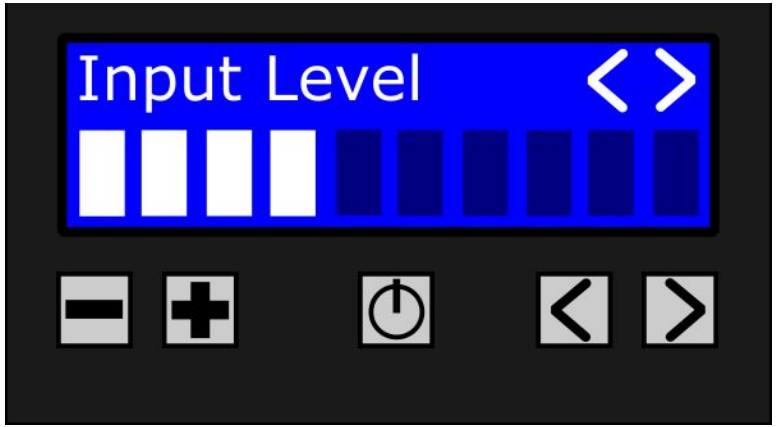
- The functionality of the power-button
- Only display, also sound?



Mental model

- The test participants mostly agree

- Only point of confusion was the arrows
- Do they show where you are or is where you can go?



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Evaluation

- The design was overall understood quite well by the test participants
- Making arrows more clear