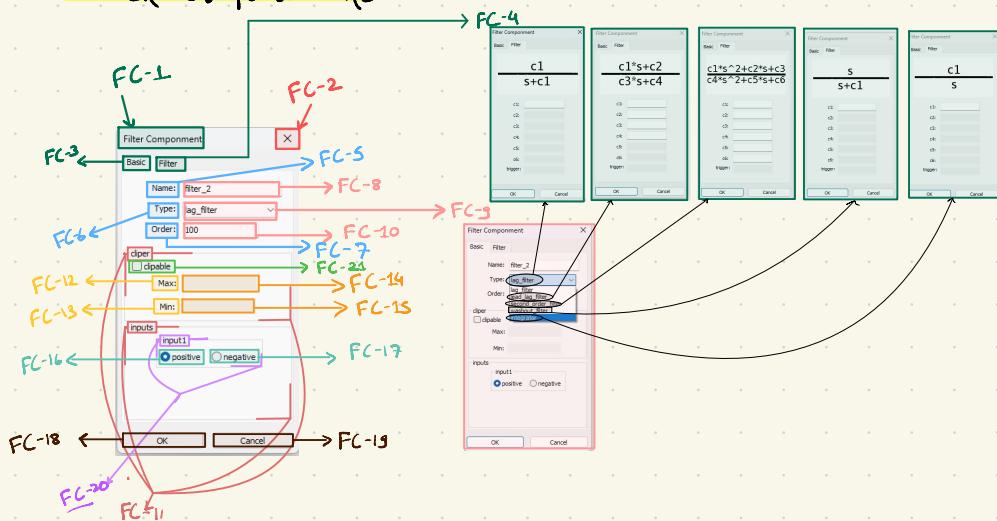


FILTER COMPONENT TAB



FC-1 : The title window. This should be named either by name of the component or the type of the component. Needs to be changed/refreshed when type or name of the component is edited.

FC-2: The window should close when the "x" is clicked.

FC-3 : One of the two tabs in the stack switcher. This component type should be a stack switch. Clicking on this should show the appropriate stack for that view. This contains components from FC-5 to FC-17, and FC-20, FC-21

FC-4: The other tab in the stack switcher. This tab changes (formula wise) according to FC-6. The "type" tab decides the formula and which component accepts values (int).

FC-5, FC-6, FC-7, FC-12, FC-13, should all be label components and display their respective string = "Name:", "Type", "Order", "Max:", "Min:"

FC-8: This widget should be a textbox, and allow for string input. An empty string shouldn't be allowed.

FC-9: This is a dropdown menu with choices that directly correlates with FC-4.

FC-10: This is and should be a text box that allows only numerical integers, both positive and negative which connects this to FC-16 and FC-17.

FC-11: This should be frames to section off different segments in the Filter Component TAB.

FC-14, FC-15: Widget should be of type/text box and only allow numerical floating point type values.
?? Allowed to be empty ??

FC-16, FC-17: These should be a radio list (with a single choice option) inside FC-20.

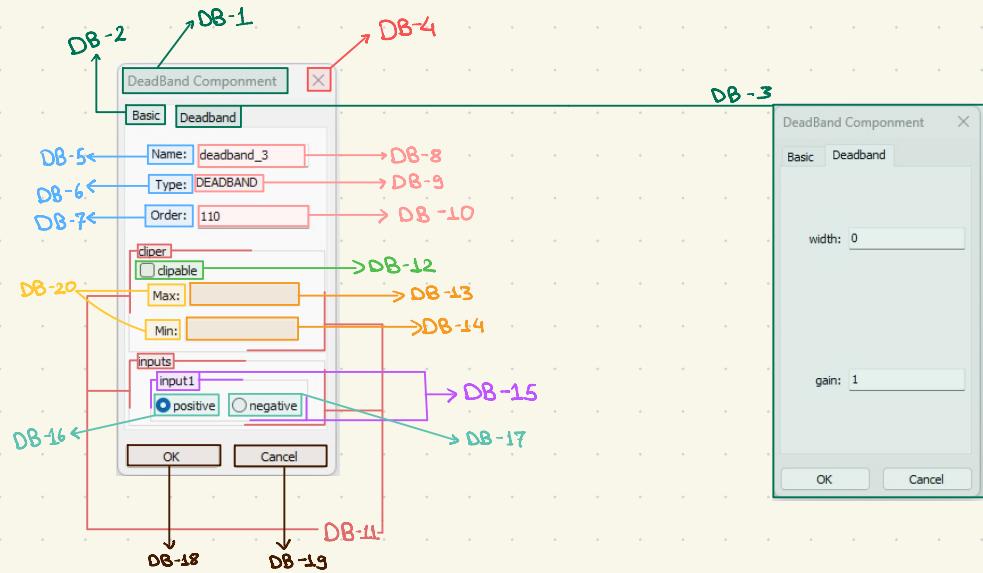
FC-18: Just an "OK" tab → shouldn't close the Tab tho, only saves unsaved value.

FC 19: "Cancel" tab that closes the FC tab without any unsaved changes

FC-20°: frame inside the frame "inputs".

FC-21: Should be a check box → not required to be checked.

DEAD BAND COMPONENT TAB



DB1 : The title window. This should be named either by name of the component or the type of the component. Needs to be changed/refreshed when type or name of the component is edited.

DB2 : One of the two tabs in the stack switcher. This component type should be a stack switch. Clicking on this should show the appropriate stack for that view. This contains components from DB - 5 to DB - 17.

DB3 : The other tab in the stack switcher. This has width and gain.

DB4 : The window should close when the "x" is clicked.

DB-5, DB-6, DB-7, DB-20 → should all be label components and display their respective string: "Name:", "Type:", "Order:", "Max:", "Min:"

DB-8: This widget should be a textbox, and allow for string input. An empty string should not be allowed.

DB-9: This is a fixed value tab.

DB-10: This is and should be a textbox that allows only numerical integers.

DB-11: This should be frames to section off different segments in the DEADBAND COMPONENT TAB.

DB-12: Should be a check box → not required to be checked.

DB-13, DB-14: Widget should be of type / text box and only allow numerical floating point type values.

?? Allowed to be empty ??

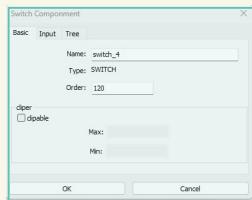
DB-15: frame inside the frame "inputs".

DB-16, DB-17: These should be a radio list (with a single choice option) inside

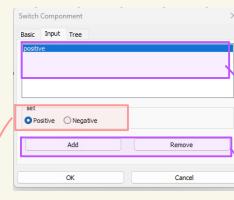
DB-18: Just an "OK" tab → shouldn't close the Tab tho, only saves unsaved value.

DB-19: "Cancel" tab that closes the DB(tab) without any unsaved changes.

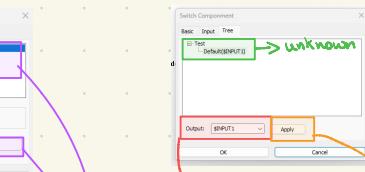
SWITCH COMPONENT



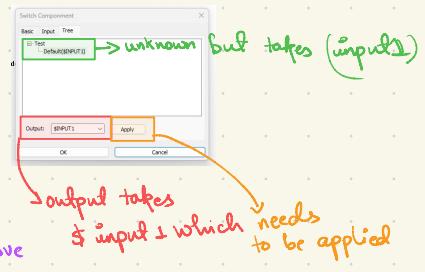
↓
Similar to
previous tabs
not at all
unique.



↓
in the set
positive or
negative

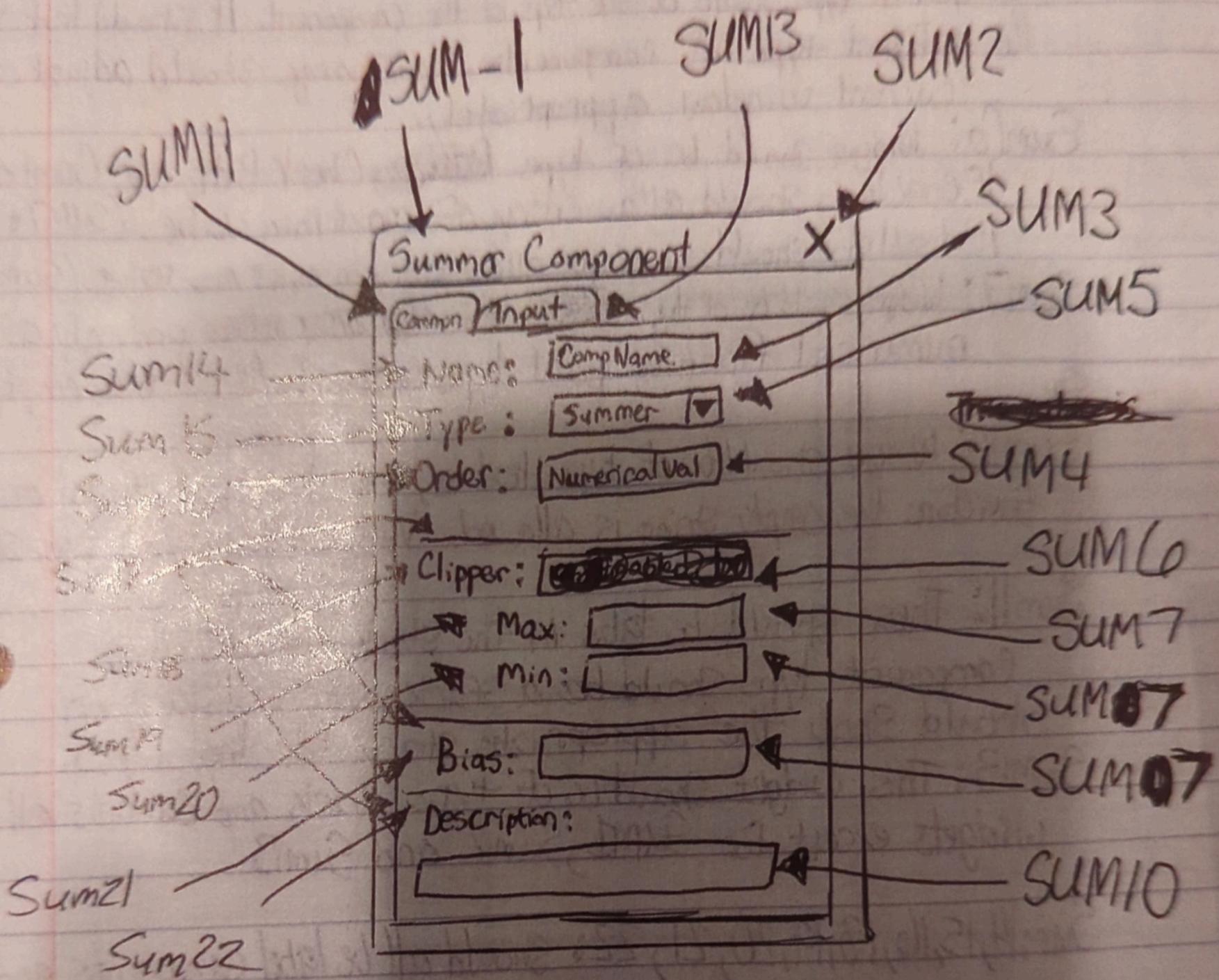


↓
Add & Remove
triggers how many
sets can go in this



↓
output takes
↓ input ↓ which needs
to be applied

Summer Component Common Tab



SUM1: The title of the window should be named either by the name of the component or by the type of the component. This title should be refreshed when the name or type component is edited.

SUM2: This window should close upon being clicked.

SUM3: This widget should be a textbox, and allow for string input. The empty string should not be allowed!! ~~disabled~~

SUM4: This widget should be a textbox and allow only numerical integers, both positive and negative. ~~disabled~~

SUM 5: This widget should be of type ComboBox. The default selected component type should be the type of the component. It should list the 16 different types of components. On change should adjust the current window appropriately.

Sum6: Widget should be of type ~~Text~~ CheckButton or ComboBox
If enabled, should allow entry of max & min value. (SUM7+8)

If disabled, should gray/not allow entry in min & max values (sum 7+8)

SUM 7: Widget should be of type ~~Text~~ box ~~entry~~ and only allow numerical floating point type values. Allowed to be empty.

Sum10: Widget should be of type textbox, this field is optional and therefore the empty string is allowed. Values allowed are of type String.

Sum11: These should be tabs in the stack switch. This component type should be a StackSwitch. Clicking on should show the appropriate stack for that view.

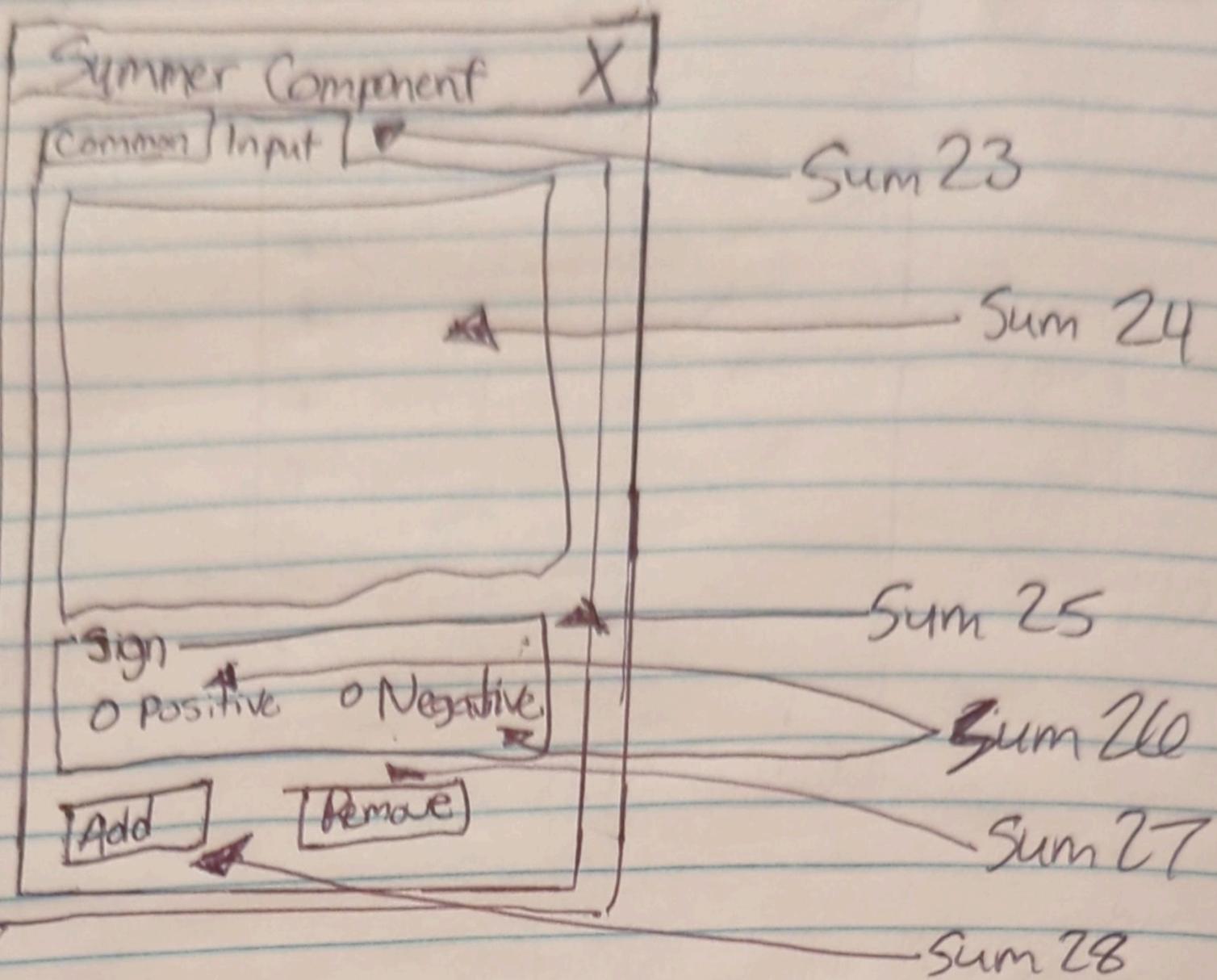
SUM13: This widget should be of type Stack and contains all widgets except for SUM1, Sum2 and Sum3

SUM14,15,16,18,19,20,21,22: Should all be label components and display their respective strings ex: "Name" "Type" "Order" "Clipper" "Max" "Min" "Bias" "Descriptor"

Sum 17: These widgets should be of type Frame or Horizontal + Vertical panes. ~~Label~~ Horizontal + Vertical Separator are also sufficient.

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Summer Comp Pt 3



Sum 23: Component type should be a tab, when clicked this whole window should show.

Sum 24: This component should list all component names that are currently being used as input for this component.

Sum 25: Component should by type frame with the word sign, hosting Sum26

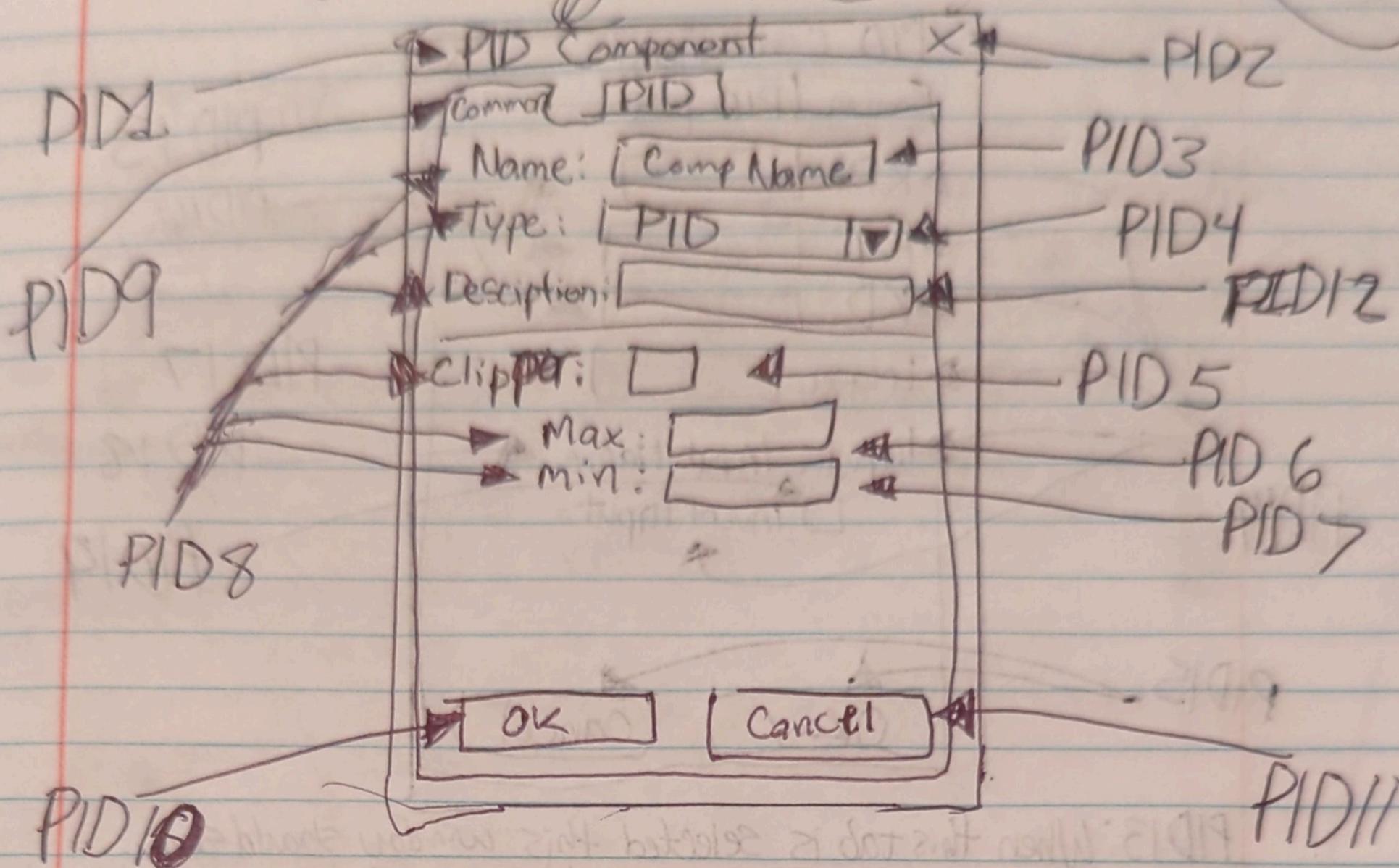
Sum26: These radio dials should invert the currently selected input. An ~~inverted~~ inverted input's name should be prefixed with - in the Sum24 tab.

Sum27: This button should remove the currently selected input component.

Sum28: This button should add a new input component

Project Regs PID Common

49



PID1: Identical to SUM 1

PID2: Identical to SUM 2

PID3: Identical to SUM 3

PID4: Identical to SUM 5

PID5: Identical to Sum 6

PID6+7: Identical to Sum 7

PID8: Identical to Sum 14, 15, 16, 18, 20, 21, 22. The names of the labels should be Name, Type, Description, Clipper, Max, Min.

PID9: Identical to SUM 11

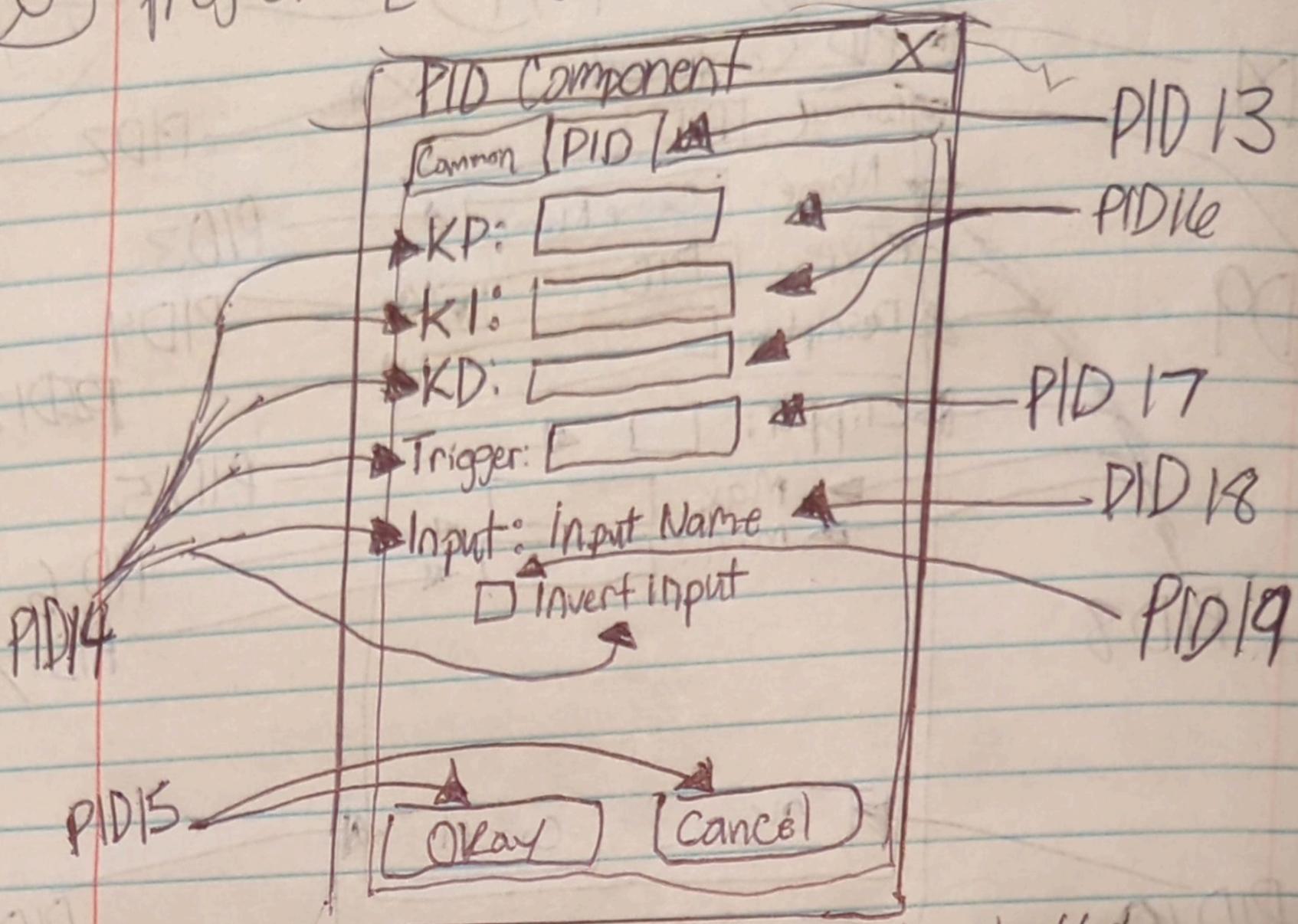
PID10: When clicked the data in the component should be saved, and the window should close

PID11: When clicked the data should ~~not~~ be discarded and window closed.

PID12: Identical to sum 10

⑩

Project Reqs PID PIDtab



PID13: When this tab is selected this window should show.

PID14: Identical to PID8, Name of label should be KP, KI, KD, Trigger, Input, Invert Input

PID15: These button are identical to PID10 + PID11

PID16: These textboxes allow input for numerical floating point values that correspond to respective values: KP, KI + KD.

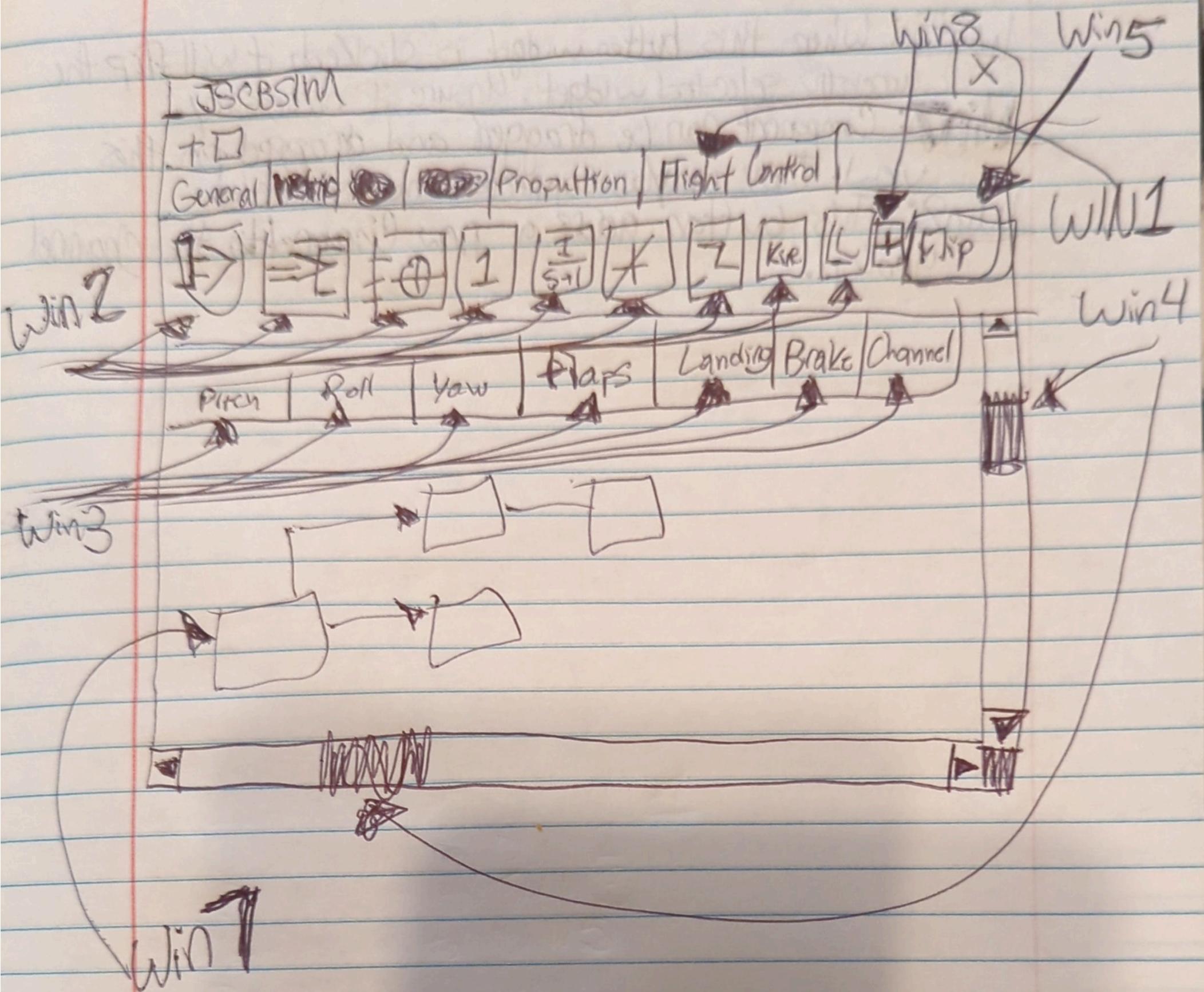
PID17: This value is a textbox that allows for input on a string.
~~UNKNOWN~~. This value can be the empty string.

PID18: This labels display string should be the name of the component being feed as a input to this one. If the invert checkbox is enabled this string should be prefaced with the '-' character.

PID19: ~~OPEN~~ This component should be of type CheckBox. If enabled should invert input, see PID18.

Main Window (our Group Tab)

21



Win1: When this tab is clicked it should display this window.

Win3: The widgets should be drag and dropped onto Win7 each picture represents a different component.

Win3: These tabs should change the currently selected channel which displays in Win7. Also lists available channels.

Win4: This changes the currently selected "view" of the display window or "Win7", Widget type scrollbars.

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Main Window Continued

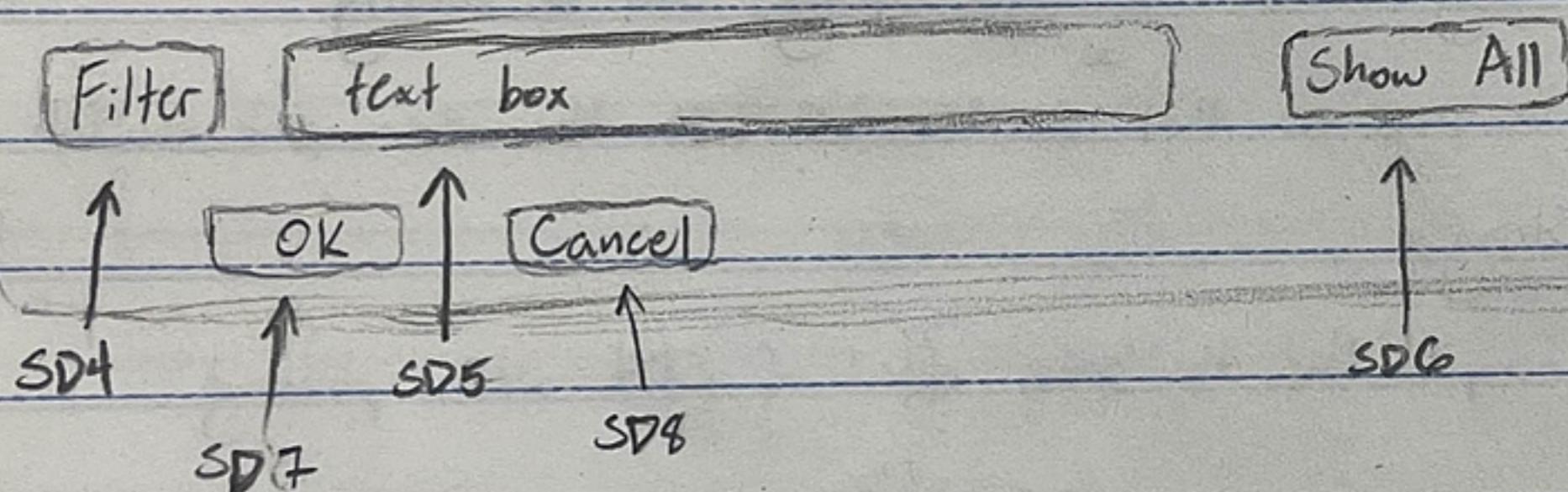
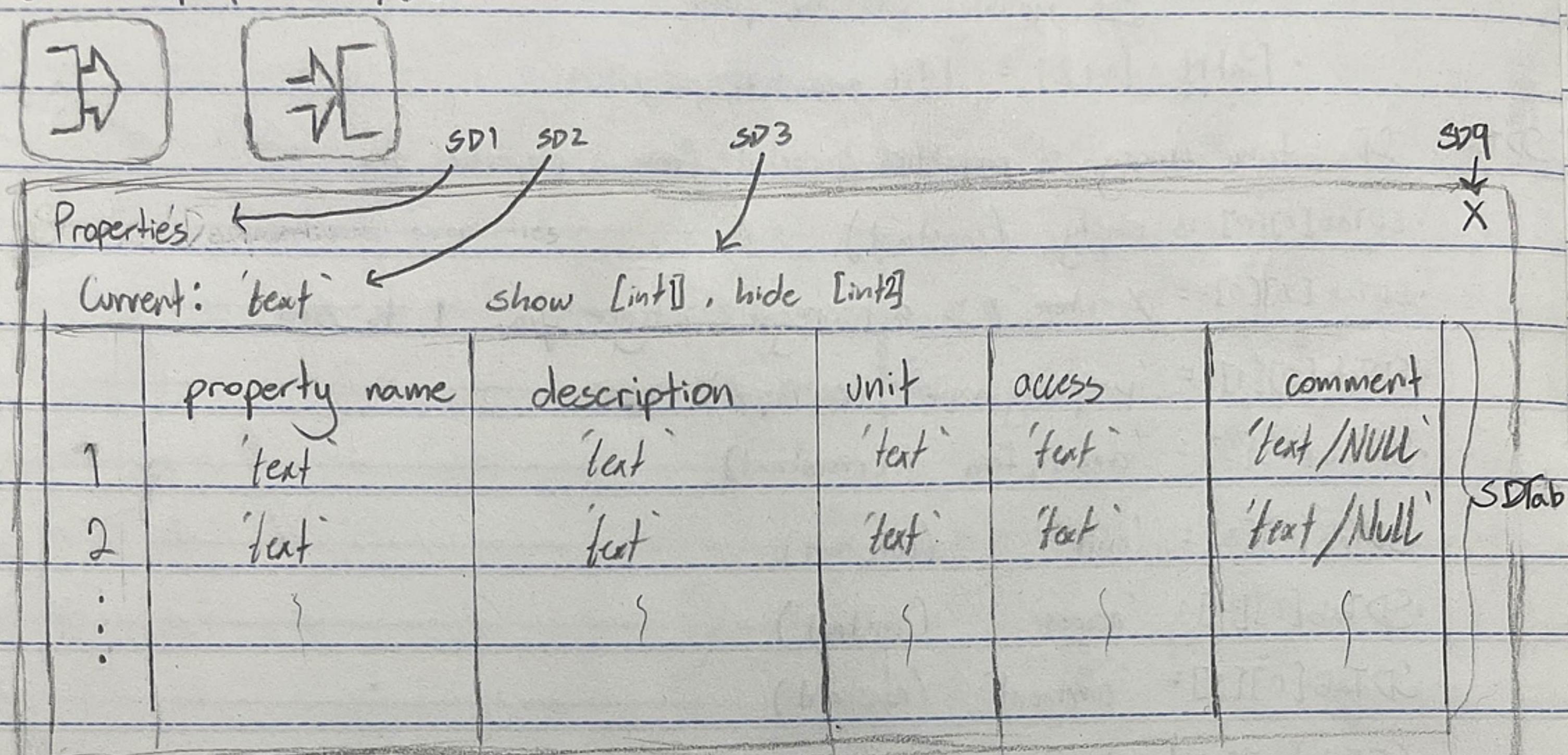
Win5: When this button widget is clicked, it will flip the currently selected widget. Unsure if necessary.

Win6: Component can be dragged and dropped on this view. They may be connected and disconnected.

Win7: This button adds a new channel to the channel group.

each widget.

UI Mockup for Source/Destination



SD1: Title of the window. Constant String

SD2: Displays the current label of the widget. Text: 'Current:' is constant String

Text: 'text' is variable String, can be empty, takes user input to change label name

↳ shows property name in SDTab[1][1] by default when opening this window

on a source/destination with an empty label or custom label that doesn't
match with any listed properties.

VI Mockup for Source/Destination (Cont.)

SD3: Displays the number of properties being shown & hidden

Texts: 'show', ',', & 'hide' are constant strings

Integers: [int1] & [int2] are variable integers

- [int1] - shows total amount of properties by default

- when filter (SD4, SD5) is used, shows the amount of properties matching with the filter

- [int2] - shows 0 by default

- when filter (SD4, SD5) is used, shows the amount of properties not matching with the filter

- [int1] + [int2] = total amount of properties

SDTab: 2D String Array of properties imported from a properties file

- SDTab[0][0] is empty (constant)

- SDTab[x][0] = x where x is a nonnegative integer from 1 to 300

- SDTab[0][1] = 'property name' (constant)

- SDTab[0][2] = 'description' (constant)

- SDTab[0][3] = 'unit' (constant)

- SDTab[0][4] = 'access' (constant)

- SDTab[0][5] = 'comment' (constant)

- SDTab[x][y] | $x > 0$, $0 < y < 6$ = variable string, can be empty

SD4: When clicked, filters out the properties that don't match with the user input in SD5

Text: 'Filter' is constant string

SD5: Text box that takes in user input. Has the same effect of SD4 when pressing keyboard input 'Enter'.

- Filter works by displaying properties that match with the user input in SD5 in any of its 5 columns

- strcmp (SD5, (property-name, description, unit, access, comment))

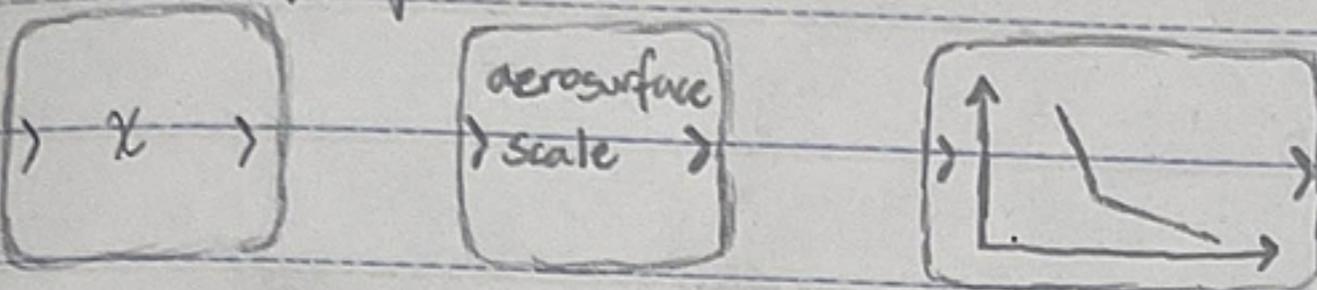
SD6: When clicked, removes filter & shows all properties

SD7: See Km7 from Wilmer

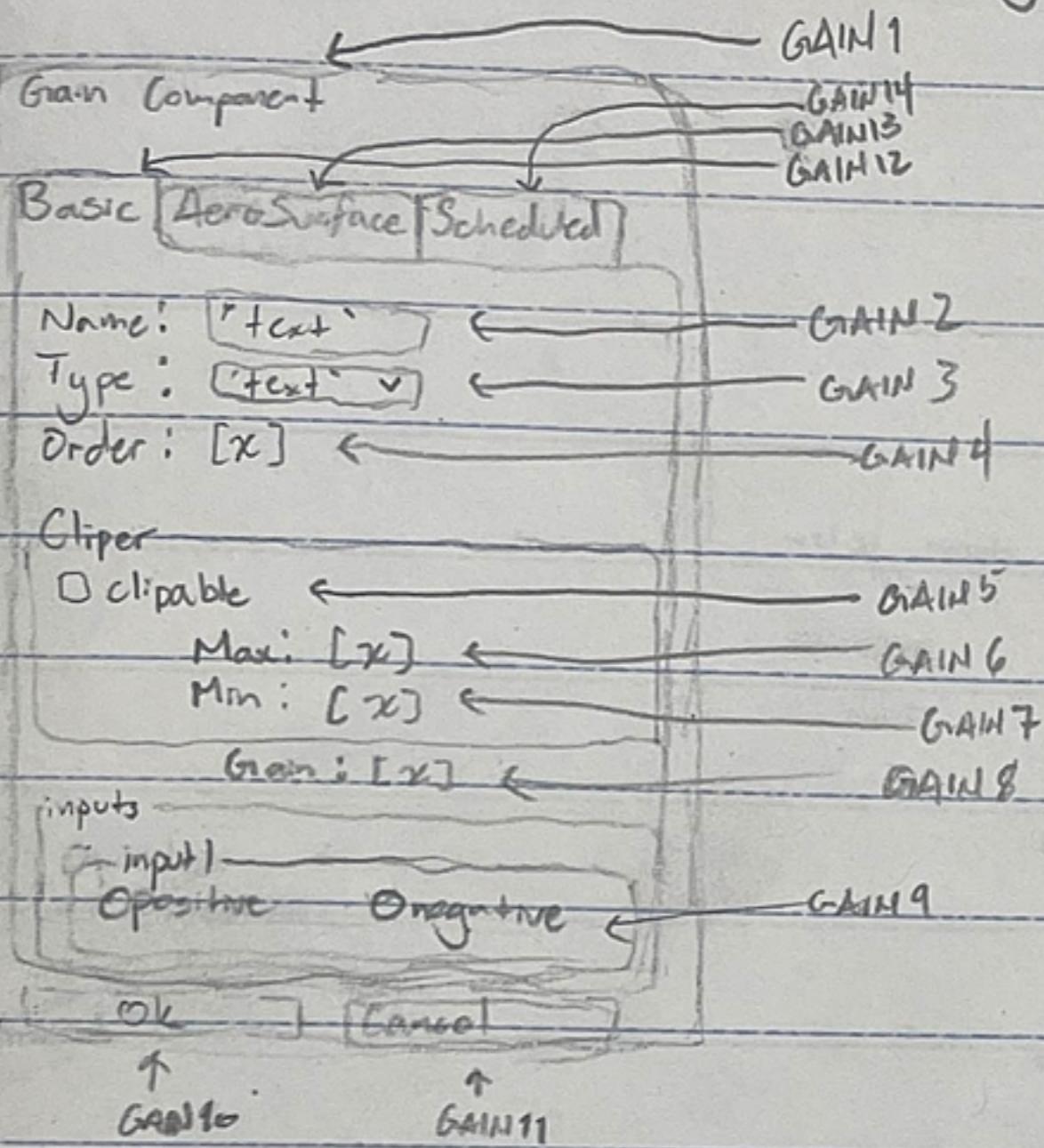
SD8: See Km6 from Wilmer

SD9: See SUM2 from Philip

UI Mockup for Grain



pure-grain aerosurface-scale Scheduled-grain



Note: Texts not containing 'text' or [X] are constants

GAIN1: See SUM1 from Philip

GAIN2: See SUM3 from Philip

GAIN3: See SUM5 from Philip

The options are 'pure-grain', 'aerosurface-scale', & 'scheduled-grain' and changes

the widget image shown above

GAIN4: See SUM4 from Philip

GAIN5: See SUM6 from Philip

- Checking the box also adds a Σ symbol to the top right corner of the widget

GAIN6 & GAIN7: See SUM7 from Philip

GAIN8: Numerical value (positive, negative, double). Changes X value in the pure-grain widget
and/or

GAIN9: See FC-16 & FC-17 from Aneksa

GAIN10 & GAIN11: See KIN7 & KIN10 respectively, from Wilmer

GAIN12: Changes window display to the window shown above

GAIN13: Changes window display to the window shown in the next page

Basic Aero Surface Scheduled

Max: [x]

Min: [x]

GAINT 13.1

GAINT 13.1: See GAING & GAINT

GAINT 14: Changes the window display to the window shown below

Basic Aero Surface Scheduled

independent Var: 'text'

GAINT 14.1

	independent Var	Value
1		
2		
3		
4		

GAINTab

GAINT 14.1: Dropdown that shows properties from properties file, can be a custom name or empty

GAINTab: 2D String Array - GAINTab[101][3]

- GAINTab[0][0] is empty (constant)

- GAINTab[x][0] = x | 0 < x < 101 (constant)

- GAINTab[0][1] = 'independent Var' (constant)

- GAINTab[0][2] = 'Value' (constant)

- GAINTab[x][y] | 0 < x < 101, 0 < y < 3 = double value

UI-Interface MOCK UP 5

10/03/2024

A Interface MOCK UP off

• Kinematic Window

• FCS function

• New Channel Window

NOTE:

Some components
can be referenced
by other group
members!

Kinematic Window

Name of Component

Common KinMat

Name: CompName

Type :

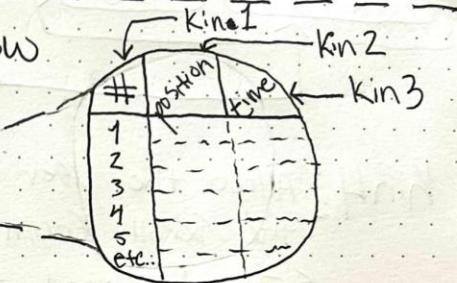
Order :

Clipper

max:

min:

Description :



Kin1: numerical value
of column from
1 to 40.

Kin2: position take positive
and negative input
both are of type: Double.

Kin3: time takes only
positive value. They
can be of type: Double

* More on Page #5-1 *

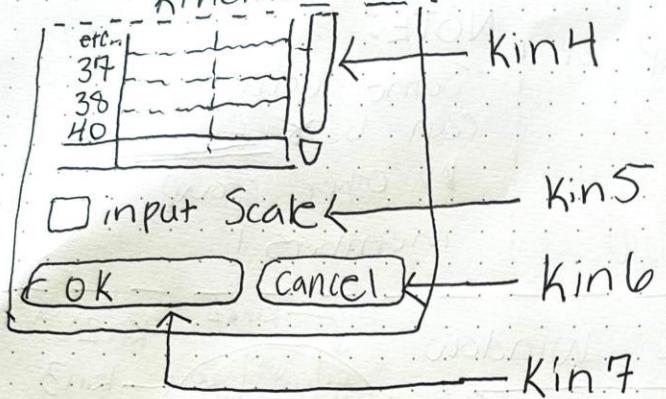
Reference to Discord > Philip > Summer Component

Note: The "Common Tab" provide basic information of the component.

Moving forward, all basic information

for all components should look similar.

5-1 Continuation...
Kinematic Window



Kin4: Allow the user to scroll UP/down, *Removed the scroll from left/right, it should be a fixed size. No need to scroll Left/Right

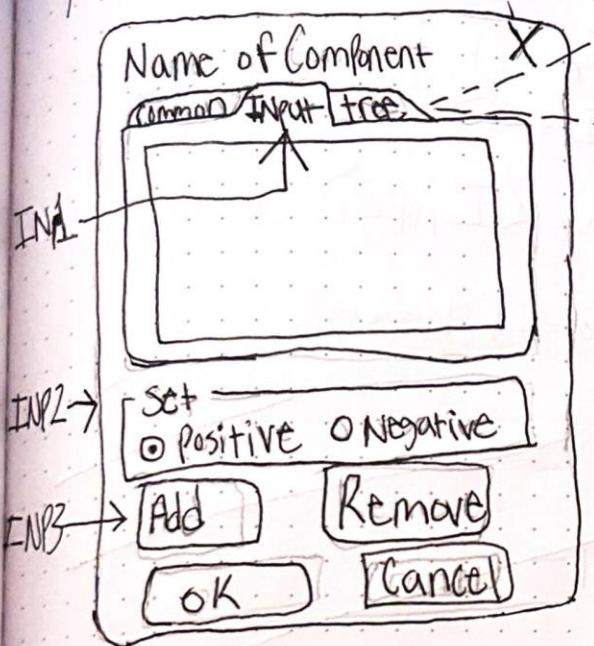
Kin5: unknown, as of 10/03/2024, functionality or purpose are unknown.

TBA...

Kin6: The cancel button should retrieve back to previous window. If...
A warning should be displayed if user made some changes without saving.
reference to Kin7.

Kin7: The 'OK' button should retrieve back to previous window, if no changes were made.
If user made some changes the 'OK' ⇒ should turn into 'Save'

FCS Function



Tree3: If type is function, it can be repeated for any amount function.

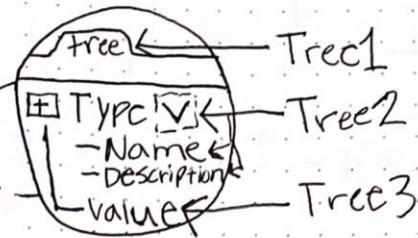
- If Value, it takes any positive integer, can be deleted, copy, or cut.

- If Table, it takes a name and a type of table.

Its properties can vary based on table.

- Lastly if properties, then it displays option for different type of properties to select.

5-2



Tree1: Tree can be named change to 'form' since it contains function or operator. And branches down

Tree2: - Has a Type properties such as ~~function~~ function and operation.

- Can be deleted or add more on right click option. Including copy and paste.

- This can be named and add description.

- The amount of different function can be added, while Property, Value, and Table contains their own properties. <Tree3>

- remove "expression" button and "cut"

- fix option to add

- Other properties

- fix crash table

- fixed size UI

Continuing ➔

5-3

Inp1: display the Selected Set<Inp2>

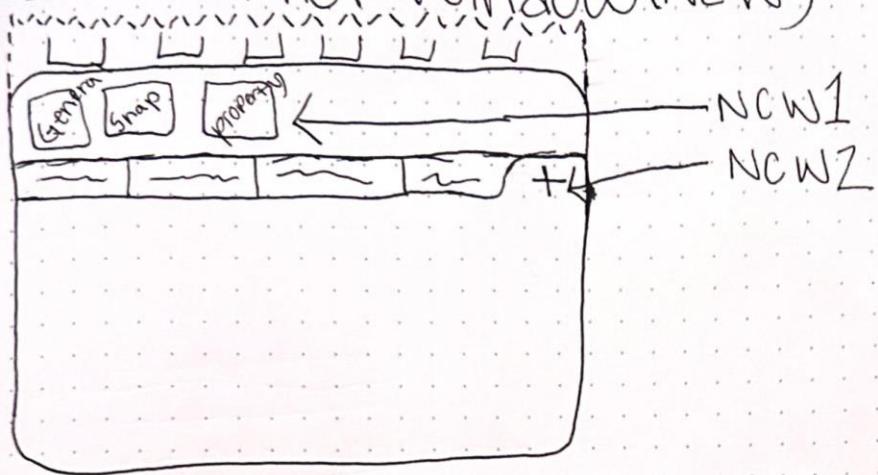
Inp2: option to select 'positive' or 'Negative'
upon <Inp3>

Inp3: Add or Remove <Inp2> Selection

NOTE: make display a bit bigger.

5-4

New Channel Window (NCW)



NCW1: Remove 'Add channel', 'Reverse Shape', 'New line point', 'Cut line Point', and 'Straight line'. Only 'General', 'Snap photo', and 'Property' will remain unchanged. Any other option may be added.

- 'Add channel' will be moved to <NCW2>

- Reverse Shape, new line point, Cut line Point, and Straight line will be available as a Right Click option when connecting lines.

NCW2: upon clicking ~~(+)~~ (+), will be prompted to add a name for channel or leave it by default as "new channel #". Where # is the number of new channel add.

10-03-2024, ~~AE~~ S