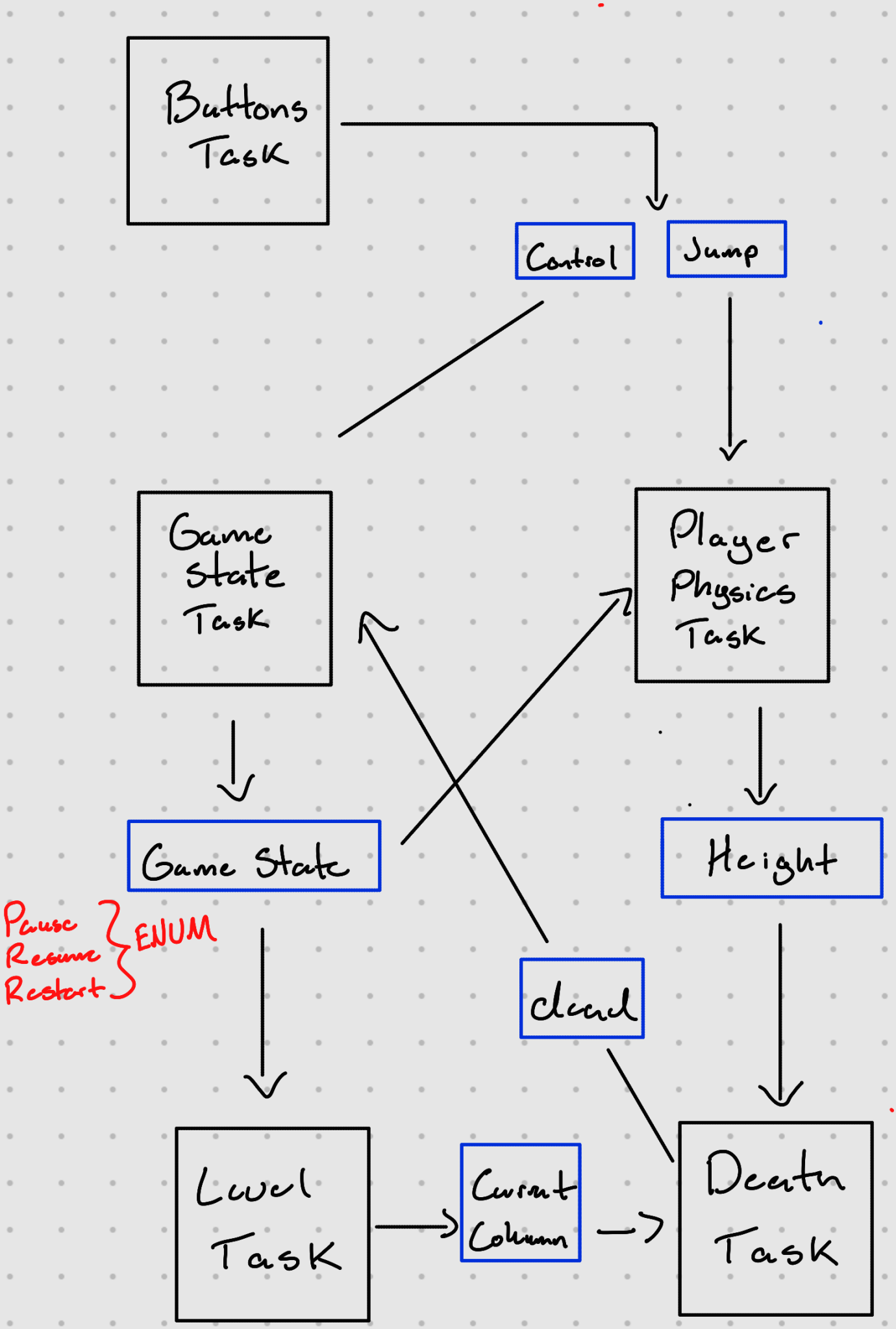
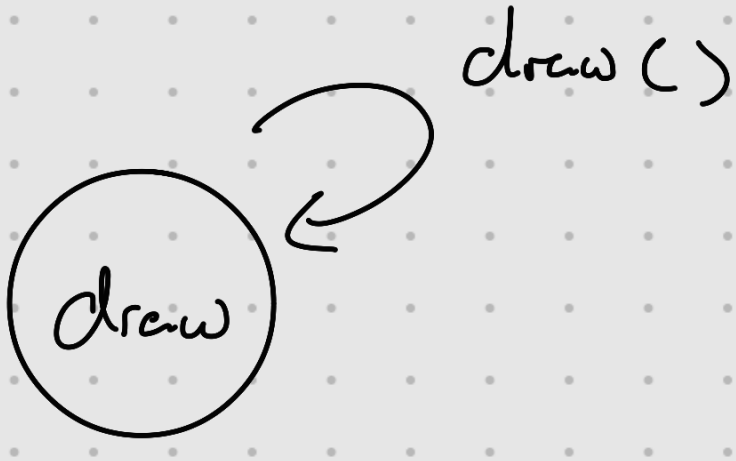

Buttons Task
Control
Jump
Game State Task
Player Physics Task
Game State
Height
Pause
Resume
Restart
ENUM
cloud
Level Task
Current Column
Death Task

Column Struct in Circular Array
= How we represent level

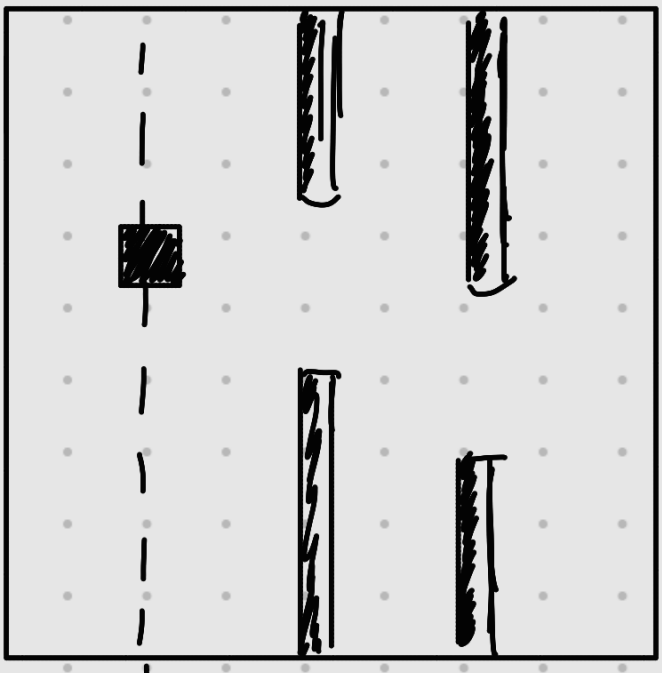
Draw Task

Take what we have
and just draw



draw()

128 x 128 w/ 32 Pipe spacing



Player x position = 32

When to refresh array?

If size = 160 we get 32 times to refresh

$$\frac{\text{Array of 128 Columns}}{\text{Spacing of Pipes} = P}$$

$$128/P = \text{Total Pipes}$$

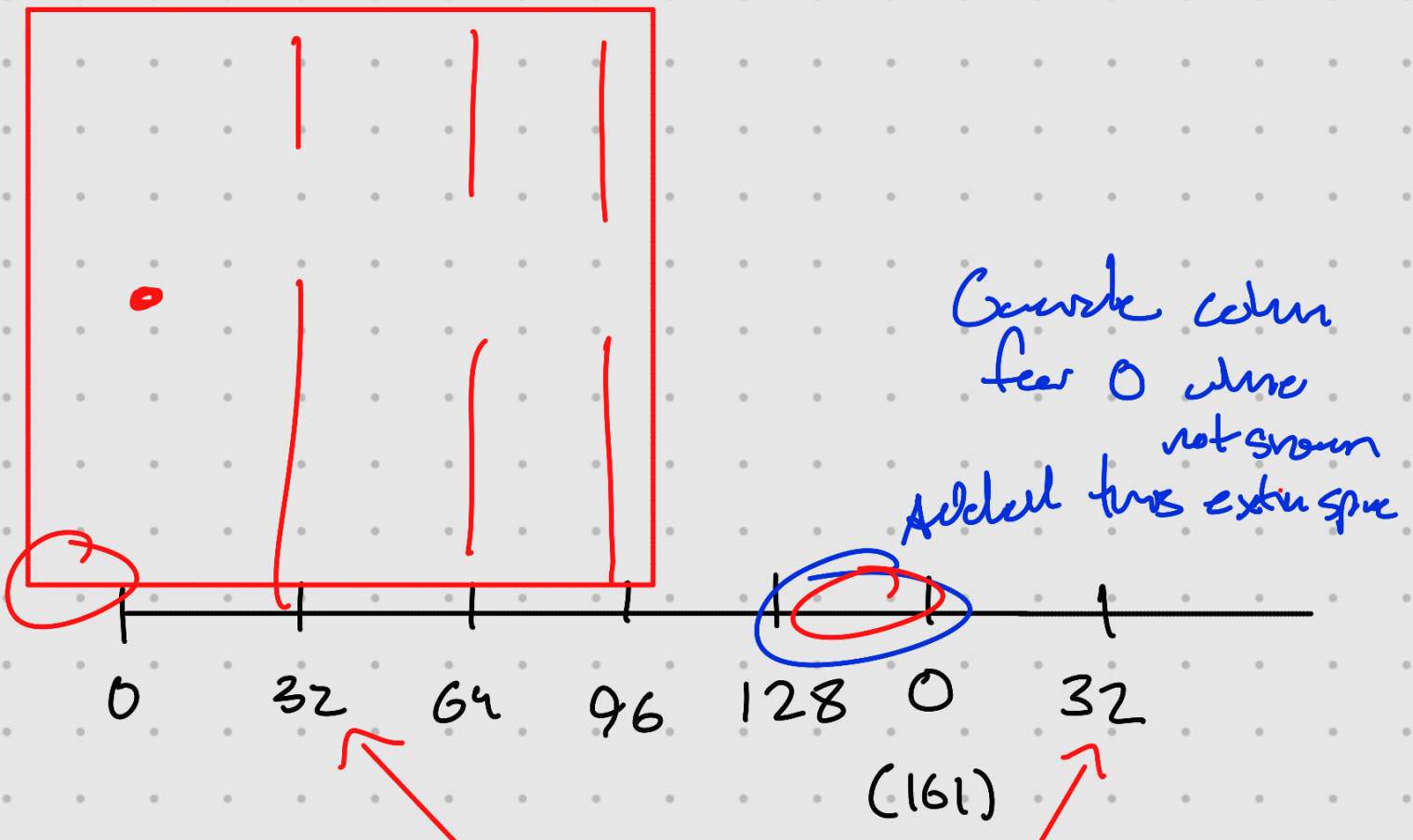
$P = 32$

*No pipe at 0

32 64 96 128

All fit on screen
When to refresh?

All of them will be on screen at once if we use 128, but if we add 32 more, we can refresh



Can't see it so we can refresh

Every time i % Pipe spacing == 1

that means we just passed a column. Then we can simply refresh Column(i-1)

Back to draw

Player Position is Index 0 of Columns

Offset

If A == 32

Column @ 128 shows

If A == 31

Doesn't Show

Translation

Level Range

$L_{pos} \in (0 - 159)$ w/ +31 offset

Screen Range:

$S_{pos} \in (0 - 127)$

Wrap Around — offset

$(L_{pos} + 31) \% 128$

$= S_{pos}$

To draw we first need

Easy

Player postion = (x, height)

↑

fixed

Columns to Draw

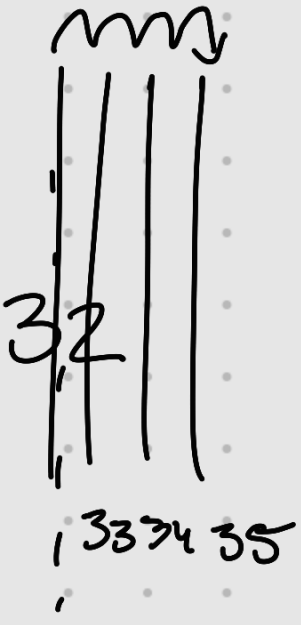
Only draw pipes

for (i=0; i < LEVEL_Size; i+=pipe_spacing) {

If has_pipe

draw

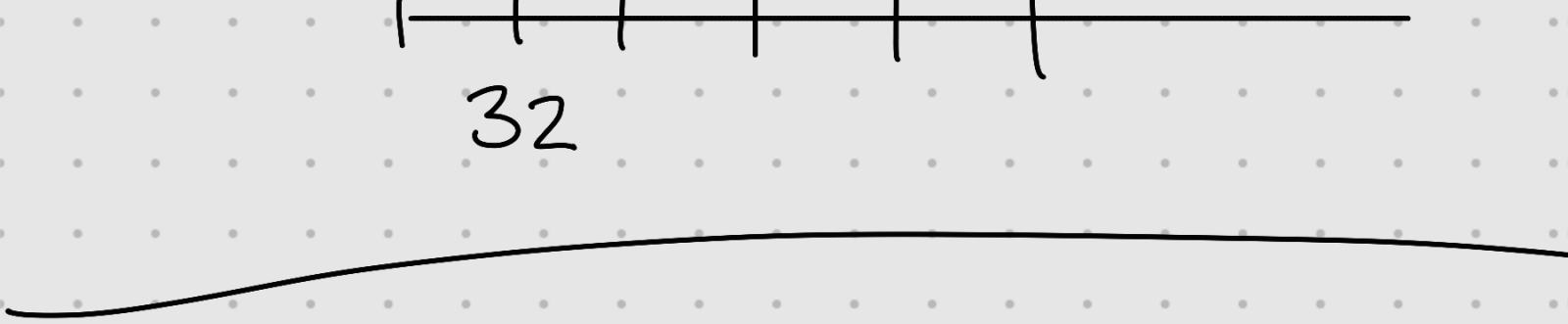
Columns can have width using % logic



Pixel idea

36 % 32 = 4

% 32


32