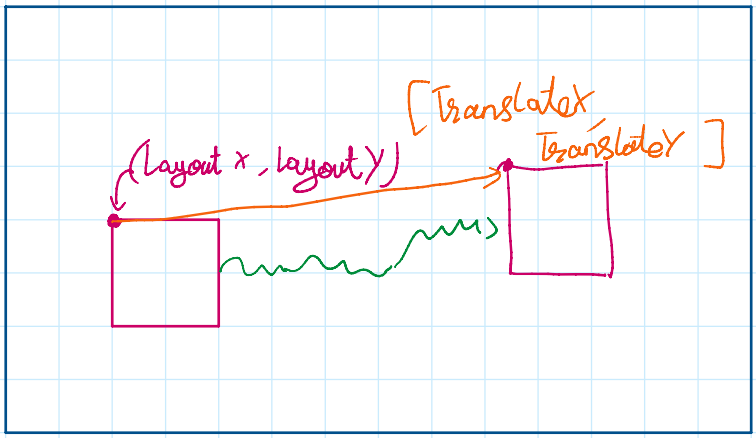
11 December 2021 08:20 PM



pos [ ] → Actual position {outside screen also}
pos = Layout + Translate
Translate = pos - Layout

When we pan camera,

Translate of ALL GameObjects is reduced by PanCam

When hero moves ahead of LayoutX,

PanCam increases proportional to distance from LayoutX

panCam is managed by GameController because it needs to be shared by all game objects, because all game objects have to be moved backwards during their own translation / refresh operation

Tangibility means will this object "bounce" with another object

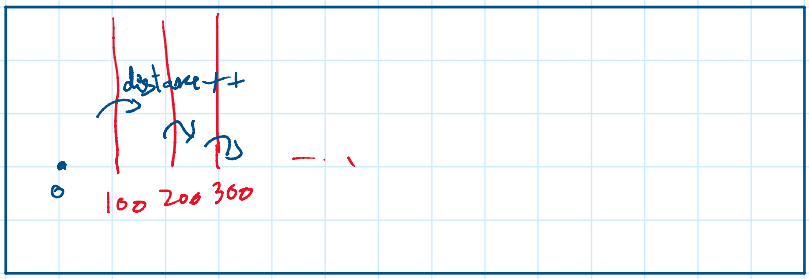
"Collide" function we will use for object-specific interactions only:

Like collecting chest
Collecting coin
Dying from orc
Etc.

"Bounce" function is for physical collisions only, and it will be more or less universally the same

Say hero is moving along the x axis

When hero crosses a "boundary" [each boundary is at (100x) position] from left to right, then the distance variable is incremented by 1.

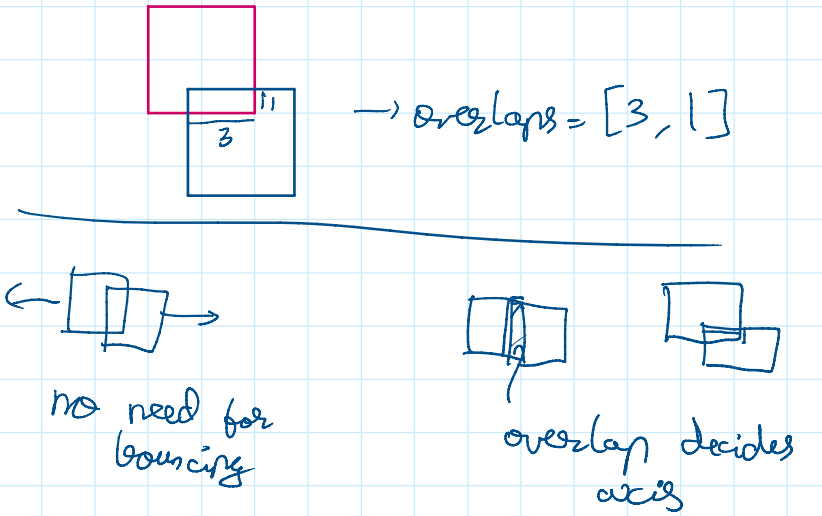


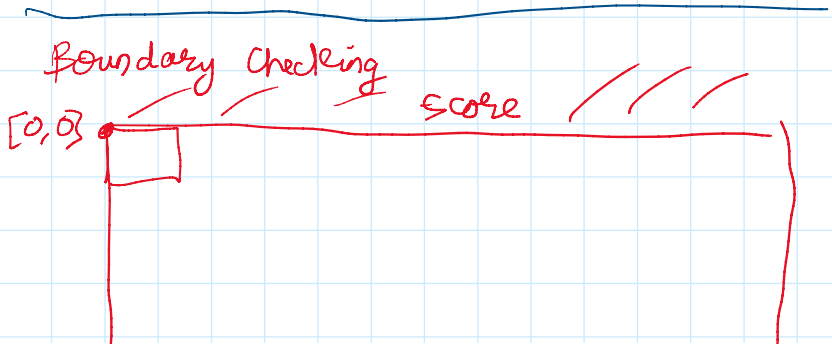
How we are detecting this properly I will tell later

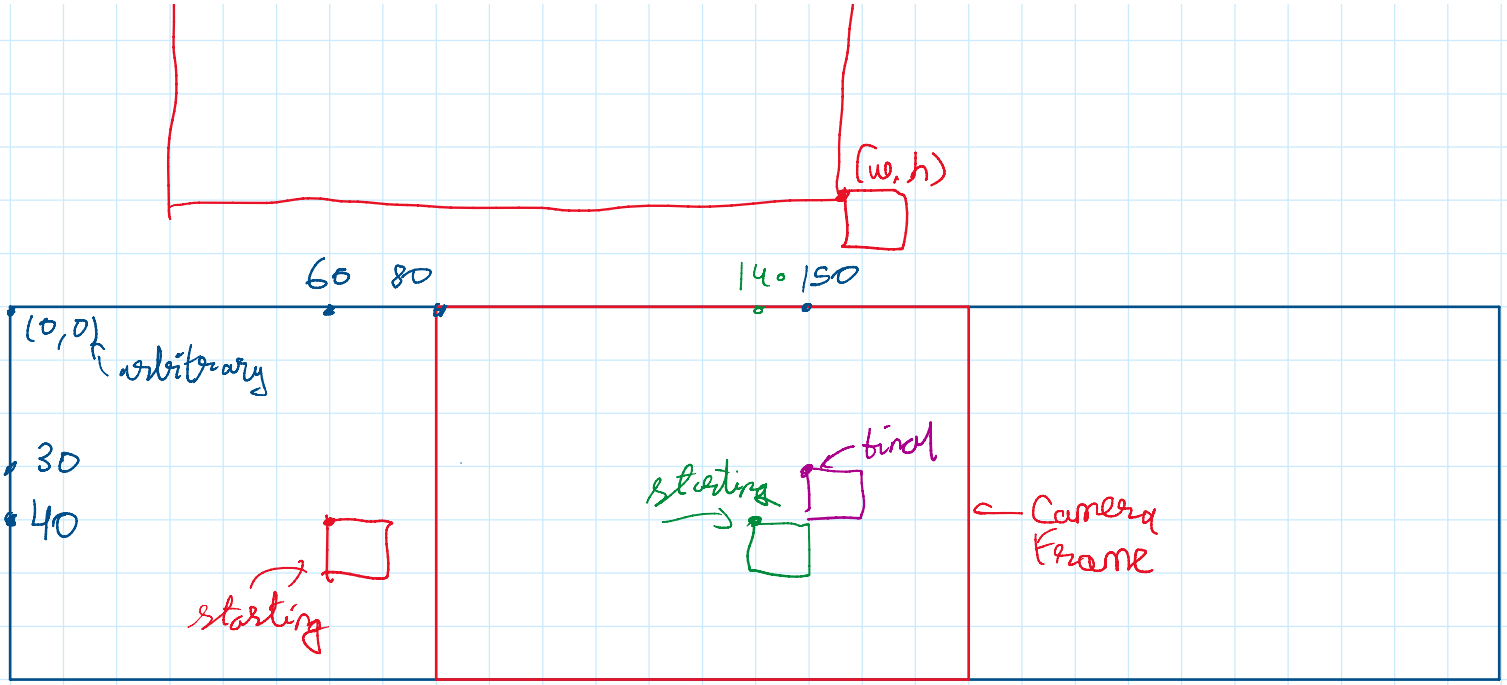
At the end of each frame, the controller sees if the distance is updated. If it is, then it will reset the distance on the label.

When hero crosses a boundary from right to left, nothing changes.

We need hero as the first element of the array list for reasons. Hero needs to be the element on which bounce is called always, because it has some specific behaviour







Assume initial camera frame started at 0,0

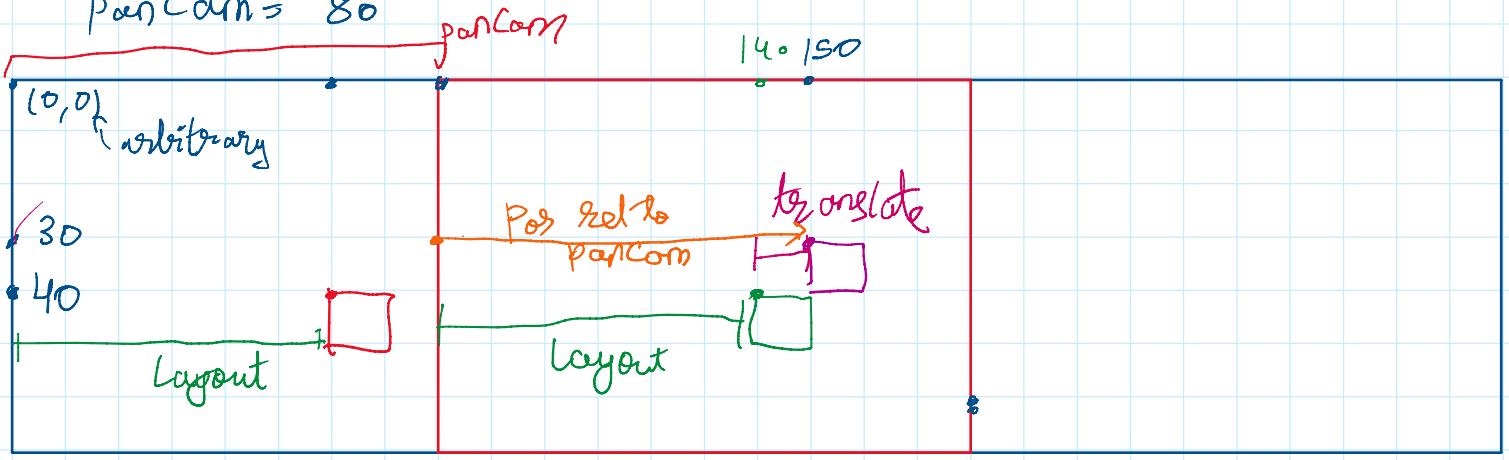
Layout X, Layout Y, is always relative to the 0,0 of the camera frame

pos = 150, 30
pos0 = 60, 40

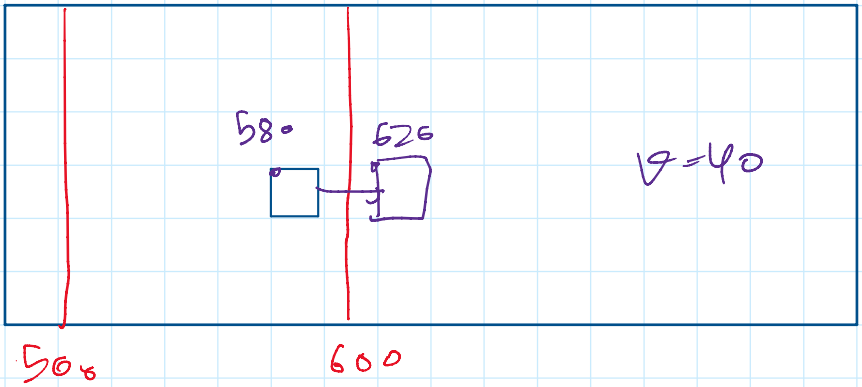
translate = 10, -10
Layout = 60, 40
panCam = 80

Translate = pos -p0 - panCam

10 = 150 - 60 - 80



Clipping hero to every 100th unit



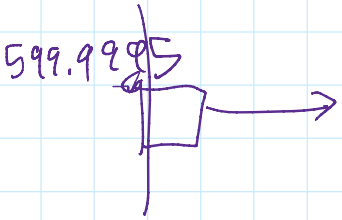
V < 100 otherwise this calculation will break

Hero has not moved yet
I will anticipate that hero will cross the boundary if I move him
I will set his velocity exactly so much that he hits the boundary

pos is 580.

We know that hero's current and aniticipated positions will be between 550 and 650

If he is between 550 and 600, pos % 100 will surely be more than 50
If he is between 600 and 650, pos % 100 will surely be less than 50



I dont want hero to "clip" to 600 position

Suppose I gave hero 4 velocity to snap to 600

Now hero is on 600

But he still has 4 velocity

So he will keep on moving forward

I do not want this