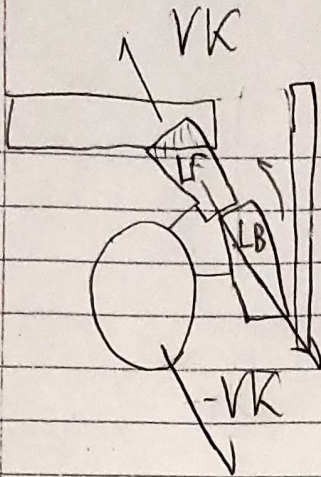


Tony Imbesi

Kick and Movement Physics



When LF collides with obj

// Can't kick the same thing twice

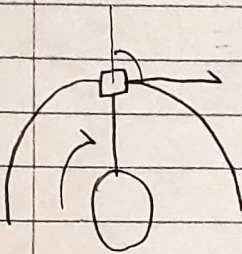
- Apply unkickable tag to obj until kick is finished

Calculate VK

If obj is static, apply -VK to player

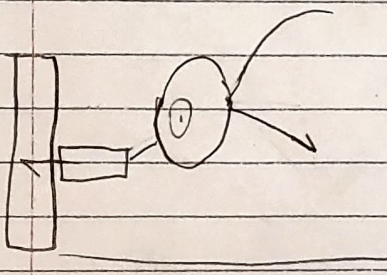
If obj is heavy, apply -VK to player, $\frac{VK}{m}$ to obj

If obj is light, apply VK to obj



$VK = rw$, $r = \text{radius}$, $w = \text{angular velocity}$

$VK_y = VK \sin \theta$

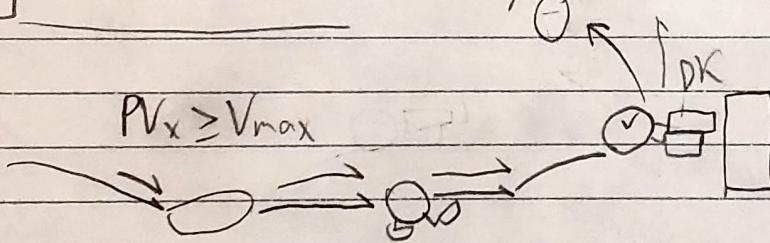


Special case: side kick; $VK_y = 0$

- Add -VK to player velocity PV

$y = \min(PV_y + k, k)$

Add y to PV



$PV_x \geq V_{max}$

, extends kick class

On right input;

If $PV_x \leq V_{max}$

$PA_x = \text{right}$

Else, keep PV_x the same

$PA_x = 0$ (Don't accelerate further)

If $PV_x \geq V_{max}$

FastMode = true

If dropkick DK collides, hit enemy

- Pause briefly (0.4-0.5s)

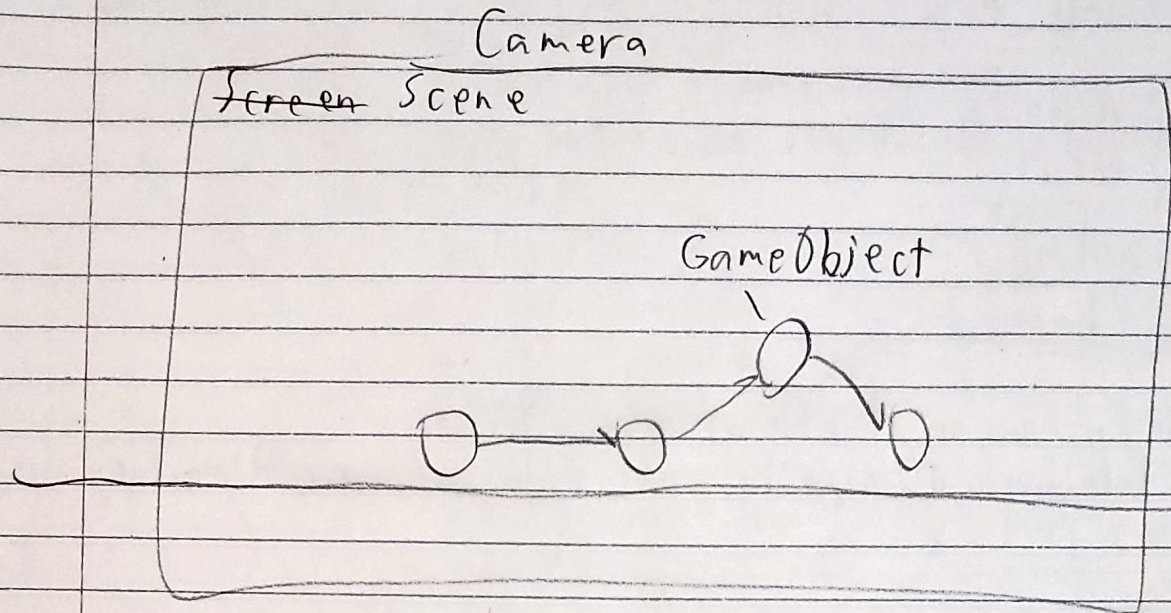
If jump is inputted during pause

Do a straight-up jump

or Do a diagonal jump if

opposite direction is pressed

- Do kick procedure w/ stranger VK



- Player physics: simple
- Leg physics: rotating
- Object/enemy physics: complex

Arcade physics: Scummy - good for player

- Static: doesn't move, must be refreshed manually
- Dynamic: physics-based
- Get velocity: player, body, velocity, x

Groups: control every object created in the group at the same time

Matter.js: Good physics - good for elements