

- 1 - DEF
- AFFICHE

PT MIR ANGLE <  
~~PT~~  
 AXE

SPOT : P... FCT( $\alpha$ ) :  $\alpha \in [0, \pi]$

- 2 - CAMERA
- OMBRE
- LUMIERE

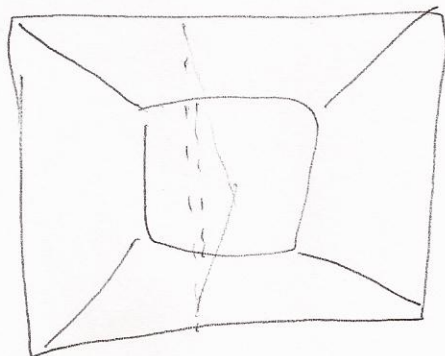
P: ... I: ...  
 P: ... P..  
 DIR: ... Z: LINEAIRE  
 GAUSS-DEGRADÉ COL1  
 FCT( $\tau$ ) :  $\tau \in [0, 1]$  COL2  
 COL3

FCT(T)

PARABOLE  
 HYPERBOLE  
 CERCLE  
 EXP-X  
 EXP-X2  
 PERSO (E=...)

FCT(A)

~~A~~X<sup>2</sup>  
~~A~~E = BX<sup>2</sup>



$$\begin{aligned}(1, -1, 1) &\rightarrow (1, -1) \\ (1, -1, 0) &\rightarrow (1/2, -1/2)\end{aligned}$$

$x, y, z$

$$\left( \text{eye}(\underline{c_j + f \cdot c}) * f \cdot z, \text{eye}(\underline{c_j + f \cdot y}) * f \cdot z \right) * + \left( \frac{r_{ex}}{2}, \frac{r_{ey}}{2} \right)$$



$$\begin{aligned}Q: & \left\{ \begin{array}{l} (Q, p, i, x, 0, 1) \\ (Q, i, x, y, 0) \\ (Q, i, x, 1, 0) \\ (i, x, 1, 1) \end{array} \right\} \quad \text{Points} \\ C: & \text{Rouge: } i \cdot x * 127, \text{ couleur} \\ & \quad \quad \quad + 128\end{aligned}$$

P: 0.0.0

SD: P:...P:...

C/ CUBE: P:... MLC:... MR: P:... P:... P:...

CMR: P:... P:... P:...

PT: P:...

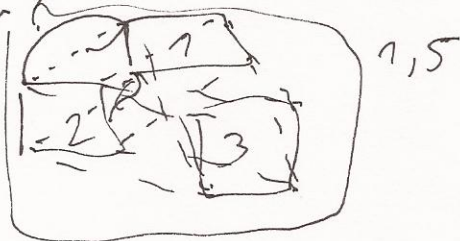
C/ SPHERE: P:... R:... HM:... # :...

C: PR: R1:... H:...

↓ parallélogramme rectangle

coloration ?

lumière ?



DEF ID OBJET\_DESE

AFFICHE ID

COLORE ID COULEUR

EX ~~DEF POINT3D~~ :

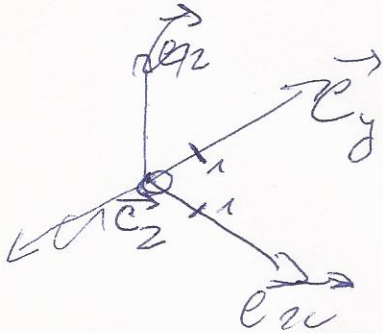
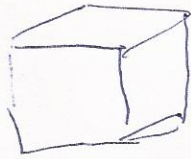
DEF RECT1: P: 0.0.0 P: 0.1.0 P: 0.1.0  
P: 0.0.0

DEF RECT2: P: 0.0.0 P: 0.0.0  
P: 0.0.1 P: 2  
P: 0.0.1 P: 0.2.1  
P: 2.2.1 P: 0.0.1

COLORE RECT 1 ROUGE  
COLORE RECT 2 VERT

AFFICHE dRECT1 dRECT2





Plan Network

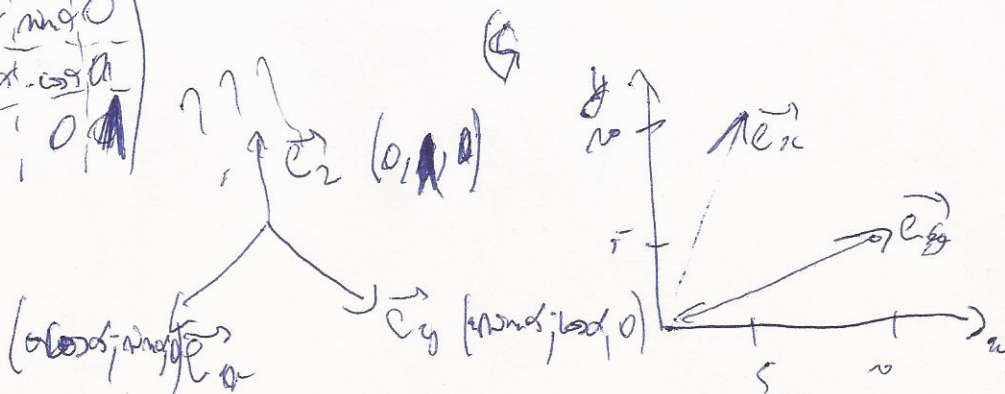
( $x, y, z$ ),  $(\text{forme})$

$$\begin{cases} \vec{e}_x (5, 10, 10) \\ \vec{e}_y (10, 5, -10) \\ \vec{e}_z = \vec{e}_x \wedge \vec{e}_y \end{cases}$$

$$\vec{e}_x \cdot \vec{e}_y = 100 - 100 + 25 = -25$$

$$100 - 50 - 50 = 0$$

$$\begin{pmatrix} \cos \alpha & \sin \alpha & 0 \\ \sin \alpha & \cos \alpha & 0 \\ 0 & 0 & 1 \end{pmatrix}$$



6x

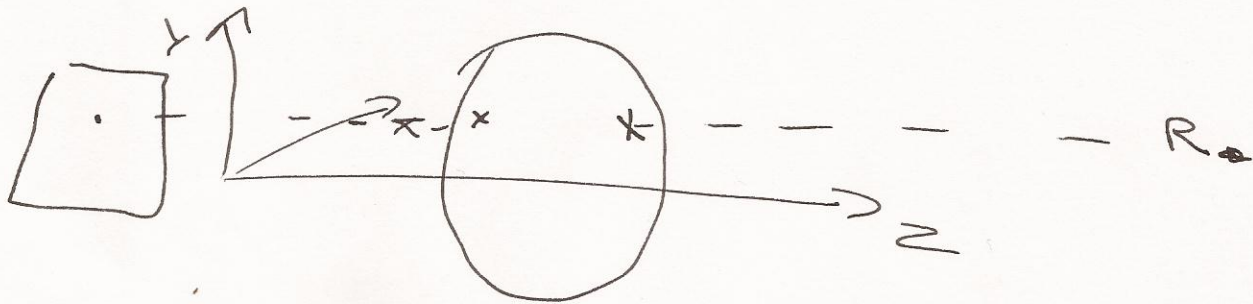


$$\begin{pmatrix} \vec{e}_x (10, 10, -10) \\ \vec{e}_y (-10, 10, -10) \\ \vec{e}_z (0, 10, 10) \end{pmatrix}$$



$$\begin{pmatrix} \cos \alpha & \sin \alpha & 0 \\ \sin \alpha & \cos \alpha & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

# Calculus de calcul



2020 R

- objet Fond. couleur
- objet Fond. Z

objet. Couleur. couleur. Avant

objet. Couleur. z. avant

objet. Couleur. couleur. Fond

objet. Couleur. couleur. Fond

objet. Couleur. ~~de la z~~  
profondeur

objet. Couleur. normale. avant

objet. Couleur. normale. fond

objet. Couleur. couleur. interne

. transparence. interne

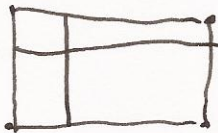
. avant

. fond

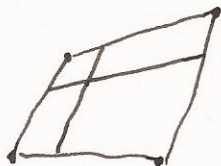


# Stretching

- nur x und y



A



B

\* movePoint ( t , m\_t )

A (0,0) - (dimx,0) - (0,dimy-1) - (dimx-1,dimy-1)

B m\_t1 m\_t2 m\_t3 m\_t4

colcul ( )

BI = new BI

bi . getGraphviz ( ) : füll Rect ( BLANC )

$$MP \equiv \mathbb{R} d_1 \wedge d_2$$

$$\begin{pmatrix} m_t.x \\ m_t.y \end{pmatrix} = \begin{pmatrix} p_{x2} - p_{x1} & p_{y2} - p_{y1} \end{pmatrix}^{-1} \begin{pmatrix} p_{x2} - p_{x1} \\ p_{y2} - p_{y1} \end{pmatrix}$$

trans A

$$P \equiv (x, y) \begin{cases} 0 \leq x \rightarrow \dim x \\ 0 \leq y \rightarrow \dim y \end{cases}$$

$$MP \equiv (x', y')$$

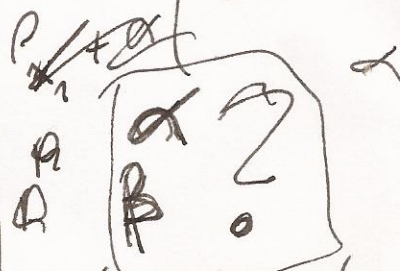
$$P_{x1} \equiv \left( \frac{m_{t2} \cdot x - m_{t1} \cdot p_{x1}}{I_1 \cdot \dim x} + m_{t1} \right)$$

$$P_{x2} \equiv \left( \frac{m_{t3} \cdot x - m_{t1} \cdot p_{x1}}{I_2 \cdot \dim x} + m_{t1} \right)$$

$$P_{y1} \equiv \left( \frac{m_{t3} \cdot y - m_{t1} \cdot p_{y1}}{I_3 \cdot \dim y} + m_{t1} \right)$$

$$P_{y2} \equiv \left( \frac{m_{t4} \cdot y - m_{t1} \cdot p_{y1}}{I_4 \cdot \dim y} + m_{t1} \right)$$

$$\begin{cases} p_{x1} + \frac{\alpha}{\dim x} (p_{x2} - p_{x1}) \\ p_{y1} + \frac{\beta}{\dim y} (p_{y2} - p_{y1}) \end{cases}$$



$$\alpha (p_{x2} - p_{x1}) - \beta (p_{y2} - p_{y1}) = p_{x1} - p_{y1}$$

$$\left( \frac{p_{x2} - p_{x1}}{I_1} \right) = \frac{p_{y1} - p_{x1}}{I_2}$$

Notizie Kotelis

+ set values (a: int, x, y, z: float) : void  
+ store (File file : File; bot nom : String.  
+ change (File file) : File; bot nom : String.

54

FILTER

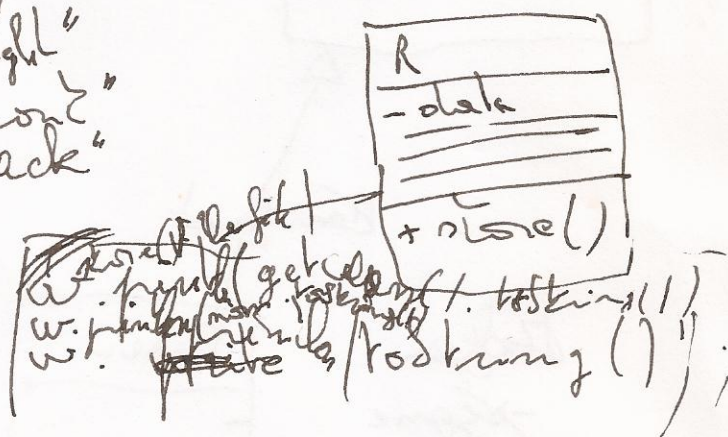
TYPE

+ NOM

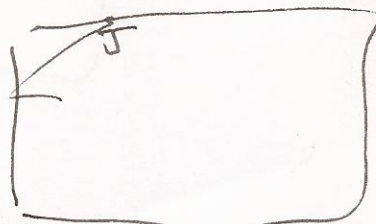
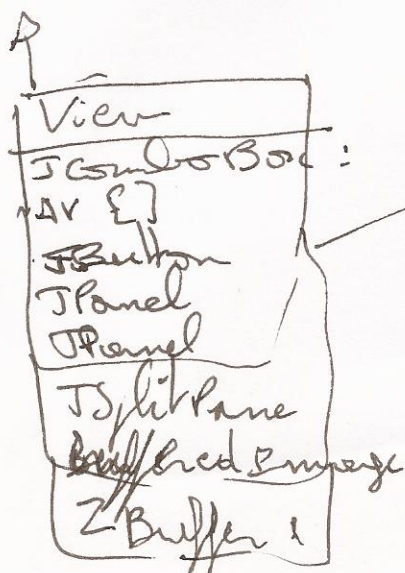
+ DATA

~~FEST~~  
GEN

2) Use ( "top", "bottom", "left", "right", "front", "back", "TOP", "bottom", "left", "right", "front", "back" )



JF Done



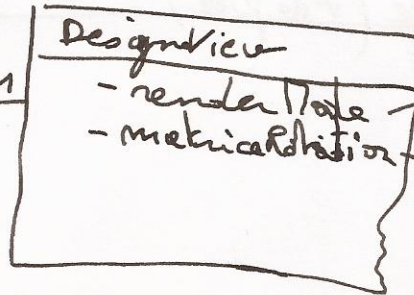
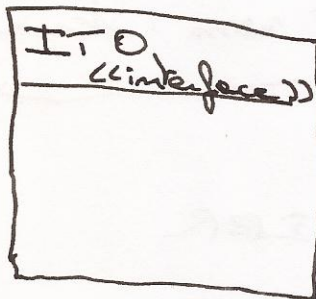
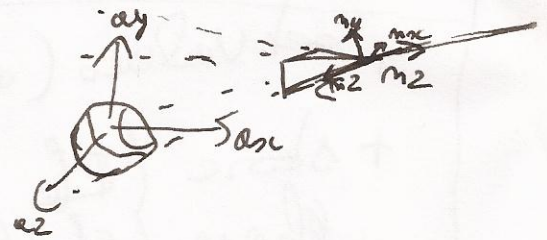


# Design View

①

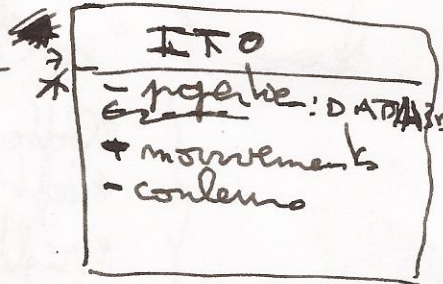
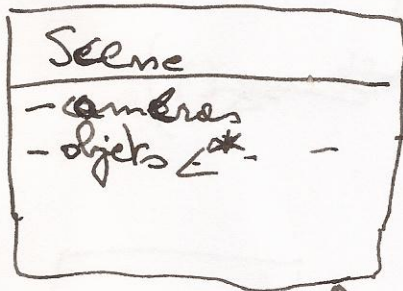
Page ②

- render Node
- matrix Rotation



→ int  
→ Matrix Rotation

②



Generalization

Token  
- scene  
- ...

