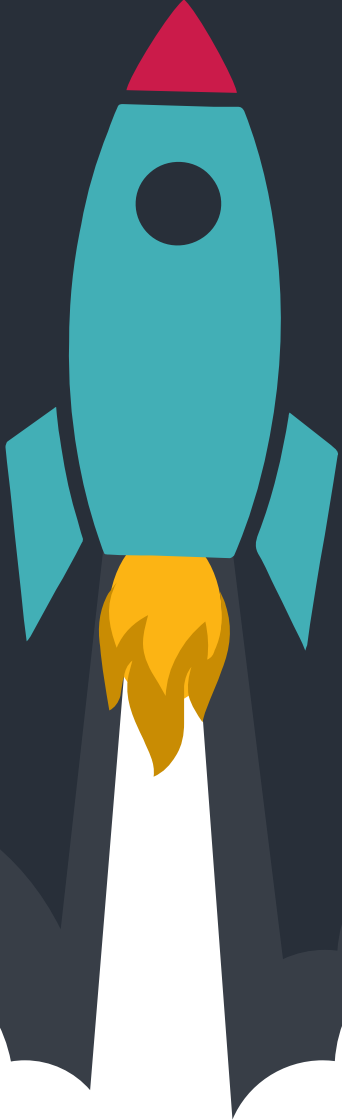


# Projet P2 SA

Projet "PoutineStyle"



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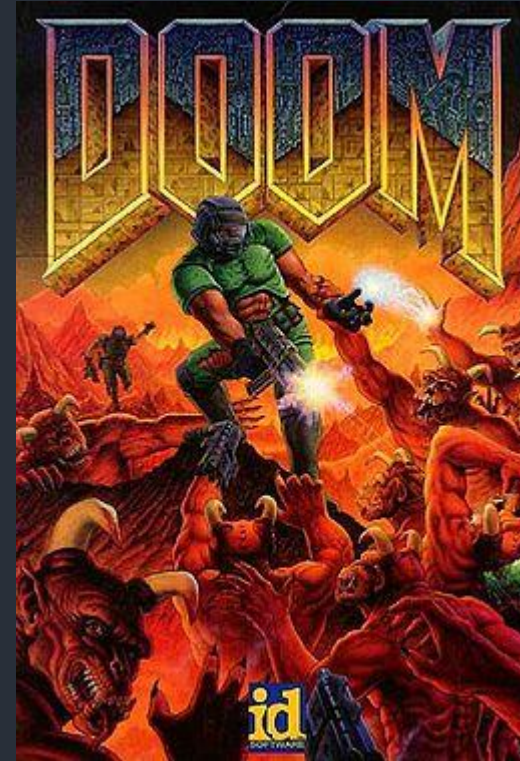
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# Présentation du projet

- Groupe 04
- Inspiré du jeu « Wolfenstein 3D »
- Utilisation du principe du Raycasting
- Librairie SFML



# Présentation du jeu

## POUTINESTYLE

**UN PROJET, UN JEU, UNE VOLONTE  
UNE REVOLUTION**

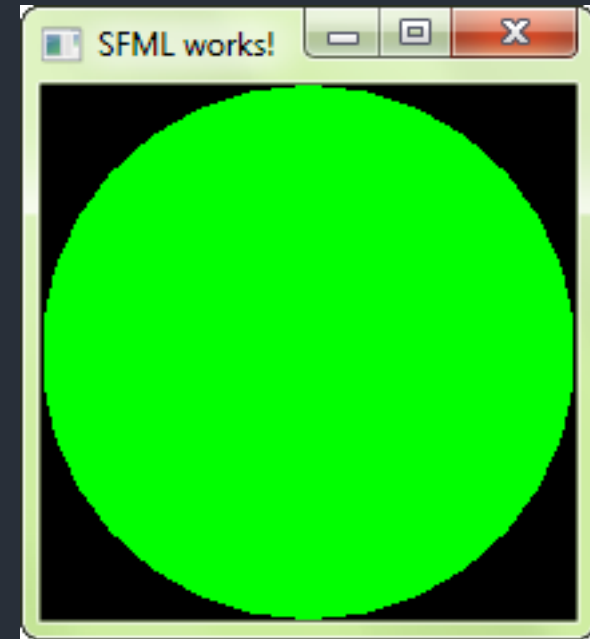
haute école  
recherche parcs urb

arc

Impression  
www.koala.be

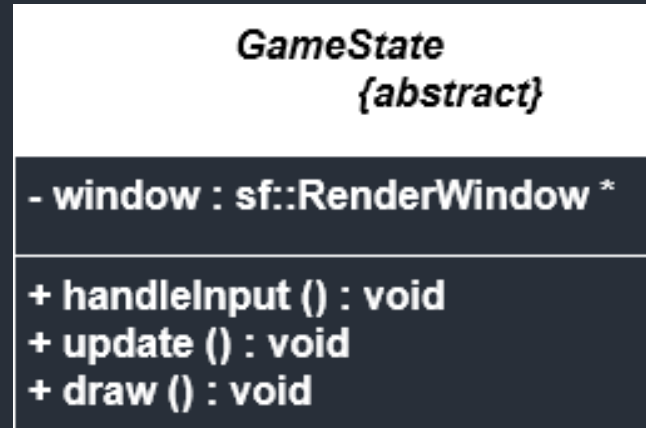
# Explications techniques

- Structure du projet
  - SFML
  - GameState
  - GameManager



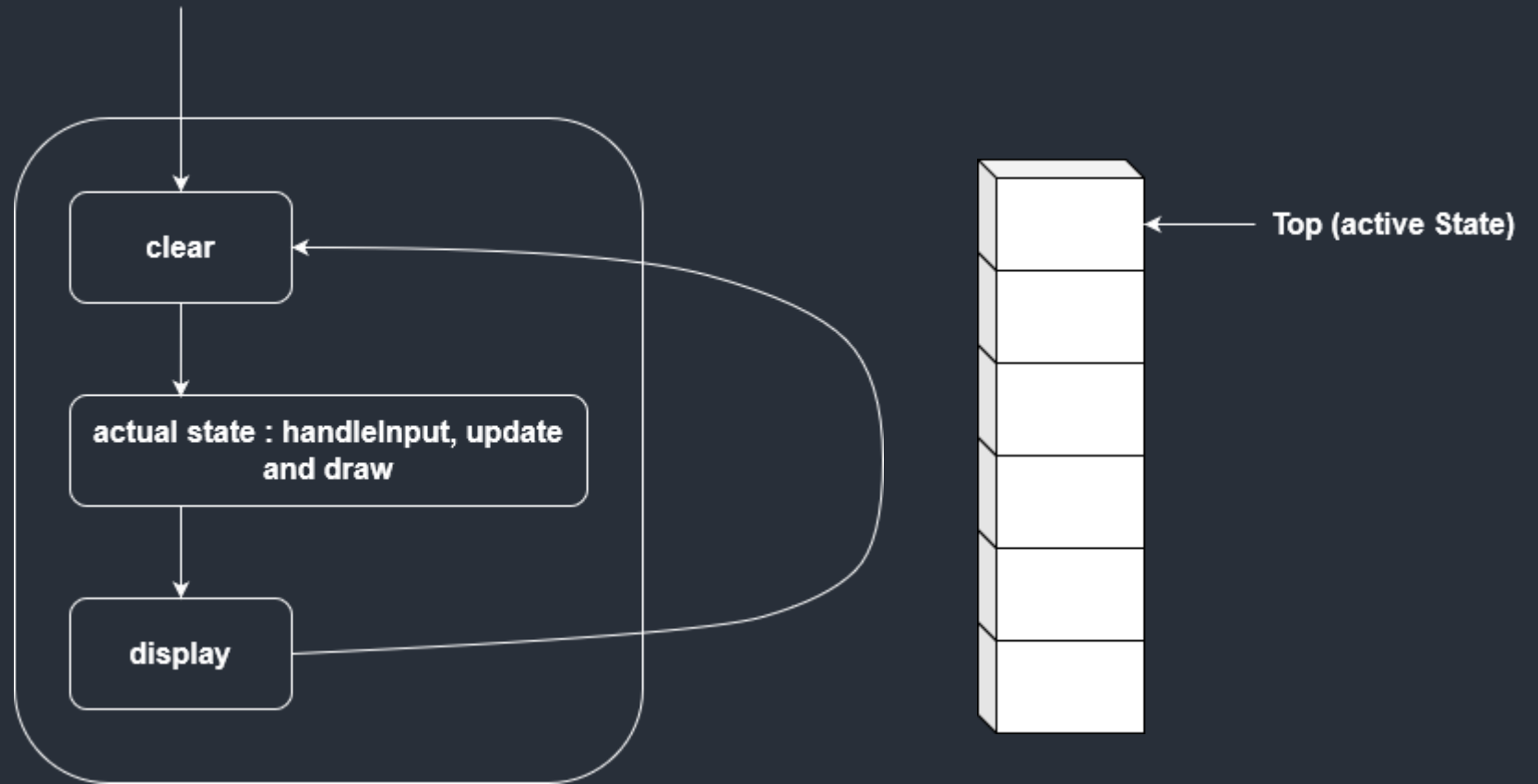
# Explications techniques

- Structure du projet
  - SFML
  - GameState
  - GameManager



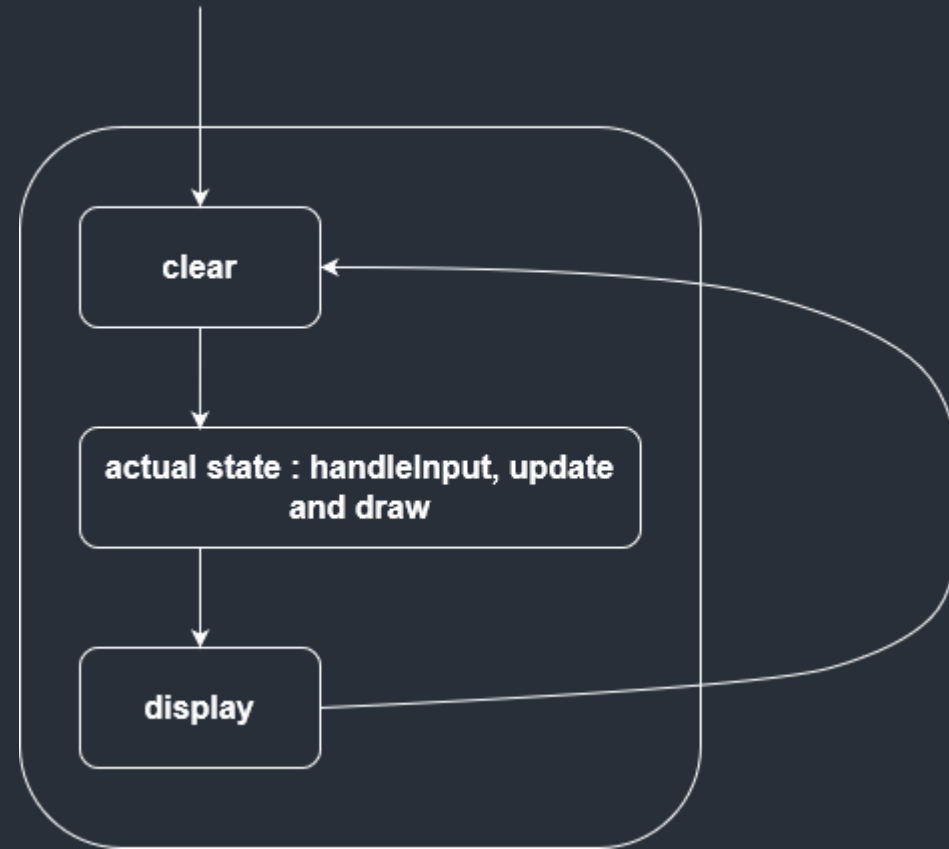
# Explications techniques

- Structure du projet
  - SFML
  - GameState
  - GameManager



# Explications techniques

- GameLoop
  - Itération = Frame
  - DeltaTime et FPS





# Explications techniques

- GameLoop
  - Itération = Frame
  - DeltaTime et FPS
  - Exemple :

Condition : à 50FPS, déplacement de 50px en 1s ( $x = 50$ )

Méthode brute : +1px à chaque itération

50 FPS : le déplacement sera de 50px

100 FPS : le déplacement sera de 100px

50 FPS :  $\text{deltaTime} = 1/50 = 0.02$  ( $\text{dt}50 = 0.02$ )

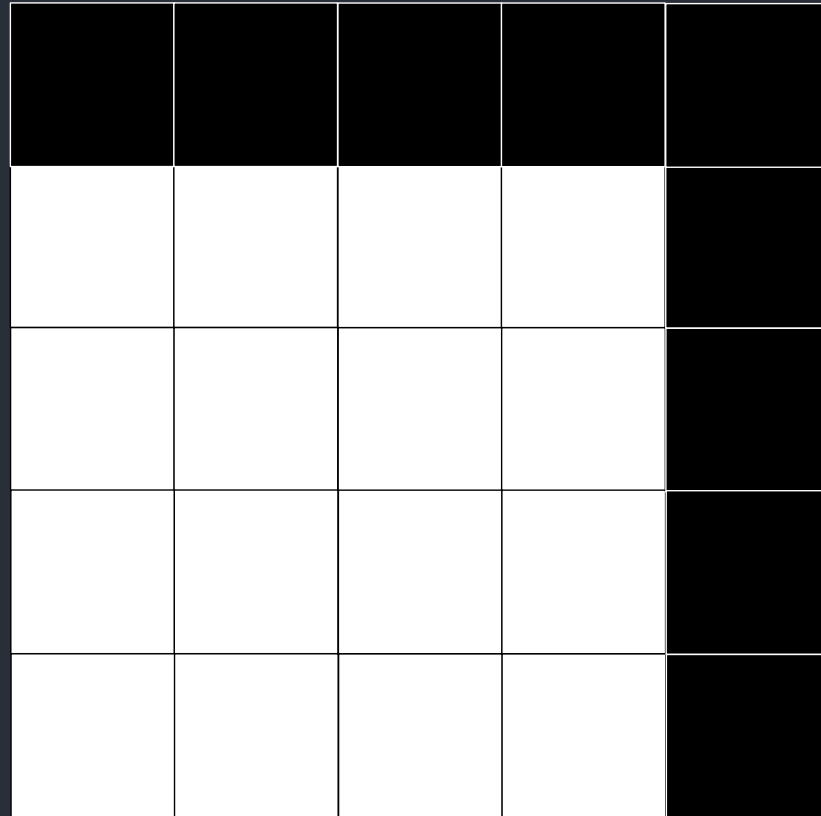
100 FPS :  $\text{deltaTime} = 1/100 = 0.01$  ( $\text{dt}100 = 0.01$ )

50 FPS :  $x * \text{dt}50 = 1\text{px} \Rightarrow 50 * x * \text{dt}50 = 50\text{px}$

100 FPS :  $x * \text{dt}100 = 1/2\text{px} \Rightarrow 100 * x * \text{dt}100 = 50\text{px}$

# Explications techniques

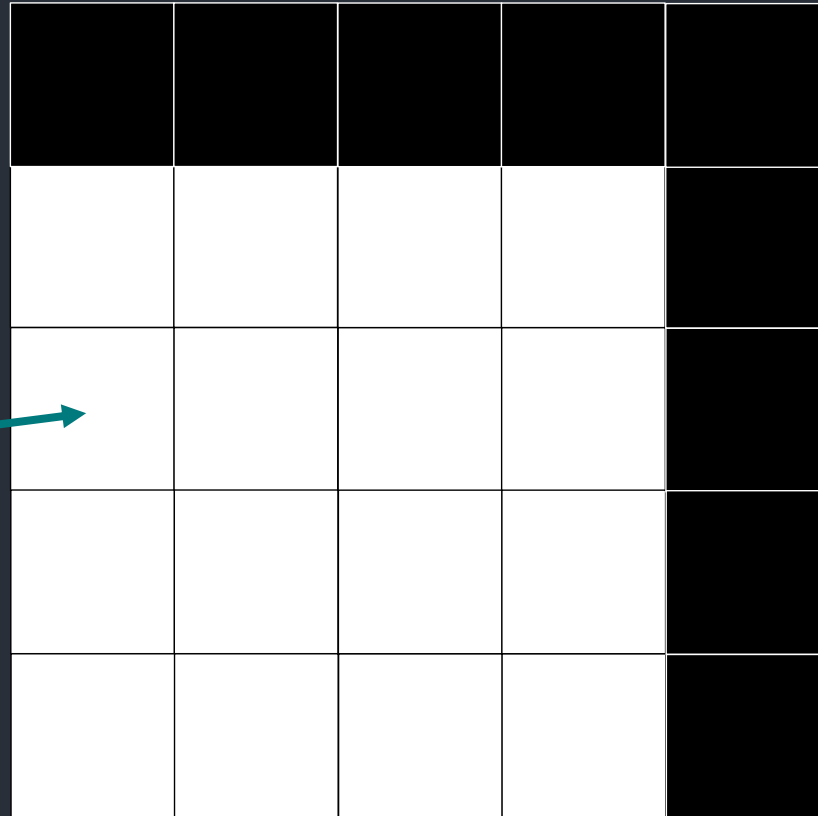
- Raycasting
  - Contexte



# Explications techniques

- Raycasting
  - Contexte

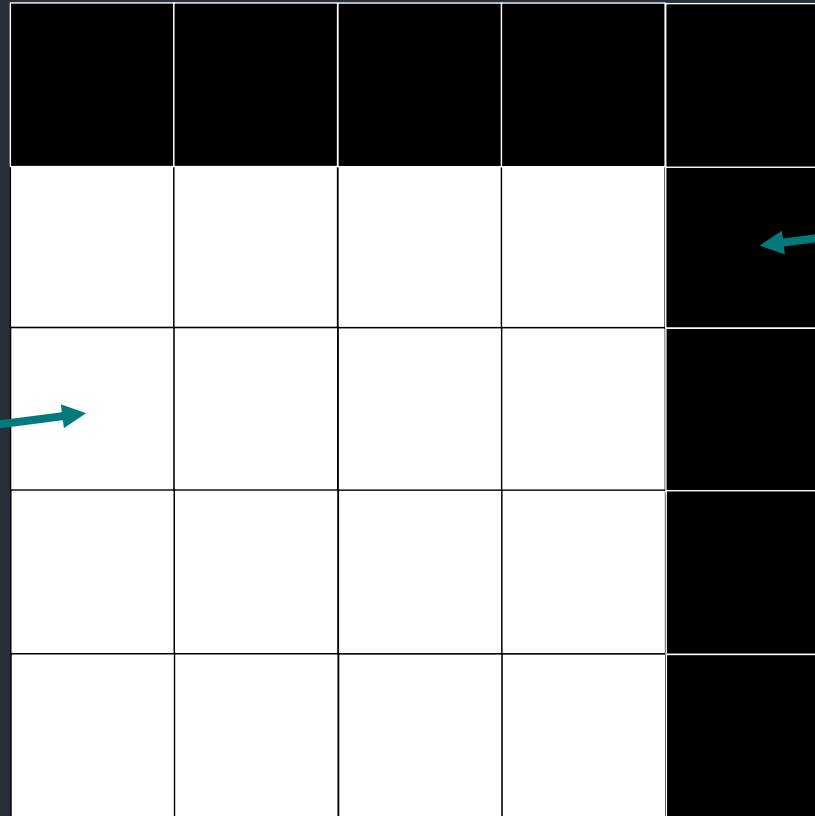
Vide



# Explications techniques

- Raycasting
  - Contexte

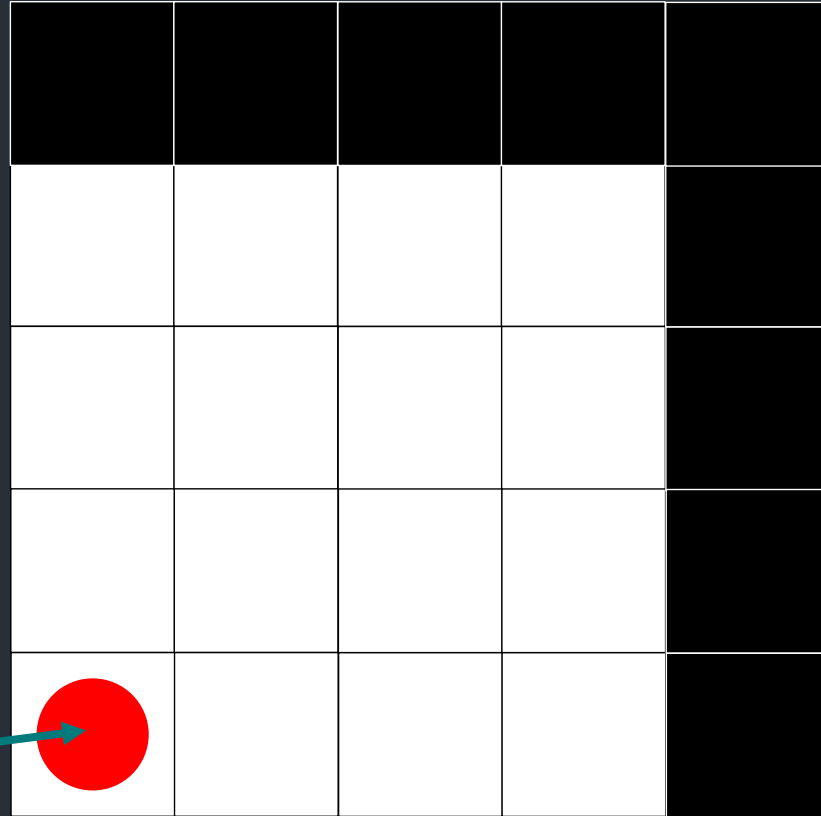
Vide



Mur

# Explications techniques

- Raycasting
  - Contexte

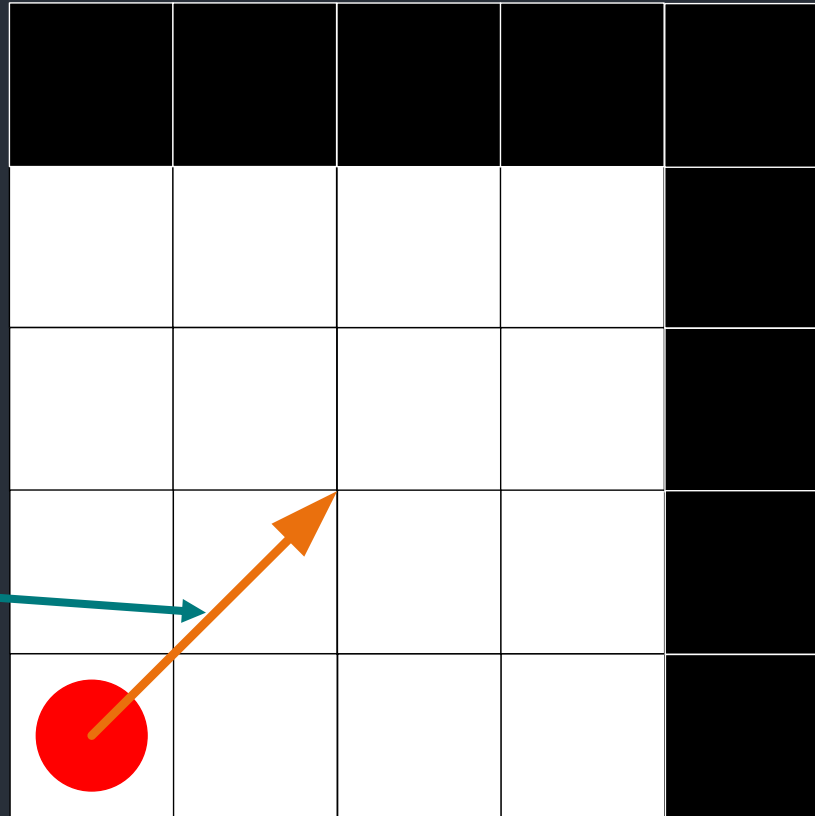


Joueur

# Explications techniques

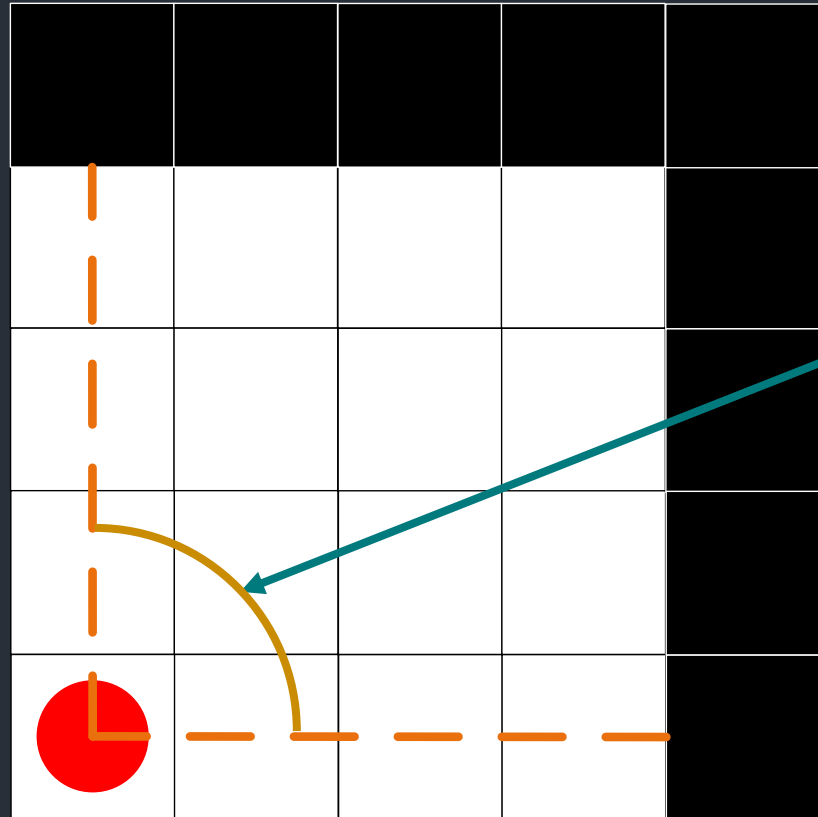
- Raycasting
  - Contexte

Direction  
joueur



# Explications techniques

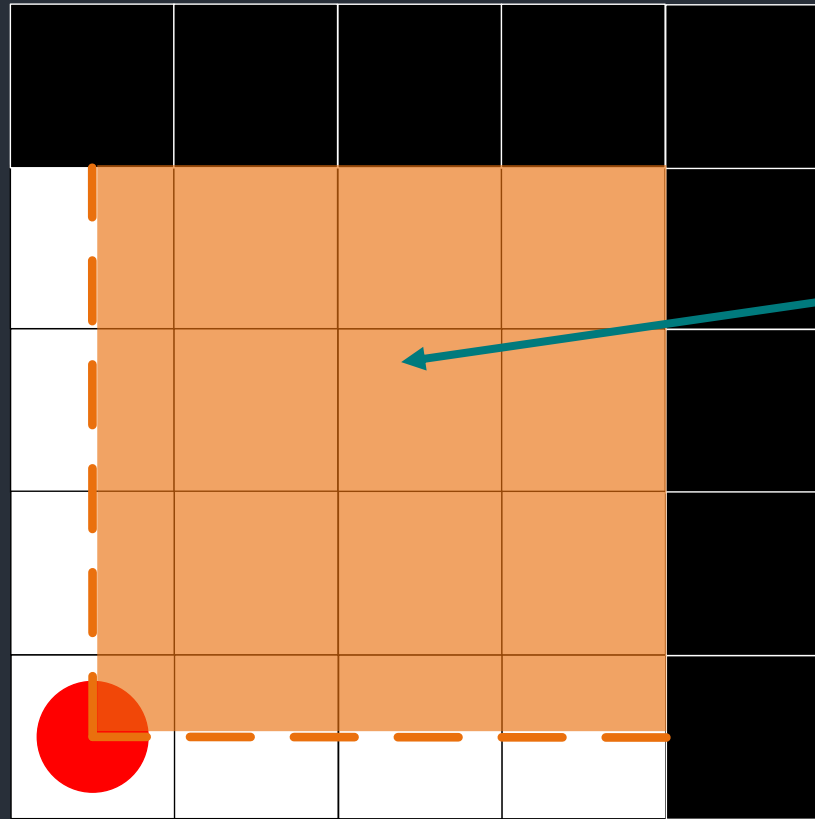
- Raycasting
  - Contexte



Champ de vision

# Explications techniques

- Raycasting
  - Contexte

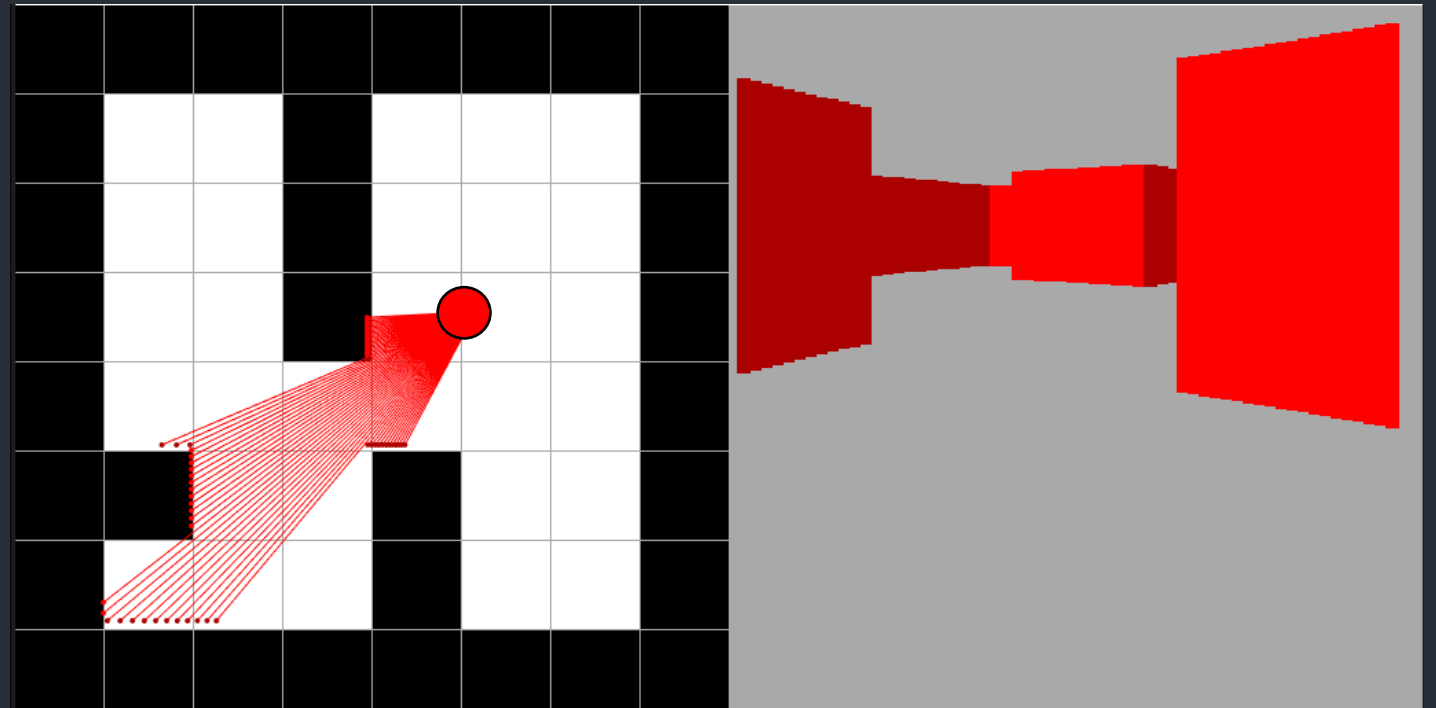


Zone visible par  
le joueur



# Explications techniques

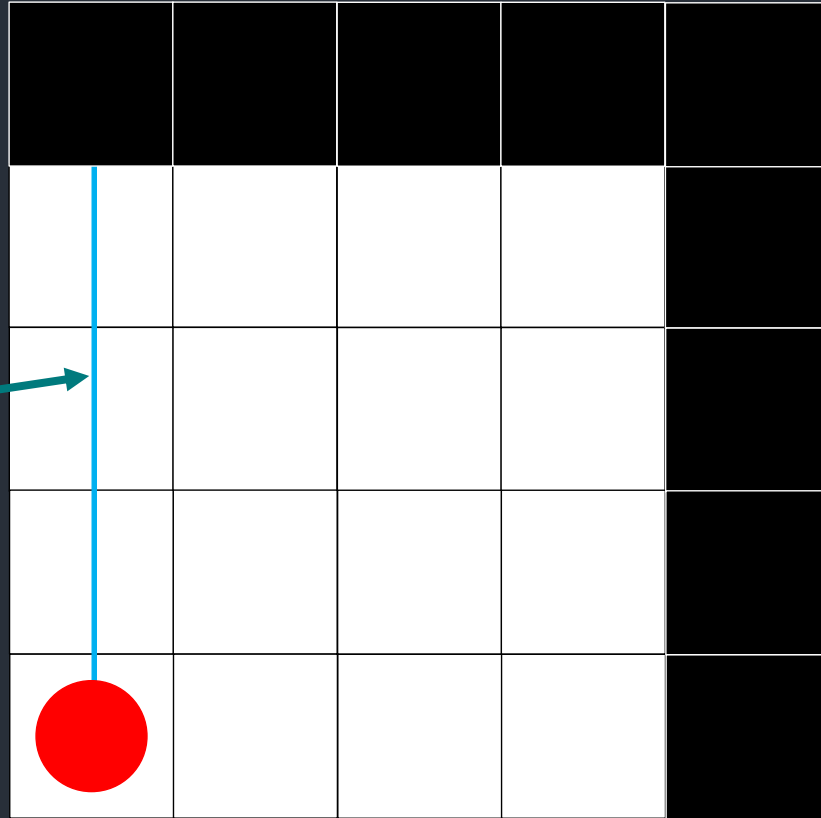
- Raycasting
  - But : Simuler une impression 3D à partir d'un monde 2D



# Explications techniques

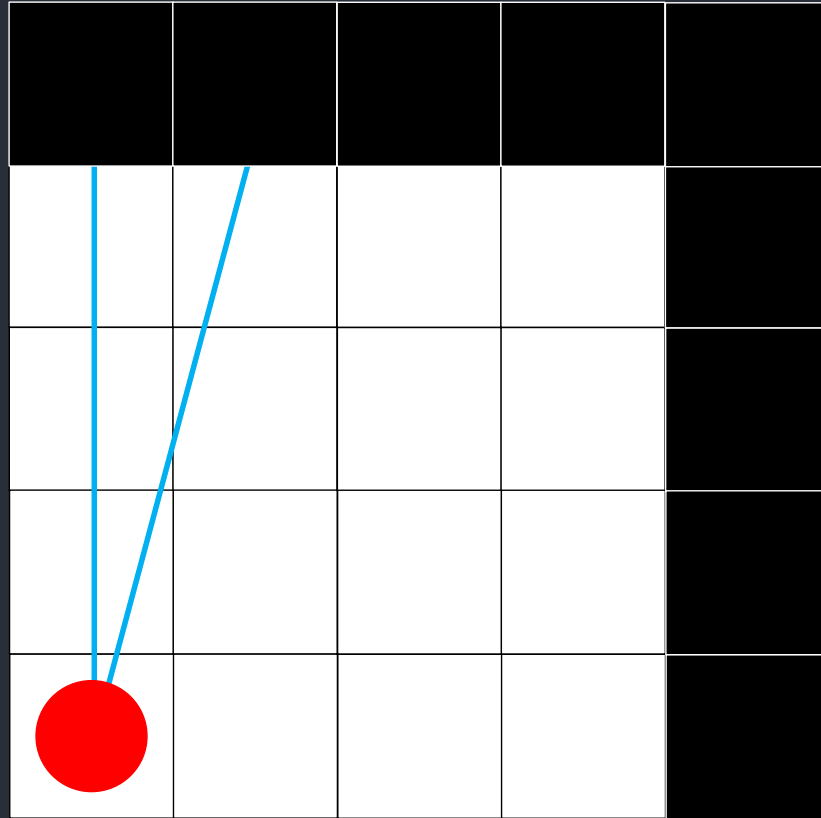
- Raycasting

Rayon



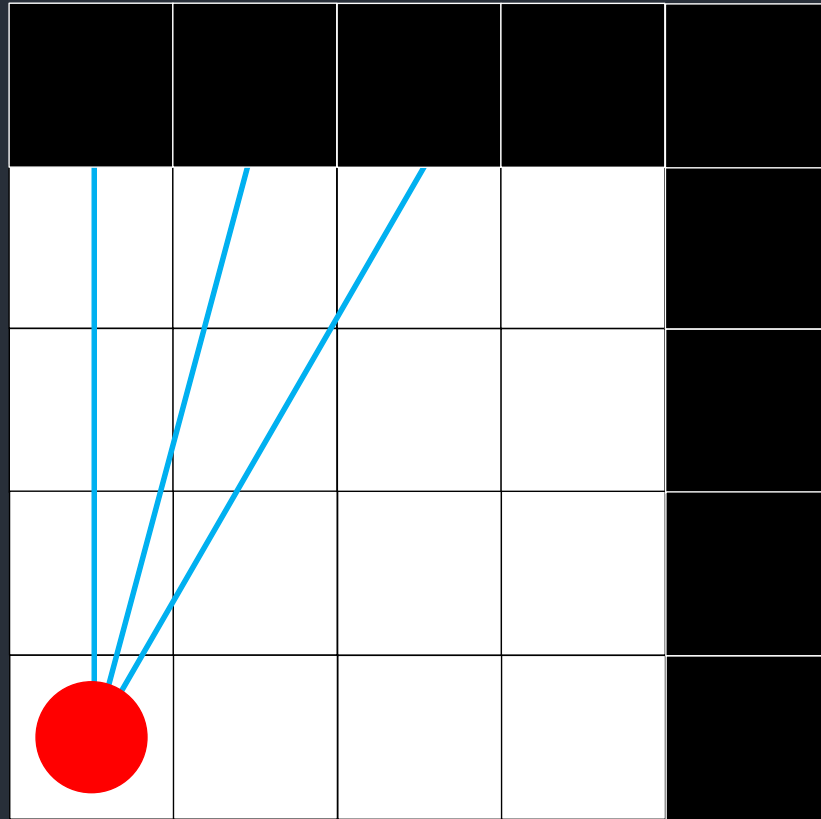
# Explications techniques

- Raycasting



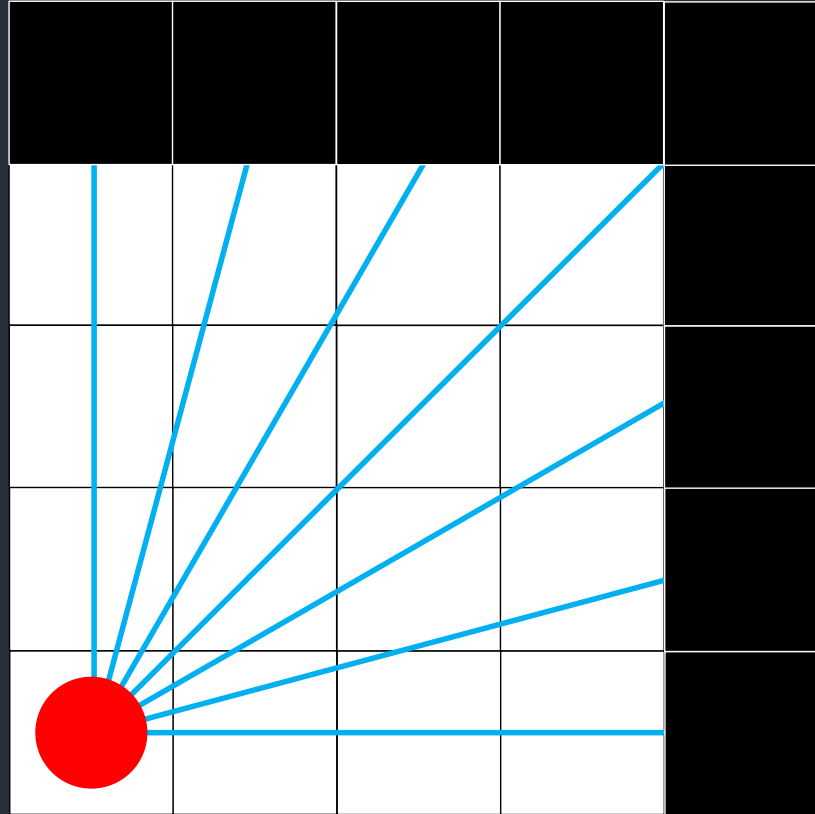
# Explications techniques

- Raycasting



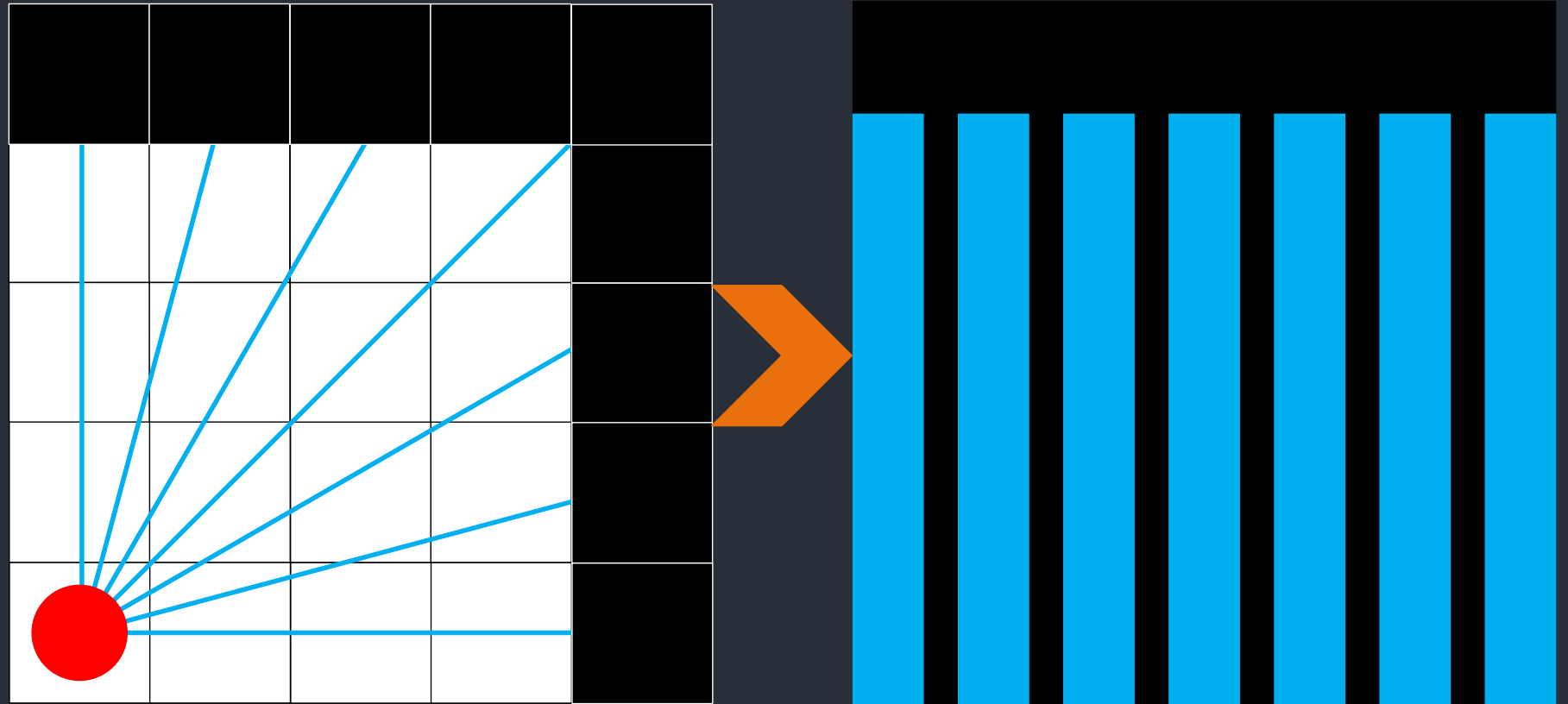
# Explications techniques

- Raycasting



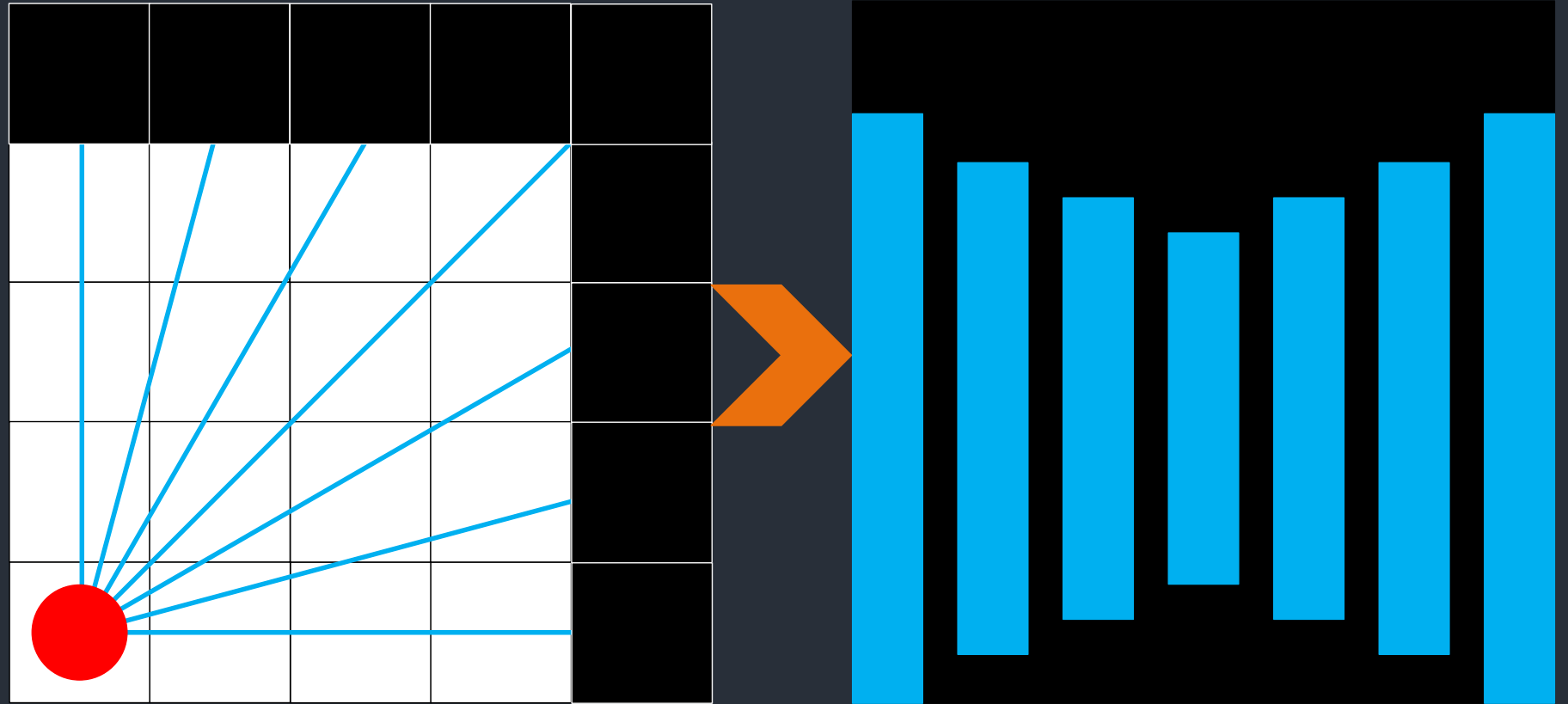
# Explications techniques

- Raycasting



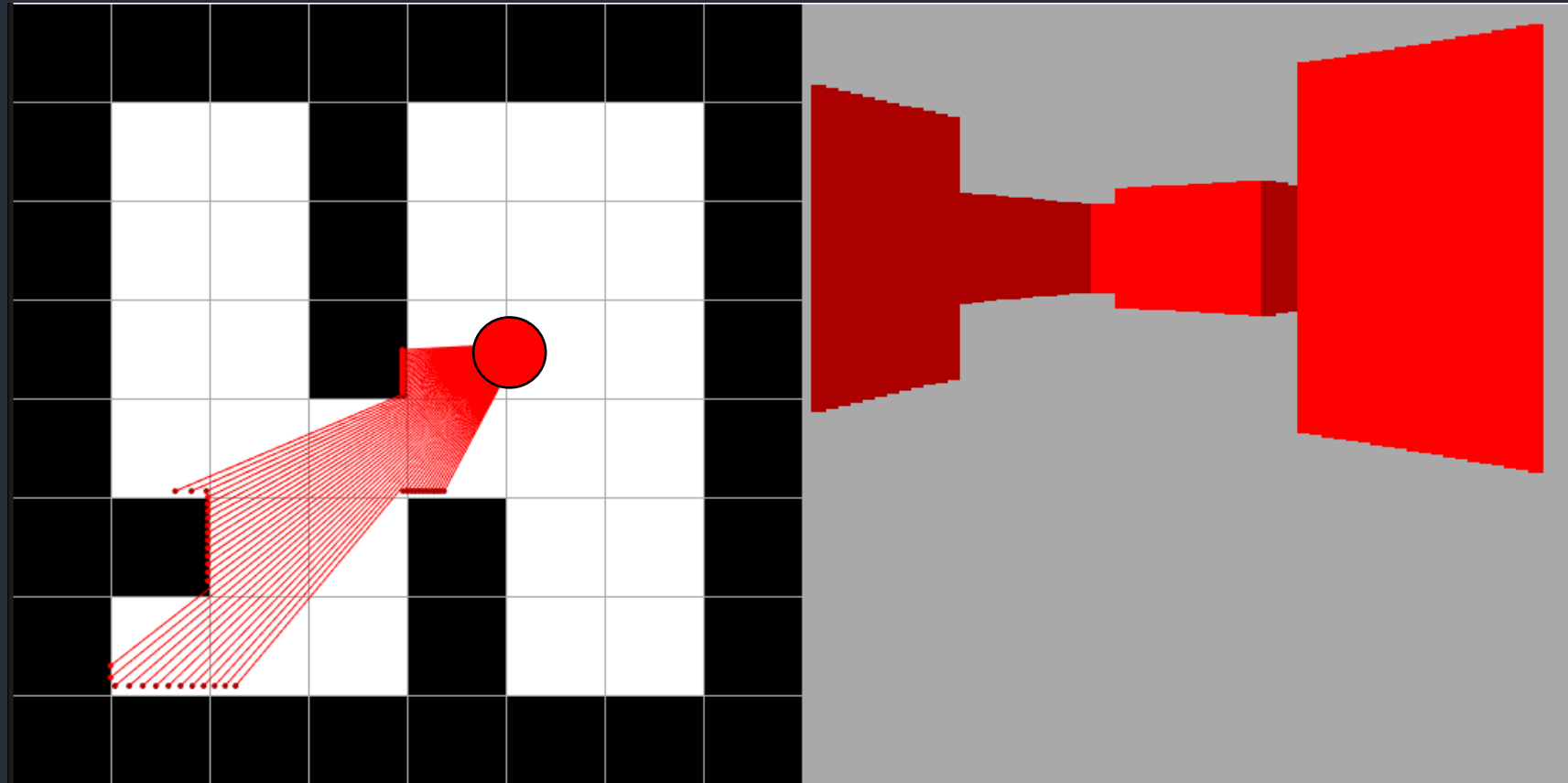
# Explications techniques

- Raycasting



# Explications techniques

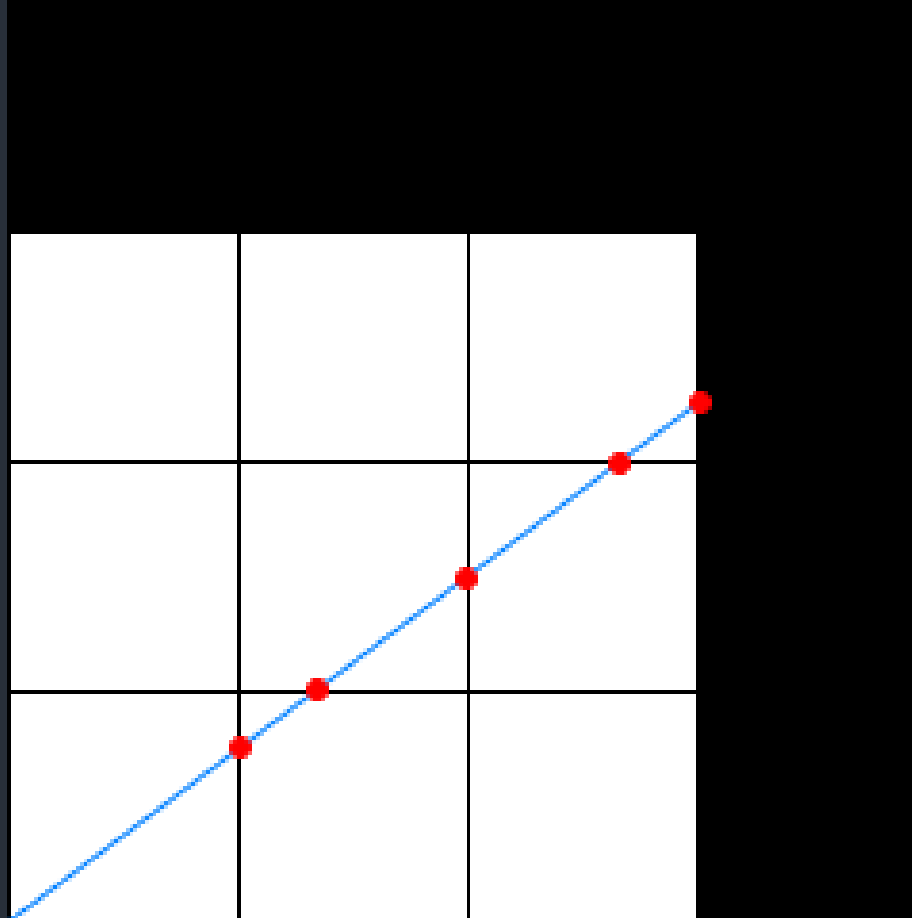
- Raycasting





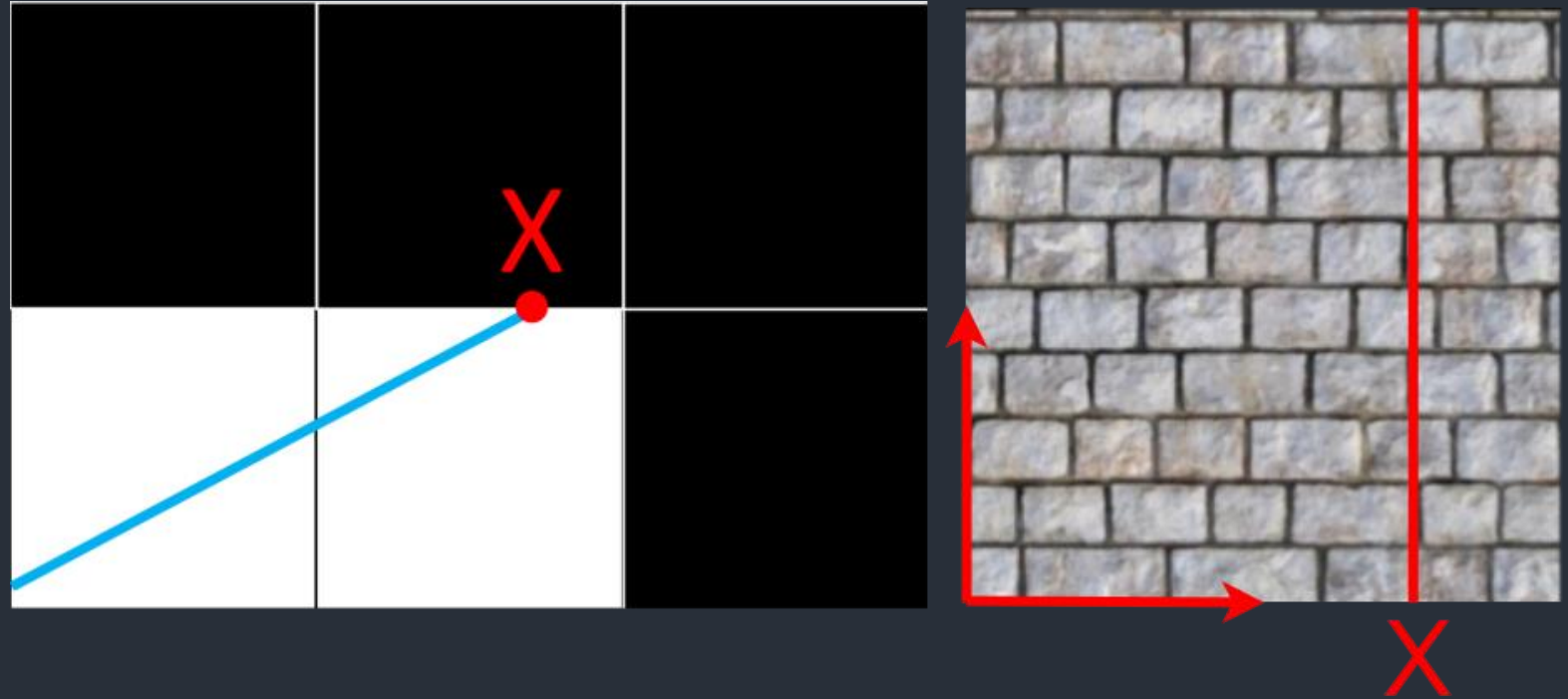
# Explications techniques

- Raycasting
- Algorithme DDA



# Explications techniques

- Raycasting
- Algorithme DDA
- Raycasting texturés



# Explications techniques

- Animations standards
- Animations d'entités raycastées

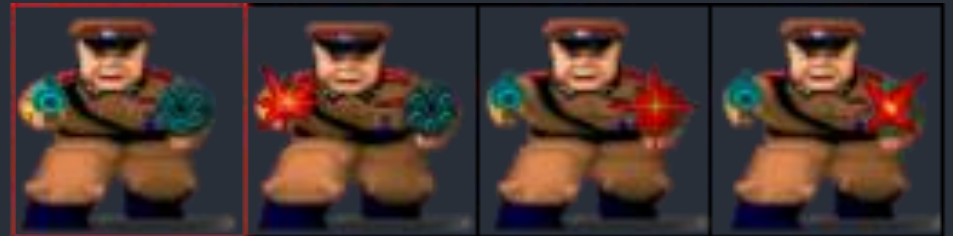
holdTime = 0.0



# Explications techniques

- Animations standards
- Animations d'entités raycastées

holdTime = 0.0



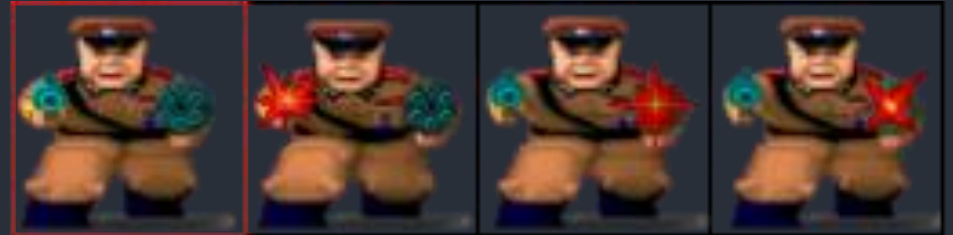
deltaTime = 0.05  
holdTime = 0.05



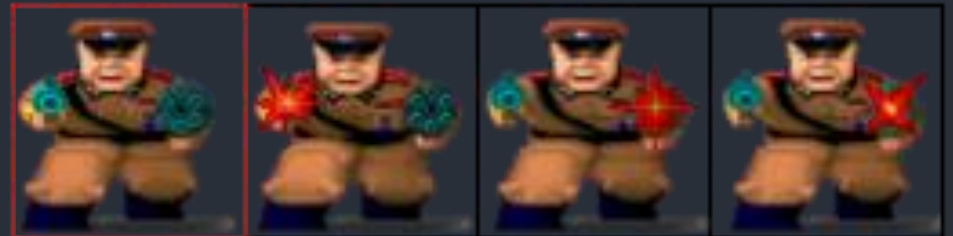
# Explications techniques

- Animations standards
- Animations d'entités raycastées

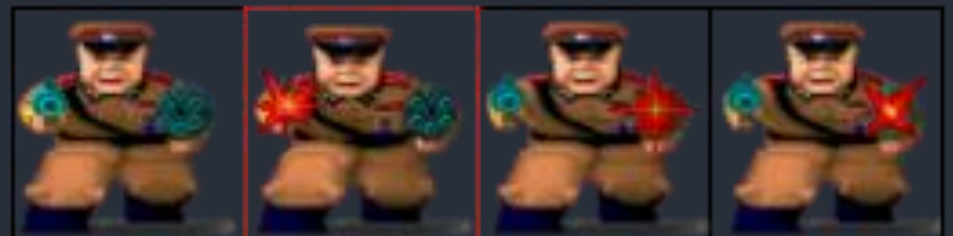
holdTime = 0.0



deltaTime = 0.05  
holdTime = 0.05



deltaTime = 0.06  
holdTime = 0.11



# Démonstration

- Démo live

# Limitations et perspectives

- Le temps mis à disposition et nos connaissances
- Multithreading
- Ajout
  - Déplacement des ennemis
  - Narration et histoire
  - Plus d'animations ...



# Remerciements

Merci pour votre  
attention !

