



**Books**

optimization

Create  
scene

Create camera,  
objects, lights

Create renderer

camera, objects,  
lights CRUD

Render



# Events

Exit

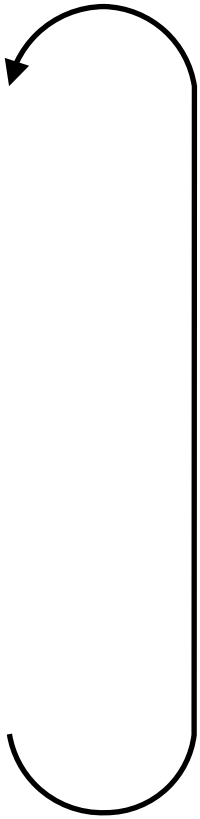




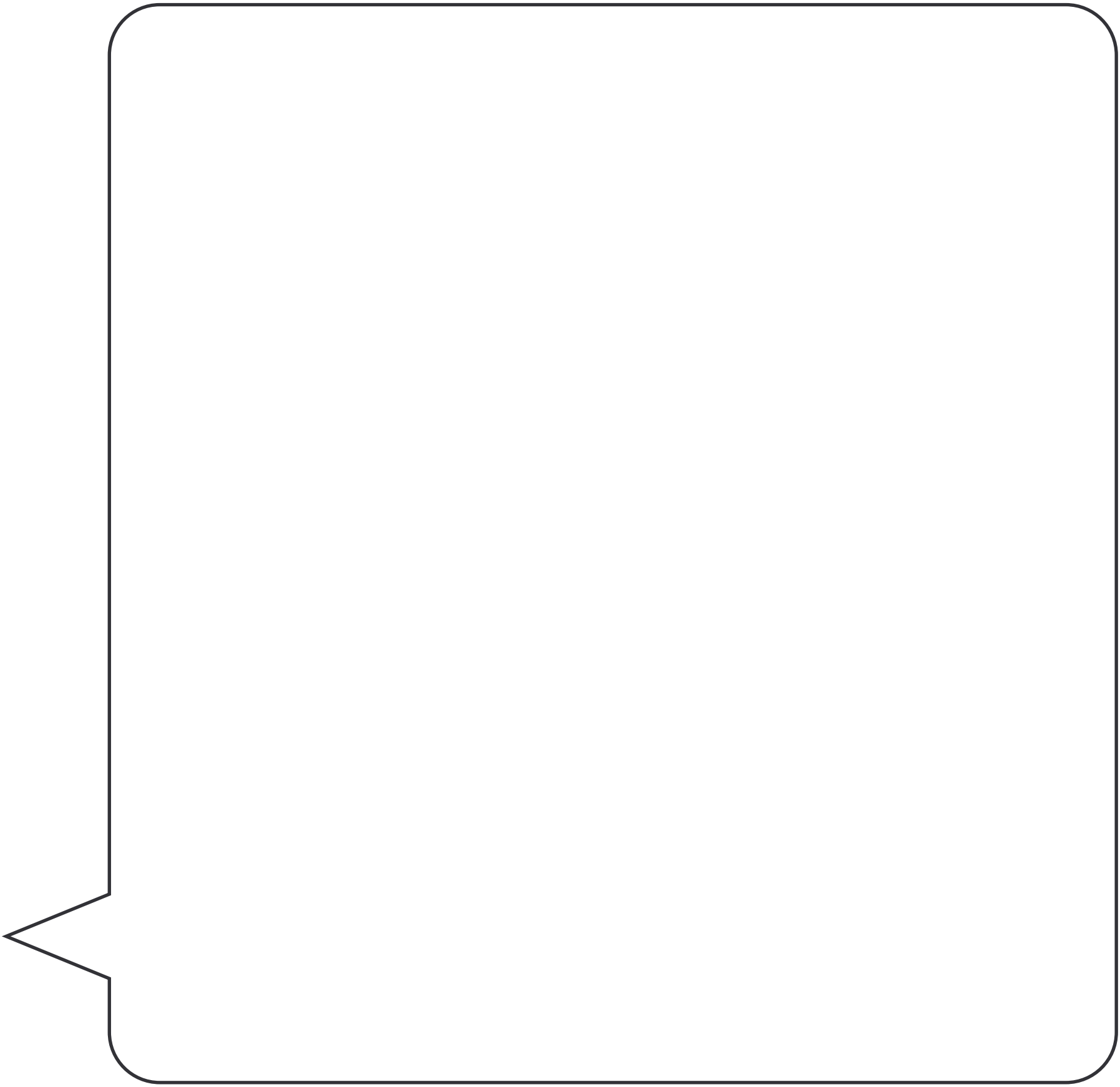














Calculate frustum





Push to rendering  
stack

Push to rendering  
stack

**Draw**



Draw

Draw

for each visible object in the frustum





Performance is poor because of:

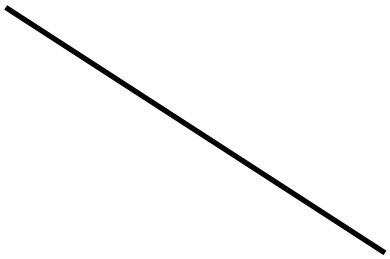
• **Too many objects**

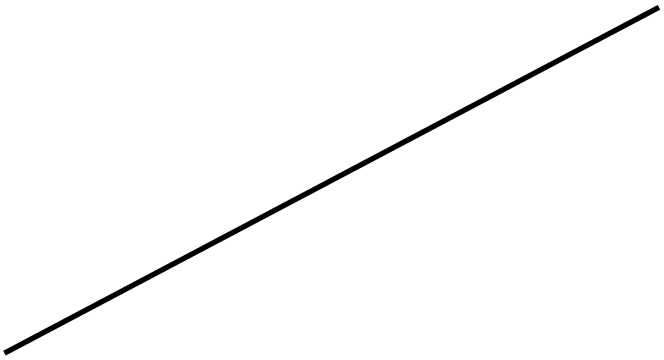
• **Expensive frustration**

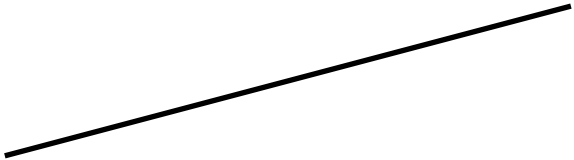


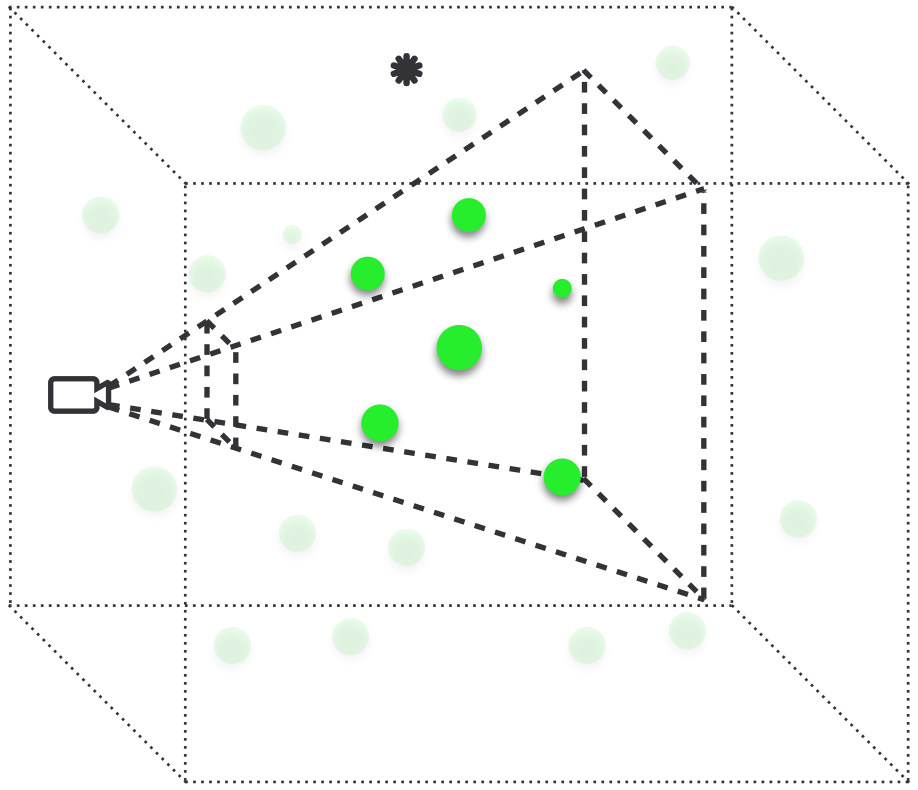
Too many draws

• Unnecessary geometry complexity

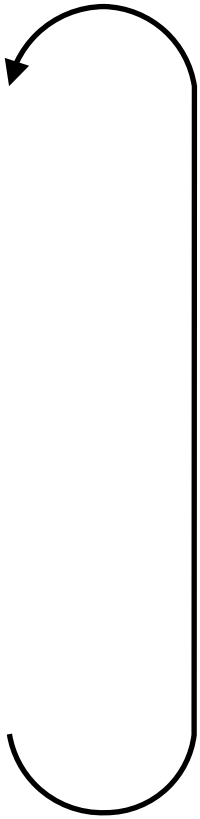








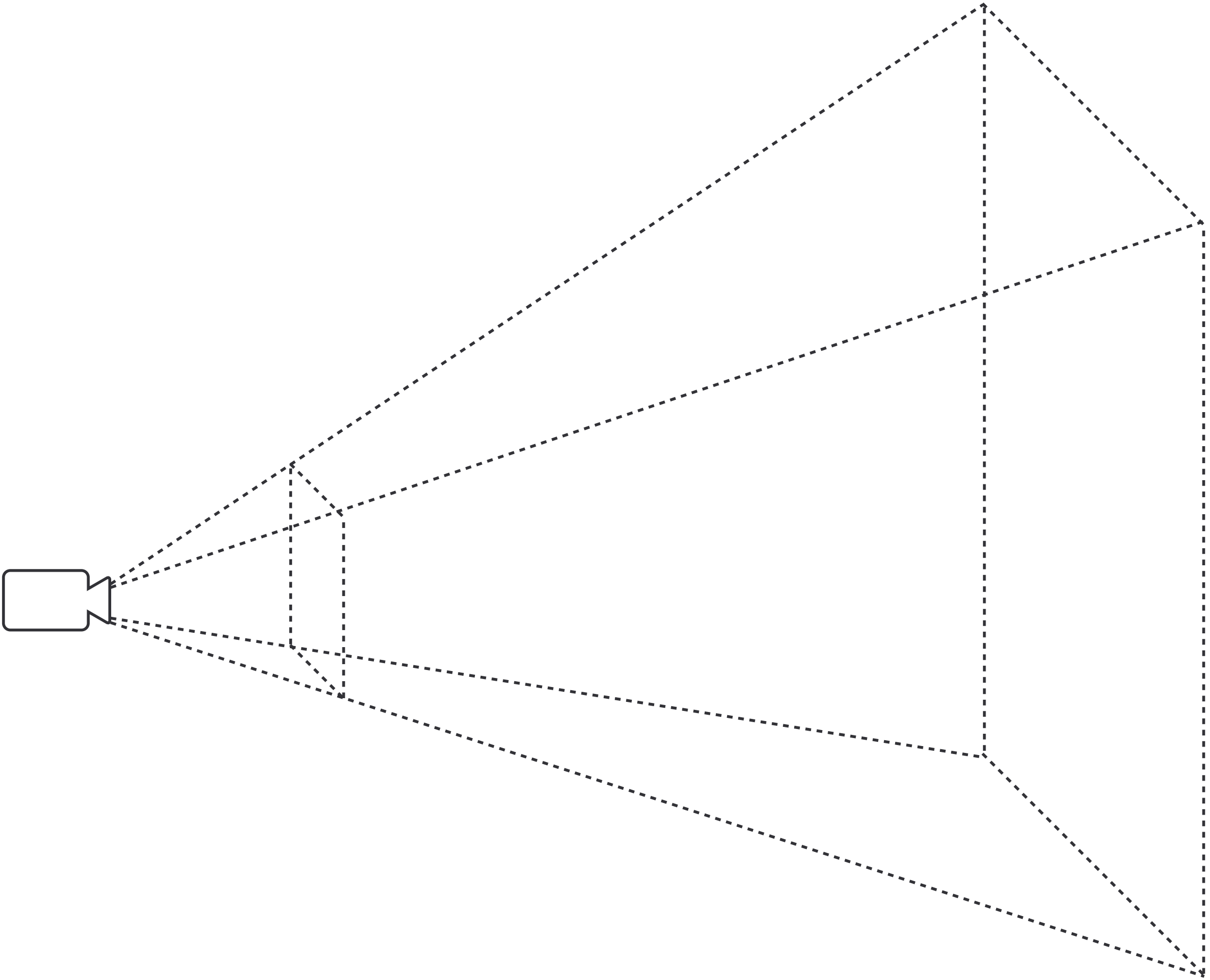
Frustum  
culling





for each object in the stack



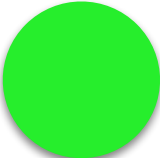






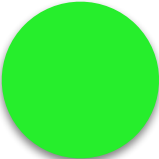










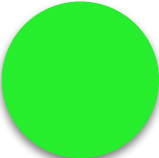




























S

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in

E

Creates





objects, lights

create camera,



create-renderer



camera, objects,

rightsCRUD





Render



Events



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calculate frustration









Push to rendering

stack



stack

Push to rendering



Push to rendering

stark





**Draw**



**Draw**



**Draw**













Frusturn

cuing

# Reducing Objects - Prints