

The **revolutionary** Technology behind 'Monkey Island' and 'Grim Fandango'



Oliver Franzke



p1xelcoder



About Oliver



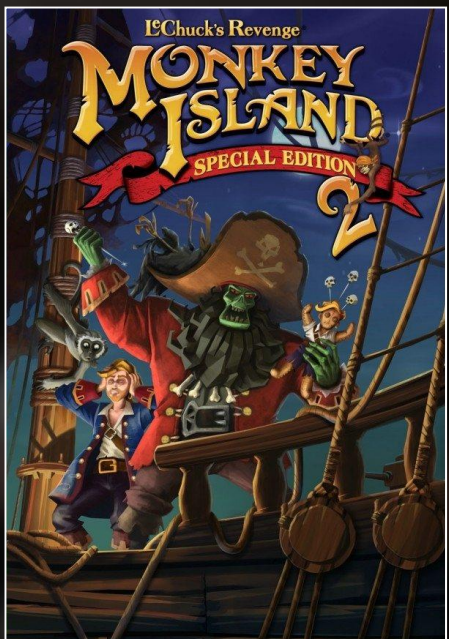


1990



2009

1991



2010

1993



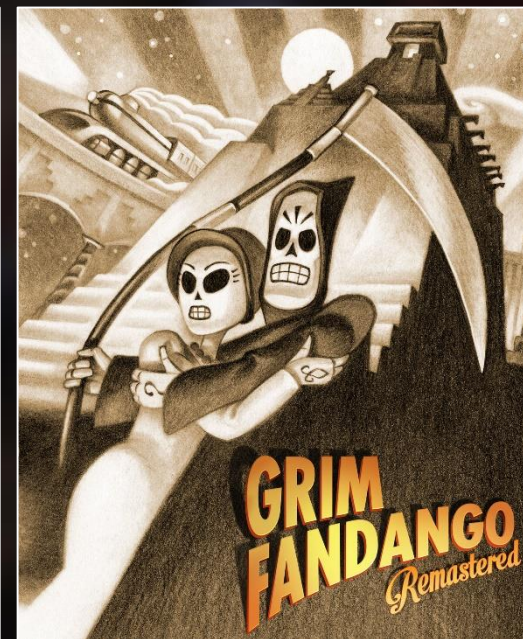
2016

1995



2017

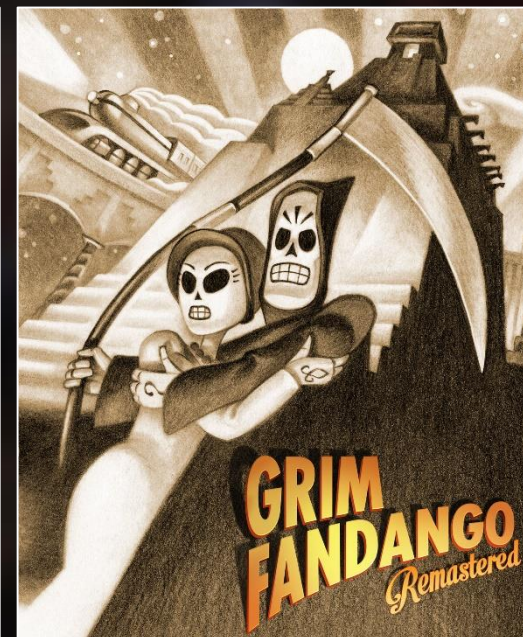
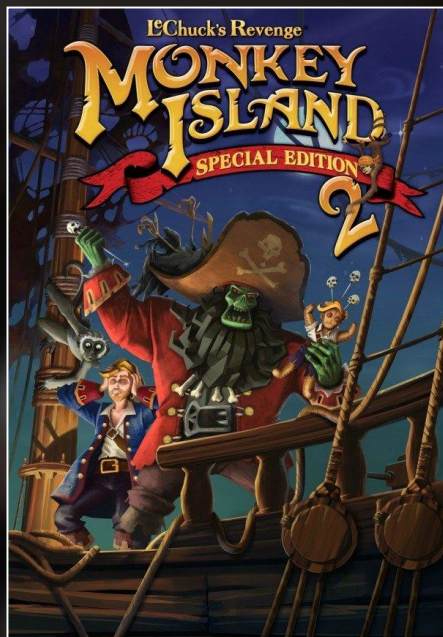
1998



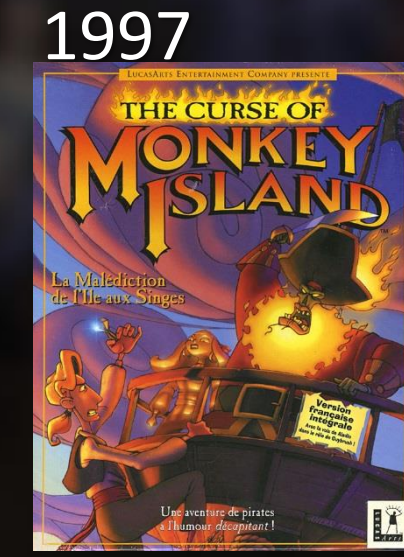
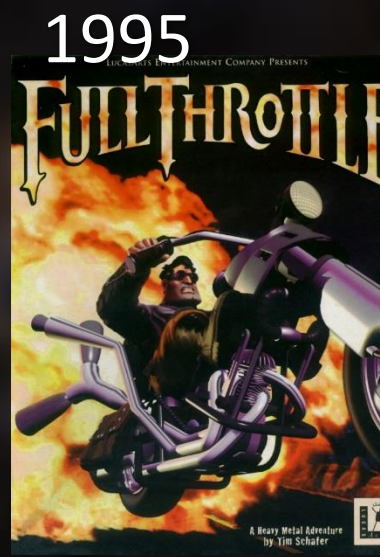
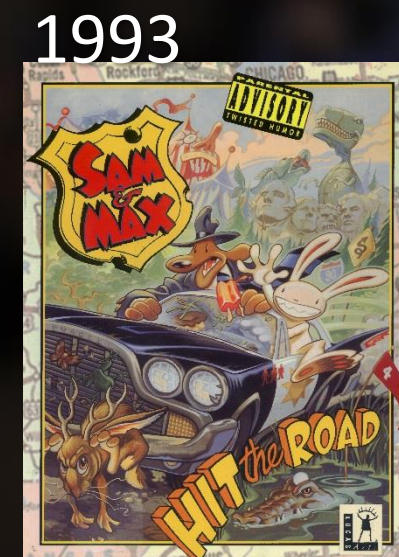
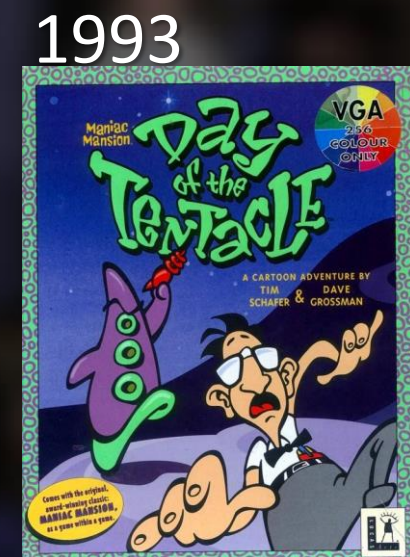
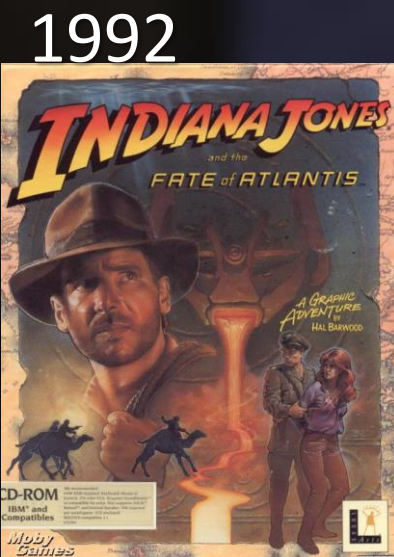
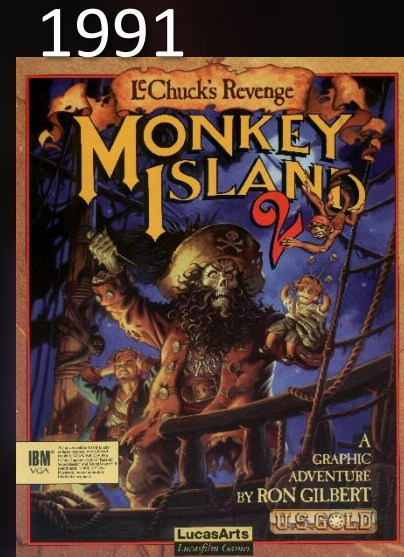
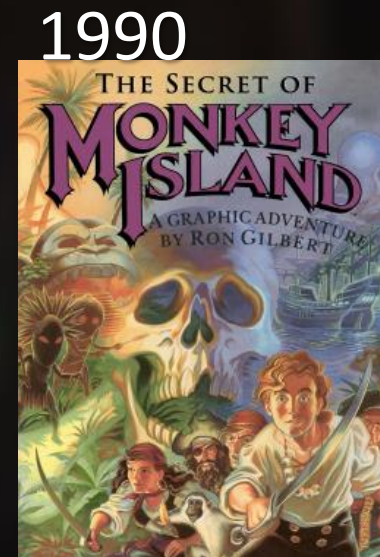
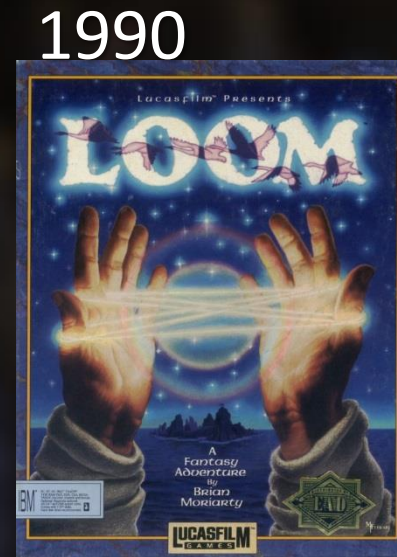
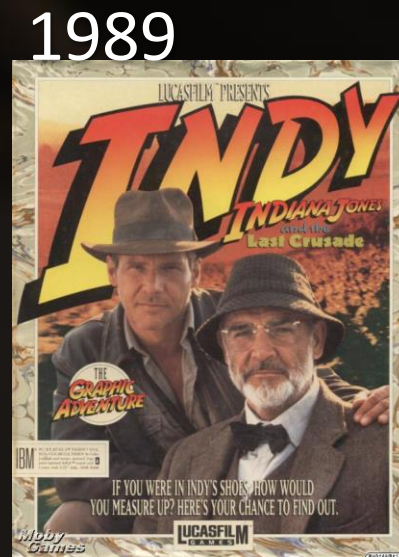
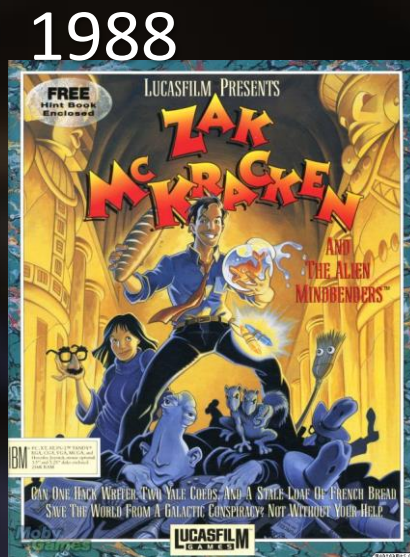
2015

SCUMM

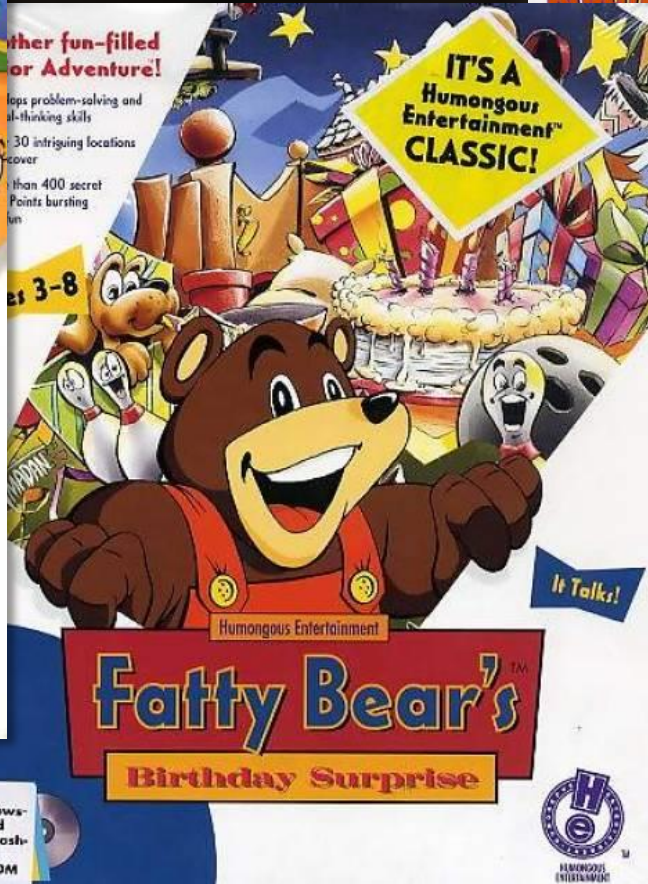
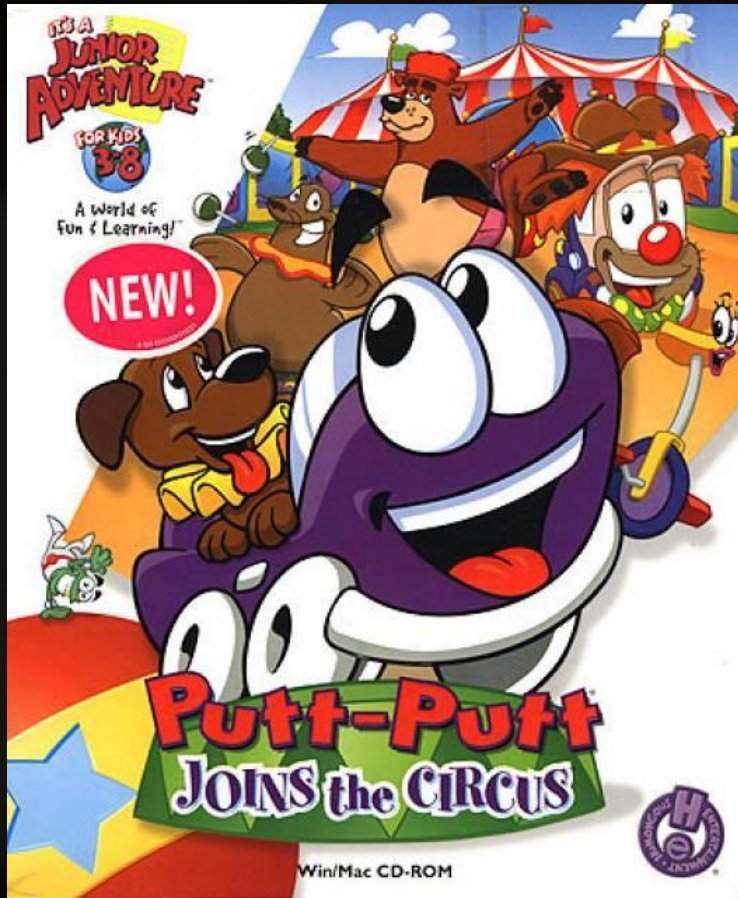
GrimE



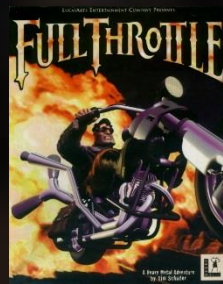
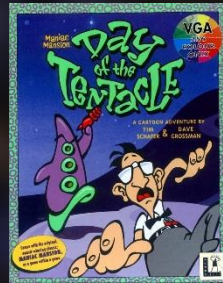
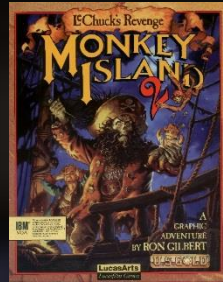
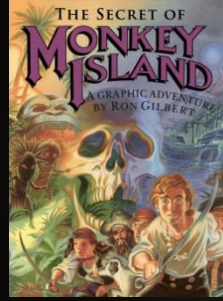
Powered by SCUMM™



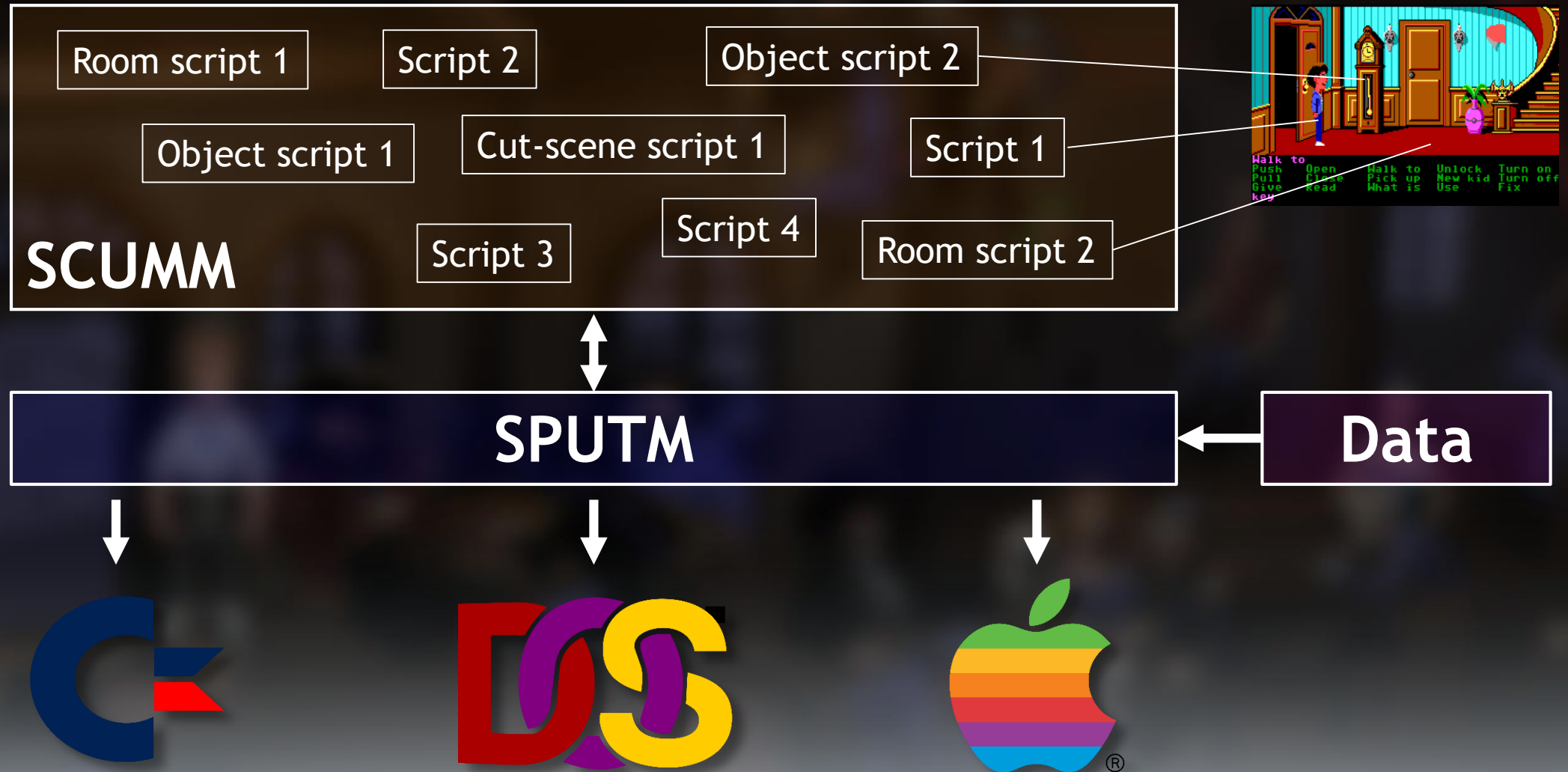
More games made with SCUMM



SCUMM



Way ahead of its time



Example script - Maniac Mansion

```
script clock-tick {  
  do {  
    clock-state = not clock-state  
    object living-room-clock state clock-state  
    play-sound clock-tick  
    break-here 60  
  }  
}
```



Example script - Maniac Mansion

```
cut-scene {  
  ...  
  actor nurse-edna in-room edna-bedroom at 60,20  
  camera-follow nurse-edna  
  actor nurse-edna walk-to 30,20  
  wait-for-actor nurse-edna  
  say-line nurse-edna "WHAT'S YOUR POINT ED!!!"  
  wait-for-talking nurse-edna  
  ...  
}
```

WHAT'S YOUR POINT ED?!



Example script - Maniac Mansion (cont.)



```
cut-scene {  
  ...  
  actor nurse-edna in-room edna-bedroom at 60,20  
  camera-follow nurse-edna  
  actor nurse-edna walk-to 30,20  
  wait-for-actor nurse-edna  
  say-line nurse-edna "WHAT'S YOUR POINT ED!!!"  
  wait-for-talking nurse-edna  
  ...  
}
```

```
onFrame() {  
  ...  
  if(getLoc(nurse-edna) == (30,20)) {  
    if(waiting_for_line) {  
      if(doneTalking(nurse-edna)) {  
        ...  
      }  
    }  
    else {  
      sayLine(nurse-edna,  
              "WHAT'S YOUR POINT ED!!!")  
      waiting_for_line = True  
    }  
    ...  
  }  
  ...  
}
```

Become a Scummlet

http://www.wilmunder.com/Arics_World/Games.html

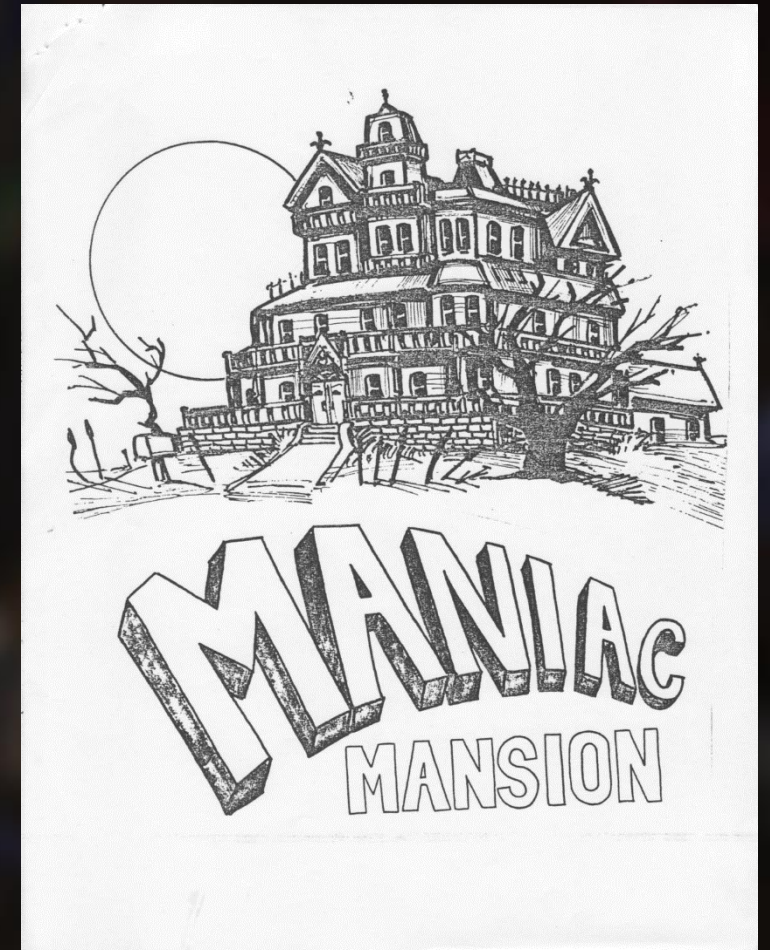
The SCUMM Manual

S.C.U.M.M. Tutorial

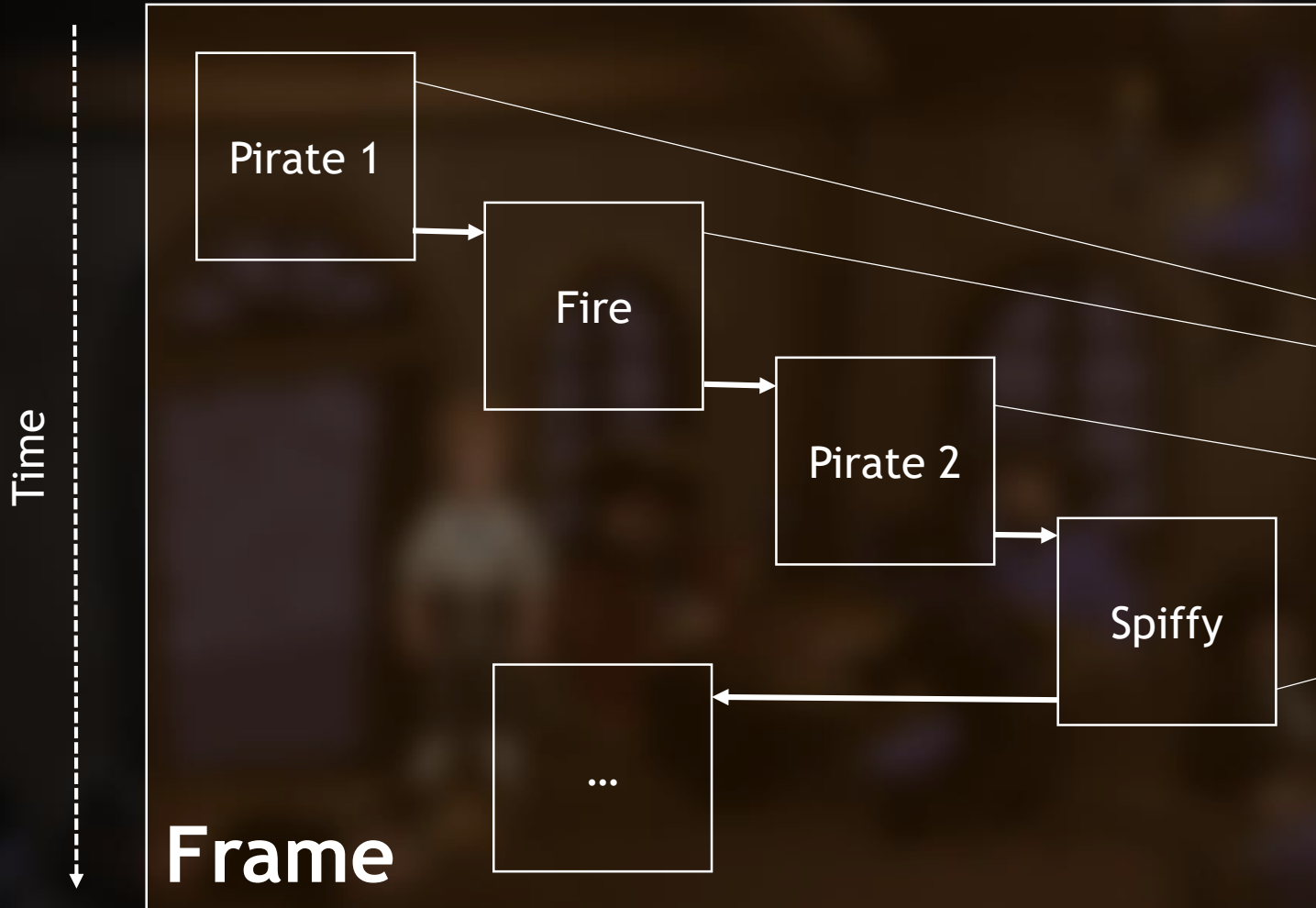
"Rising to the top of the Software Cesspool"

Wallace Poulter

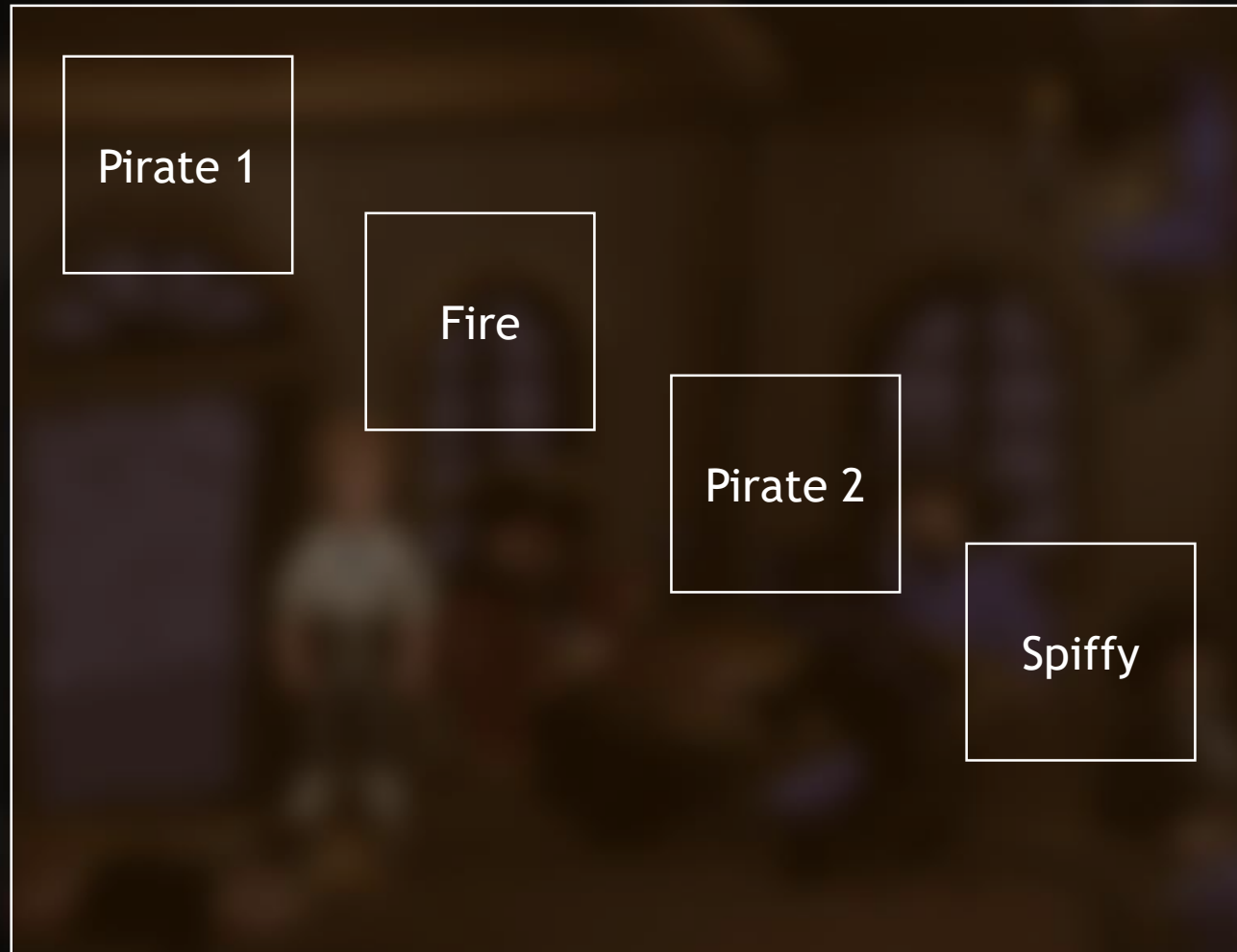
Circa 1991



Cooperative multi-tasking



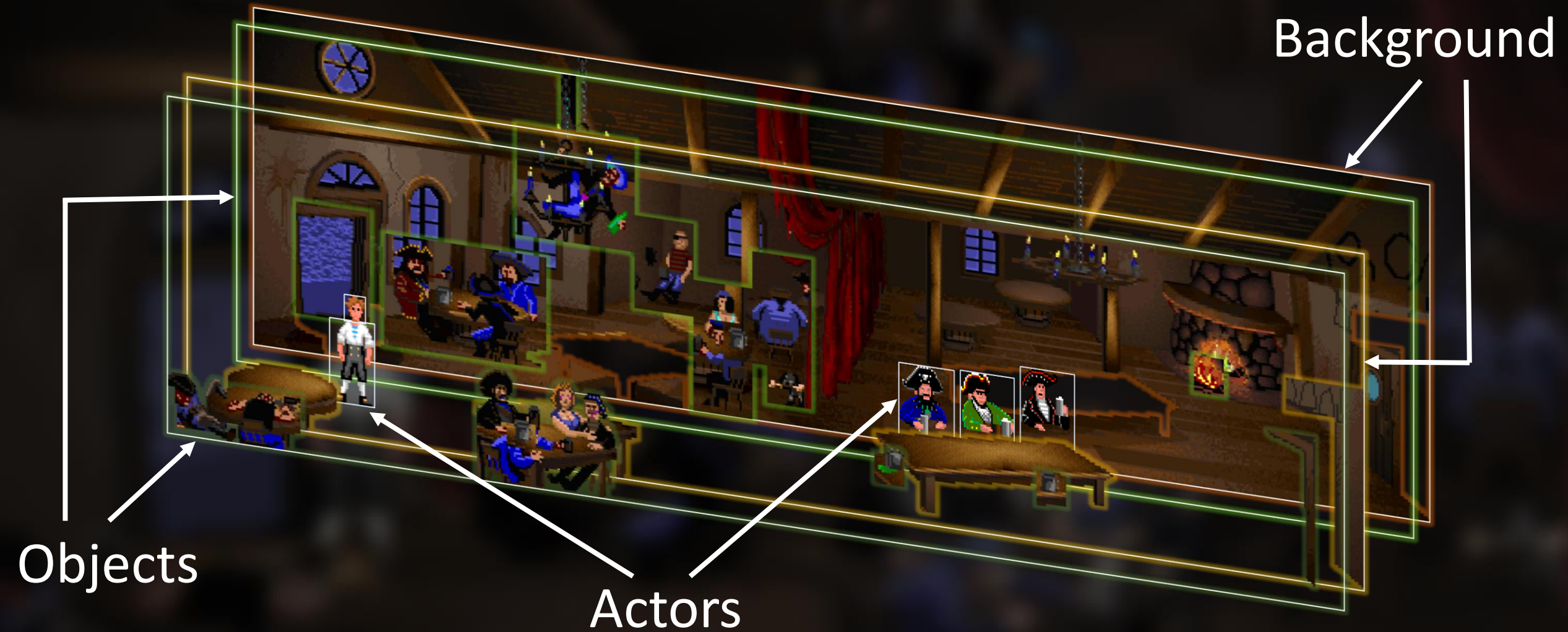
Cooperative multi-tasking



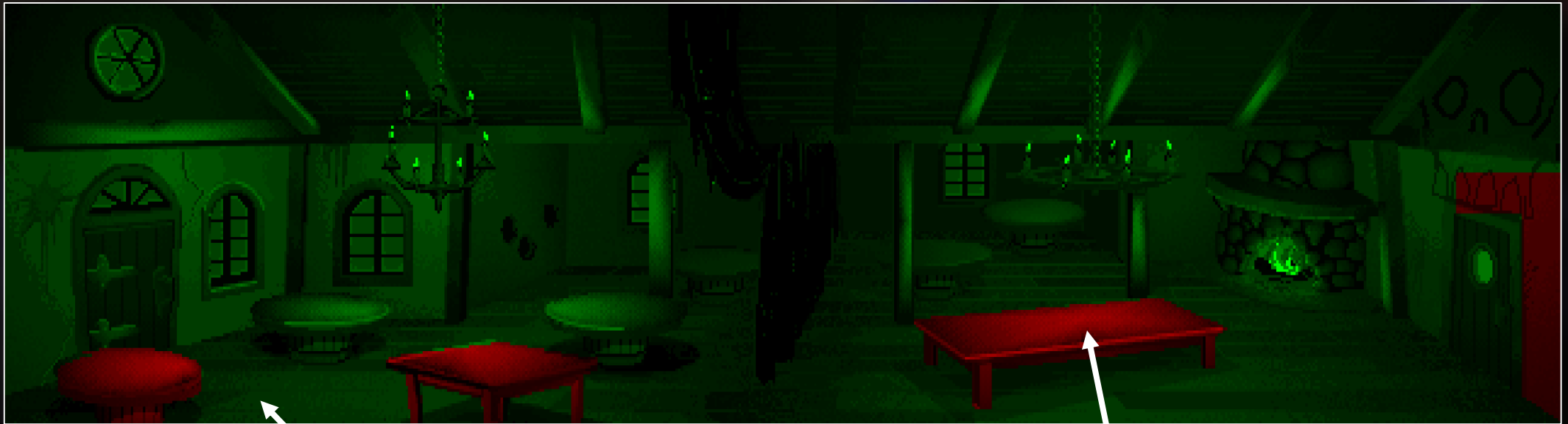
Anatomy of a 'room'



Anatomy of a 'room': Layers



Anatomy of a 'room': Layers



Layer $z=0$

Layer $z=1$

Anatomy of a 'room': Object states



Anatomy of a 'room': Object states



Anatomy of a 'room': Object states



Anatomy of a 'room': Object states



Anatomy of a 'room': Actors

Actor (Guybrush)

Costume (Standard)



Costume (Digging)



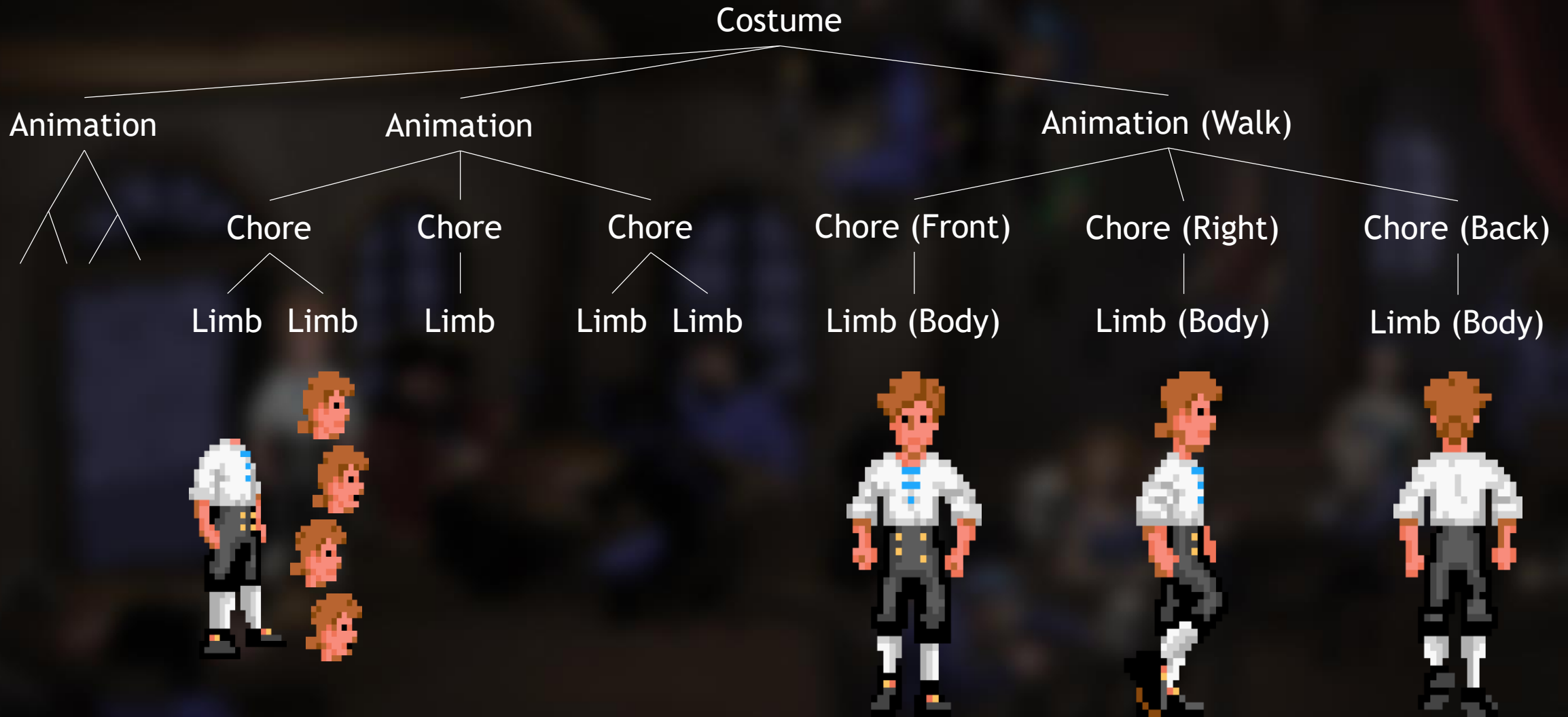
Costume (Fighting)



Costume (Cannon)



Anatomy of a 'room': Costumes



Anatomy of a 'room': Costumes



Anatomy of a 'room': Walk boxes



Layer $z=0$

Layer $z=1$



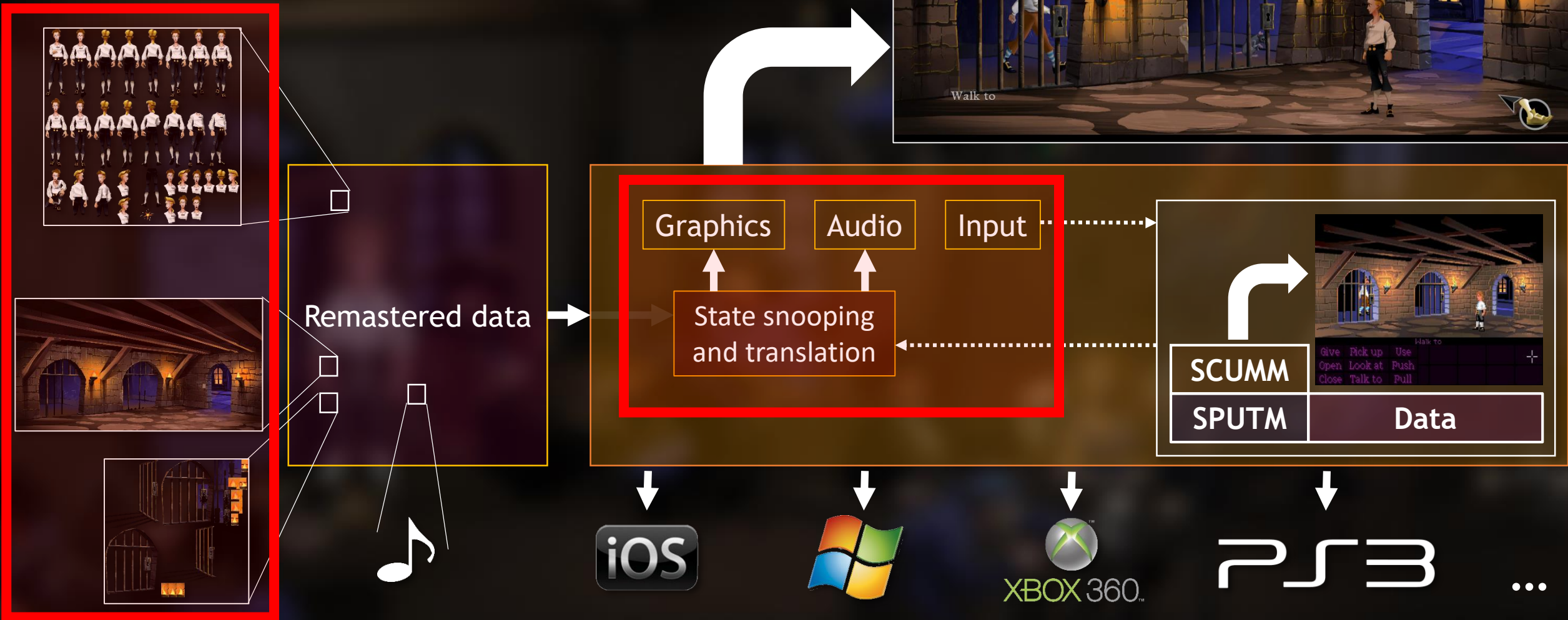


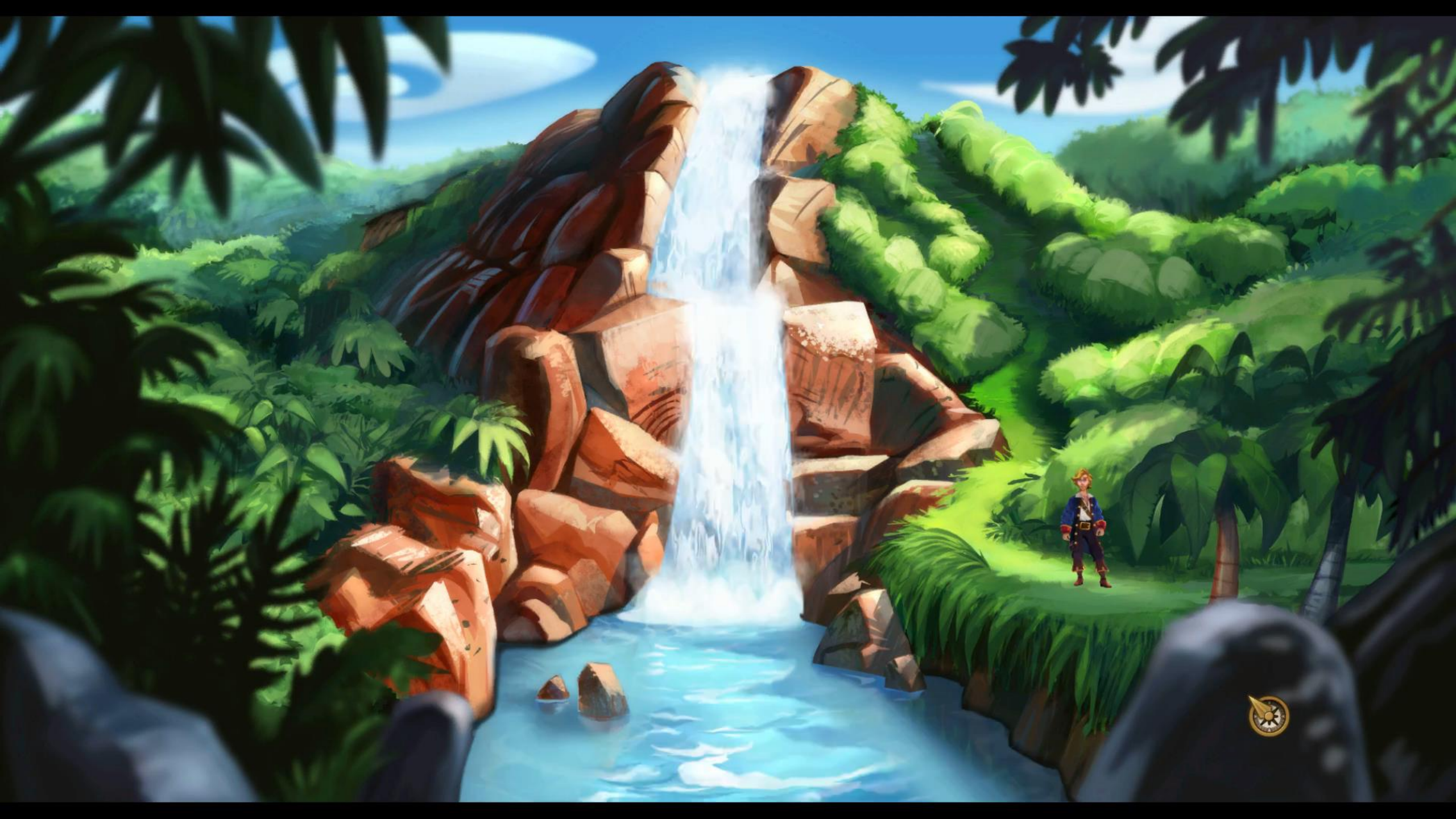
Special Edition



Original

'Remonkeyed' tech





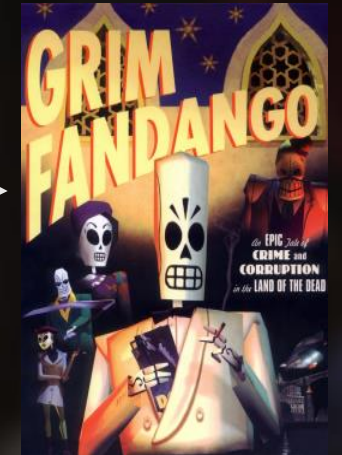
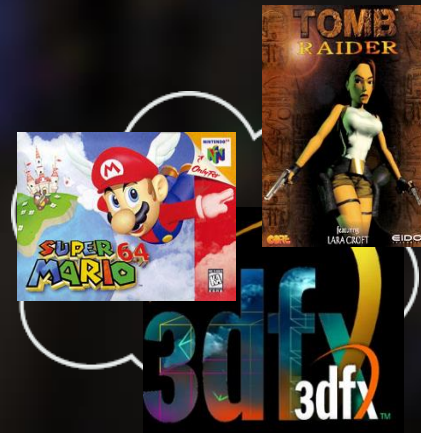
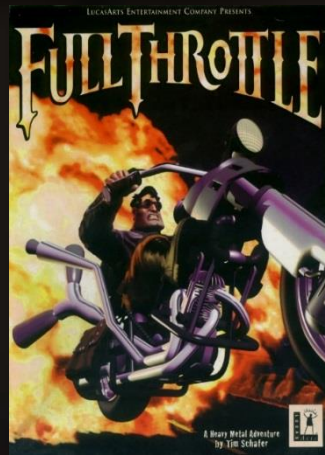


Special Edition



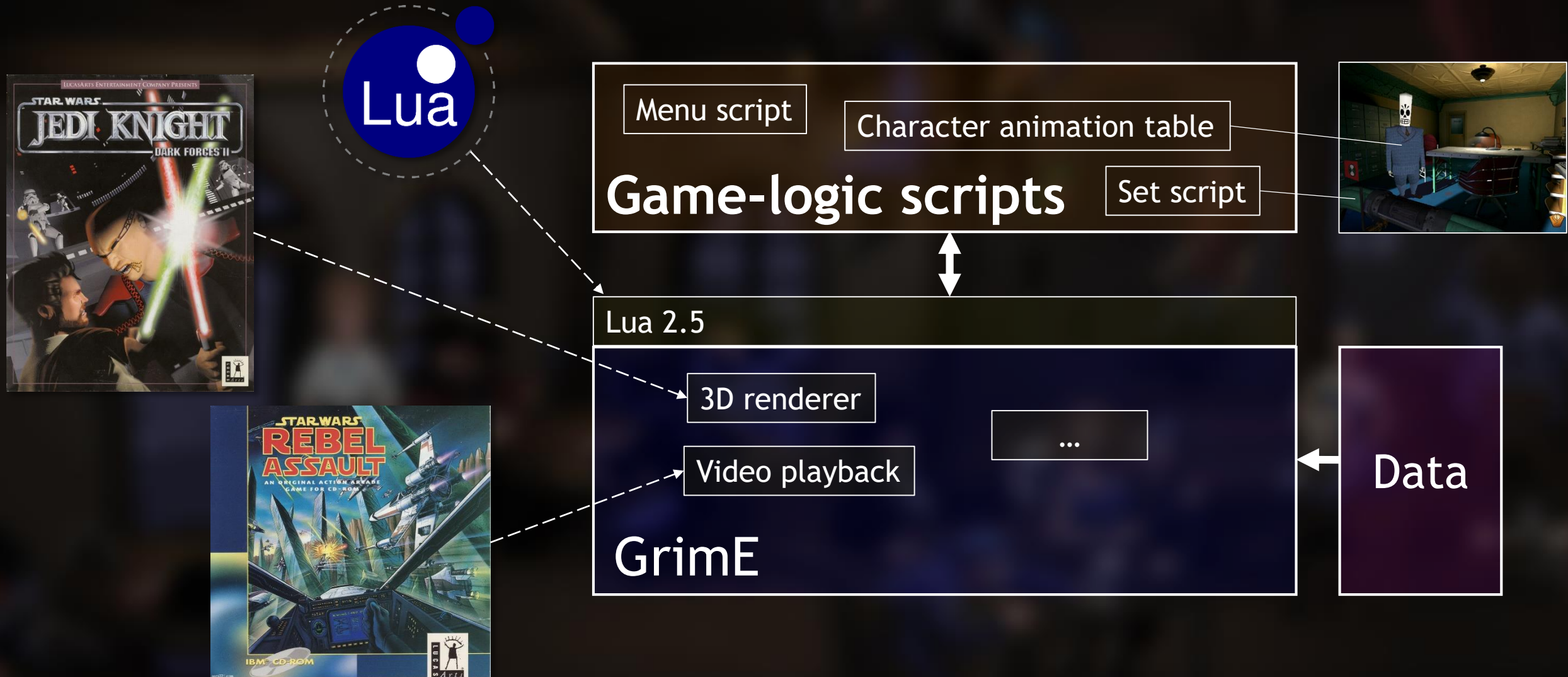
Original

Walk to





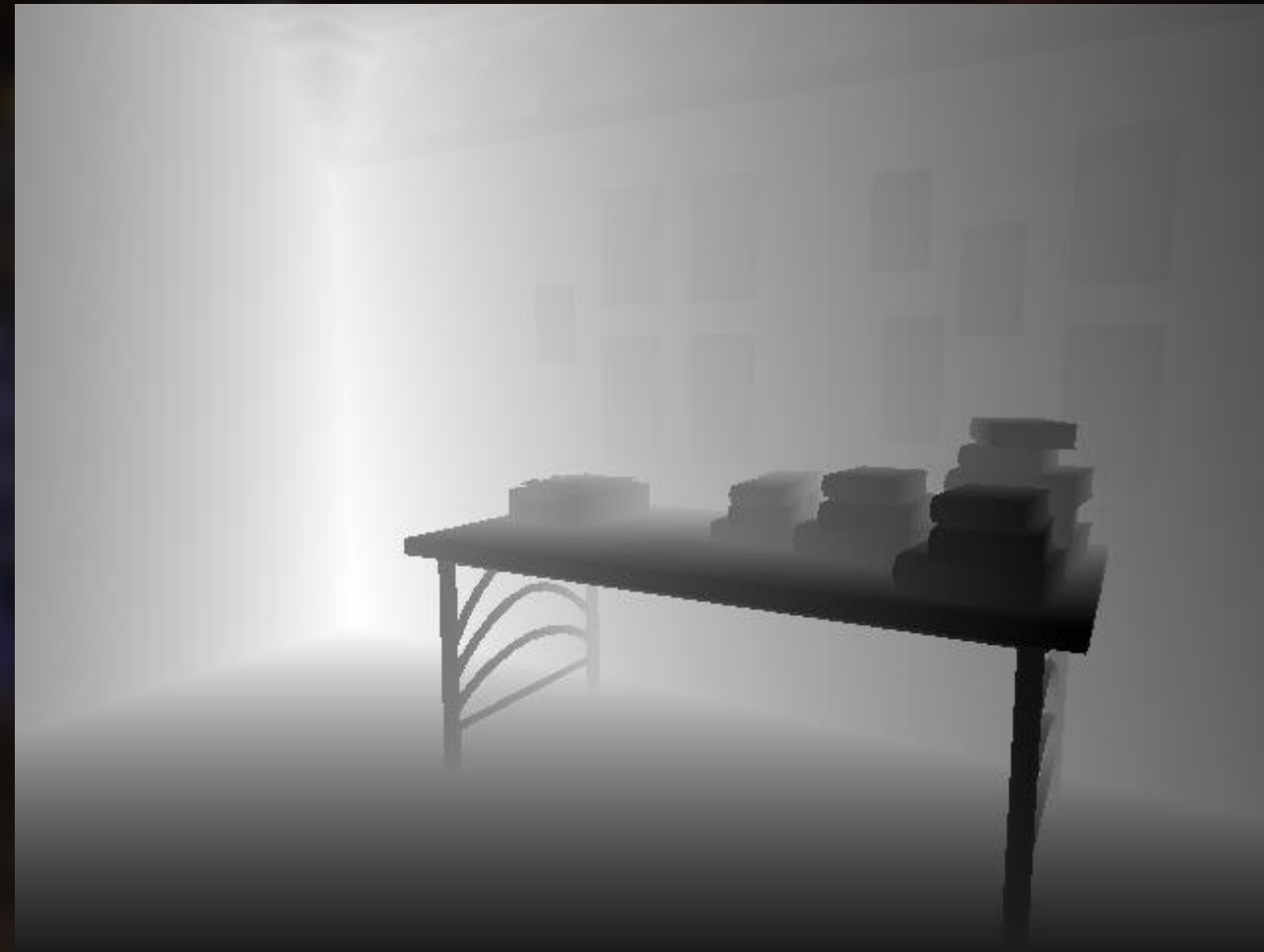
Grim Fandango engine (GrimE)



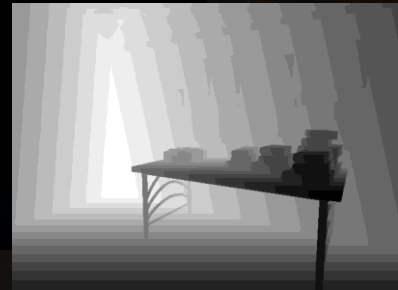
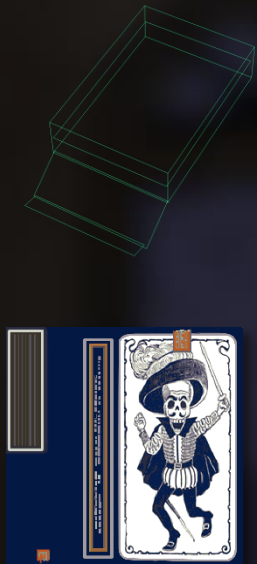
Anatomy of a set



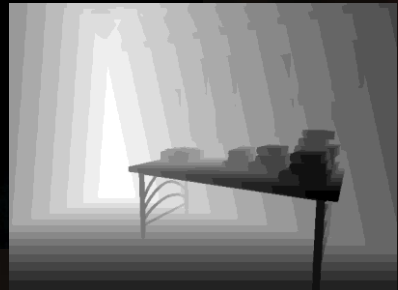
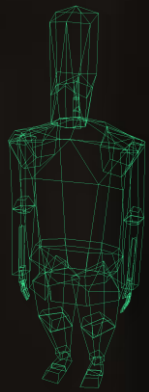
Anatomy of a set: Background



Anatomy of a set: Objects



Anatomy of a set: Actors and costumes







Original



Remastered

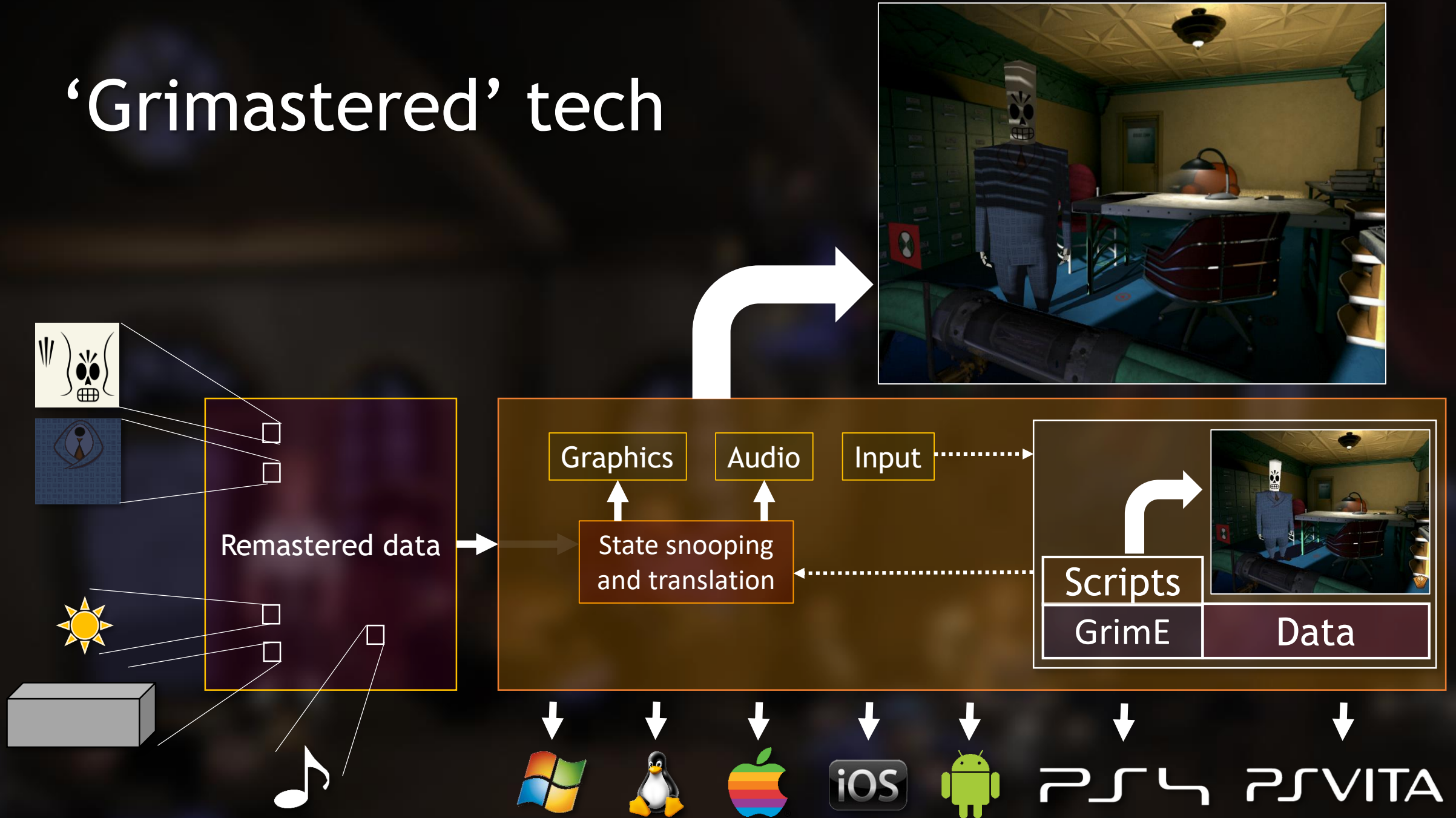


Original



Remastered

'Grimastered' tech





Original

Remastered



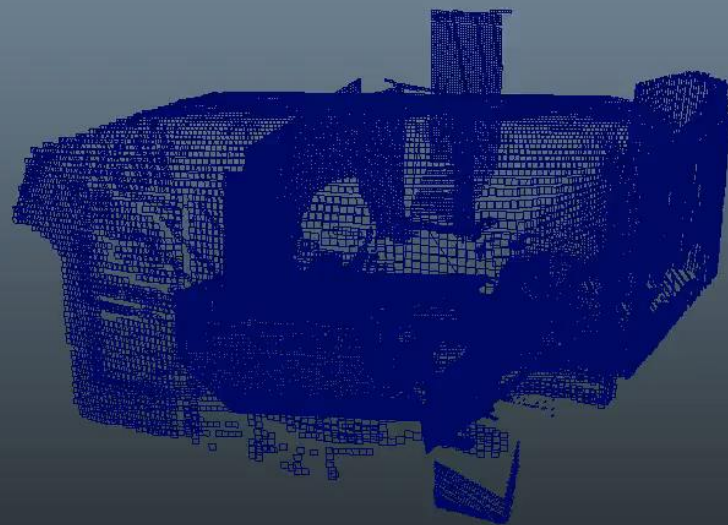
Original



Remastered

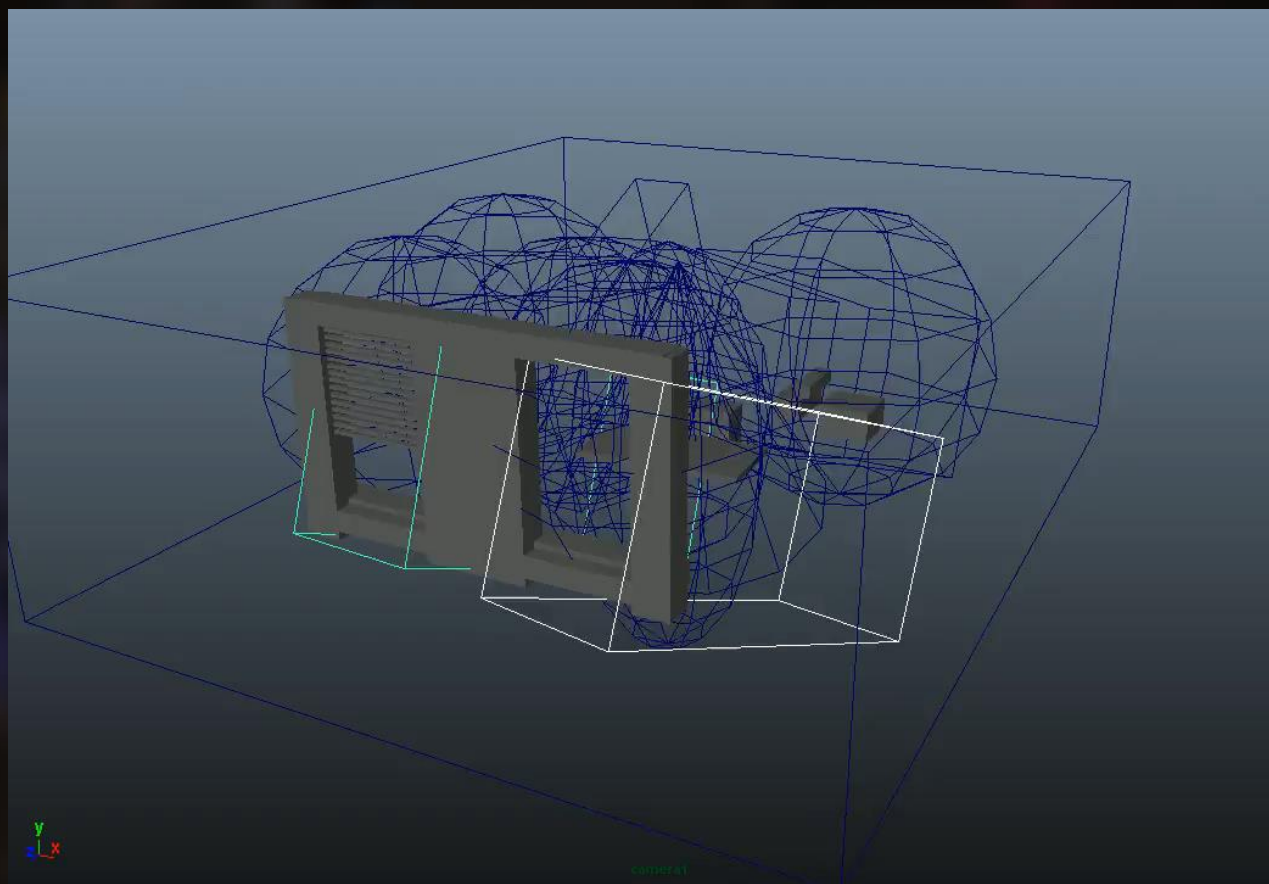
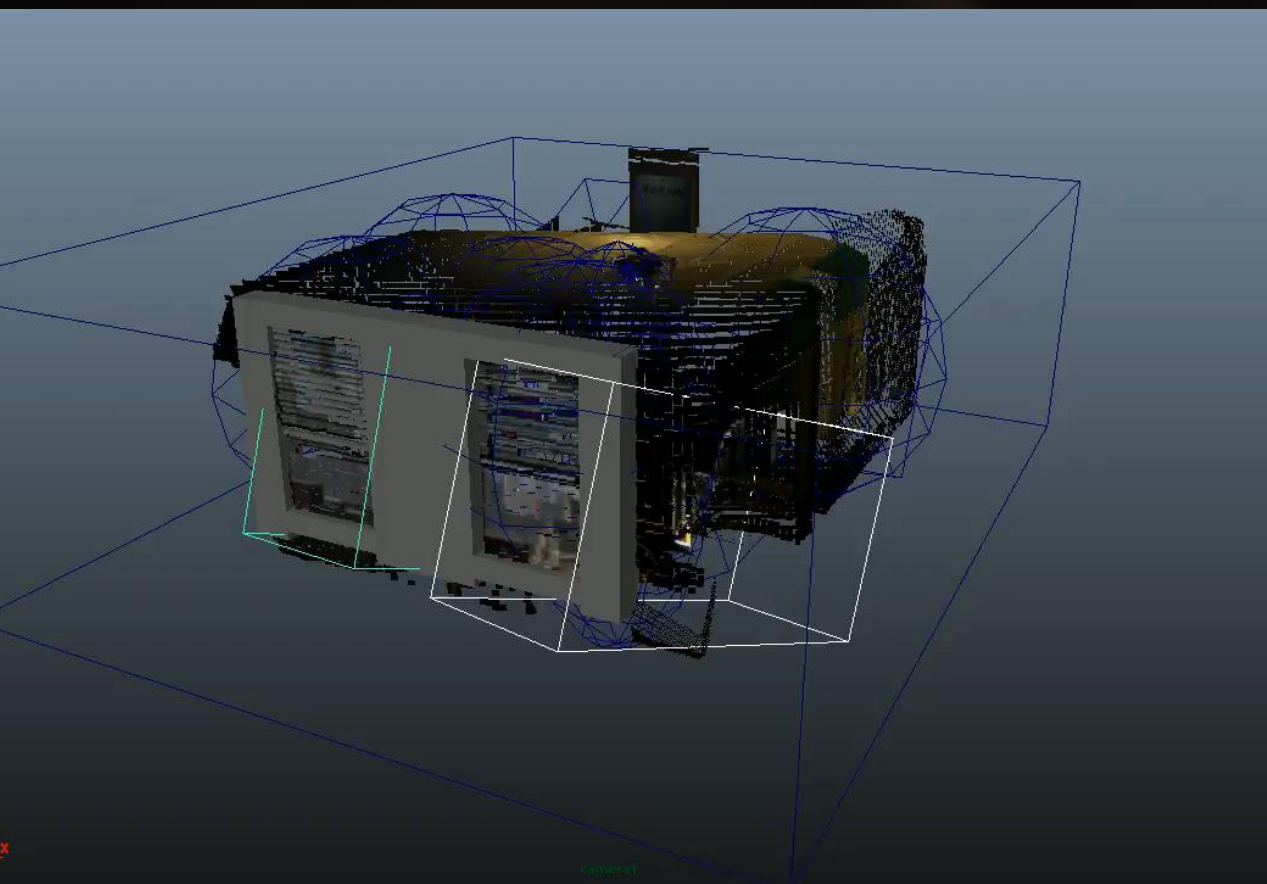


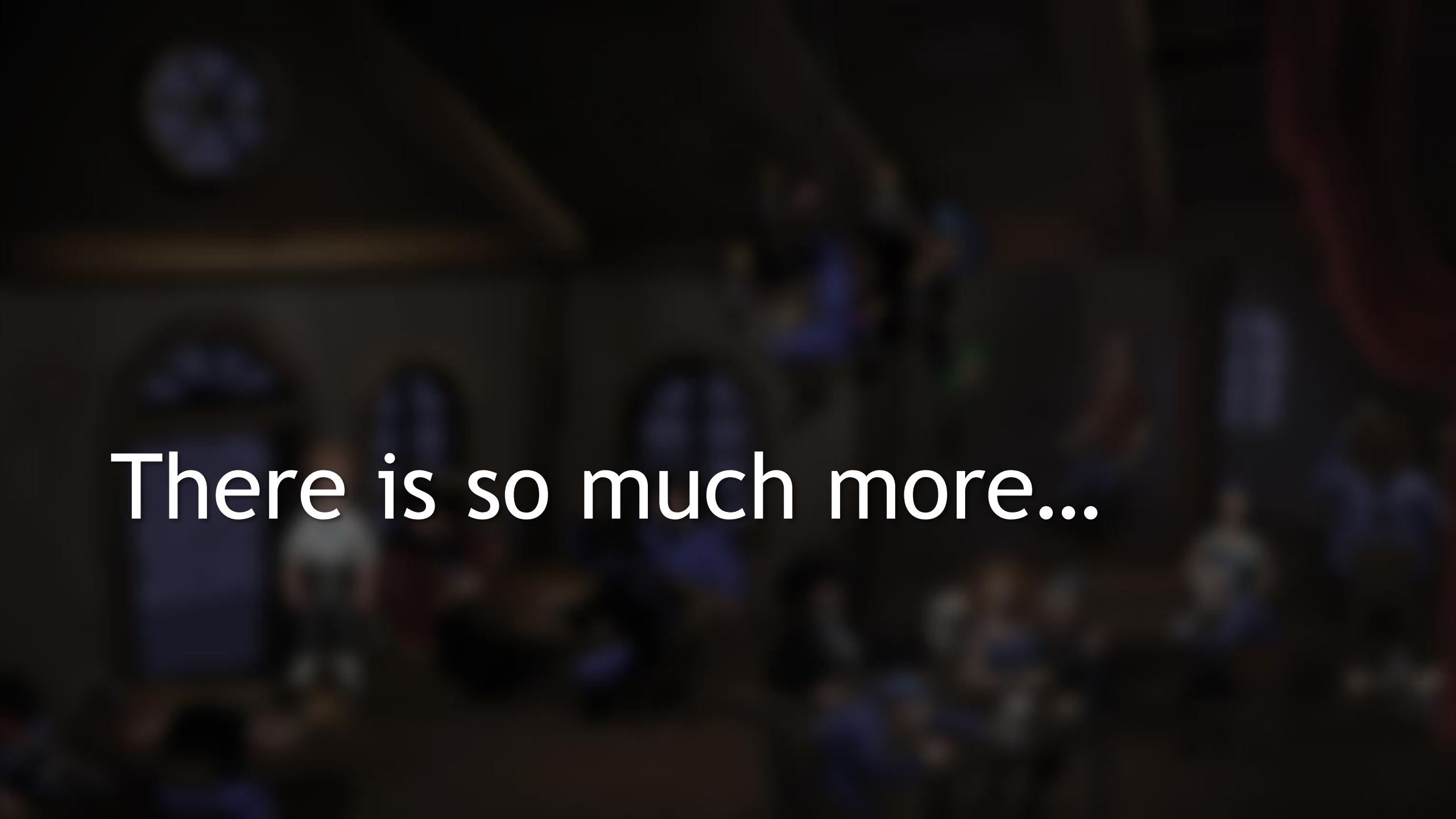
camera1



camera1







There is so much more...



Thanks !



p1xelcoder

Resources

- SCUMM

- http://www.wilmunder.com/Arics_World/Games.html
- http://www.gamasutra.com/view/feature/196009/the_scumm_diary_stories_behind_.php
- <http://alexyoung.org/2011/05/07/scumm/>

- Grim Fandango

- <http://www.grimfandango.net/features/articles/lua-in-grim-fandango>
- <http://www.grimfandango.net/features/interviews/interview-with-bret-mogilefsky>
- <http://lua-users.org/lists/luail/2001-05/msg00149.html>