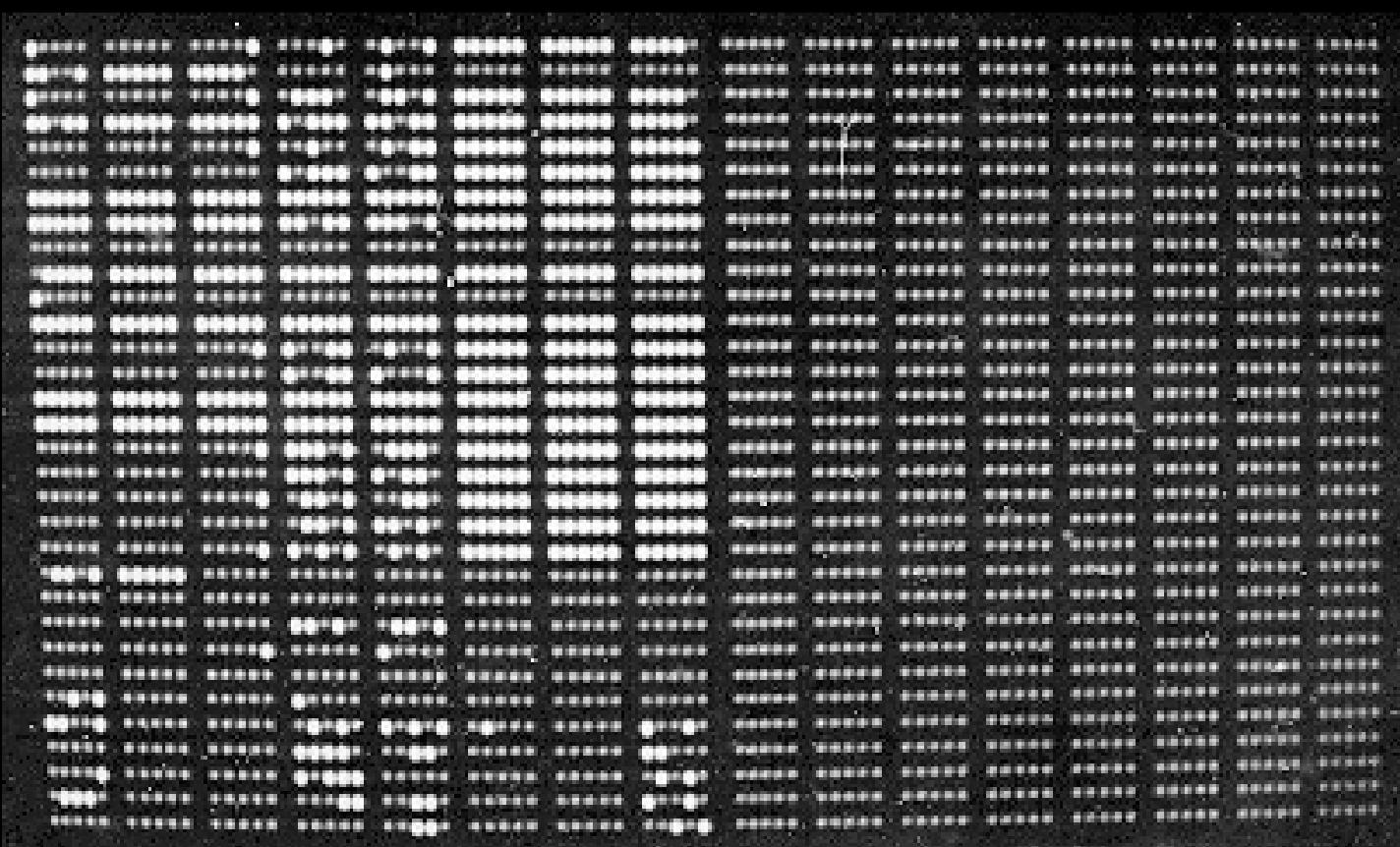
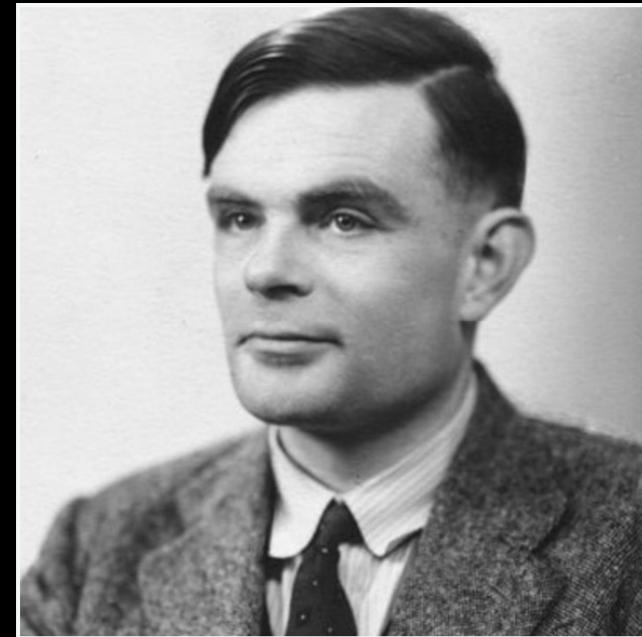
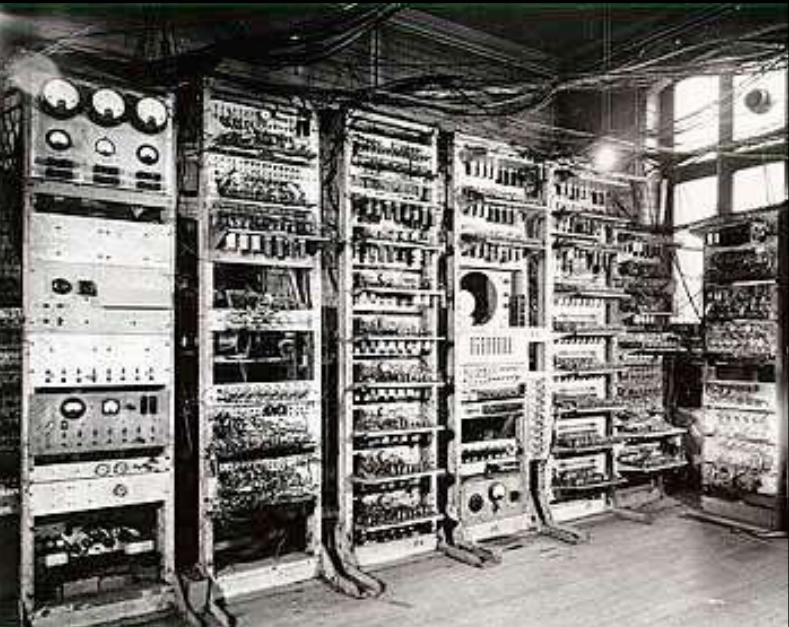




IMPORTÂNCIA DA COMPUTAÇÃO GRÁFICA

JOAQUIM JORGE, RUI PRADA

BASEADO EM SLIDES ORIGINAIS DE CARLOS MARTINHO



*Necessidade de sintetizar imagens num dispositivo de visualização
a partir de um modelo de cena (informação)*

Computação Gráfica

.run adven

WELCOME TO ADVENTURE!! WOULD YOU LIKE INSTRUCTIONS?

yes

SOMEWHERE NEARBY IS COLOSSAL CAVE, WHERE OTHERS HAVE FOUND FORTUNES IN TREASURE AND GOLD, THOUGH IT IS RUMORED THAT SOME WHO ENTER ARE NEVER SEEN AGAIN. MAGIC IS SAID TO WORK IN THE CAVE. I WILL BE YOUR EYES AND HANDS. DIRECT ME WITH COMMANDS OF 1 OR 2 WORDS. I SHOULD WARN YOU THAT I LOOK AT ONLY THE FIRST FIVE LETTERS OF EACH WORD, SO YOU'LL HAVE TO ENTER "NORTHEAST" AS "NE" TO DISTINGUISH IT FROM "NORTH". (SHOULD YOU GET STUCK, TYPE "HELP" FOR SOME GENERAL HINTS. FOR INFORMATION ON HOW TO END YOUR ADVENTURE, ETC., TYPE "INFO".)

THIS PROGRAM WAS ORIGINALLY DEVELOPED BY WILLIE CROWTHER. MOST OF THE FEATURES OF THE CURRENT PROGRAM WERE ADDED BY DON WOODS (DON @ SU-AI). CONTACT DON IF YOU HAVE ANY QUESTIONS, COMMENTS, ETC.

YOU ARE STANDING AT THE END OF A ROAD BEFORE A SMALL BRICK BUILDING. AROUND YOU IS A FOREST. A SMALL STREAM FLOWS OUT OF THE BUILDING AND DOWN A GULLY.

east

YOU ARE INSIDE A BUILDING, A WELL HOUSE FOR A LARGE SPRING.

THERE ARE SOME KEYS ON THE GROUND HERE.

THERE IS A SHINY BRASS LAMP NEARBY.

THERE IS FOOD HERE.

Colossal Cave Adventure (Crowther, 1975)

LHERE IS LOOD HEDE.

LHERE IS A SHINY BRASS LAMP NEARBY.

LHERE ARE SOME KEAS ON THE GROUND HEDE.

YOU ARE INSIDE A BUILDING, A WELL HOUSE FOR A LARGE SPRING.



Colossal Cave Adventure (Level 9, 1986)



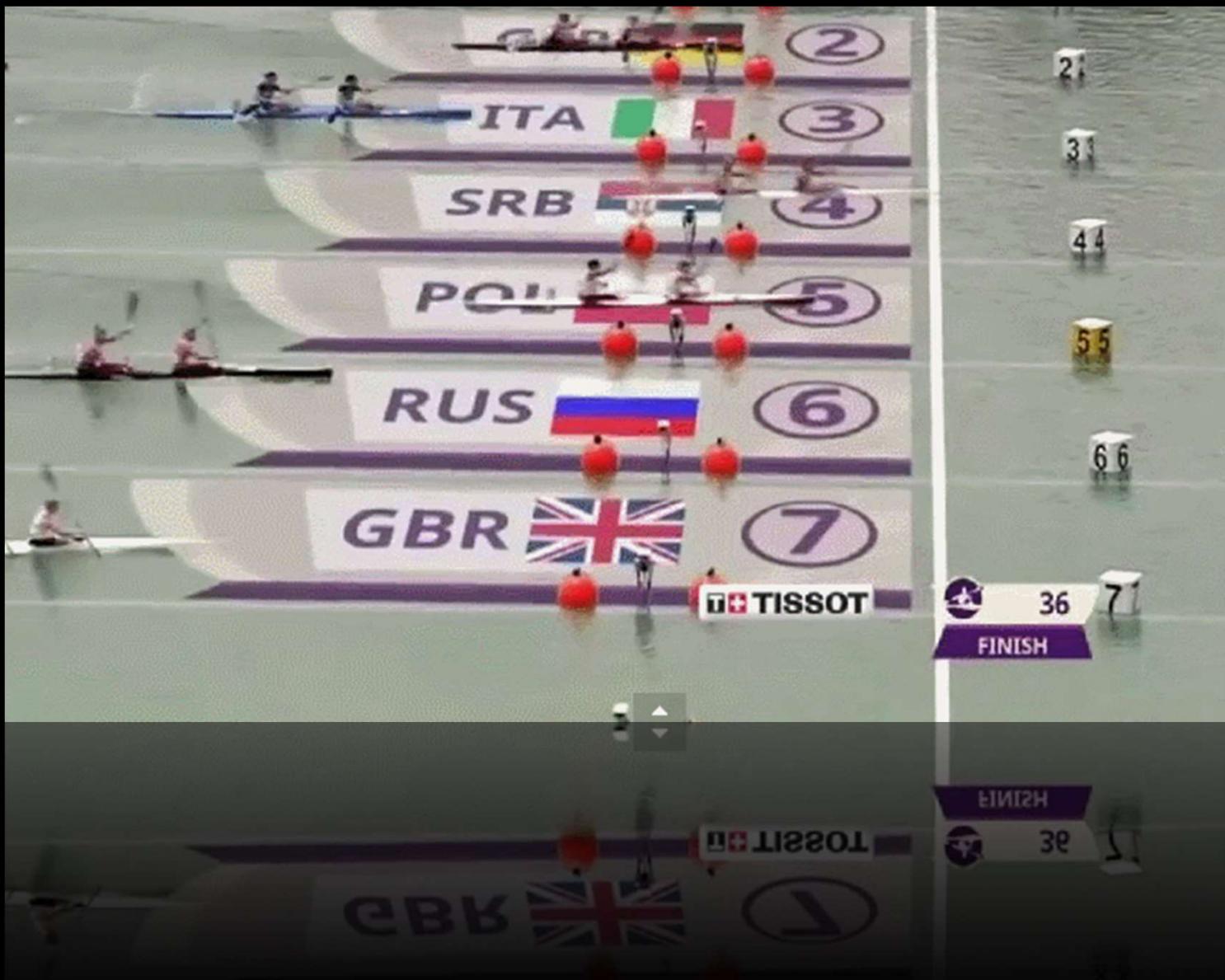
Secret of Monkey Island (Lucasfilms Games, 1992)



(Naughty Dog, SCE, 2013)





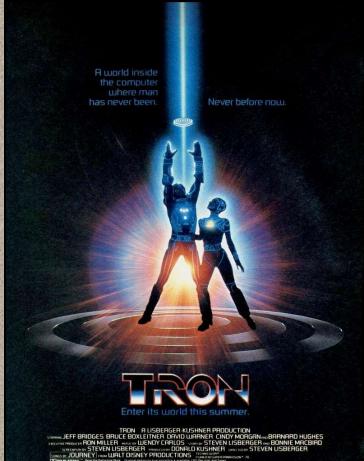




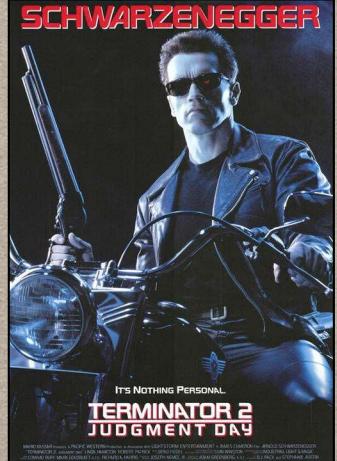
Ni No Kuni (Level-5, Bandai Namco Entertainment, 2012 release)



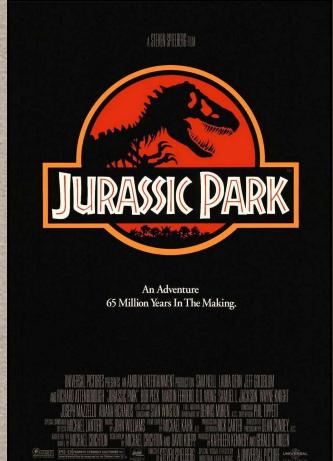
COMPUTAÇÃO GRÁFICA EM FILMES



(1982)



(1991)



(1993)



(1995)



(1997)



(1999,2002,2005)



(1999)



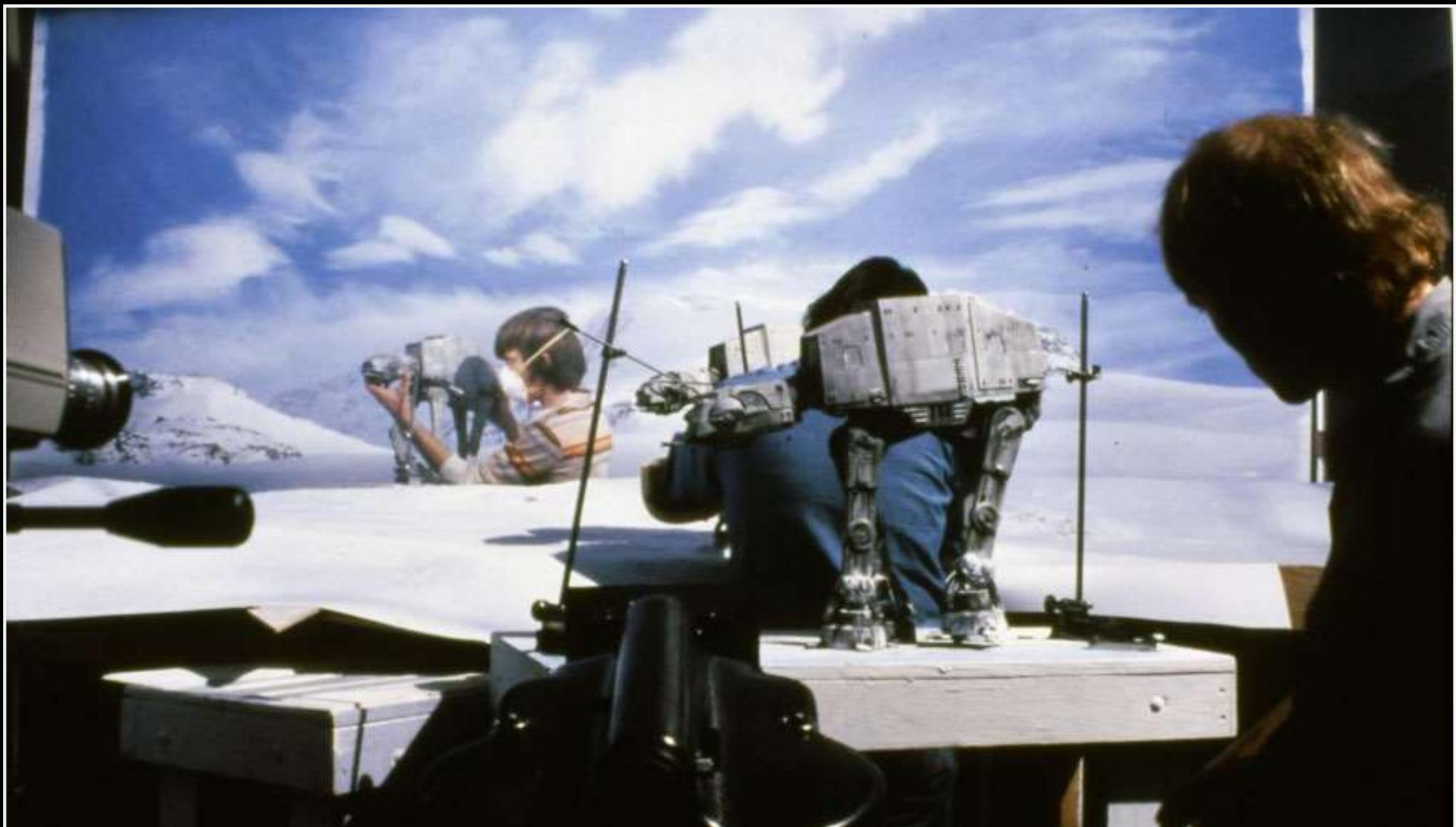
(2001, 2002, 2003)



(2008)



(2009)



Star Wars Episode V (Industrial Light & Magic)

A world inside
the computer
where man
has never been.

Never before now.



TRON

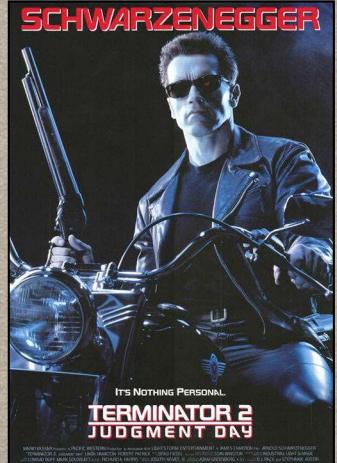
Enter its world this summer.

TRON A LISBERGER-KUSHNER PRODUCTION
STARRING JEFF BRIDGES, BRUCE BOXLEITNER, DAVID WARNER, CINDY MORGAN AND BARNARD HUGHES
EXECUTIVE PRODUCER RON MILLER MUSIC BY WENDY CARLOS STORY BY STEVEN LISBERGER AND BONNIE MACBIRD
SCREENPLAY BY STEVEN LISBERGER PRODUCED BY DONALD KUSHNER DIRECTED BY STEVEN LISBERGER
SONGS BY JOURNEY FROM WALT DISNEY PRODUCTIONS TECHNOLOGY
DOLBY STEREO® Read the Ballantine Book Original motion picture sound track available CBS Records and Tapes
© 1982 Walt Disney Productions

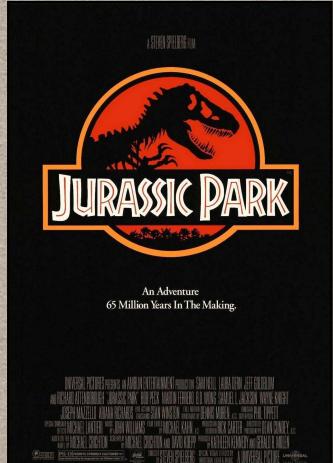
COMPUTAÇÃO GRÁFICA E FILMES



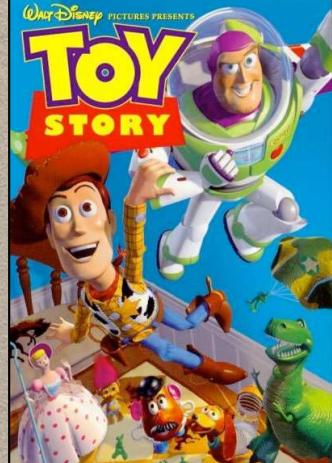
(1982)



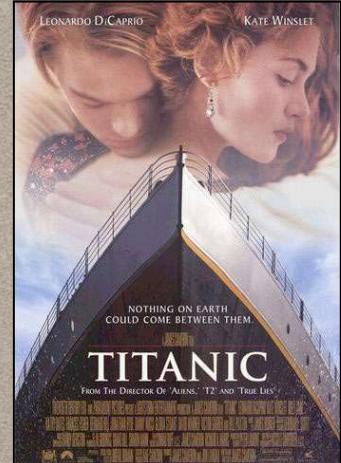
(1991)



(1993)



(1995)



(1997)



(1999,2002,2005)



(1999)



(2001, 2002, 2003)



(2008)



(2009)



GDC 2016 - Live Performance in Unreal Engine 4
Hell Blade (Ninja Theory)

COMPUTAÇÃO GRÁFICA E JOGOS

70 M



april 2016

10 M



3 M



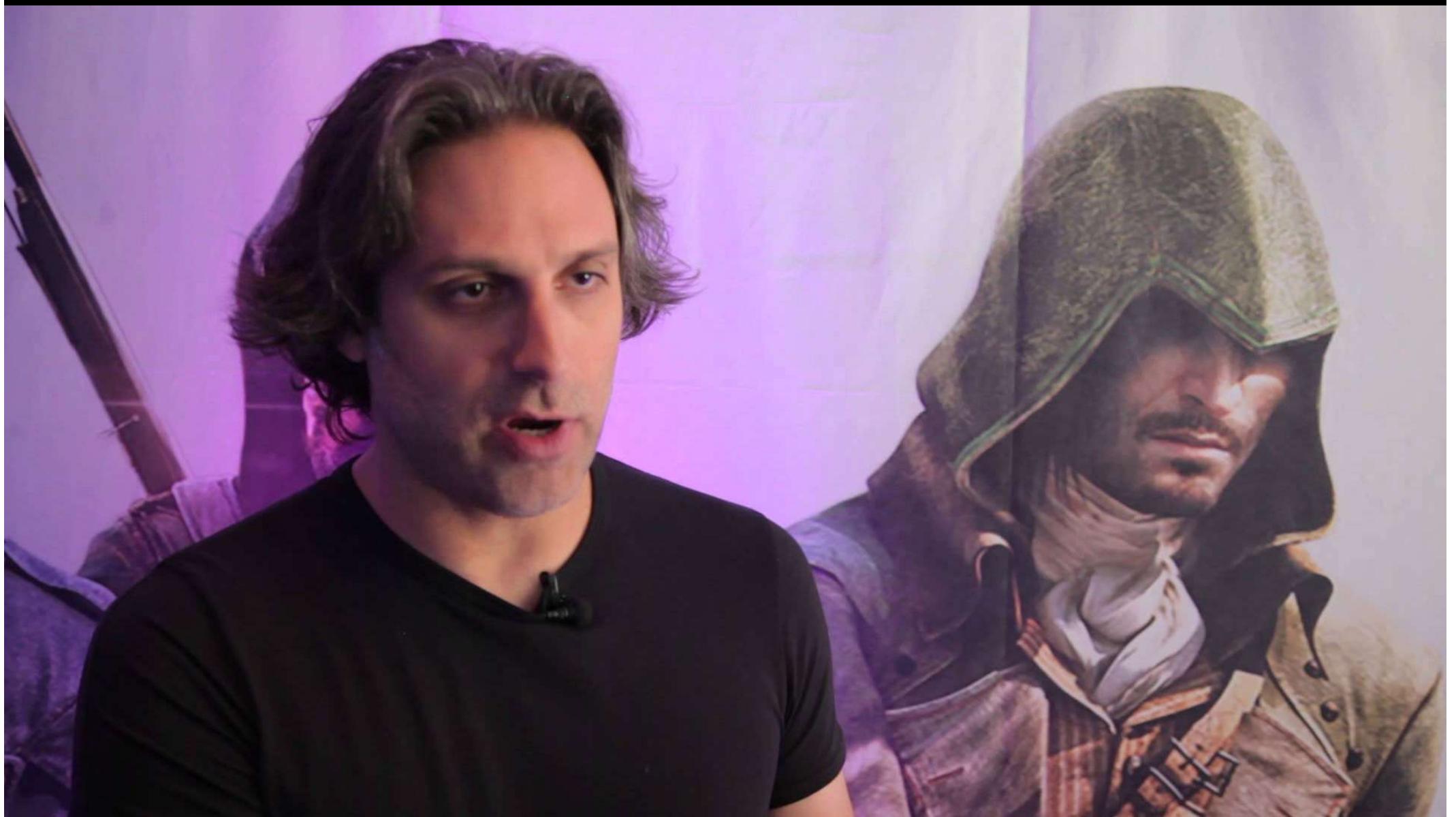
50 M



5.5 M

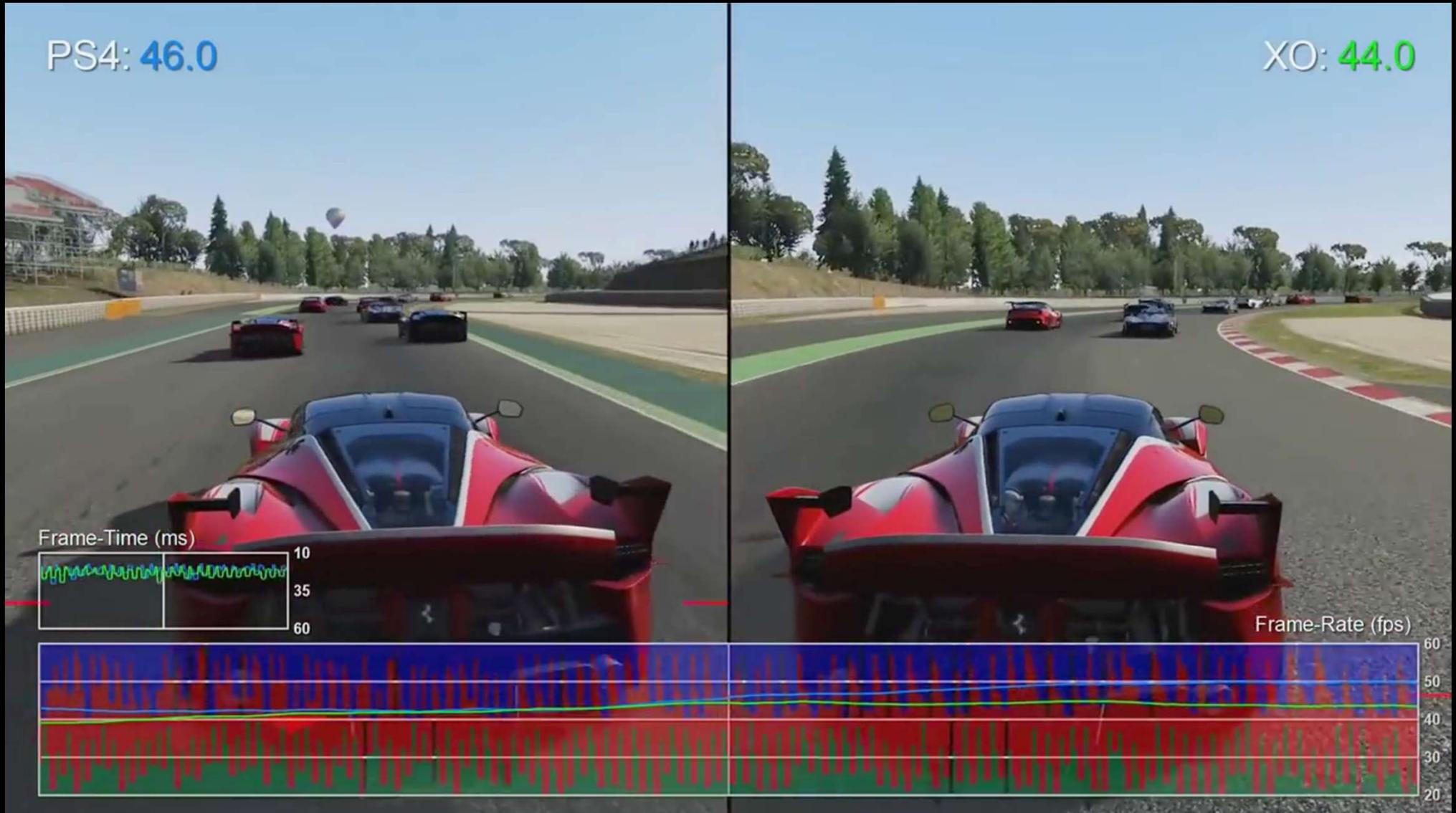






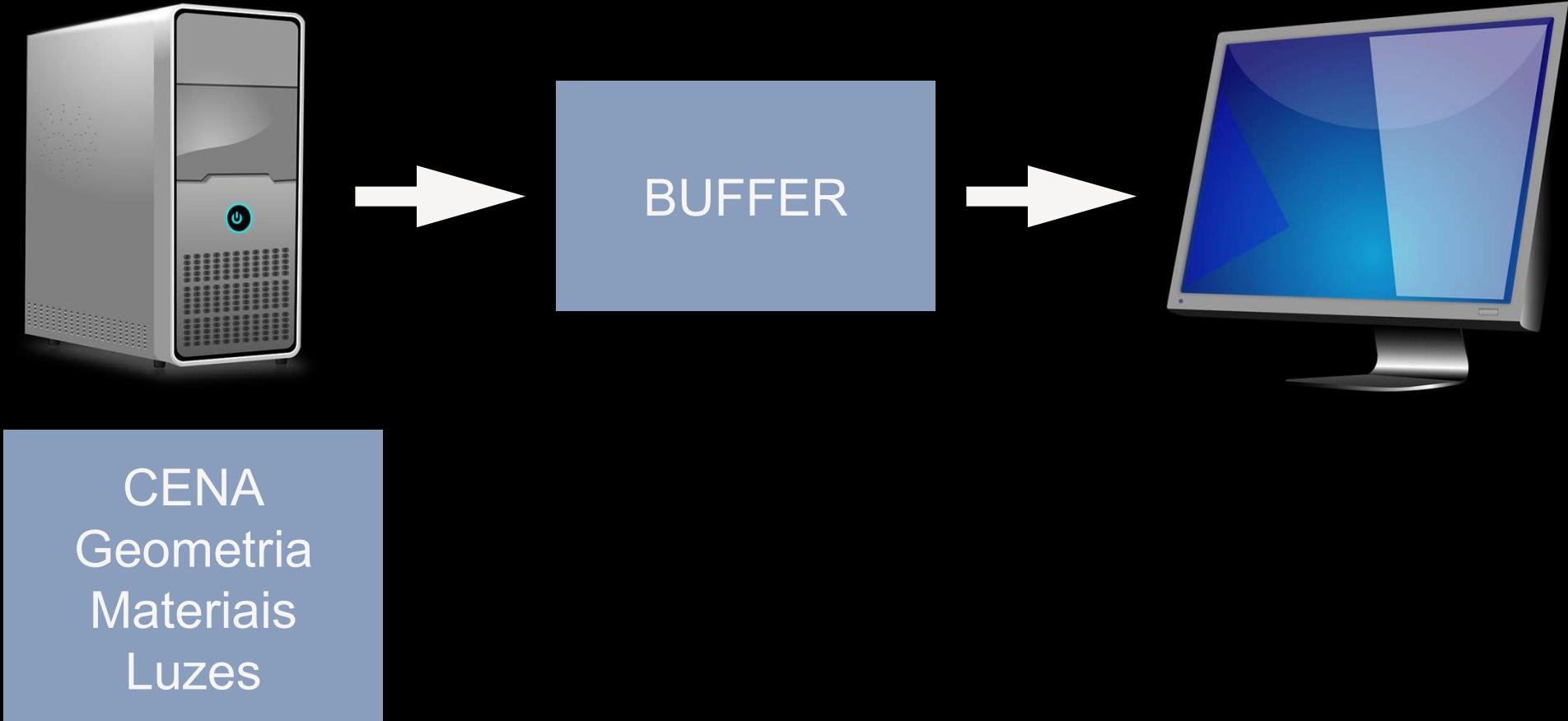
30 FPS “cinematic feel”
Alex Amancio, Creative Director, Ubisoft

SCREEN TEARING

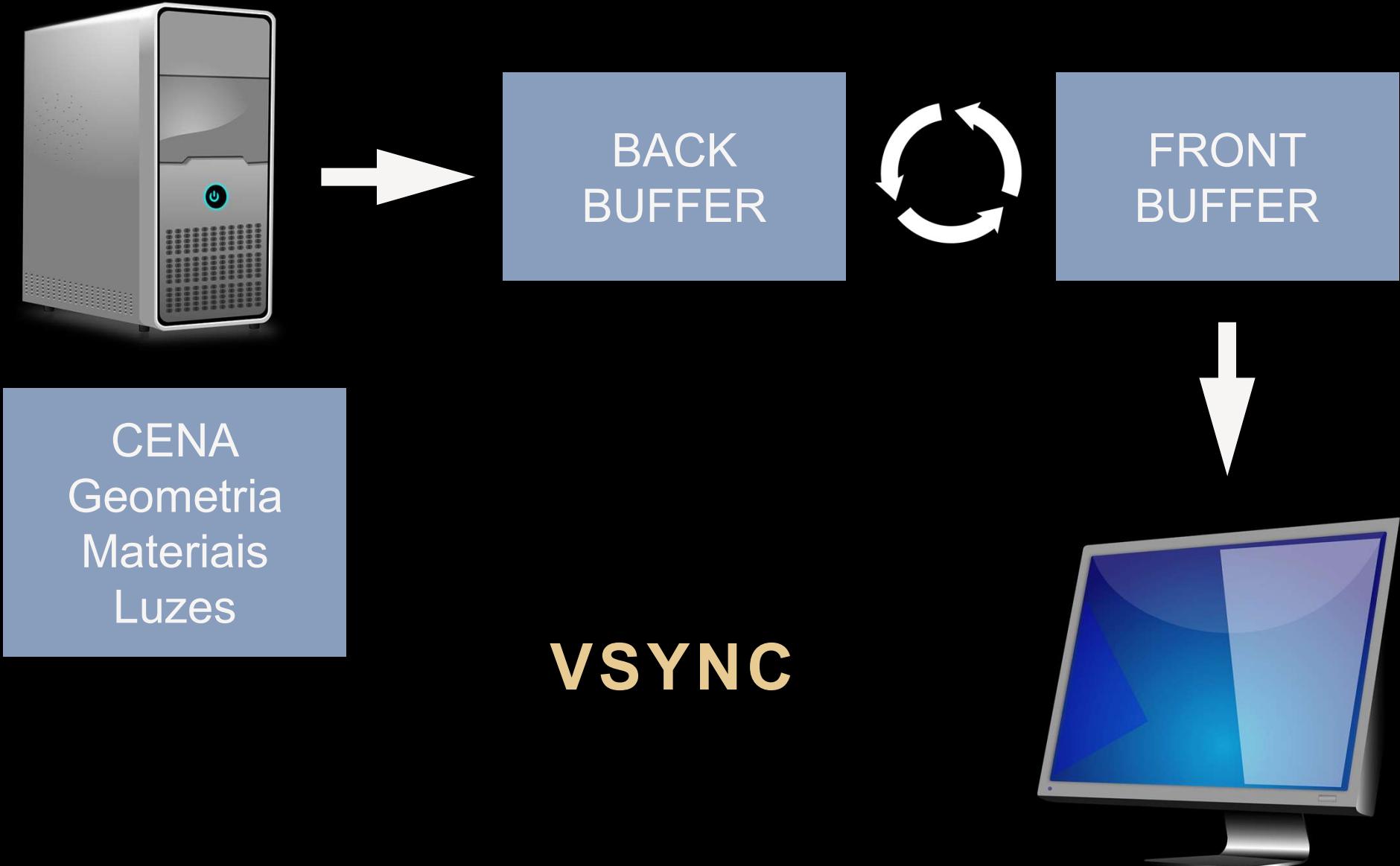


Digital Foundry (Youtube oct. 2016)
Assetto Corsa (Kunos Simulazioni 2014)

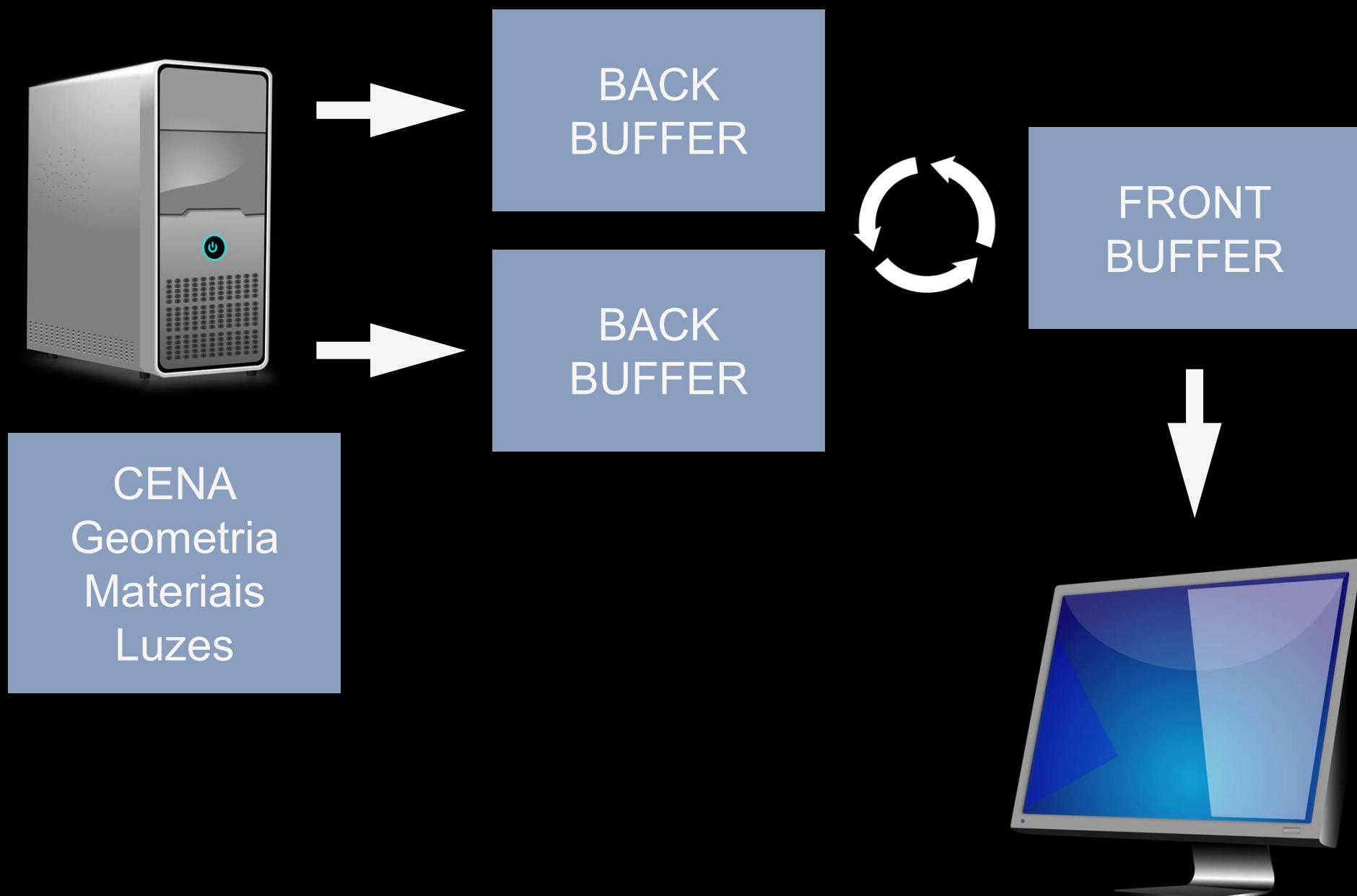
SINGLE BUFFERING



DOUBLE BUFFERING



TRIPLE BUFFERING



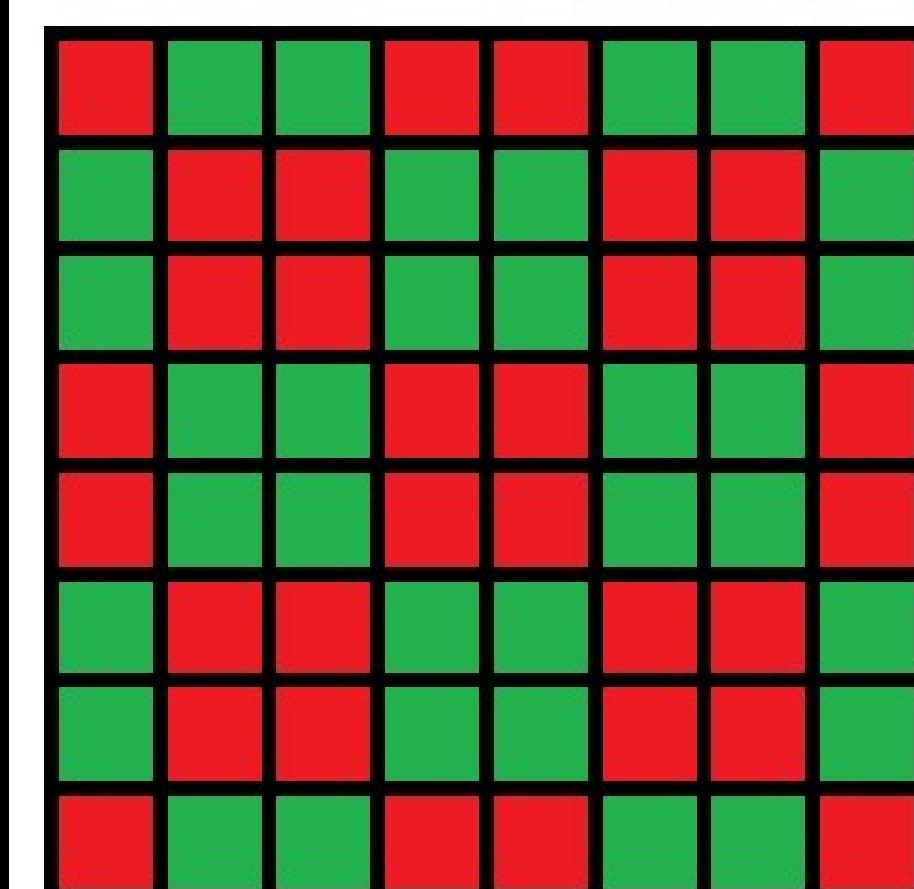


4K 3840 x 2160

1440p 2560 x 1440

1080p 1920 x 1080

720p 1280 x 720



CHECKERBOARD RENDERING



Digital Foundry (Youtube oct. 2016)
Shadow Warrior 2 (Flying Wild Hog, Devolver Digital, 2016)

Geometry

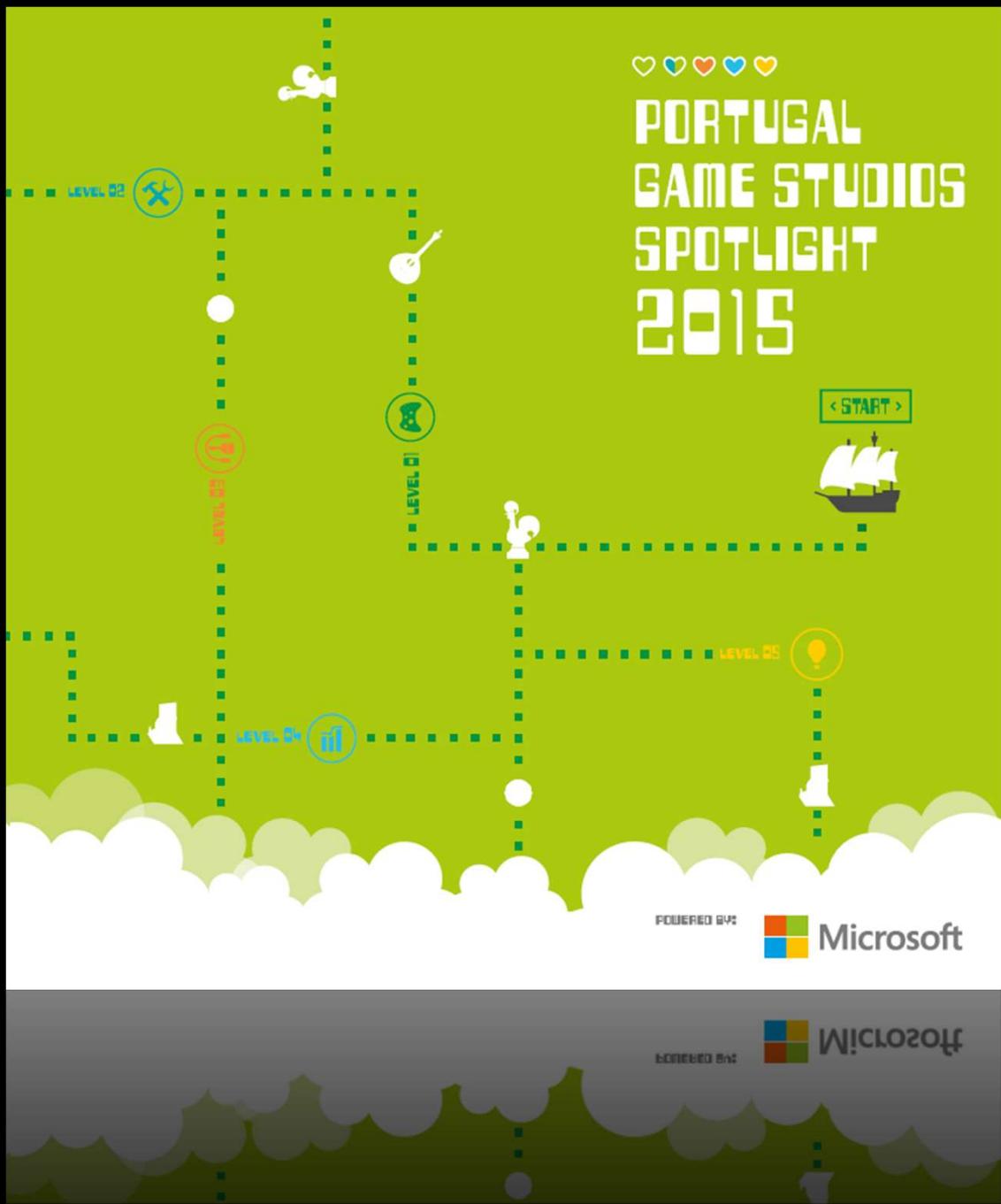
Animation

Rendering

Imaging

Topology





MINICLIP
PLAY GAMES



PLAYSTATION
TALENTS
PREMIOS



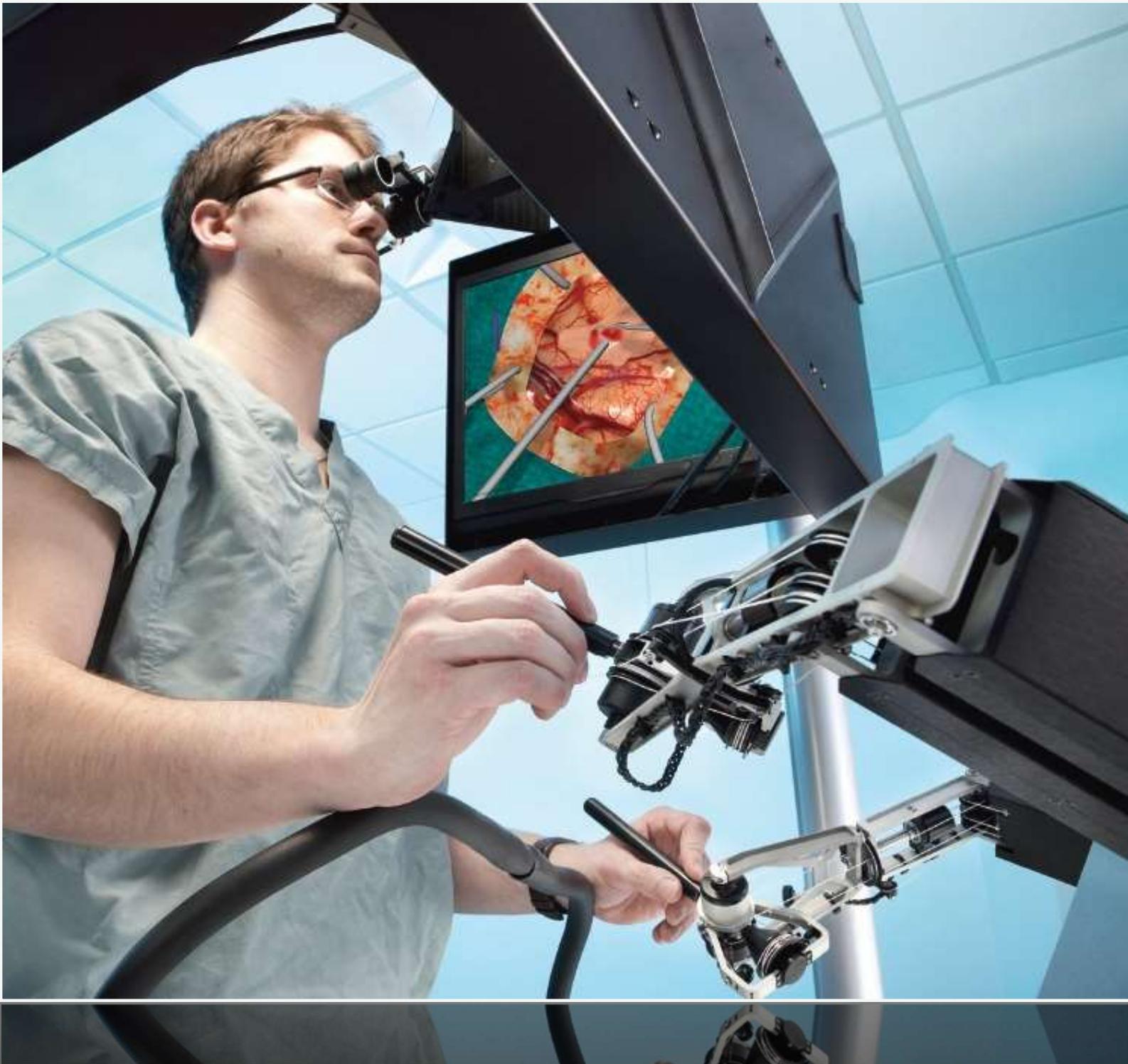
Hell Keeper (<https://goo.gl/cTPJHB>)

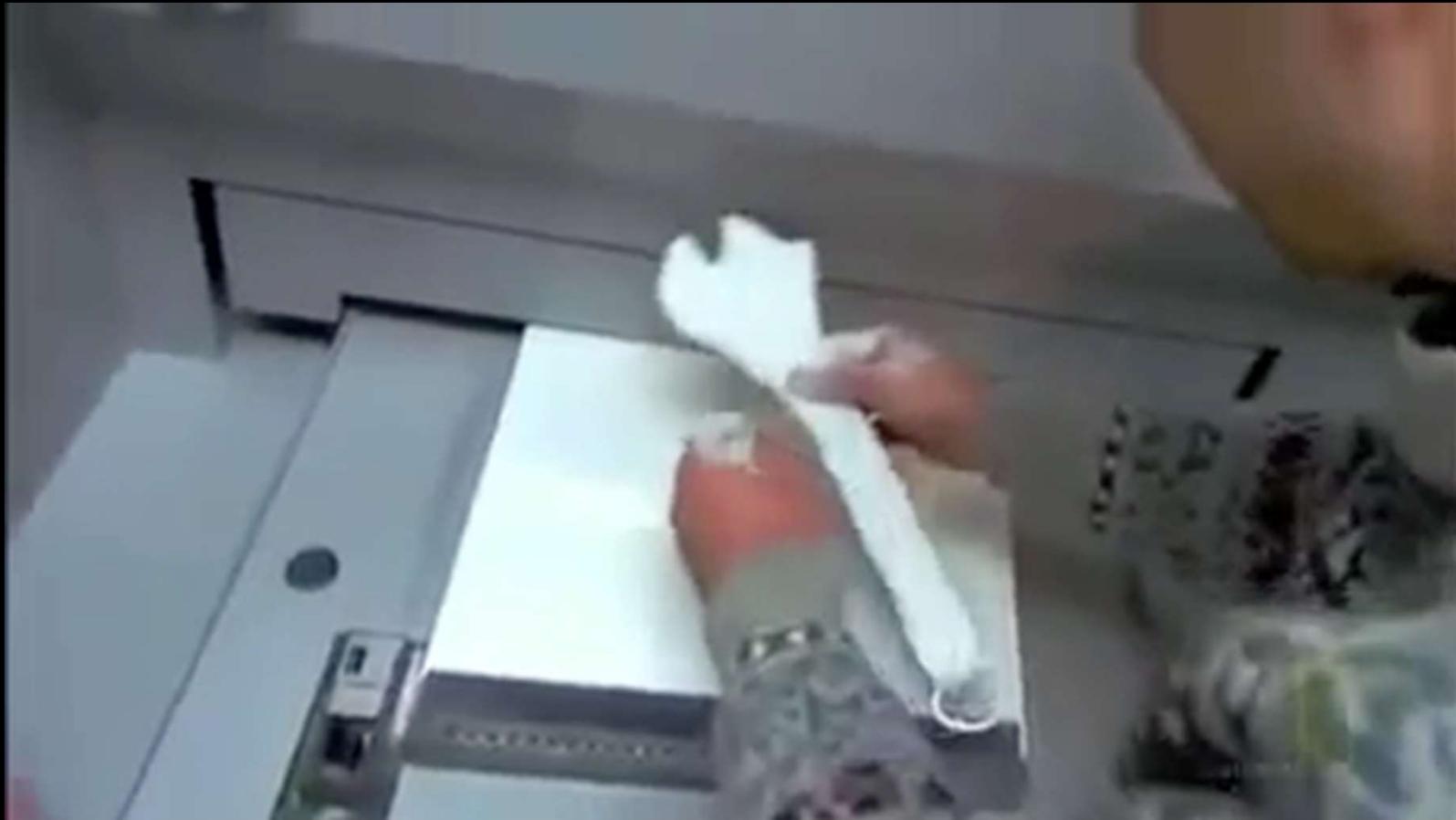


UNREAL PARIS

VIRTUAL TOUR

Unreal Engine 4 Demo 2014





3D SCANNING AND PRINTING