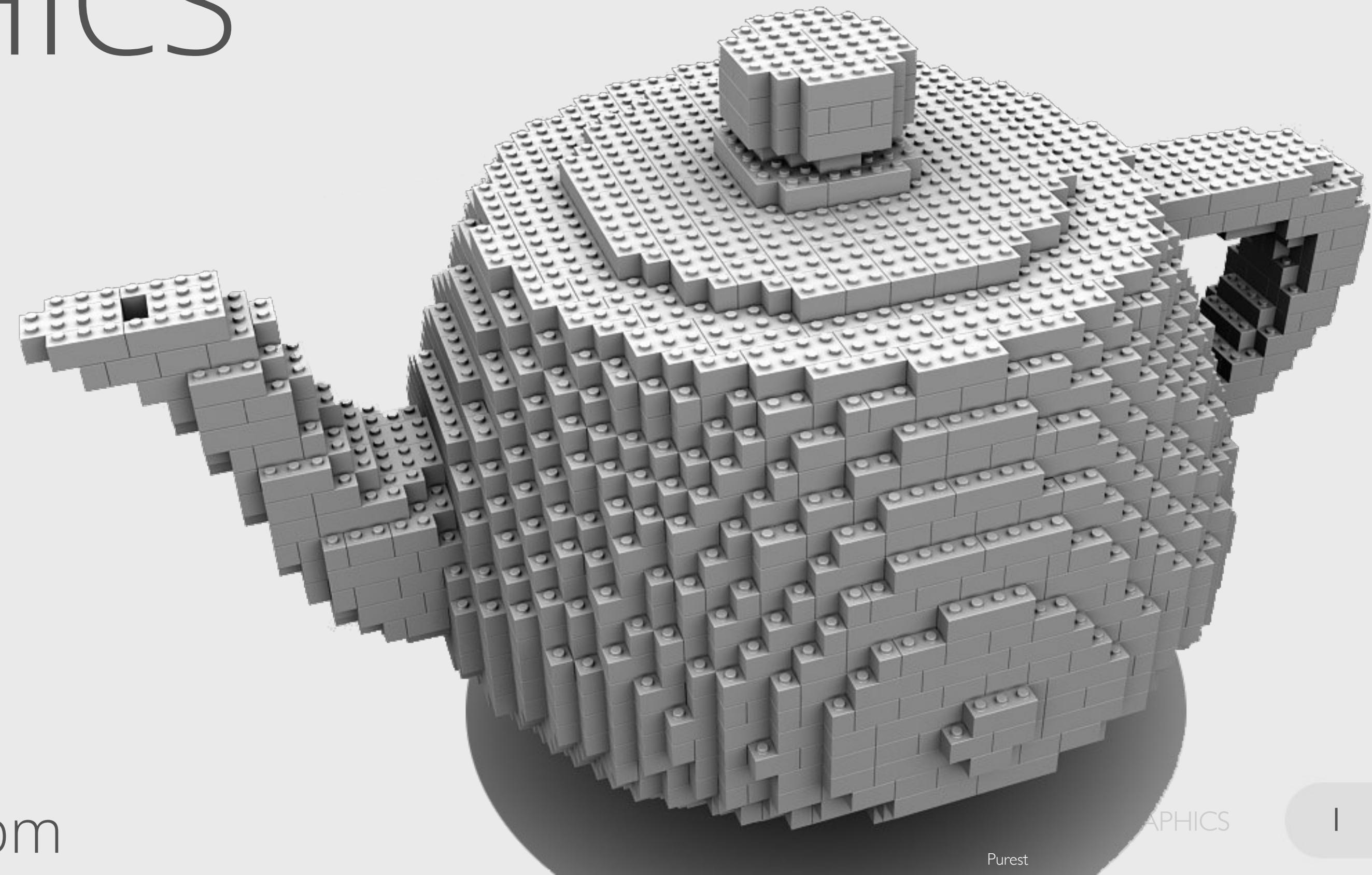


MULTIMEDIA & COMPUTER GRAPHICS

Dr. Arturo Jafet Rodríguez Muñoz

Ing. Bernardo Moya de la Mora



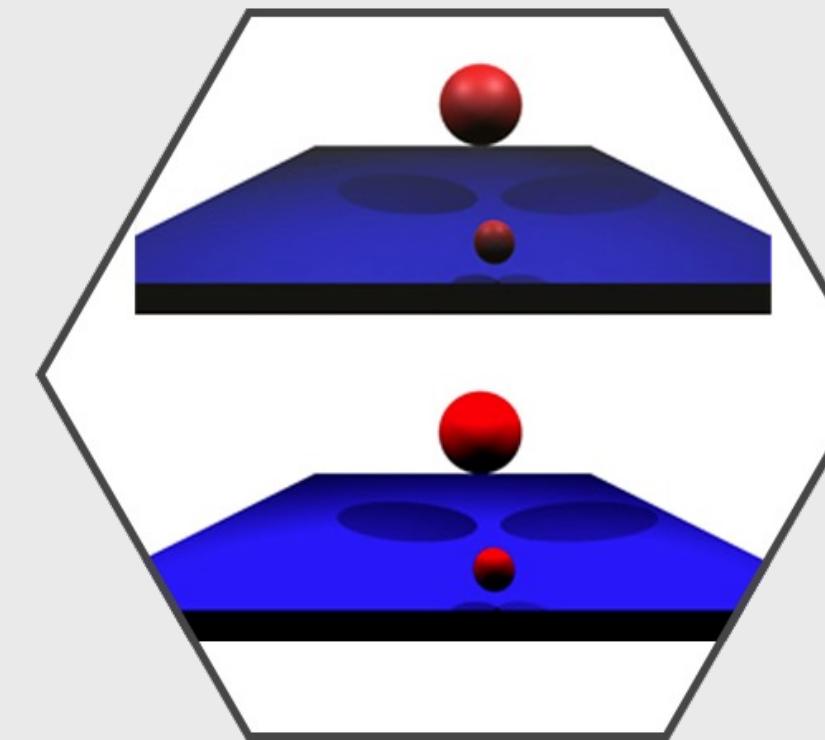
Tuesday & Thursday 04.00pm – 05.30pm

Purest

GRAPHICS

1

WHY JAFET?



STATISTICS

Coding	<div style="width: 100px; height: 10px; background-color: #ccc; border: 1px solid black;"></div>
Game Designing	<div style="width: 100px; height: 10px; background-color: #ccc; border: 1px solid black;"></div>
Creativity	<div style="width: 100px; height: 10px; background-color: #ccc; border: 1px solid black;"></div>
Problem Solving	<div style="width: 100px; height: 10px; background-color: #ccc; border: 1px solid black;"></div>
Drawing	<div style="width: 100px; height: 10px; background-color: #ccc; border: 1px solid black;"></div>
3D Modeling	<div style="width: 100px; height: 10px; background-color: #ccc; border: 1px solid black;"></div>
Leadership	<div style="width: 100px; height: 10px; background-color: #ccc; border: 1px solid black;"></div>
English	<div style="width: 100px; height: 10px; background-color: #ccc; border: 1px solid black;"></div>

EDUCATION

- UP, GDL, Doctor of Engineering in HCI (2023)
- ITESM, GDL, Master of Science in Computer Science (2012)
- ITESM, GDL, Bachelor of Science in Computer Engineering (2007)

TOP 12 CG MOVIES

	Tron Legacy		Inception		Batman Mask of the phantasm
	Matrix		Spider-man Into the spider-verse		The Curious Case of Benjamin Button
	Terminator 2		Back to the Future		Star Wars The Empire Strikes Back
	Toy Story		Interstellar		Sin City

TOP 14 VIDEOGAMES

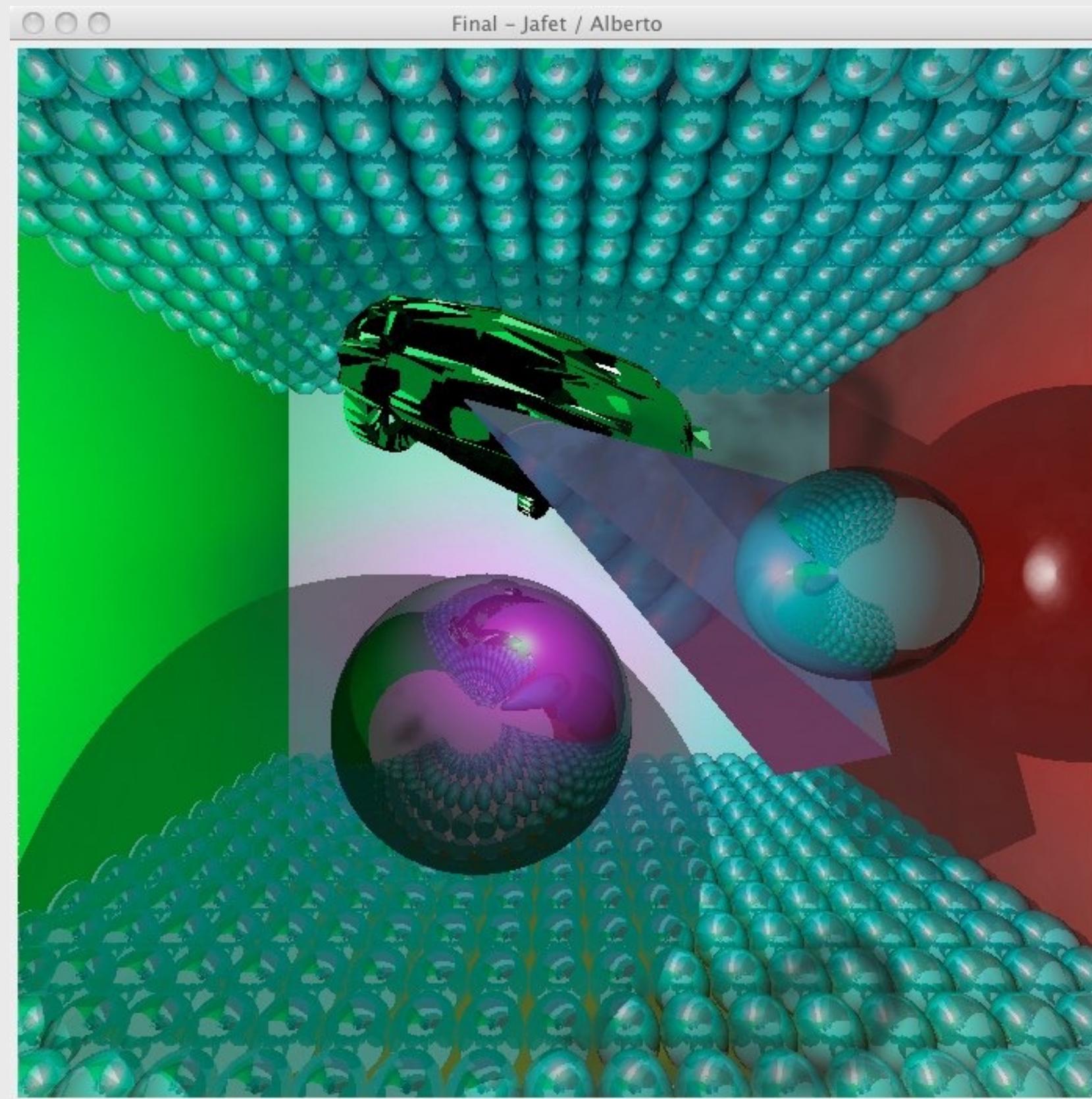
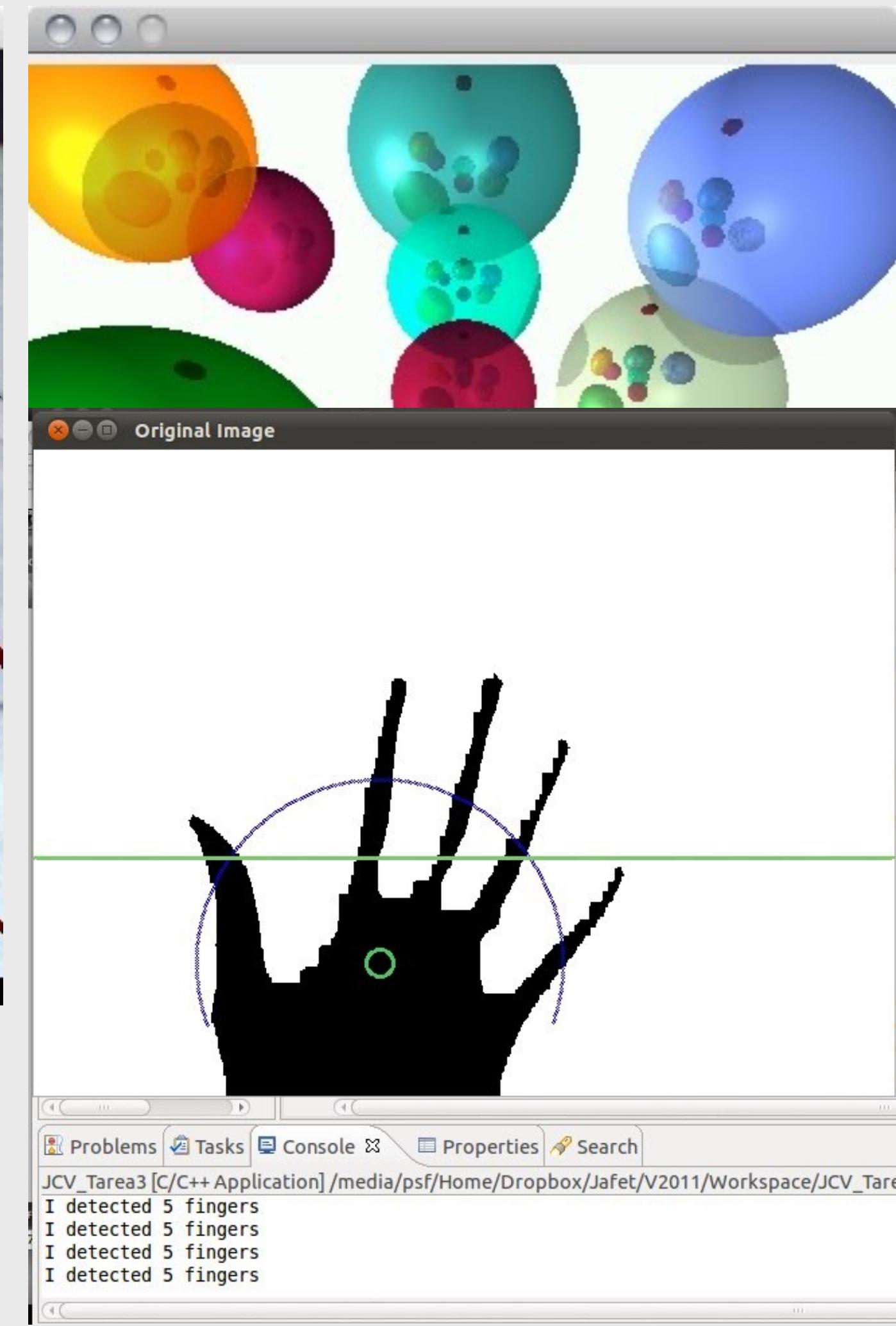
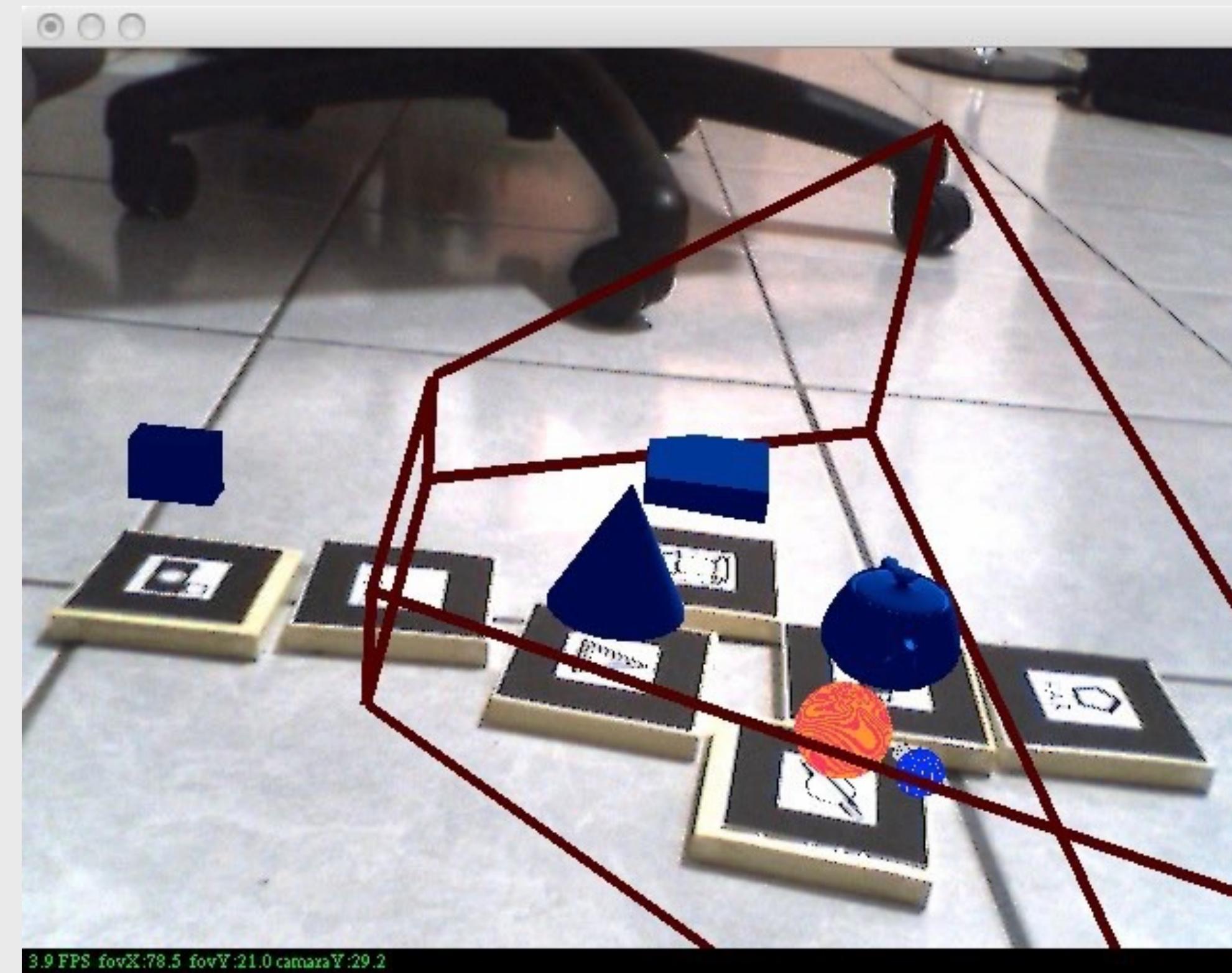
	GTA V		Jedi Fallen Order
	Super Mario Bros 3		Goldeneye N64
	Batman Arkham City		BioShock
	Metal Gear Solid 3		Spider-man 2018
	Max Payne 2		Need For Speed: Most Wanted
	Fable		Tomb Raider II
	Mario Kart N64		Age of Empires 2

HOBBIES



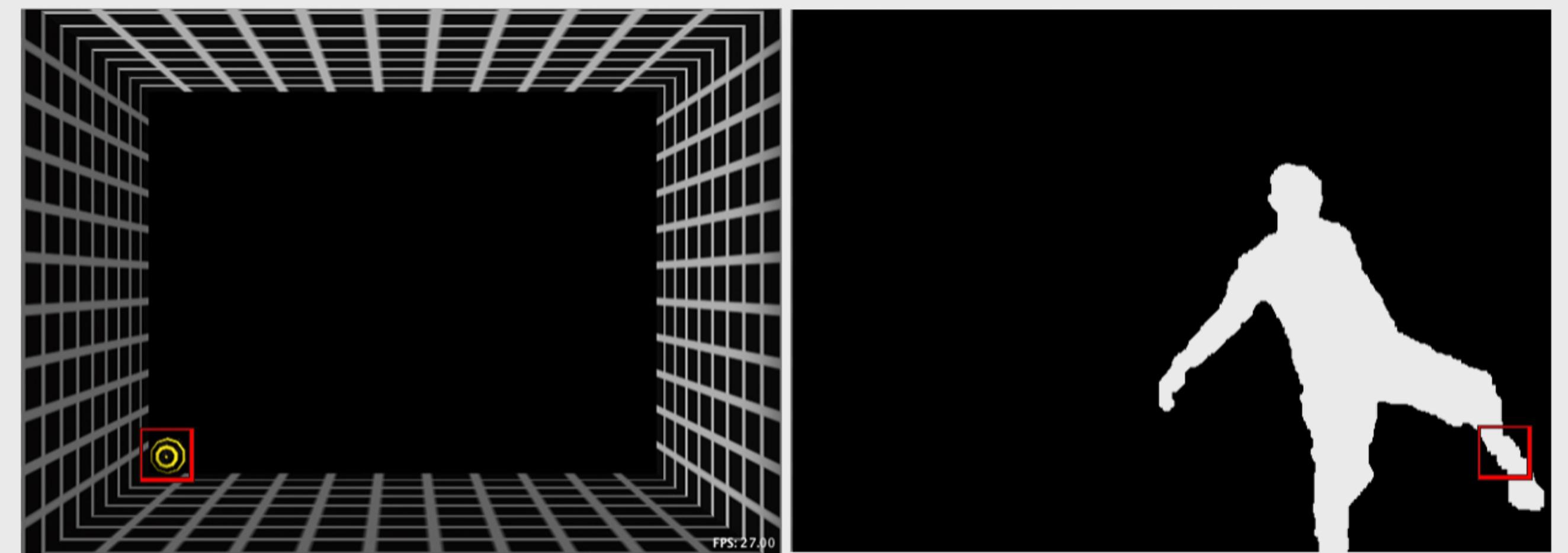
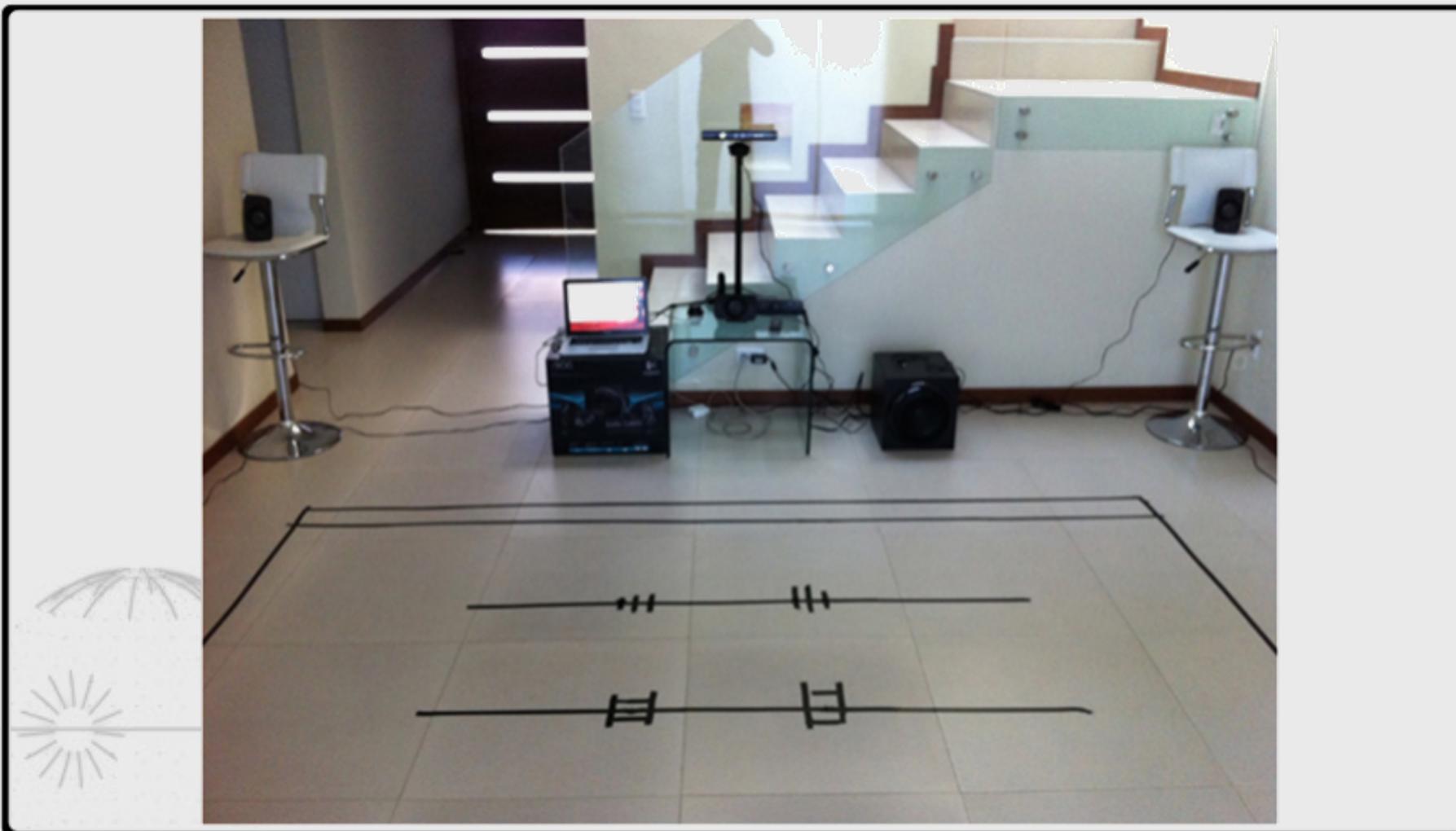
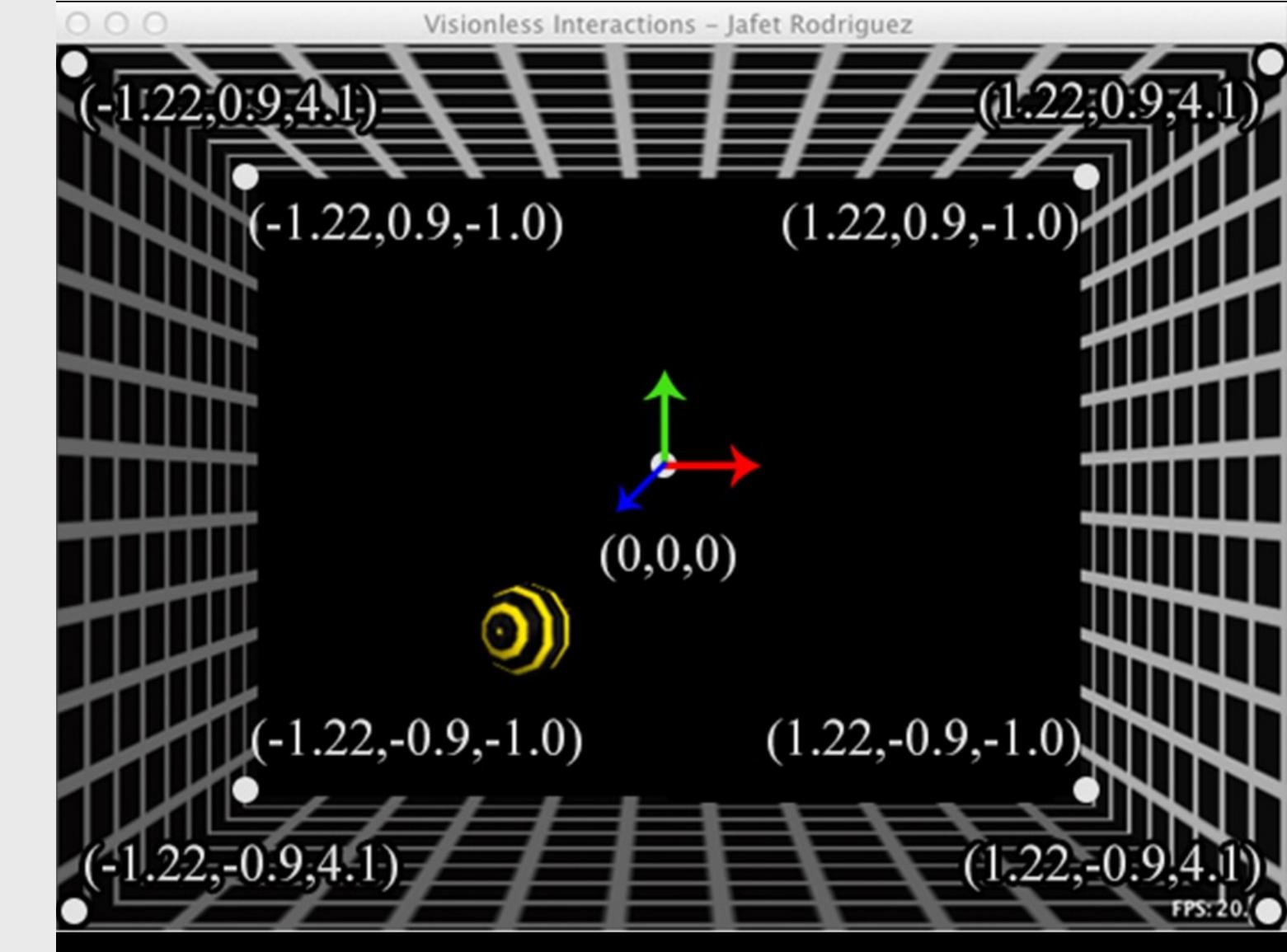
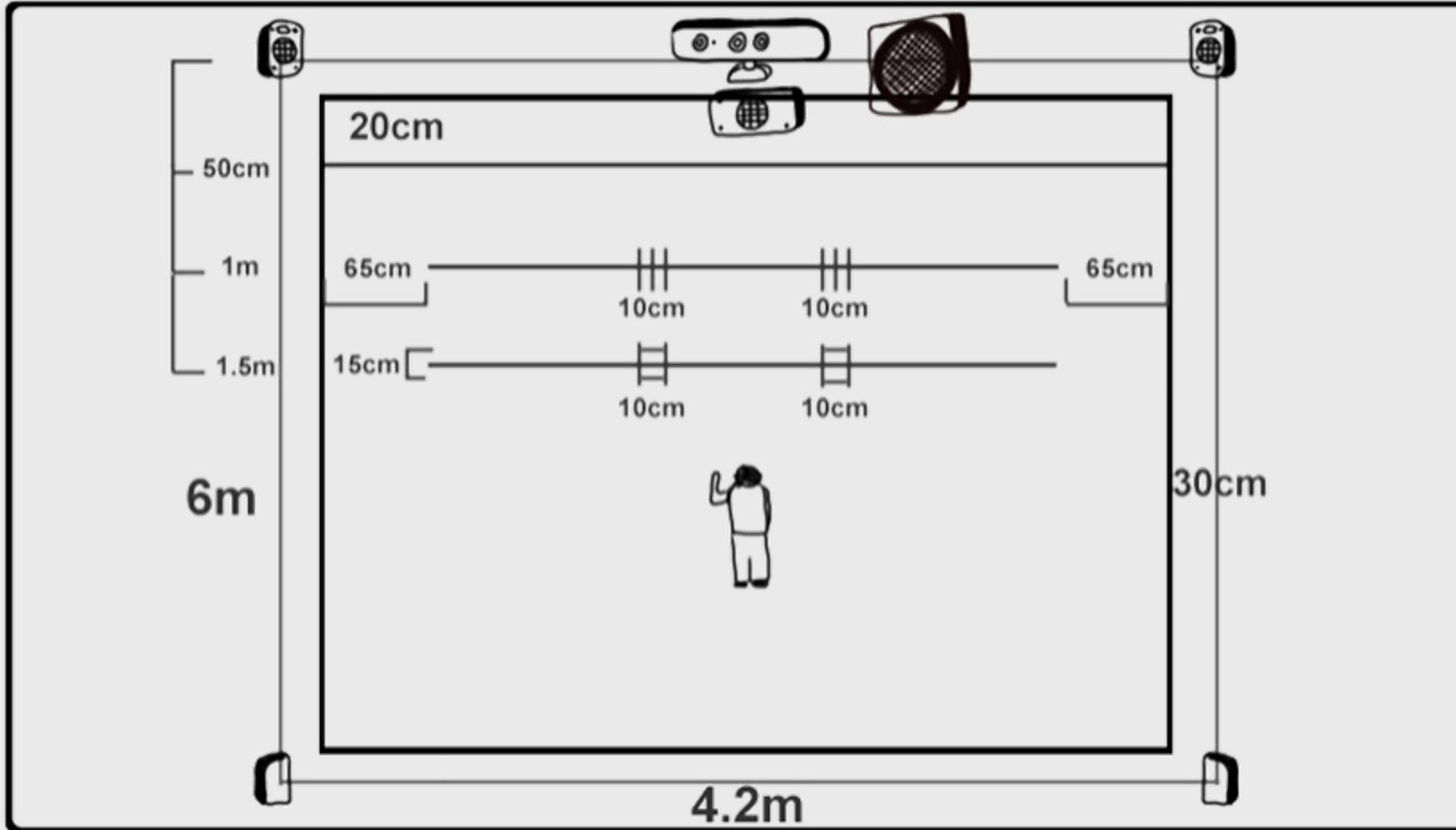


WHY JAFET ?





WHY JAFET ?





WHY JAFET ?

Programming since 1994

Worked at IBM for 6 years

Global Team Lead of dev for CCB Rational

Among the first 100 Oculus Dev-kit devs

Worked in 2 projects presented at CES





WHY JAFET ?





WHY JAFET ?

Teaching since 2012

Over 10 different courses

Visiting professor at Pontificia Universidad Javeriana

Speaker at multiple conferences, seminars and media

Researcher with 9 published papers

WHY JAFET ?

Director Nov 2015 - Jan 2025

Designed the program from 0

Connections with industry





ABOUT MOYA

First  generation

Second  director

Sr. Software Developer

6 years experience

Hobbies include:



COURSE POLICIES

Punctuality

Attendance will be checked

If you were late, please be discreet and join the class

If you don't send your assignment on time you can still send it to get feedback

Academic Dishonesty

We will have a Code of Honor

You can use AI but as a tool not as a replacement of you

Rules of Engagement

Mobiles / Social Networks / Food in the classroom

Advise / Tutoring / Counselling

Everything in English



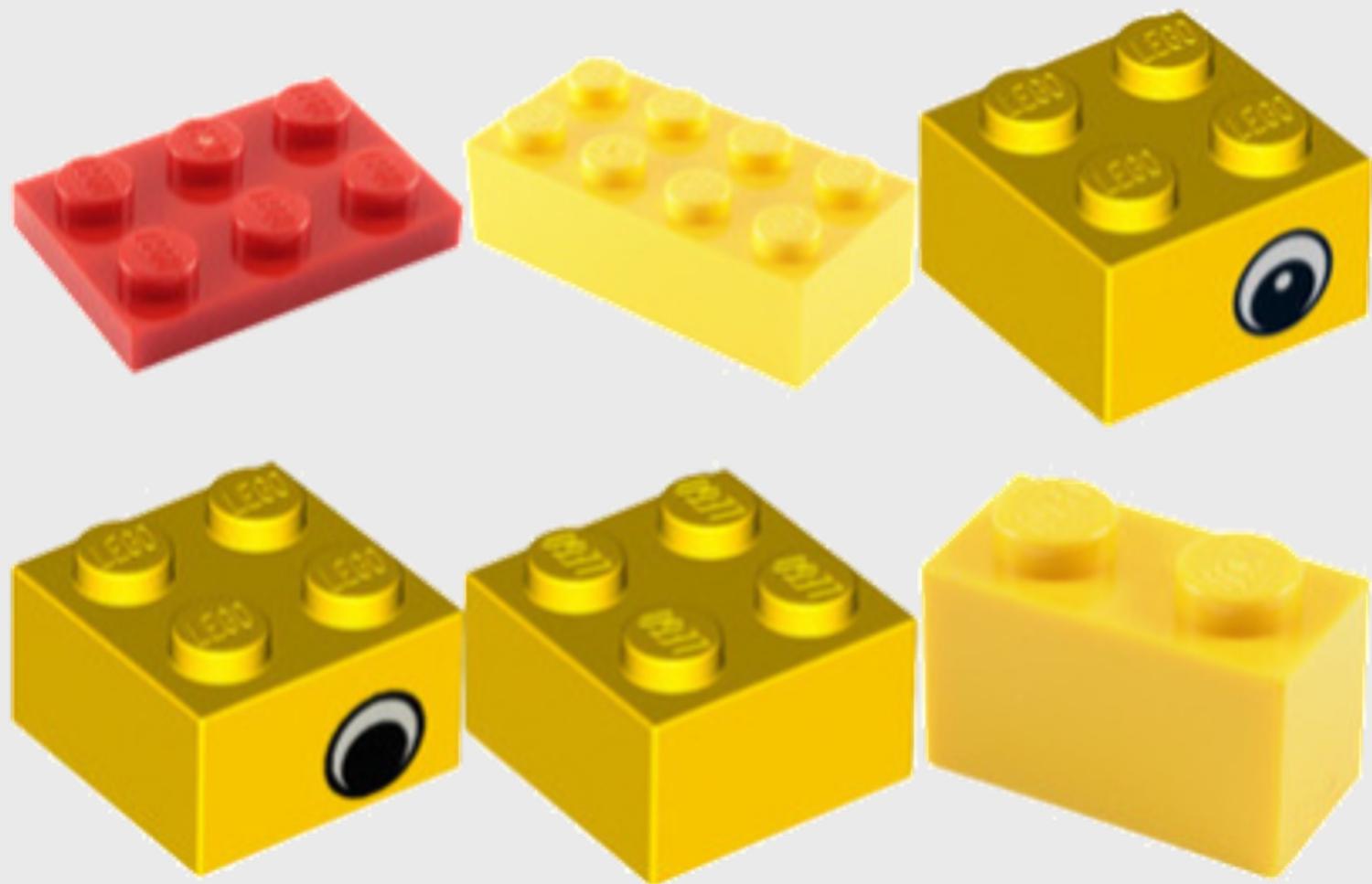
CODE OF HONOR

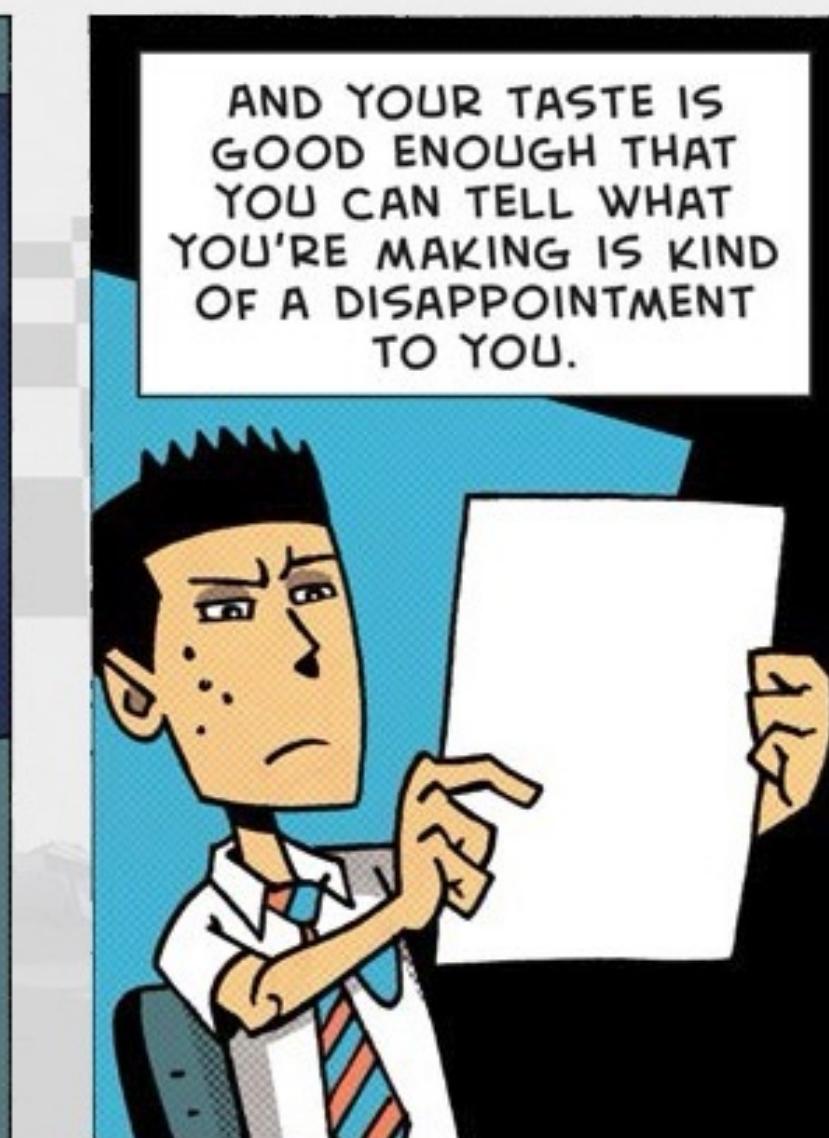
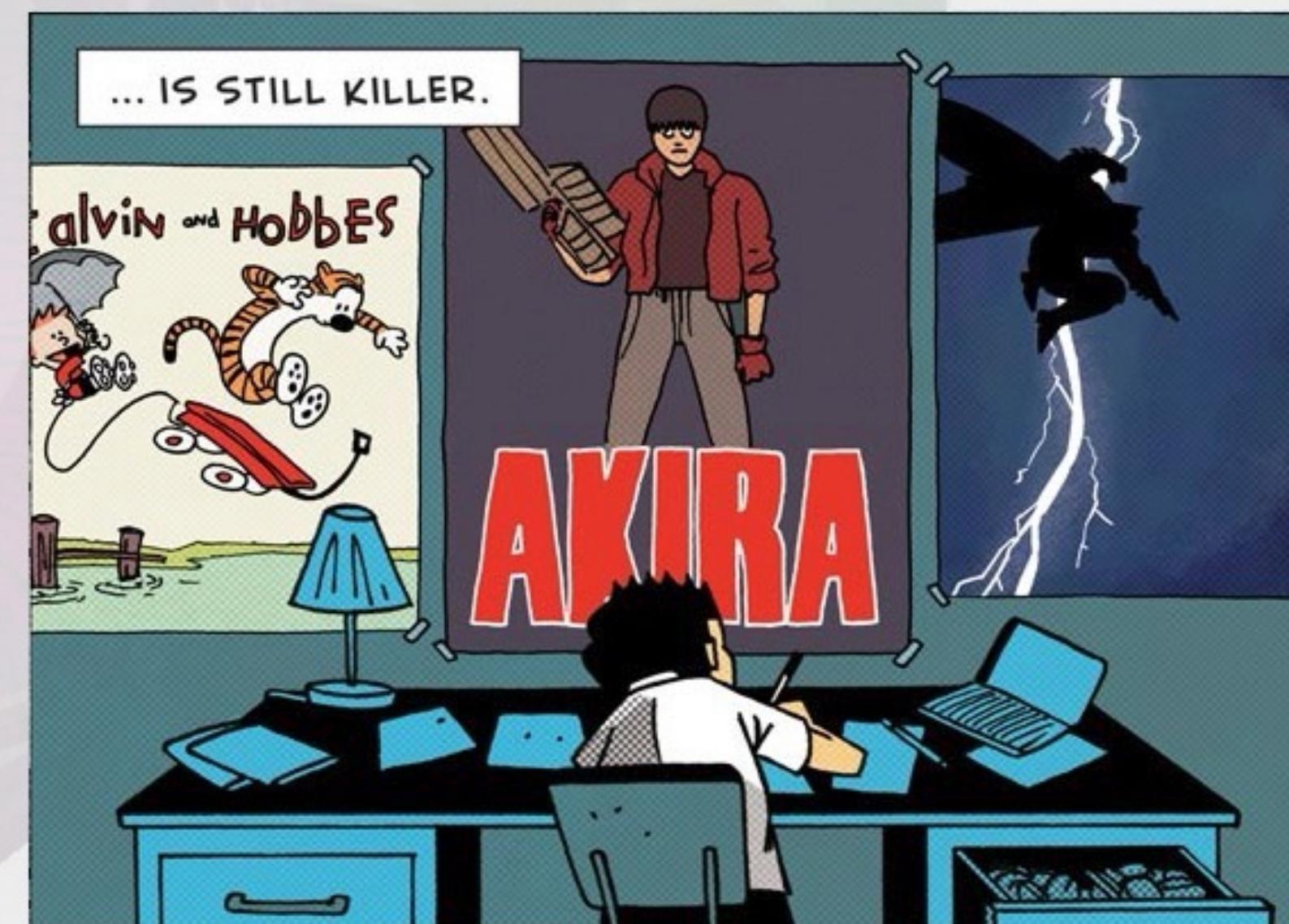
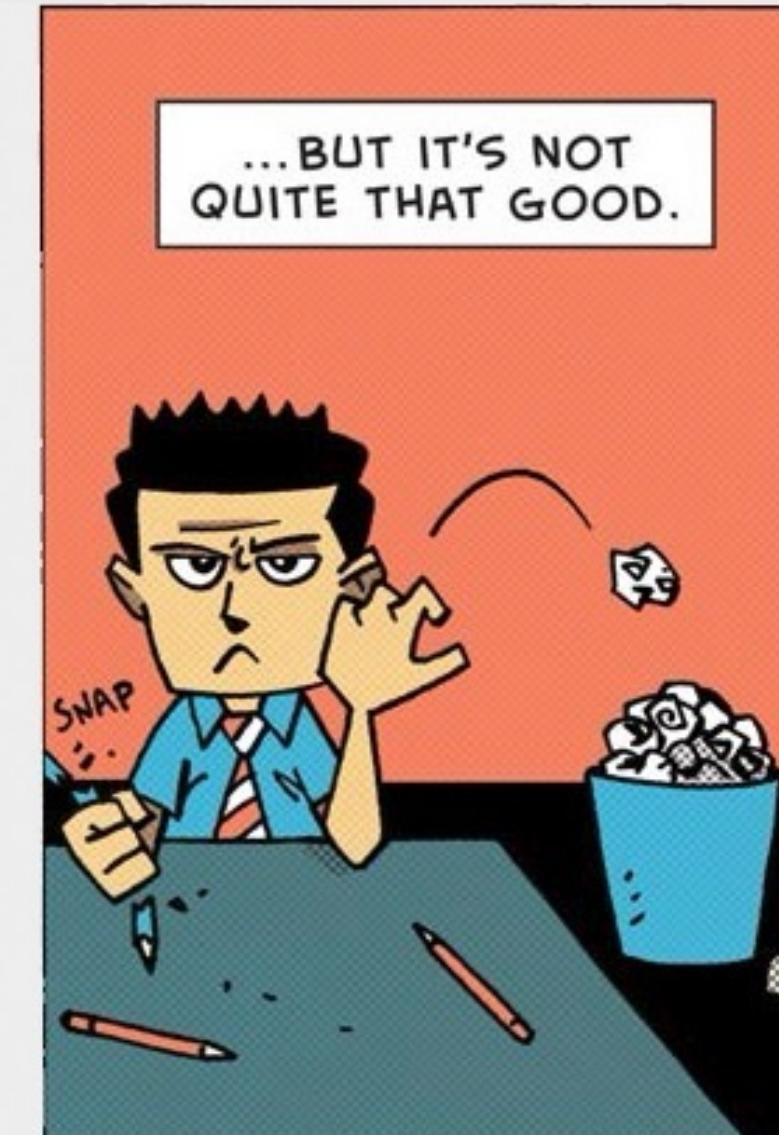
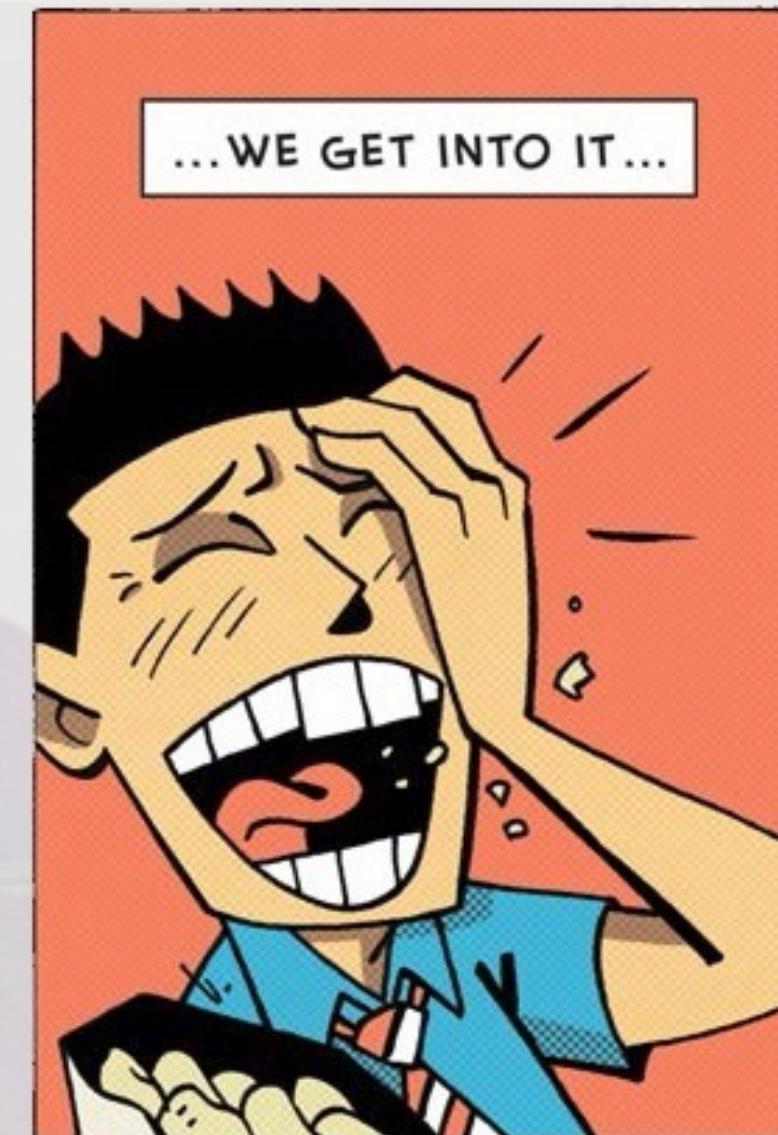
The Computer Graphics Samurai Code of Honor

- 一 I can seek help from other people
- 二 I can search on the Internet and learn from online courses
- 三 I will help other classmates
- 四 I will do my best to deliver quality
- 五 I will continue learning outside the classroom
- 六 I will deliver only things done by me
- 七 I will deliver only things I understand
- 八 I will prefer to deliver part of an assignment done by me, than something that it is not



EXERCISE





EVERYBODY WHO DOES INTERESTING,
CREATIVE WORK, WENT THROUGH A PHASE
OF YEARS WHERE THEY HAD REALLY GOOD
TASTE BUT THEY COULD TELL WHAT THEY
WERE MAKING WASN'T AS GOOD
AS THEY WANTED IT TO BE.

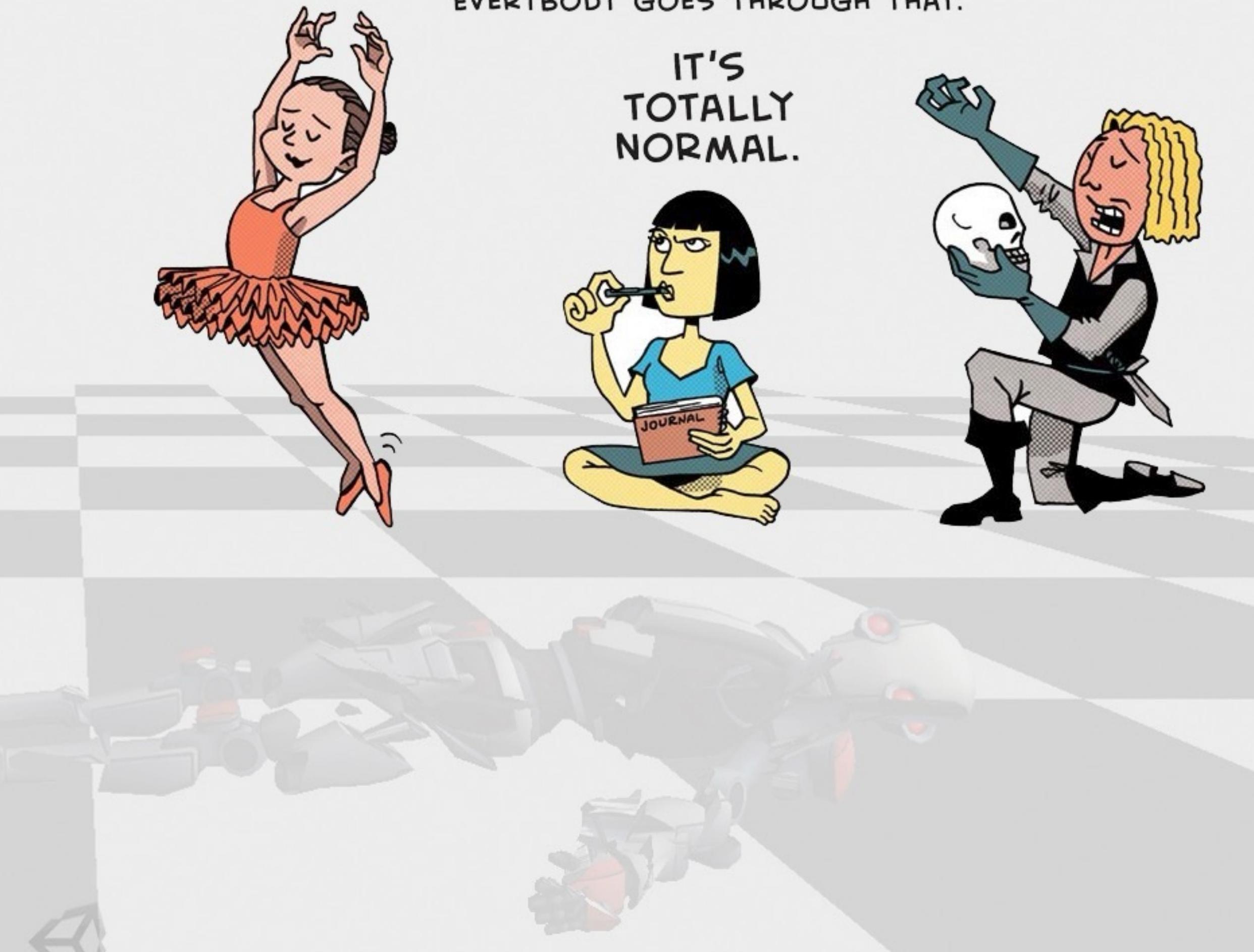


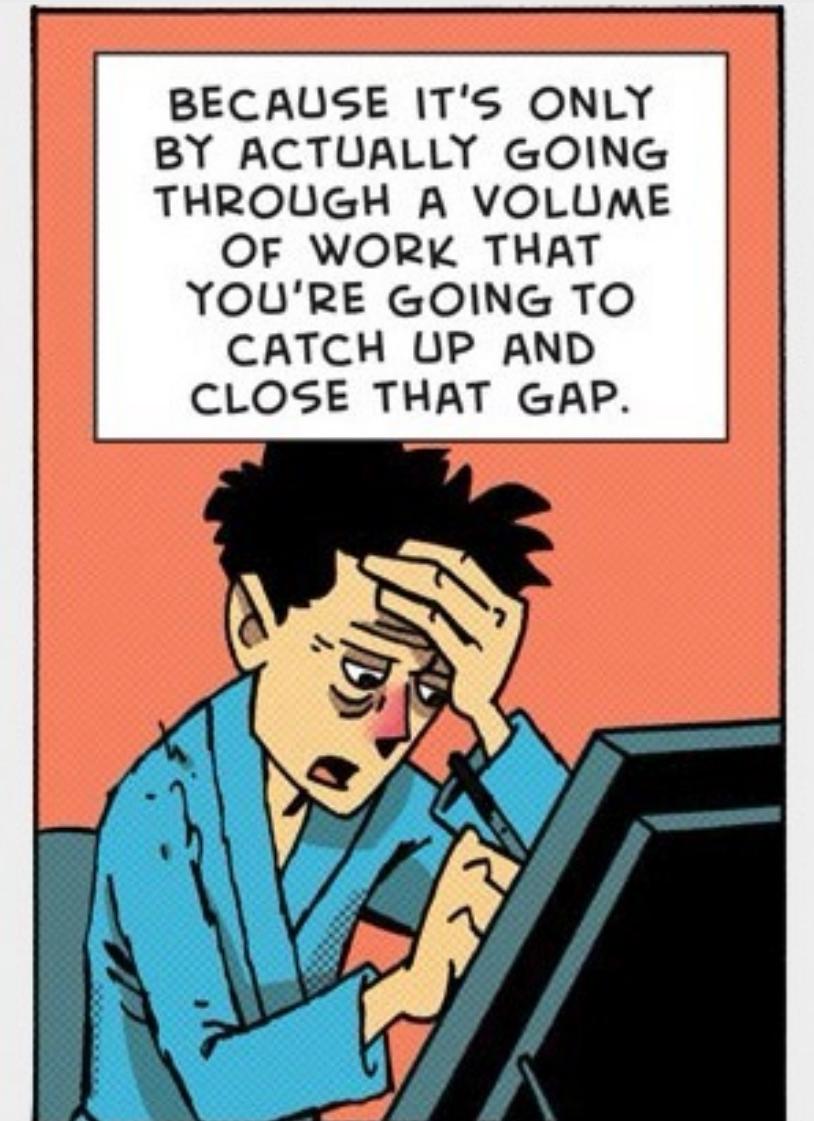
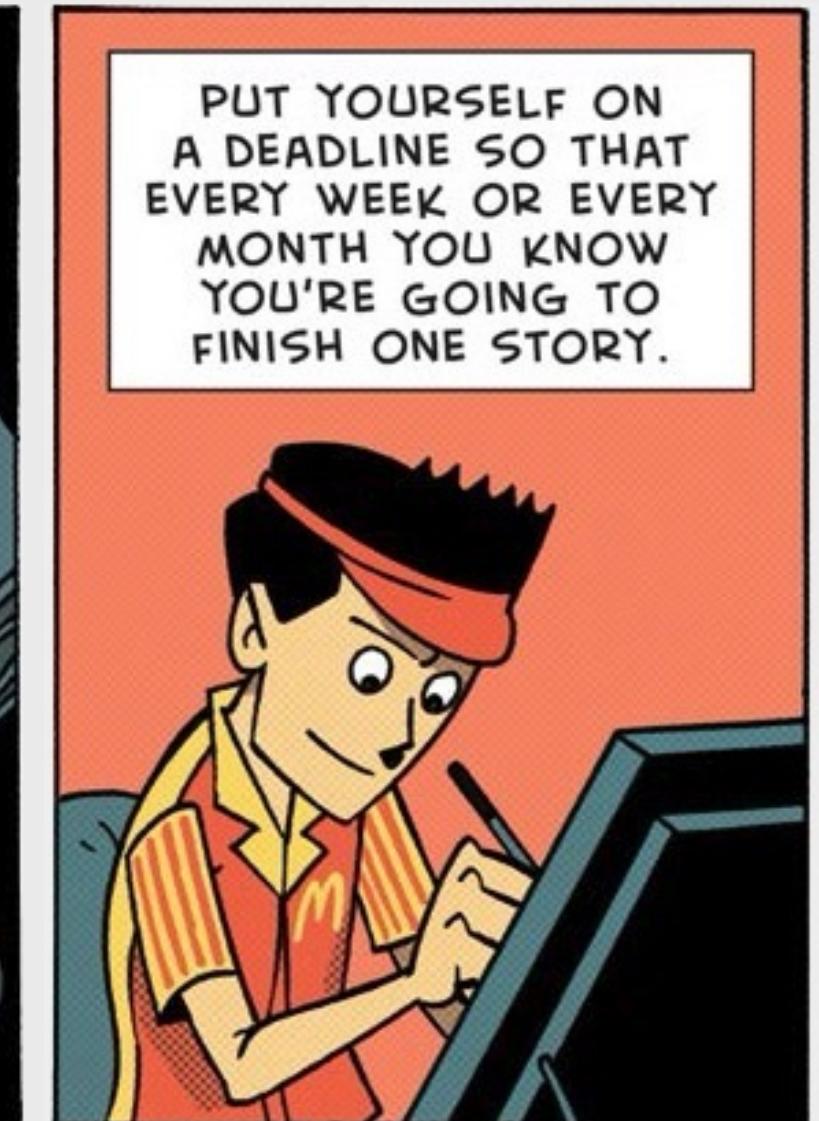
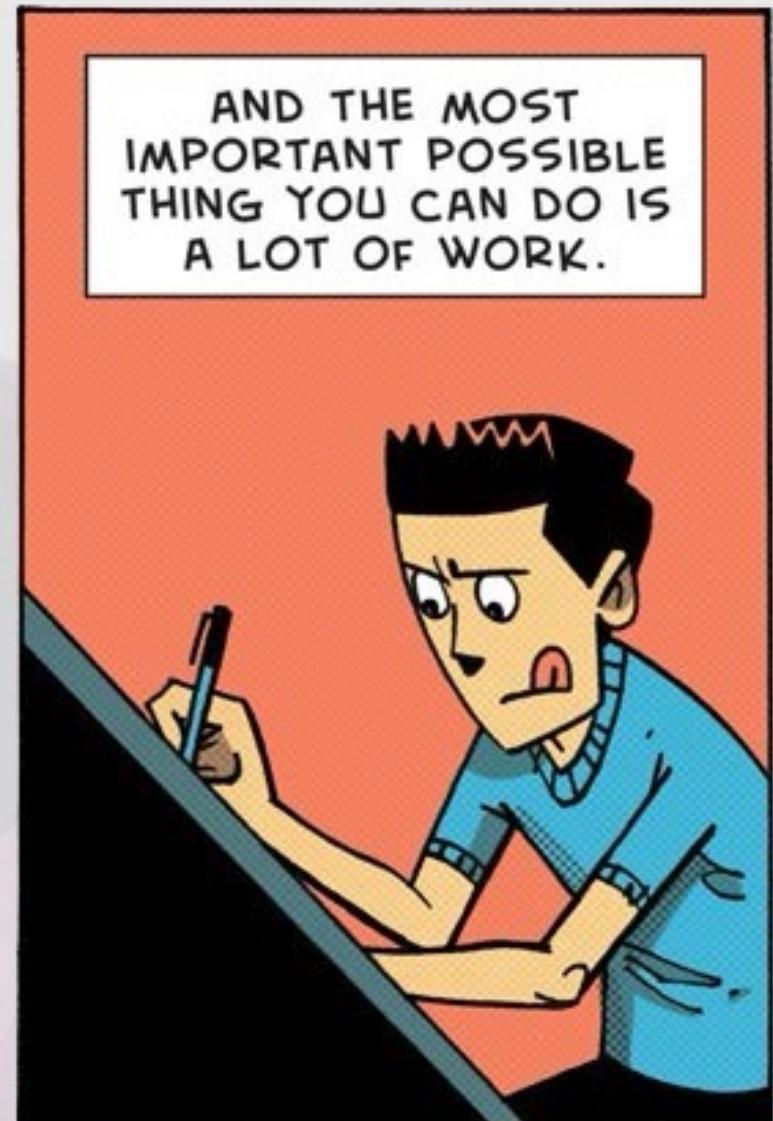
THEY KNEW IT FELL SHORT.
IT DIDN'T HAVE THIS SPECIAL THING THAT WE WANTED IT TO HAVE.



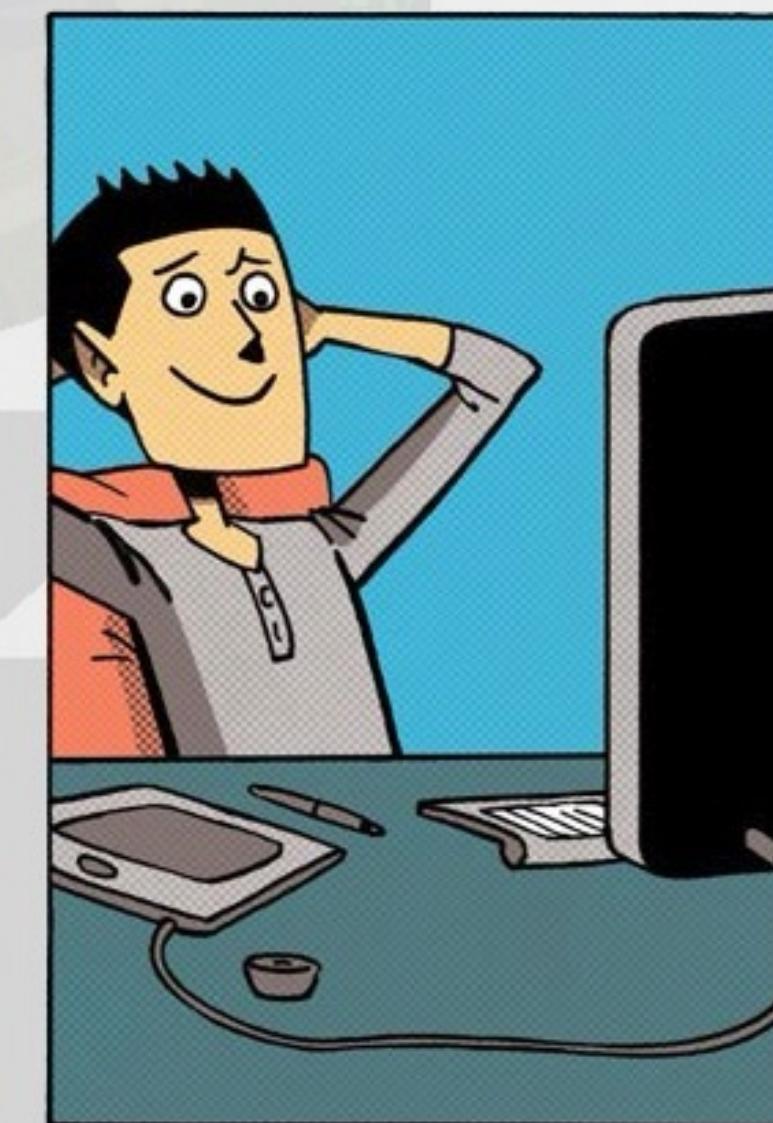
EVERYBODY GOES THROUGH THAT.

IT'S
TOTALLY
NORMAL.





IT'S GOING TO TAKE YOU AWHILE.



WHAT IS NOT MY PURPOSE?

Pass the
course

What is my
purpose?



EVALUATION

Evaluation based on score

131,072 pts - 100

Quizzes - 10,016 pts

116,736 pts - 90

Assignments - 16,580 pts

102,400 pts - 80

Attendance - 2,976 pts

88,064 pts - 70

Projects - 101,500 pts

73,728 pts - 60



EVALUATION

100% - Correct - It is correct

75% - Minor - It has some minor issues

50% - Issues - It has issues

25% - Major - It has many or major issues

0% - Incorrect - It is incorrect or does not compile



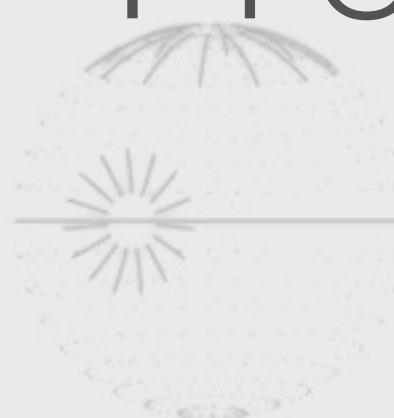
ATTENDANCE

On time (93 pts)

Late (-30 pts)

No-attendance (-151 pts)

Professor late (+93 pts)



QUIZZES

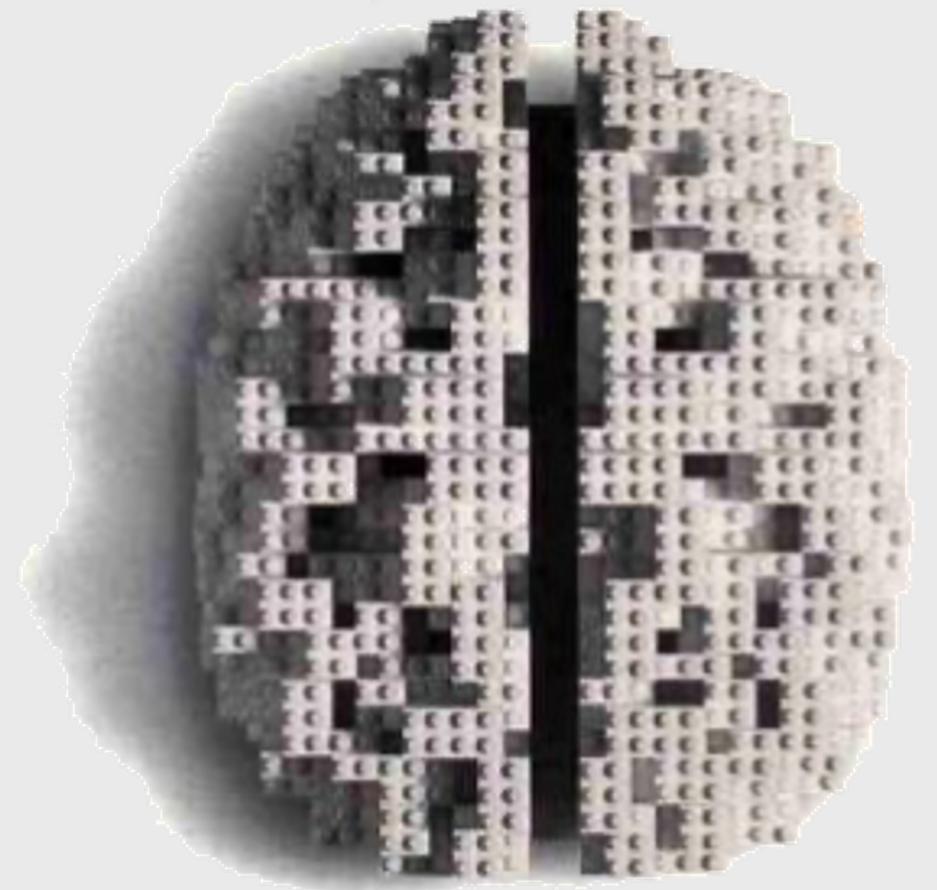
Based on previous class & questions sent

1,252 pts per quiz

For each question selected (+0.25x)

For each answer selected (+0.5x)

Up to 2 questions per quiz



ASSIGNMENTS

Challenge Mode (Like power ups)

Normal Mode (1x)

Guided Mode (For each clue it reduces)



DEADLOCK ASSIGNMENTS

Mandatory

If not done then the rest is not graded



FILE FORMATS



Report – First name Last name _ Report PDF – JuanelloPetro_Report.pdf

Code Project – First name Last name _ ZIP – JuanelloPetro_Code.zip

Documents – First name Last name _ Docs ZIP – JuanelloPetro_Docs.zip

Preview – First name Last name _ Preview PNG – JuanelloPetro_Preview.png

If your delivery doesn't follow the file format it won't be graded



IMPORTANT DATES



1st Partial – Feb 18

2nd Partial – April 1

Final – May 27



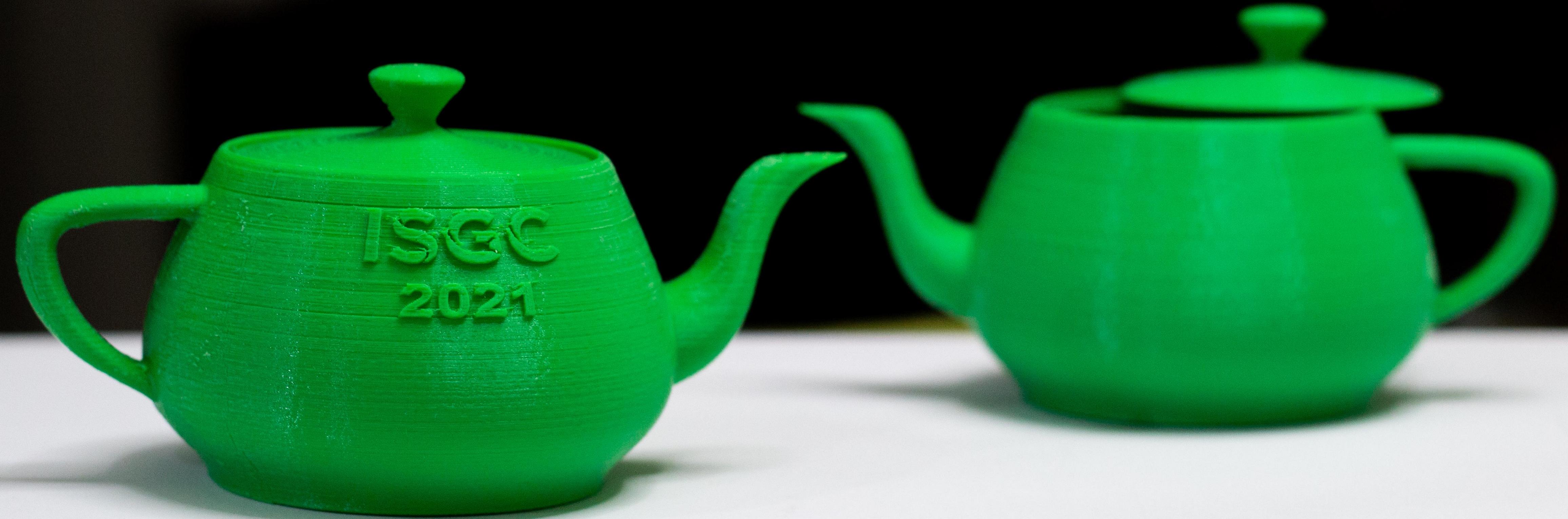
WHAT DO YOU THINK CG IS?



COMPUTER GRAPHICS



IS A PATHWAY TO MANY ABILITIES SOME
CONSIDER TO BE UNNATURAL



WHAT DO YOU THINK CG IS?

com•put•er graph•ics /kəm 'pyoodər 'grafiks/ n.

The use of computers to synthesize visual information

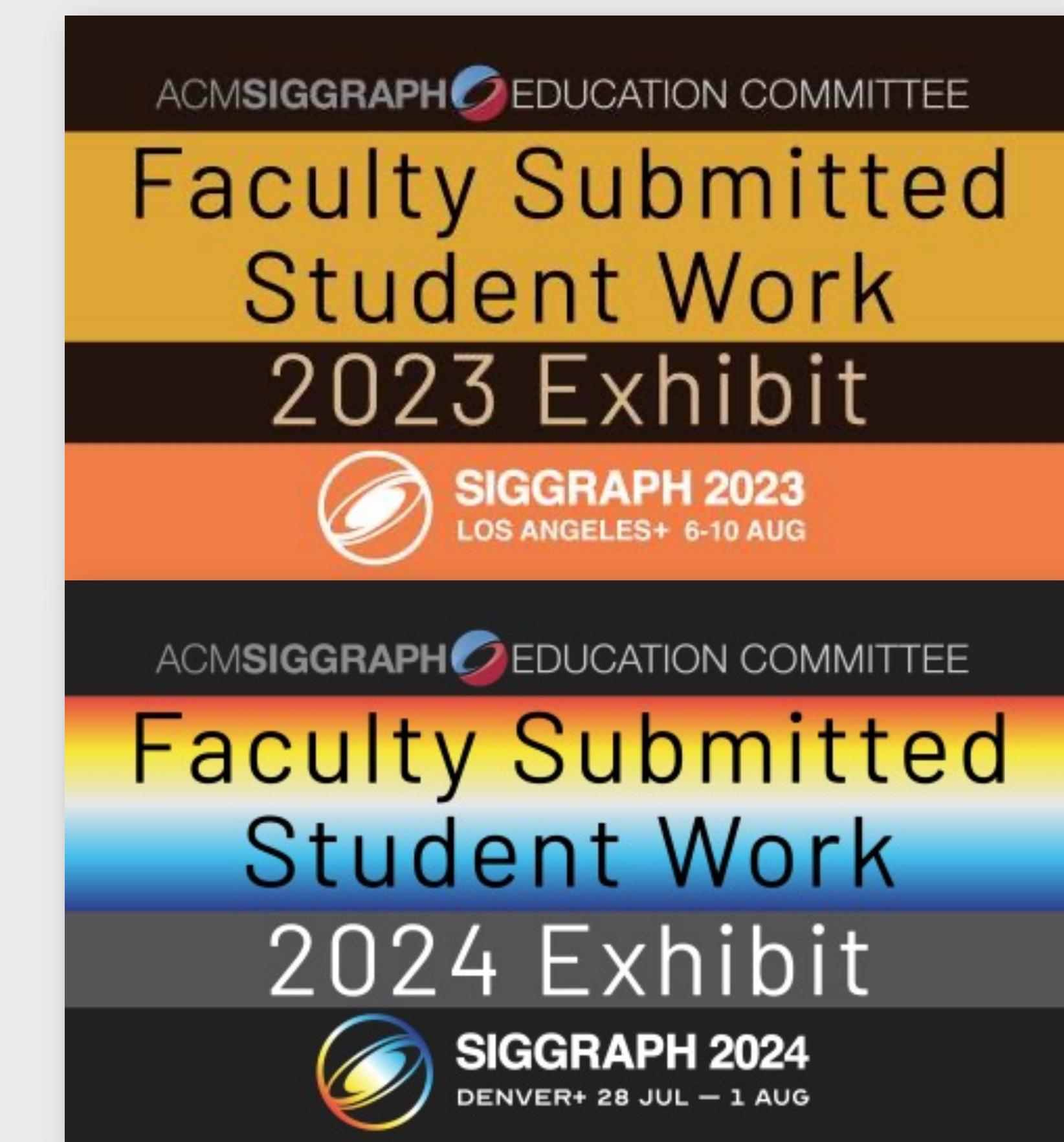
The use of computers to synthesize
and manipulate **sensory** information

The use of computation to turn **digital**
information into **sensory stimuli** (CMU,

Keenan Crane)



FSSW ACM SIGGRAPH

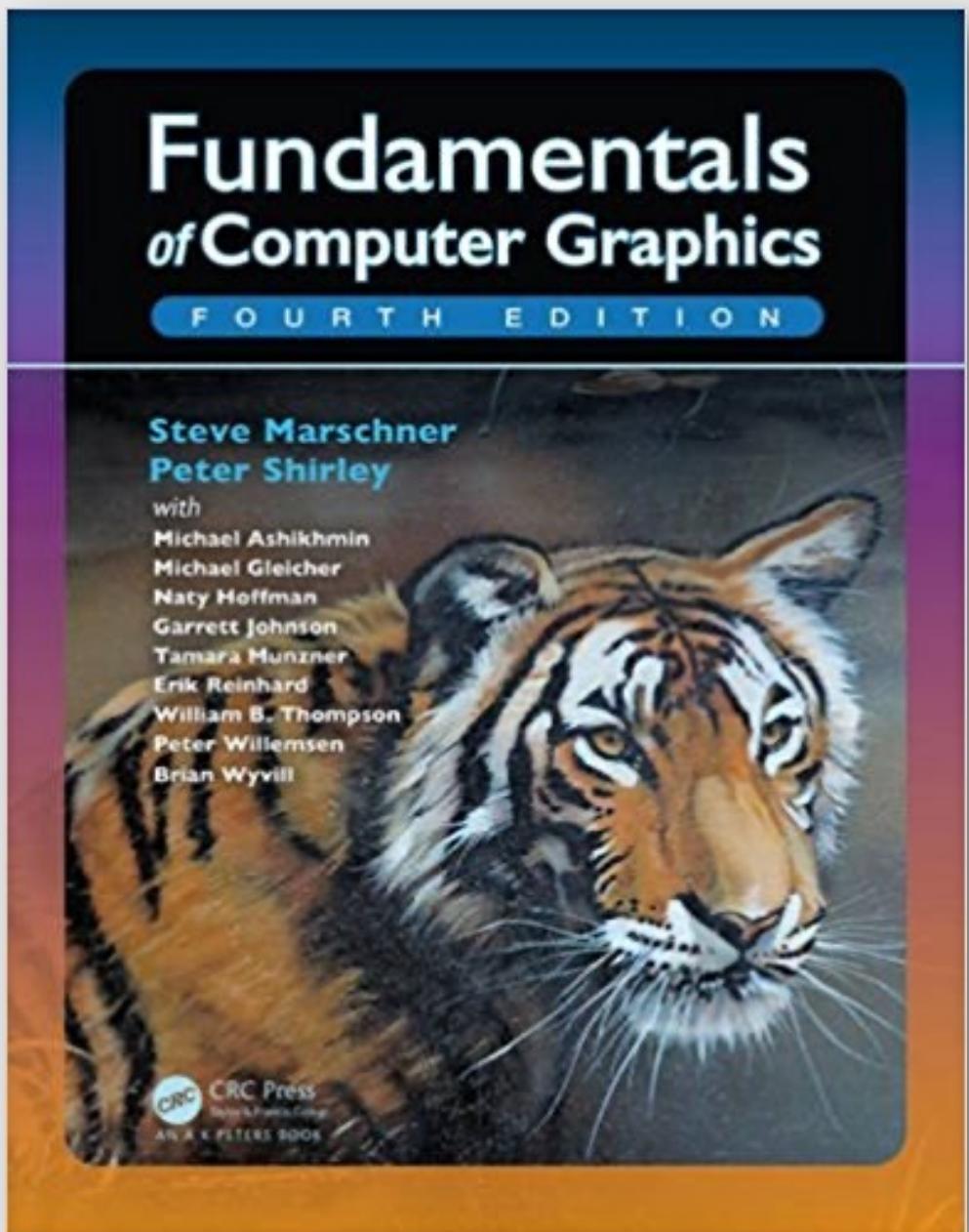


SYLLABUS

1. Introduction
2. Aspect Ratios
3. Coordinate Systems
4. Barycentric Coordinates
5. Vector vs Raster
6. Image Compression
7. Video Handling
8. Graphic Pipeline
9. Triangles
10. Polygons
11. Shading Models

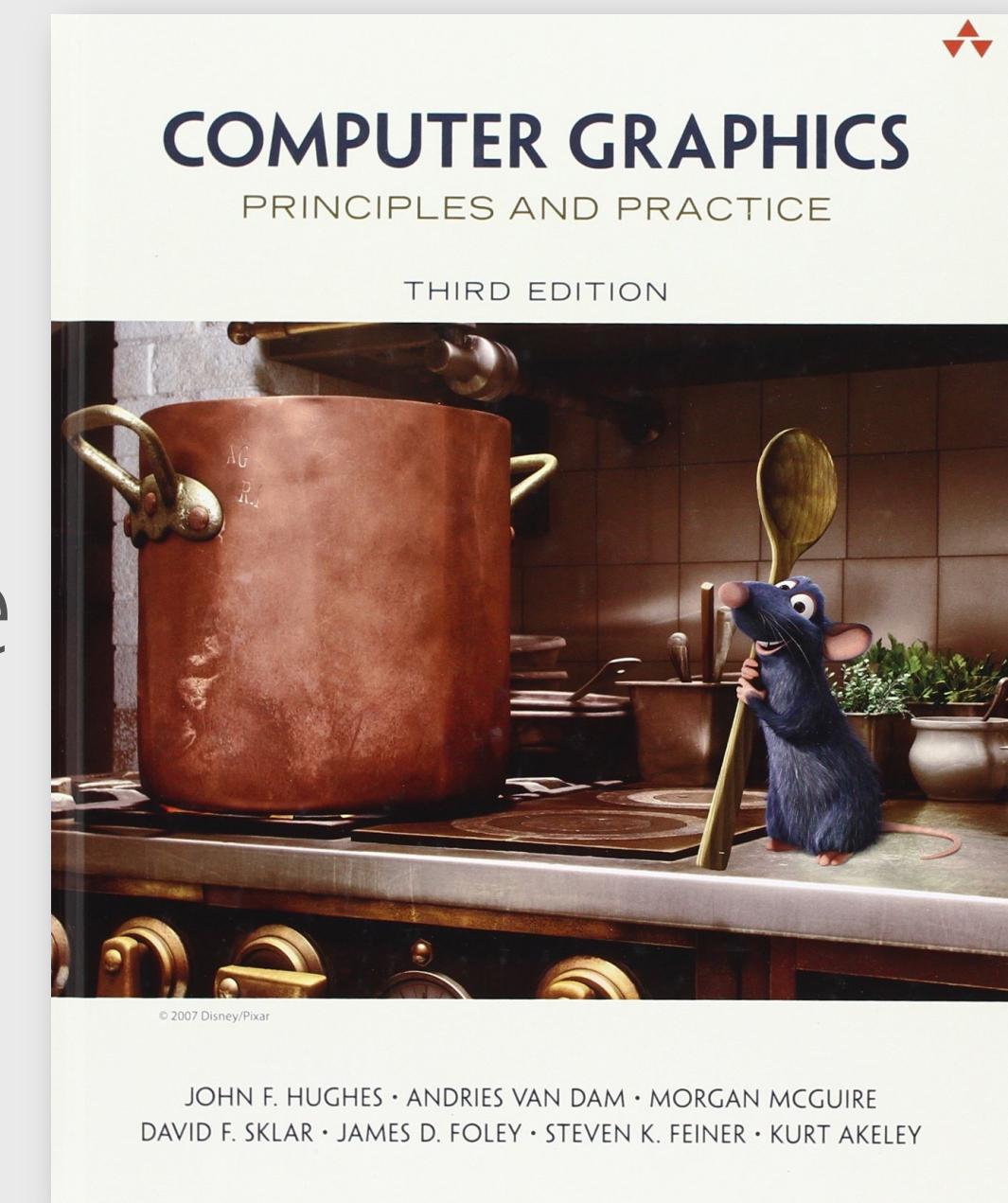


REFERENCE BOOKS

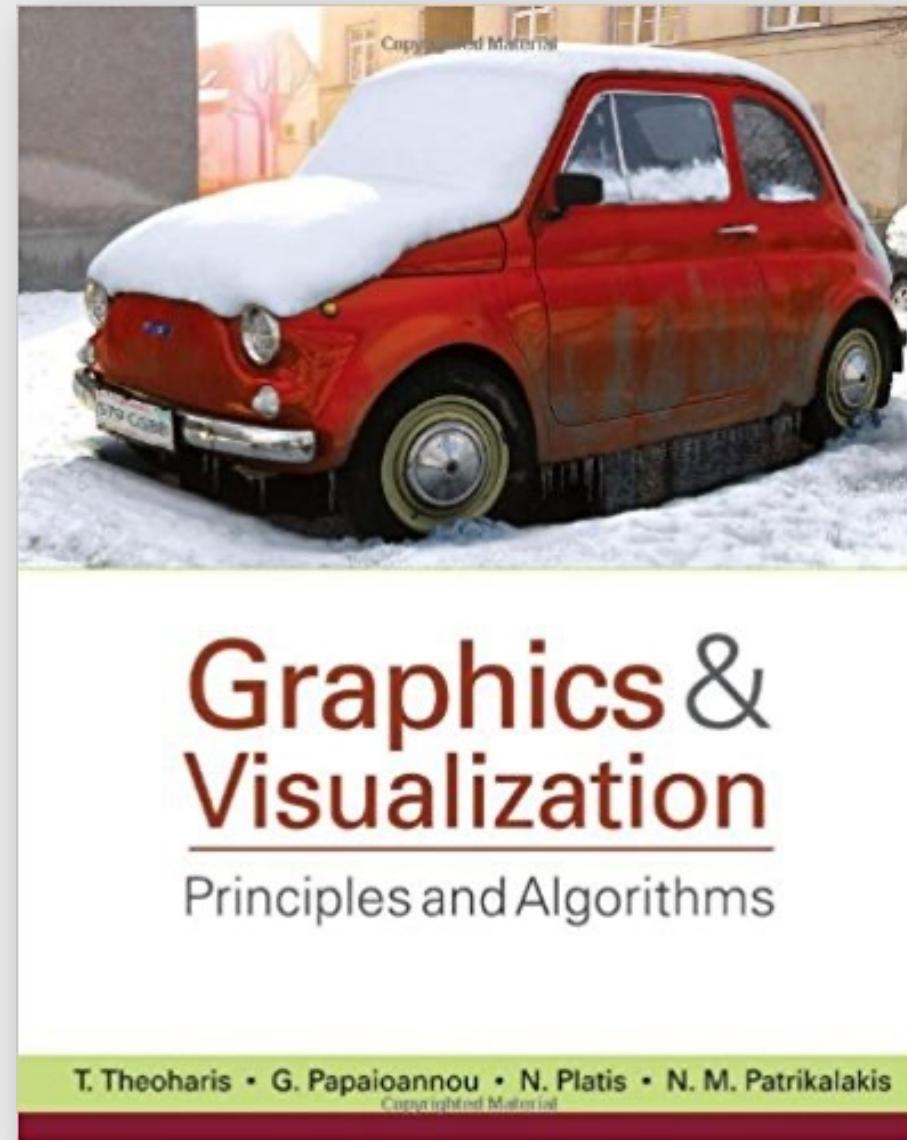


Fundamentals of Computer Graphics
(Shirley, 978-1482229394)

Computer graphics : principles and practice
(Hughes, 978-0321399526)

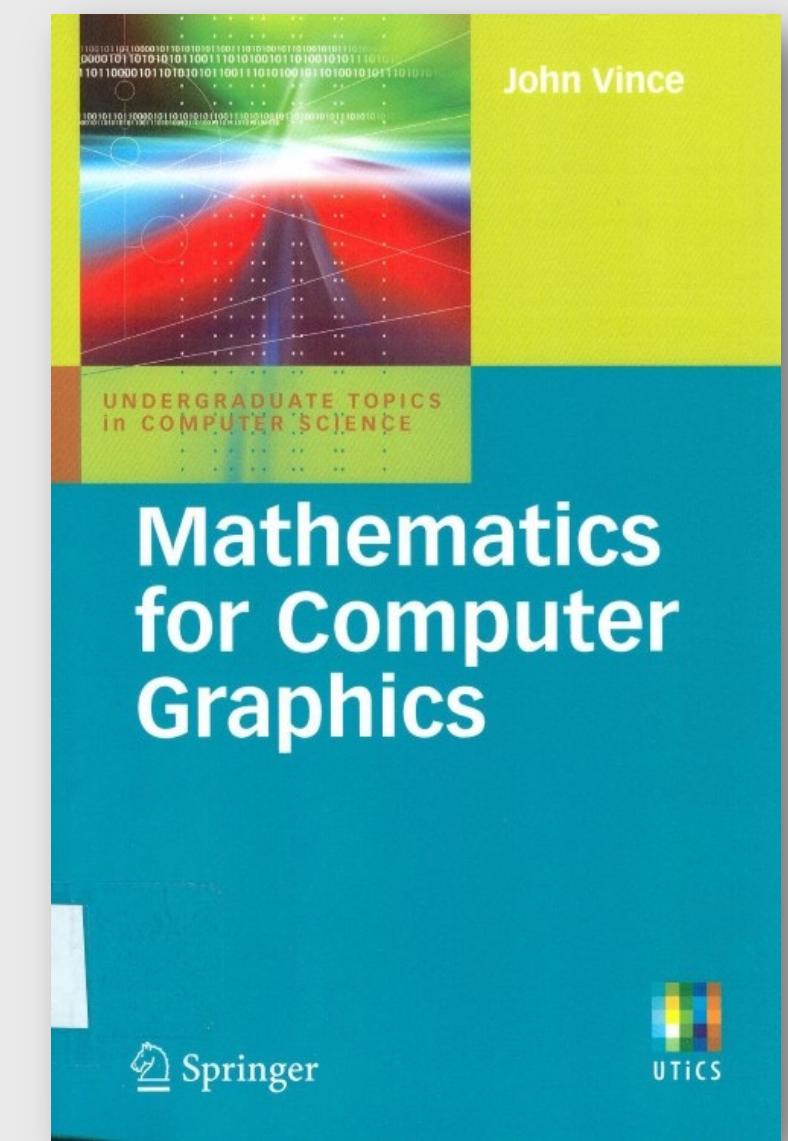


REFERENCE BOOKS

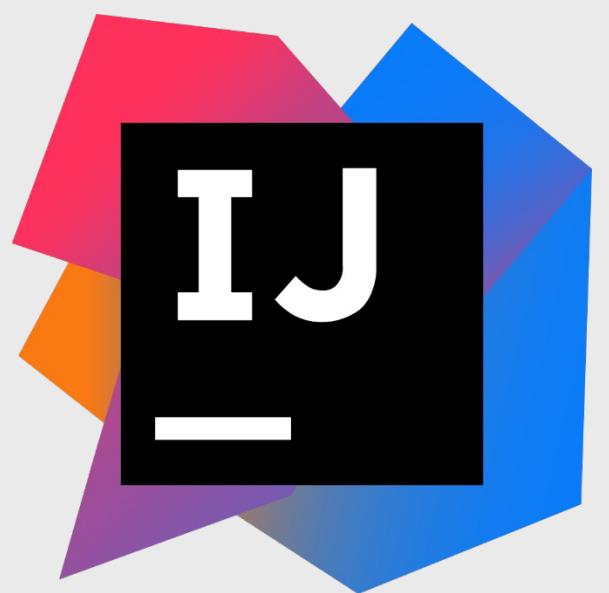


Graphics & visualization : principles & algorithms
(Theoharis, 978-1568812748)

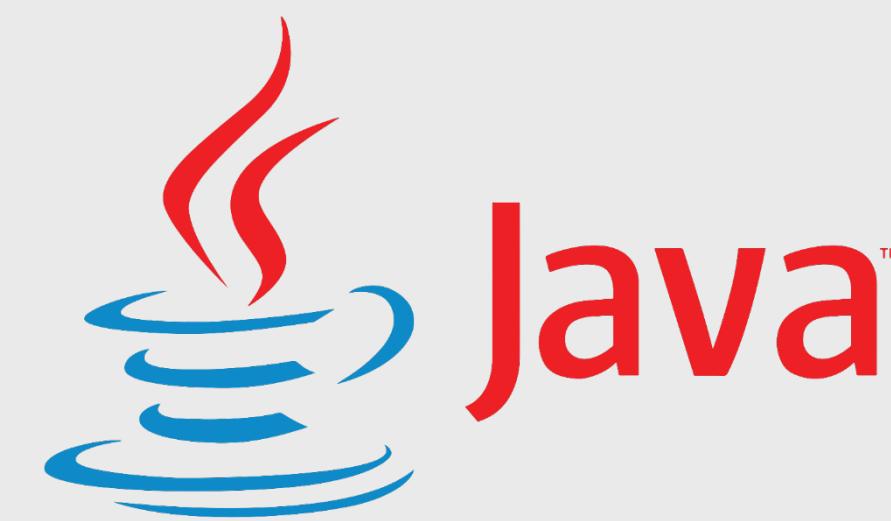
Mathematics for computer graphics
(Vince, 978-1849960229)



TOOLS



Similar



Version Oracle
OpenJDK 23

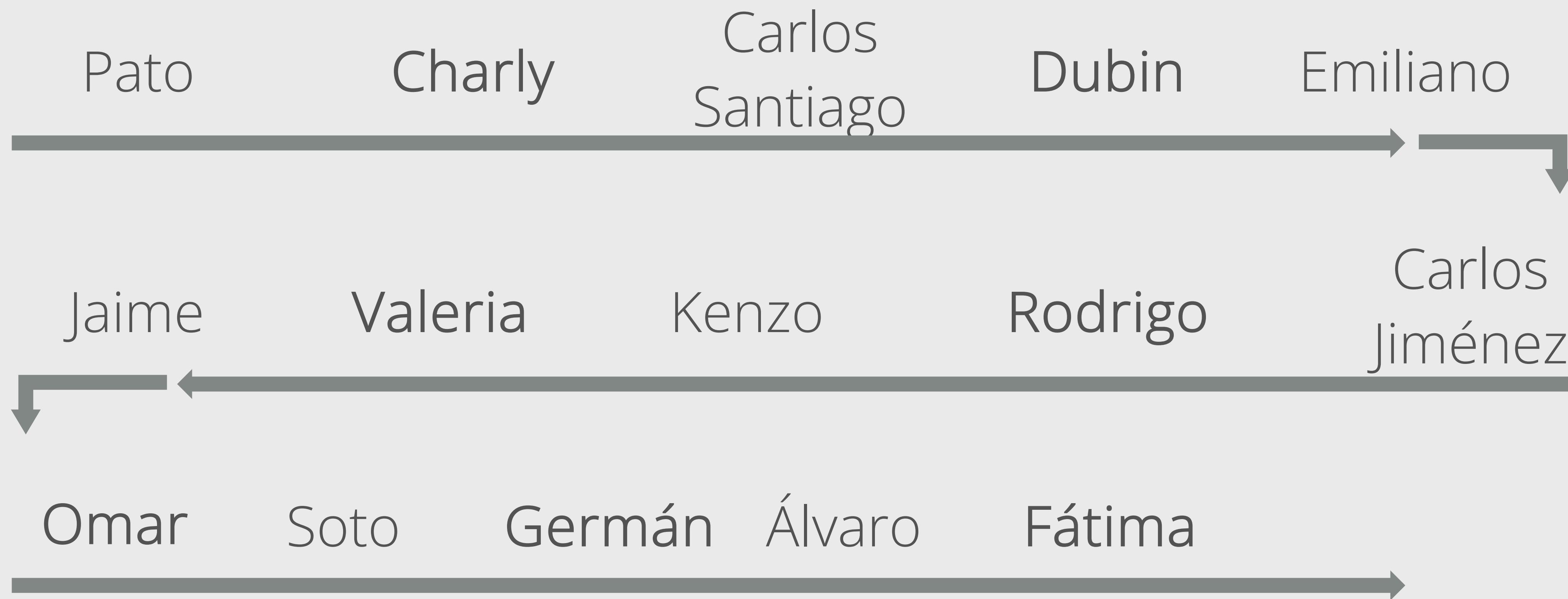
LATEX

Overleaf

Blackboard
LEARN ULTRA



DESCRIBE YOURSELF IN 3 WORDS



FIRST QUIZ

You have 10 minutes



HOMEWORK 01

DEADLOCK ASSIGNMENT

Design your own Introduction Image (2048 x 2732)

Includes: Picture, Name, Nickname, Hobbies,

Education, Skills

Put a photo of you in your UP Google profile

where I can clearly see your face

Deadline: Thursday Jan 23, 03.59pm



HOMEWORK 02

Biography John Gaeta (250 pts)

Area and Perimeter Calculator (412 pts)

Setup your environment



Deadline: Tuesday Jan 28, 3.59pm

BIOGRAPHY - JOHN GAETA



Normal mode (250 pts)

Write a one page biography including most important contributions

Challenge Mode (+0.25x)

Write the report on LaTeX and send PDF and .tex file

AREA & PERIMETER CALCULATOR

Normal mode (412 pts)

Create a program that gets from the user the basic information and the output is the perimeter and area, the shapes to be selected are: Square, Rectangle, Triangle, Circle and Regular Pentagon

It works (200 pts)

The code is understandable (80 pts)

It has documentation (80 pts)

It includes flow diagram or UML diagram (52 pts)



AREA & PERIMETER CALCULATOR

Challenge mode (+200 pts)

Include Pentagram and Semi-circle (+70 pts)

Include a menu for the program (+30 pts)

Include a GUI (+100 pts)



REFLECTION

