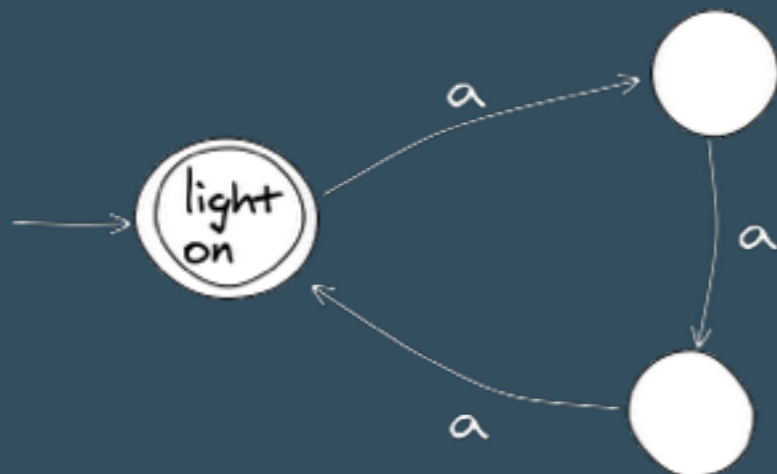

Spring 2015 - Berkeley, CA



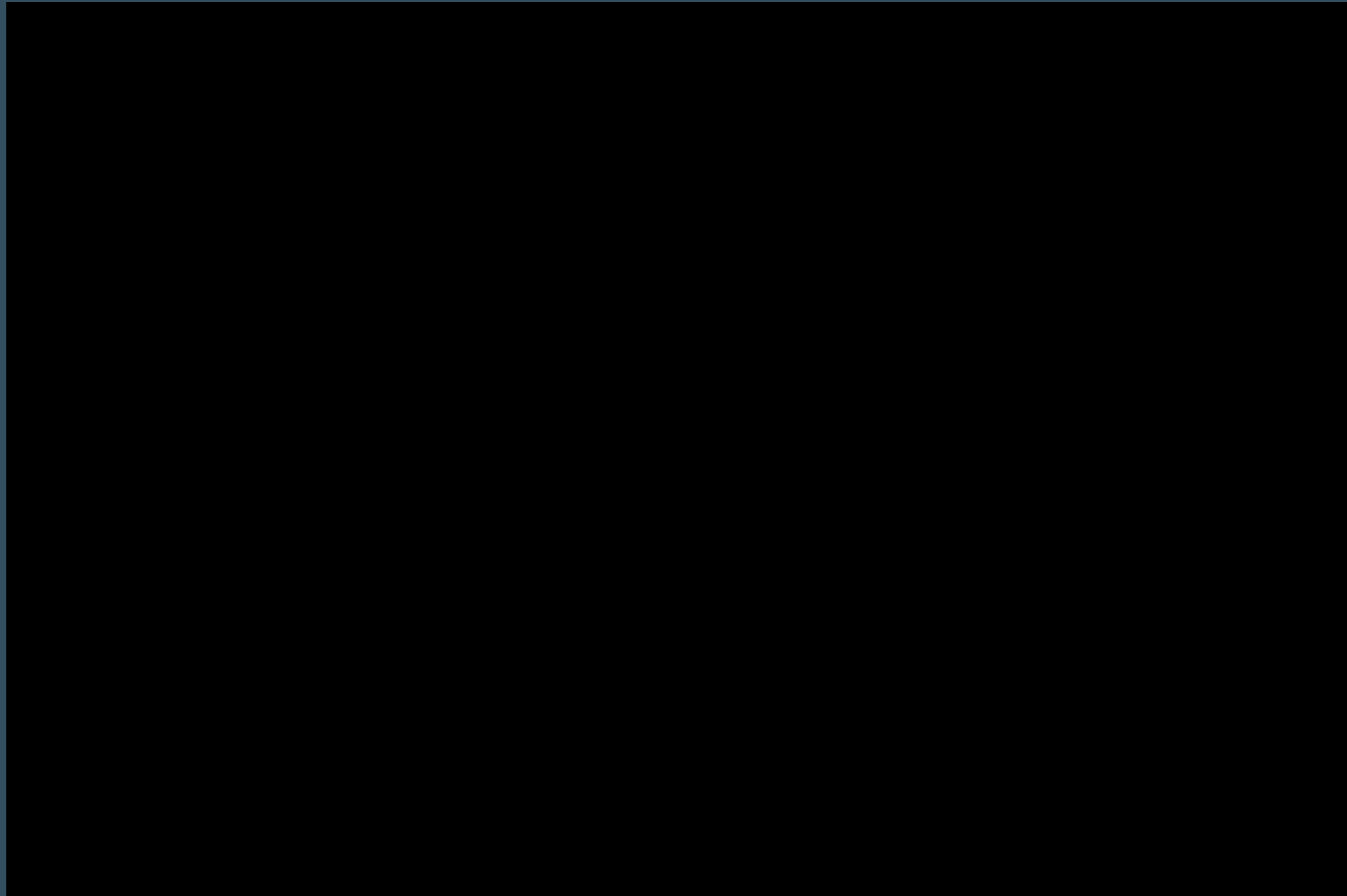
CS24

FRESHMAN SEMINAR FOR CS SCHOLARS

WEEK 7 - COMPUTER GRAPHICS

— WHY STUDY GRAPHICS? —

ENTERTAINMENT

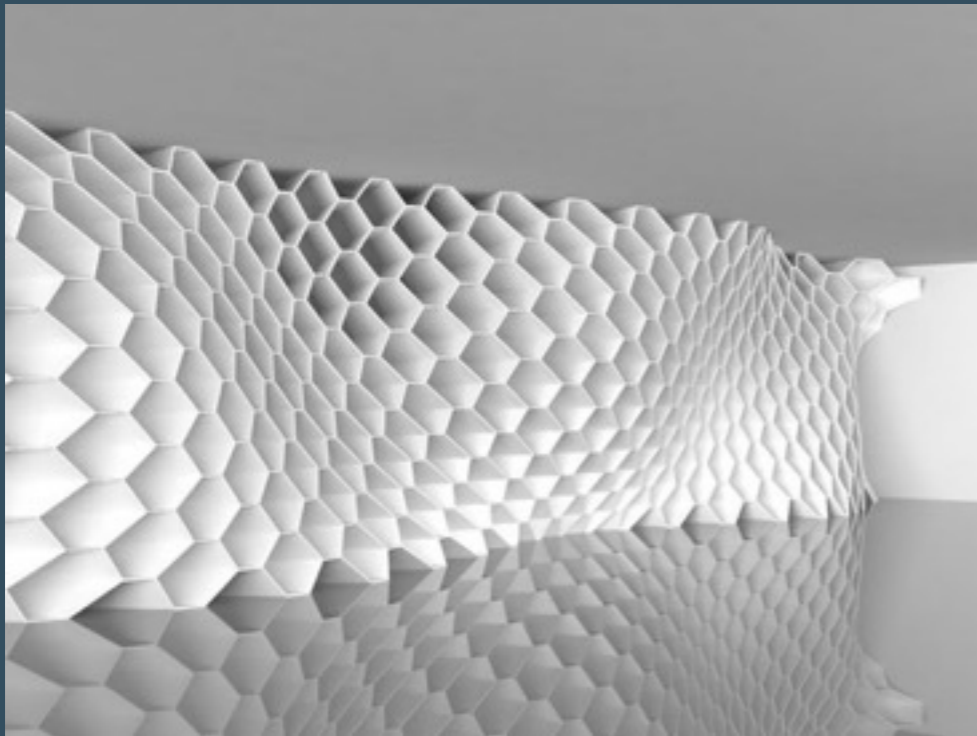


https://www.youtube.com/watch?v=RPhGEiM_6IM

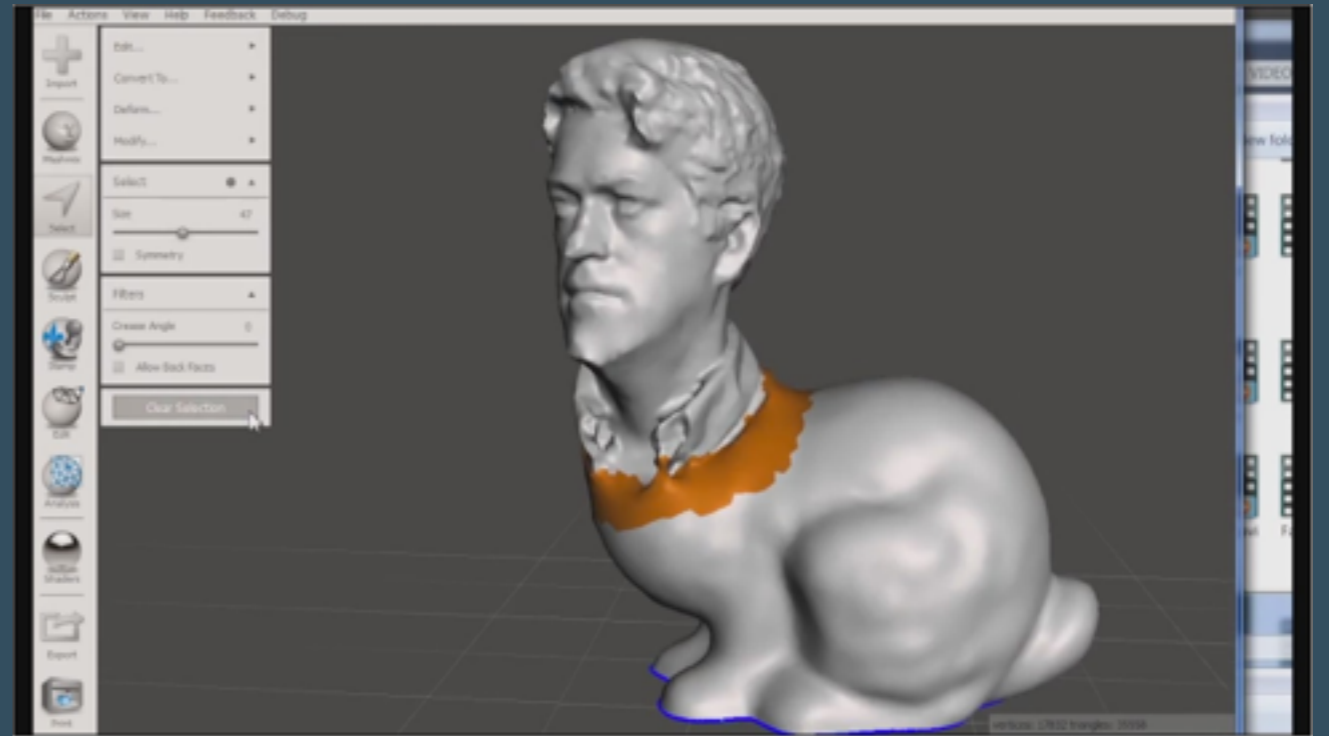
The Campanile Movie, Paul Debevec (1997)

— WHY STUDY GRAPHICS? —

COMPUTER-AIDED DESIGN (CAD)



GRASSHOPPER for RHINO

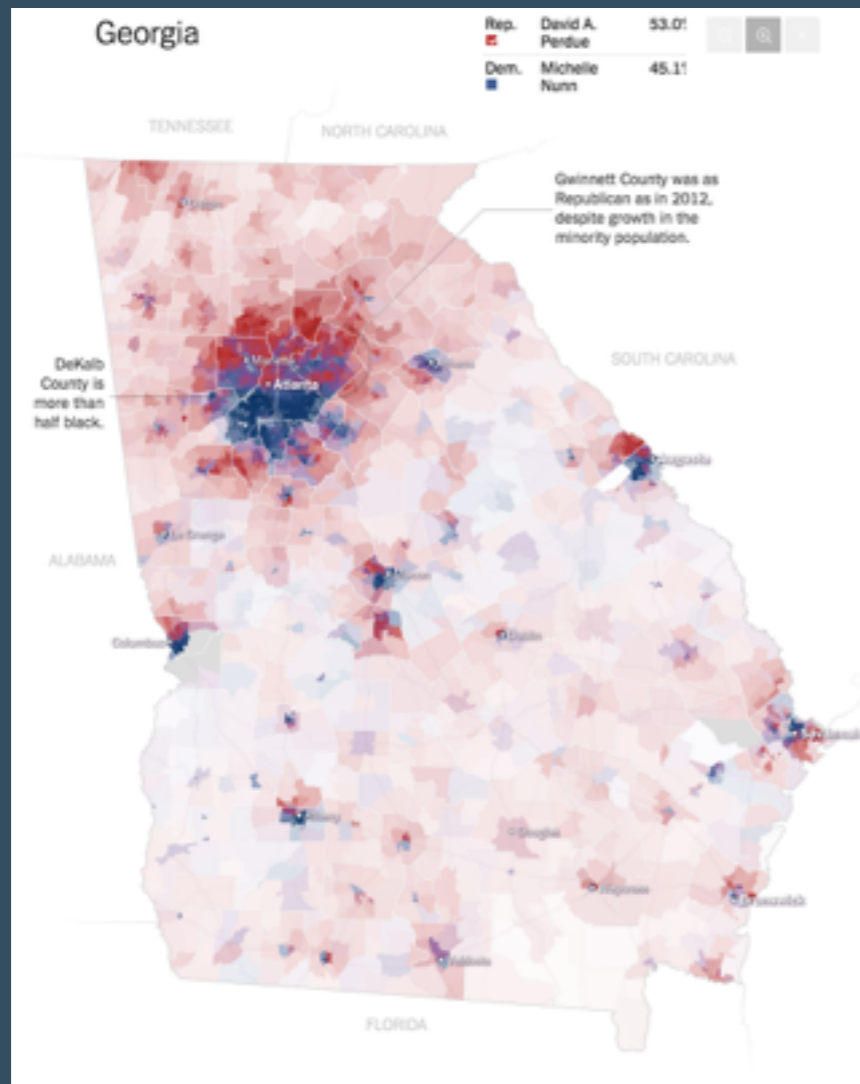


MESHMIXER, AUTODESK

ARCHITECTURE, MECHANICAL, ELECTRONICS, DIY MAKER

WHY STUDY GRAPHICS?

VISUALIZATION - COMMUNICATING SCIENCE, MEDICINE, POLITICS



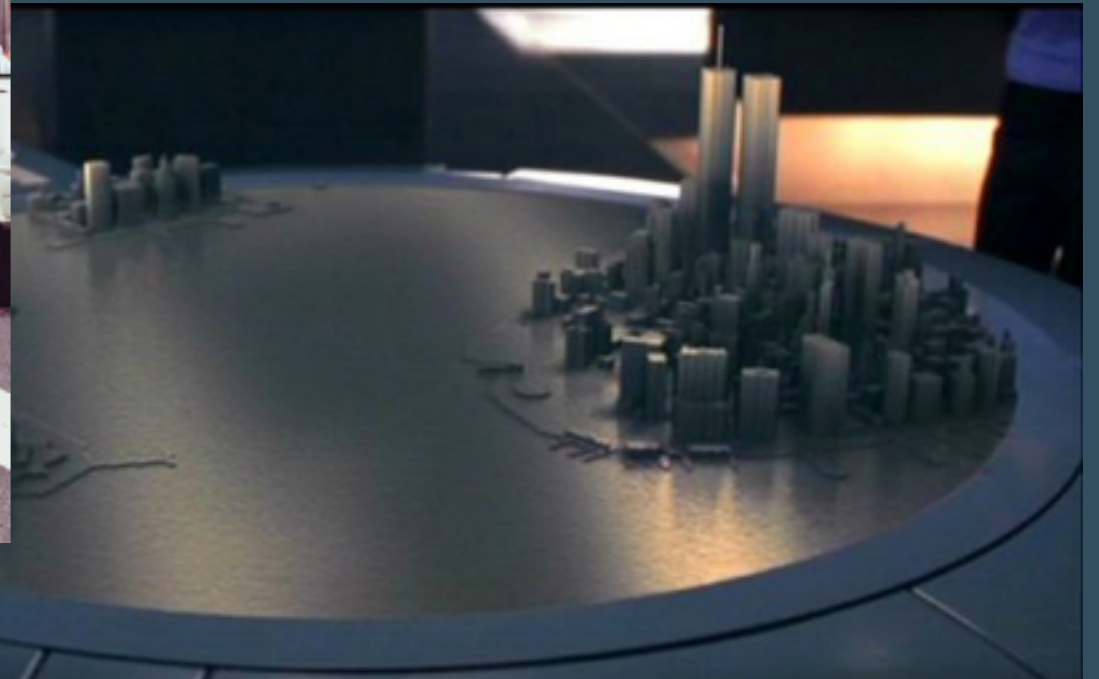
VIRTUAL HUMAN BODY, QA INT.

NYT MIDTERM ELECTIONS

<http://www.nytimes.com/interactive/2014/11/04/upshot/senate-maps.html>

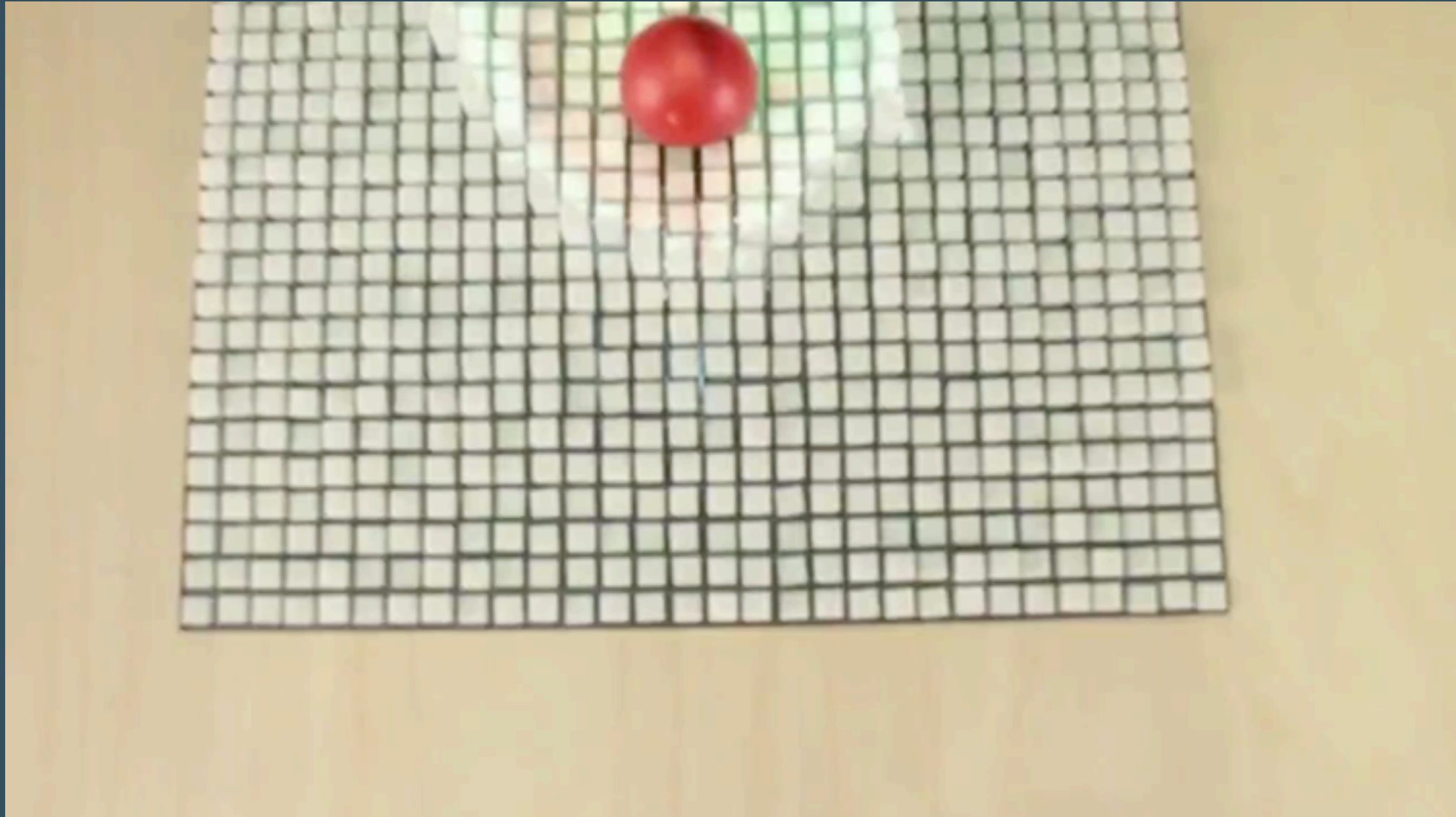
WHY STUDY GRAPHICS?

INTERFACES



— WHY STUDY GRAPHICS? —

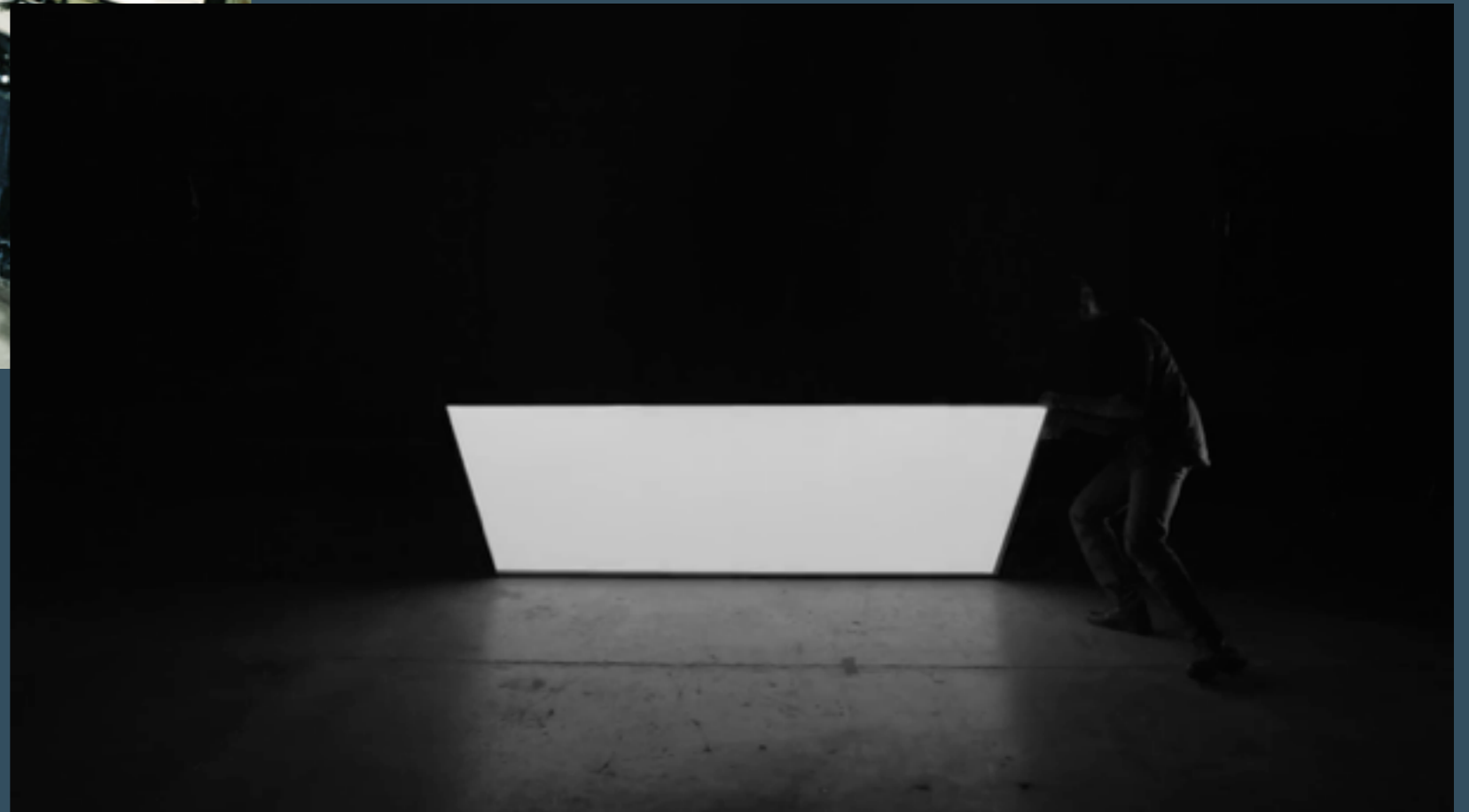
INTERFACES



http://cdn4.twistage.com/twistage-production/d7ac00bff5a2d_6549774.mp4

— WHY STUDY GRAPHICS? —

NEW MEDIA



GETTING STARTED...

SCIENCE AND MATH

PHYSICS OF LIGHT AND COLOR

GEOMETRY & PERSPECTIVE

CURVES AND SURFACES

SOFTWARE AND HARDWARE

THE GPU, SENSORS

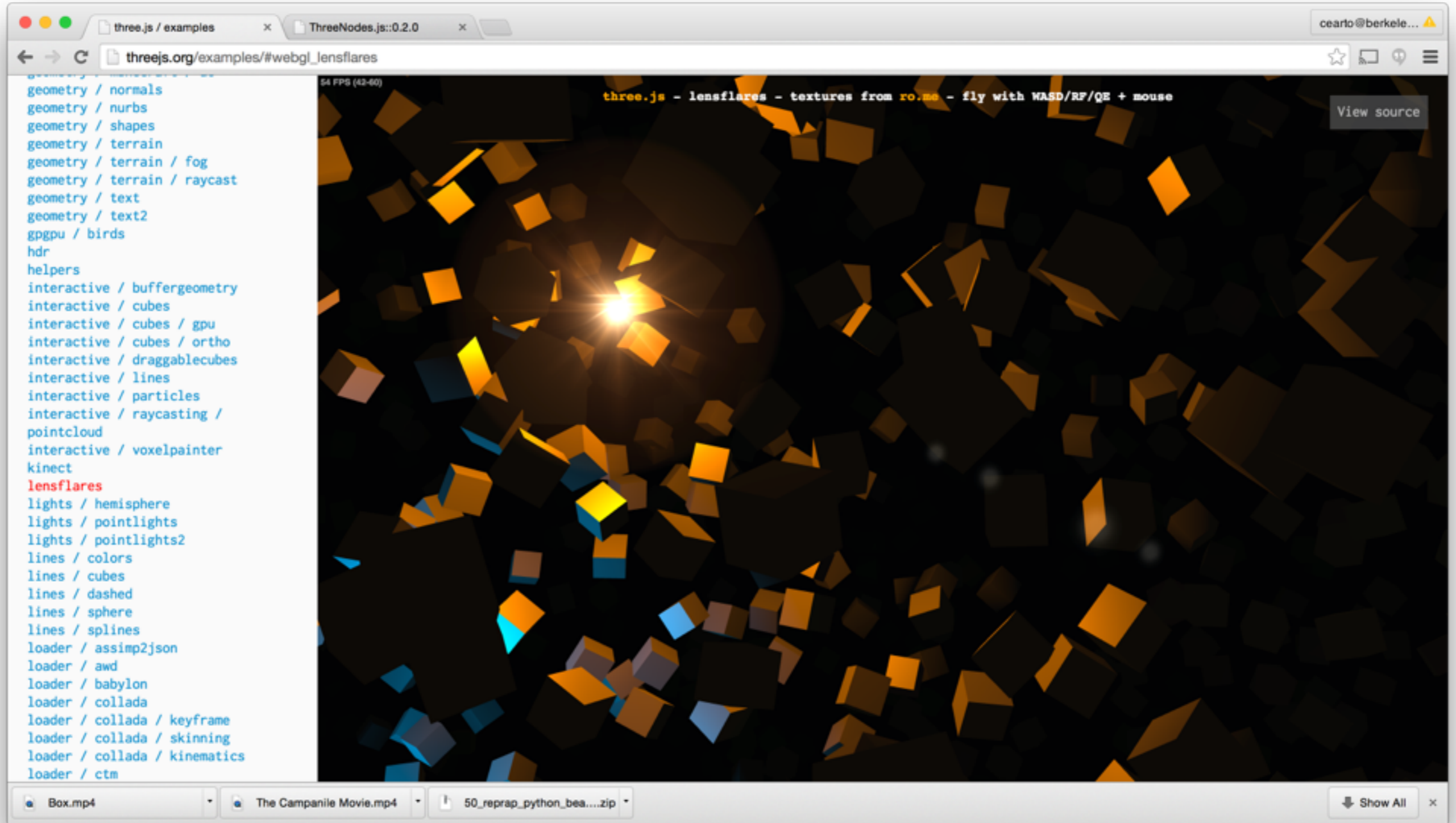
GRAPHICS LIBRARIES (OPENGL), WINDOW SYSTEMS

PERCEPTION & ART

COMPOSITION, SHADING, MOTION

COLOR, FORM, LIGHTING, ANIMATION

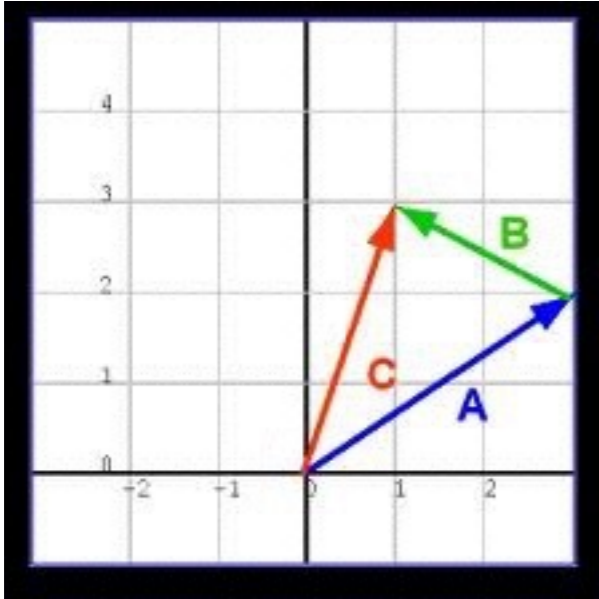
THREE.JS



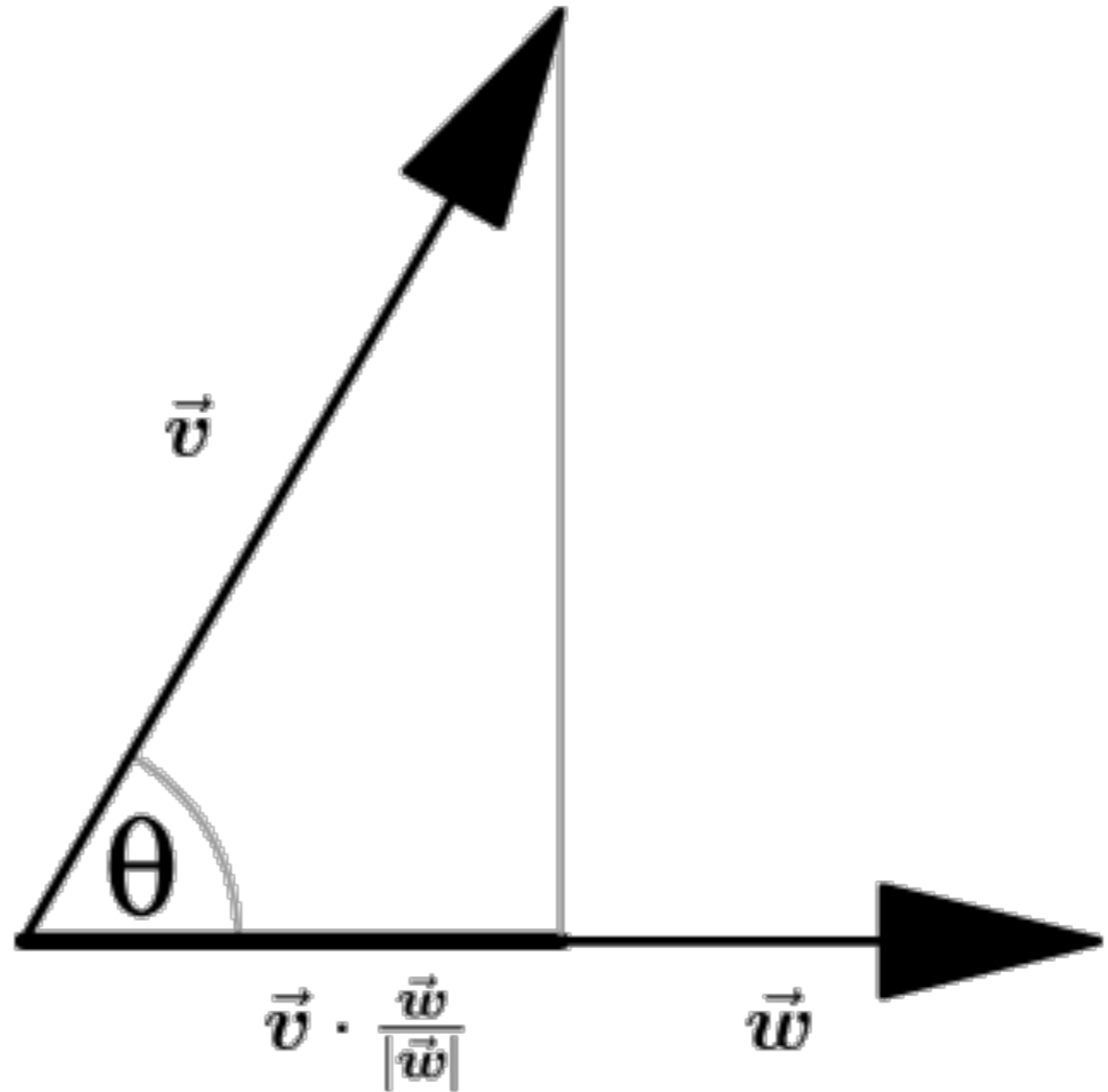
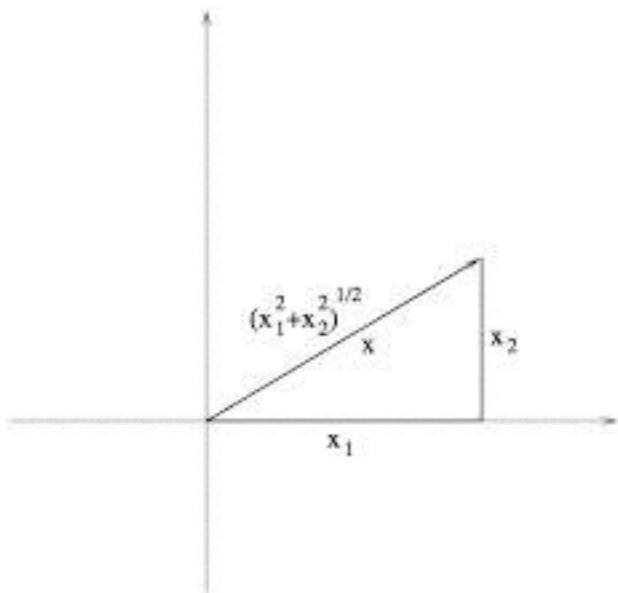
<http://threejs.org/examples/>

THE DOT PRODUCT AND VECTOR PROJECTION

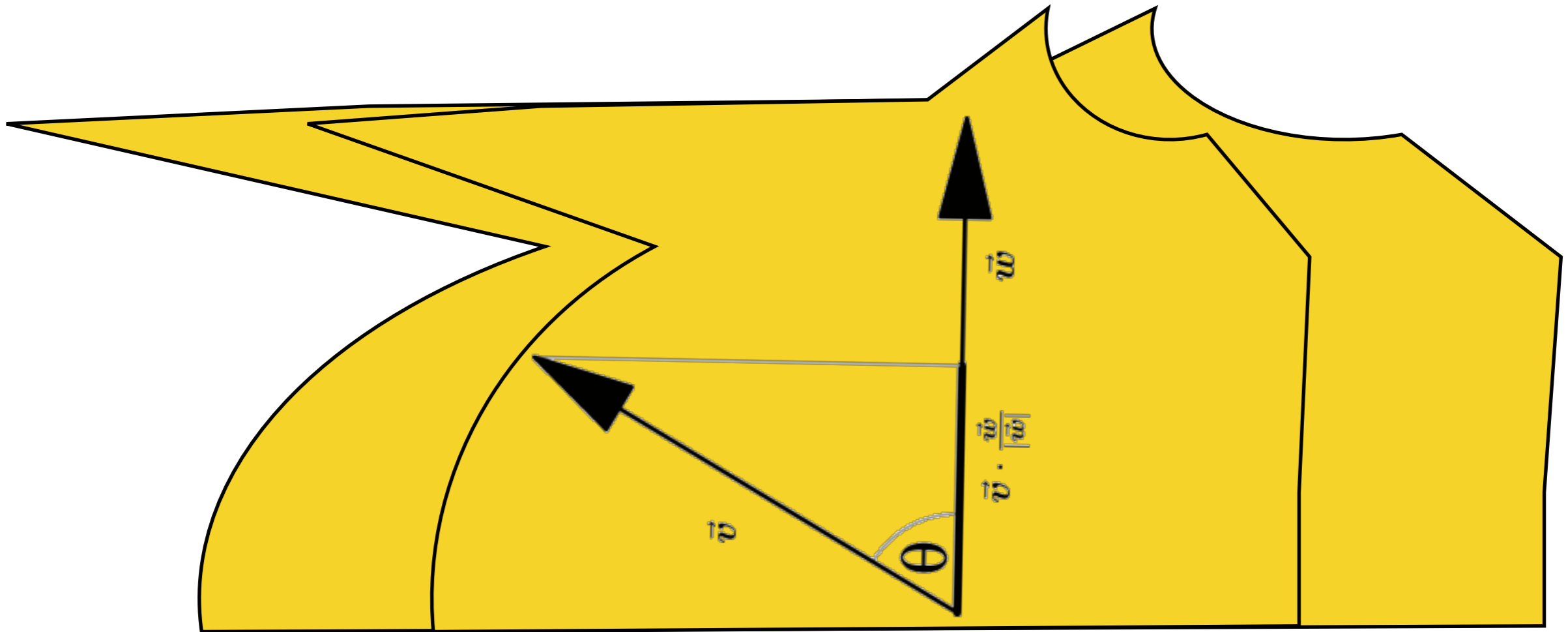
VECTOR ADDITION



NORM OPERATION



MESH DEFORMATION



TODOS

ATTEND A RESEARCH SEMINAR - FREE LUNCH!
WRITEUP IN LATEX - 1 PAGE - PICTURES + DIAGRAMS WELCOME
SUBMIT TO TIME CAPSULE REPO

CATCHUP ON MISSING WORK

QUESTIONS ?

Week 8

SPRING BREAK
