

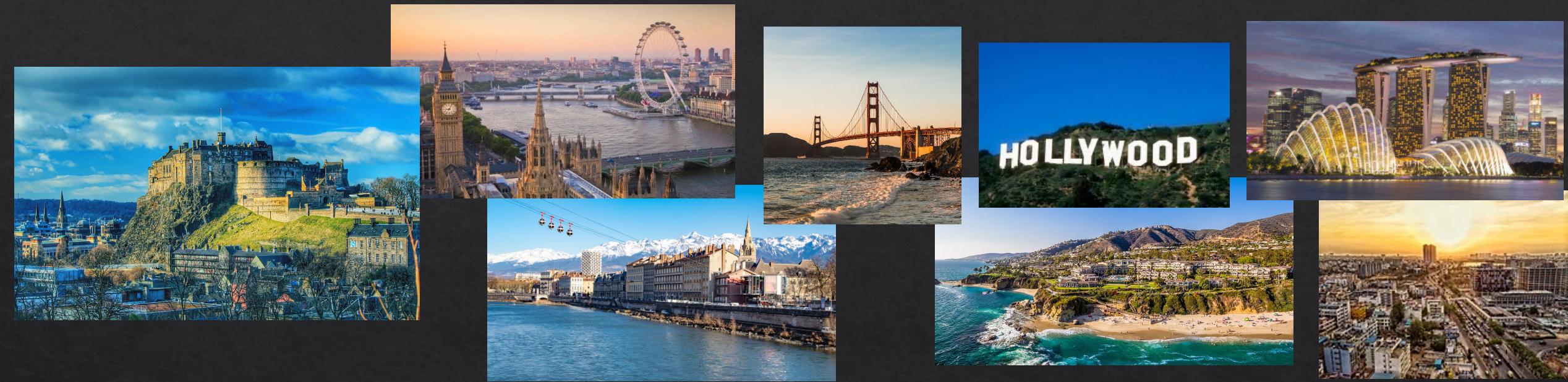
Computer Graphics: Rendering

Autumn 2023

Lecture 1: Introduction and Course Organisation

Kartic Subr

Me: A brief history



Univ. of
Edinburgh

Heriot Watt
Univ.

Univ. College
London

INRIA-Grenoble

Univ. of California
Irvine

Bangalore Univ.

2016

2001



Special Effects



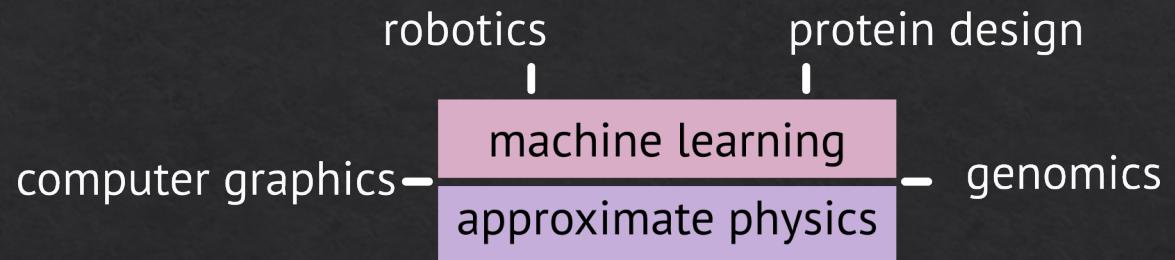
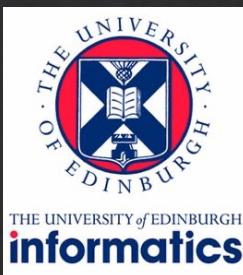
Important Looking Pirates VFX

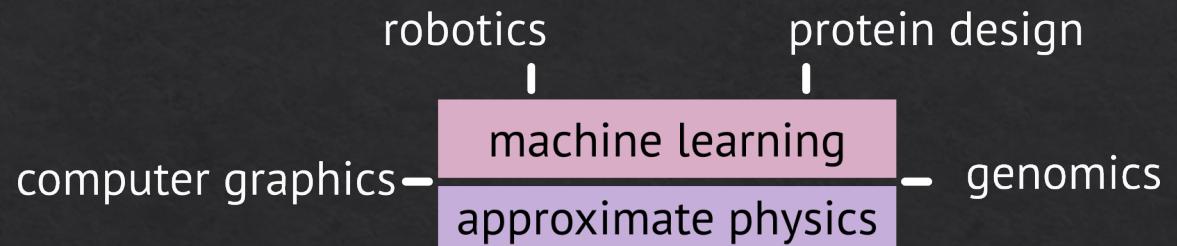
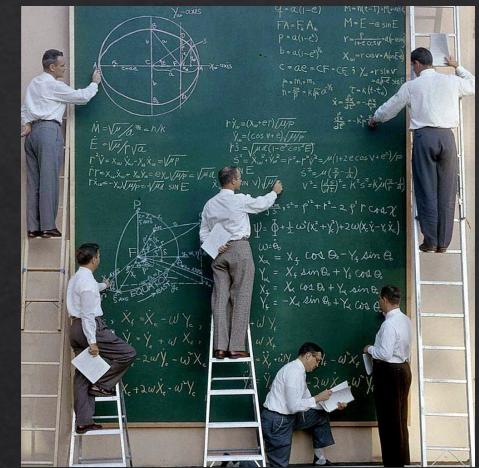
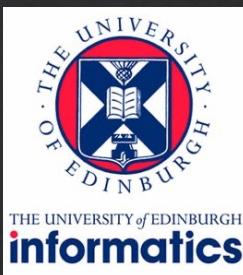
Video Games
(real-time)



Google Stadia tech demo 2019



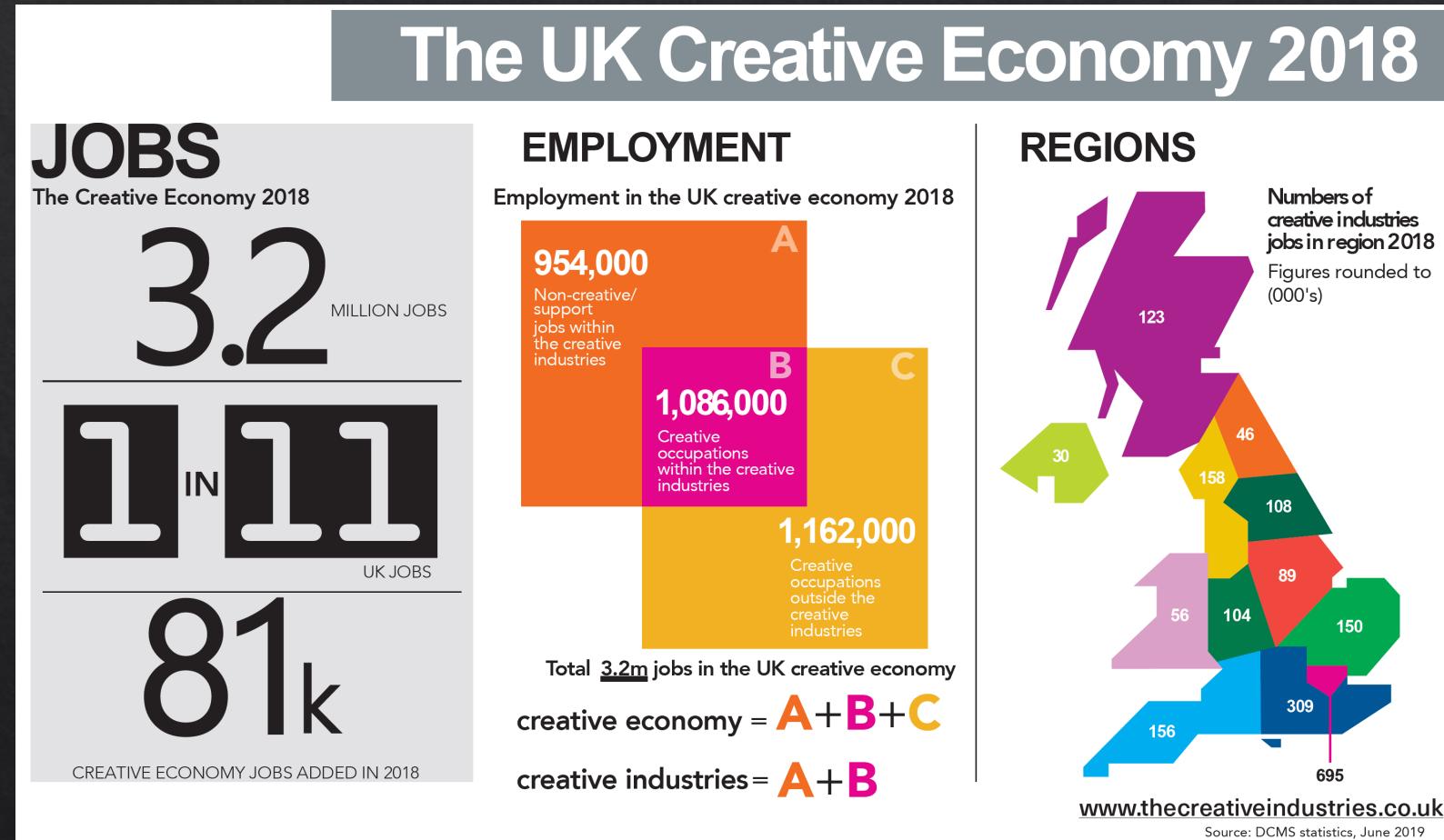




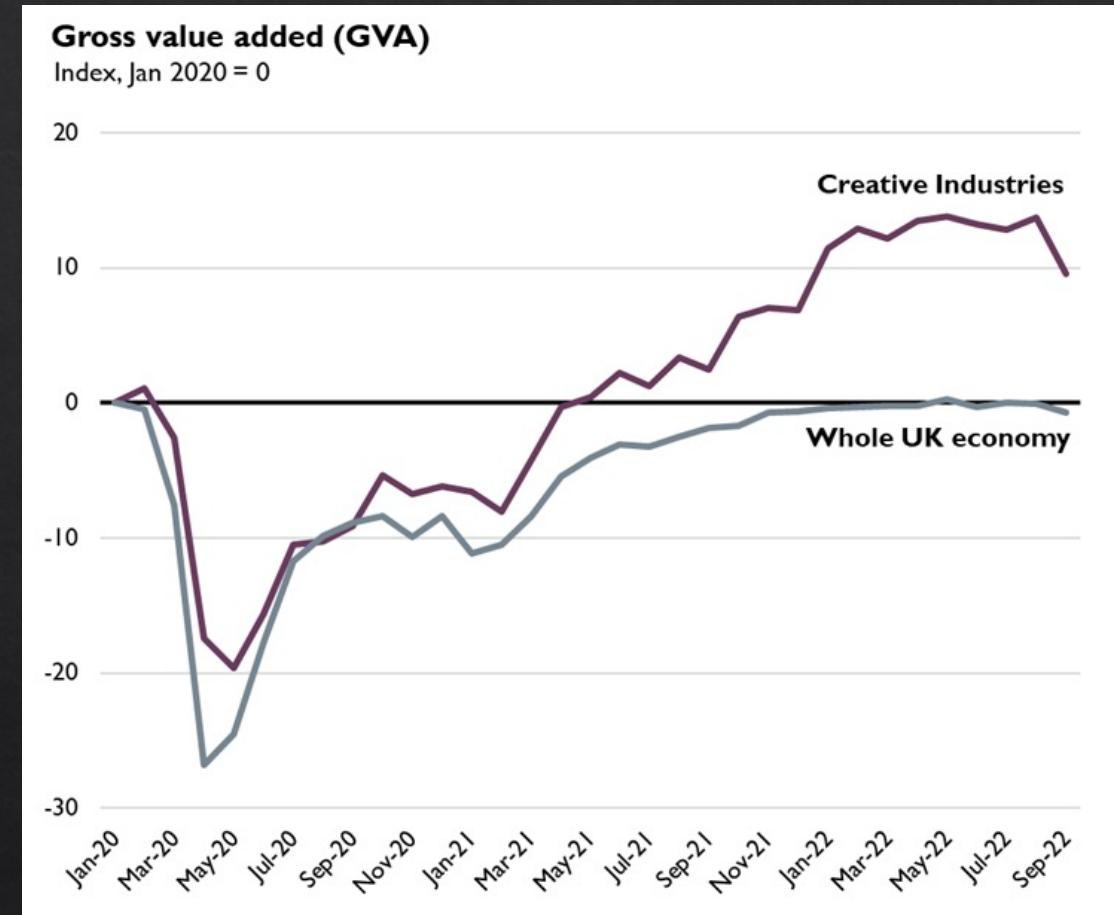
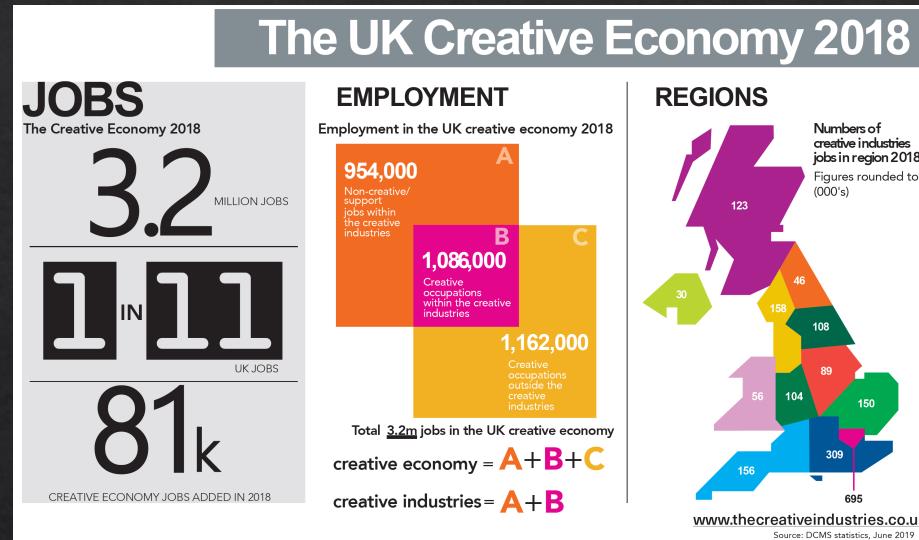


1 Go to wooclap.com
2 Enter the event code in the top banner
PORUFD

CG is central to the creative industries

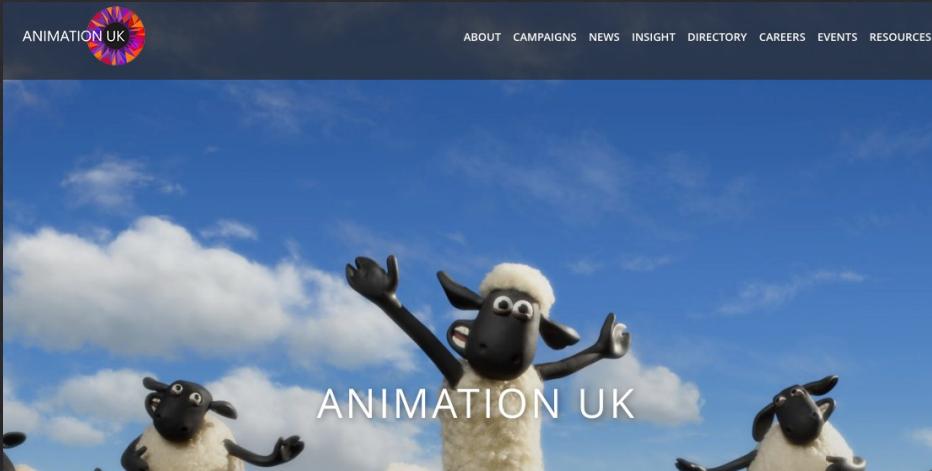


CG is central to the creative industries

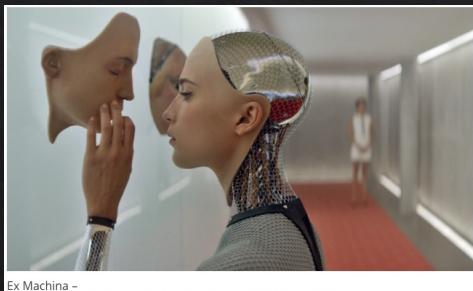


<https://lordslibrary.parliament.uk/arts-and-creative-industries-the-case-for-a-strategy/>

It's all happening here in the UK!



Gravity: VFX by Framestore



Ex Machina – Oscar winning VFX from Double Negative and Milk Visual Effects



Guardians of the Galaxy 2: Marvel – VFX by Framestore



The Crown – Netflix: VFX by One of Us

Simulating photorealistic pictures?

photograph



Colourbox.com

manually painted



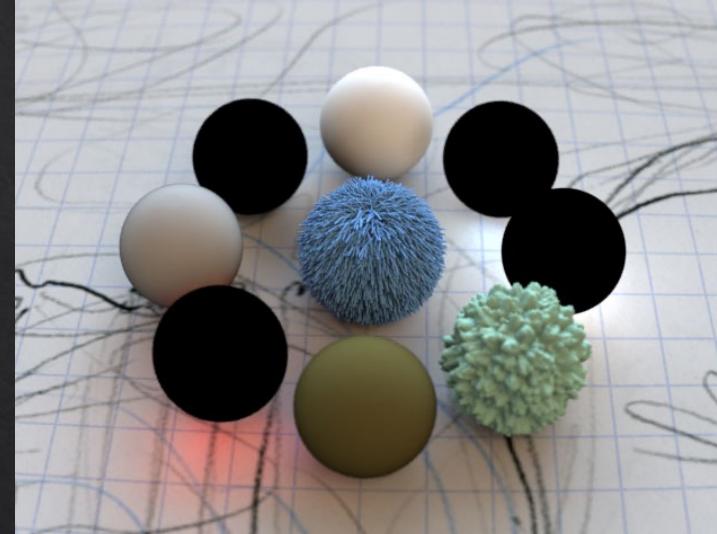
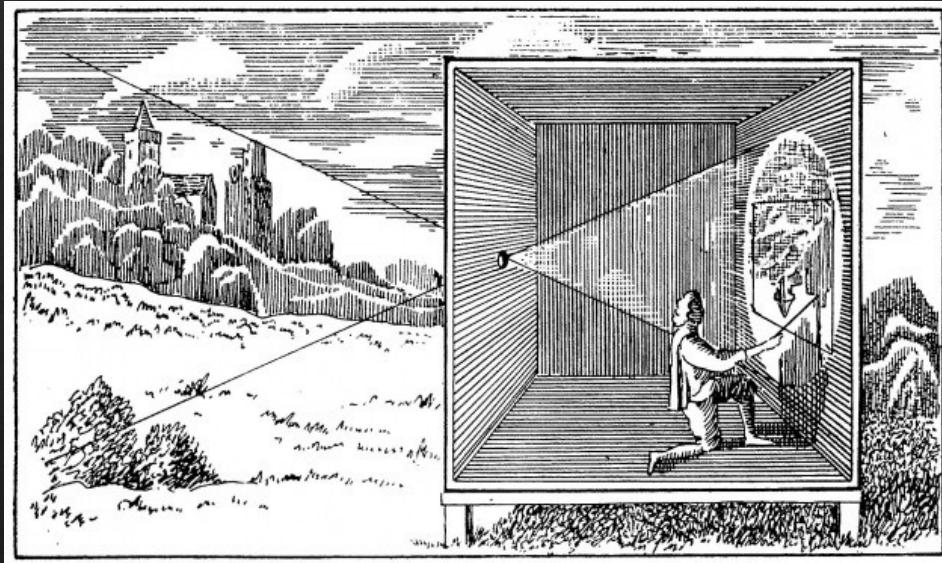
Pedro
Campos

computer generated

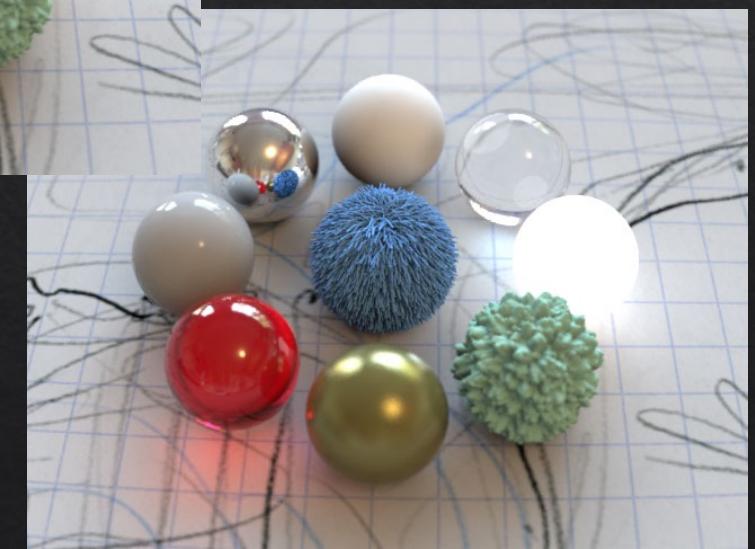


Physically based simulation, at its core!

Projective geometry



Energy
(light transport)



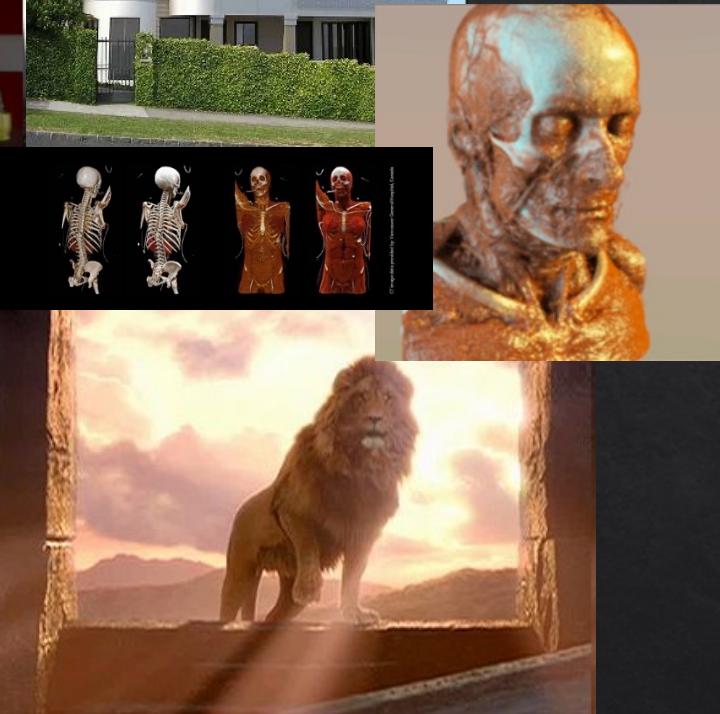
Advertising



Engineering



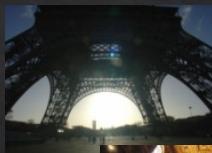
Medicine



Defense

Entertainment

Simulate the physics of light



lenses



defocus



exposure time



materials



light, media

About the course ...

- coursework only (no exam)

- 2 coursework assignments: C1, C2
 - Final mark = C1 + C2

- class split into 3 groups (for tutorials)
 - Tutorials provide guidance towards CW

- GPT!! Get your free account today...

Logistics



LECTURES TUTORIALS COURSWORK RESOURCES SCHEDULE HOME

Computer Graphics: Rendering
School of Informatics Semester 1, Autumn 2023

40 George Sq, LT A (Mon 16:10) 40 George Sq, Lower Teaching Hub (Grp 1,2)
Appleton Tower LT 3 (Thu 13:10) Lister Learning and Teaching Centre (Grp 3)

Contact
Instructor: Kartic Subr TAs: Daniel Bilc, Sean Memery

Lectures
Tutorials: 40 George Sq, LT A (Mon 16:10), 40 George Sq, Lower Teaching Hub (Grp 1,2), Appleton Tower LT 3 (Thu 13:10), Lister Learning and Teaching Centre (Grp 3)

Tutorials

Course guidelines

A course grade is viewed as a serious offence. Please read this guide document.

- Rule 3 of the informatics regulations states that late submission incurs a 10% deduction.
- There is no exam for this course.
- Four assignments will be submitted as coursework (CW) assignments, each worth 100 marks.
- Expect about 1 to 1.5h of independent effort per day towards this course.
- Specifications for coursework 1 will be published in week 2 and due end of week 5. Feedback: Week 6.
- Specifications for coursework 2 will be published in week 6 and due in week 11. Feedback: Week 13.
- 10% of each CW will be assessed via a presentation. In case of exemption, please contact the instructor.

Course website

<https://ksubr.github.io/CGR2023/>

PIAZZO INFR 110212021-25V1SEM1 Q & A Resources Statistics Manage Class

New Post Search or add a post...

PINNED

- Private: Search for Teammates!
- LAST WEEK
- Instr: Welcome to Piazza!
- WEEK 8/8 - 8/14
- Private: Introduce Piazza to your stu...

Welcome to Piazza!

Students,

Welcome to Piazza! We'll be conducting all class-related discussions here. The faster you post, the quicker you'll benefit from the collective knowledge of your classmates. You can even do so anonymously.

-Kartic Subr

edit good note

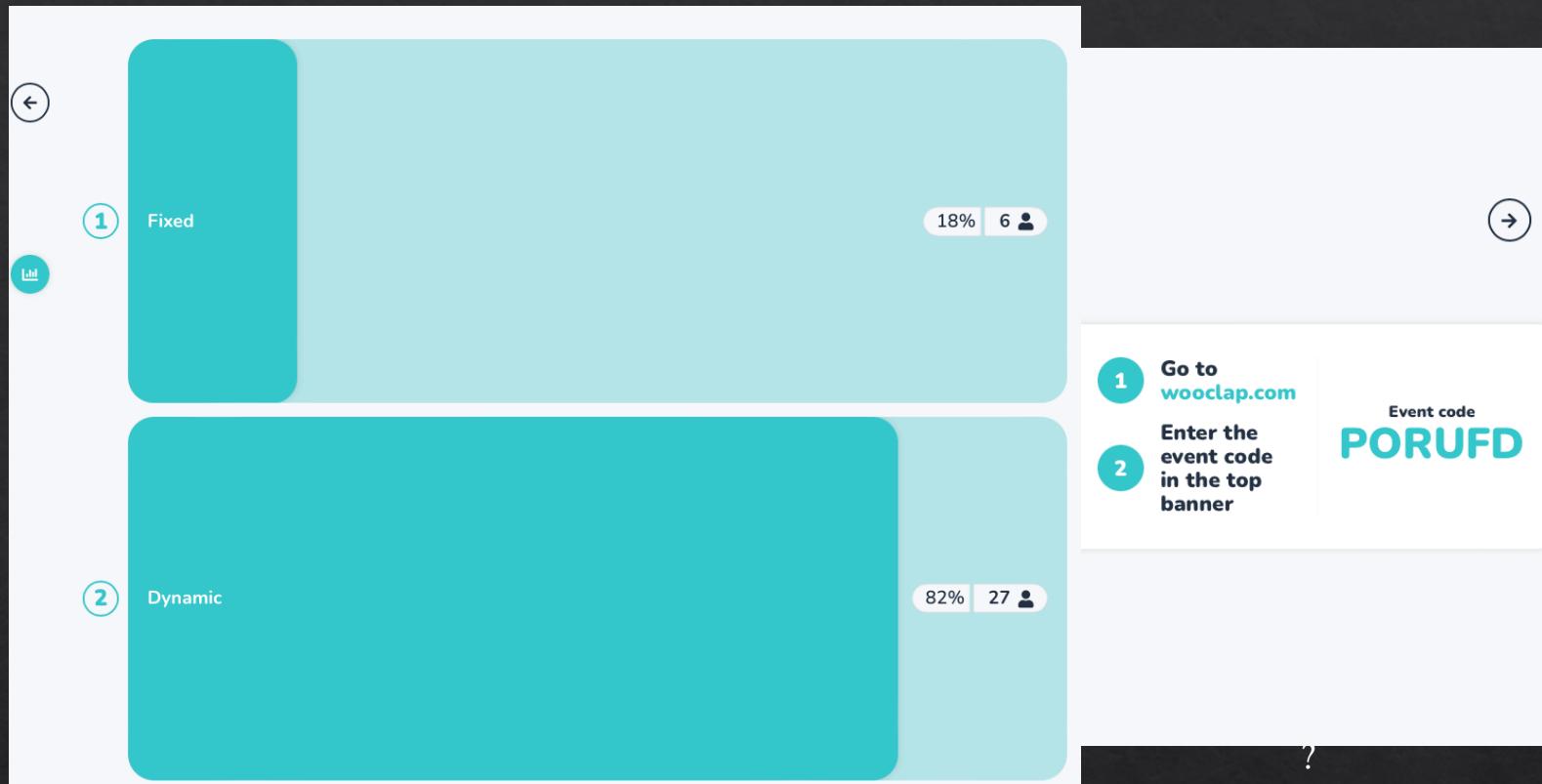
followup discussions for lingering questions and comments

piazza



- CW1: Daniel Bilc
- CW2: Sean Memery





LECTURES TUTORIALS COURSWORK RESOURCES SCHEDULE HOME

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Contact Instructor TAI TA2 Discussion Lectures Tutorials
Kartik Subr Daniel Bile Sean Menary

Course guidelines

Week 1 week 10

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-Kartik Subr

edit good note 0

followup discussions for lingering questions and comments



Course website

<https://ksubr.github.io/CGR2023/>

piazza

CGR

- Theory (28h)
 - 16h lectures
 - 12h reading

- Practice (70h)
 - 4h tutorials
 - 6h creative thinking
 - 30h CW1
 - 30h CW2

Main feedback/criticism previous offering

- CW1 worth too much credit
- CW2: basic ray tracing took too long
- CW2 timing not ideal (other coursework)
- More detailed lecture on coordinate transforms

Comments ...

Reflecting on your experience of hybrid teaching and learning on this course, what has worked well for you?

- **Student GMQa:** I was happy to see in-person lectures (however, there wasn't time for them because of the coursework).
- **Student mxPC:** IN PERSON TEACHING IS FAR BETTER THAN ONLINE/HYBRID TEACHING. There was no hybrid teaching.
- **Student NFUC:** I loved face-to-face teaching for this course. I've been to almost every lecture and if possible I would like to see it in other courses as well. Those lectures that I missed were recorded which was important as well.

Please provide any additional comments you may have about the course, the teaching on the course or the resources that support it in the box below.

- **Student GMQa:** I enjoyed the topics covered in the lectures, it was all interesting and Kartic is a great lecturer, however the 2nd coursework ruined the whole semester for me because of how difficult it was (for 2 weeks straight I was waking up to do CG and going to sleep after doing CG, with just CG in between). The idea of building a raytracer is great but terribly executed, please reconsider it for the next year so that it is possible to complete it while also being able to do other courses!
- **Student mxPC:** Dr Subr is passionate about the subject matter and most importantly - and excellent lecturer & teacher. The TA is also a wonderful.

Top tips

- Try to attend as many lectures as possible in-person
- Work regularly – not just before deadlines
- Use your opportunity to interact with the instructor

[Class at a Glance](#) Updated 0 seconds ago. Reload Go to Live Q&A

6 unread posts	license status	license not needed
5 unanswered questions	95	total posts
7 unanswered followups	369	total contributions
	76	instructors' responses
	18	students' responses
	1 hr	avg. response time

Student Enrollment 52 enrolled out of 40 (estimated) [Edit](#)

Download us in the app store:  

previous offering