



CS3001- CS3606 Advanced Topics in Computer Science and Business Computing



Topic 4 - Mixed Reality Seminar

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Your Voice module survey

**Tell us what you think about the teaching
on your modules this term**



brunel.surveys.evasysplus.co.uk

Recap

Marker-based
Augmented Reality (AR)

**edge detection
algorithms such as
Canny and Sobel**

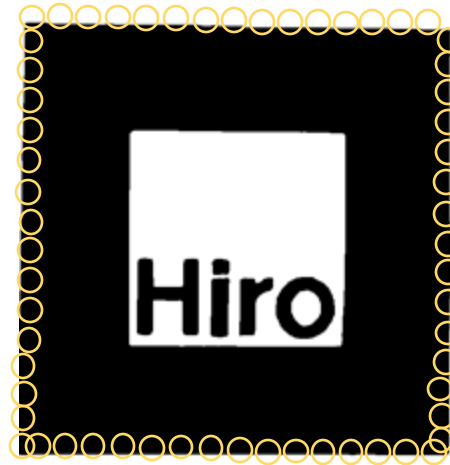
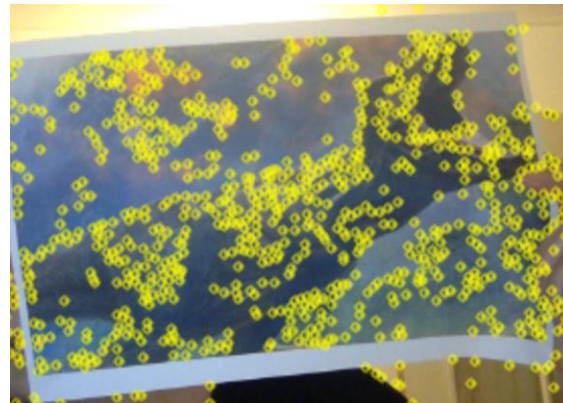


Image-based
Augmented Reality (AR)

**edge and corner
detection algorithms
such as Harris and
Level curve curvature**



Recap

Markerless-based
Augmented Reality (AR)

**feature detection
algorithms such SIFT
and SURF**

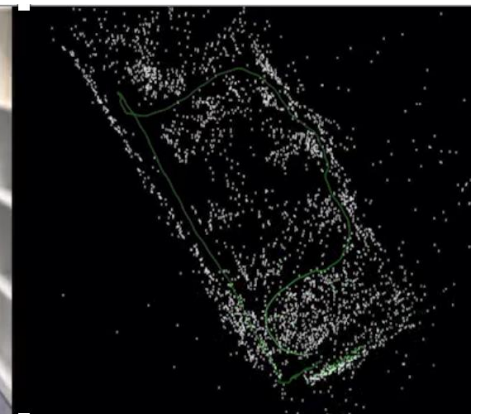


Visual SLAM

Scene understanding

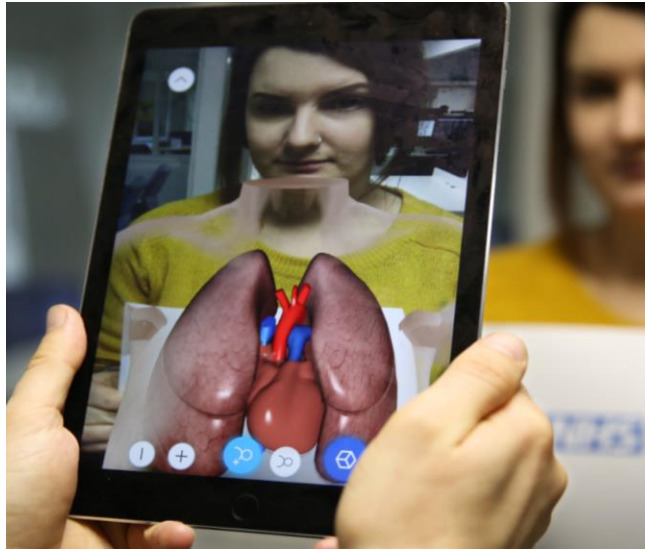
Depth Camera

**feature detection algorithms such
SIFT and SURF**



Recap

Augmented Reality



Handheld device

Depth camera is not needed

Optical tracking

Mixed/Extended Reality



See through-head mounted display

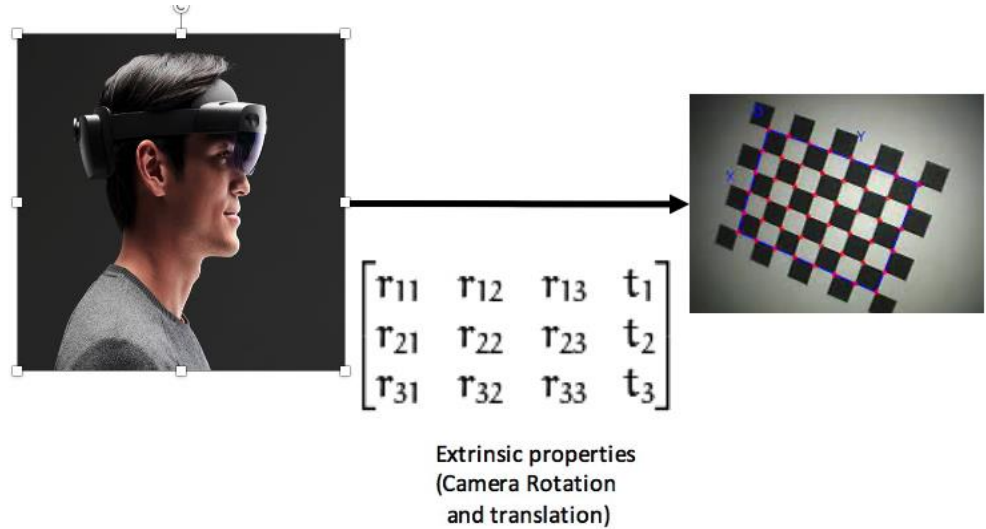
Depth camera is required

Optical tracking

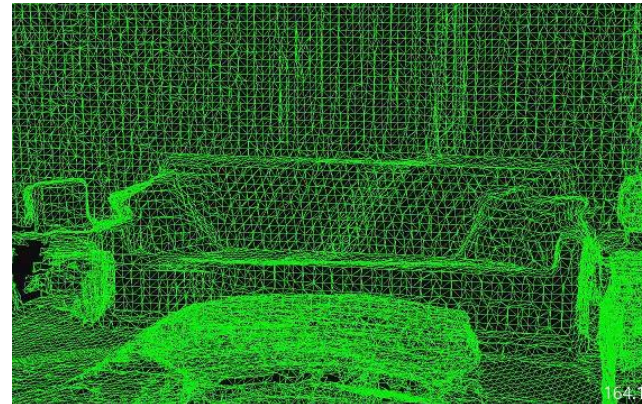
Recap

Mixed/Extended Reality

Cameras/Sensors/Devices
calibration



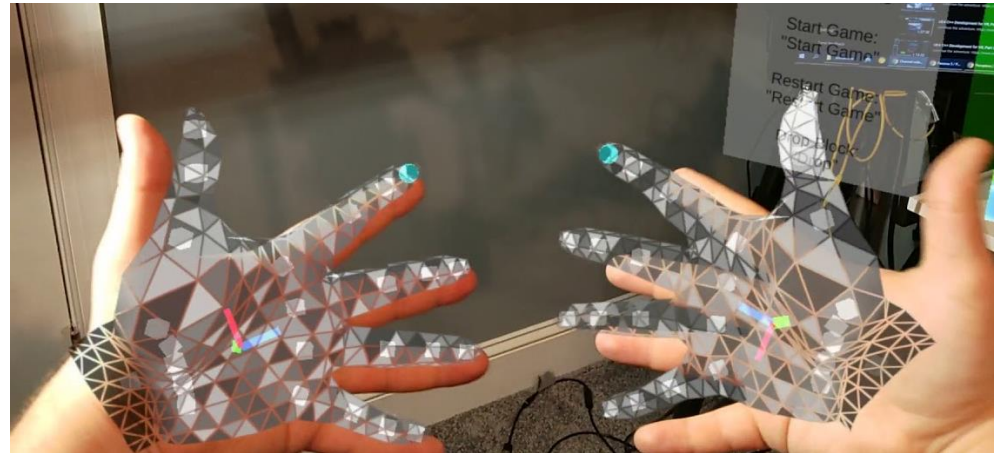
Spatial mapping



Recap

Mixed/Extended Reality

Mapping recognition



Interaction models



Recap

Mixed/Extended Reality

Rendering



Recap

Mixed/Extended Reality



Real-time performance

> 60 fps



interactive rate performance

Around 30 fps

Quiz

<https://pollev.com/nadineaburum700>



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Questions

Office hours: Monday 2:30 p.m. - 3:30 p.m.

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Book an appointment:

<https://nadineaburumman.youcanbook.me/>