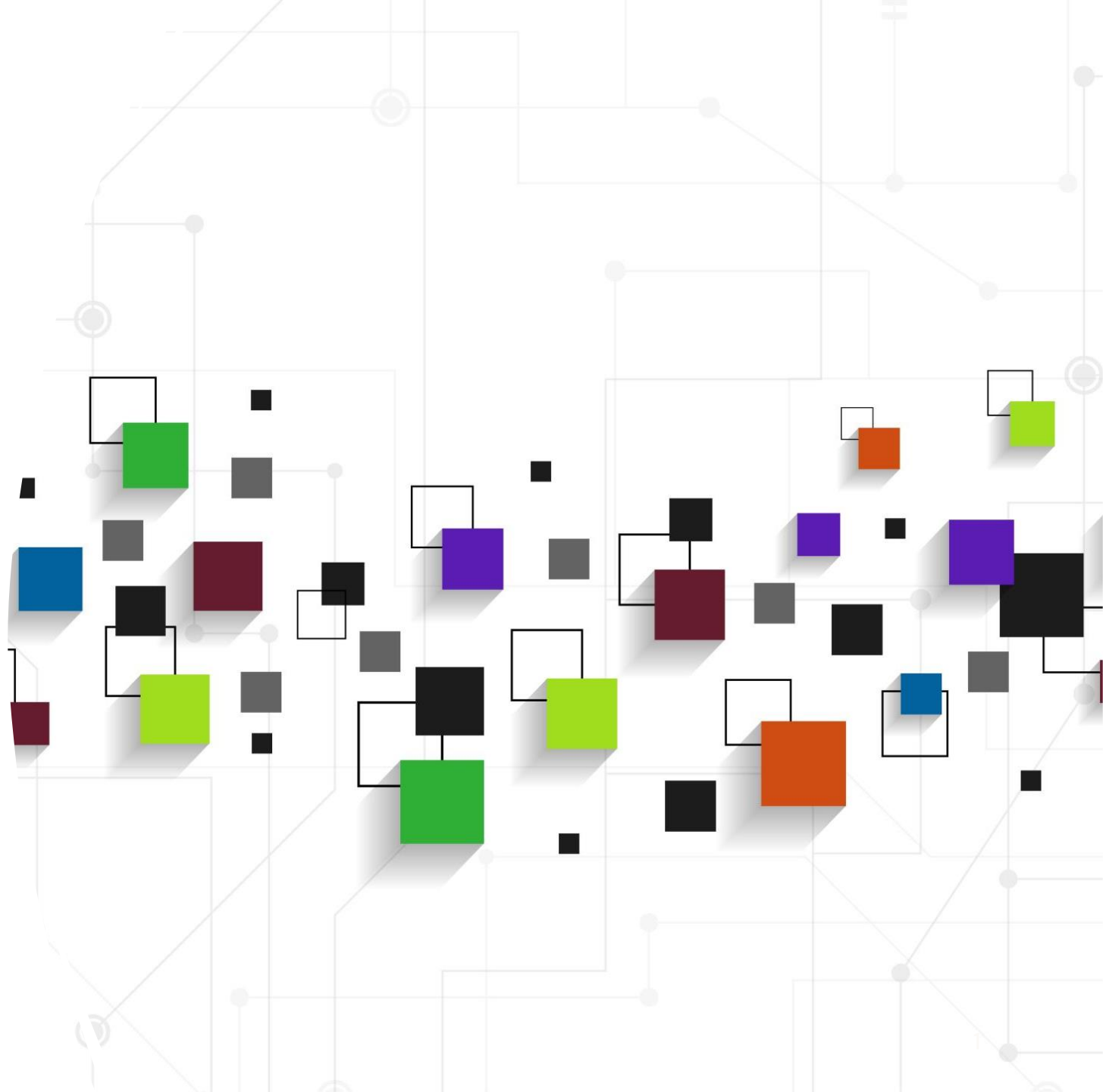


증강현실

(2023. 9. 27.)

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AR Applications



Possible Use Cases

- ✓ Entertainment and Gaming
- ✓ Education and Training
- ✓ Sales and Marketing
- ✓ Healthcare and Medicine
- ✓ Architecture and Design
- ✓ Manufacturing and Maintenance
- ✓ Navigation and Wayfinding

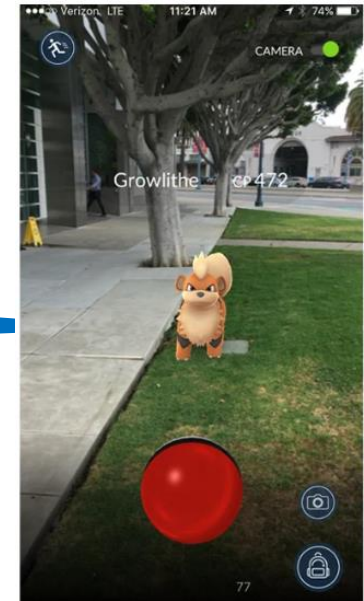
Entertainment and Gaming

✓ Immersive gaming experiences

- Explore how AR games like Pokémon Go and Minecraft Earth offer interactive and immersive gameplay in the real world

✓ Location-based AR

- Discuss the rise of location-based AR experiences, turning cities and landmarks into gaming arenas



Rock-em Sock-em: Shared AR Demo



Rock 'Em Sock 'Em Robots Test Mobile AR App (10. 6. 30) <https://www.youtube.com/watch?v=hXtq1qBMLlw>

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Pokémon Go: Immersive & Location-based Game



<https://youtu.be/2sj2iQyBTQs?si=rh65xpnDmUsv24ru> (3:05)

Minecraft Earth: Immersive & Location-based Game



https://youtu.be/dYKxBKj29dl?si=0a8lnOE1tsxD_hYn (2019, 1:27)

Drawings in AR with Just a Line



https://youtu.be/M5zxNMAQVR0?si=eYZiZF6IINZOF_R4 (2018, 0:50)

wallARy



<https://youtu.be/N5A8DoJ0oxw?si=jQdGOHjVswmq5CRe> (2018, 0:30)

Interactive Museum Experiences

✓BlackMagic

- Virtual America's Cup
- 410,000 people in 6 months

✓MagicPlanet

- TeManawa science museum
- Virtual Astronomy
- Collaborative AR experience

✓AR Volcano

- Interactive AR kiosk
- Scienceworks museum,
Melbourne

Education and Training

✓Interactive learning

- Showcase how AR enhances educational experiences by visualizing complex concepts and historical events

✓Skills training

- Explore how AR-based simulations improve training in industries like aviation, medicine, and engineering

Haunted Book/AR Book



[Haunted book \(11. 1. 31.\) https://www.youtube.com/watch?v=XbsfamN78Tc](https://www.youtube.com/watch?v=XbsfamN78Tc)

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Storybook AR



<https://youtu.be/qVU-1gKNpb4?si=Gdw8fuSlnOI05VgF> (2020, 1:05)

Machinery AR Training



<https://youtu.be/MeYj-xScvko?si=tvSMhgb6azdhjCkR> (2019, 1:18)

Sales and Marketing

- ✓ Connect with brands and branded objects
- ✓ Virtual Try-On
 - Discuss how AR enables virtual try-ons of clothing, accessories, and cosmetics, enhancing the online shopping experience
- ✓ AR Shopping
 - Explore AR-powered shopping apps that allow users to place virtual furniture and décor in their living spaces before purchase

Pepsi AR Experience (2014)



Pepsi Max's Bus Shelter commercial explained (34.4.52) <https://youtu.be/V5bC4hnRPkg>
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HBR AR Experience



HBR AR Experience by PTC (17. 10. 25.) <https://www.youtube.com/watch?v=wwmmgAw8ZAE>

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Snapchat's AR Mirror



<https://youtu.be/cloBztUJEGQ?si=twrWCp3UfC5XHINP> (2023, 2:59)

IKEA Place



https://youtu.be/vMBTlypMgz8?si=9NiXS_gPaJ2DwOSs (2020, 1:19)

Healthcare and Medicine

✓Surgical Visualization

- Illustrate how AR assists surgeons by providing real-time patient data and navigation during procedures

✓Rehabilitation and Therapy

- Discuss how AR is used in physical therapy to provide interactive exercises and monitor progress

Medical AR Trials



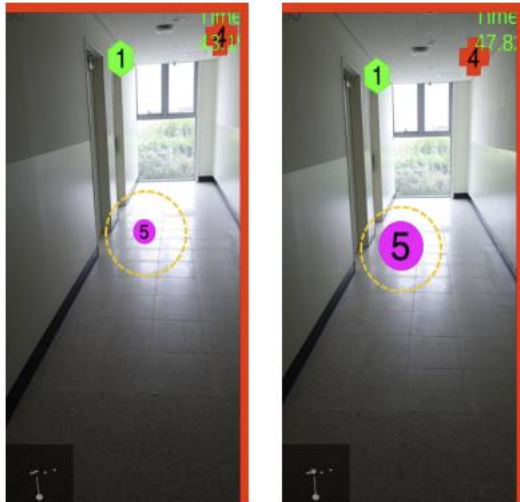
IRCAD-IHU AR using Microsoft Hololens (17. 1. 5.) <https://www.youtube.com/watch?v=kFQulgeYh7w>
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Augmented Reality Spine Surgery



https://youtu.be/_D6TKYD5v-Y?si=h7A42kTloQUGWCKK (2022, 1:00)

Improving Old Adult's Working Memory



Made with
unity

Architecture and Design

✓Architectural Visualization

- Explore how AR helps architects and clients visualize building designs and assess real-world placement

✓Interior Design

- Showcase how AR enables users to virtually decorate and furnish their homes

Design Railway Station



https://youtu.be/sliY2z4EB_M?si=KwYl03eHREQiqk6U (2023, 1:24)

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Construction Inspection



https://youtu.be/8lY4qaVvR8c?si=IL66RUEXamkAQ_Da (2017, 2:18)

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CityViewAR



CityViewAR – See Christchurch as It Was Before The Earthquake! (12. 5. 28.) <https://www.youtube.com/watch?v=fdgrXxJx4SE>
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Manufacturing and Maintenance

✓Maintenance and Assembly

- Explain how AR guides technicians through complex assembly tasks and aids in equipment maintenance

✓Remote Assistance

- Discuss AR's role in remote support, connecting experts with onsite personnel through AR visualization

Charge Controller Assembly



<https://youtu.be/Olosv8RCsi4?si=OlsCY7Fu0117HYPA> (2021, 4:35)

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Scope AR Maintenance



US Airforce Maintenance



<https://youtu.be/CxoczR8-mwU> (2020. 8)

Collaboration

✓Use MR technology for remote collaboration

- See through another's eyes, virtual avatars

✓Microsoft Remote Assist

- HoloLens see-through display
- Remote video sharing
- AR drawing/annotation
- Document sharing
- Group calling

Porsche Techs



[Porsche Techs Use AR Glasses To Repair Cars \(18. 5. 29.\) https://www.youtube.com/watch?v=NSfzsw4eCXI](https://www.youtube.com/watch?v=NSfzsw4eCXI)

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Productivity

- ✓ AR for busy hands tasks
- ✓ Warehouse picking (DHL, SAP)
 - Smart glasses show pick location
 - Simple user interface
 - Hands-free interaction
 - Improved performance

Warehouse



Improved Performance Time



Navigation and Wayfinding

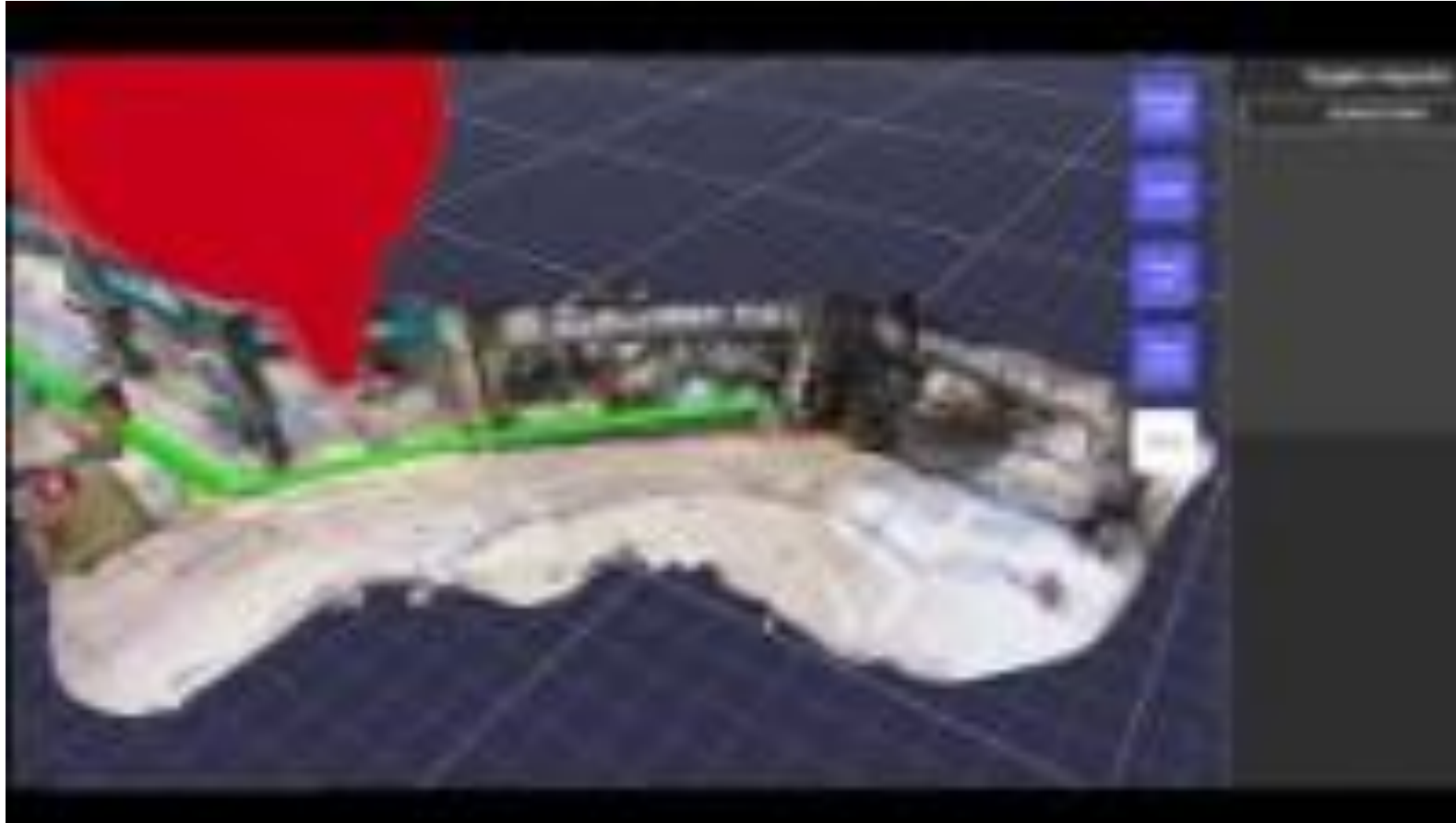
✓AR Navigation

- Explore AR-based navigation apps that overlay directions and points of interest on the real-world environment

✓Indoor Navigation

- Discuss how AR is used for indoor wayfinding in large public spaces like airports and shopping malls

AR Navigation



<https://youtu.be/8v2Sue5oJ8c?si=gF2YWv-sDLYBe-J5> (2022, 1:32)

Holoportation



Holoportation: virtual 3D teleportation in real-time (16. 3. 25.) <https://www.youtube.com/watch?v=7d59O6cfaM0>

Envisics AR-HUD Car Demo



<https://youtu.be/gqOYPMjWkes?si=zpf16msgr4mtr79t> (2021, 1:45)

10 Use Cases



https://youtu.be/WxzcD04rwc8?si=b_1QY3KDfJoG9mj (2021, 7:16)

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Challenges and Considerations

✓User Experience

- Address challenges related to user interfaces, comfort, and ensuring AR experiences are intuitive and engaging

✓Privacy and Ethical Concerns

- Discuss the need to handle data privacy and ethical considerations, especially in AR applications involving personal information

Future of AR Applications

✓ Advancements in AR Hardware

- Explore the potential impact of AR glasses and wearables on expanding AR applications

✓ AI and AR integration

- Discuss how the integration of artificial intelligence will enhance AR experiences with context-awareness and real-time adaptation

Recap of Key Points

- ✓ AR applications span across entertainment, education, retail, healthcare, architecture, manufacturing, and more
- ✓ AR technology has the potential to revolutionize industries, improve user experiences, and enrich everyday life
- ✓ Challenges and ethical considerations require thoughtful approaches for sustainable AR development

Q/A

