



TAKING TELEVISION VIEWING TO A NEW DIMENSION

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Wayne Rooney

1

Manchester United vs. Manchester City



Wayne Rooney

2

Manchester United vs. Manchester City

For entertainment

Mobile gaming



Interactive gaming



Home entertainment



Imaging



Classical Imaging

Imaging



Multiview Imaging

Free-Viewpoint TV



User



Free-Viewpoint TV



User



Free-Viewpoint TV



User



Free-Viewpoint TV



User



Free-Viewpoint TV



User

Virtual View



Displays

Stereoscopic display

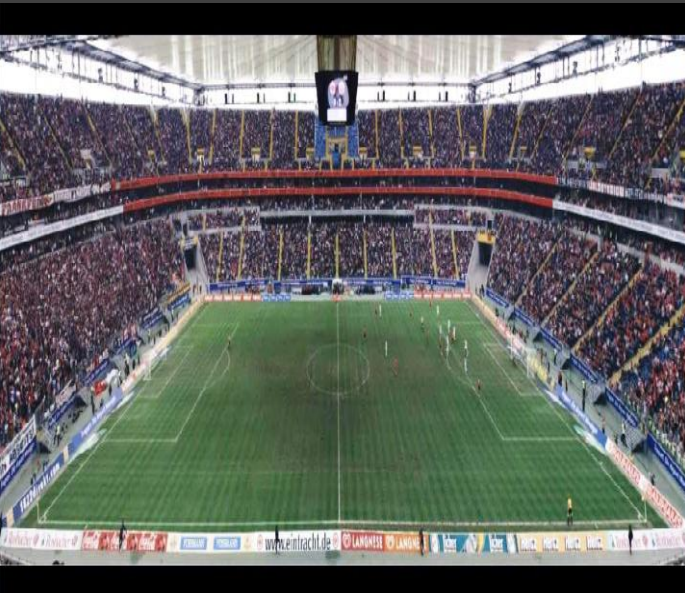


Auto-stereoscopic display



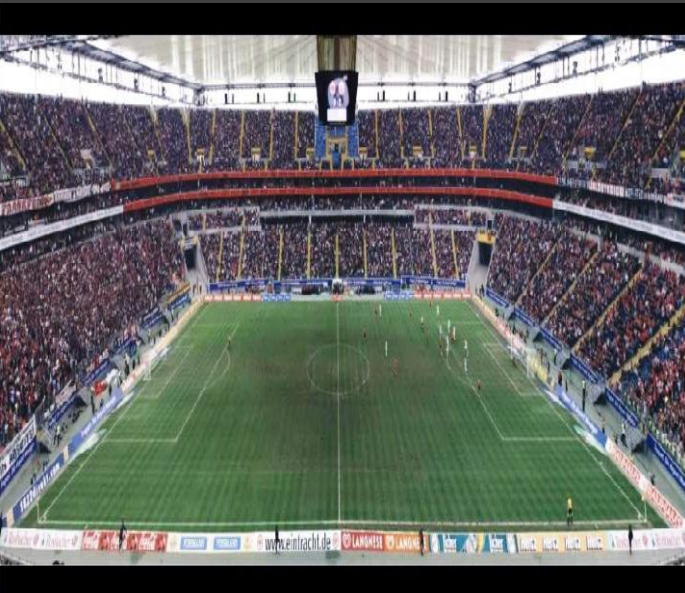
Upcoming new display technologies

Planar multiview display



Upcoming new display technologies

Planar multiview display

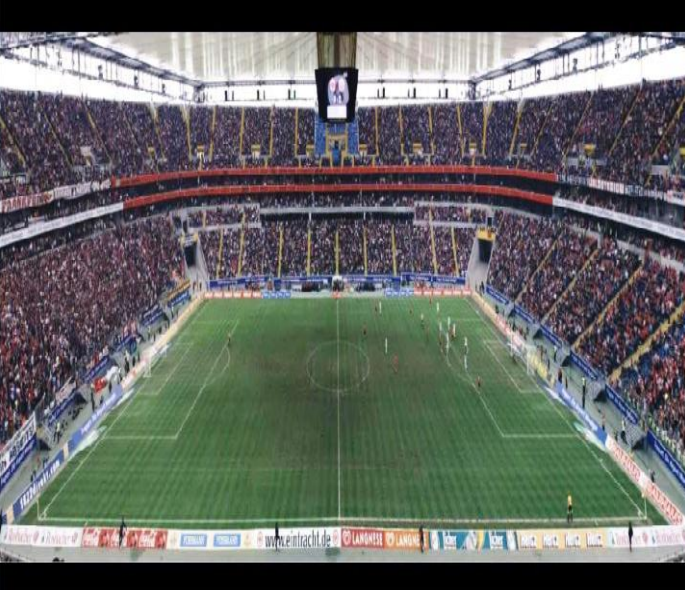


Holographic display



Upcoming new display technologies

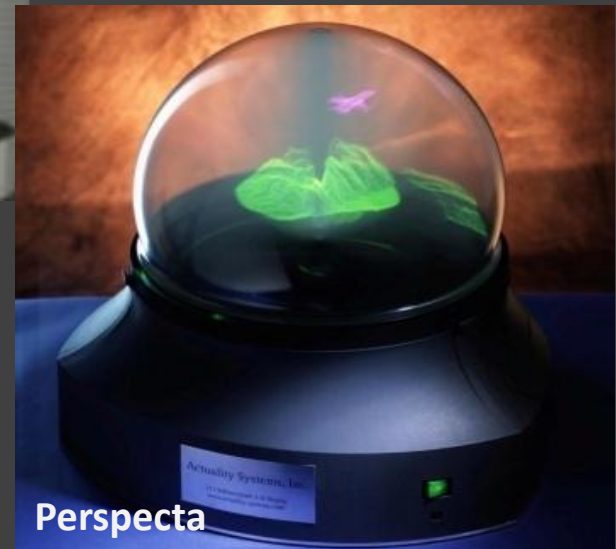
Planar multiview display



Holographic display



Volumetric display



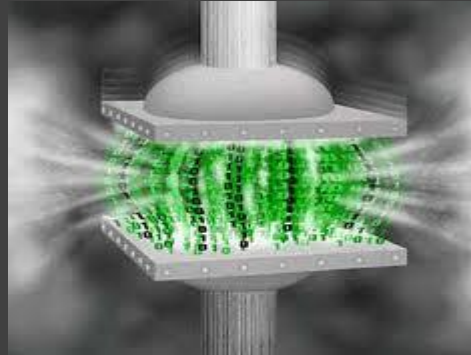
Perspecta

Hard to get the right picture

Multiview capture



Multiview video
compression



Transmission

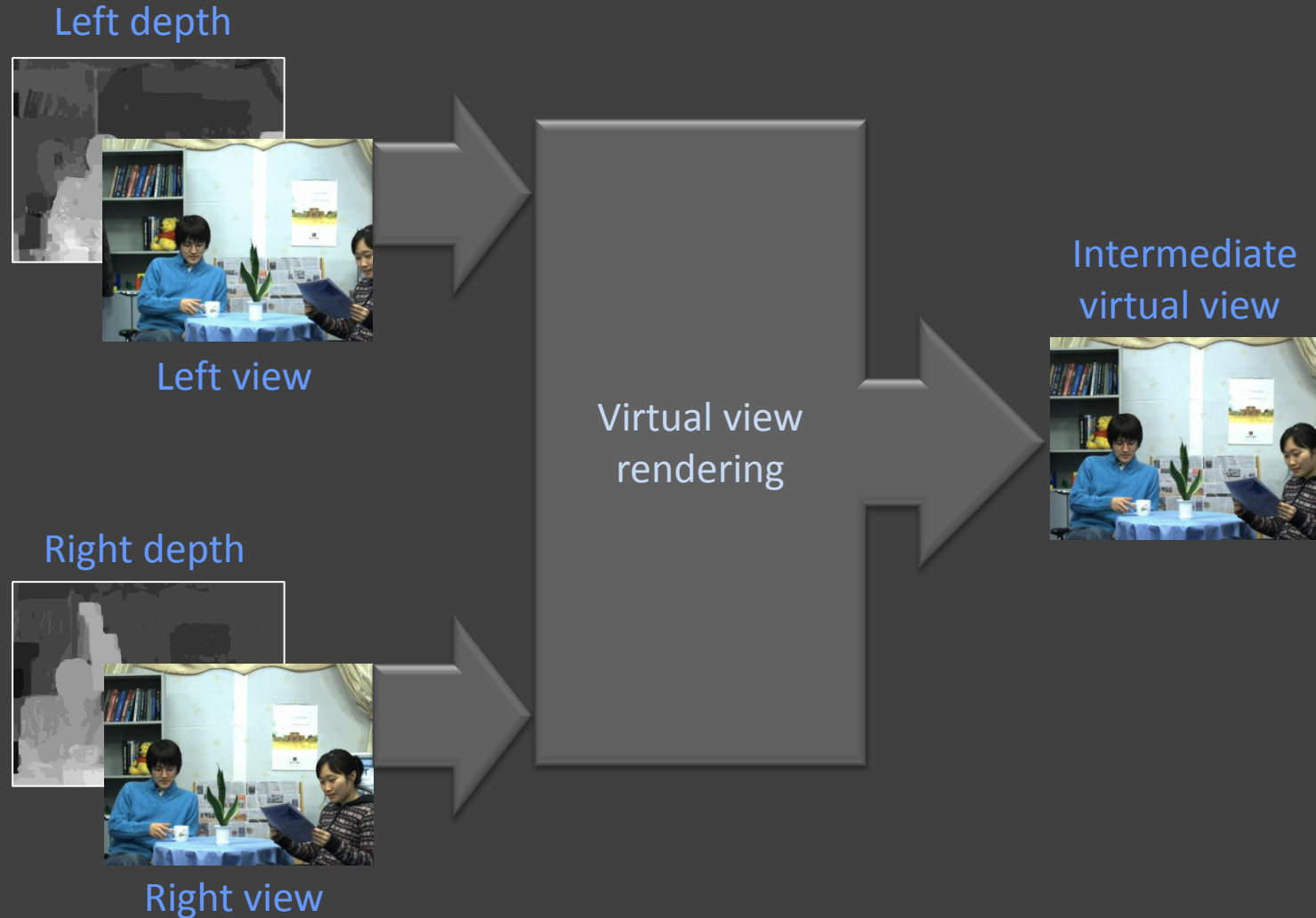


Depth information
consistency

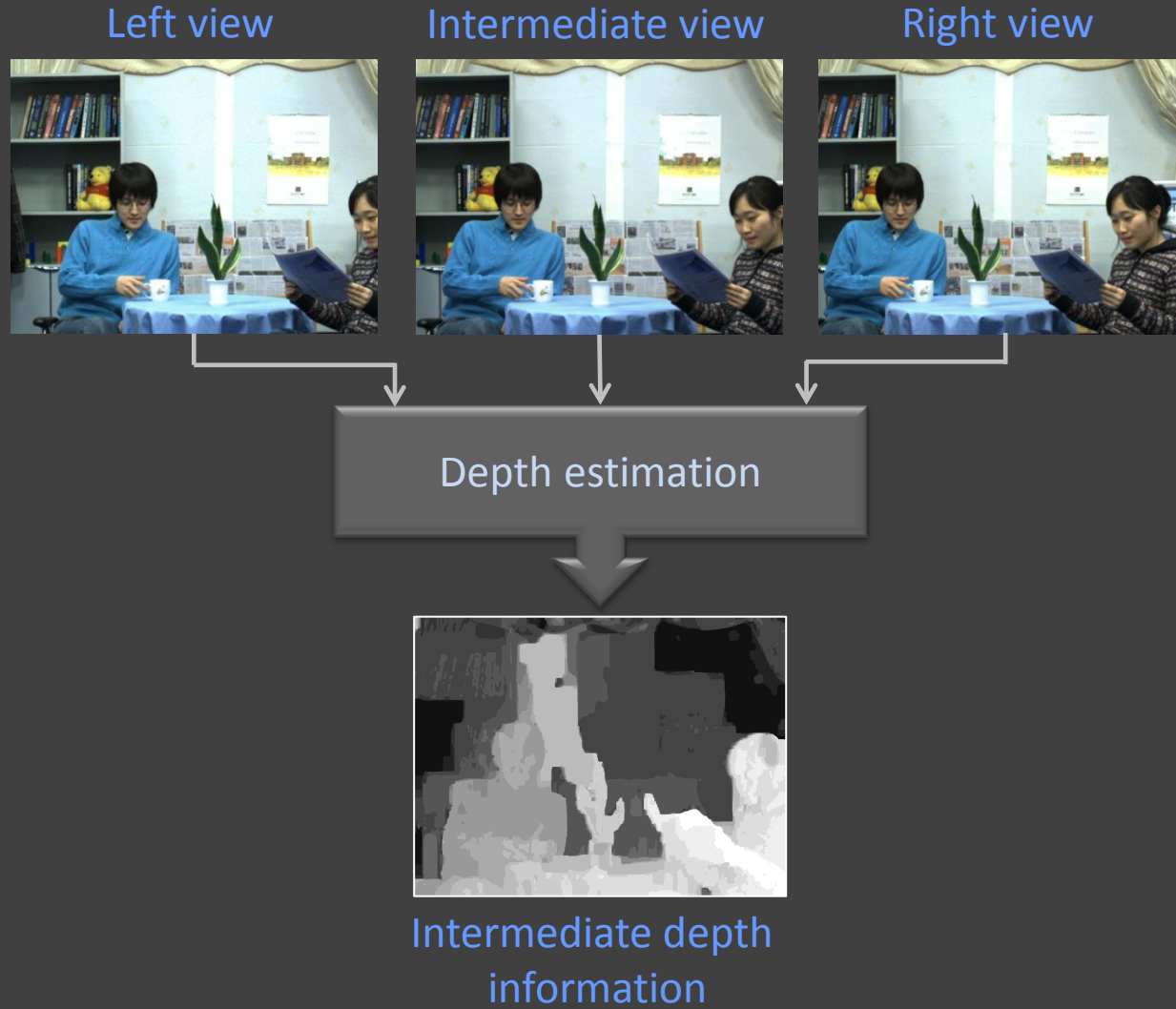
Peer to peer



Virtual view rendering



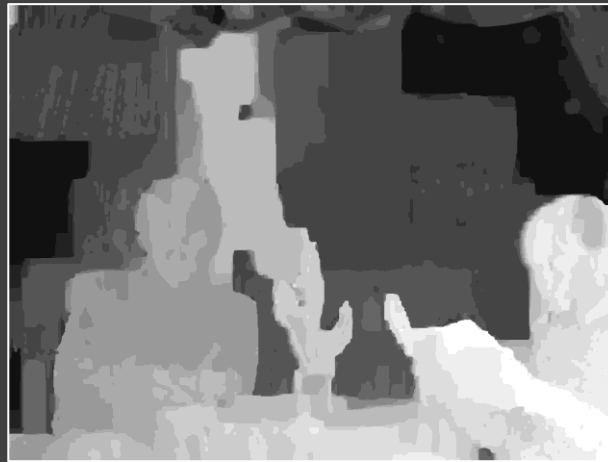
Depth estimation



Depth inconsistency



Left



Intermediate

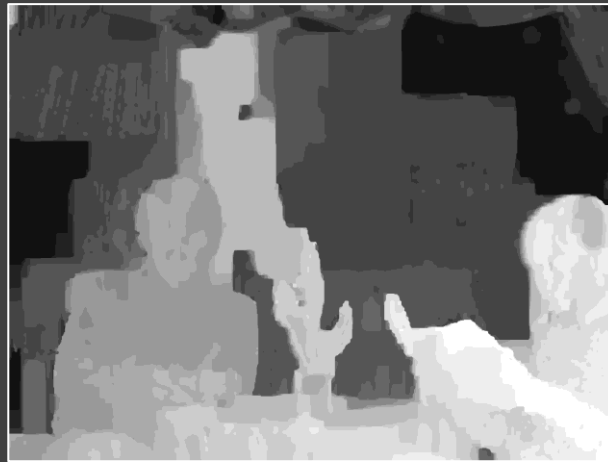


Right

Depth inconsistency



Left



Intermediate

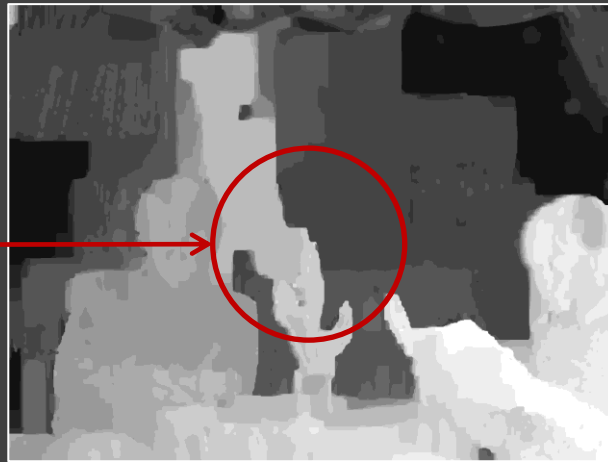


Right

Depth inconsistency



Left



Intermediate

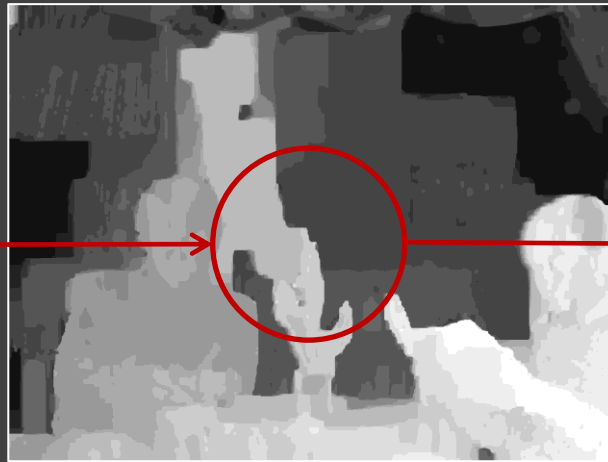


Right

Depth inconsistency



Left



Intermediate



Right

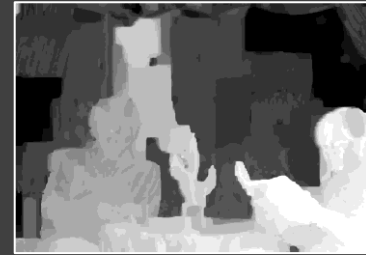
Improving the depth consistency



1



2



n

Improving the depth consistency

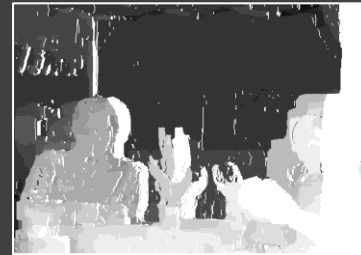


2

...



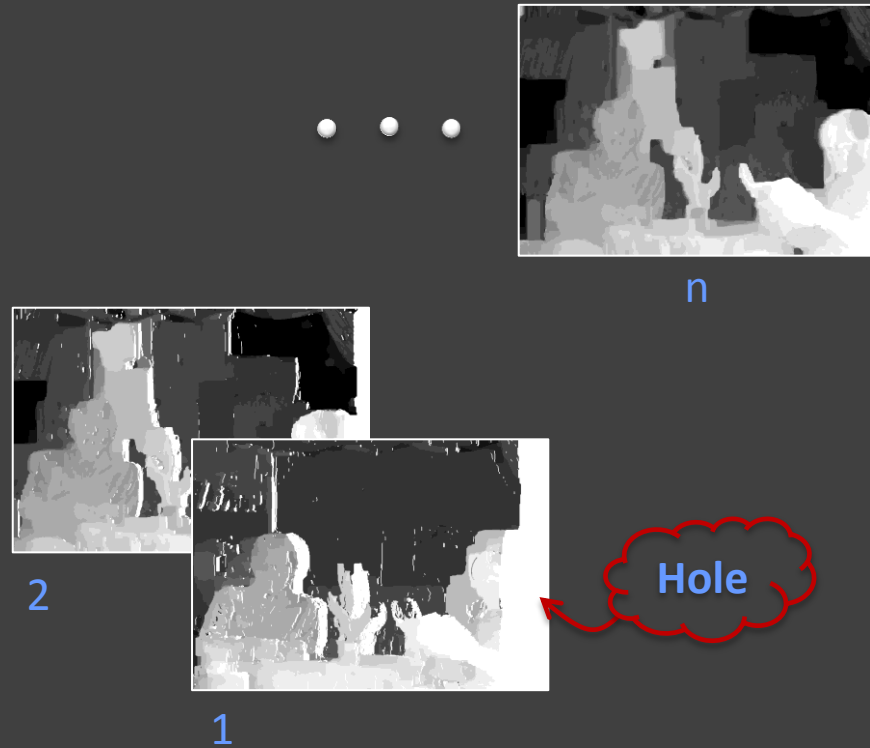
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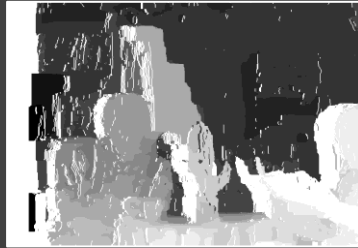
1

Hole

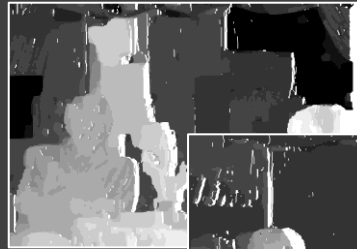
Improving the depth consistency



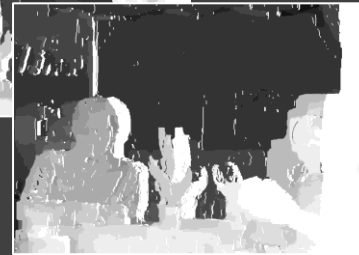
Improving the depth consistency



n



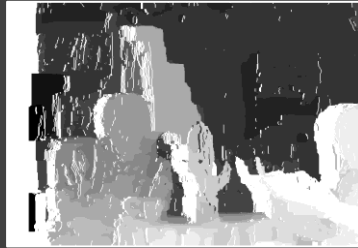
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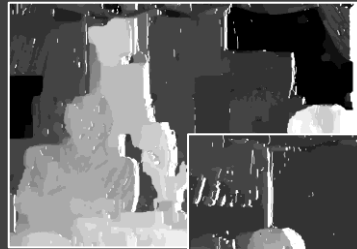
1

Hole

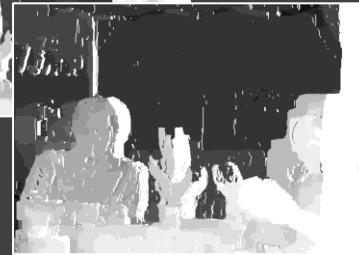
Improving the depth consistency



n

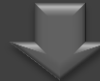


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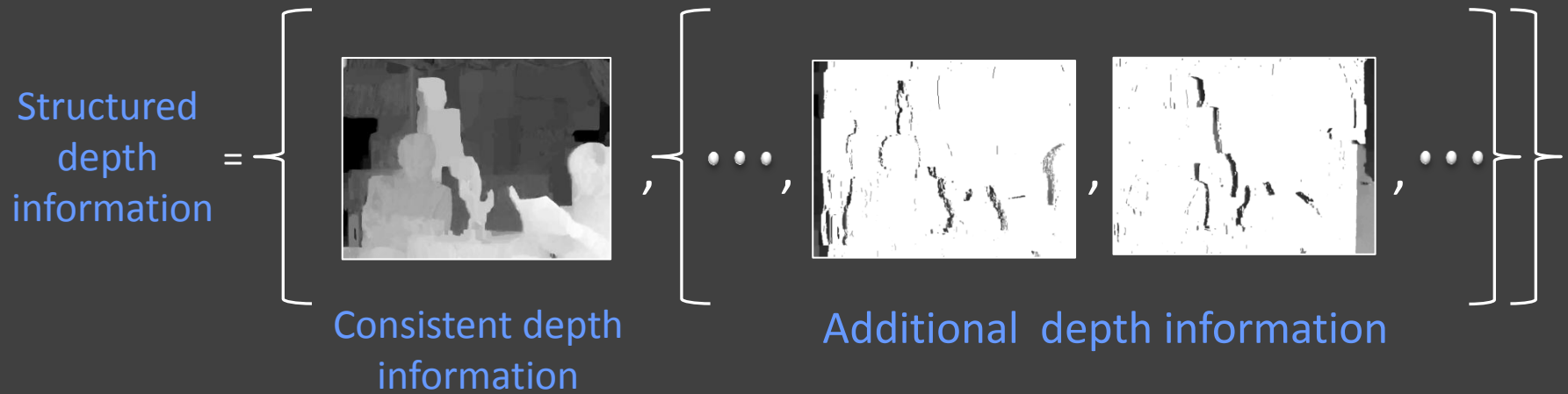
Hole

1



Consistent Depth Information

Structured depth information



- To have consistent depth information
- To remove redundancy from depth information

Virtual view creation

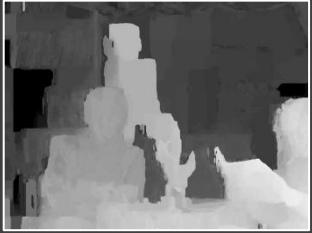


User



Virtual
view

Virtual view creation



Consistent depth
information

Virtual view creation



Multiview video

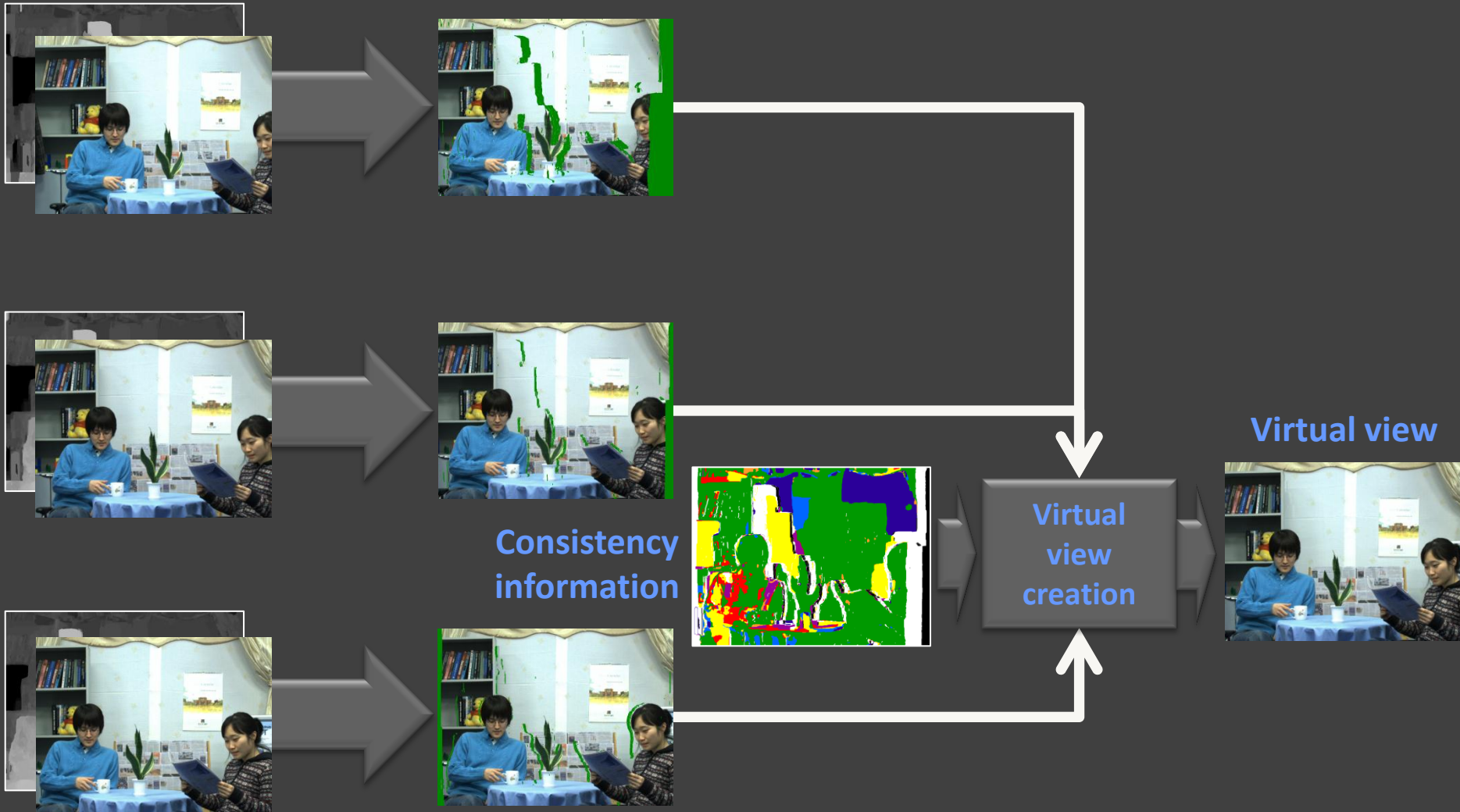
Virtual view creation

Multiple virtual views



Virtual view creation

Multiple virtual views

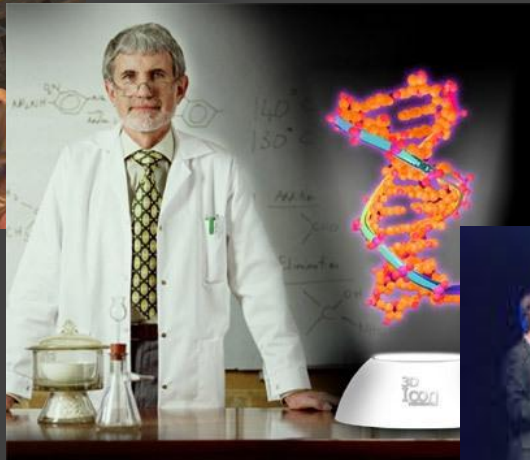


Not only for entertainment

Advertisement



Medical



Telepresence



Security



Excitement & suspense
disappear?



Thank You