Breathing Life into Things: Sentient Architecture & Augmented Reality

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Fashion Tech Event
The Internet of Fashion
Microsoft, NYC
September 19, 2017

CNS Cyberinfrastructure for Network Science Center

INDIANA UNIVERSITY
FULFILLING *the* PROMISE

Outline

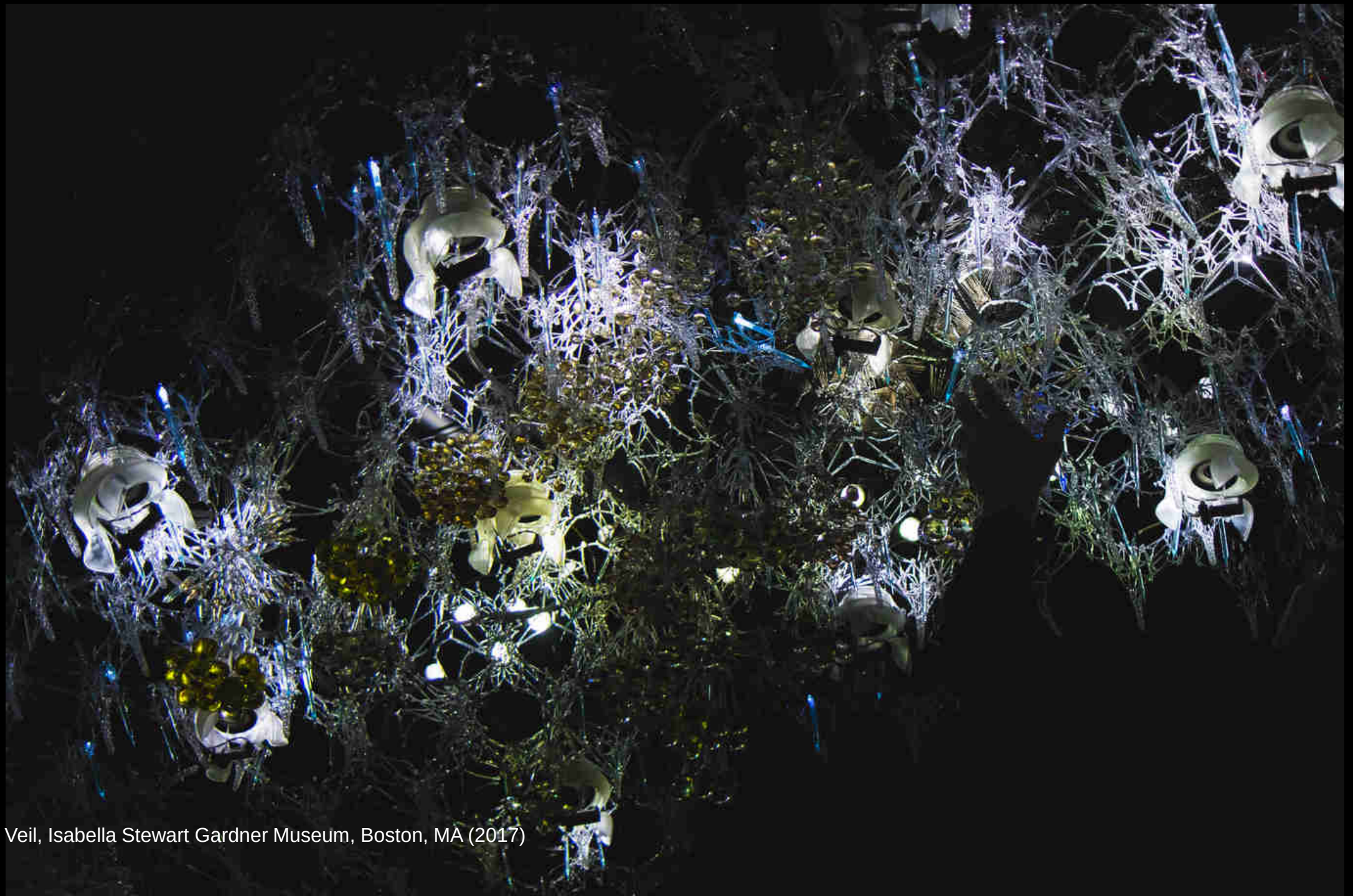
- Sentient Architecture
- Augmented Reality

What is Sentient Architecture?

Who builds Sentient Architecture?

Philip Beesley

https://uwaterloo.ca/architecture/sites/ca.architecture/files/styles/sidebar-220px-wide/public/uploads/images/P._Beesley_0.jpg?itok=vp0HURO5



Sentient Veil, Isabella Stewart Gardner Museum, Boston, MA (2017)

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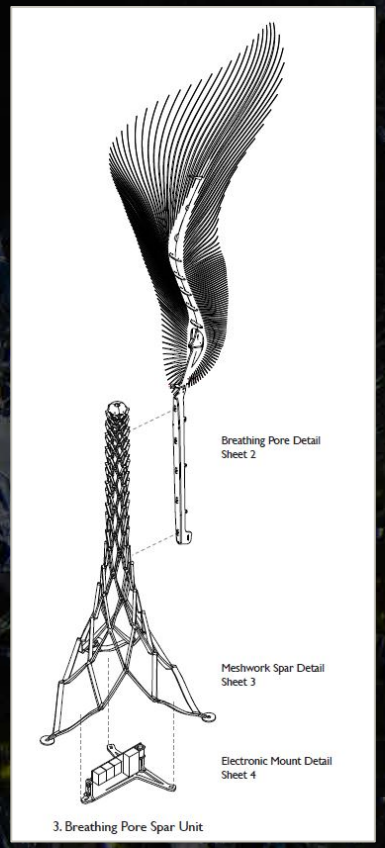
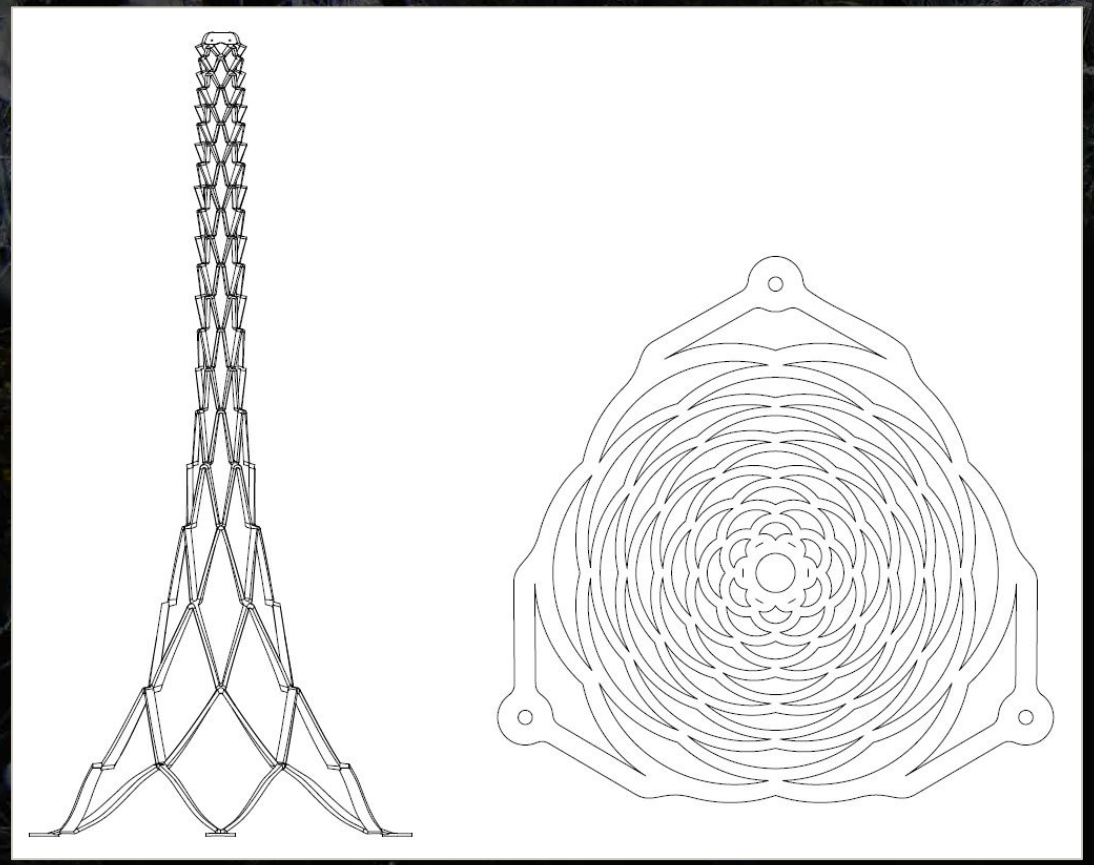
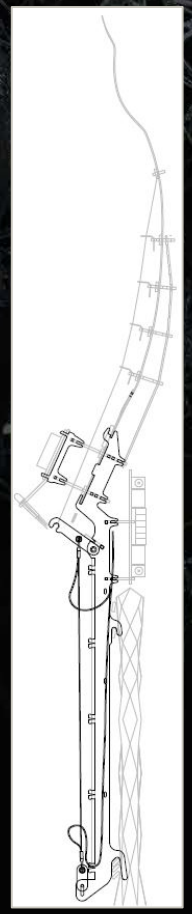
Let’s look at an example.

Meet the Dendrite

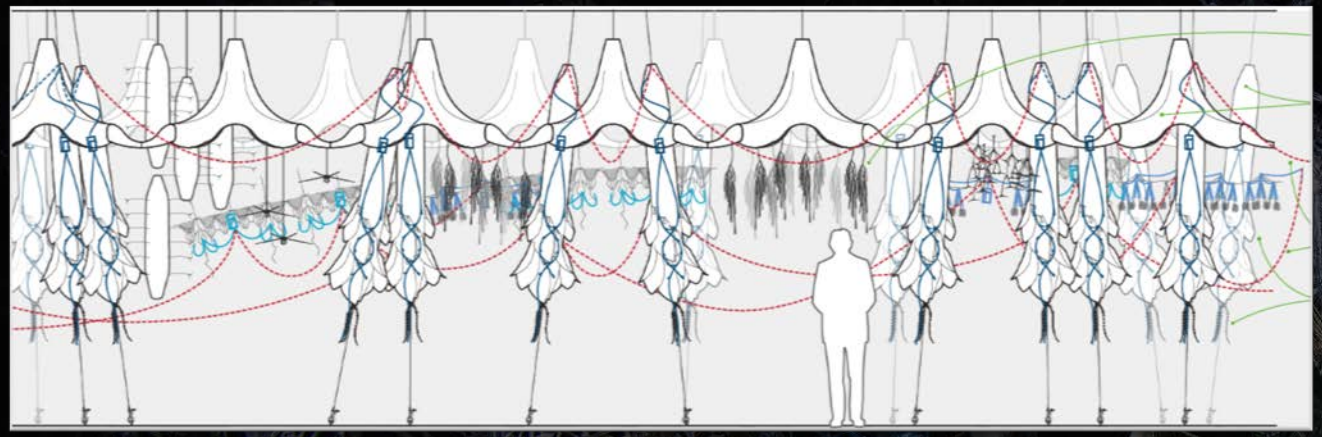






Sentient Architecture Summer Camp 2017

- July 2017
- Organized by Department of Intelligent Systems Engineering at IU
- 15 students (age 13 and up)
- Students built Dendrites



Drawing of a test-bed with architectural prototypes

Internet of Things?

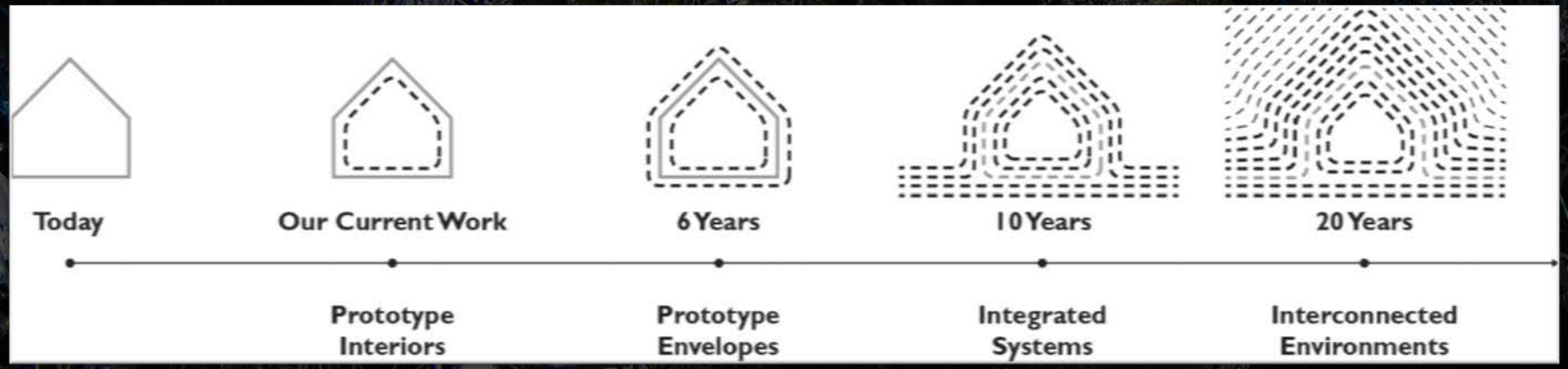
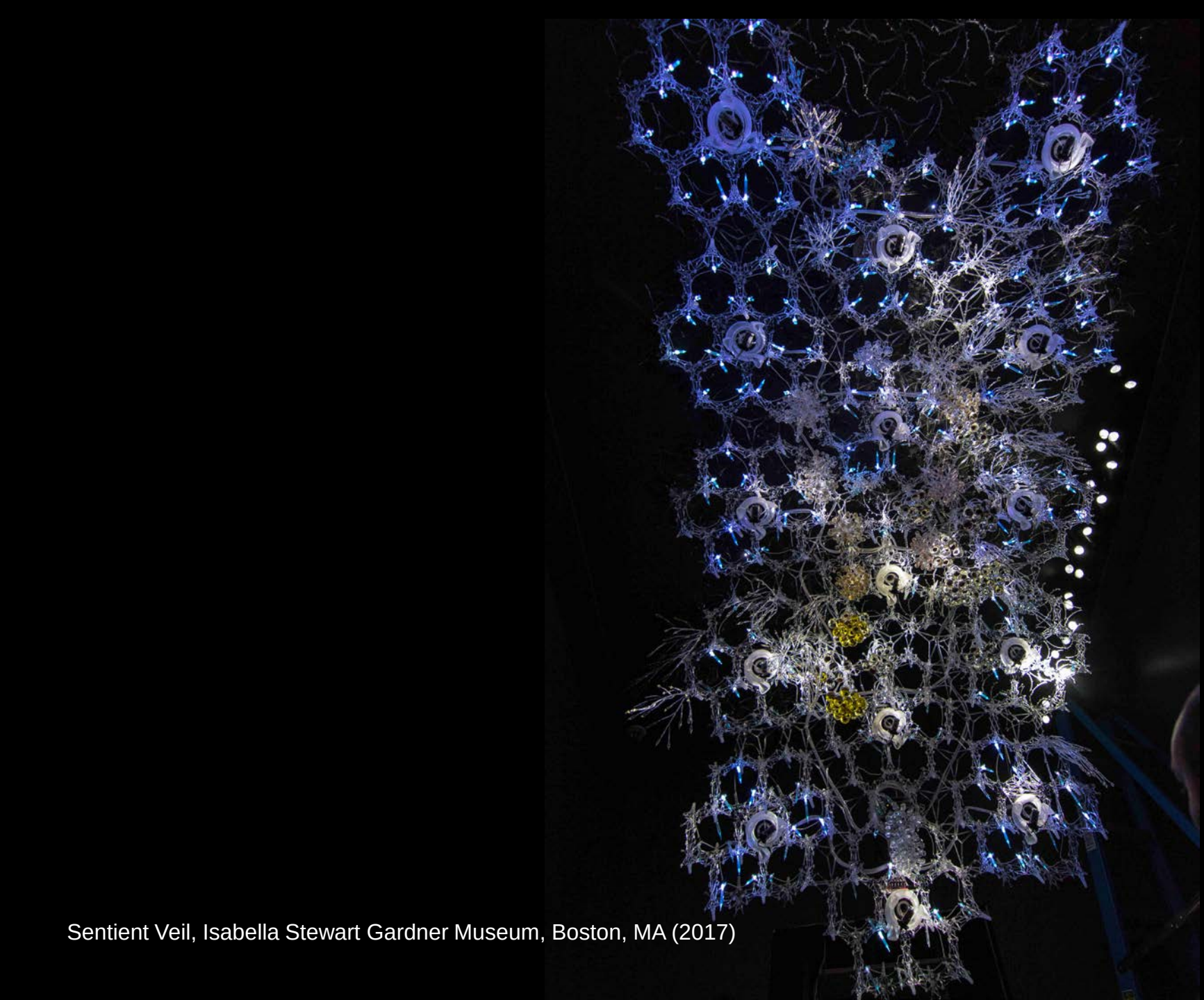


Diagram of LASG and Information Visualization Lab's long-term evolution of prototyped Living Architecture, accompanied by complex system visualizations, expanding from interiors, to exteriors, to interconnected buildings and environments.

Research Goal

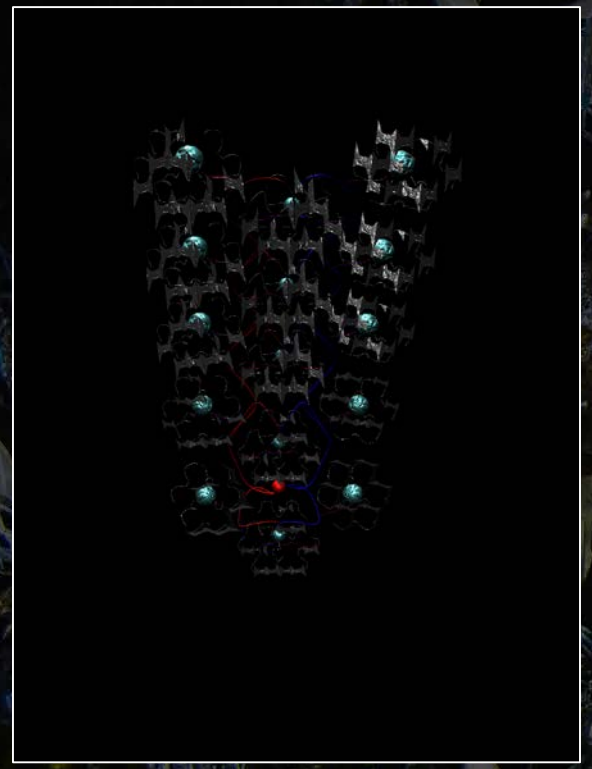
How can we use data visualizations to educate museum visitors, students about the inner workings (=data flow) within intelligent systems?

How can we illuminate the structure and dynamics of those systems?

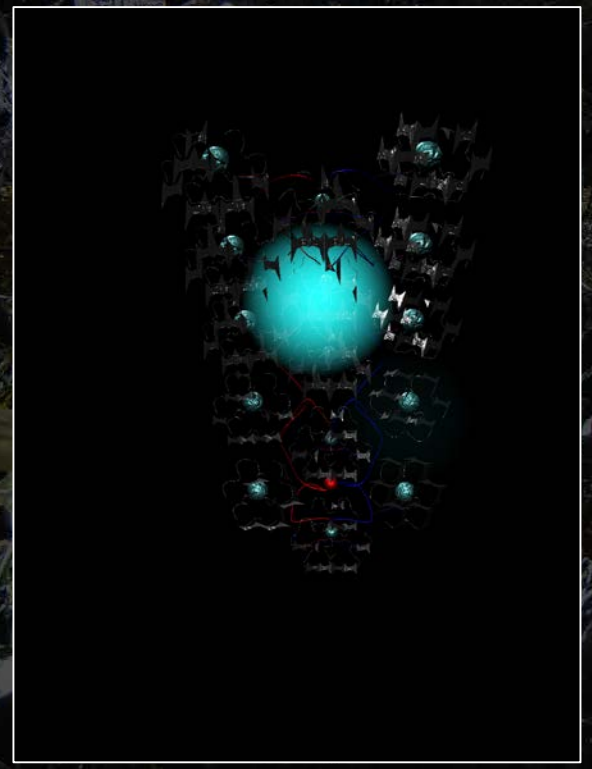


Sentient Veil, Isabella Stewart Gardner Museum, Boston, MA (2017)

XRAY App Development



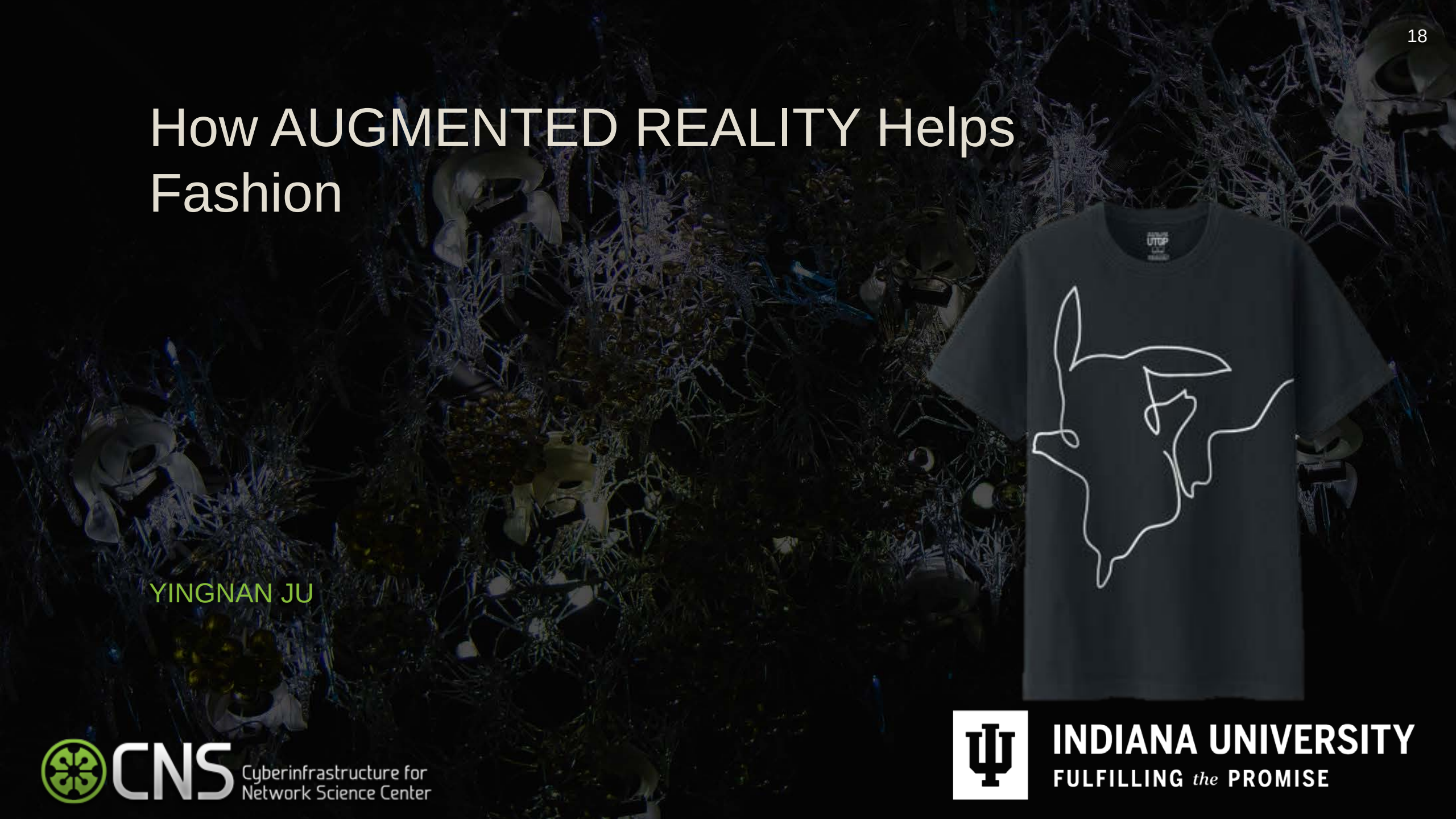
XRAY Virtual
0 sensors triggered



XRAY Virtual
1 sensor triggered

XRAY AR
2 sensors triggered

How AUGMENTED REALITY Helps Fashion



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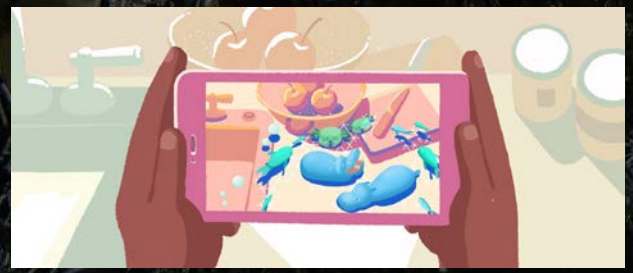
What is AUGMENTED REALITY

Microsoft HoloLens

Google AR Core



Apple ARKit

What does AUGMENTED REALITY Bring to Us?

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Ideas about Augmented Reality

- 1. ~~See loved family members they have lost~~
- 2. Live shows
- 3. A fitness instructor

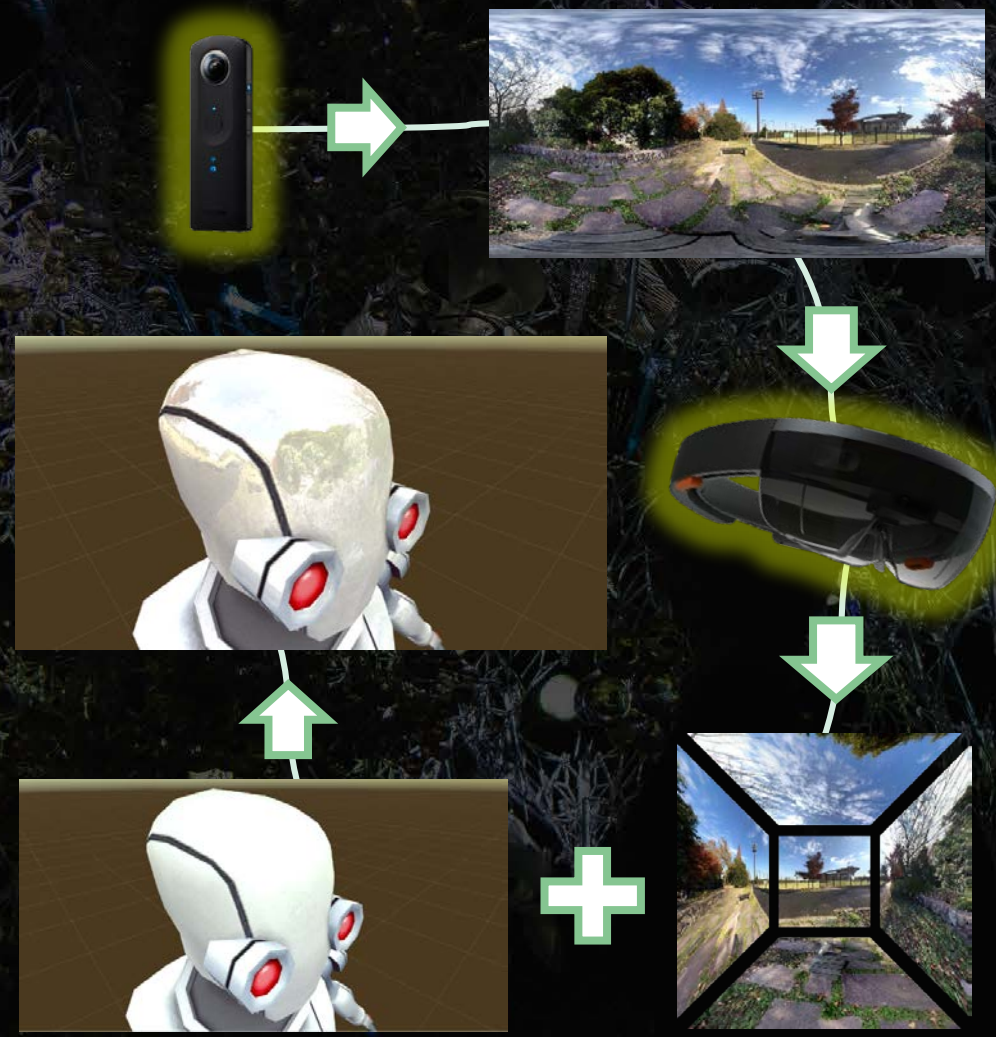
HOLOPORTATION

What are we doing

What are we doing

Ambient light simulation,

with a 360 degree camera



What are we doing

Ambient light simulation,

without a 360 degree camera

Application

- Fashion Show with Augmented Reality
- Virtual Fitting Room
- Fashion Design with Augmented Reality

WHAT's NEXT

Bring more *virtuality* into the *reality*

&

Bring more *reality* into the *virtuality*

Demo time!

Questions?

Image Sources

All pictures from the one of the following sources unless marked otherwise:

- Sentient Veil, 2017, Isabella Stewart Gardner Museum, Boston, MA. Photography by Andreas Bueckle
- Sentient Chamber, 2016, National Academy of Science, Washington, D.C. Photography by Andreas Bueckle
- Dendrite Schematic Drawings, Philip Beesley Architect Inc., Toronto, ON (Canada)
- Sentient Veil Schematic Drawings, Philip Beesley Architect Inc., Toronto, ON (Canada)
- Andreas Bueckle, XRAY App, Misc.
- Philip Beesley Architect Inc., Misc.
- https://www.microsoft.com/en-us/hololens
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