

# BECOMING BUTTERFLIES

## Interactive Embodiment of the Butterfly Lifecycle

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### RESEARCH QUESTIONS

- How can designers preserve the educational intent of a traditional museum exhibit while leveraging ubiquitous technologies to create an augmented and full-bodied interaction?
- Which technologies can be used to minimize cost and maximize portability and ease of upkeep for museum staff?

### BACKGROUND

*Becoming Butterflies* is an exhibit in CU's Museum of Natural History. Its goal is to educate visitors about the butterfly lifecycle. Our project intended to serve as an interactive addition to the previously static exhibit.

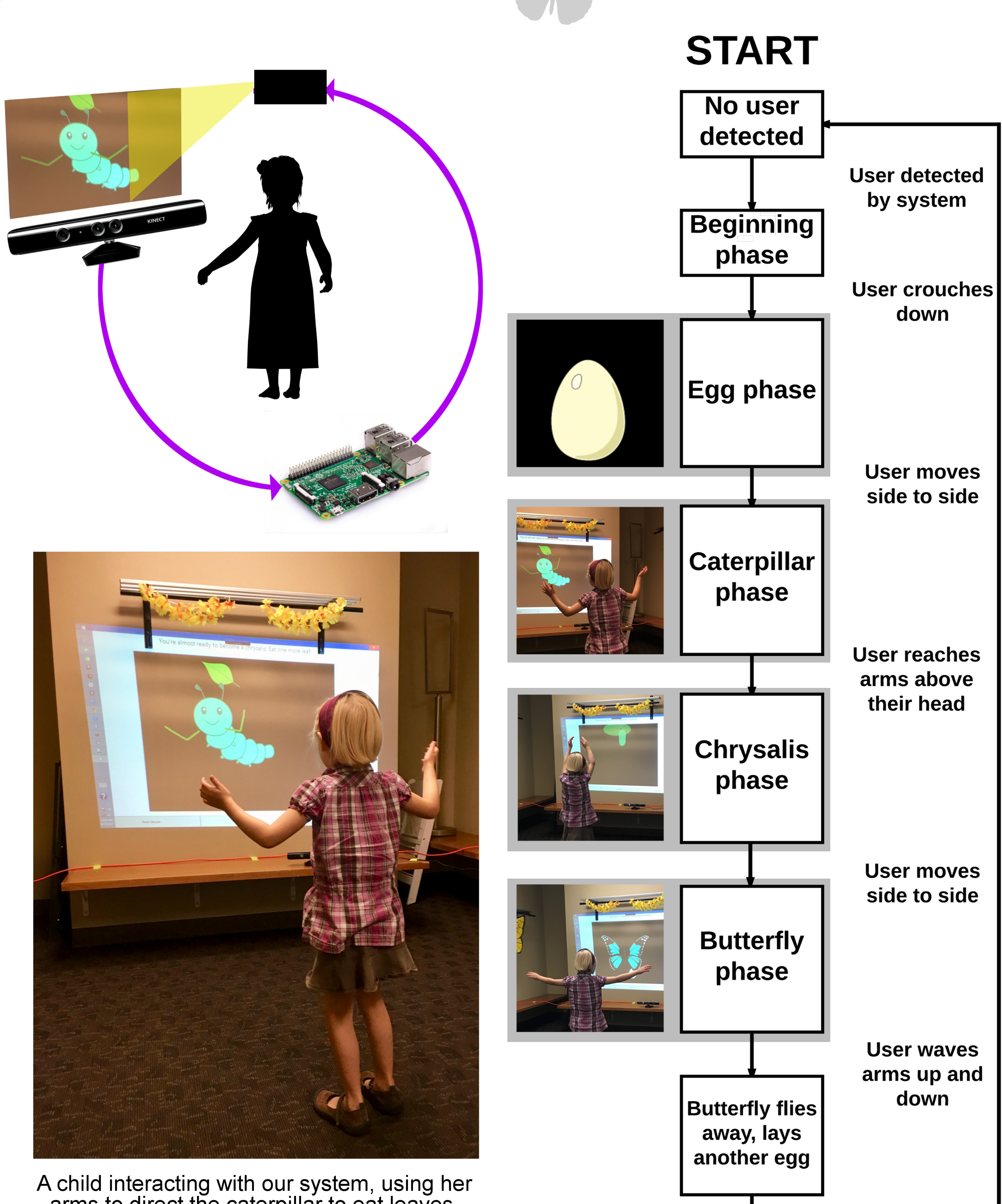
### MUSEUMS & TECH

- Augmenting museum exhibits can:
- motivate more people to visit [1]
  - improve visitor engagement, conversation, and playfulness [2]
  - better educate visitors through experiential learning [3]

### REFERENCES

1. Naemura, Takeshi, et al. "Mixed reality technologies for museum experience." In Proceedings of the 9th ACM SIGGRAPH Conference on Virtual-Reality Continuum and its Applications in Industry. (2010): 17-20.  
 2. Basballe, Ditte Amund, and Halskov, Kim. "Projections on museum exhibits: engaging visitors in the museum setting." In Proceedings of the 22nd Conference of the Computer-Human Interaction Special Interest Group of Australia on Computer-Human Interaction (2010): 80-87.  
 3. Camillia Matuk. 2016. The Learning Affordances of Augmented Reality for Museum Exhibits on Human Health. *Museums & Social Issues* 11, 1 (2016), 73-87.

### INTERACTION PROCESS



### RESULTS: FAMILY FUN DAY

- We deployed our system at CU Family Fun Day's exposé of the *Becoming Butterflies* exhibition.
- children were excited to try it
  - toddlers were too small to be tracked by the system
  - different age groups required tailored instructions for max comprehension
  - some children wanted to use the system with a friend

### CONTRIBUTIONS

- Presents the use of full-bodied interaction for developing interactive museum exhibits without sacrificing educational content
- Demonstrates low-cost and accessible ubiquitous technologies that can be leveraged to facilitate experiential learning

### ACKNOWLEDGMENTS

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