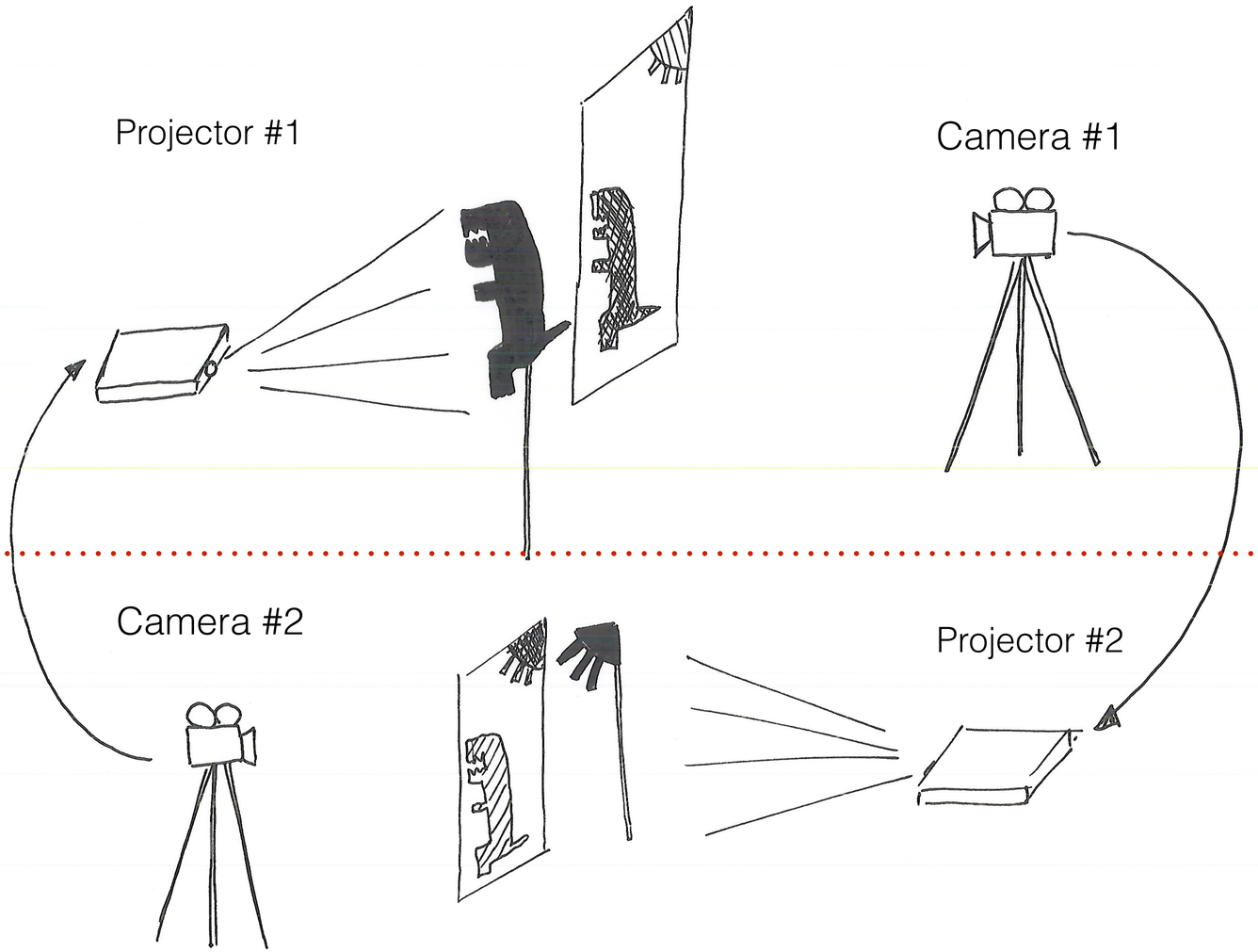
DIGITAL
SHADOWS

DIGITAL SHADOWS I CONCEPT SCHEMATICS

Cambridge

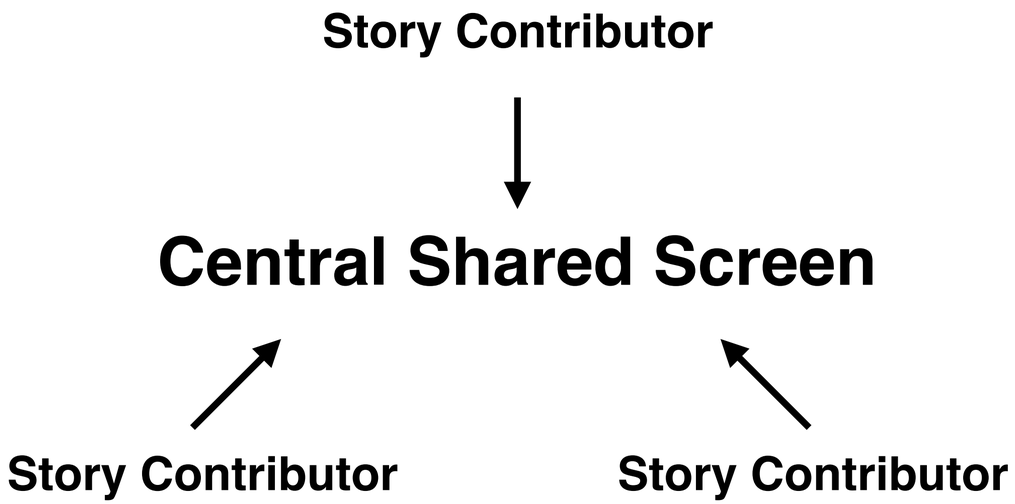
Mauritius

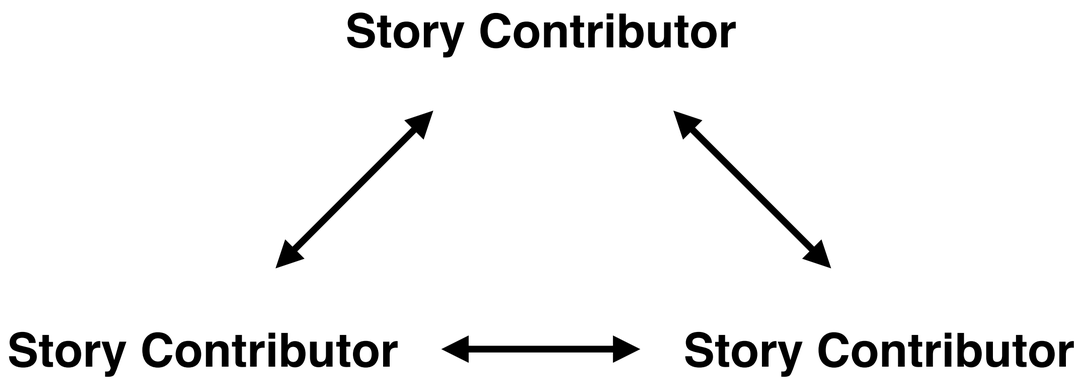


TANGIBLE INTERFACES

DIGITAL SHADOWS I SYSTEM ARCHITECTURES

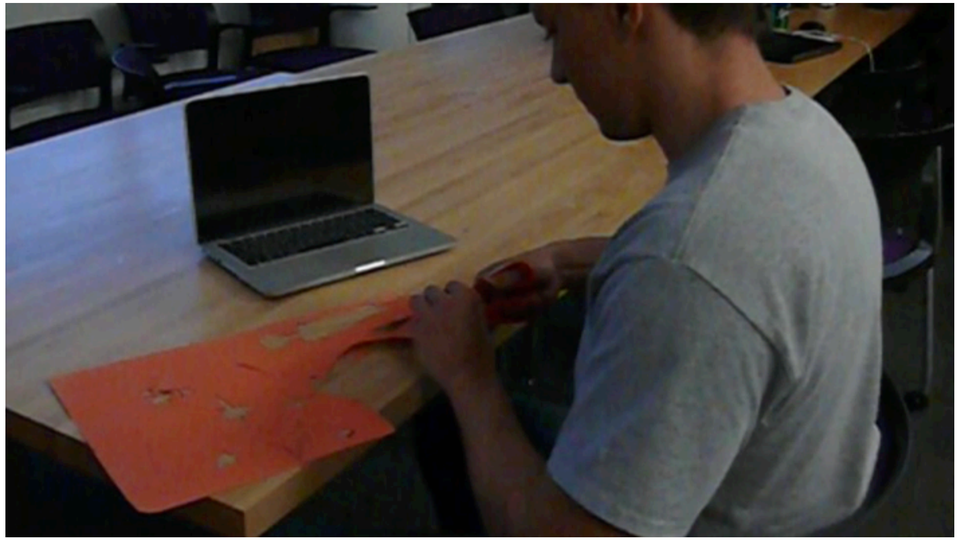
- **Symmetric vs Asymmetric architectures:**

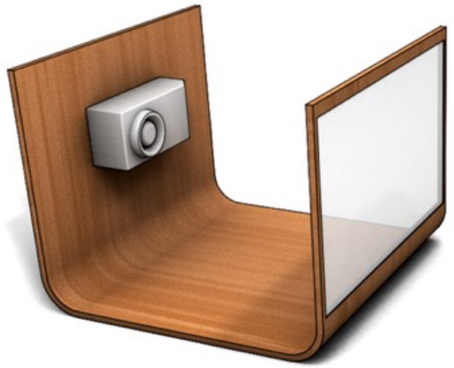




TANGIBLE INTERFACES

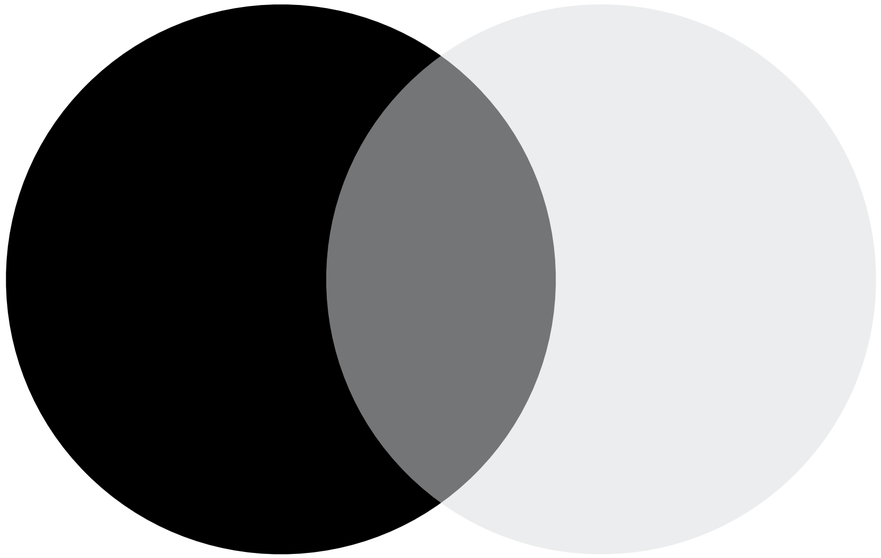
DIGITAL SHADOWS I STRUCTURE, SETUP AND USE





TANGIBLE INTERFACES

DIGITAL SHADOWS I **AFFORDANCES**



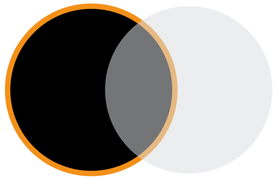
Physical Affordances

Digital Affordances

Shared Affordances

TANGIBLE INTERFACES

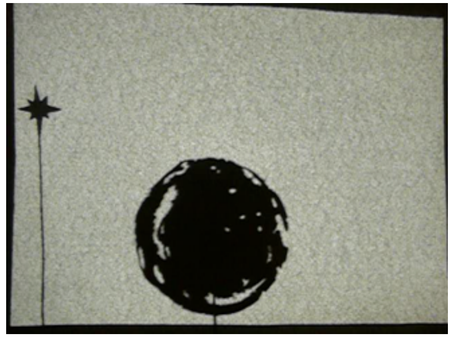
DIGITAL SHADOWS I PHYSICAL AFFORDANCES



The physical affordances follow the laws of physics. They are governed by the nature of light, qualities and motion of the shadow-casting object and the skill of the operator.

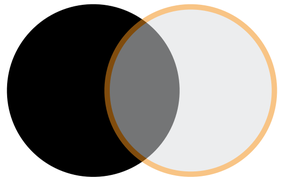
1. Movement

2. Scale/Blurriness (coupled because of the non-point nature of the light source).

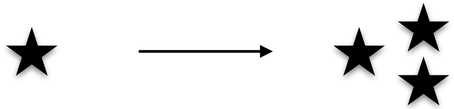


TANGIBLE INTERFACES

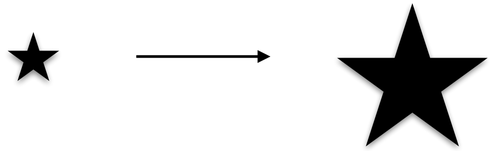
DIGITAL SHADOWS I DIGITAL AFFORDANCES



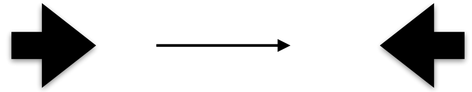
1. Multiplication



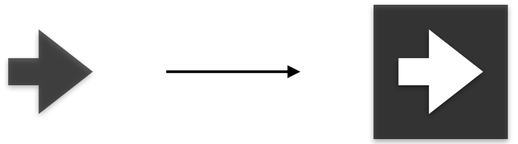
2. Digital scaling (without blur)



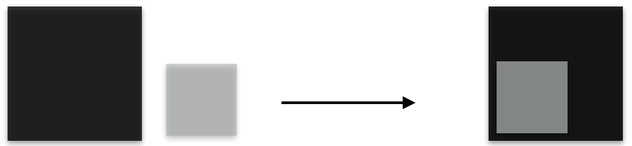
3. Mirroring



4. Inversion of light and shade

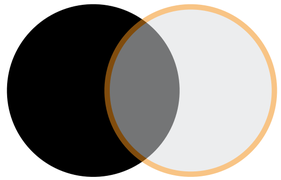


5. Layering of shadows



TANGIBLE INTERFACES

DIGITAL SHADOWS I DIGITAL AFFORDANCES



- The digital affordances are new affordances added to the medium by our system.These are not limited* to the rules of physics or the local setting.

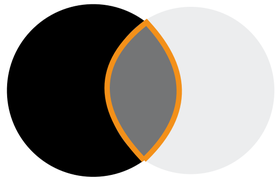
- Digital control lets users affect the physical presence of other users who are far away or enhance their own physical presence-locally or with respect to others.

- **They add another layer of interactivity, collaboration and richness to the medium.**

* to a certain degree

TANGIBLE INTERFACES

DIGITAL SHADOWS I SHARED AFFORDANCES



Both approaches afford control over:

- Sharpness of image
- Size of an image
- Movement in space

TANGIBLE INTERFACES

DIGITAL SHADOWS I **BENEFITS OF THE SYSTEM**

- Accommodates multiple users .
- Facilitates non-verbal communication (Visual, Physical, Sound?)
- Collaborative storytelling: The storyline is ever evolving and changeable, controlled by all participants separately and together.
- Each side can physically induces changes in his location or digitally induce changes to the overall story (Both locally or in other locations)
- The system lets users be active or passive.

TANGIBLE INTERFACES

DIGITAL SHADOWS I TECHNOLOGICAL DIFFICULTIES

FEEDBACK!!!

TANGIBLE INTERFACES

DIGITAL SHADOWS I **POSSIBLE SOLUTIONS**

1. Digital background subtraction at each location.
2. Physical background subtraction: Use an IR source+IR camera+standard projector.

TANGIBLE INTERFACES