# Hola, TMM4220!

# Please sit with your teams







### NAYAs image annotation services



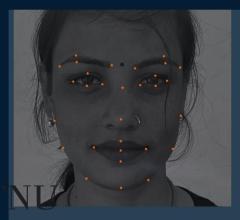
The most common image annotation type for computer vision. Bounding Boxes are mainly used for object detection, allowing your algorithm to identify and localize objects.

**Bounding Boxes** 



With this annotation type, team NAYA segments images into partial components, and detect objects on a pixel level, producing a mask. NAYA also provides Instance- and Panoptic segmentation.

**Semantic Segmentation** 



One of the most accurate annotation types. By connecting individual key points across an object, positioning, shapes, movement, and orientation are identified. User case examples are facial recognition, pose estimation, and robotics.

**Keypoint Annotation** 



NAYAs expert annotators strategically mark points on every vertex of relevant objects. Polygon annotation is great for precise annotation when the shape of the object is irregular. We also provide polyline annotation.

**Polygon Annotation** 





### — 150





### Go hang out!

# One Rule: Don't talk about this class.









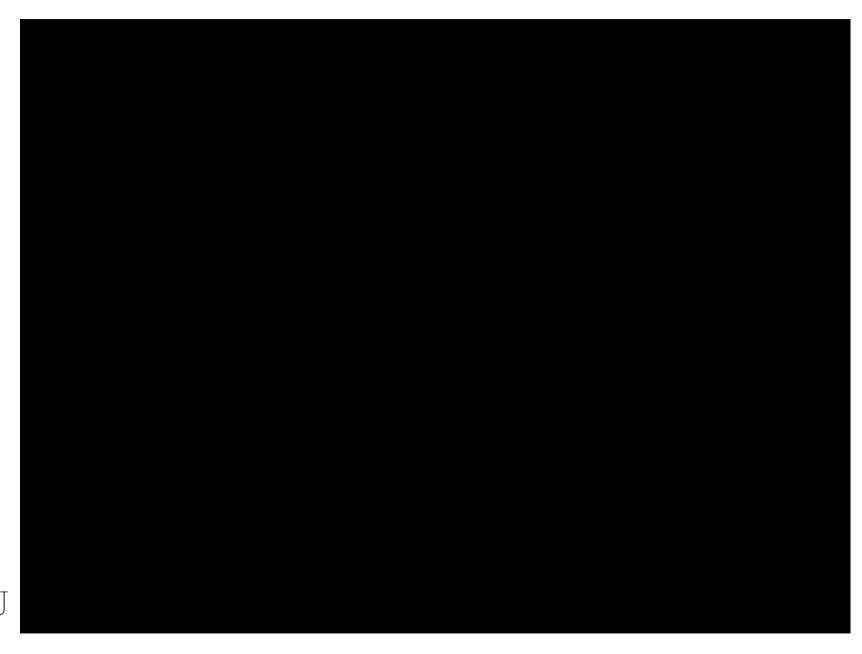


### POV

User + Need + Insight







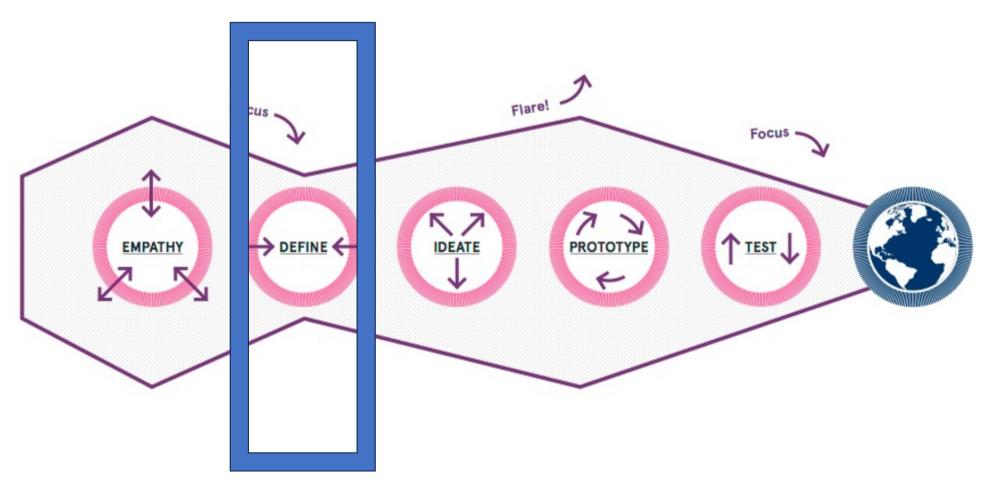




# How is this trippy video related to the POV process?

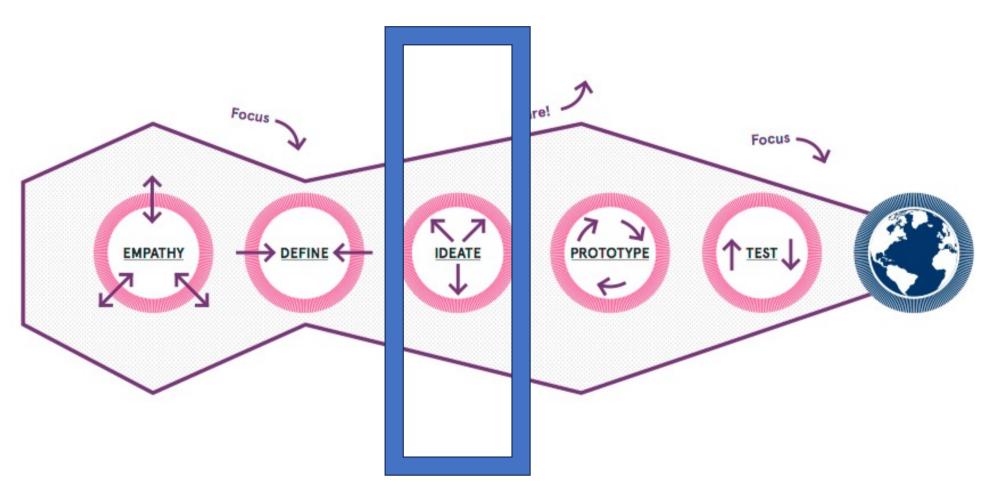
















## Ideation

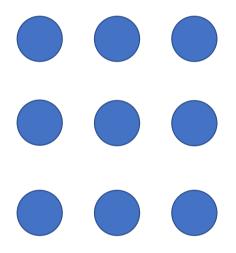




### The Line Game











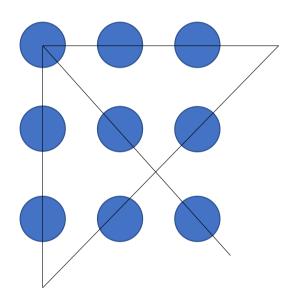
Four straight lines

Going through all nine dots

Without lifting your pencil

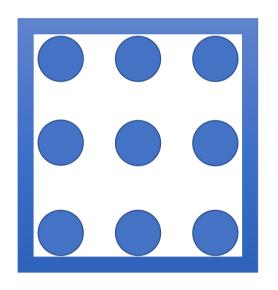






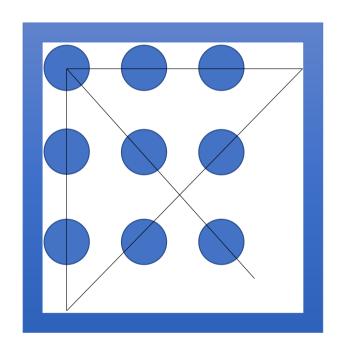
















## Now try with 3!

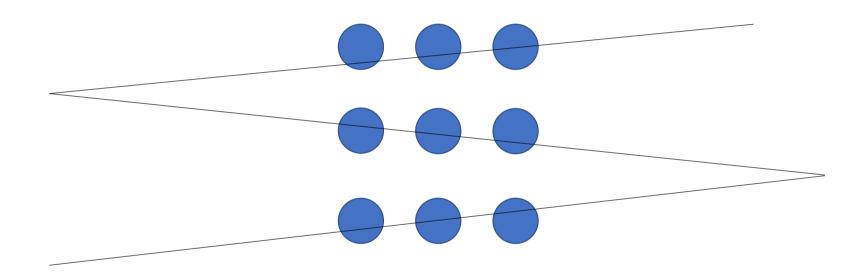
















### And with 1!?

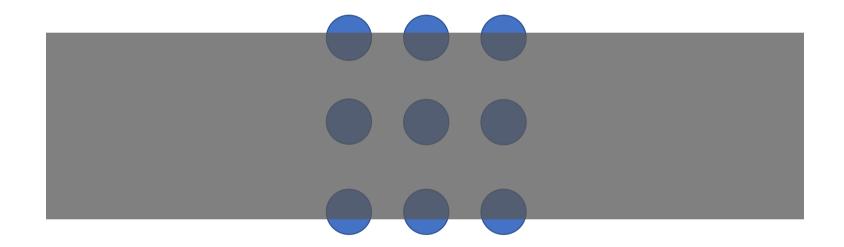












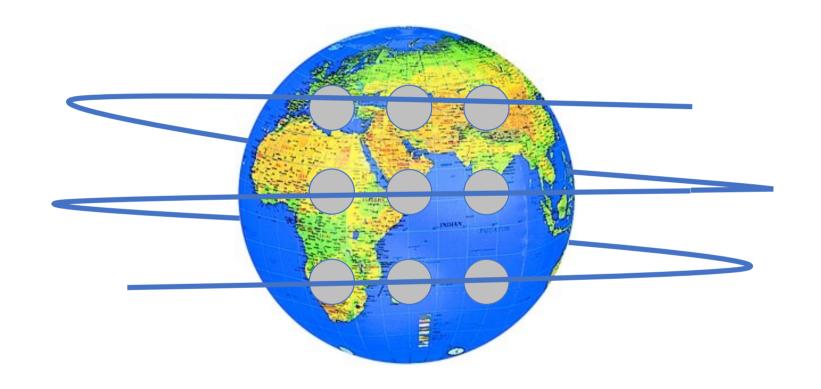




# The Line Game

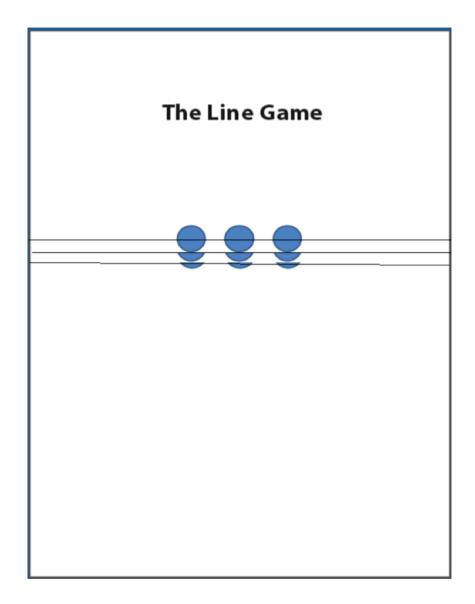






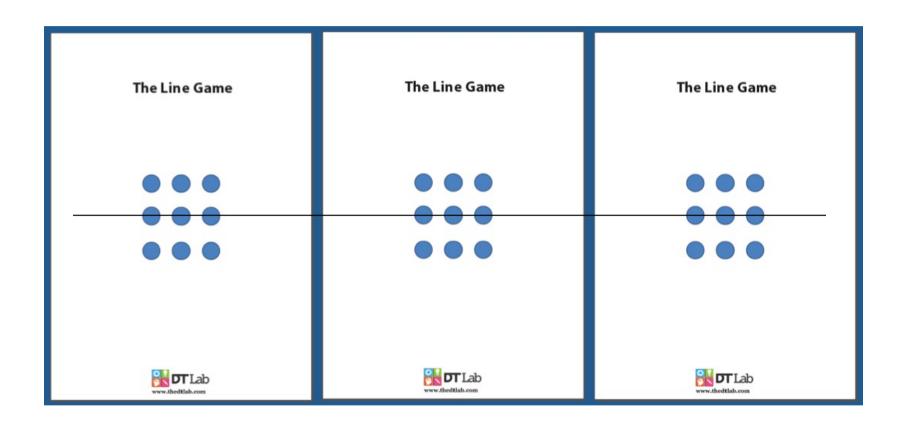


































### **Functional Fixedness:**

A cognitive bias that limits a person to using an object only in the way it is traditionally used (Karl Duncker 1945)





### Mindfulness @ Stanford

#### Two divergent thinking tasks:

- List as many alternative uses for a brick as possible
- List all the factors you would consider in designing a wall for a river-flood scenario





### Mindfulness @ Stanford

"Baseline mindfulness correlated with the number and the originality of ideas that participants wrote down in the idea generation task and with the number of factors considered in the engineering design task."



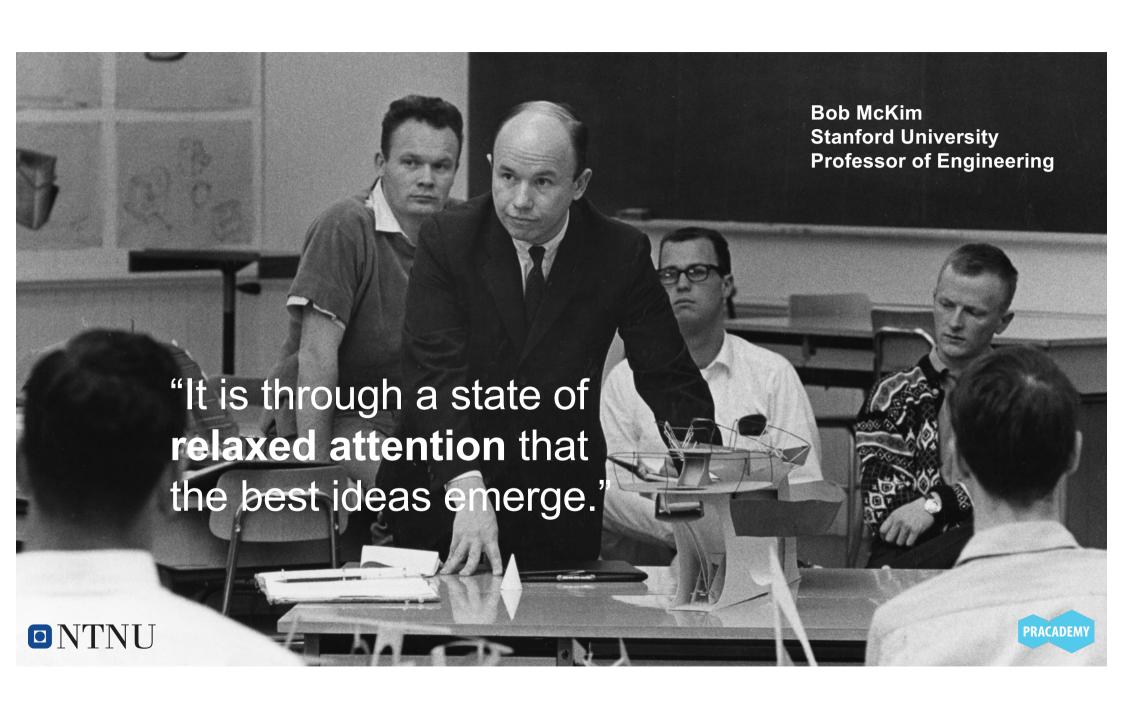


### Mindfulness @ Stanford

"Having an open and curious attitude is referred to as 'beginner's mind' — the capacity to bring fresh eyes to a problem and engage in new perspectives for how to solve it. By remaining open to experiences, we are more likely to make connections between seemingly unrelated concepts, which is crucial to generating original ideas."







### **Cross-Pollination**







### Martin Elliot



Allan Goldman









### Technical error decrease

42%

### Information error decrease

49%



















STATE OF NEVADA	04/04/2008 09:21:	
MARRIAGE CERTIFICATE No. 20080323000201210	T20080056841  Requestor: RECORDER CLARK COUNTY	47
County of Clark	Debbie Conway Clark County Recorder	KAH Pgs: 1
This is to certify that the undersigned AEV. ROBERT L. STON	:	
This is to certify that the undersigned, AEV. ROBERT L. STON.  (print name and table of official performance and table of official performance and table of official performance and table of official performance.)		
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(address or church) (City)	,,	
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Date of birth_04/01/1979		
nd HLIN IRENE SAGEN GRUNG		
BERGEN (Bride) NORWAY		
Date of birth 04/28/1983		
with their mutual consent, in the presence of Rose Sharep	e.	
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Signature of Official Performing Marriag	e (Black Ink Only)	
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NTNU

PRACADEMY



