

# The Power of Digital Games

for

## The Next Generation of STEM Learning

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# Learning is Ubiquitous





# We Learn through Play



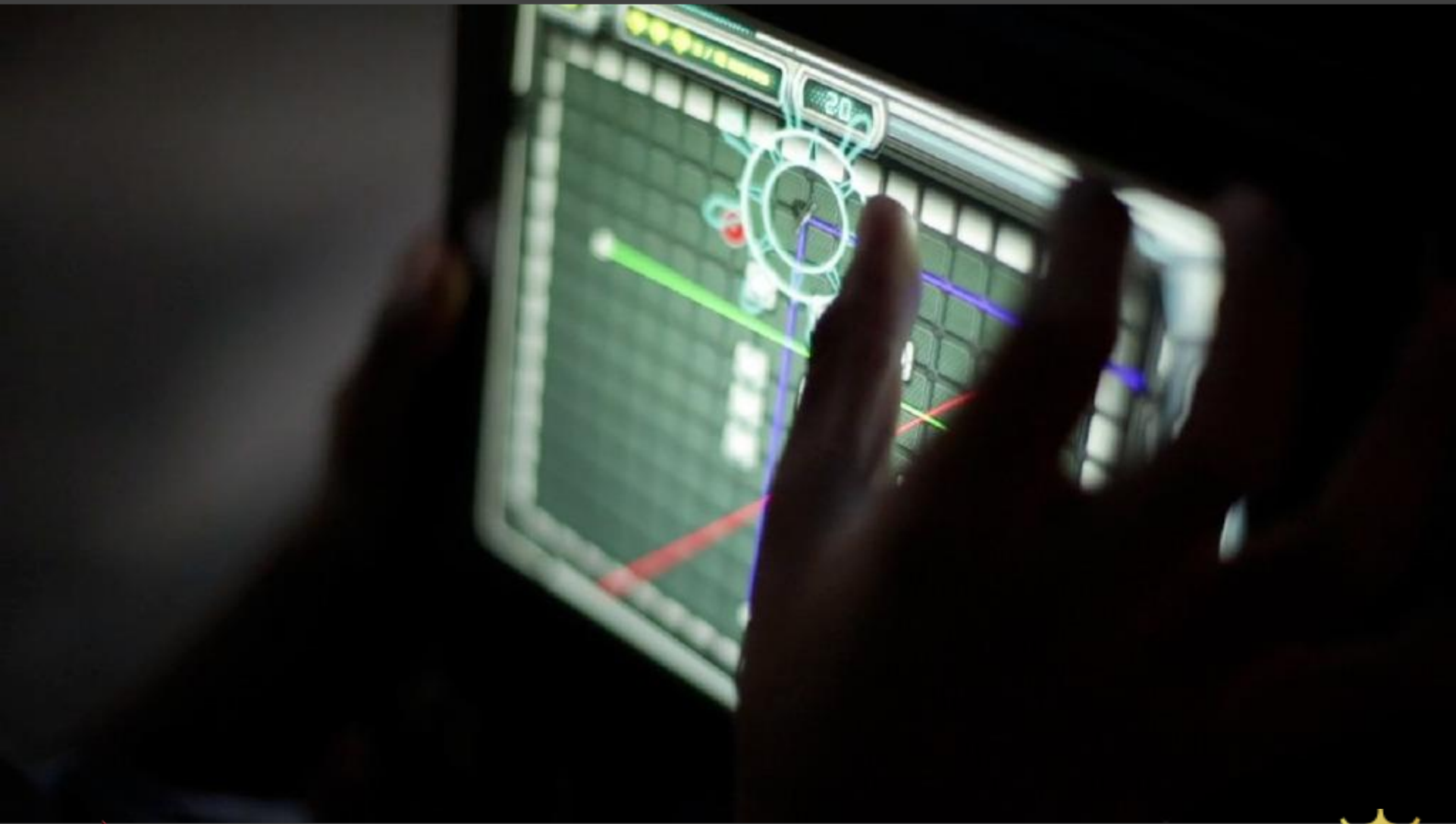
# Digital Play ....



...creates Digital Data



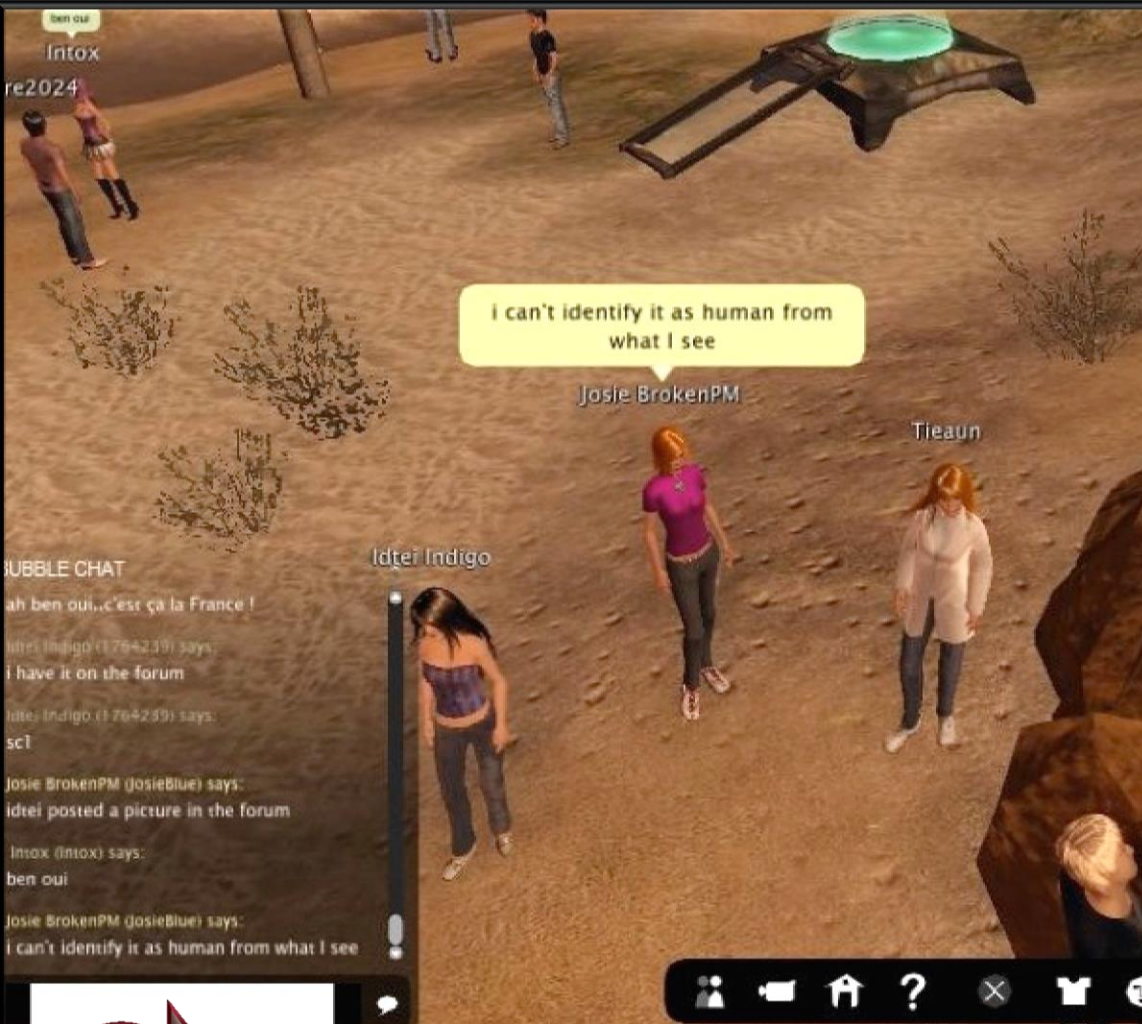
# Measuring Implicit STEM Learning



NSF/EHR/DRL/DRK12/#1119144



# Complex Skills: Scientific Inquiry





# Complex Skills: Computational Thinking



NSF/EHR/DRL/DRK12#1502882

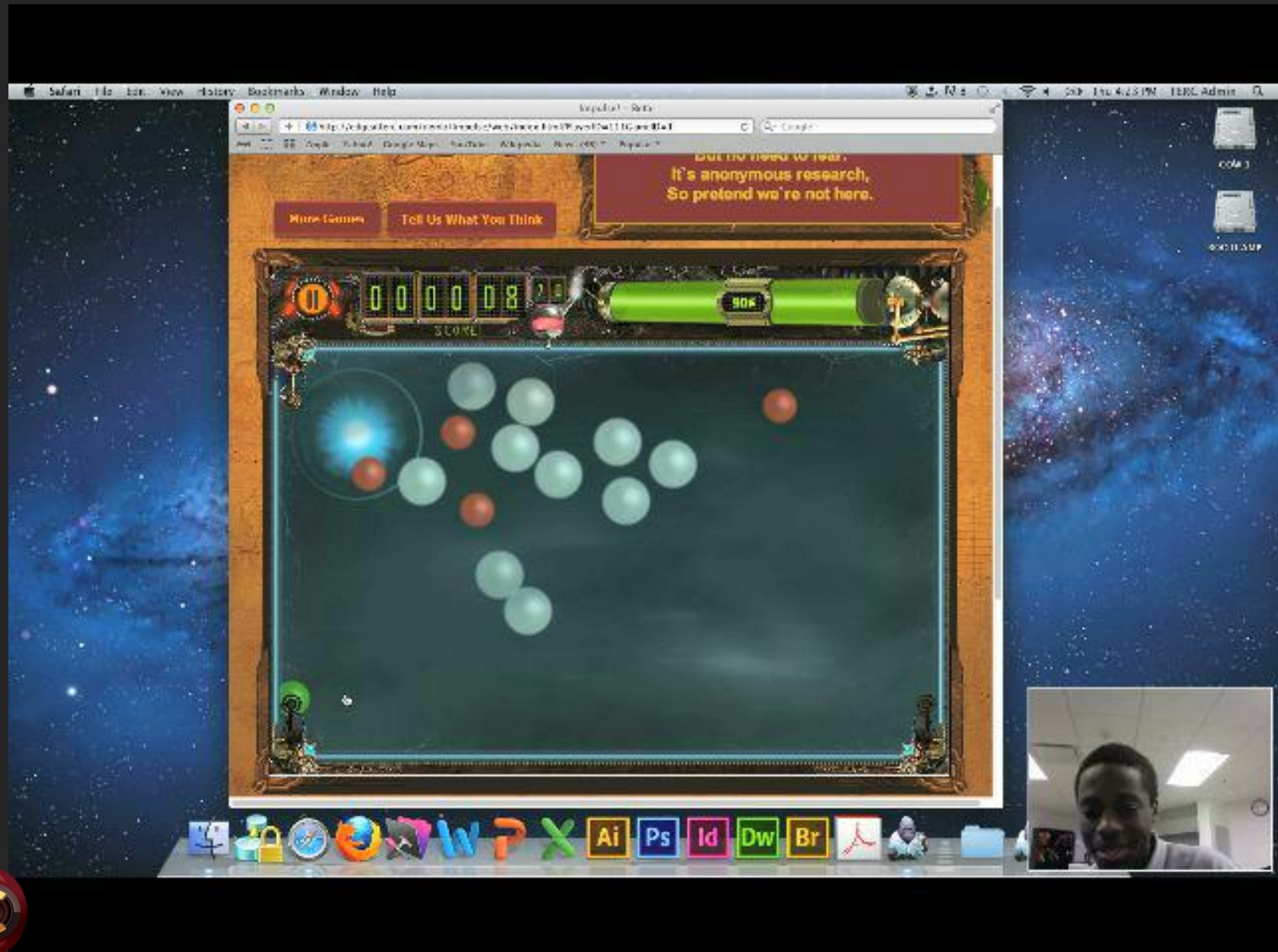


# Reveal Implicit Knowledge

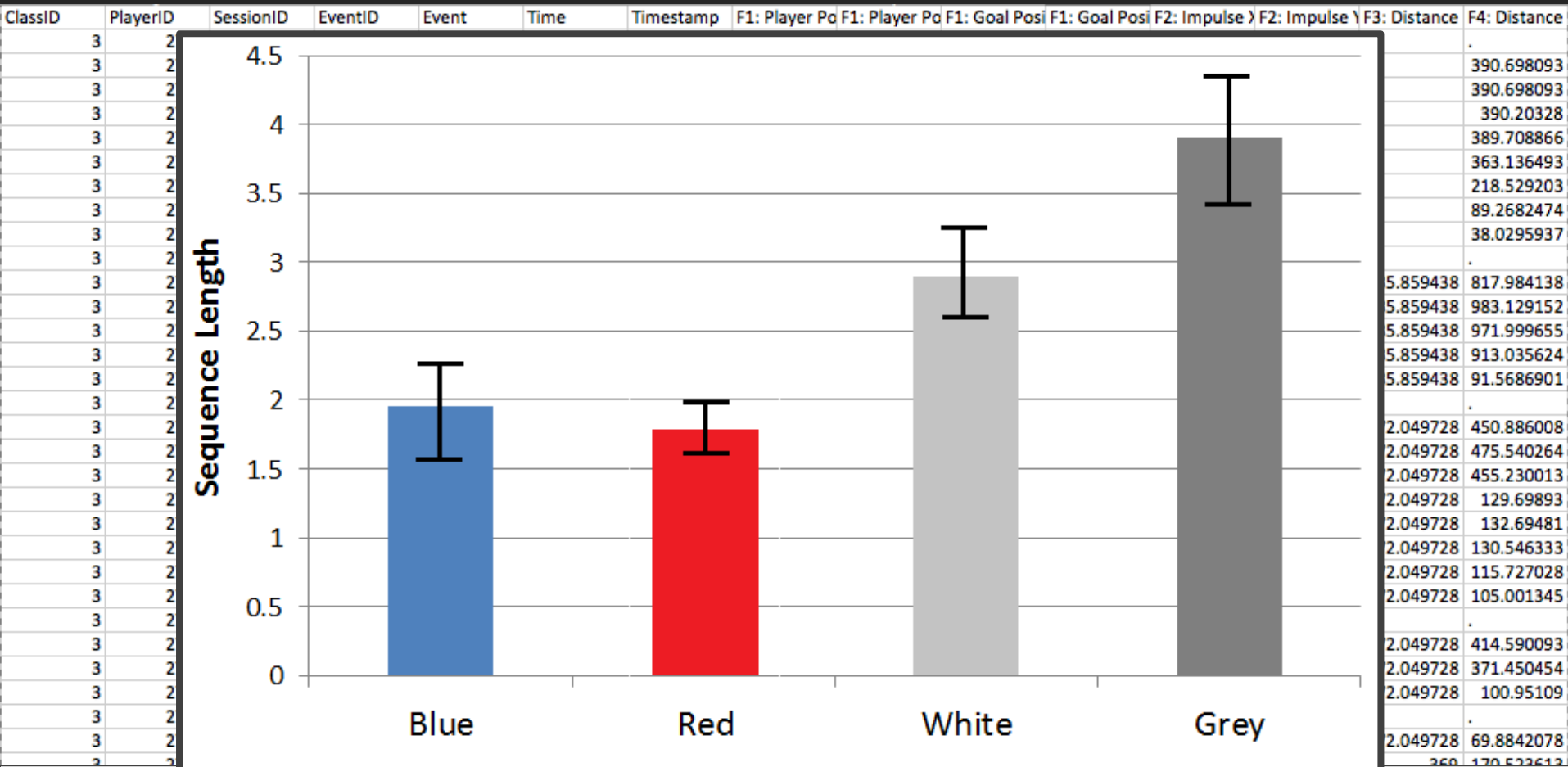




# Reveal Implicit Knowledge



# Reveal Implicit Knowledge



We build learning analytics to find the patterns of play in the data logs



3	2715	X189666	3	Mouse Click	05:29.4	#####	188.3	58.75	116.6	127.35	168.55	42.65	369	99.2512955
3	2715	X189666	222	Transition Sc	05:29.9	#####	306.25	123.5	116.6	127.35	.	.	369	189.689075



# Revealing the Implicit to the Teacher

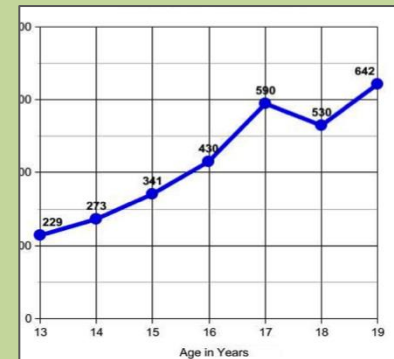
## Teacher Dashboard

### Student Alerts

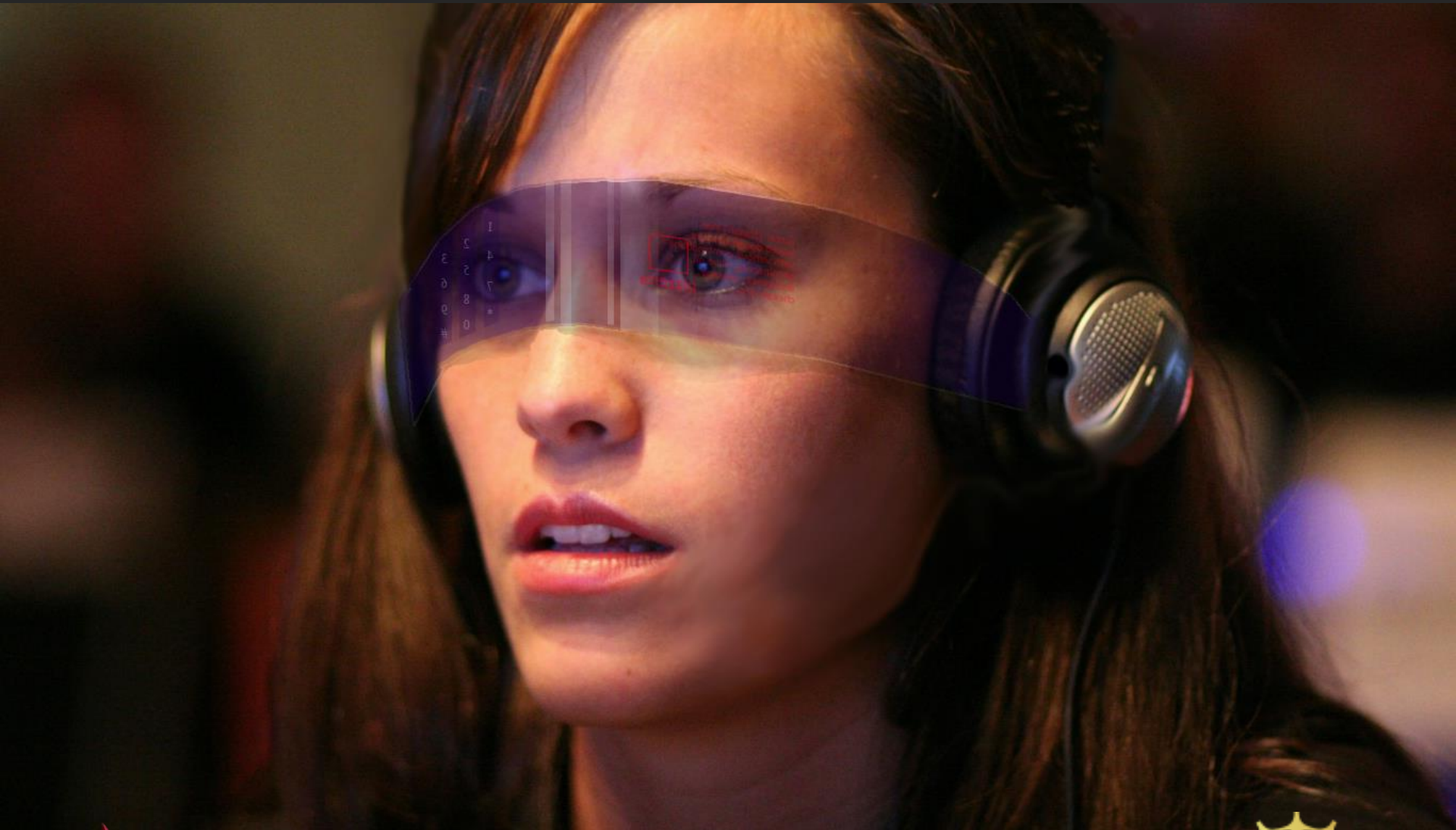
- Marisa
- DeLoit
- Thom

### Class Progress

#### Outcome A



# Revealing the Invisible



NSF/EHR/DRL/DIR#1417967







# Rapidly Blurring Reality





Researcher Director: Elizabeth Rowe

Lead Designers: Jamie Larsen and Teon Edwards

Educational Director: Erin Bardar

Community Director: Barb MacEachern

Project Coordinator: Katie Stokinger

