

Redefining the Interactive Experience in Museums Using Emerging Technologies

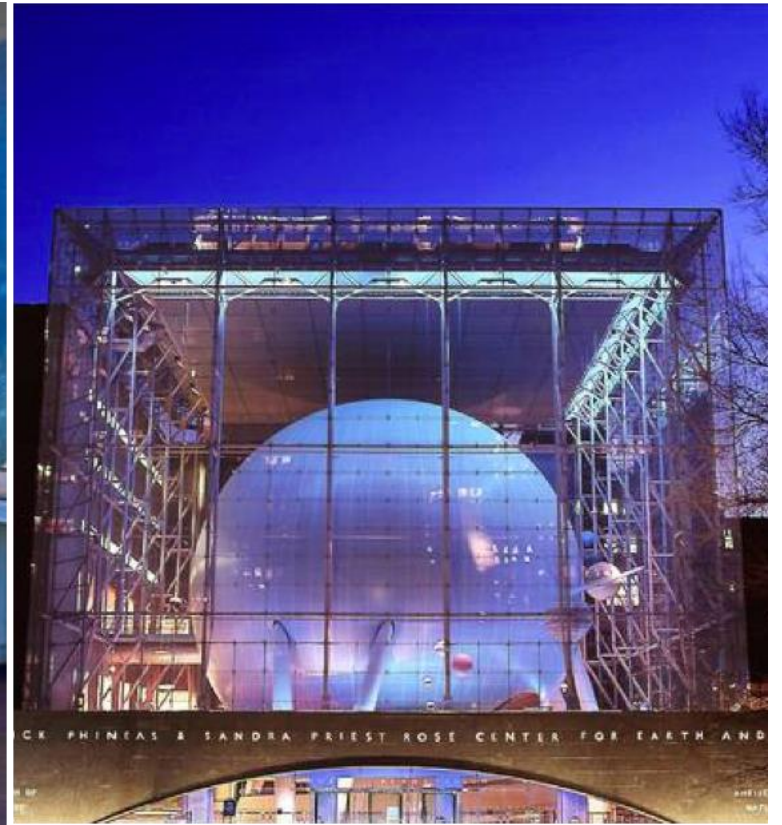
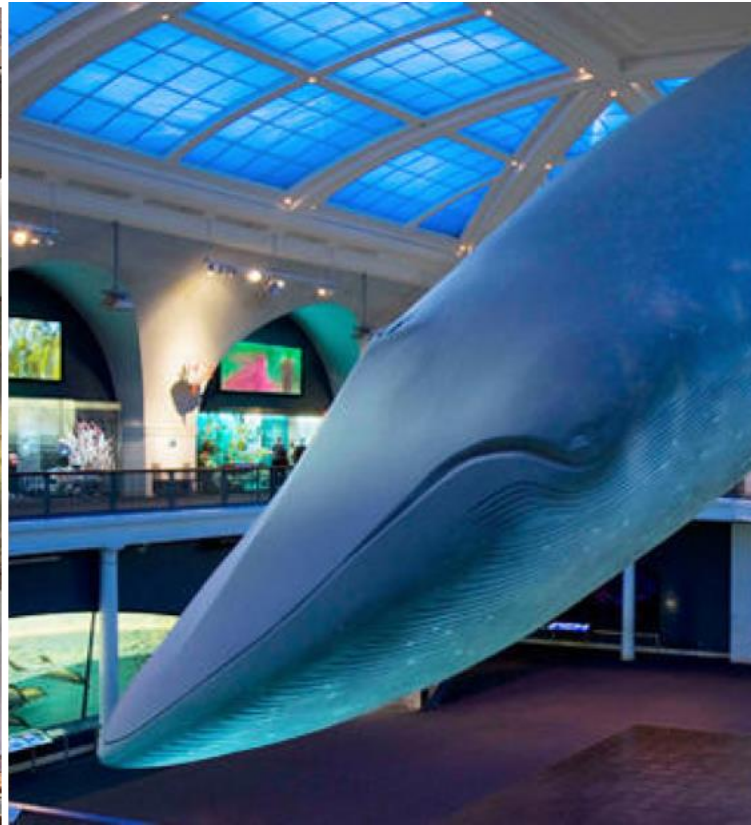
Eojin Chae

Lead Digital Artist, Science Visualization Group

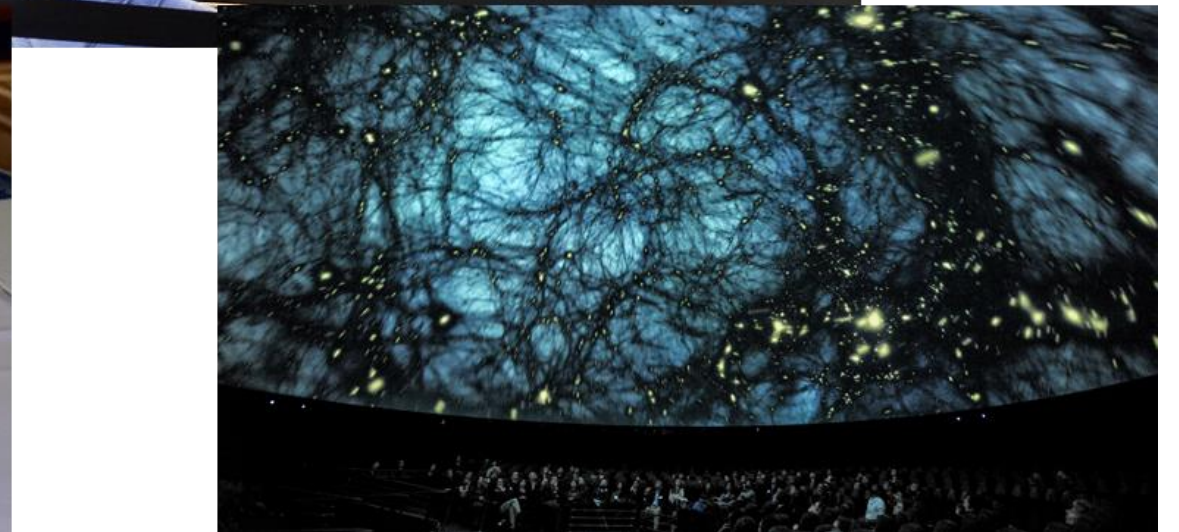
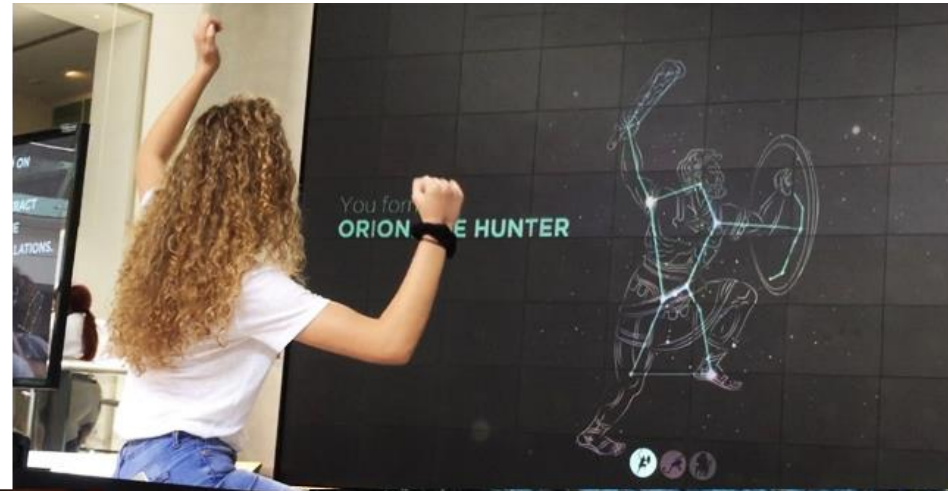
American Museum of Natural History, New York City



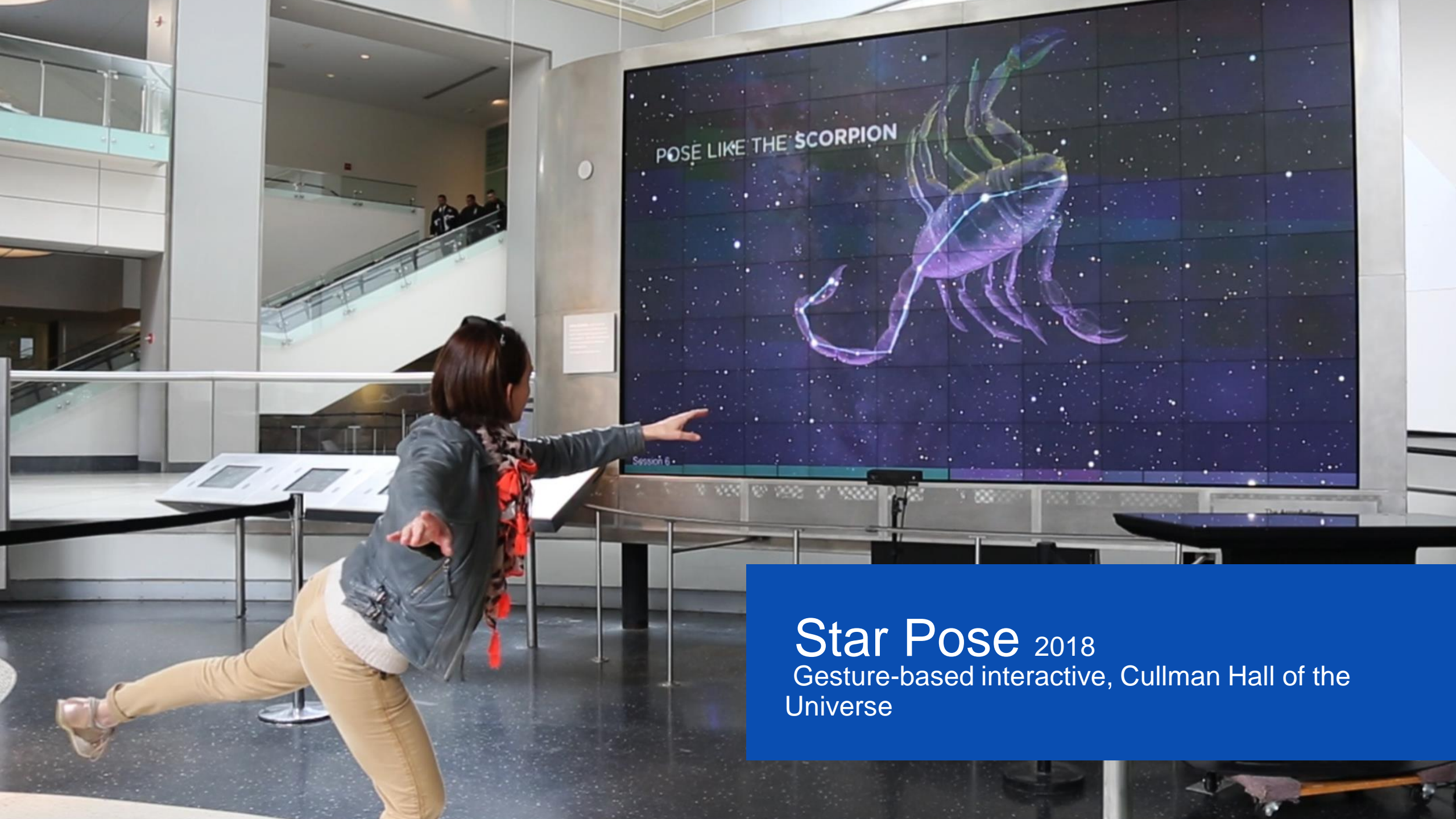
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AMNH Science Visualization Group



Projects



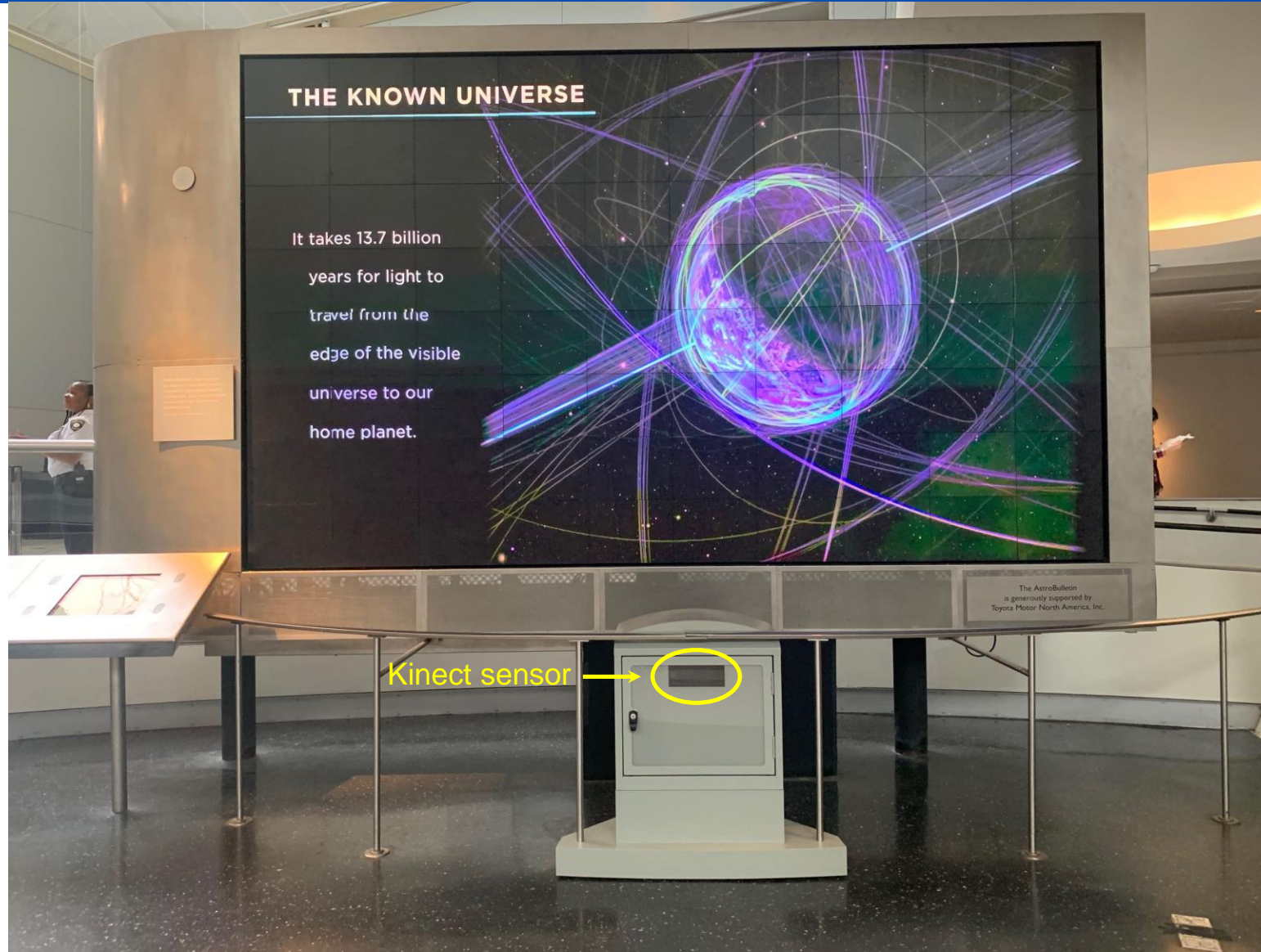
POSE LIKE THE SCORPION

Star Pose 2018
Gesture-based interactive, Cullman Hall of the
Universe

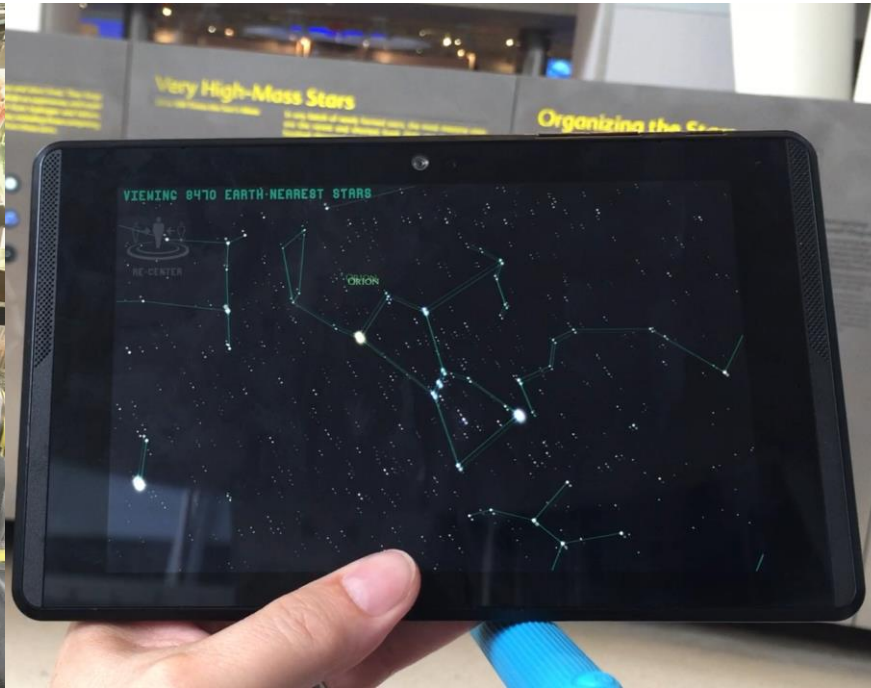
Location: Cullman Hall of the Universe



Canvas: Astro Bulletin screen



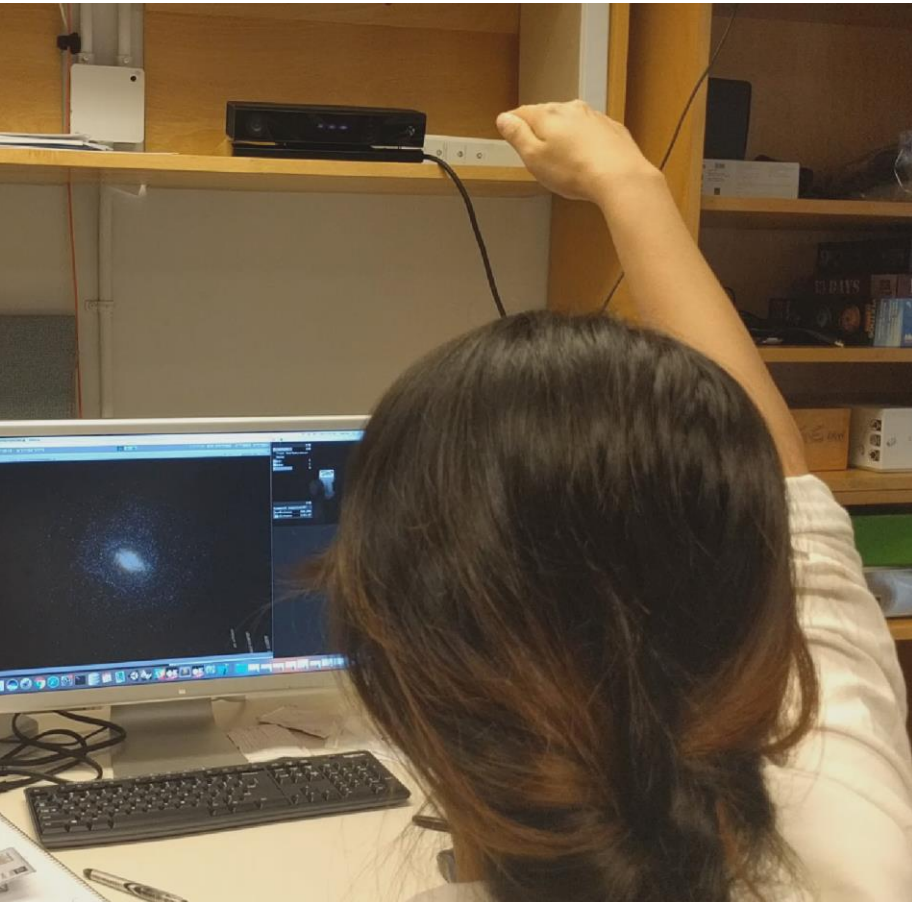
Early prototypes: platform and content



Touch table vs. Gesture-based interactive



Iterative design process: Incorporate user's intuitive actions



Iterative design process: Posing as a vehicle for learning



Collect and analyze user feedback



5. Stars in a constellation are the same distance from Earth.

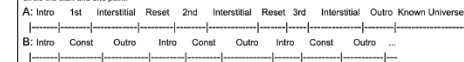


OBSERVATION FORM - Star Pose

Directions: Observe and complete this form for each visitor engaging with the activity.

Session ID	Gender	Age Group	Start/End time
	<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Other	<input type="checkbox"/> Child (years) <input type="checkbox"/> Young Adult (12-18) <input type="checkbox"/> Adult <input type="checkbox"/> Senior (55+ years)	

Circle the start and end point:



INTERSTITIALS

1. Does participant interact with an interstitial until it is complete?

1st: _____ 2nd: _____ 3rd: _____

2. What does he/she do with his/her bodies during the interstitial(s)?

1st: _____ 2nd: _____ 3rd: _____

3. Does he/she say anything?

END POINT

4. How many rounds does the visitor complete? (take info from timeline above)

5. Does he/she stay for the final beat? (take info from timeline above)

INTEGRATION

6. Was there anything observed or overheard that suggested:

Lack of integration: Signs of frustration | Signs of being hesitant or unsure

Signs of integration: Delight | Confidence

Things to watch for re: integration:

Line wait time | Awareness of wait time | Claiming their turn | Beginning the experience | During their experience |

When and how to conclude it

Evaluator Name: _____

Star Pose Daily Feedback Form

Today's date: _____

Facilitator names: _____

Time opened to public: _____

Time closed to public: _____

Please keep a tally of users (by estimated age)

Children: _____

Teenagers: _____

Adults: _____

Overall today, how would you rate players on the following measures? CIRCLE your response.

Were able to make the poses

1 No players	2 A few players	3 About half of players	4 Most players	5 All players	Not sure
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Played more than one round (i.e., made multiple poses)

1 No players	2 A few players	3 About half of players	4 Most players	5 All players	Not sure
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Walked off "Earth" and made the constellations morph

1 No players	2 A few players	3 About half of players	4 Most players	5 All players	Not sure
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Understood the game's message (that constellations exist in 3D space, not on a flat plane)

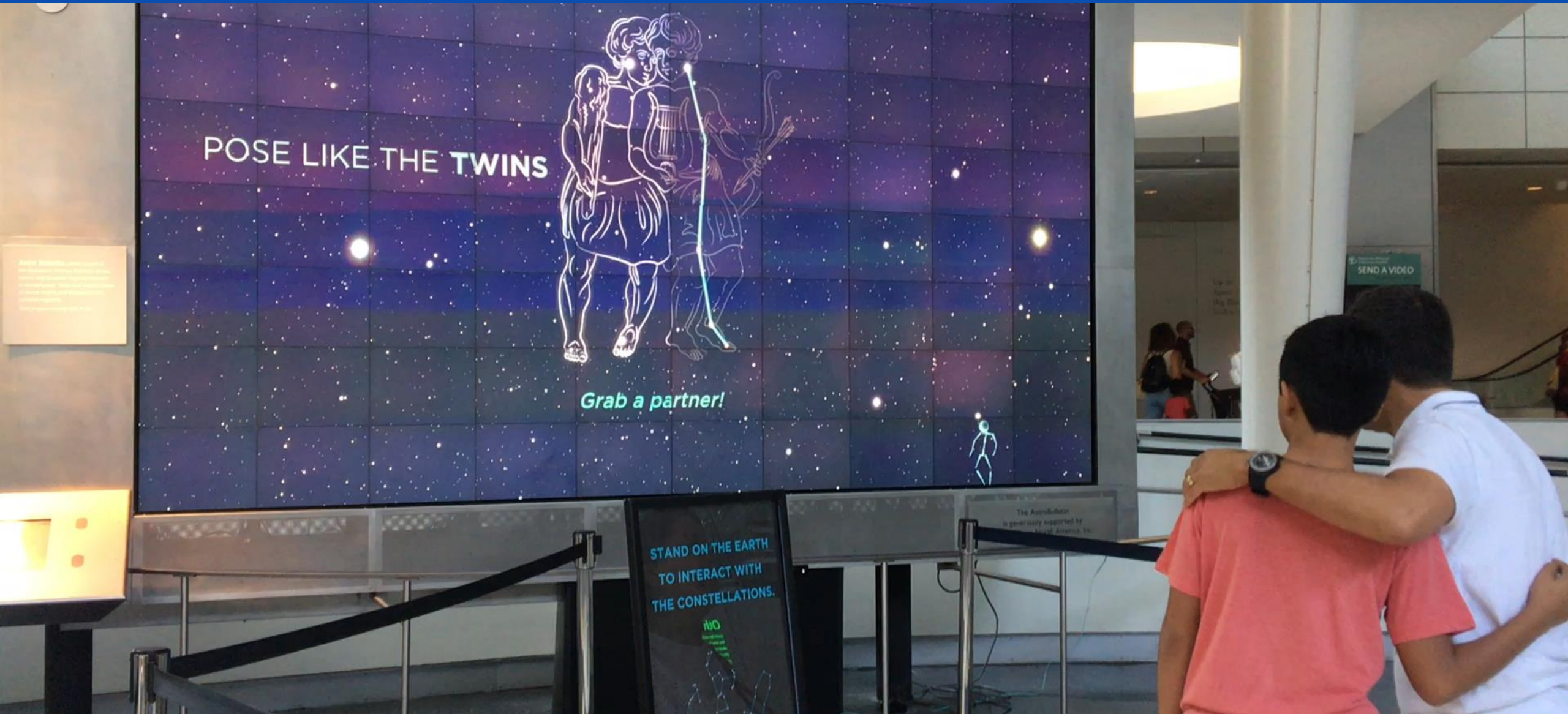
1 No players	2 A few players	3 About half of players	4 Most players	5 All players	Not sure
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Please share any questions or suggestions you (or visitors) may have:

Friends and family, a sharing experience



Friends and family, a sharing experience



Leave enough flexibility for free exploration



The impact of Star Pose on visitor flow





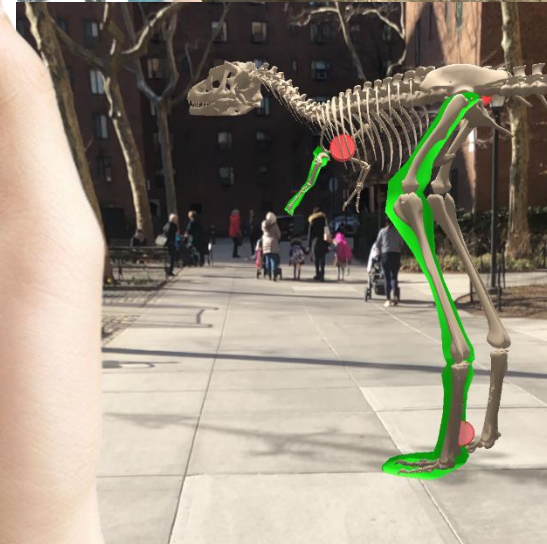
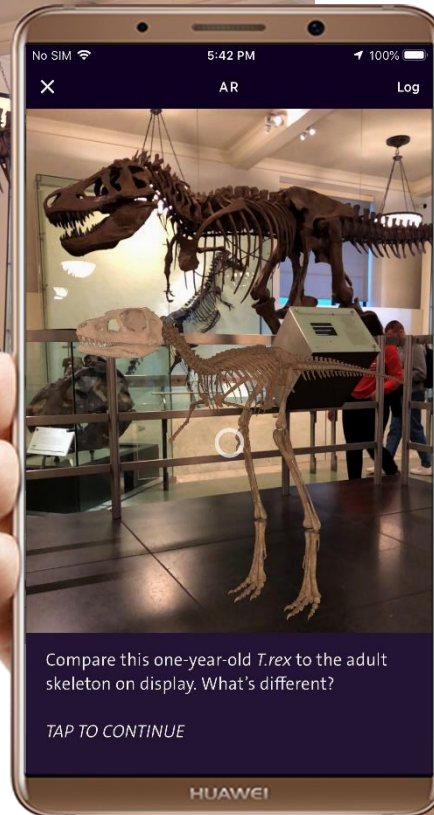
AR Explorer 2019

Augmented Reality features in the Museum's mobile app

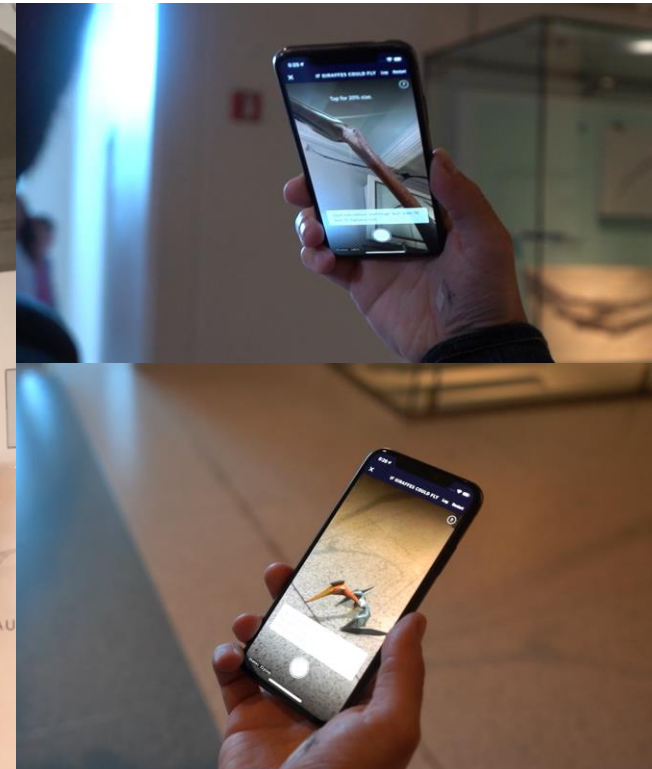
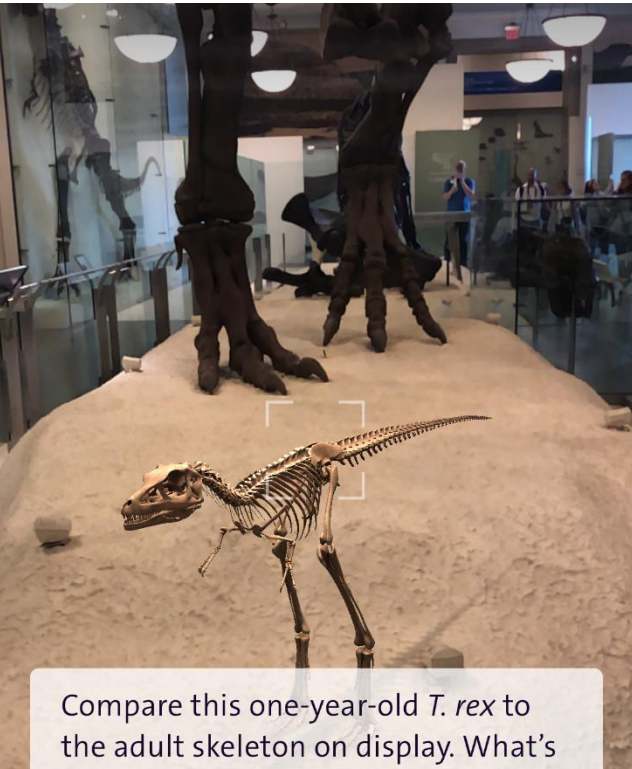
Lesson: It's hard to overlay the content on physical exhibit...



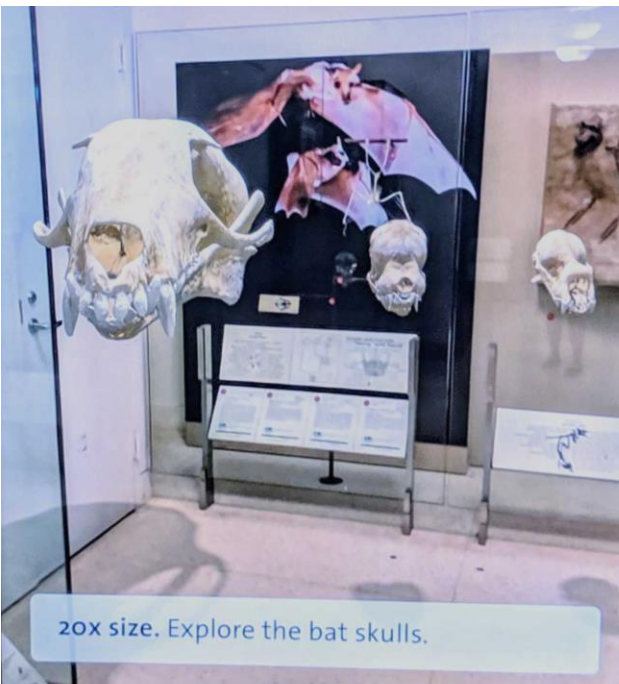
... offsetting the content opens up more opportunities!



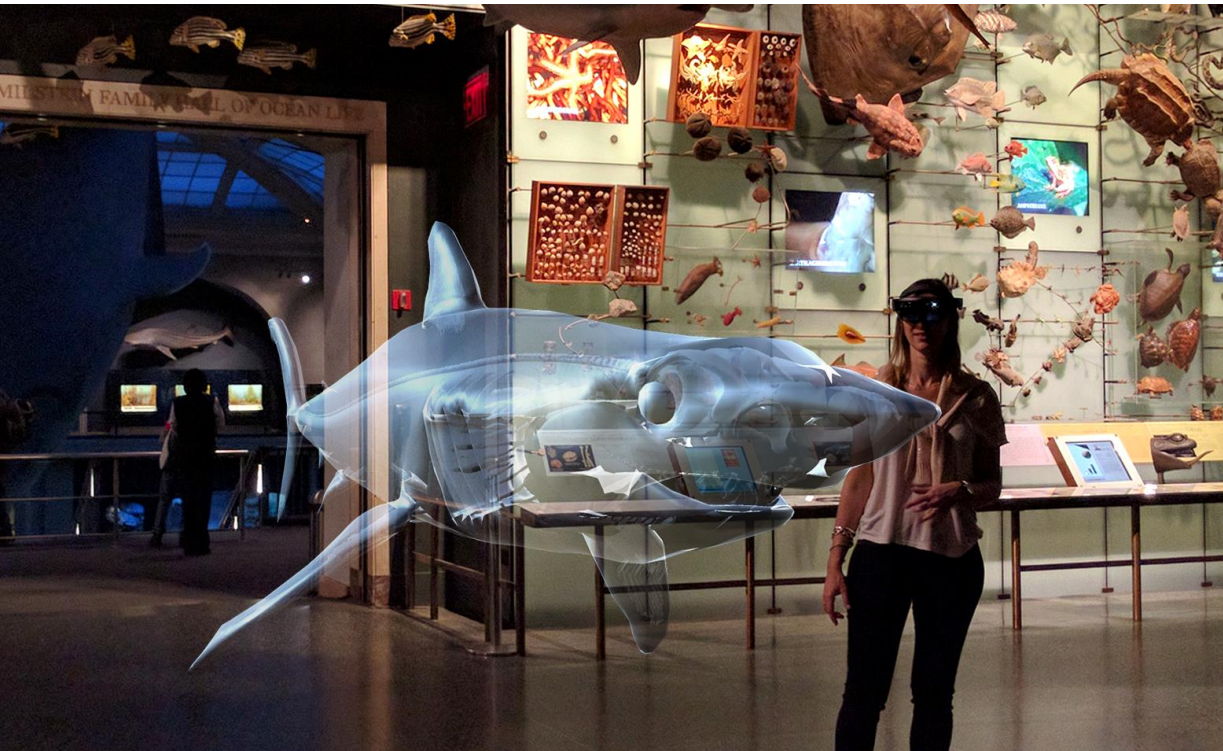
AR offers unique learning opportunities



AR offers unique learning opportunities



AR content may disrupt visitor flow



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Key Strategies

- 1 Prototyping is essential for the iterative design process
- 2 Let your user's intuition be your guide
- 3 Create meaningful connections to museum exhibits

4 Simplify content for unfamiliar platforms

5 Pare down your learning objective

6 Make experiences social

- 7 Caution! Plan for changes in visitor flow
- 8 Conduct user testing early and often
- 9 Gameplay itself should promote active learning


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T.rex Skeleton Crew 2019

Multi-player interactive Virtual Reality experience



Know the *Tyrannosaurus Rex*
Like Never Before



A woman is shown from the chest up, wearing a black VR headset and holding two blue VR controllers. She is smiling and looking upwards. The background is dark and out of focus, showing other people in VR headsets and some ambient lights. The text "Q&A" is overlaid in the center of the image.

Q&A