



# AR Game Design 101

# What is this talk about?

- AR Game Design Principles: Tips & Tricks
- Prototyping in AR
- Playing AR in the Real World

# Introductions

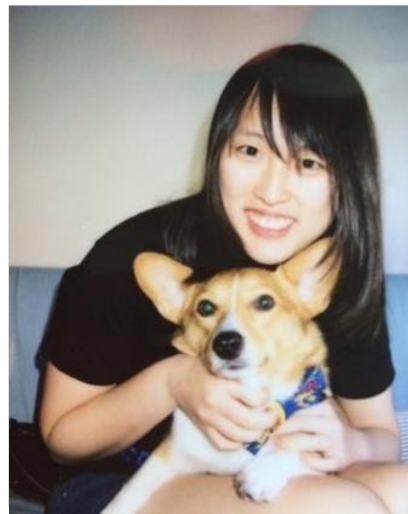
**Laura Warner**

Senior Game Designer



**Kirsten Koa**

Senior Software Engineer



# About Niantic

2001 (2004)



Google  
Earth

2012



Field Trip

2013



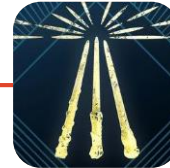
Ingress

2016



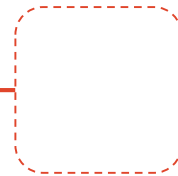
Pokémon  
GO

2019



Harry Potter:  
Wizards Unite

20##



TBA

# Niantic Mission



## Explore

....

**Discover the world  
around us**



## Exercise

....

**Most of the time, a simple  
walk will do**

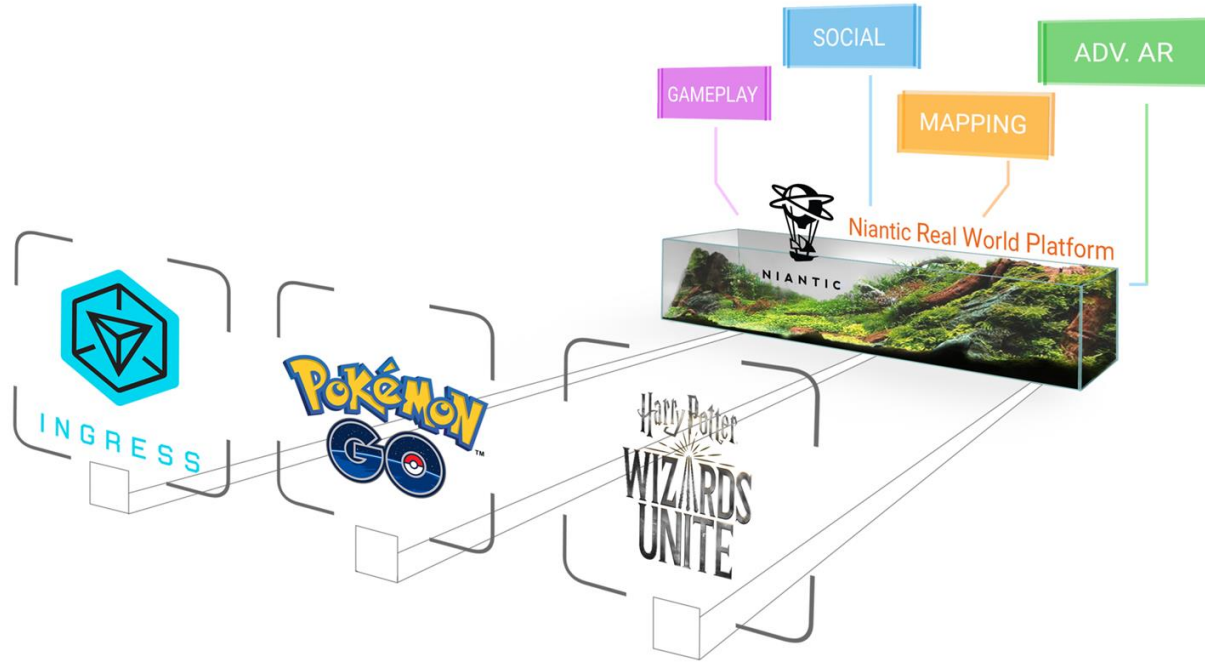


## Social

....

**Real-world, meaningful  
Interactions**

# Enabling Real World Experiences



# What is AR?

## augmented reality **noun**

### **Definition of *augmented reality***

: an enhanced version of reality created by the use of technology to overlay digital information on an image of something being viewed through a device (such as a smartphone camera)

# What could AR be?

Augmented reality can transform the mundane into something more colorful and fun, and can provide a useful nudge to go off and see new places and meet new people.





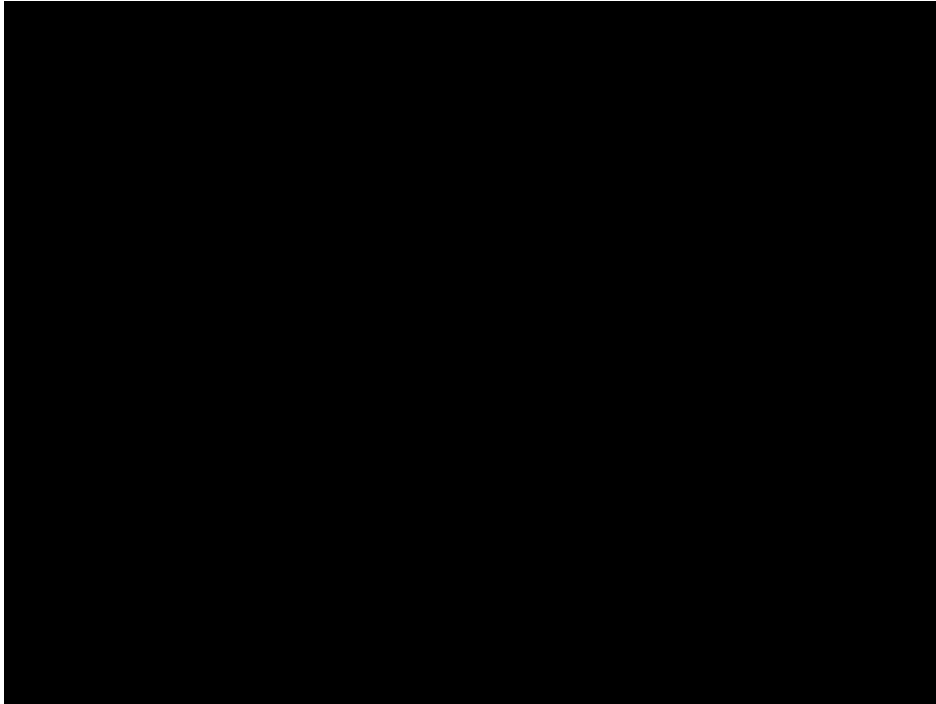


## SIX AR Game Design Tips



Design for the Real World

# Design for the real world



**Paradigm shift.** AR allows you to create experiences that are impossible in the digital space

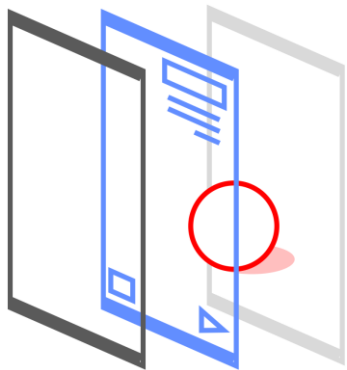
- Real world
- Physical location
- Player as the avatar
- Creating real world memories



Choose the Right Interaction Layer

# The right interaction layer

Have players interact in the **World Space** instead of traditional Screen Space



1. UI
2. Game
3. (New) Real World





Visual Details Matter

# Visual details matter

Make sure your digital assets feel like they are interacting with the **real world**

- Shadows
- Lighting
- Ground planes
- Depth
- Scale



AR Overlay

V.S.



Immersive AR



Integrate the Device Into the Experience

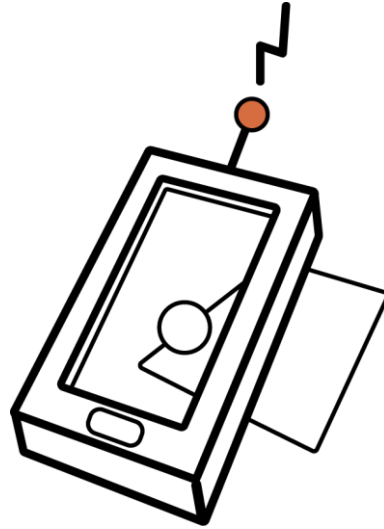


# Integrate the device into the experience

**Embrace** the narrative potential of the physical device instead of fighting it.

Examples:

- Ingress “Scanner”
- Pokémon GO “Camera”





Think about Player Ergonomics

# Ergonomics! Don't tire your player



There is a **physical component** to engaging AR experiences.

- Consider physical fatigue
- Keep AR sessions short
- **Sweet spot: 0:30 - 2:00**
- Rest periods



Remember AR Onboarding Takes Time

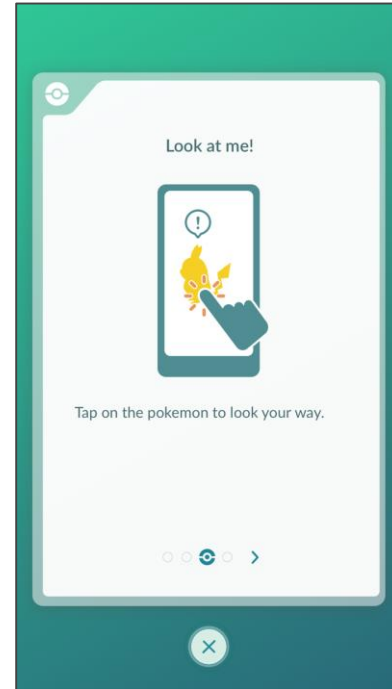
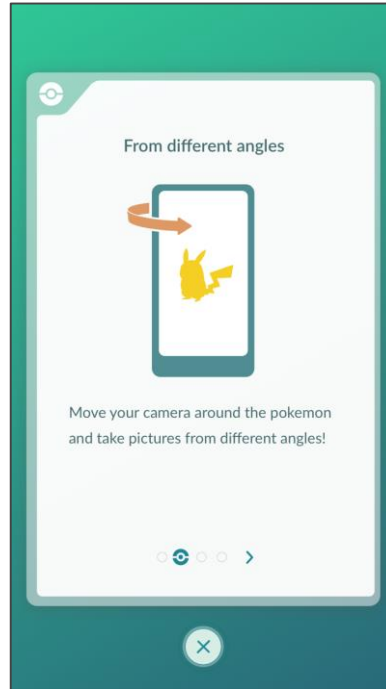
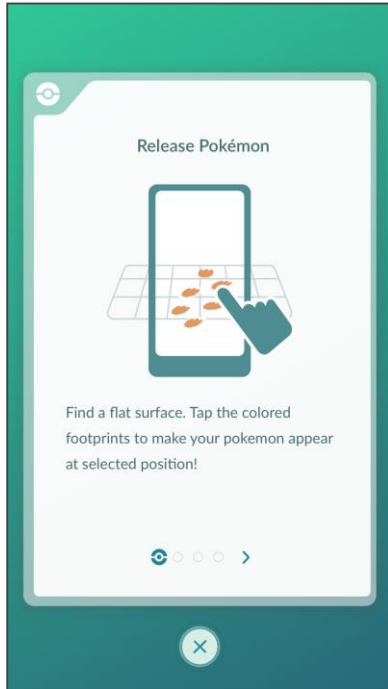
# AR Onboarding takes time

AR technology is still new to players!

Start with the familiar.



# AR Onboarding takes time





## Lessons in AR Prototyping

# Prototyping: Why do it?

- Find what's fun
- Inform design decisions
- Foster collaboration



# Prototyping: Finding the Fun



Developer Build, 2018

# Prototyping: Informing Design Decisions



# Prototyping: Fostering collaboration

Prototypes can be effective tools to use with cross-team collaborations.

- Give each prototype a purpose
- Get it into stakeholders' hands
- Get feedback

Prototypes can showcase the impact of small details that may not look too important on paper.

# Prototyping: Quick Dev Tips

**Mock** the AR environment in Unity to increase iteration speed

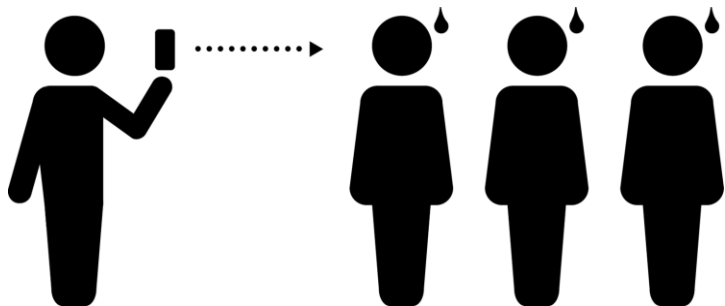
**Test** your feature on as many different devices as possible

**Support** devices incapable of immersive by ensuring those players have access to the same benefits



Bonus **AR** Tips!

# AR is not a social norm (yet)



Make AR comfortable for your player and for those around them!

- Keep moving
- Active gestures
- Focus on ground and sky  
i.e. away from faces

# Encourage situational awareness

Give players the time and space to comfortably play while staying aware of their surroundings.

- Multitasking is hard
- Allow players to look up
- Don't pressure players; and don't force them to focus on screen



# Summary

1. Design for the real world
2. Pick the right interaction Layer
3. Visual Details Matter
4. Integrate the devices into the experience
5. Ergonomics! Don't tire your player
6. AR Onboarding takes time
7. AR is not a social norm (yet)
8. Encourage situational awareness

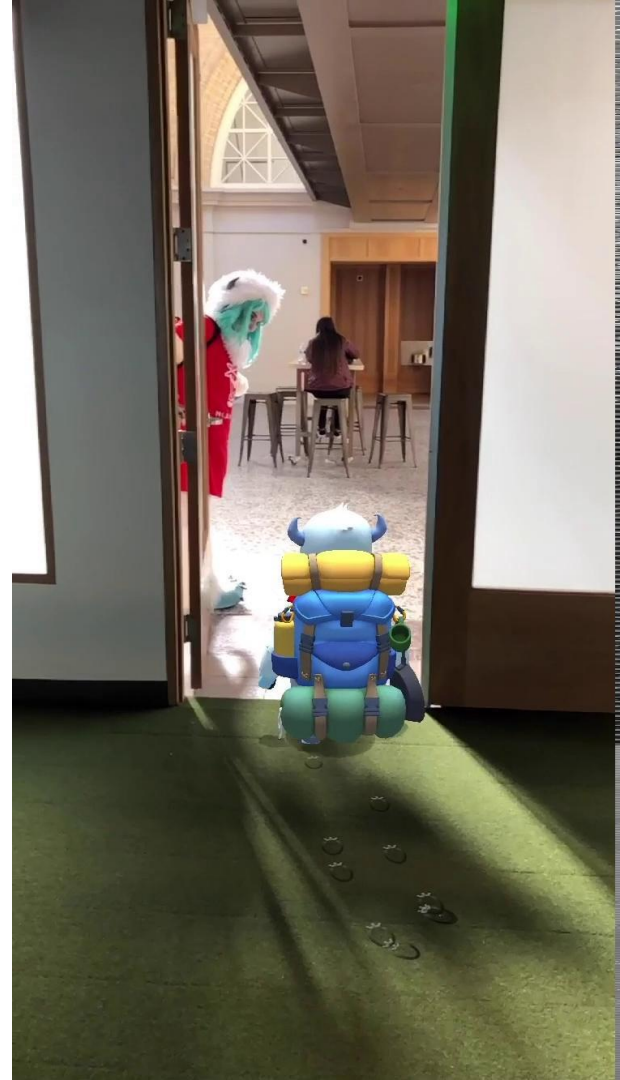
Prototype! Prototype! Prototype!



# Niantic's AR & Future

To see our AR in action today check out GO Snapshot and Buddy Adventures, including multiplayer, in Pokémon GO!

Looking ahead, you'll see us focusing on how to bring our augmented reality tools to everyone and every developer.



# Thank you!



**N I A N T I C**

Join us!

[nianticlabs.com/jobs](https://nianticlabs.com/jobs)