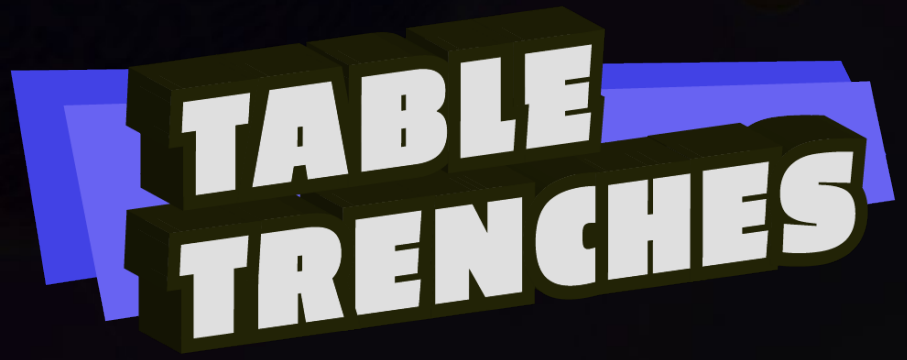


Design Challenges and Opportunities in Mobile AR

A Table Trenches Retrospective

DB
creations

Blake Gross

DB Co-Founder

Former senior tech lead developing 1st Party Enterprise HoloLens Apps at Microsoft (Layout, Product Visualize, UnityGLTF), engineer on Xbox Live.

Dustin Kochensparger

DB Co-Founder

Senior Producer at Bungie developing Destiny 2

Focused on Production, Design at DB

Why Make AR Games?

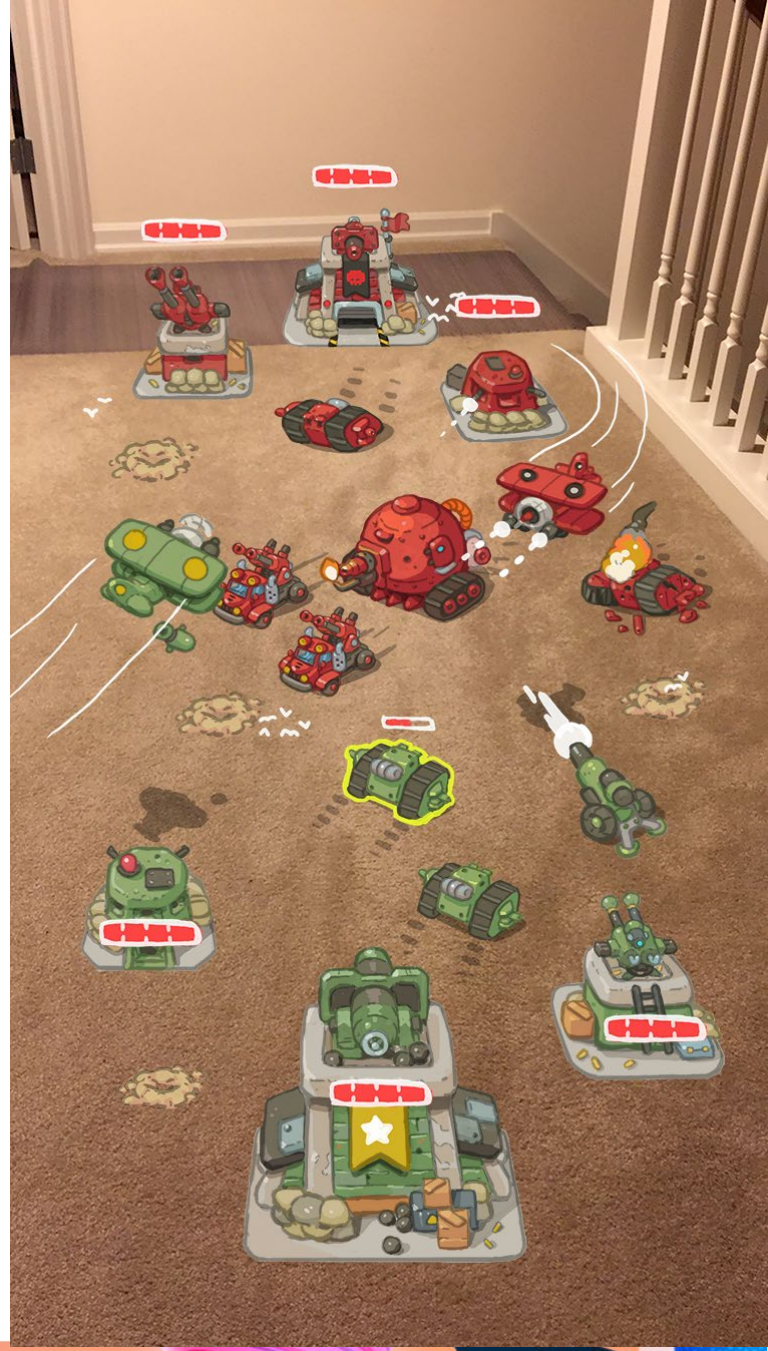
1. AR is the next big disruptive technology market
2. Consumer AR glasses need content
3. New frontier of exploring gaming within spatial computing

TABLE TRENCHES

Casual RTS designed from the ground up for AR

Scan table, couch, or floor and create a playspace that's scaled to players environment

Capture towers, deploy units, and fight to the last in fast paced strategy action!



Gameplay Video

Hero Idea – The Magic of AR

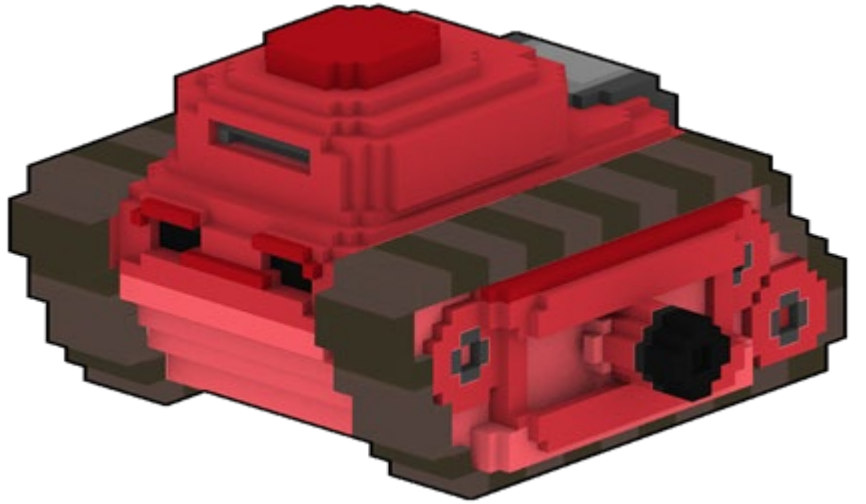
Environmental adaption

Dynamic map

Immersive in environment

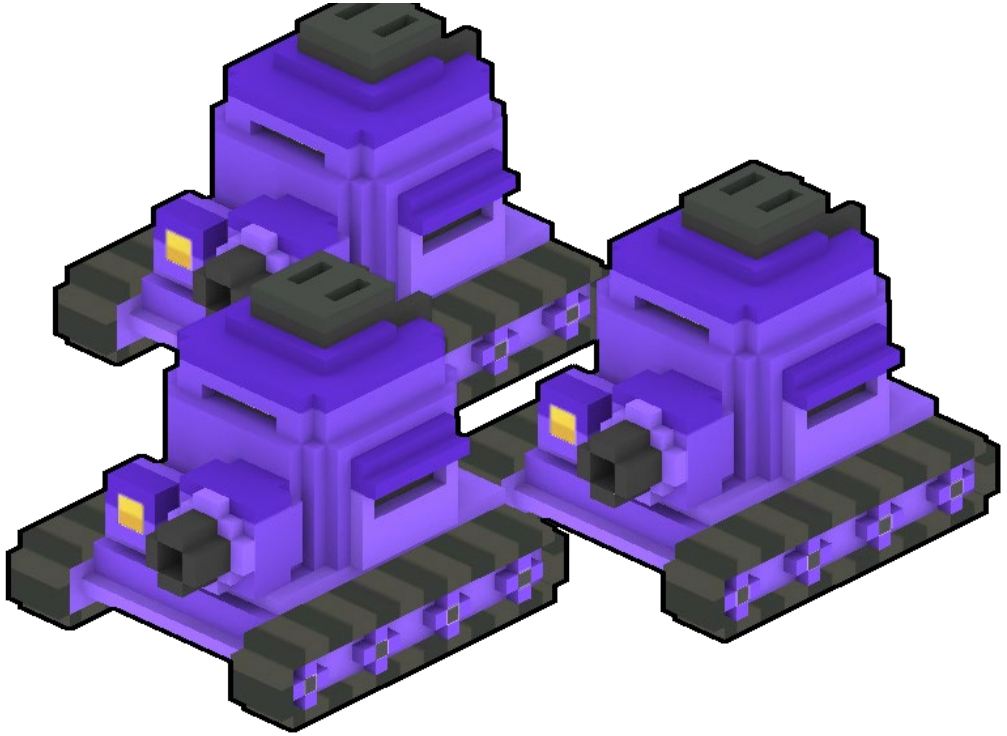
Seamless viewing

Hero Idea –> Game



What can the current technology do well?

Hero Idea –> Game

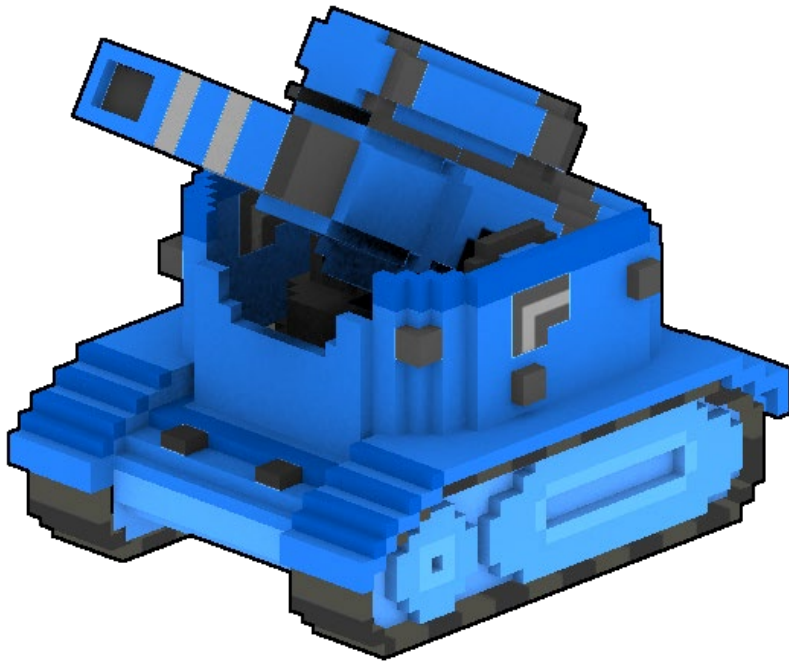


What kind of gameplay could we make with this technology?

Hero Idea –> Game

Looked to strategy game genre

Scoped to team ability, dev costs



Constraints – Battery Life

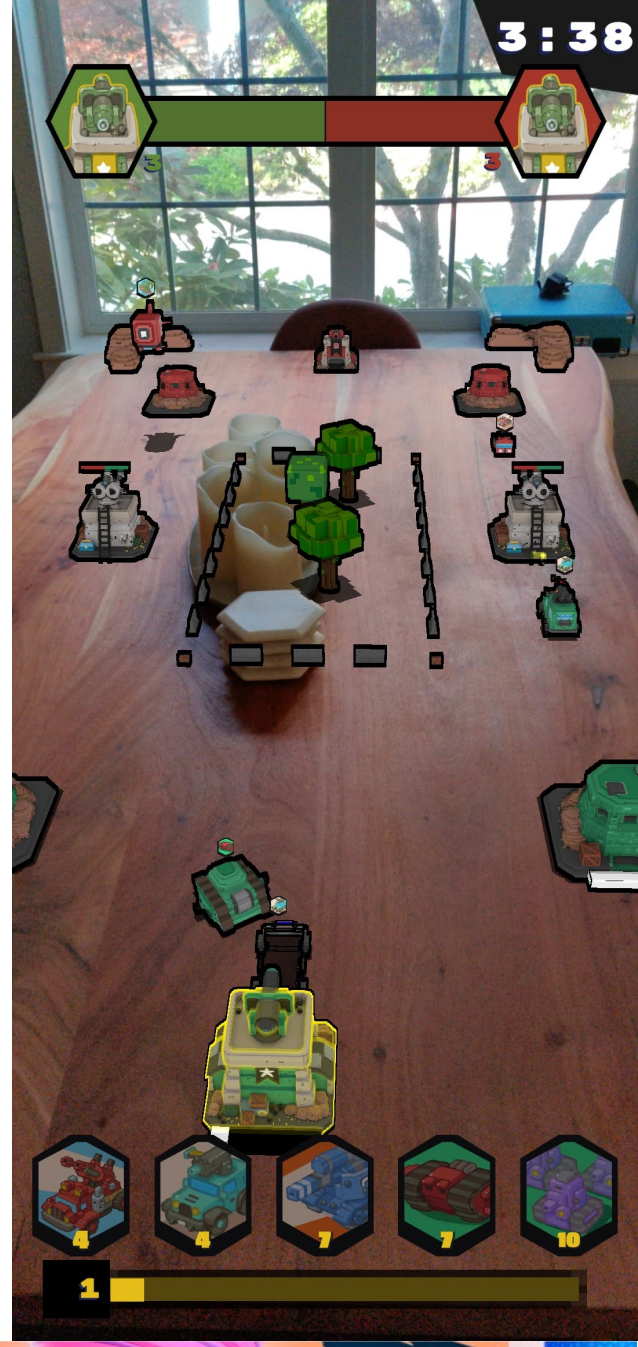
Problem: AR drains mobile device batteries fast

Solution: Short match time

Constraints – Phone as Portal

Problem: Game interface is part of the 'window' into the gameplay – needs to mesh well

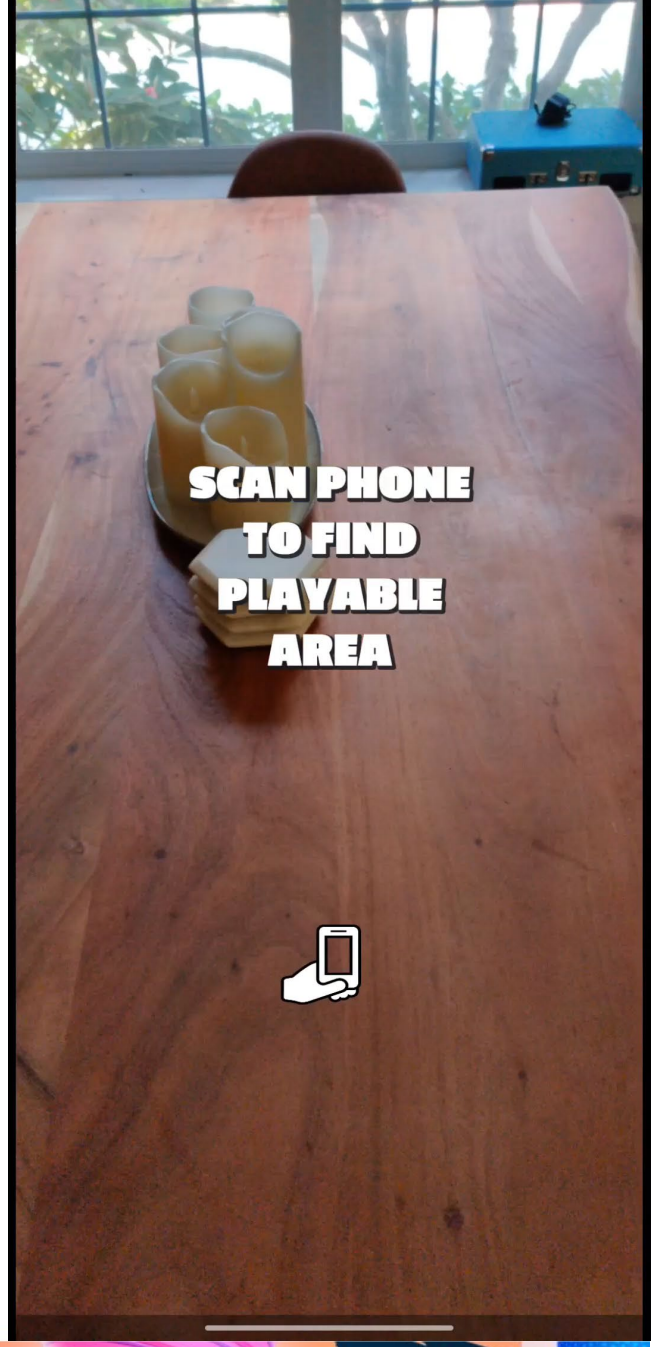
Solution: Minimal UI; balance world and screen space UI



Constraints – Confusing Setup

Problem: Users unfamiliar with AR tech, could get stuck in setup

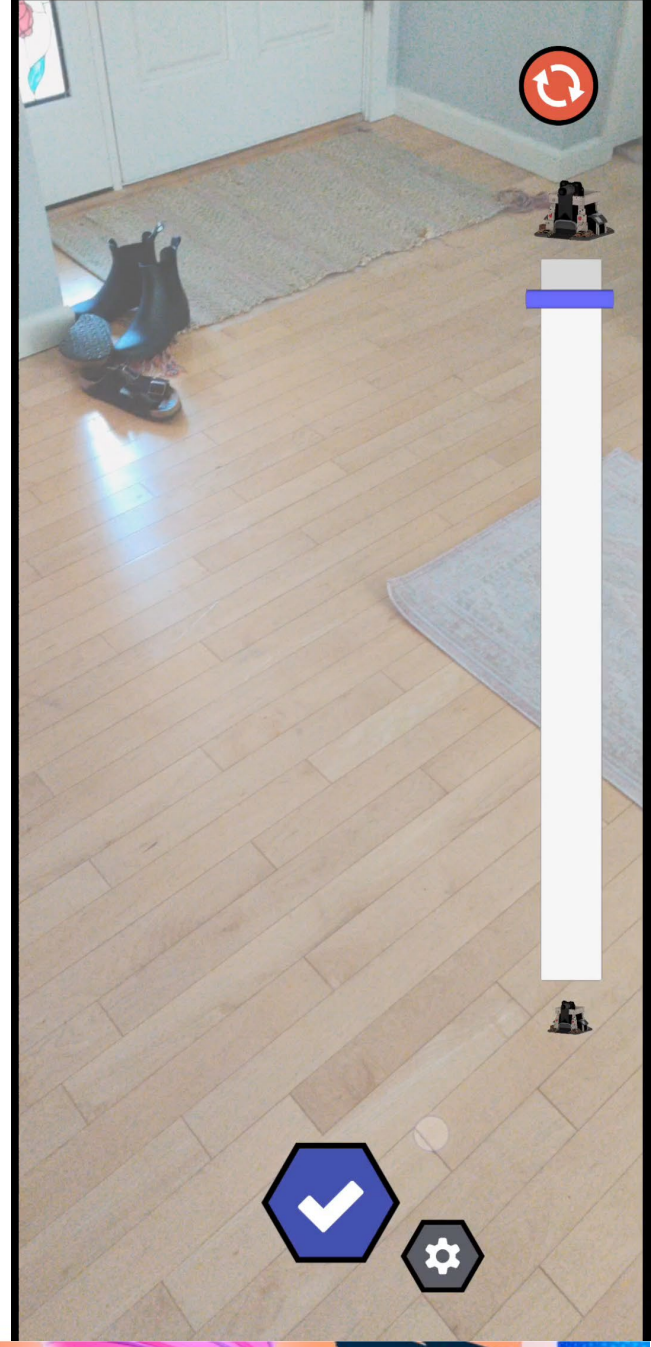
Solution: Optimize plane setup flow



Plane Scan - Scale vs Aspect Ratio

Scale – Is content visible

Aspect Ratio- How does content fit to plane

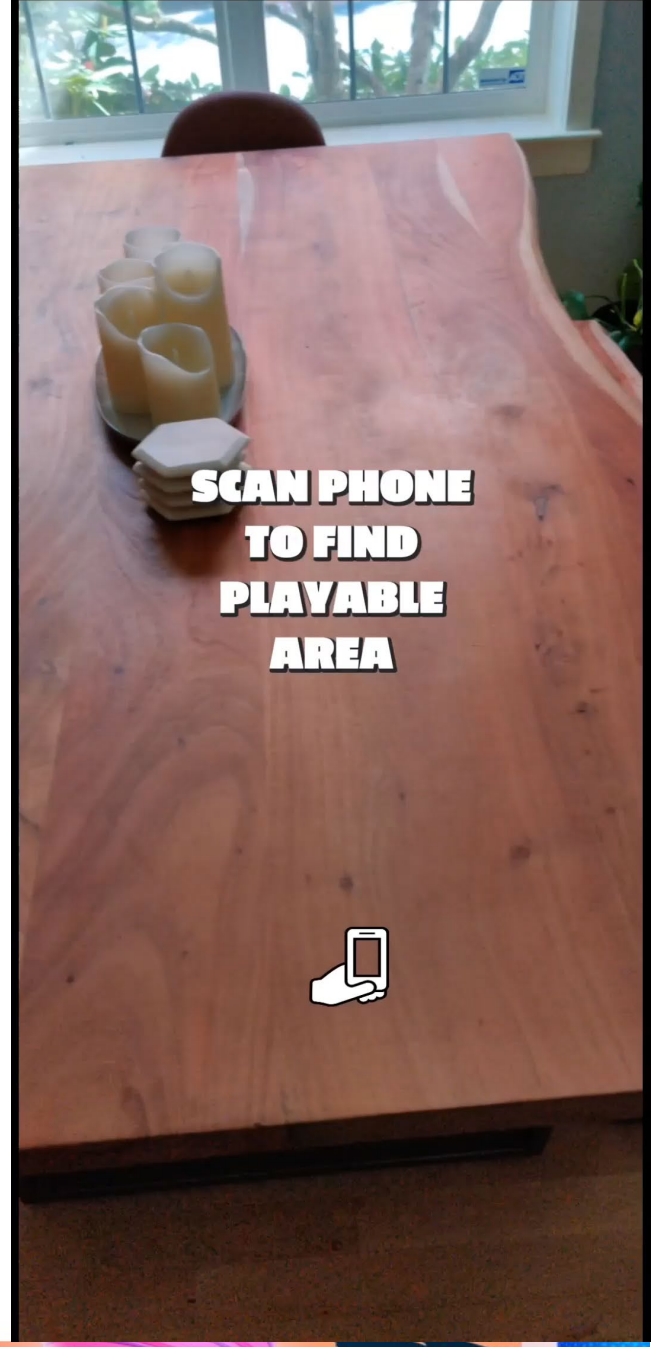


Plane Scan - Time to Play

- Largest retention drop-off
- Balance “have fun” with get to experience

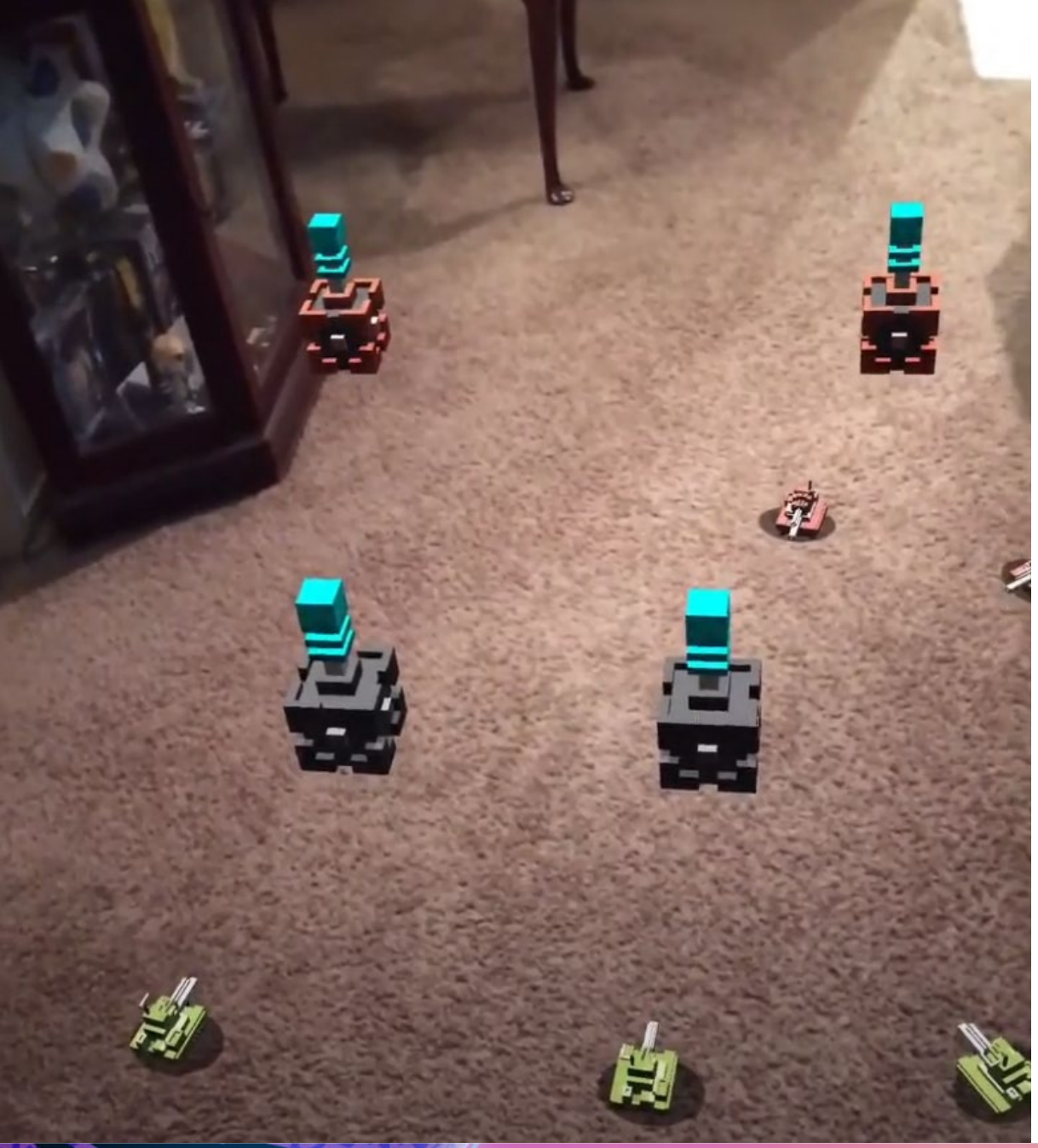
Plane Scan - Adjustment Tools

- Plane find imprecise
- Translation/Scale/Rotate/Aspect Ratio Tools
- Known mobile conventions vs on-screen UI



Co-Located Play

- Goal: No online connection required
- Difficult to get shared space working seamlessly
- Cut-from build last minute
- LiDAR and newer solutions making this easier



It's all iterative!

- Early versions different from the final product
    - Experimented with 2D sprite for units
    - No lanes – units could move anywhere on the map
- Agile-style production
    - Weekly team feedback playtests
- Don't be afraid of change – embrace it!

Market Considerations

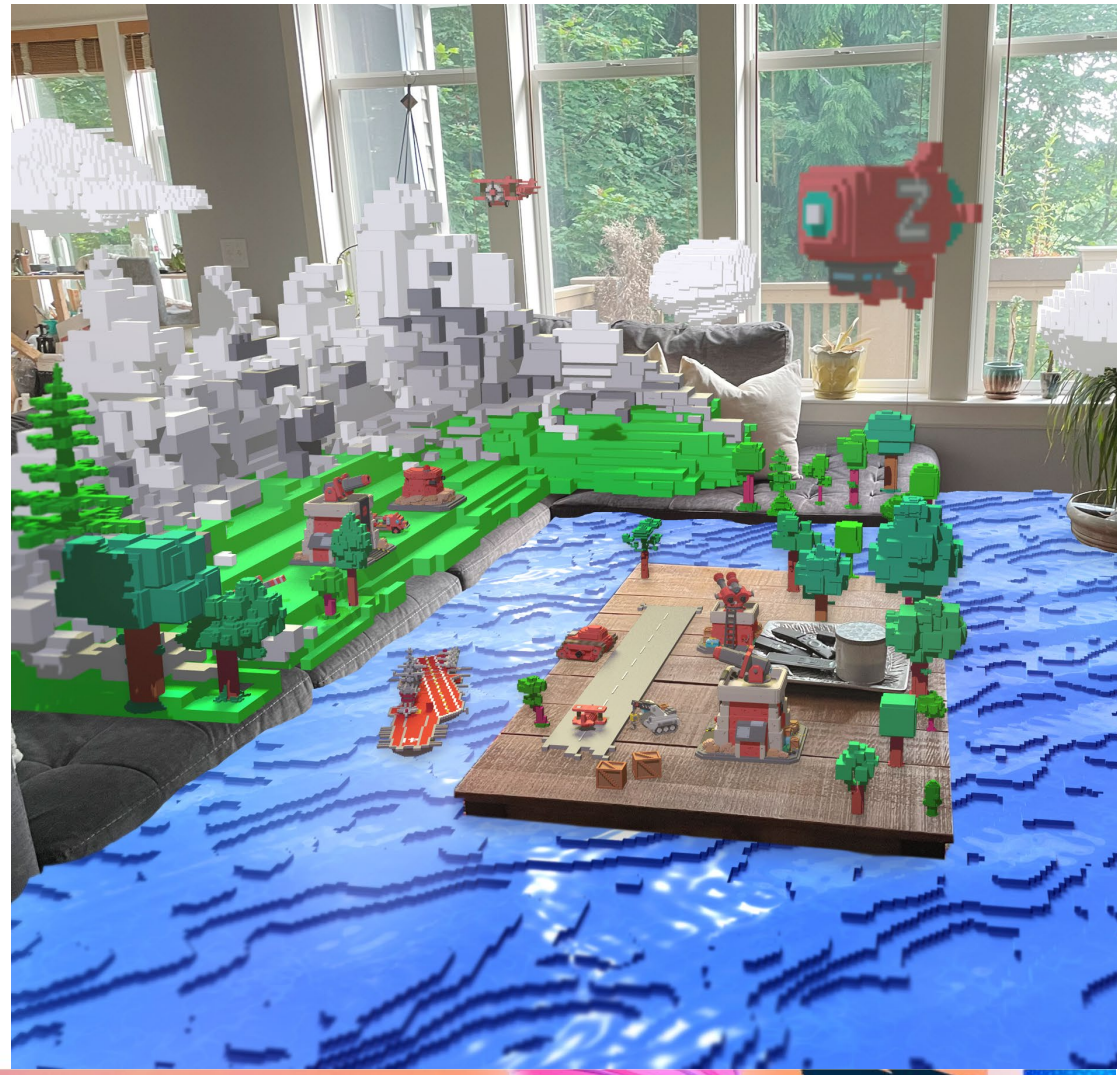
- AR is a global market
- Limited press appetite for AR content
- Market is still learning what AR even is, how to show it to customers
- Bespoke platforms powerful for discoverability (Snapchat, Spark)

What can we do better?

- Better plane find flow
- Additional user hooks
- Online multiplayer

What’s next?

- Table Trenches on Additional Platforms
- Experimentation with Emerging Headsets
- Building for “all-in-one” platforms
- LiDAR!



Send us Questions!

Blake

@BlakeDGross

Dustin

@D_Kochensparger