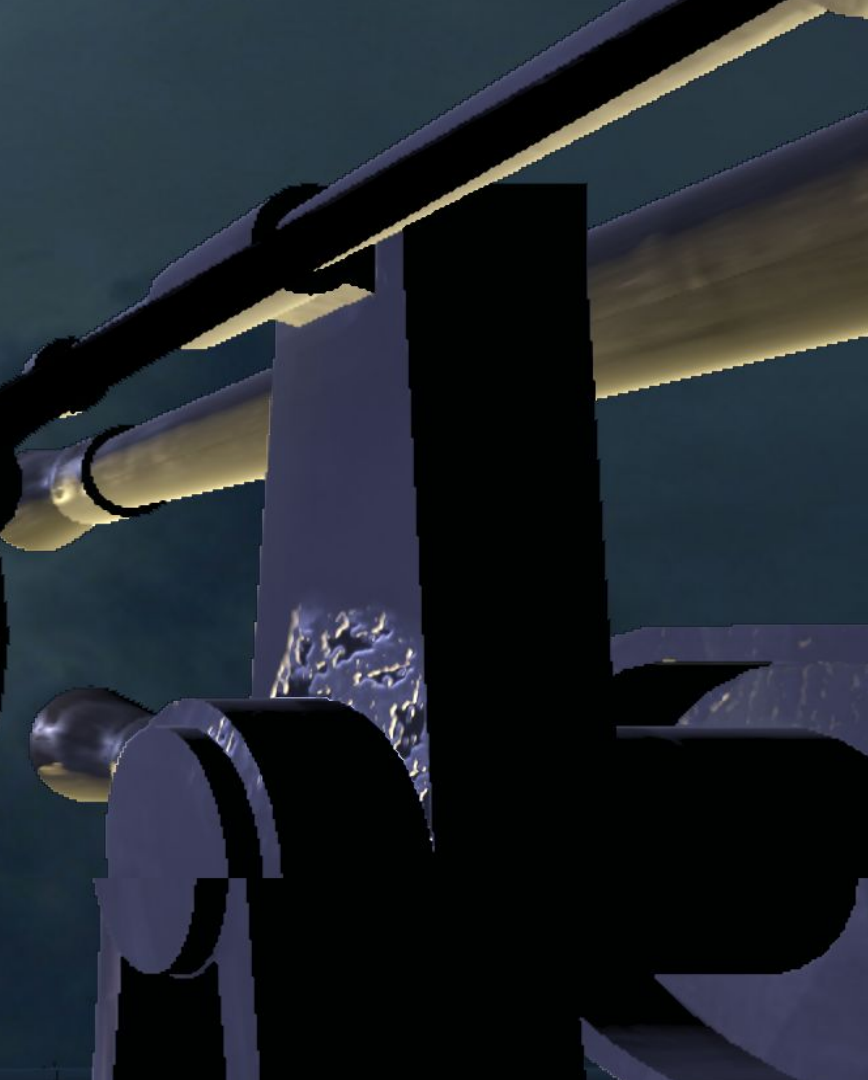




# AirCraft

By Ronn Quijada and Sean Stevens





# Premise

- You are an anti-air gunner protecting your fleet from incoming bombers
- Is an arcade style infinite level game where the player must fight through each wave
- Each wave gets harder, with tougher and faster planes
- Taking too long to shoot down planes will result in a plane escaping
  - The plane will bomb your ship, and it's game over.



# Features

- Skybox
- Sound Engine
- (basic) Animation Engine
- “Pathfinding and AI”
- Physics Raycasting
- Ocean Waves
- (proper) Normal Mapping
- Physically Based Rendering
  - Conservation of Energy, Stronger reflections at grazing angles (Fresnel)
  - Includes texture defined roughness/metallic-dielectric materials
  - Follows metalness workflow implementing Cook-Torrance BRDF



# Optimizations

- Deferred Rendering
  - Primitive models used to “mask” which pixels are affected by each light
  - Greatly reduces amount of fragments processed for each light
- MipMapping
- Instanced Models/Textures
- Independent resolution scaling
  - World can be rendered at a different resolution from the skybox/GUI



# Demo



# Questions?

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- Email: [ripostory@gmail.com](mailto:ripostory@gmail.com)
- Steam: The Planiprism