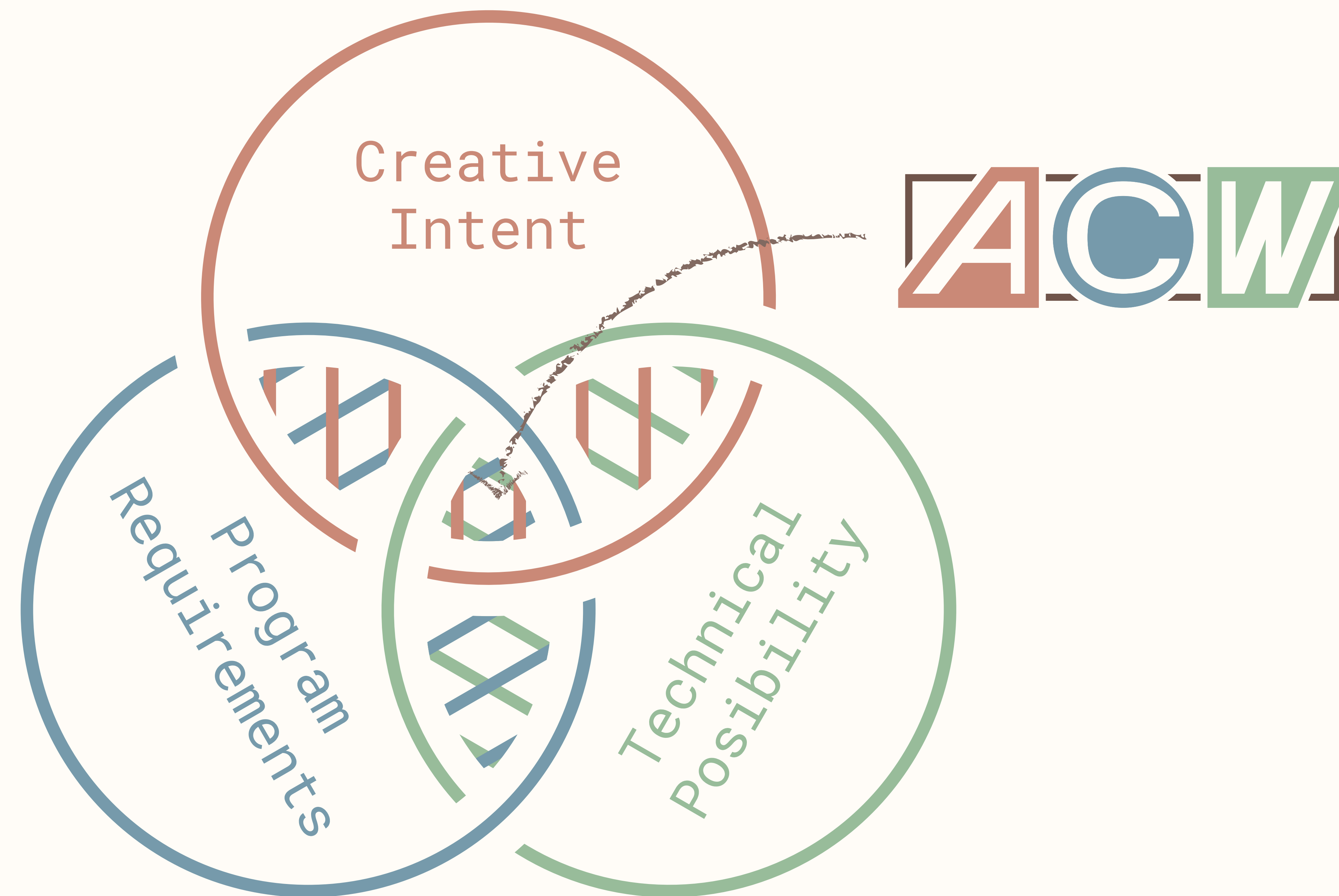


ABSTRACT
CONCEPTS
WORKSHOP

Services & Select Project Examples
Themed Entertainment 2018

Integrated Design • Visualization & Simulation • Pre-programming

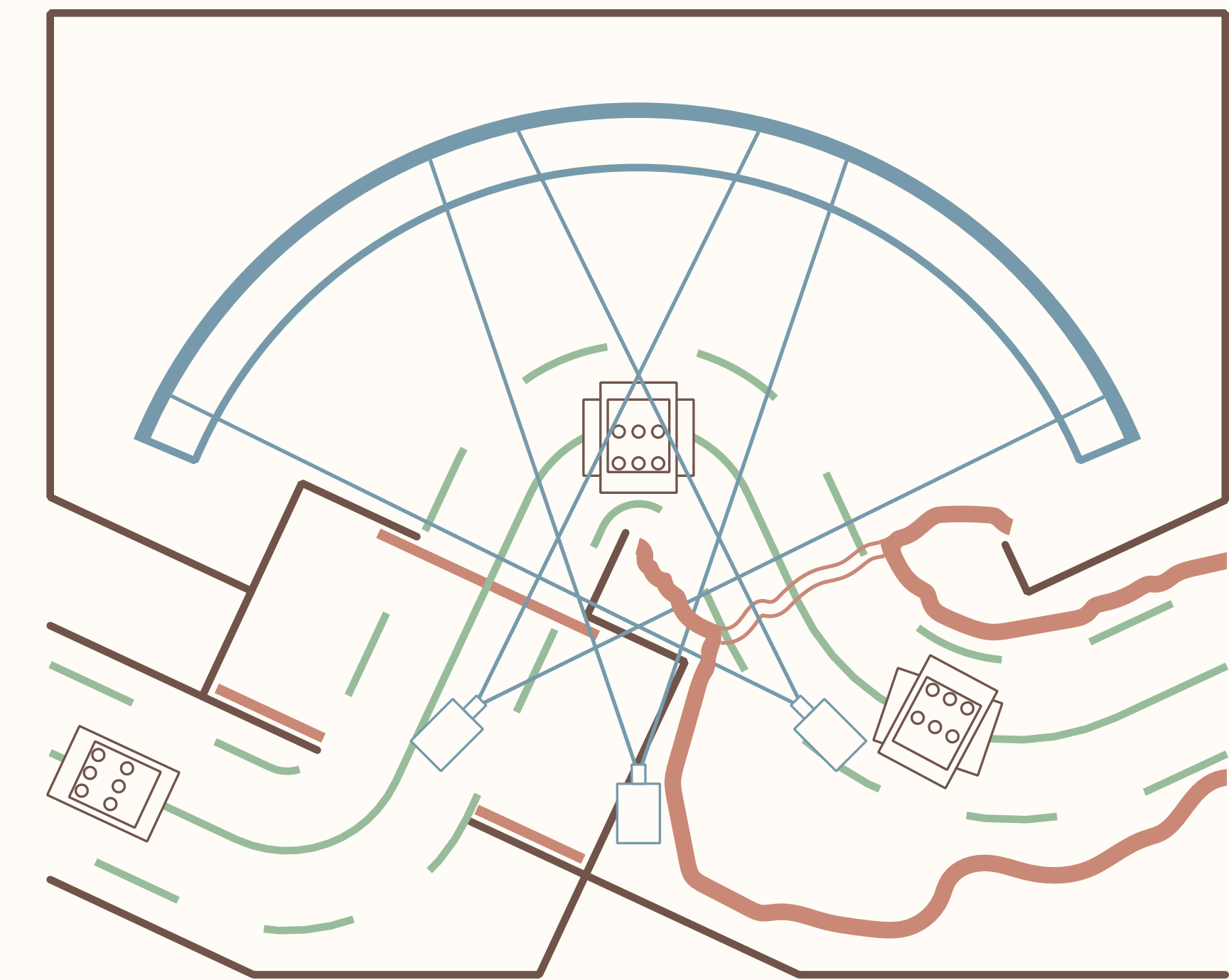
Abstract Concepts Workshop provides high-quality integrated designs, visualizations, simulations, and pre-programming tools to support the Themed Entertainment Industry. We facilitate collaboration and understanding by all stakeholders for steady project advancement in any phase, from Blue Sky through opening.

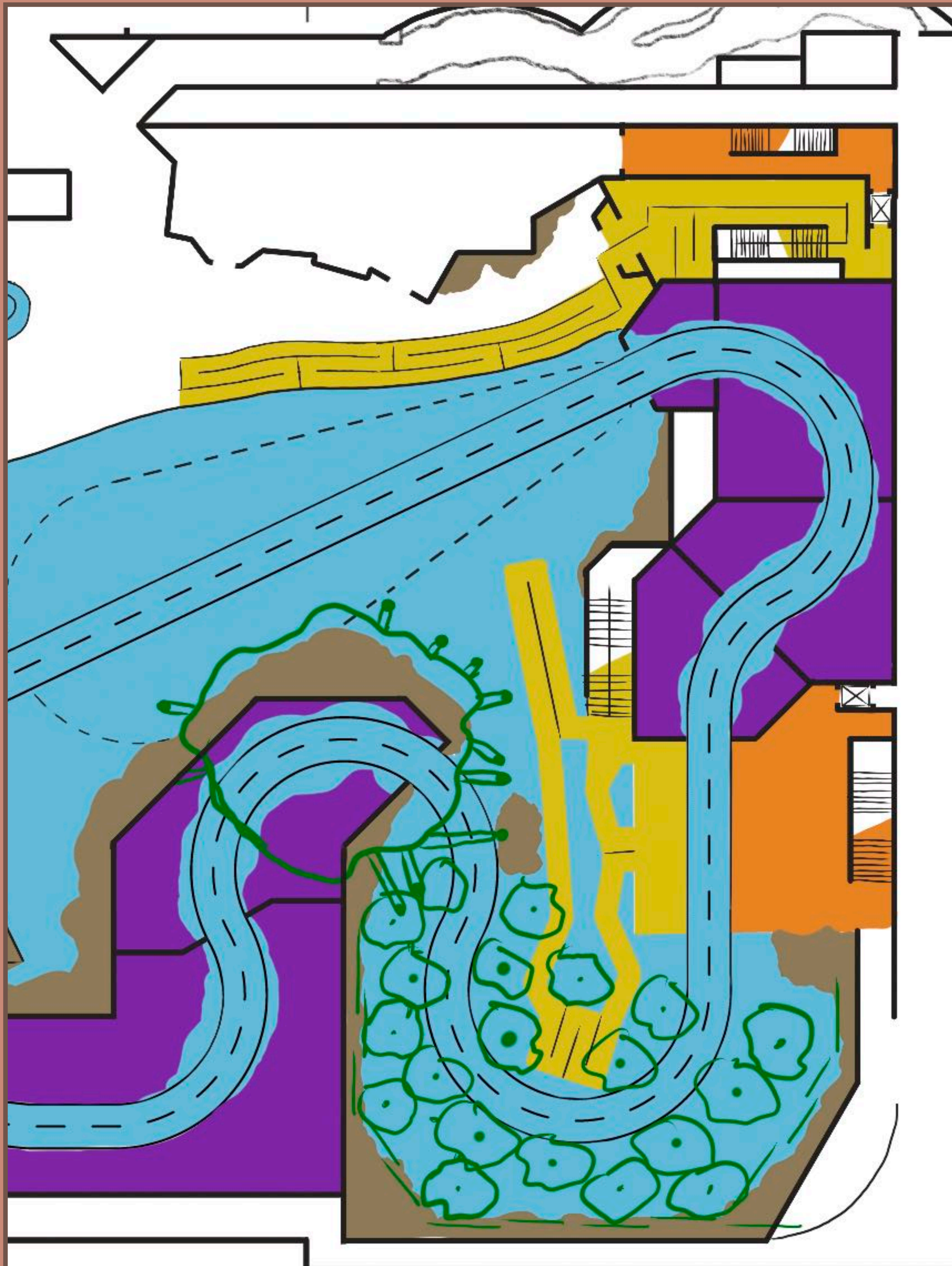


Services & Capabilities

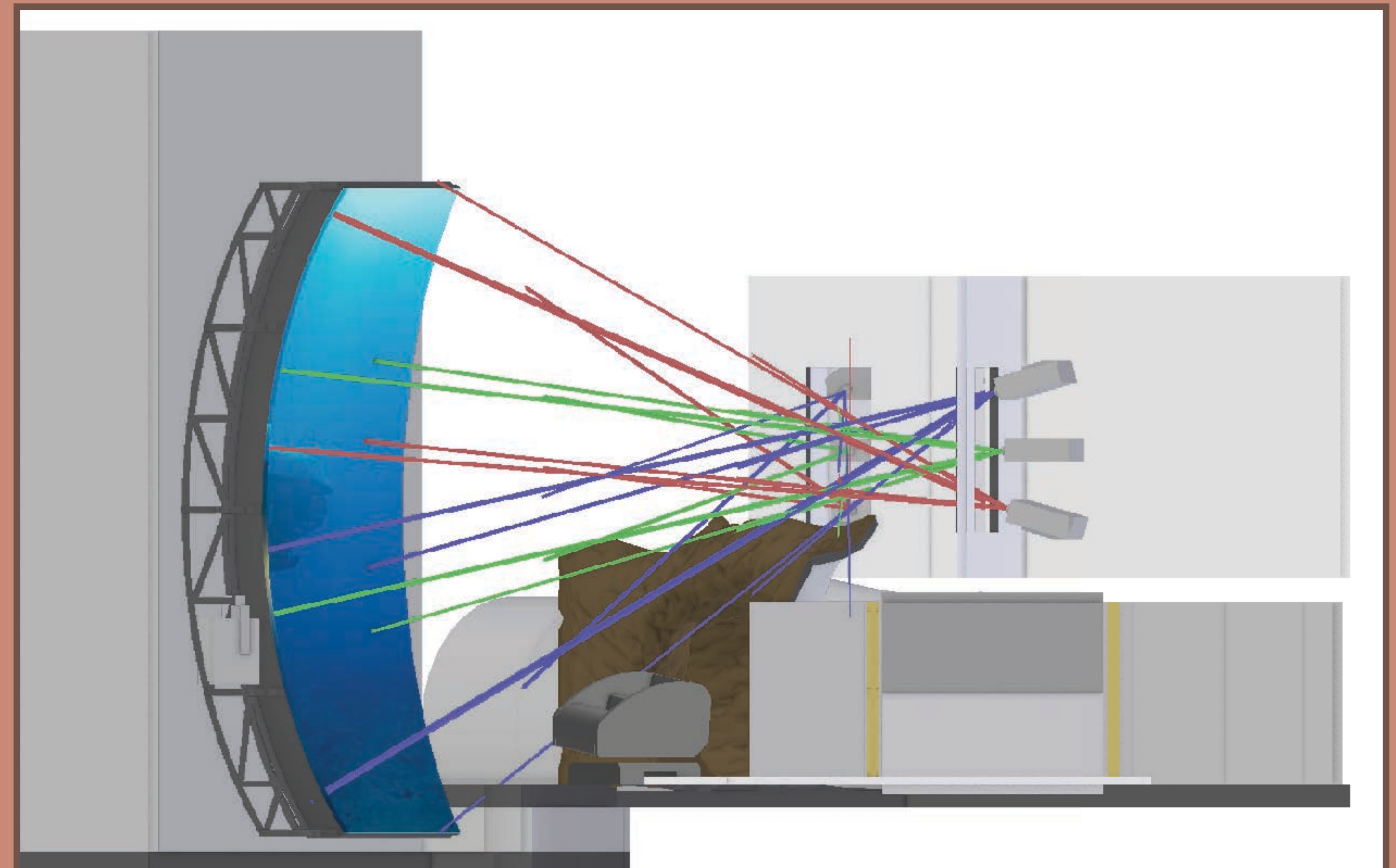
We use a project-tested, holistic top-down approach to integrated design, ensuring your project begins on solid footing and ends with minimal divergence between design intent and outcome.

- **Guest-Experience Design**
- **Attraction Layouts**
- **Technology Integration Strategies**

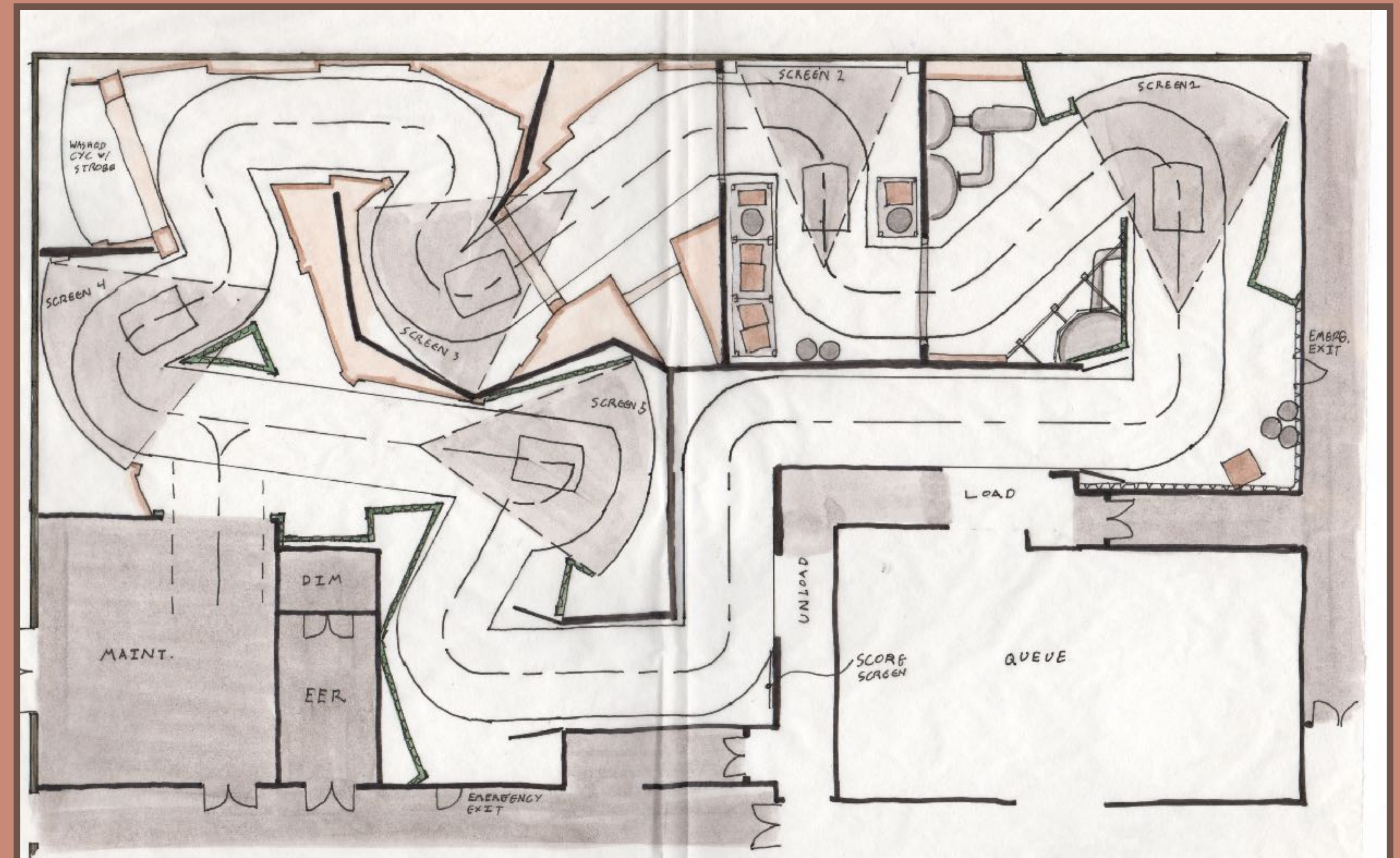




Ride, Show, & BOH Layout



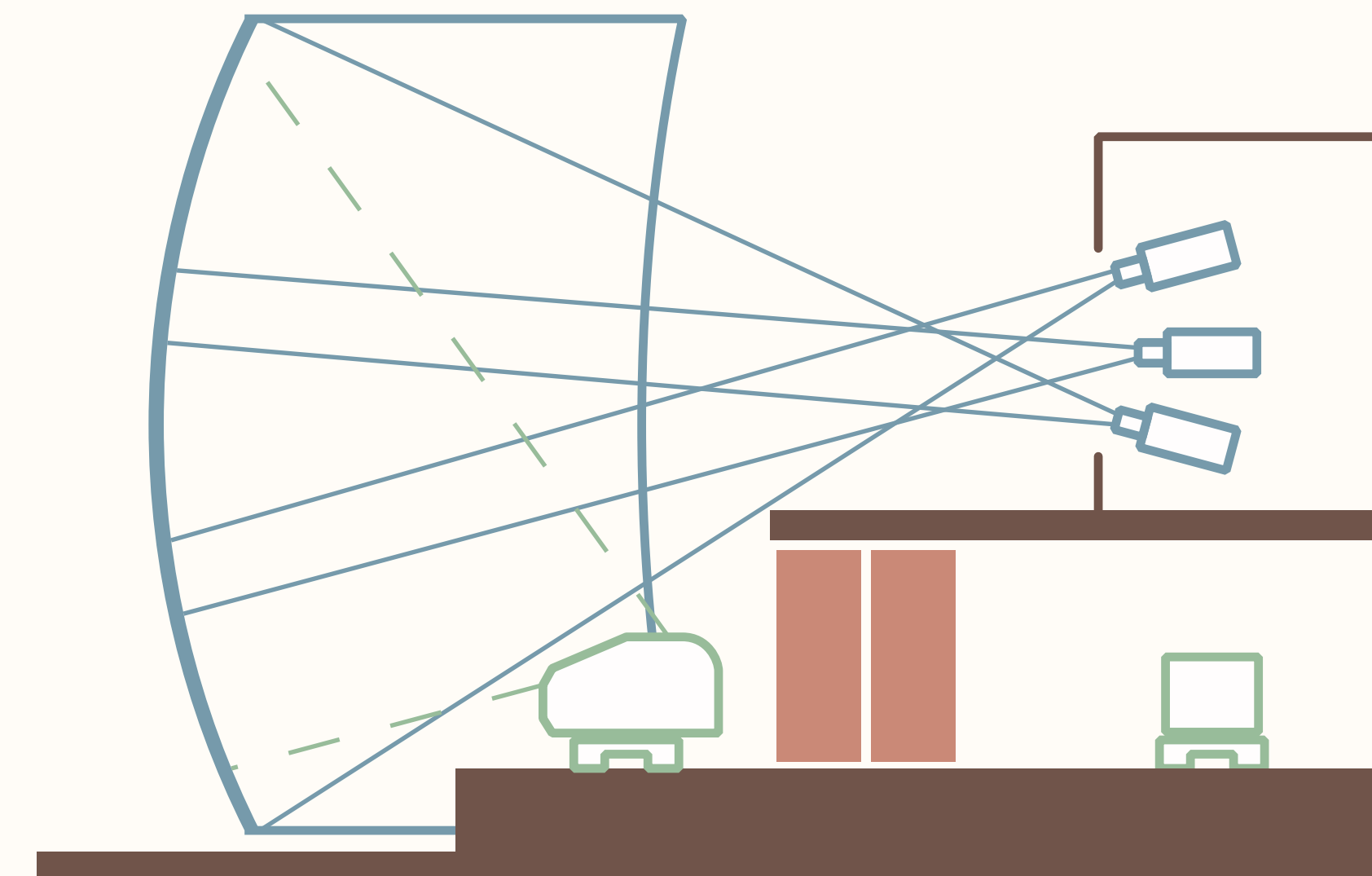
Scene Integration Study



Trackless Interactive Dark Ride Layout

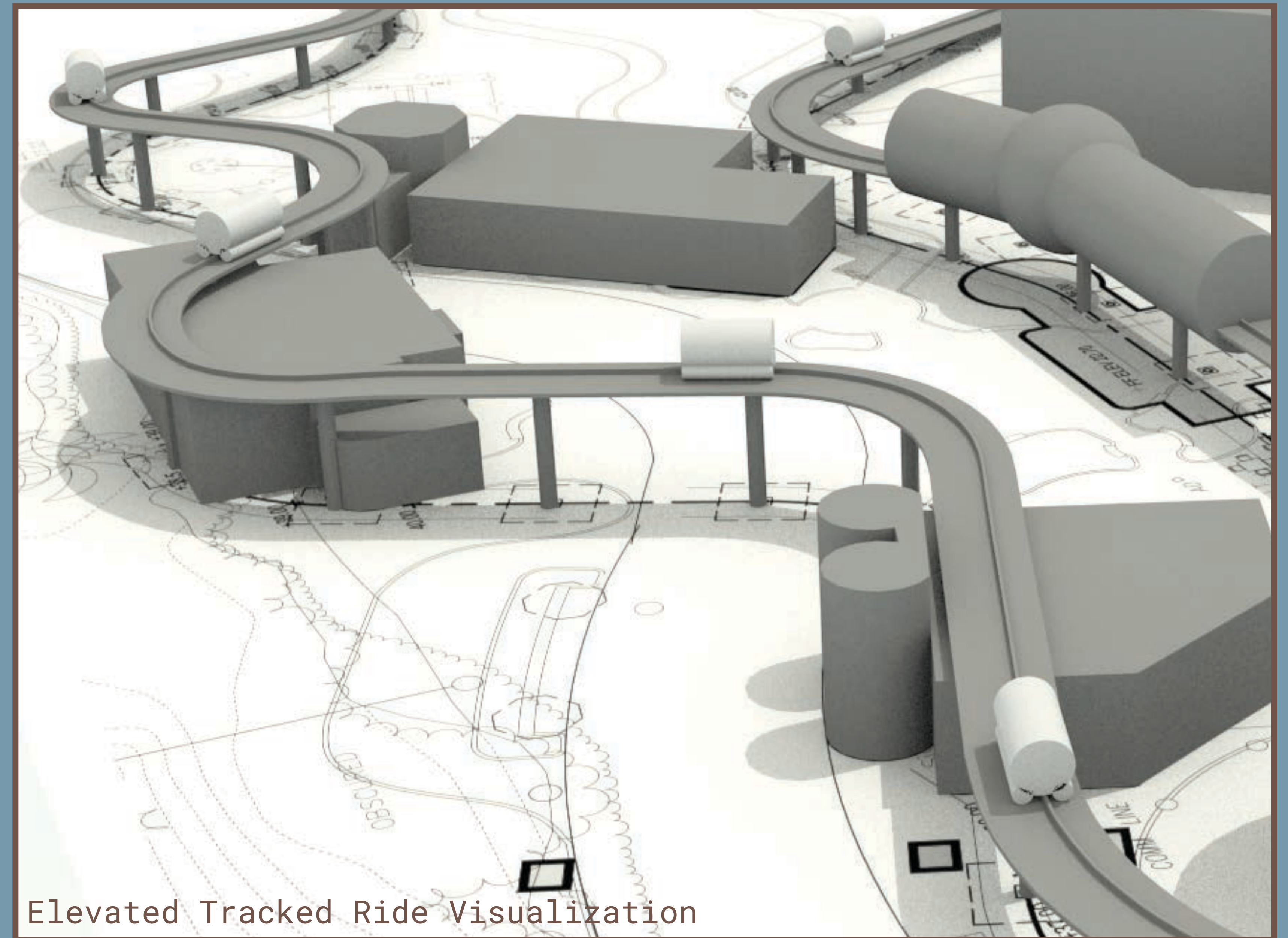
Our visualizations and simulations help the entire team understand what's going on and facilitate their work so they can make the best decisions.

- **Geometry-Accurate Visualization**
- **Iterative Design**
- **Timing Studies**
- **Guest Point of View Outputs**

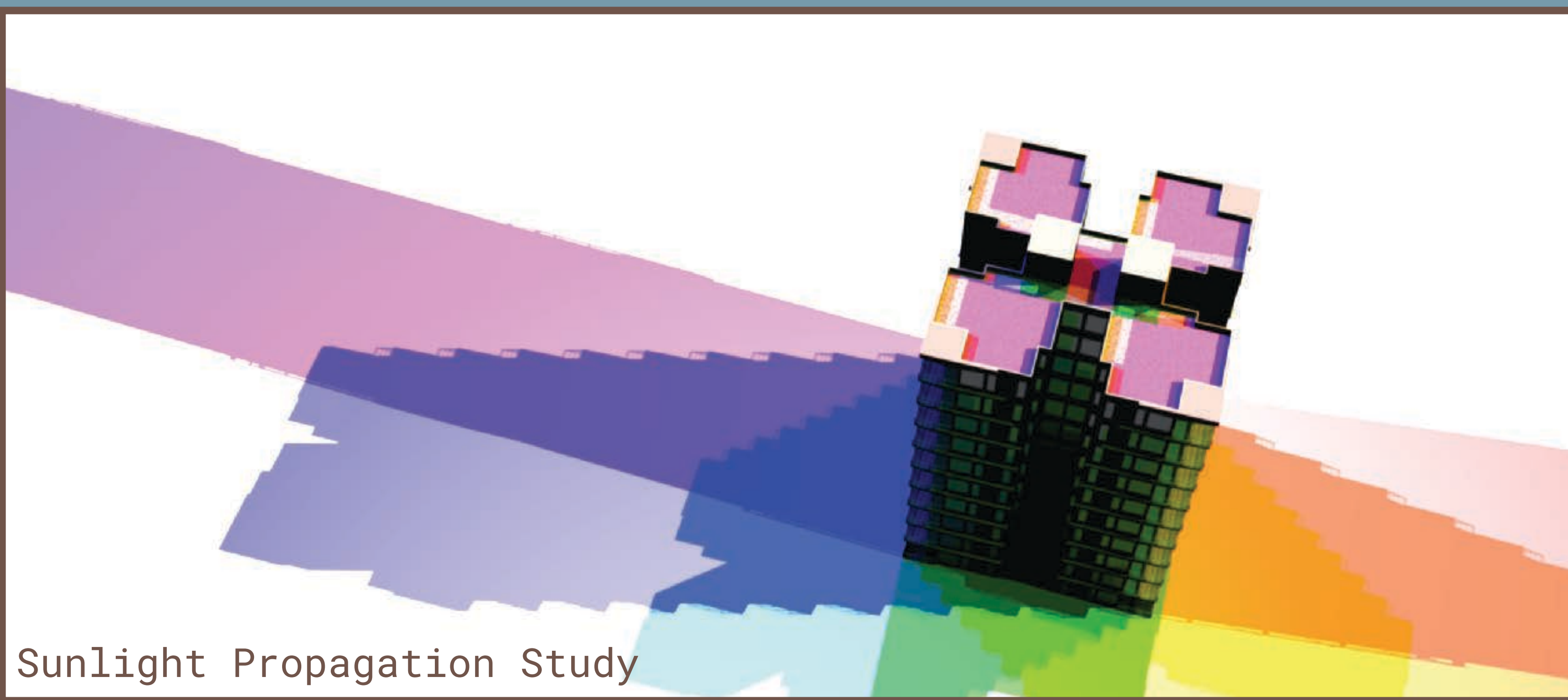




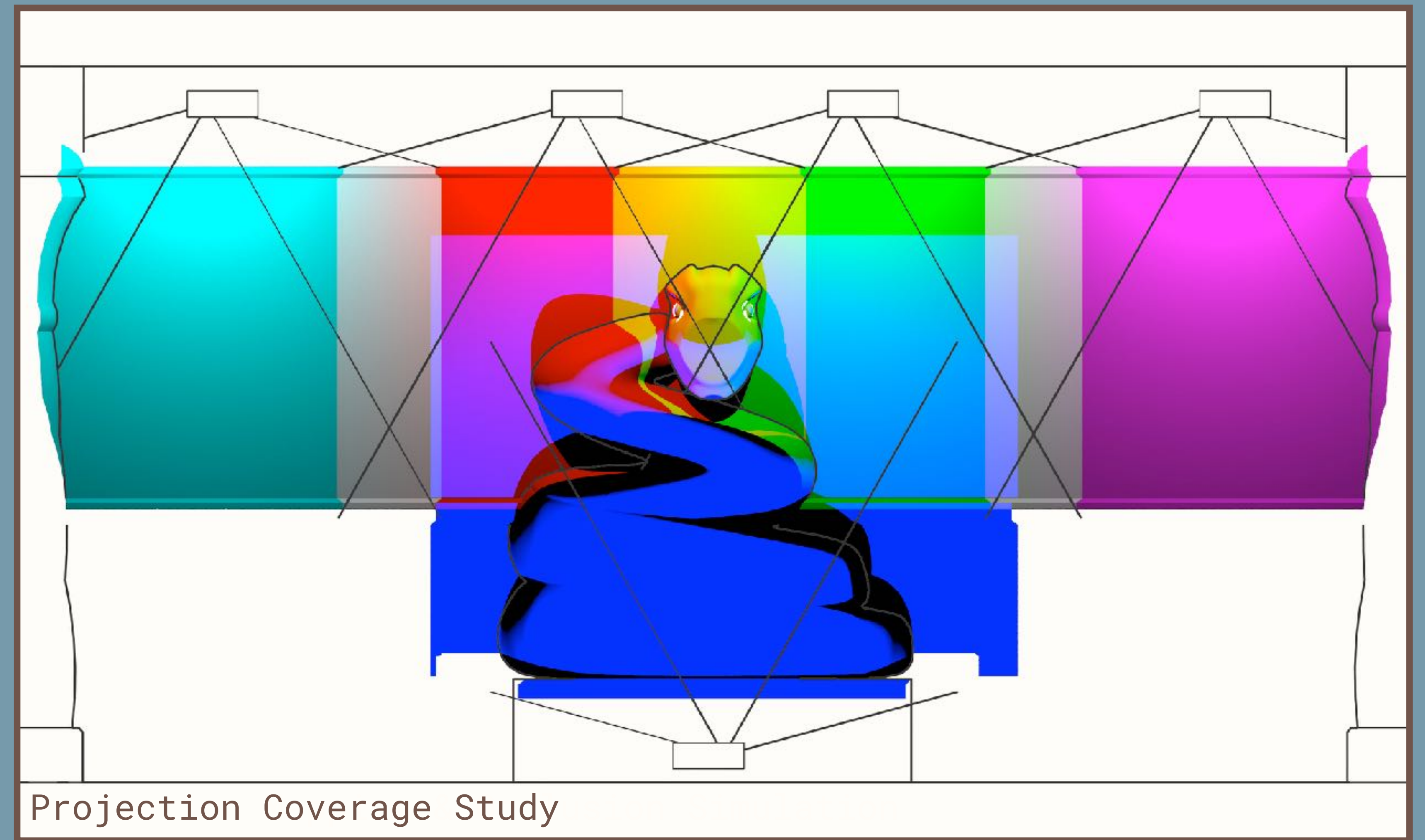
Tracked Dark Ride Timing Study



Elevated Tracked Ride Visualization



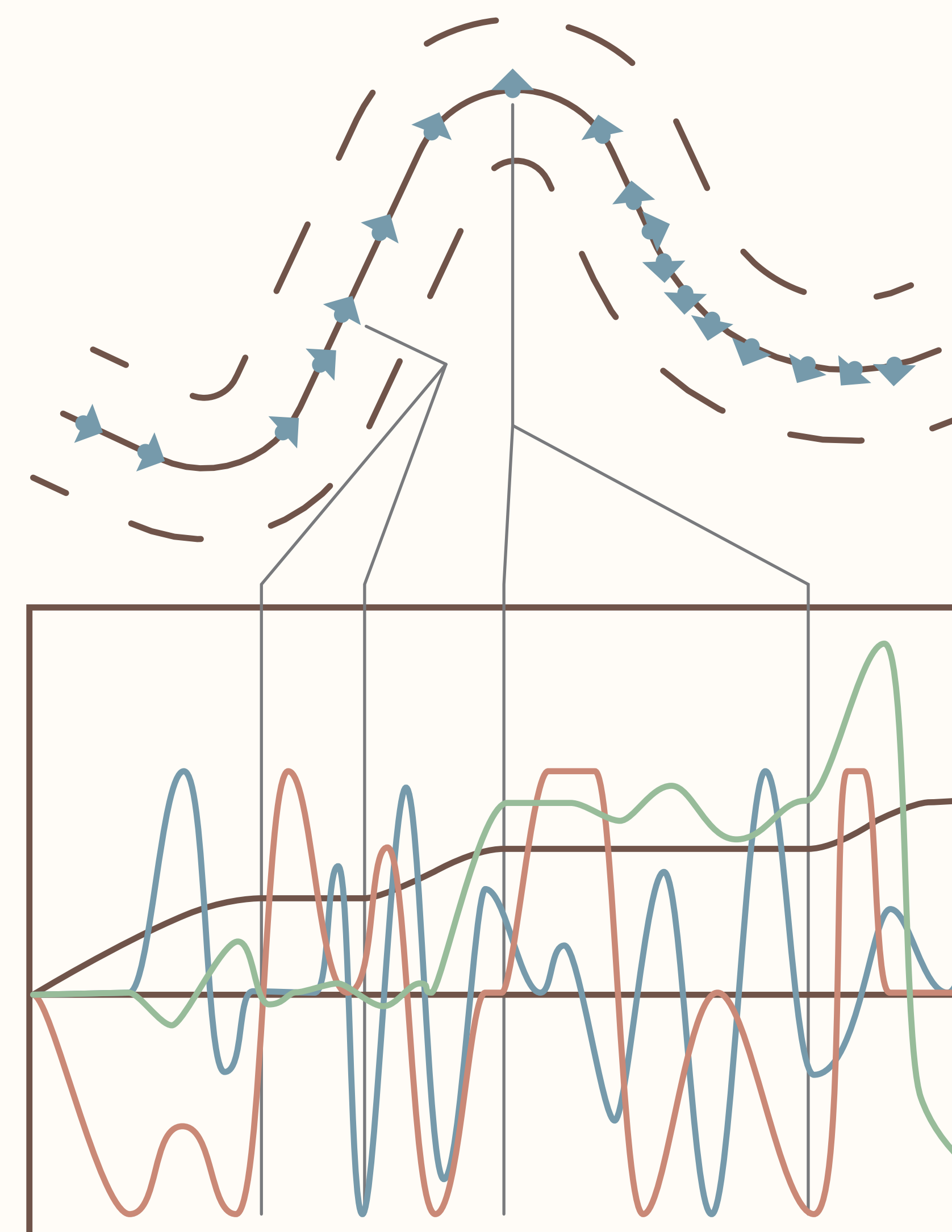
Sunlight Propagation Study

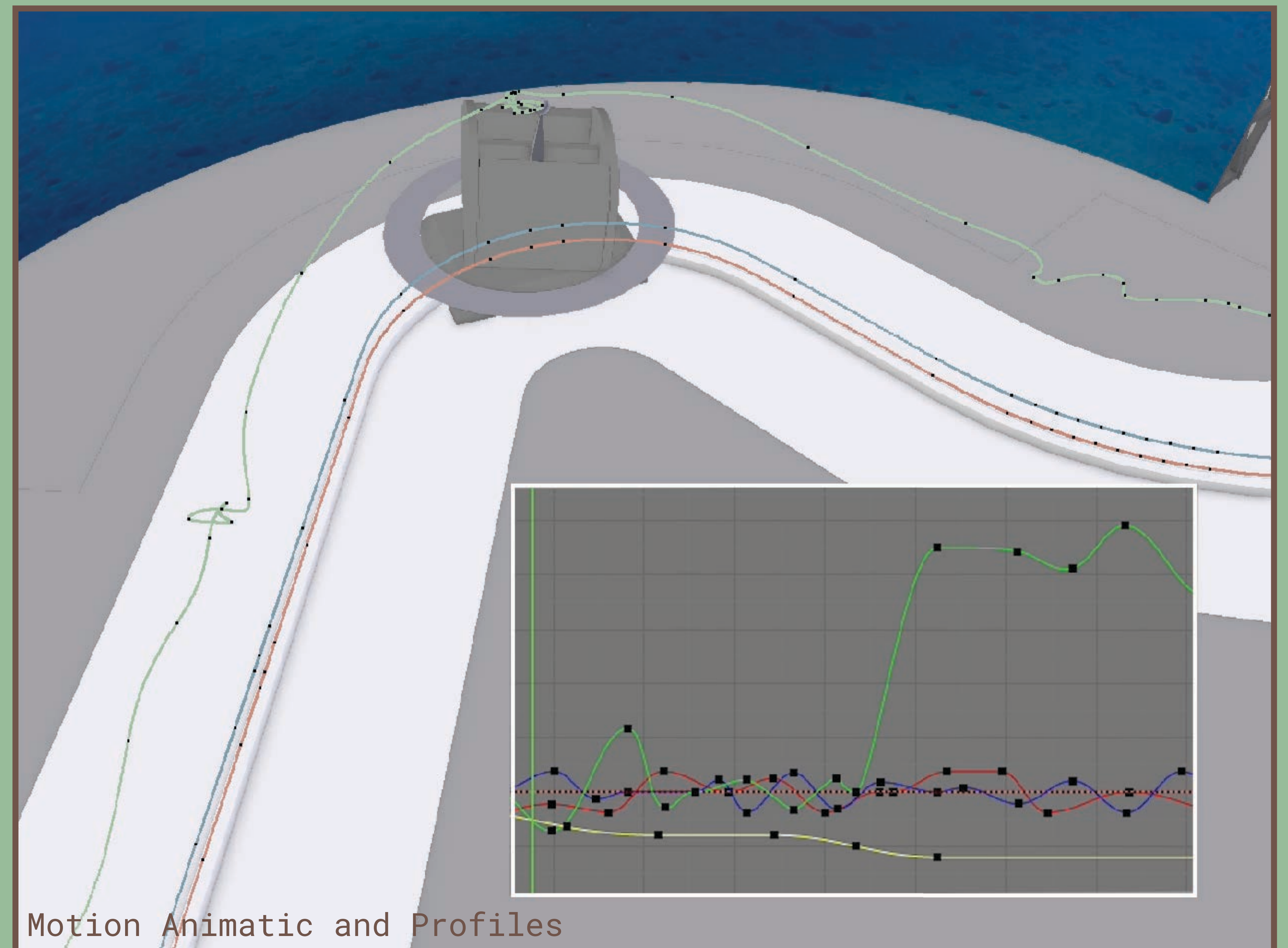
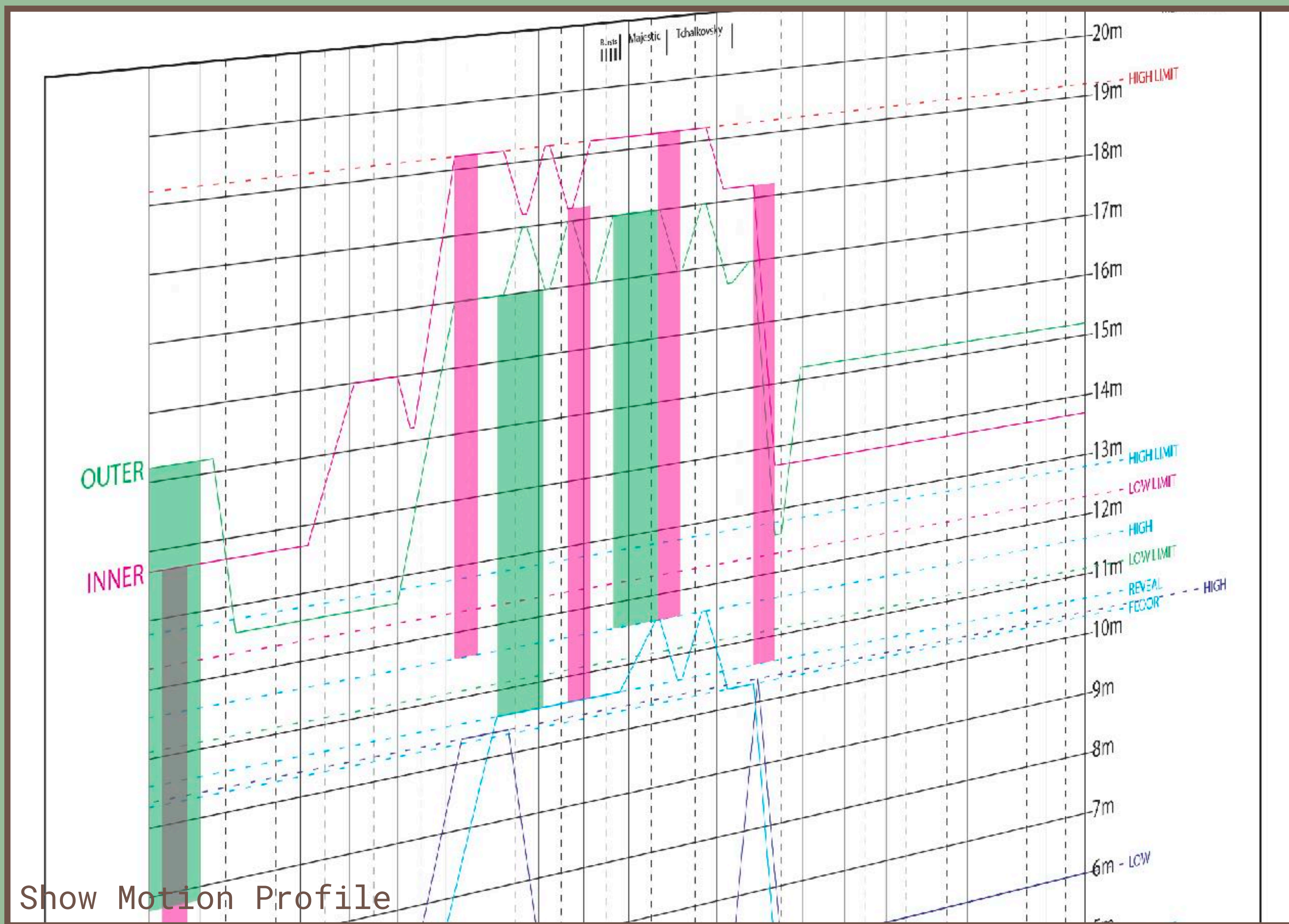


Projection Coverage Study

Pre-Programming tools help keep all teams on the same page through the end of the project, so they can create unified attraction experiences.

- **Show Motion Profiles**
- **Media Timing**
- **Ride Motion Creative Intent**





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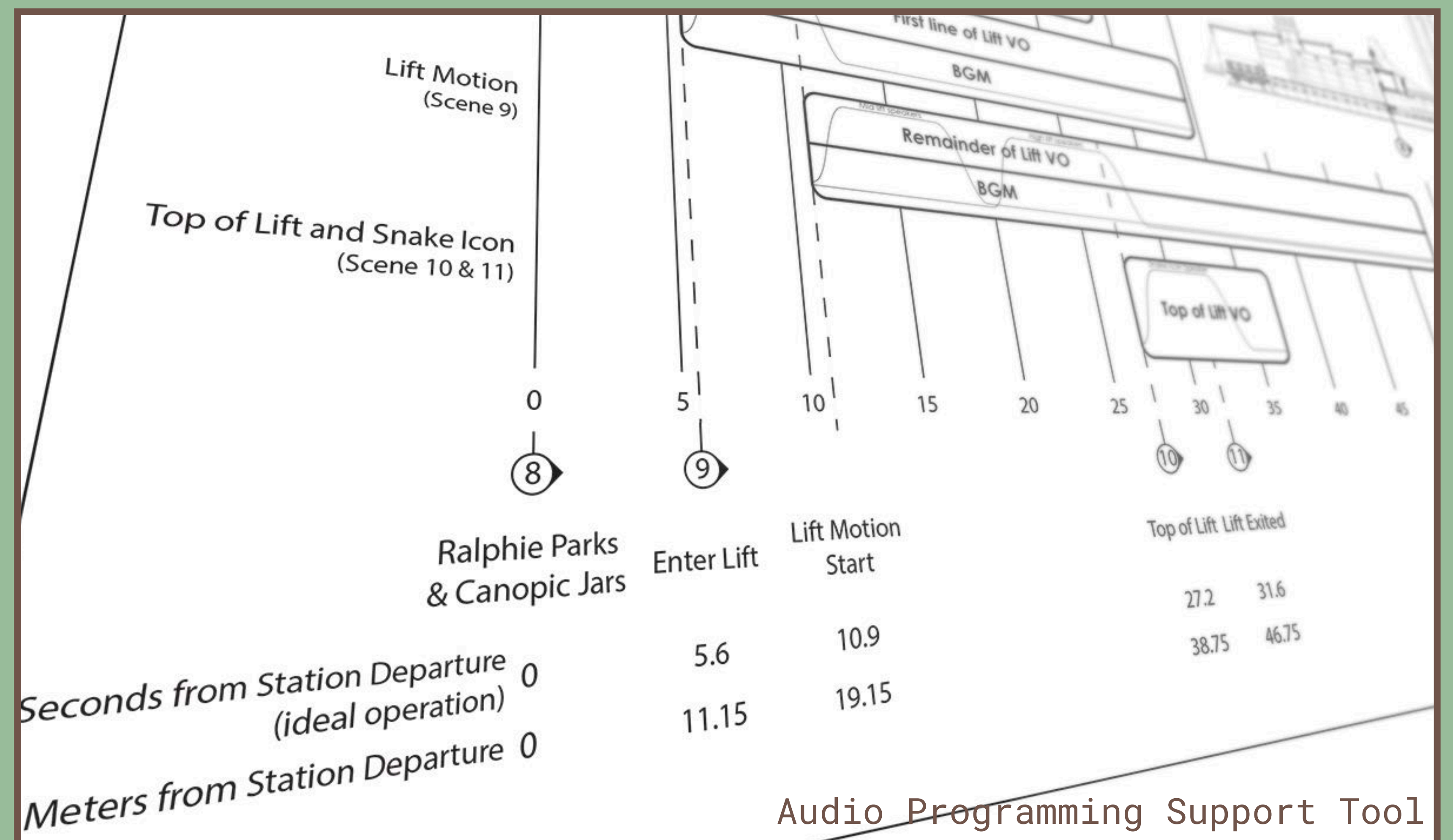
import bpy
import mathutils
import os

def getBoneRot(boneIndex):
    print("Fetching Local Bone Rotation")
    boneLocalMatrix =
    bpy.context.selected_objects[0].matrix_local.copy().rotation_part()
    return boneLocalMatrix

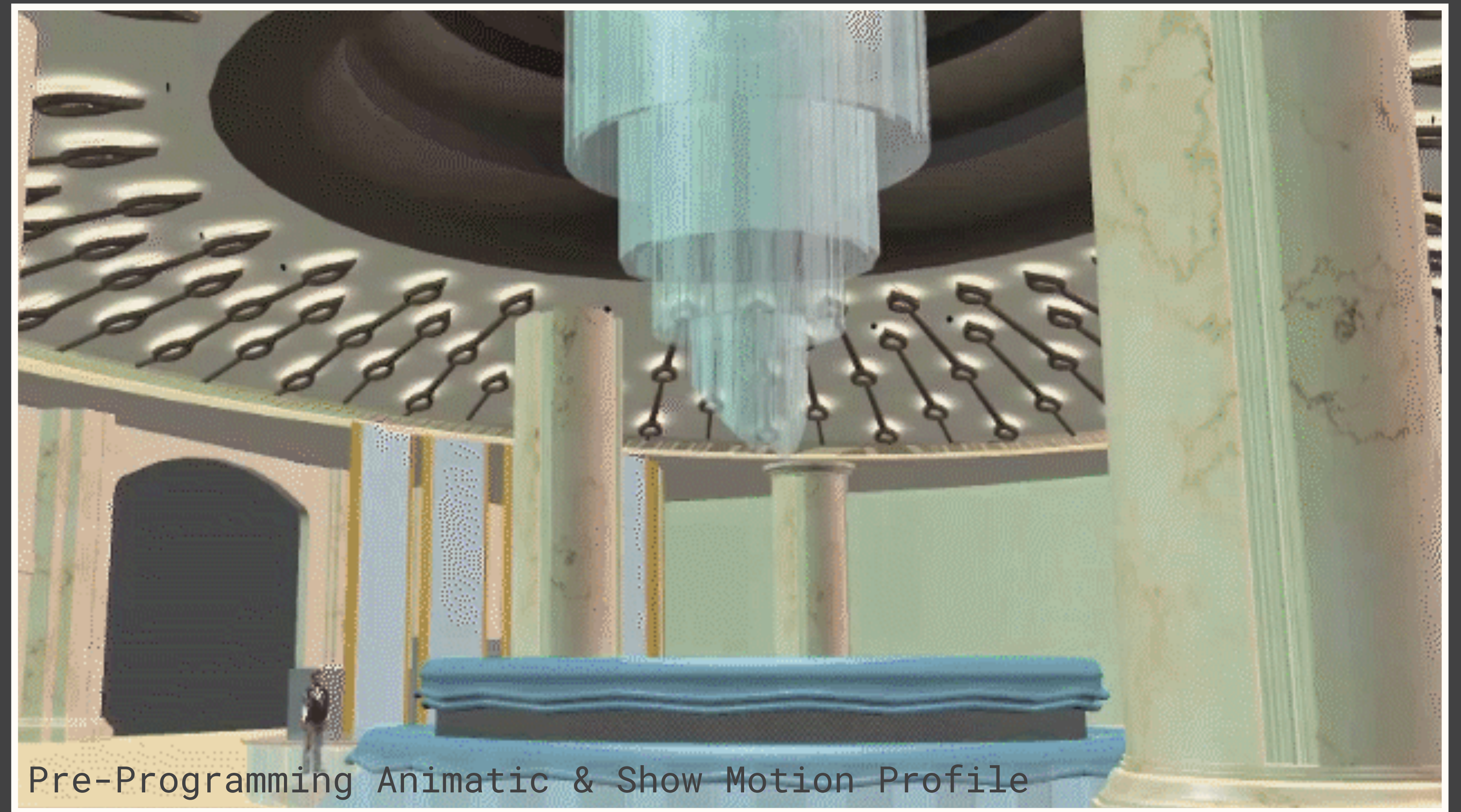
if boneIndex.name.find("Wing") > 0:
    boneLocalMatrix = boneIndex.matrix.copy()
if len(boneIndex.parent_recursive) == 0:
    boneLocalMatrix =
(boneIndex.parent.matrix.copy().invert() * boneIndex.matrix.copy()).rotation_part()
print(boneIndex.name, boneLocalMatrix.to_euler())
return mathutils.Quaternion(boneLocalMatrix, boneIndex.name)

def standardizeBoneRot(boneLocalMatrix, axisNmMx):
    print("Standardizing Bone Rotation")
    RPRCT = axisNmMx[2]
    maxR = axisNmMx[3]
    print(boneIndex.name, boneLocalMatrix.to_euler())
    sngl = boneLocalMatrix.to_euler().x * 180 / 3.14159 - axisNmMx[1]
    sngl = boneLocalMatrix.to_euler().y * 180 / 3.14159 - axisNmMx[1]
    sngl = boneLocalMatrix.to_euler().z * 180 / 3.14159 - axisNmMx[1]
    sngl = boneLocalMatrix.to_euler().z * 180 / 3.14159 - axisNmMx[1]

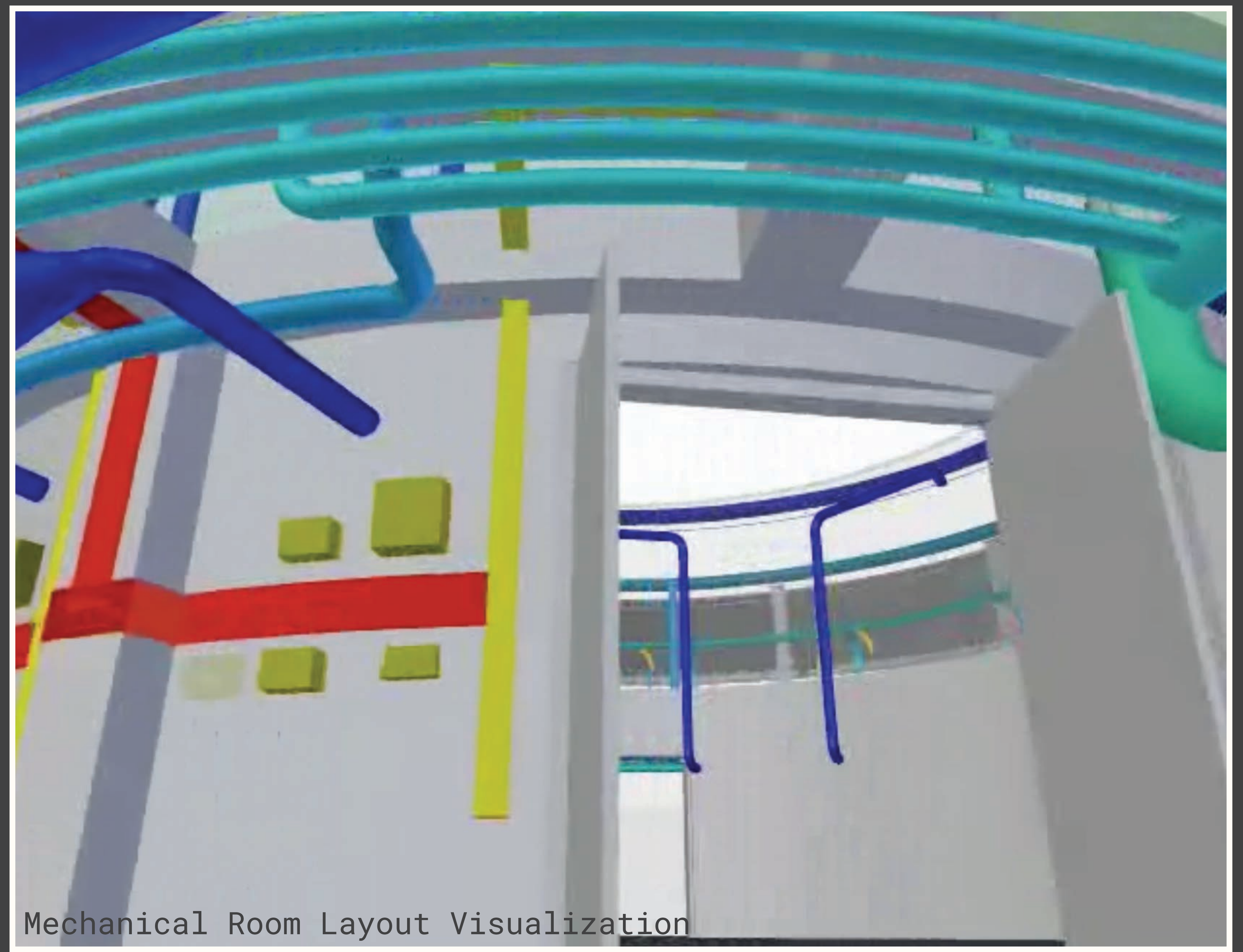
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Select Project Examples



Pre-Programming Animatic & Show Motion Profile



Mechanical Room Layout Visualization

Fortune Diamond created by Entertainment Design Corporation

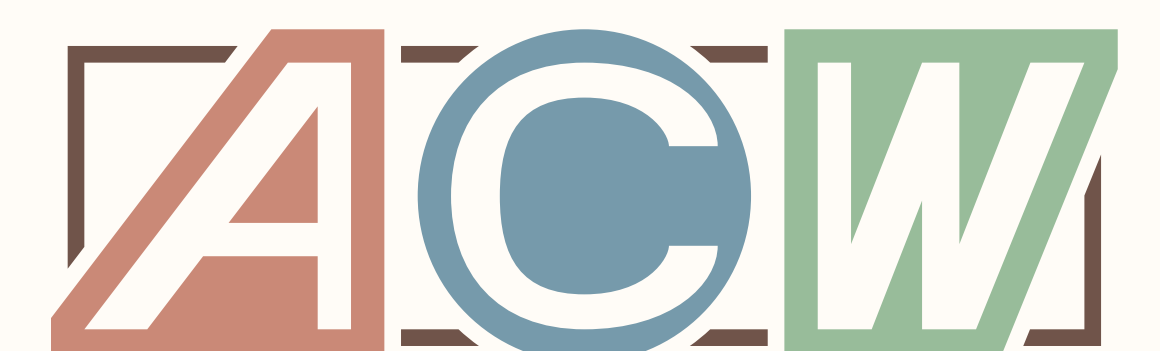
ACW is ready to assist with your project. Contact us to discuss how we can work with you to create Integrated Designs, Custom Visualizations, Enlightening Simulations, and Powerful Pre-Programming Tools.

Rob Palmer

Principal

+1 530 306 9520

Rob.P@AbstractConceptsWorkshop.com



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