# Final Project Proposal

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The stage is set, the people are in place, it's the morning of the grand opening of the park! Ra greets you at the front gate. "Well done!" he says. "You have truly proved yourself as an exemplary architect time and again. In fact, you may even be worthy of the title of a god! I have but one last task for you, if you should complete it, you shall have a place with us." With that, he hands you a scroll and walks off to discuss matters with other architects that have been assisting with the park's development. You open the scroll, it reads....

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Welcome to the real light show!

I am quite pleased with the light show that you created that will be performed daily at the park. However, for the grand opening this evening, I will be inviting a live band to kick things off and we need a light show that is truly one of a kind! I have tasked you to work with two other architects to complete this task, best of luck and godspeed!

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# 1  Description

The goal of this project is to create a light show "music video" with the use of a series of particle systems. Various particle systems will emit as a light source while others do not (fountain vs. firework). Systems that emit light will affect other objects within the scene. The setting of the light show will be at Auru Park! Complete with buildings (lab 12), a pyramid, and the very roller coaster that we designed! The light show can play on loop or be stopped. At any time the user can use various keys on the keyboard to make different particle systems fire off. If the user has had enough of watching the light show from afar, they can go first person as a textured model (possibly hellknight) to run around the park. Careful though, if the hellknight stops moving, he may start to dance (intended easter egg 1).

Various textures and materials will be used for buildings/pyramid and the ground around the park. The entirety of the park will be held within a skysphere (skybox as a fallback)

Many different shaders will be used to generate different effects for the different types of particle systems that are planned to be developed. These include but are not limited to: laser lights, water fountain, fireworks (the big boomers), and sparks.

As a final goal, we would like to create a video recording of the light show with music overlayed as a park advertisement.

# 2  Forseeable Challenges

Some forseeable challenges include:

- opengl 3.3 bezier curve (camera movement along curve)

- modifying skeletal animation for hellknight or similar model (walking/dancing)

- multiple lights acting on multiple objects in the scene

- skysphere vs skybox

- lining up light show with song