

# Project Plan

## KML Urban Scene Builder 2009

Team 3: Boeing  
CSE 498, Collaborative Design

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# Functional Specifications

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- Enhance the pre-existing KML USB 2008 suite by adding advanced urban scenery fidelity
- Create an unmanned vehicle that can move about scene simulation and fire a laser to destroy certain objects
- Link all clients watching simulation over network by sending automated messages about simulation events

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## Design Specifications



- New version of FPC (foot print creator) to hold more properties for adding elevation and objects to a scene, internally and externally
- Vehicle to be controlled from a first-person viewpoint; screen data present will include vehicle's position, what it's looking at, navigation, and event message box
- Objects that have been destroyed will change colors depending on how badly they have been damaged



# Screen Mockups

MICHIGAN STATE UNIVERSITY KML URBAN SCENE BUILDER 2009

Presented in collaboration with BOEING

File

Edit

Palette

H A D

S R M

Properties

Level 1

Height 13

ADD WALL

Table

Width	4
Length	8
Height	1
Destructable	<input checked="" type="checkbox"/>
Interact	<input type="checkbox"/>

Image © 2009 DigitalGlobe

Google

Show Console

Trusted sites 100%

Team 3: Boeing





# Technical Specifications

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- Height property for buildings replaced with elevation to allow for bunker creation; level selection done using drop box
- User-controlled vehicle will act as simulation camera that can move and fire laser, controlled in Player class
- All objects, including laser, to inherit from class 3Dobjects, which renders them in 3D; destructible objects to interact with Player
- Program code to be written in C++





# System Components

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- Hardware Platforms
  - Graphics intensive project
  - Completed project to run on PC machines running Windows XP and newer
- Software Platforms / Technologies
  - DIS (Distributed Interactive Simulation) to run simulation and network between user and all connected on network as listeners
  - OpenEagles as a manifest for DIS
  - 3D model viewer such as COLLADA (CMV)



# Risks

- Opening KMZ files in OpenEaagles framework – need to figure out how
- Rethinking the roofing situation to create fundamentally reliable roofs that fit the shape of their respective buildings
- Advanced urban scenery fidelity, the internal and external objects and details that make the KML USB 2009 realistic
- Creating automated network communication for handling events