Creation of a Three-Dimensional Model of the Haskell Indian Nations University Campus

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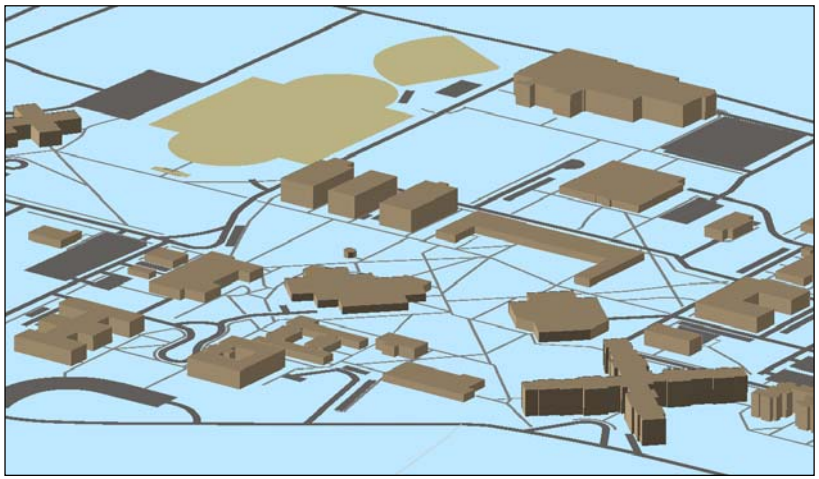
Introduction

- Advances in Geographic Information Systems (GIS) and related three-dimensional software have facilitated the creation of 3-D and virtual environments for college and university campuses.



- The purpose of this project was to develop a realistic 3-D model of the Haskell Indian Nations University campus in Lawrence, Kansas.

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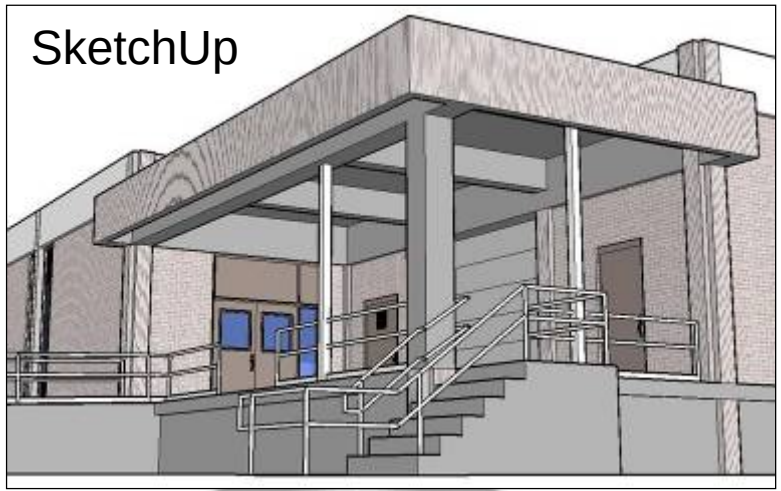
Methods

- Campus features captured using GPS or through digitizing
  - Roads, sidewalks, trees, fire hydrants, storm drains, manholes, stop signs, and light poles
- Draw buildings using SketchUp Pro 5 from Google
  - Digital photographs and blueprints

- Export buildings as 3DS files
- Georeference on a six-inch resolution orthophoto
- Overlay building point files on a TIN created from two-foot contours in ArcScene



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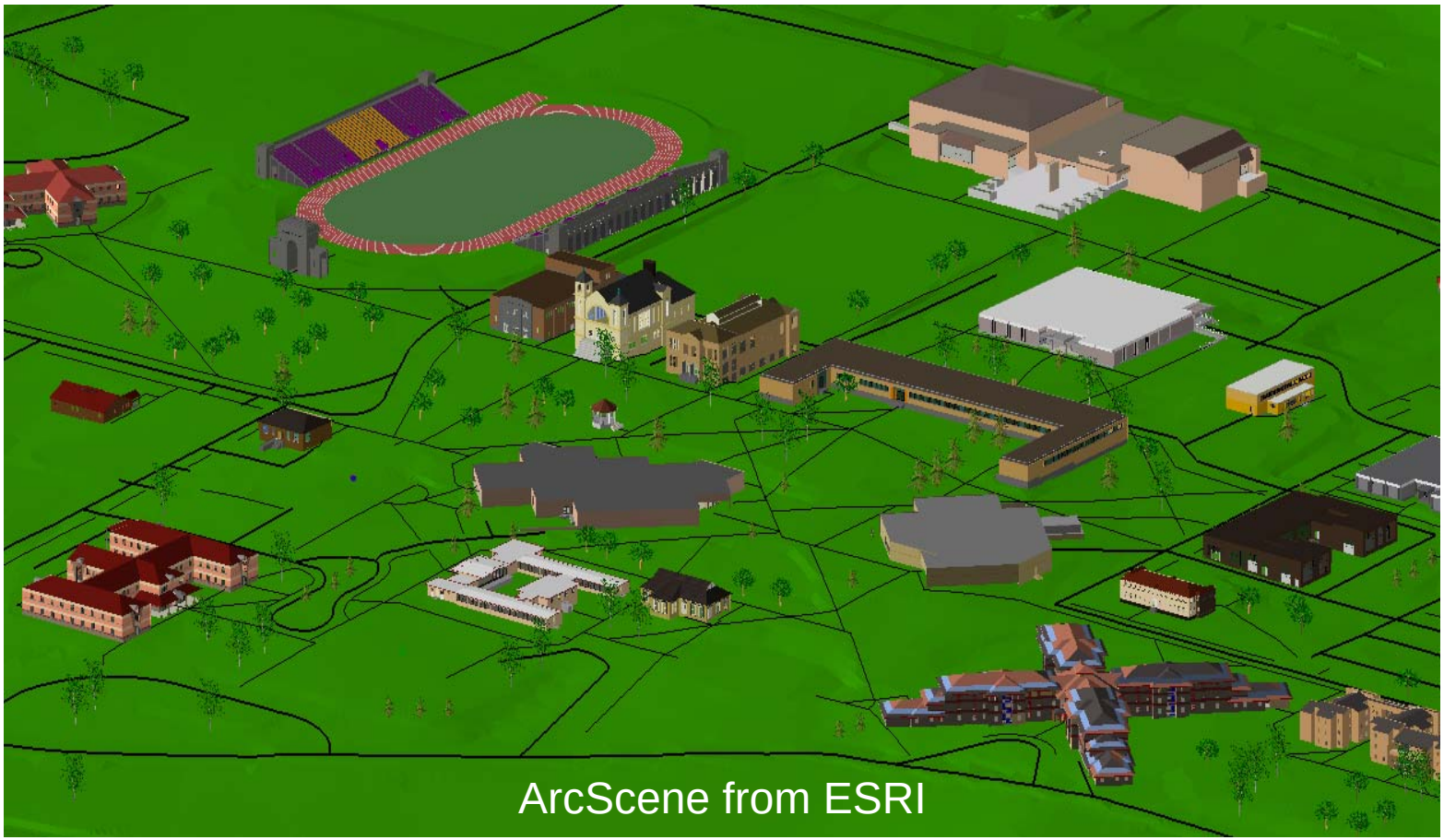
Results



ArcScene from ESRI

The Haskell campus visualization may be viewed in ESRI's ArcScene, SketchUp Pro 5, Google Earth, and as a 3-D PDF.

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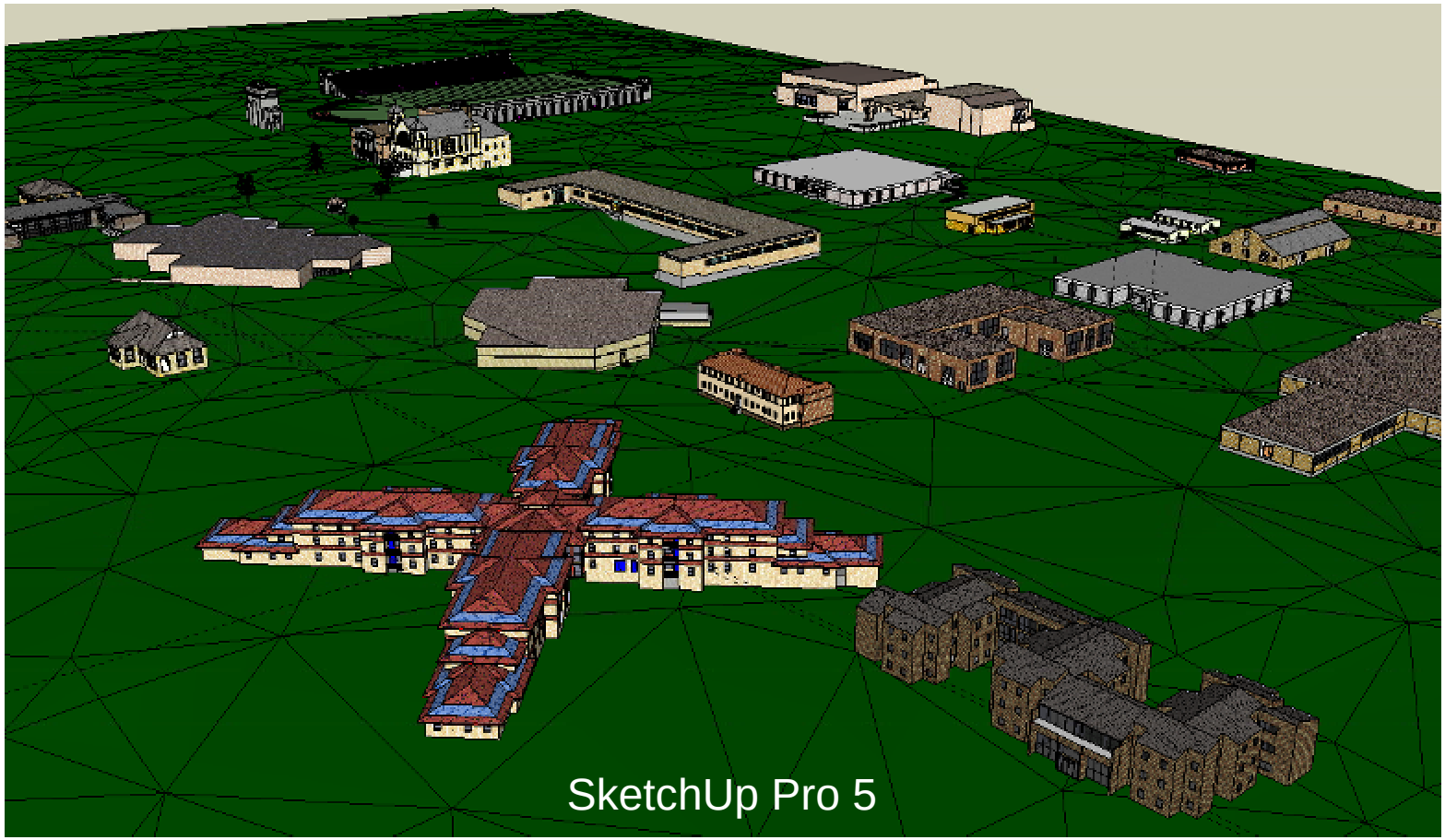
Results



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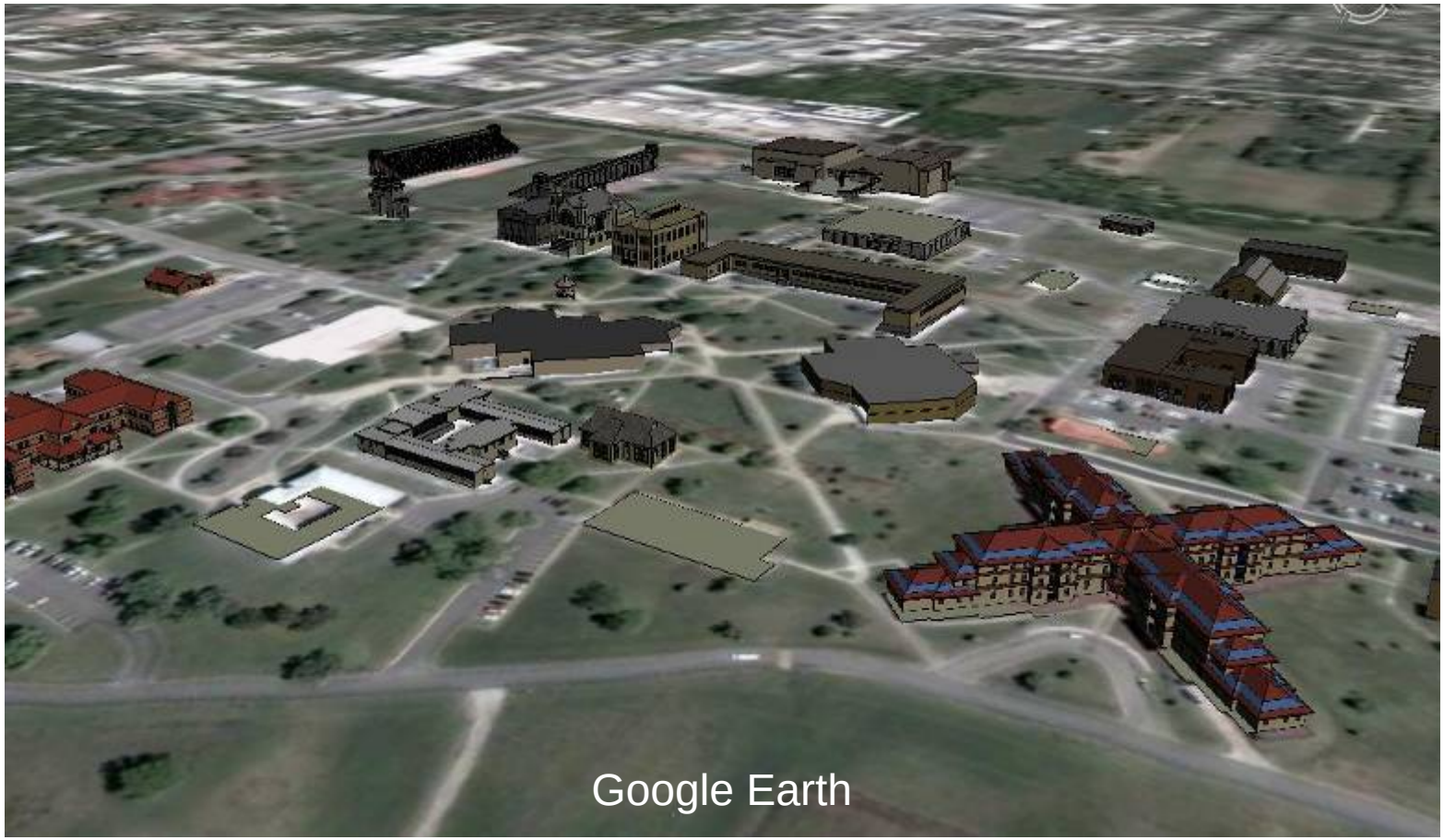

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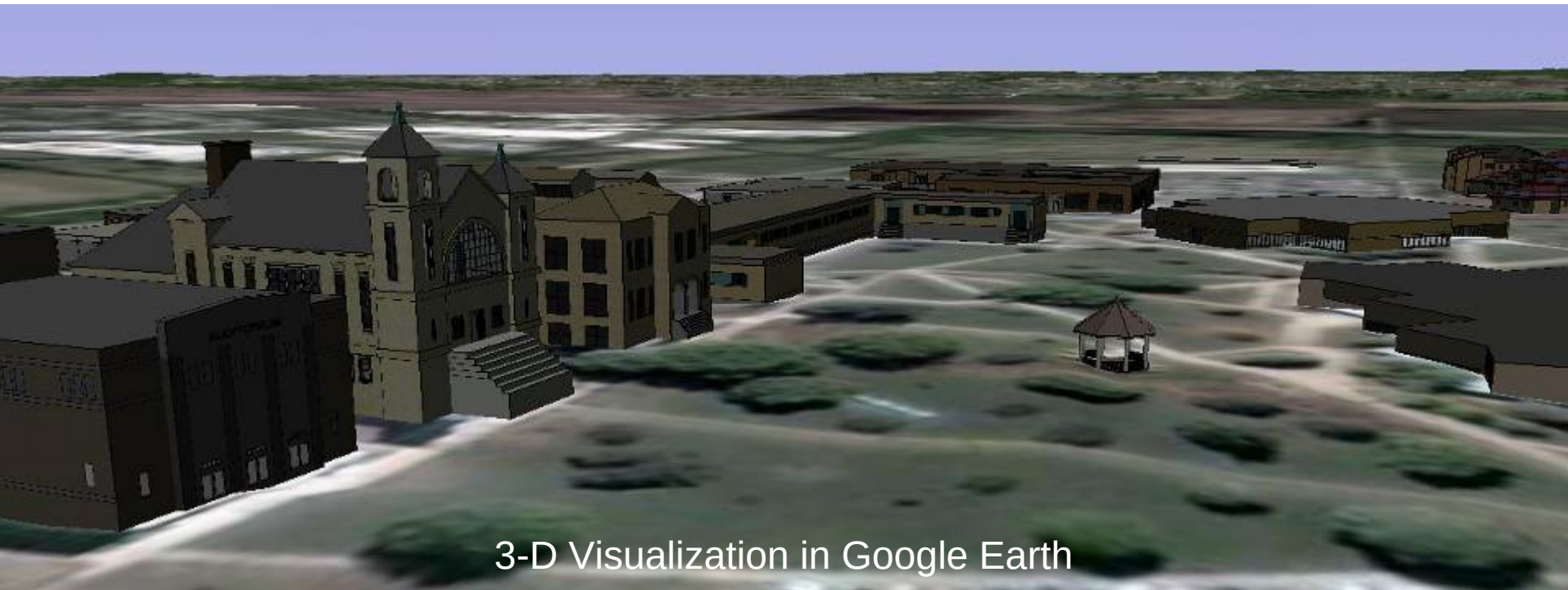
Discussion

- Level of detail
- Time invested
- File size
- Accessibility



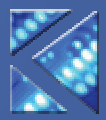
3-D Visualization in Google Earth

Applications & Future Work

- Interactive 3-D map for online use
  - Student recruitment
  - Acquaint visitors with the campus prior to arrival
- Further enhancements
  - Building attributes
  - Underground utility lines
  - Network lines

National Science Foundation

WHERE DISCOVERIES BEGIN



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