Mixing RIBs for Pompeii

Stupid RAT Trick

Pixar User Meeting
SigGraph 2006
Boston

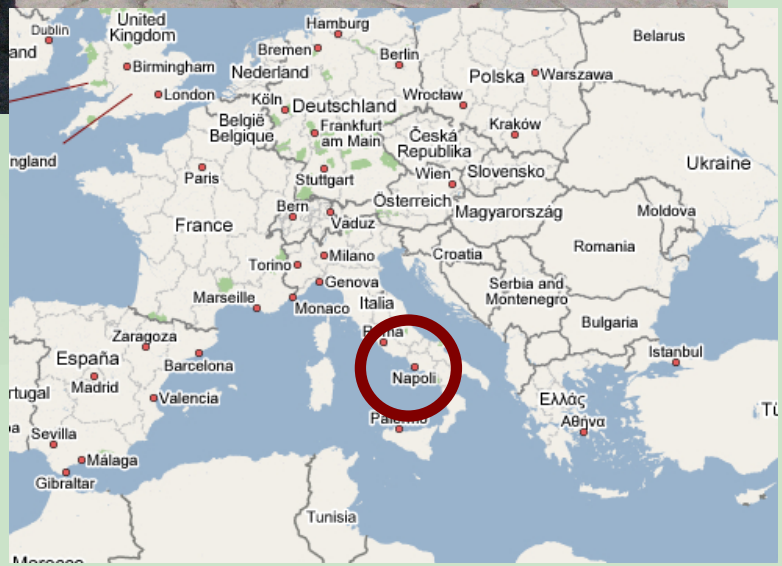
Simon Haegler
ETH Zurich

Goal

- Animated reconstruction of Pompeii
- Grow buildings by adding detail

Pompeii

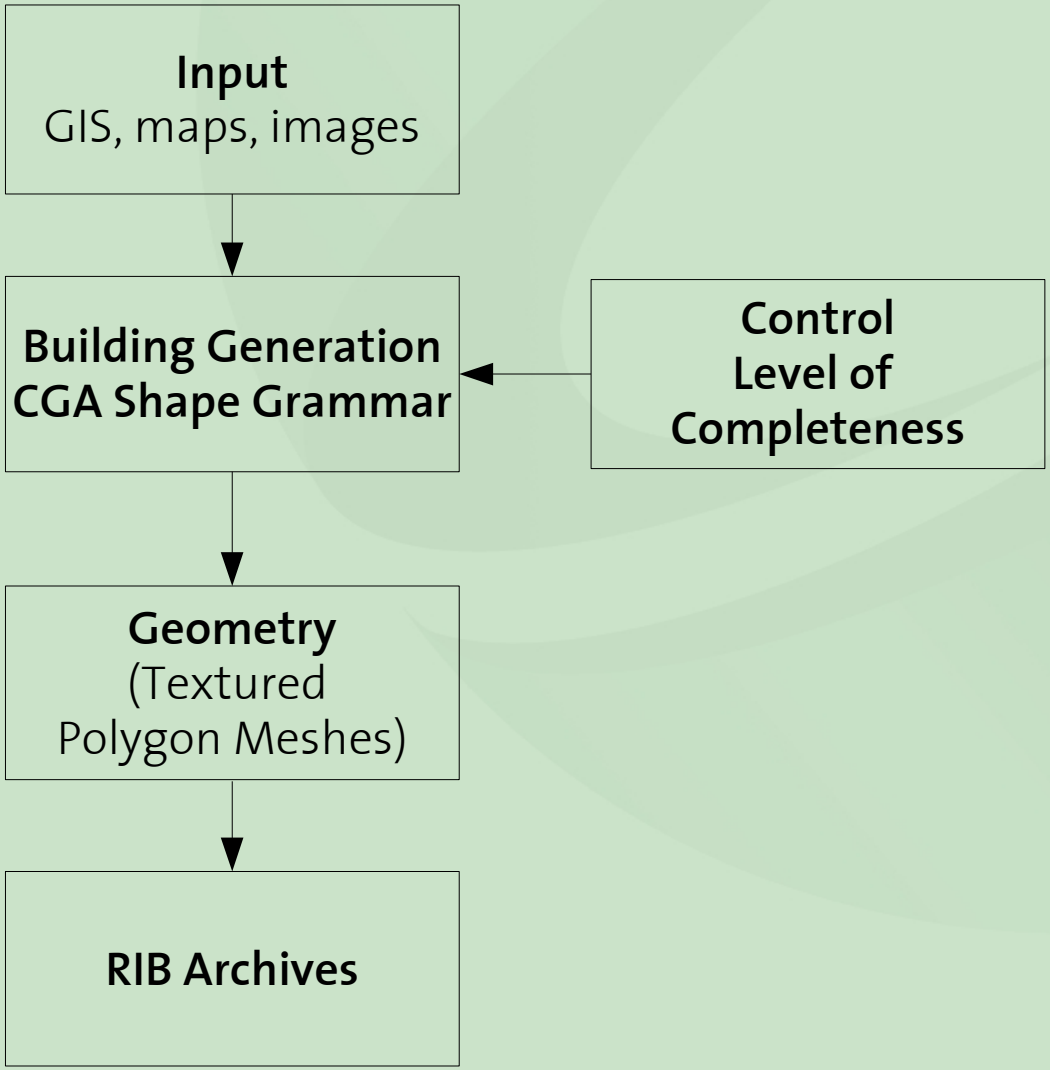
- Ancient Roman city
- Located near Naples, South Italy
- Founded 6th century BC
- Destroyed by volcano Vesuvius in 79 AD
- ~ 8500 buildings

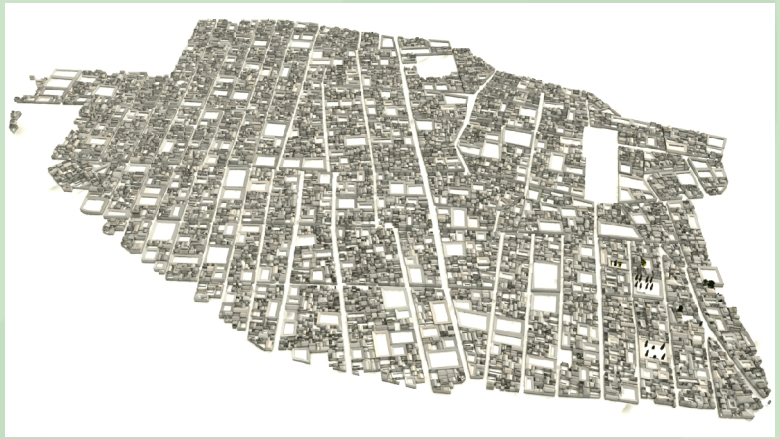


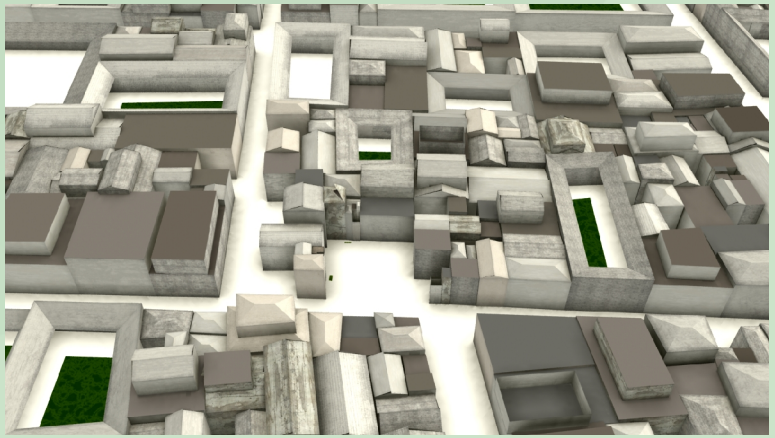
CityEngine

- Papers
  - "Procedural Modeling of Cities", Mueller et al, SigGraph 2001
  - "Procedural Modeling of Buildings", Mueller et al, SigGraph 2006
- *CGA Shape* grammars
- Geometry export
  - one RIB archive per building
  - one "master" rib with bounding boxes

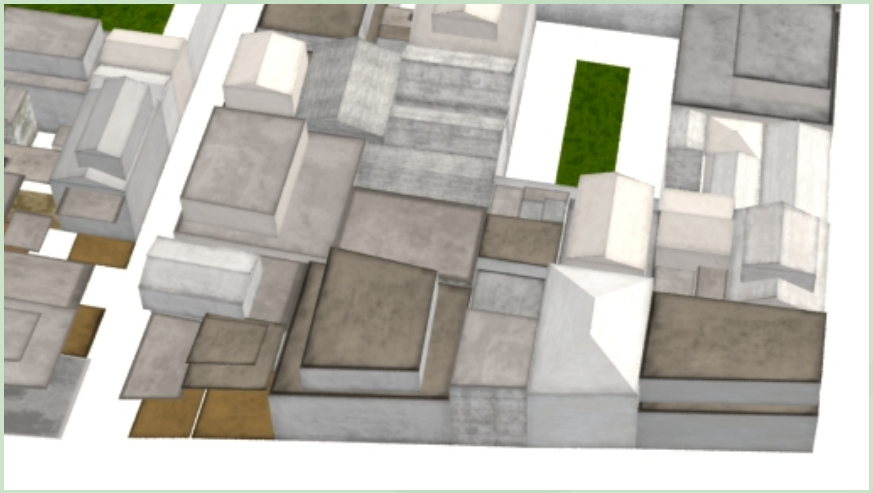
CityEngine

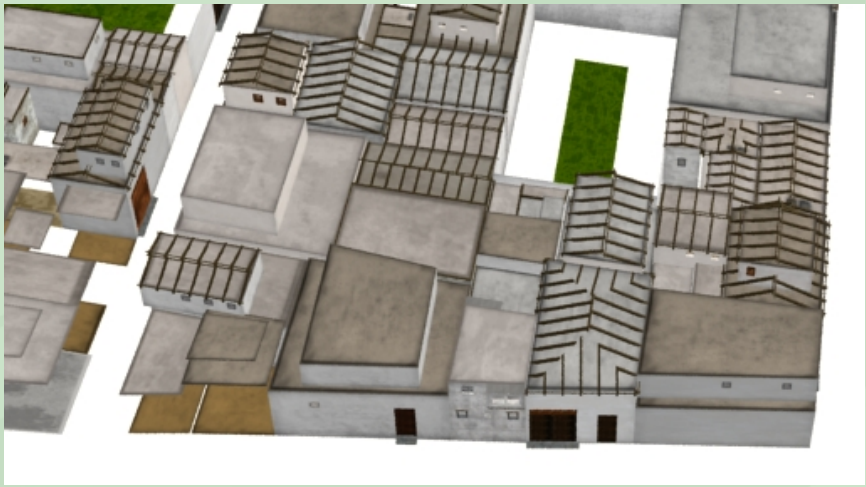

Input
GIS, maps, images
Building Generation
CGA Shape Grammar
Control
Level of
Completeness
Geometry
(Textured
Polygon Meshes)
RIB Archives

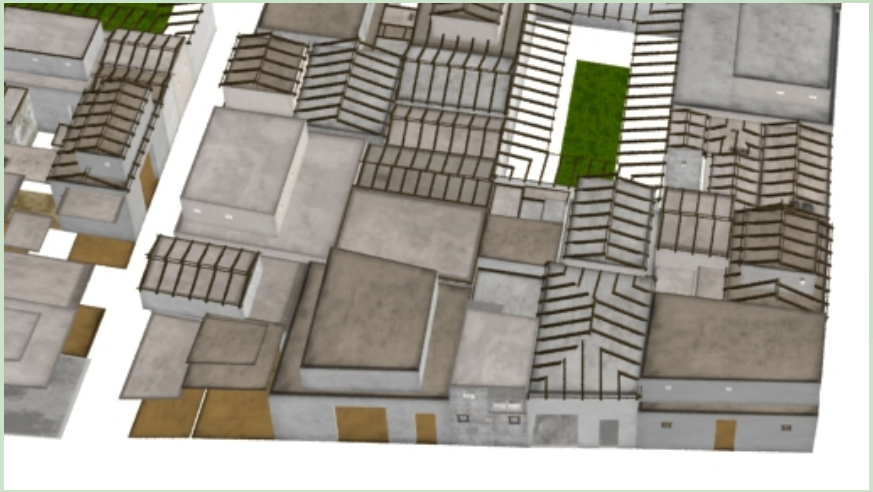




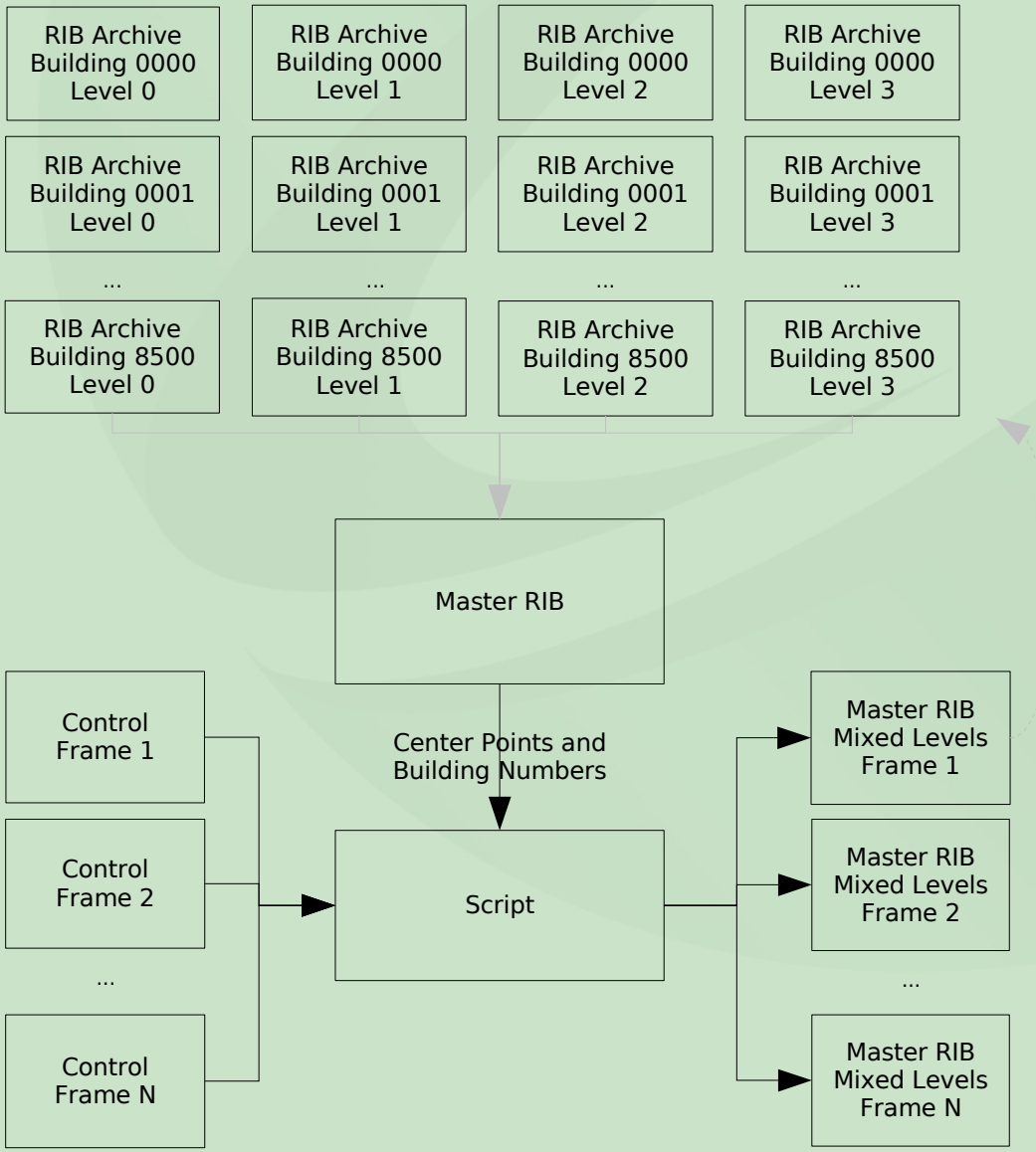
Building Stages

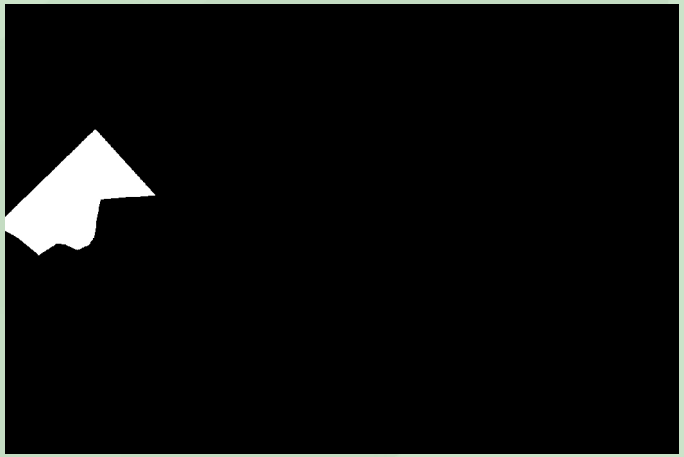
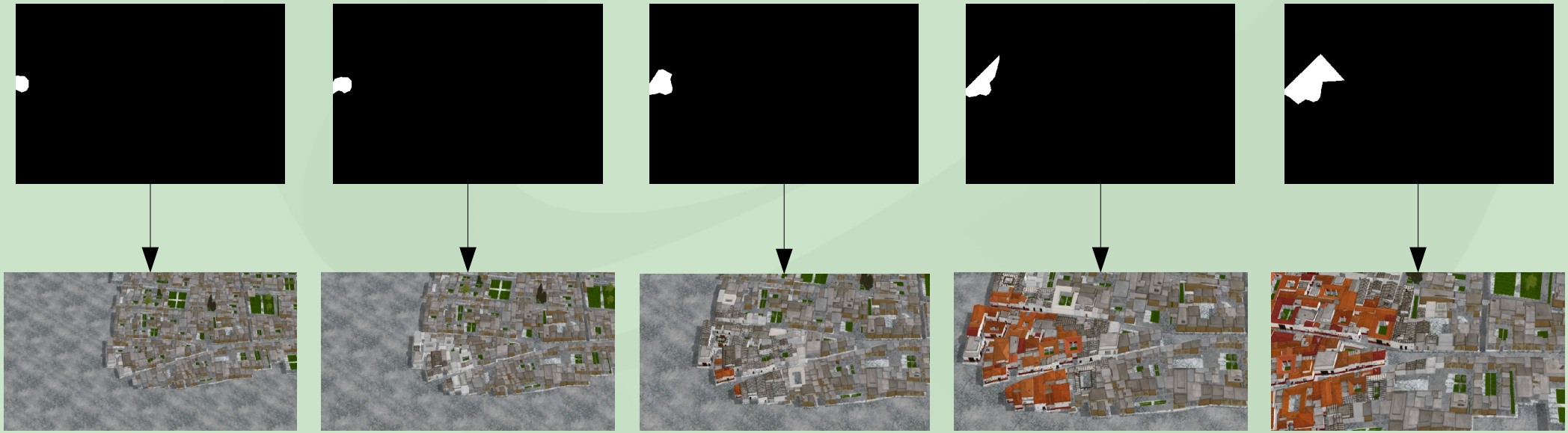






The Trick


RIB Archive Building 0000 Level 0
RIB Archive Building 0000 Level 1
RIB Archive Building 0000 Level 2
RIB Archive Building 0000 Level 3
RIB Archive Building 0001 Level 0
RIB Archive Building 0001 Level 1
RIB Archive Building 0001 Level 2
RIB Archive Building 0001 Level 3
...
RIB Archive Building 8500 Level 0
RIB Archive Building 8500 Level 1
RIB Archive Building 8500 Level 2
RIB Archive Building 8500 Level 3
Master RIB
Control Frame 1
Control Frame 2
Control Frame N
Center Points and Building Numbers
Script
Master RIB Mixed Levels Frame 1
Master RIB Mixed Levels Frame 2
Master RIB Mixed Levels Frame N



Results