

3D Planning Visualizations with Sketchup and Google Earth (and Community Viz)

Chris Brown, MAPC

Town of Weymouth



Town of Braintree



3D Modeling at MAPC

- Weymouth Landing Model Part 1
 - Sketchup (v6.0.1099) + Community Viz, Scenario 3D
- Weymouth Landing Model Part 2
 - Sketchup + Google Earth
 - Video editing
- Participatory Chinatown
 - Sketchup + Advanced Photoshop
 - Video game...?

3D Modeling Quality Assessment

- Weymouth Landing Model Part 1
 - Sketchup (v6.0.1099) + Community Viz, Scenario 3D
- Weymouth Landing Model Part 2
 - Sketchup + Google Earth
 - Video editing
- Participatory Chinatown
 - Sketchup + Advanced Photoshop
 - Video game...?

Poor

Okay...

Not Bad

Lord of the
Rings

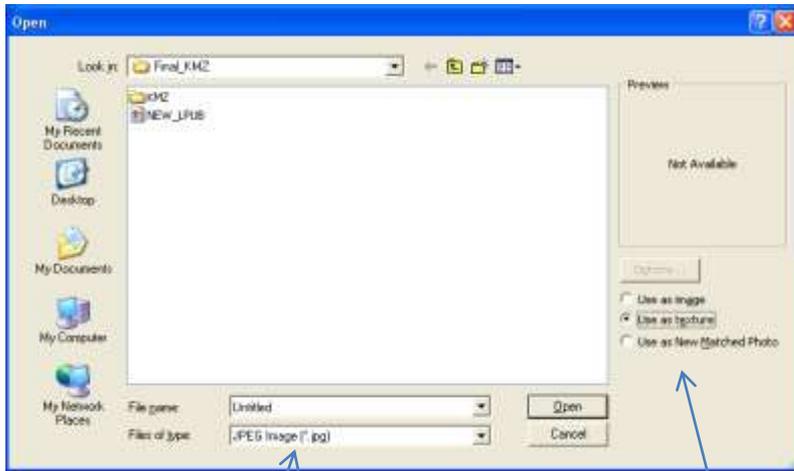
Weymouth Landing: Part 1 - can we do it?

- Hired to make zoning recommendations
 - Data services department - visualizations
- Weymouth Landing, 3D Downtown?
 - Community Viz, Scenario 3D
- Sketchup experience?
 - Which photos to take?
 - Photographs into Sketchup?
 - Warping in Sketchup...
 - Apply texture...



Sketchup

File, import,



JPEG

Use as
texture

Right click, texture →, position



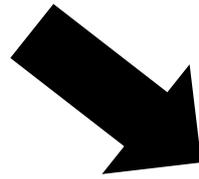
Scenario 3D

- Data for 3D model
 - Elevation
 - Imagery
 - Building Footprints
 - Shapefiles for park, road, sidewalks, etc...

- Layers
- Benches
 - Trees
 - MODELS_cso
 - MODELS_north
 - DELAGOS_corner
 - DELAGOS_hill
 - DELAGOS_MaxZone
 - DELAGOS_High_Density
 - WALGREENS
 - SEPAPE_Hall
 - SE_STRIP_full
 - SE_STRIP_half
 - SE_LEFT
 - PUB_MaxZone
 - PUB_2story
 - PUB_3story
 - HIGH_DENSITY_escalp
 - HIGH_DENSITY_left
 - North_2
 - Funeral_Home
 - Buildings
 - Sidewalks
 - Small_Run
 - Park_Trees
 - Park
 - Grass
 - Pavement
 - Parking Spaces
 - Walgreens
 - Walgreens
 - Walgreens
 - Walgreens
 - Walgreens
 - Backdrop
 - Photo

Height: 64.39 meters





Scenario 3D - Challenges

- Building
- Model e
- Model s
- **Perform**
 - Hours
- **Detail v**
 - Stills c
 - Optim
- **Sketchup export...**
 - Version 6.0.1099...



tail

deo

Meeting #1 - May 2009

- Scenario 3D, bookmarks
- Desktop necessary (new graphics card)
- Introduction to a “3D Model”



Part 2 - 3 months later...

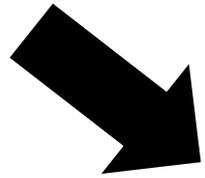
- Zoning Scenarios
 - MAPC recommended zoning
 - Follows Metrofuture (our 30 year plan)
 - Smart growth principles from the Strategic Plan
 - Mixed-use buildings downtown
 - Housing, with retail at ground floor
 - Redevelopment where development already exists
 - Development near transit (new commuter rail stop)



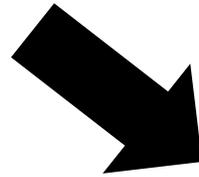
Zoning Recommendations- Preparation for meeting #2...

- Consequences of new zoning could be “smart growth” buildings
 - Other buildings in the region
 - Milton Landing and Scituate
 - Reflect MAPCs Smart Growth strategies
- New town initiatives to improve economic development could include a façade improvement program
 - Landing Pub façade improvement

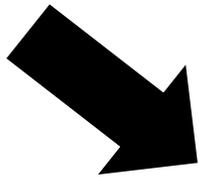
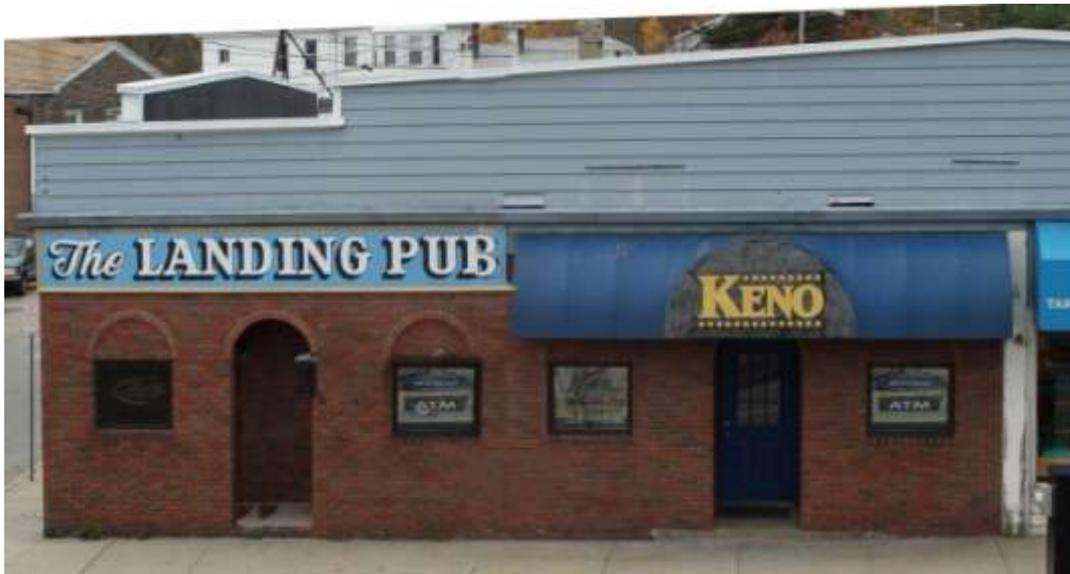
Scituate



Milton Landing



New Landing Pub



Meeting #2 - November 2009

- Interactive Model Presentation in Google Earth
- Visualizations of Zoning Recommendations:
 - New residential development north of downtown
 - New mixed use buildings downtown (at 3 story height levels)
- Visualizing MAPC recommended improvements
 - New Park with day-lighted Smelt run
 - Façade Improvements
 - Sidewalk Improvements
 - Smelt Arch (sense of place)
 - Waterfront walkway



Story Heights Downtown



Sidewalk & Façade Improvements



New Residential Development / Waterfront Walkway



Video Editing - Web & Meeting Content

- CamStudio (<http://camstudio.org/>)
 - Frame rates, video quality...
 - Google Earth tips
 - Tours, stops/views
 - Window size
 - Caching before tour
- IMovie - with YouTube tutorials
- On MAPC website
- Running at Meeting, along with live Google Earth

Conclusion (of Weymouth Landing)

- Great process, happy with deliverables, we think we really got people excited - although full zoning adoption may not happen...

... but we learned a lot

And applied every bit to this next project...



Participatory Chinatown

- Or, “urban planning: the video game”
- Part 1: Quests to look for housing, employment, or social space
- Part 2: Land use scenarios for area just south of I-90 (contested area for Chinatown Master Planning (CMP) Effort)
 - Comments and opinions gathered to submit to CMP
- MAPC’s role: Full 3D Model of Boston’s Chinatown

Participatory Chinatown

- Try to get youth / non-traditional workers / non-English speakers involved in the planning process
- Can we get additional insights with new media?
- Next step: toolkit for communities to create a game for <25k

Where do you start?

BRA Models?

Someone must have made at least 1!?



Where do you start?

Google Earth Models??



Google Earth Models??

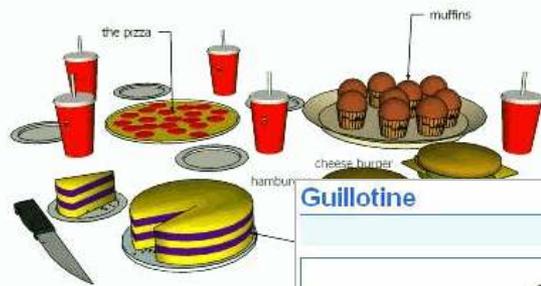


Where do you start?

Google 3D Warehouse???

The entire food collection

Image 3D View

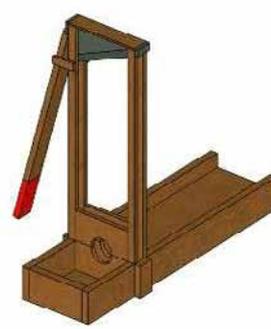


the pizza
muffins
cheese burger
hamburger
cake

Views: 6924 (110 in 7 days)
Downloads: 2777 (40 in 7 days)

Guillotine

Image



Views: 947 (7 in 7 days)
Downloads: 378 (2 in 7 days)

Download Model

Pixar WALL·E

Image 3D View

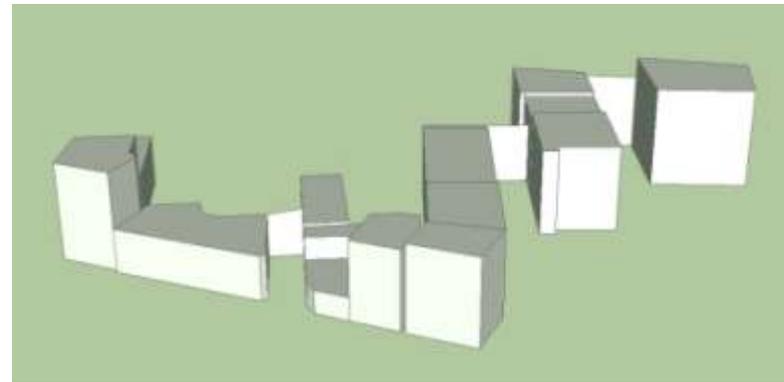
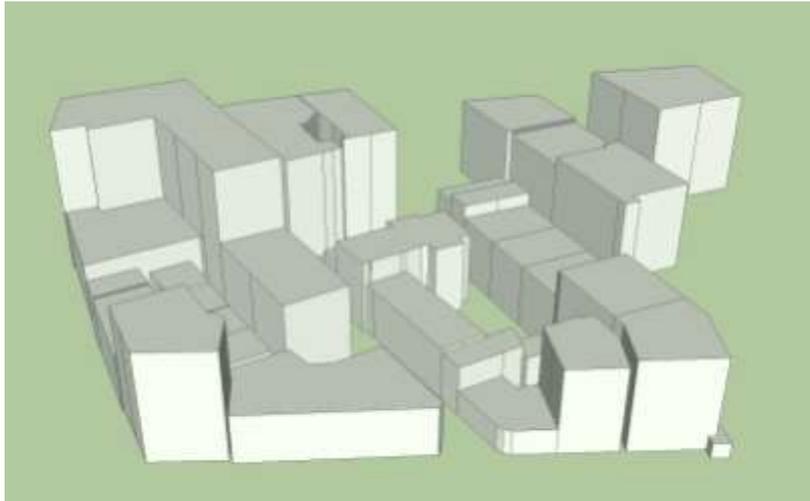


Views: 33916 (507 in 7 days)
Downloads: 20848 (287 in 7 days)

Download Model

3D Environment

Buildings?





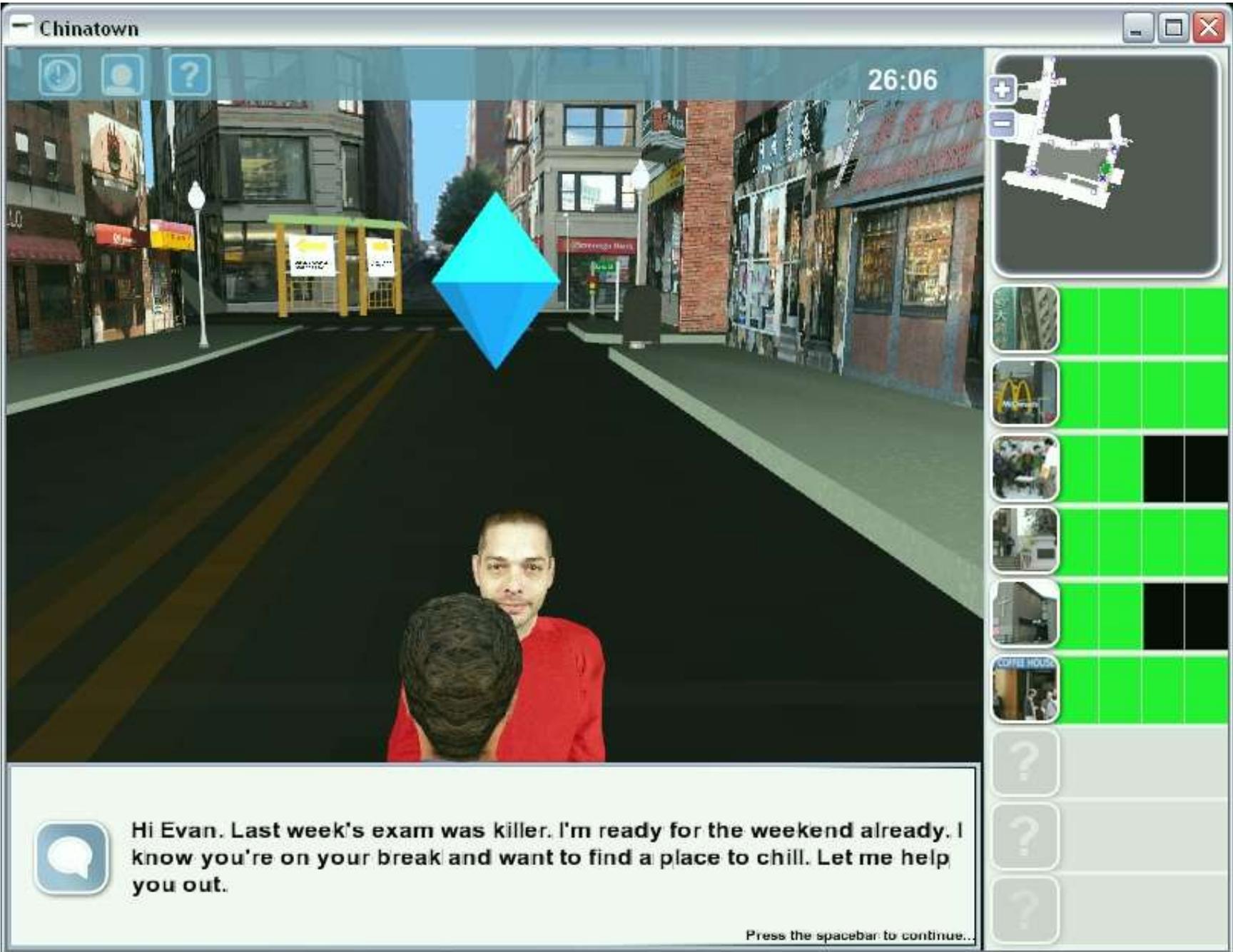
Youth with cameras...
Extensive Photoshop...

Power of 2...
Optimization (512x512)
Sidewalks
Street signs
Fake street walls
And on and on...



3D Environment





Hi Evan. Last week's exam was killer. I'm ready for the weekend already. I know you're on your break and want to find a place to chill. Let me help you out.

Press the spacebar to continue...



Phase 2 - Scenario Preference



3D Modeling at MAPC

- Ideally:
 - 3DS, Maya, or one of the others...
 - More detail, higher quality
 - 3D analysis (with 3D analyst)
 - Viewsheds?
 - LIDAR Projects?
 - Automatically apply air photo or oblique photos to buildings...
- Visualization platforms:
 - ArcScene?
 - For now, Google Earth and Sketchup
 - Excited to see next release of Scenario 3D
 - Cviz analysis windows / presenter mode?

Thank you!

- Still looking for the perfect engine and platform!
- Suggestions? Experiences? Success stories?

cbrown@mapc.org

203.214.8912

www.participatorychinatown.org

www.mapc.org/weymouthlanding

