Part 6: Effects Environment - INSTRUCTIONS FOR MICHAEL

**Follow these EXACT steps to complete Part 6**Time: 3.5-4 hours • Goal: 'I Can Create Magic!'

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| MICHAEL: Do These Steps Exactly | JESSE: Your Support Tasks | ✓ Check When Done |
| **STEP 6.1: CITY ENVIRONMENT**  **1. AutoCAD - City Layout**  → Grid: 100x100m blocks  → Streets: 10m wide  → Buildings: Rectangles varied  → Heights: 5m to 50m  → Parks: 3 green spaces  → Export city\_plan.dxf  **2. Substance - Urban Materials**  → Create material library:  → Concrete: Worn, cracks  → Brick: 3 variations  → Glass: Reflective  → Metal: Rust streaks  → Dirt overlay on all  → Export urban\_textures/  **3. Maya - Modular Buildings**  → Create building modules:  → Base floors: 3m height  → Windows: 1.5x2m  → Doors: 1x2.2m  → Combine → Make instances  → Random heights: 5-20 floors  → Save as city\_modular.ma | City templates Block generator Modular library | ☐ City planned ☐ Urban textures ☐ Modular system ☐ Instances work |
| **STEP 6.2: PROCEDURAL SYSTEMS**  **4. Python - City Generator**  → Procedural city script: import maya.cmds as cmds import random for x in range(-50, 50, 10):  for z in range(-50, 50, 10):  if random.random() > 0.2: # 80% buildings  height = random.uniform(5, 30)  width = random.uniform(6, 10)  building = cmds.polyCube(n=f'bld\_{x}\_{z}', h=height, w=width, d=width)  cmds.move(x, height/2, z, building[0])  # Add windows  windows = cmds.polyCube(n=f'win\_{x}\_{z}', h=0.2, w=width\*0.8, d=0.1)  cmds.instance(windows[0], leaf=True)  → Run → Instant city!  **5. Facial - Crowd Variations**  → Create 10 face types  → Each: 5 expressions  → Random blink timing  → Look-at targets  → Talking: Random phonemes  → Apply to crowd instances  **6. Hair - Environmental**  → Grass: nHair on ground  → Trees: Hair for leaves  → Flags: Hair strips  → All react to wind  → Different stiffness values  → Cache environmental\_hair/ | Procedural tools Face randomizer Environment presets | ☐ City generated ☐ Faces varied ☐ Environment hair ☐ Wind reactive |
| **STEP 6.3: MASSIVE SCALE**  **7. Cloth - Crowd Clothing**  → 20 outfit variations  → Each: Different cloth preset  → Business: Stiff  → Casual: Medium  → Sports: Stretchy  → Batch cache system  **8. Crowds - Stadium Scale**  → MASH → 1000+ points  → Stadium distribution  → Sections: Different behaviors  → Wave: Time offset  → Excitement: Parameter 0-1  → LOD: 3 levels  → Cache stadium\_crowd.abc  **9. Mocap - Crowd Library**  → 10 walk variations  → 5 idle types  → Sitting, standing  → Clapping animation  → Apply randomly to crowd  → Time offsets for variety | Crowd behaviors Stadium tools LOD system | ☐ Clothing variety ☐ 1000+ crowd ☐ Behaviors work ☐ Mocap applied |
| **STEP 6.4: DESTRUCTION & INTEGRATION**  **10. Houdini - Building Collapse**  → Import building  → RBD fracture → Voronoi  → Pieces: 500  → Glue constraints  → Gravity + explosion force  → Debris particles  → Dust: Pyro sim  → Export destruction.bgeo  **11. V-Ray - Epic Scale**  → Render settings:  → Resolution: 4K  → Samples: High quality  → GI: Brute force  → Memory: Optimize  → Render elements: 30+  → Distributed rendering  **12. Nuke - Feature Film**  → 30+ layers composite  → Roto: Buildings  → Key: Green screens  → CG integration  → Atmospheric perspective  → Match film grain  → Color: Film LUT  → Output: DPX sequence  **13. Unity - Optimization**  → Streaming system  → Occlusion culling  → Batching: Dynamic  → LOD: Aggressive  → Imposters: Distant buildings  → Target: 30fps minimum  → Build: PC/Console | RBD presets Render farm setup Comp automation Build optimization | ☐ Building destroyed ☐ 4K rendering ☐ Film comp done ☐ 30fps achieved |

# 🎉 PART 6 COMPLETE!

You've mastered Effects Environment with all 13 tools!