

Outsourcing Frontlines: The Lessons Never End

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GDC 2007



Outsourcers



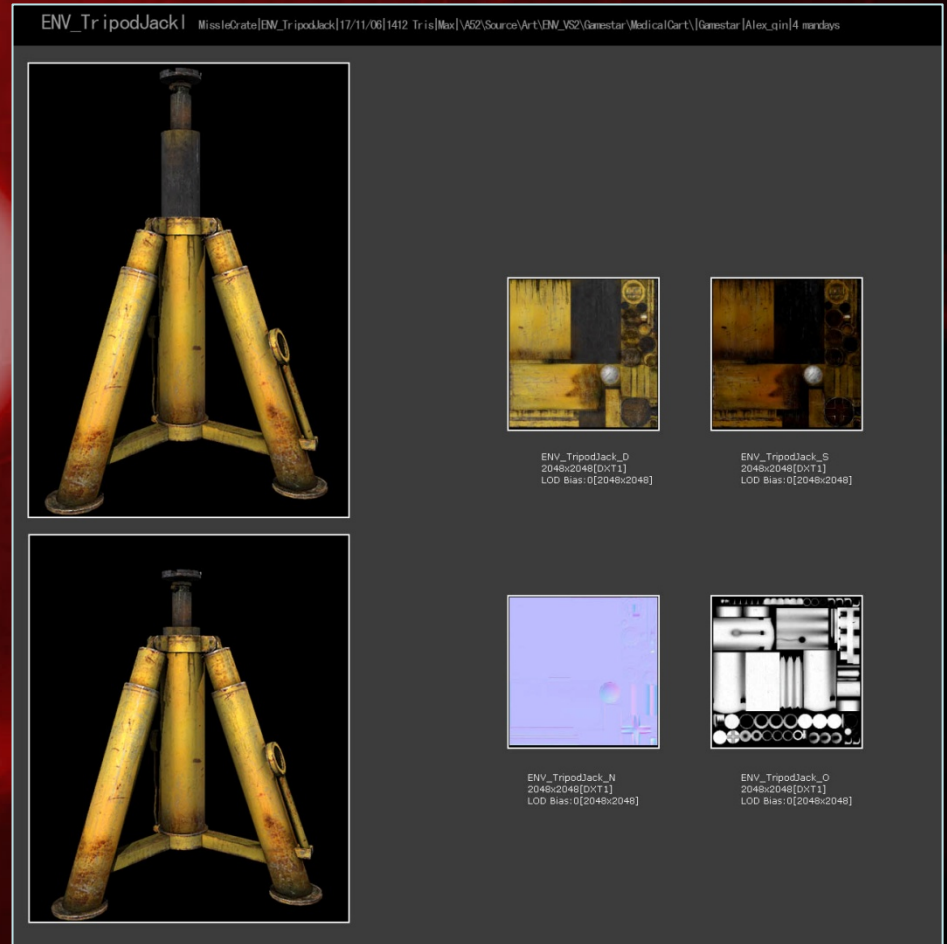
Outsourcing Pipelines

- Concept Art
- 3D Objects
- Characters
- Vehicles
- Levels



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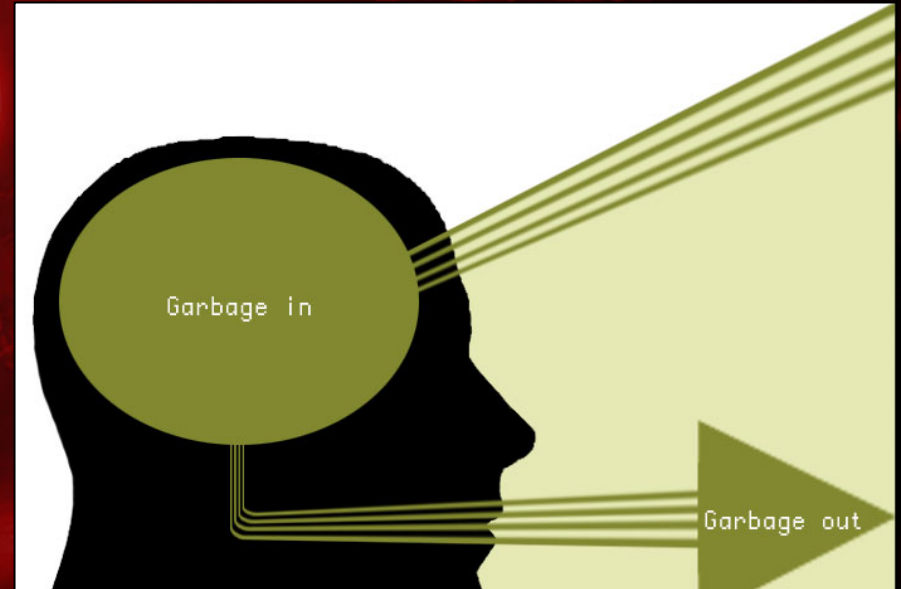
Internal Process Makes or Breaks Us

Good Internal Process

- #1 – Integrate vendor into team



Good Internal Process



Typical Outsourcing Issues

- Late delivery
- Over budget
- Poor quality

Root Problems

- Poor internal process
- Wrong vendors
- Bad tools
 - Miscommunication
 - Unrealistic expectations

Vendors

- Carefully vet vendors
 - Management
 - Experience
 - Skills

Tools

- Communication
 - Provide visibility
 - Key info in one place
 - Frequent
- Delivery
 - Integrated into team workflow
 - Foolproof

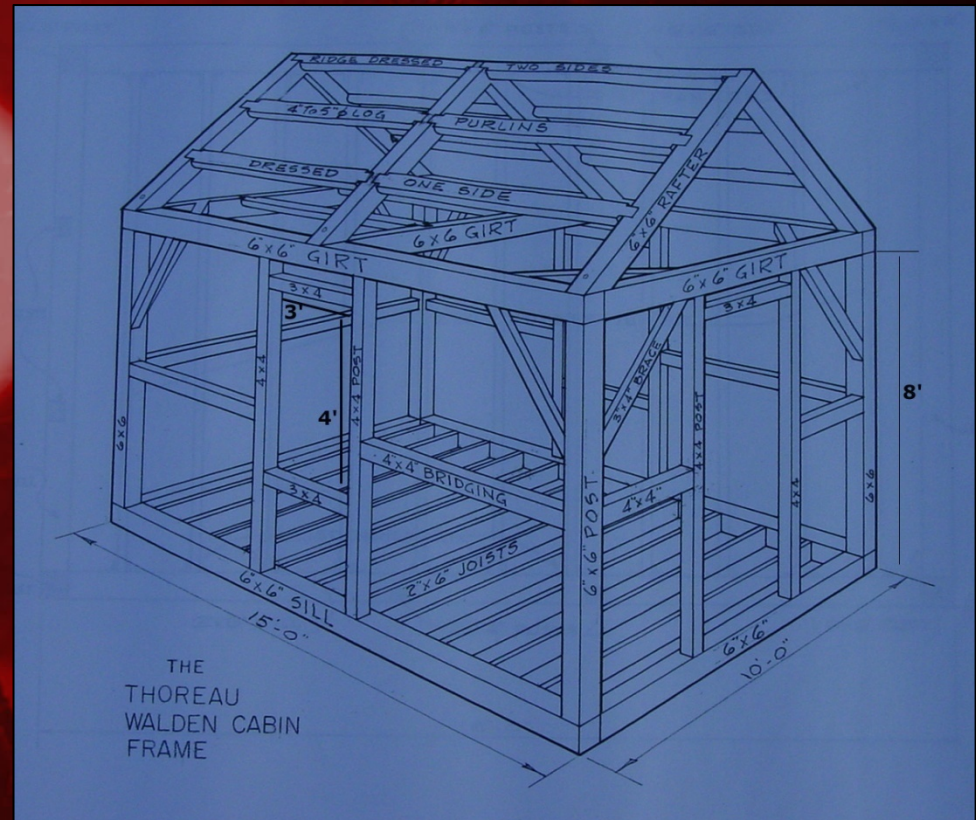
Internal Process

- Scope
- Pre-Production
- Requirements
- Feedback
- Staffing



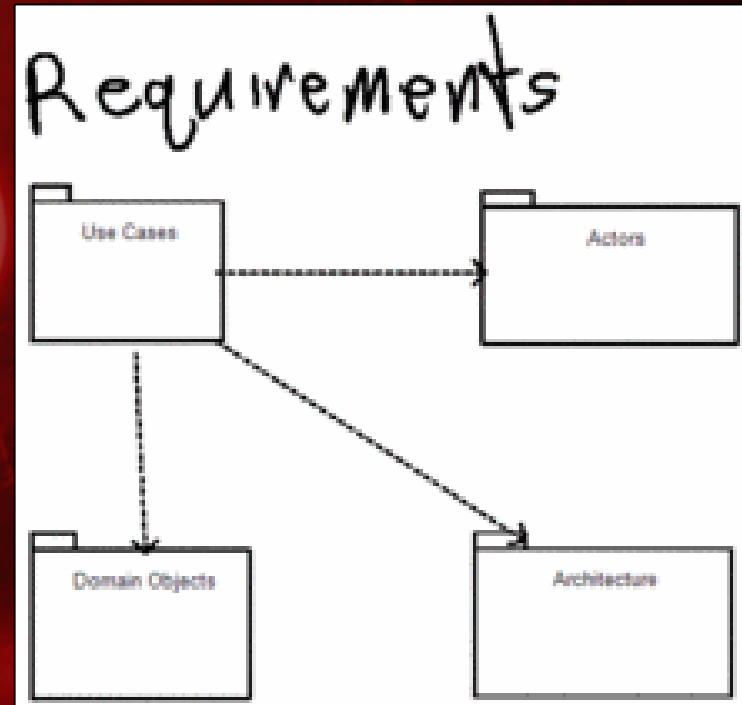
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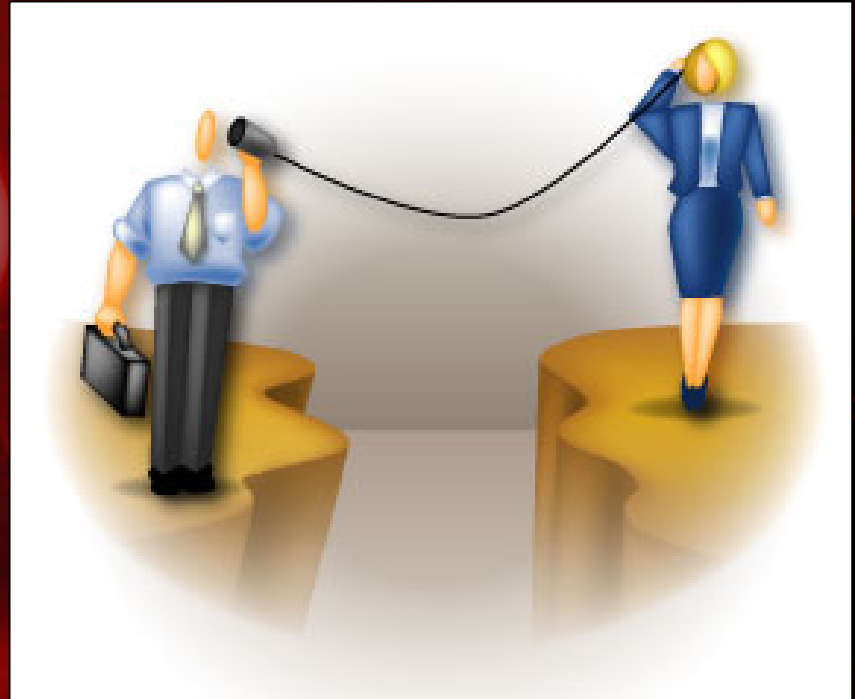
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Internal Process

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Internal Process

- Scope
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Scope

- Good scope is exact
 - Specific asset list
 - Deadline
 - Budget
- Bad scope is undefined
 - Estimates
 - Asset types

Scope

- 329 unique assets

Asset Name	Time
Shirt1	2d
Shirt2	2d
Earrings1	3d
Pants1	3d

Scope

- Defined scope gets you solid bid

Asset Name	Time	Start Date	End Date
Shirt1	3.3d	16-Jan	19-Jan
Shirt2	2.9d	16-Jan	18-Jan
Earrings1	3.9d	16-Jan	20-Jan
Pants1	3.9d	16-Jan	20-Jan

Scope

- Bad scope cost us extra money & time

Each prop was a 4-day task

1 prop	Man Day Rate	Time	Actual Cost	Paid
	\$400	3d	\$1,200	\$1,600

Pre-Production

- Pre-production provides efficiency
 - Slow ramp up
 - Training
- No pre-production cause mistakes
 - Not enough time
 - Start heavy load immediately

Pre-Production

- ~ 3+ months to get ready to start work

4 weeks	3 weeks	3 weeks	6 weeks
Tests	Negotiation	Schedule	Logistics & Training

Pre-Production

329 unique assets

Month 1	Month 2	Month 3
34 assets	74 assets	73 assets

Requirements

- Good requirements leave no questions
 - Provide detail upfront
- Bad requirements create more work
 - Shouldn't make assumptions

Requirements

- Reference
- Quality Target
- Proxy
- Process
- Technical Spec

TENT LARGE

MAKE THIS TENT

Make 3 modular door styles (see proxy for reference)



TEXTURE LIKE THIS ONE



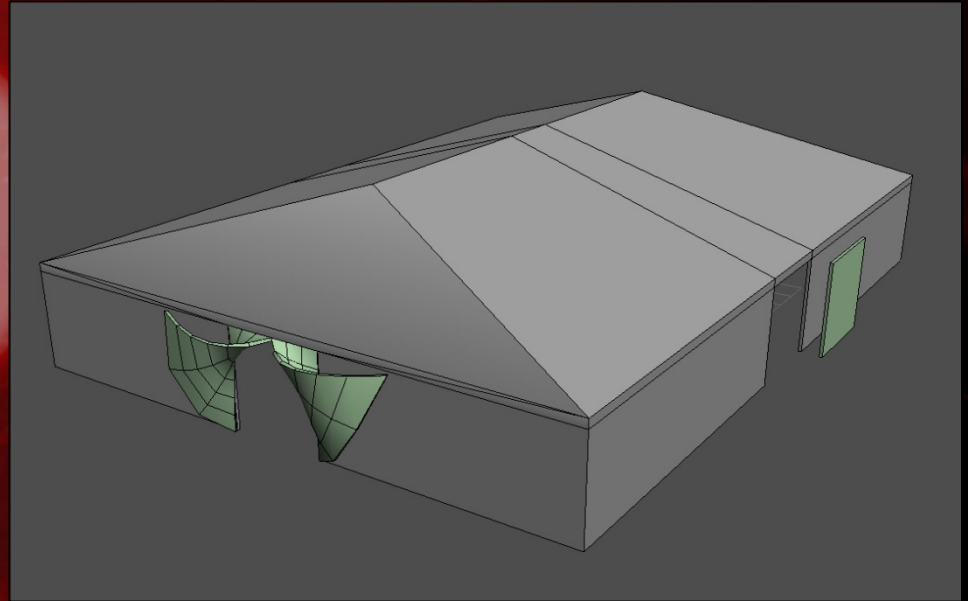
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Requirements

- Reference
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- Process
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Requirements

- Reference
- Quality Target
- Proxy
- **Process**
- Technical Spec

How To Build

Low Poly Model

High Poly Model

UVs

Collision

Smoothing Groups

Tiling Textures

Requirements

- Reference
- Quality Target
- Proxy
- Process
- Technical Spec

Asset Name	Proxy	HP	Quality Level	Polygon Count		# Textures
				Estimate	# LODs	
ENV_RadioTower	Env_Proxy_Exterior_Props_Master.max	N	2	1000-2000	2	2 sets 1024x1024
ENV_RoadArch_Small	ENV_Proxy_RoadArch_master.max	N	3	1000-2000	2	1 set 1024x1024 for both
ENV_RoadArch_Large		N	2	1000-2000	2	
ENV_PowerTower	Env_Proxy_Exterior_Props_Master.max	N	2	1000-2000	2	2 sets 1024x1024
ENV_PileOfTires1	Env_Proxy_Exterior_Props_Master.max	Y	3	500-1000	2	1 set 1024x1024 for all
ENV_PileOfTires2		Y	3	500-1000	2	
ENV_SecurityFence_3m	ENV_Proxy_Fences.max	N	2	250-750	2	1 set 1024x1024 for all
ENV_SecurityFence_6m		N	2	250-750	2	

Requirements

- Bad requirements are common
 - Assumptions are easy to make
- Assumptions cause rework

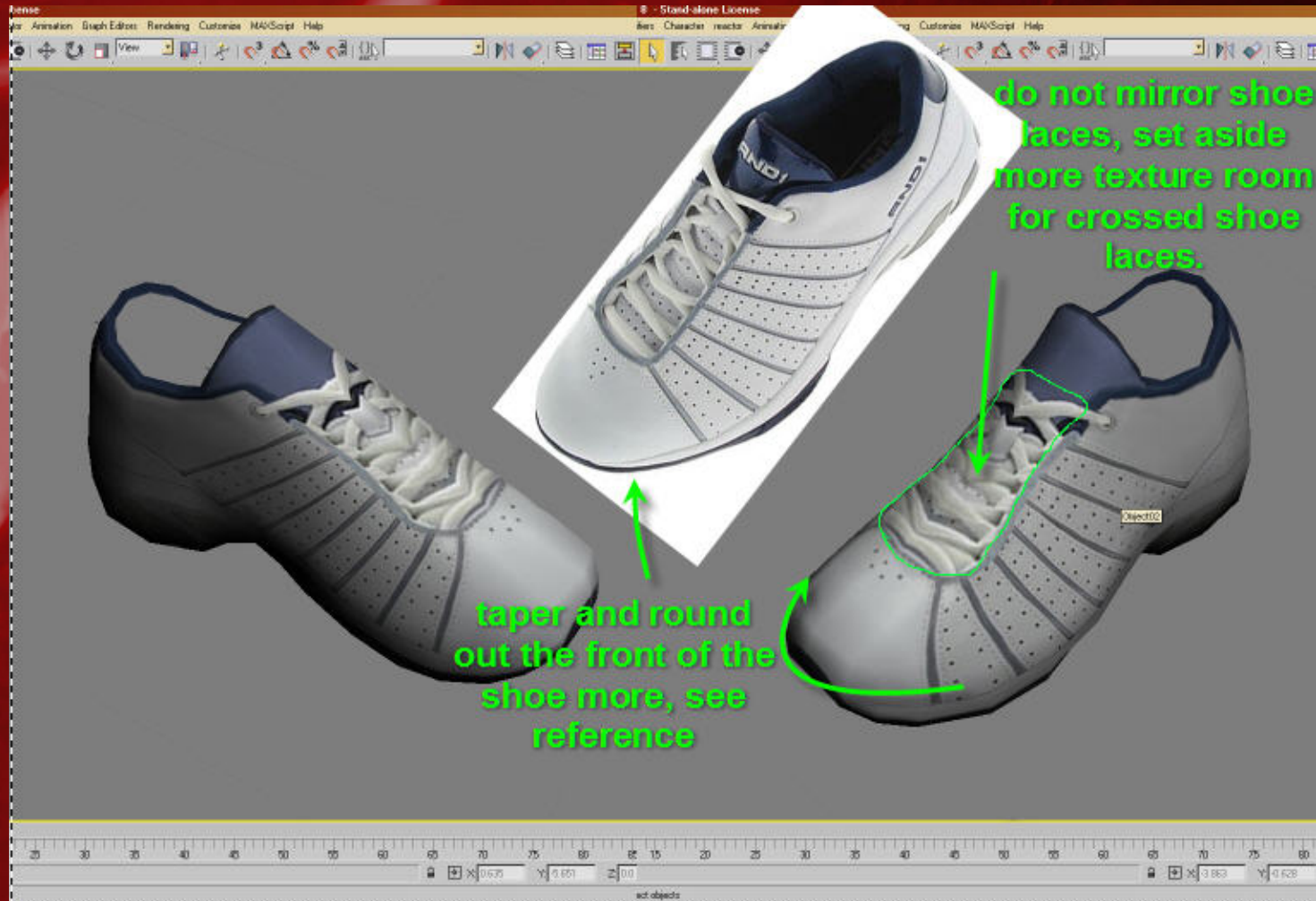
Requirements

- Bad requirements caused errors with
 - Scrolling UVs
 - Inefficient textures
 - Missing detail in geometry
 - 2-sided materials
 - Incorrect tiling at seams
 - Wrong materials
 - Smoothing groups

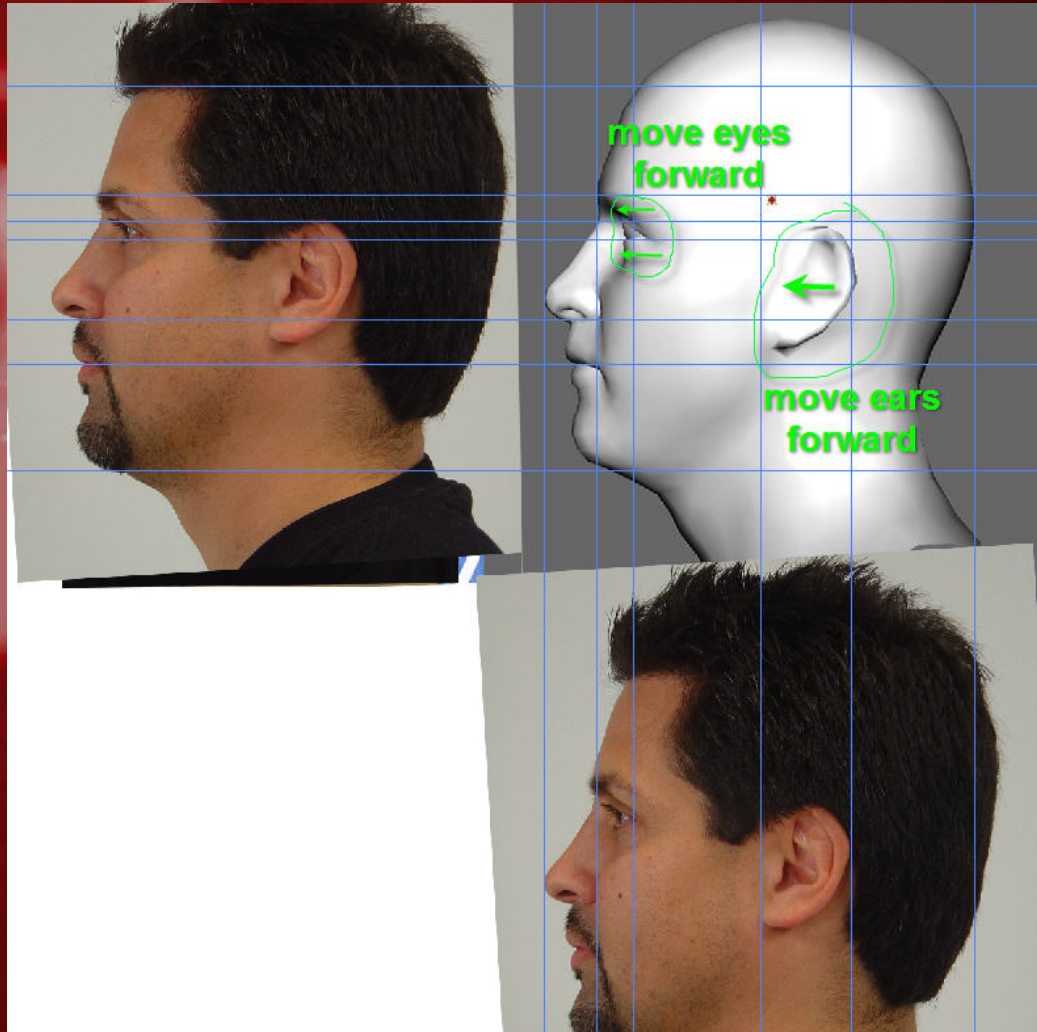
Feedback

- Good feedback reduces iteration
 - Visual
 - Exact
 - Frequent
- Bad feedback causes extra work
 - Vague
 - Open-ended

Feedback



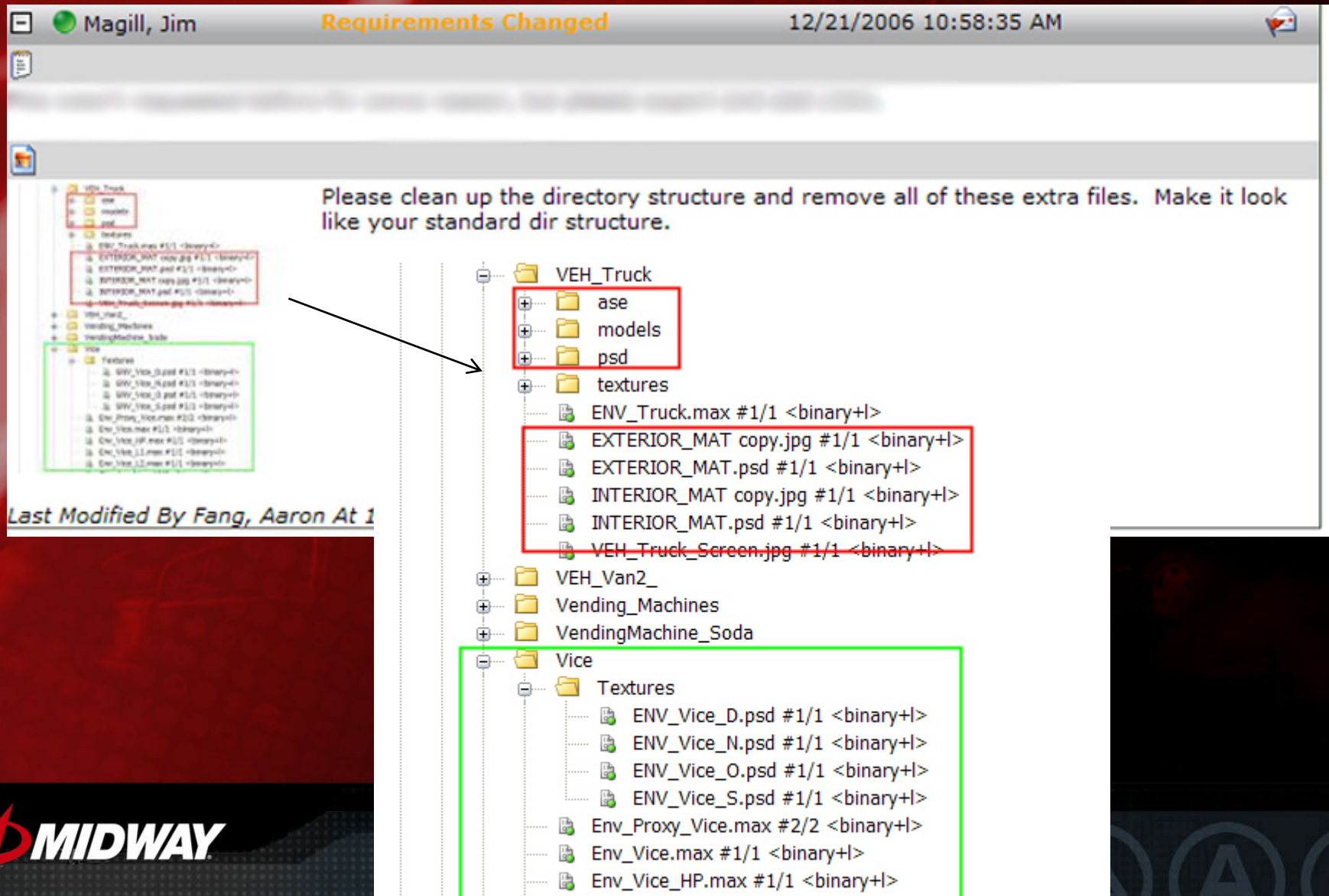
Feedback



Feedback

Magill, Jim Requirements Changed 12/21/2006 10:58:35 AM

Please clean up the directory structure and remove all of these extra files. Make it look like your standard dir structure.



VEH_Truck

- ase
- models
- psd
- textures
- ENV_Truck.max #1/1 <binary+I>
- EXTERIOR_MAT copy.jpg #1/1 <binary+I>
- EXTERIOR_MAT.psd #1/1 <binary+I>
- INTERIOR_MAT copy.jpg #1/1 <binary+I>
- INTERIOR_MAT.psd #1/1 <binary+I>
- VEH_Truck_Screen.jpg #1/1 <binary+I>

VEH_Van2_

Vending_Machines

VendingMachine_Soda

Vice

- Textures
- ENV_Vice_D.psd #1/1 <binary+I>
- ENV_Vice_N.psd #1/1 <binary+I>
- ENV_Vice_O.psd #1/1 <binary+I>
- ENV_Vice_S.psd #1/1 <binary+I>
- Env_Proxy_Vice.max #2/2 <binary+I>
- Env_Vice.max #1/1 <binary+I>
- Env_Vice_HP.max #1/1 <binary+I>

Last Modified By Fang, Aaron At 1

MIDWAY

Feedback

- Too much text

Hi guys,

I cannot access the [redacted] If you could upload your files to the midway austin server from now on that would be great.

I'll save my final critique till I see the model but I'll give a minor critique based on the image you provided us. Right off the bat I see that she isn't in the correct pose. All reference provided and examples have the base pose with arms down and legs open.

Edge loops around the clavicle/collar area aren't evenly spaced and it seems you have some unnecessary quad solution going right in the middle of her collar area at the pith of the neck. Having a double side material for the bracelet is perfectly acceptable and its looking great so far. The clothes appear to be too snug on her body over all and does not give the illusion of "drapping" off of her frame. I'll be able to show fixes for this once I get my hands on the mesh.

"Too snug"

Her shoes at the 3/4 view dont appear to be "pointy" as they are in the concept. It seems they have been modeled with a rather blunt shape. The bag is too simple in geometry. At the very least the pouch protruding on the side should be fleshed out. Give the bag some character and asymmetry with beveled edges as in the concept.

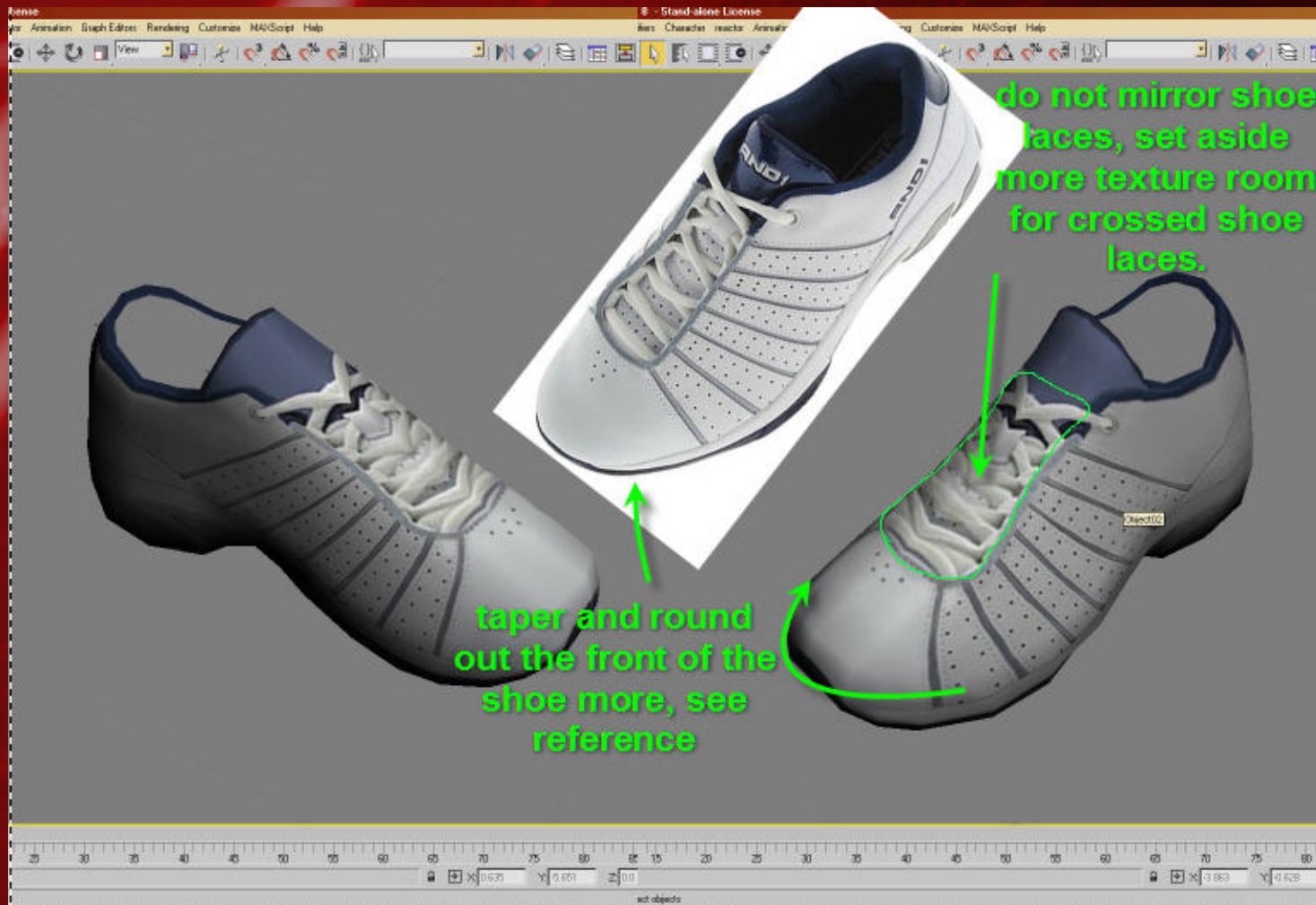
"Pointy"

I can not stress enough how important it is to directly model off the concepts provided. Everything our concept artist has drawn has been drawn directly over the base mesh and the bag drawn to scale. PLEASE MODEL DIRECTLY FROM THE CONCEPT. For the sillouhette atleast it breaks down as basicly tracing from the concept.

I'll will critique further once I have hands on time with the mesh so please post at the link provided.

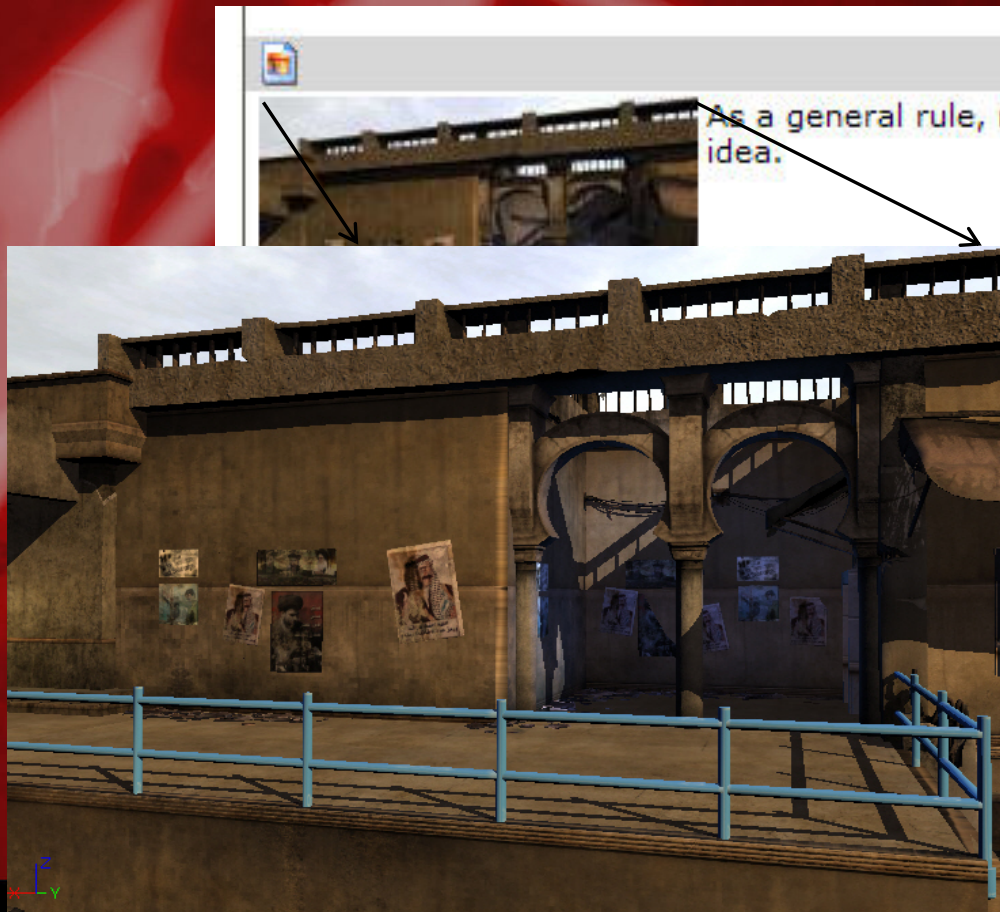
Thanks guys!

Feedback



Feedback

- Unclear



Feedback

- Visual and frequent!

The image displays a sequence of status update windows from a game development project, illustrating a feedback loop. The windows are arranged in a collage, with arrows indicating the flow of work and feedback.

WIP (Need Feedback) - 12/11/2006 4:15:45 AM

hi,jim
we find the size of Tentmed's door is different from Tentlrg's door. so these door cannot share. we have finished tentmed, should we make new door model according to tentlrg? or you have other solution? thanks

Last Modified By 3/2/2007 2:07:38 AM

WIP (Need Feedback) - 1/11/2007 2:36:04 AM

hi,jim
We already use pure color occlusion,but the model still have seams after build light.Can we use a poly to cover this seams?Thanks

Last Modified By 3/2/2007 2:07:38 AM

Magill, Jim - Start Work - 12/7/2006 4:50:04 PM

Delete backfaces!
If you're sure that the polygon will never be seen delete it.

Last Modified By Fang, Aeron At 3/2/2007 2:07:38 AM

Magill, Jim - Feedback Given - 12/11/2006 2:25:18 PM

Please make the requested changes to tent medium first before working on the large tent. All of the changes to the med tent will apply to the large tent.

Last Modified By Magill, Jim At 12/11/2006 2:25:18 PM

Magill, Jim - Feedback Given - 1/11/2007 7:12:27 PM

Why not cut the door in here at the natural seam?

Last Modified By Magill, Jim At 1/11/2007 7:12:27 PM

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Staffing

- Good staffing plan provides bandwidth
 - Requirements
 - Feedback
- Bad staffing plan causes mistakes
 - Delays
 - Miscommunication

Staffing

- Requirement packets
 - 1 FT artist can do 25 packets a week
- 250 assets require 10 man weeks of prep

Staffing

- Providing feedback is full-time job
 - 1 artist can support ~30 assets at once
- 60 assets require 2 full-time artists

In Summary

- Internal process can make or break you
 - Scope
 - Pre-Production
 - Requirements
 - Feedback
 - Staffing

Q/A

@