



# **CODE ORANGE**

V 1.50

**Recommended GUI and 3D environment enhancements of Code Orange 1.00 in preparation for development of CO 1.50.**

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**2007-10-01**



When the initial splash screen launches, the general game options (i.e. Single Player, Multi-Player, Settings, and Quit) should already be visible to the user. You currently have to single-click to get these options to display.

# CODE ORANGE

v. 1.000

SINGLE PLAYER  
MULTI-PLAYER  
SETTINGS  
ABOUT  
QUIT



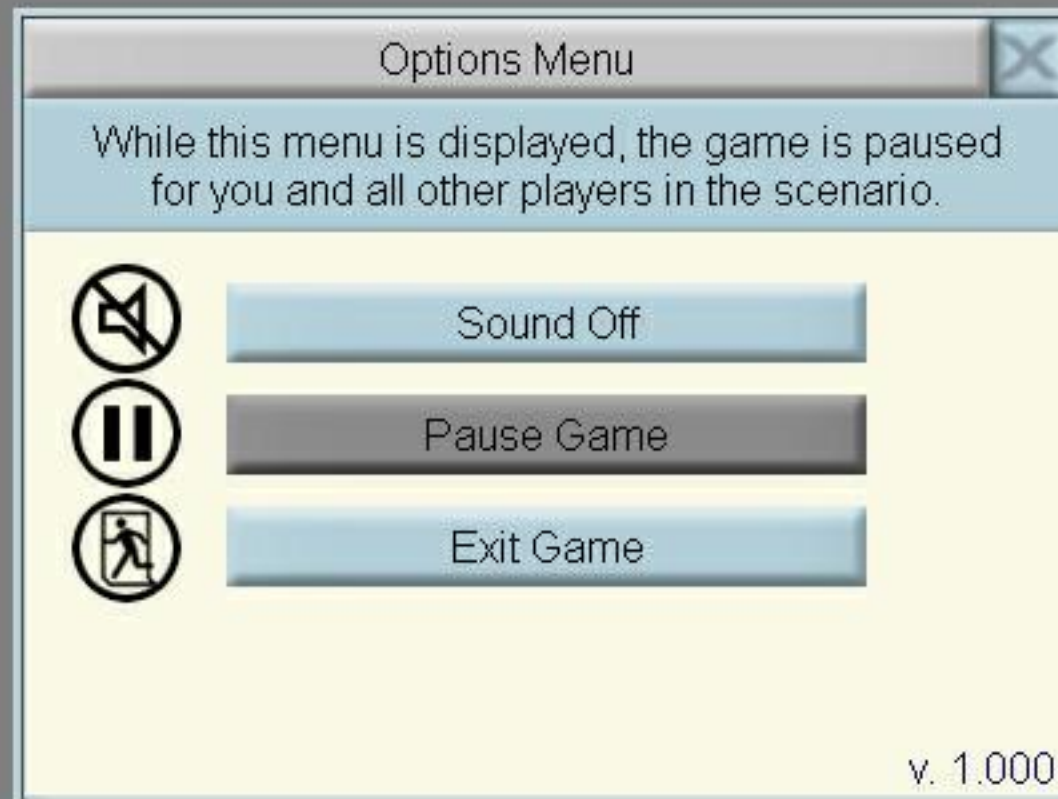
There should also be one more game option: ABOUT (Or an equivalent term). This option will allow for all of the “version” information, product update descriptions (“what is new with this software patch”), system requirements, game credits, and the SiTEL web site, etc.



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This Options Menu is generally representative of all of the user interface components found in Code Orange. It is severely limited in functional scope compared to all other Game Options Menus, it is a visual turn-off, and it is completely disconnected from the game. It may be easier-said-than-done, but the user interface is *always* the key component to a properly functioning game / educational tool / software package.



Furthermore, while it has been necessary in past games to utilize oversized buttons that allow for long words (especially for language localization), the future use of easily recognizable icon-buttons will, instead, offer a much cleaner, much more functional, much more user-friendly experience. *And*, in a Microsoft Windows / Mac OS environment, icon-based buttons can also receive the added benefit of “tool tips” (the floating labels used to reinforce the meaning of an icon or image).





Options Menu

While this menu is displayed, the game is paused for you and all other players in the scenario.

▶ || 🔊 🔇 ↻ ↗

12:01:17

Treatment Areas Supervisor

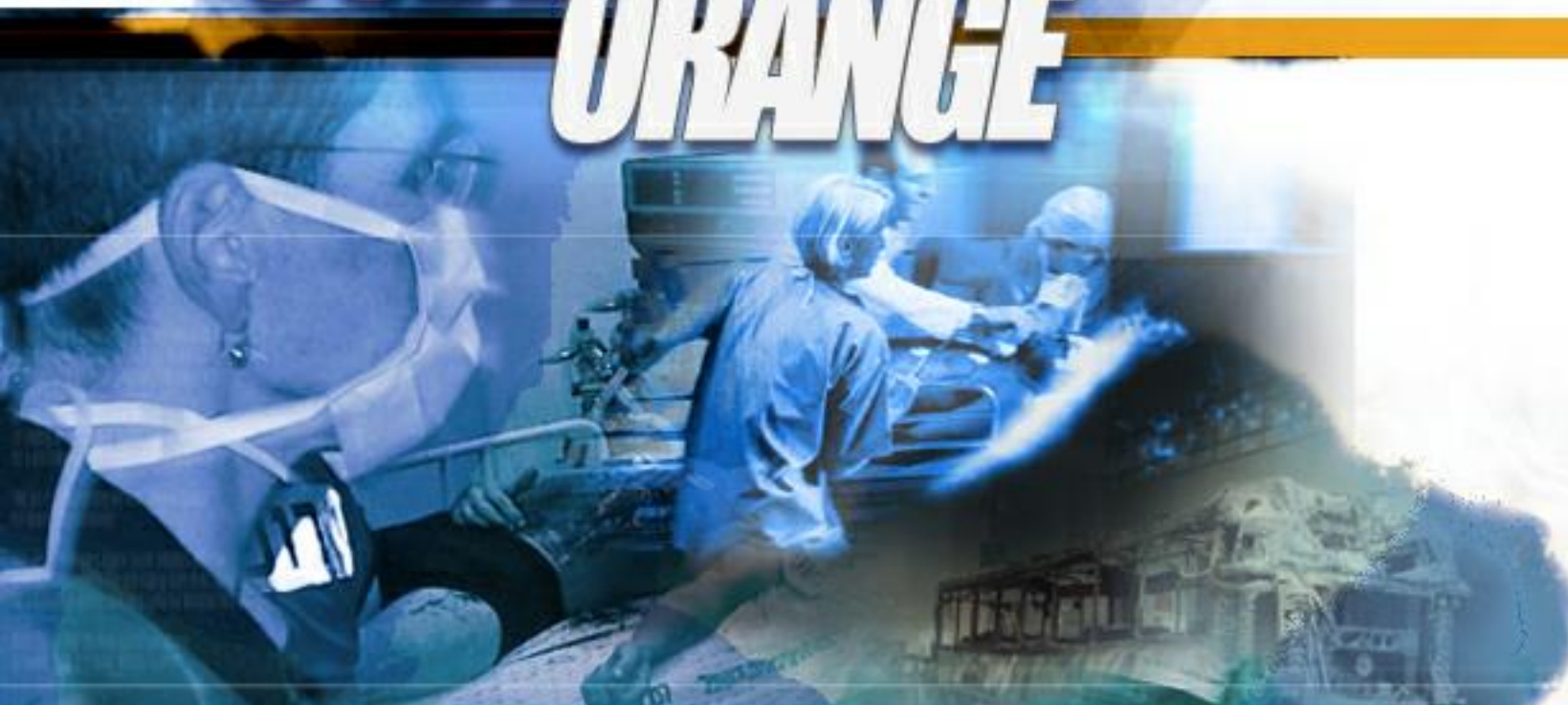
2 Unread





When you only have *one* environment in which to play a game or convey a concept, you should not display a *list*, as it serves no purpose. You can, however, have a list display ready for when multiple environments are made available in future versions or patches.

# CODE ORANGE



Start  
Back

Hospital



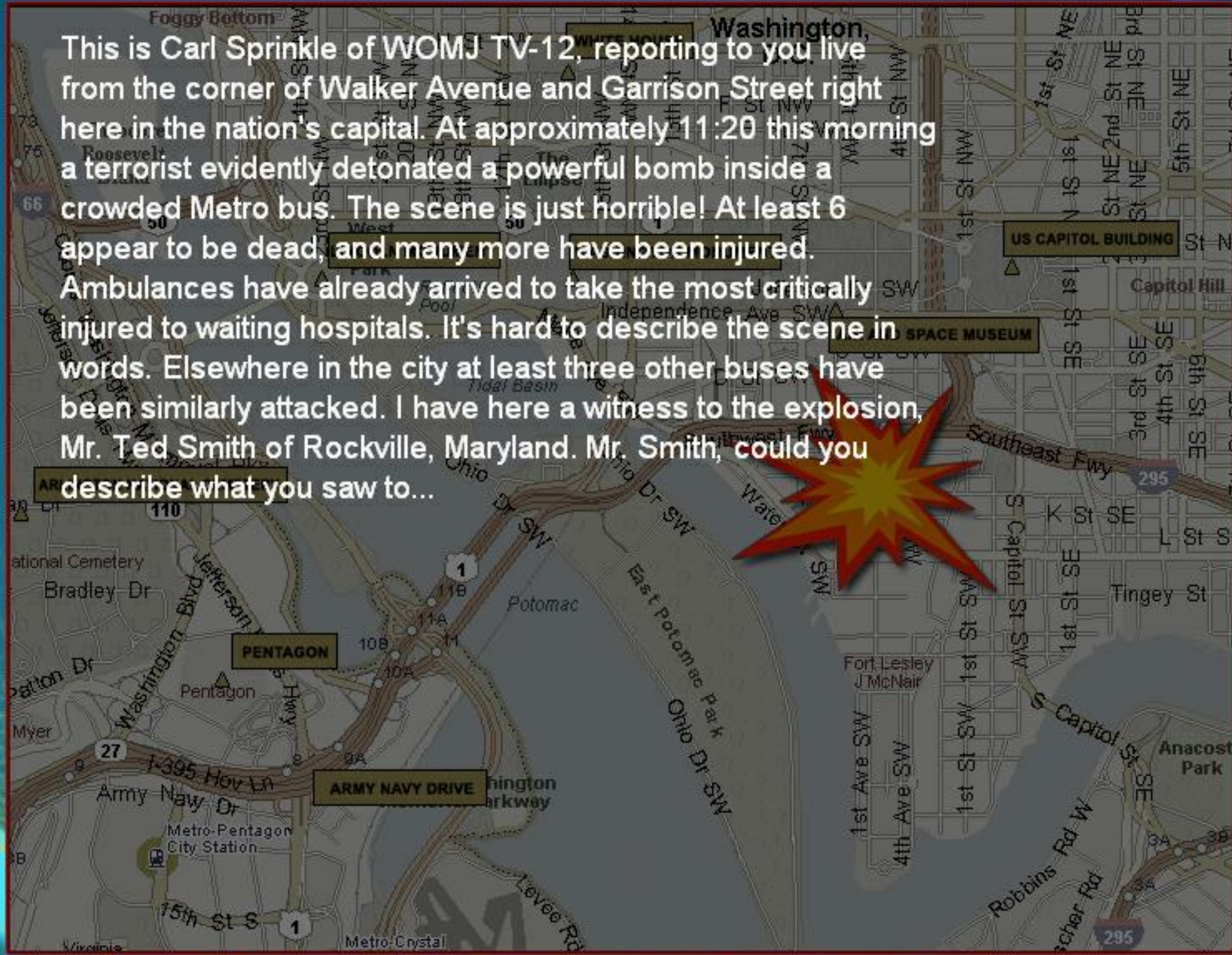
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# CARL SPRINKLE Reporting



This is Carl Sprinkle of WOMJ TV-12, reporting to you live from the corner of Walker Avenue and Garrison Street right here in the nation's capital. At approximately 11:20 this morning a terrorist evidently detonated a powerful bomb inside a crowded Metro bus. The scene is just horrible! At least 6 appear to be dead, and many more have been injured. Ambulances have already arrived to take the most critically injured to waiting hospitals. It's hard to describe the scene in words. Elsewhere in the city at least three other buses have been similarly attacked. I have here a witness to the explosion, Mr. Ted Smith of Rockville, Maryland. Mr. Smith, could you describe what you saw to...



Are we there yet?!

CONTINUE

# LIVE BREAKING NEWS 12

Progress bars need an "exacting" shape outline, so that users have a better idea of how much longer the scenario / game is actually going to take to launch.



When designing a user interface display that relies on large bodies of text, it is a must that you incorporate hierarchy within that text (multiple sizes, colors, effects, and even images where necessary).

What kind of MCI?

A series of non-chemical explosions have occurred aboard a number of city transit buses.

When did MCI occur?

The first explosion occurred at approximately 11:20 this morning. Within 15 minutes at least three other apparently-related explosions occurred in other occupied city buses.

Where did MCI occur?

All detonations have taken place within a one-mile radius of the White House.

What injuries can be expected?

Before proceeding, you must complete the tasks below by clicking on their checkboxes.



"In this exercise, you must complete each of the tasks below, in priority order, to succeed. Click CONFIRM when you are ready to proceed".

Obtain Briefing

Read entire Job Action Sheet

Put on Position Identification Vest

Get walkie-talkie

*The check-boxes should really be buttons for accessing DETAILS about each of the four tasks, as a heads-up before entering the game.*





All 3D objects in the environment (characters furniture, walls, and objects) should have shadows. Shadows add depth to a 3D space, and depth adds a feeling of immersion.

13:47:19

Treatment Areas Supervisor

5 Unread





**CODE ORANGE**

Inbox

New

Open

Delete

Subject	From	Sent
News Reports causing anxiety	Nurse in ER	13:02:02
Location of Green Area?	ED Orderly	12:20:06
Hint #2 - Supplies	System	12:06:03
OR's backed up	OR Surgeon	12:01:02
Hint #1 - Manage Personnel	System	12:01:02





Forward

Subject: Hint #1 - Manage Personnel

To: Treatment Areas Supervisor

Open your Job Action Sheet (JAS) and select the MANAGE PERSONNEL task. As TAS, you are responsible for sending personnel to the Red, Yellow, Green Units and the Triage Area. You begin with a number of personnel in the UNASSIGNED STAFF list. Assign each staff member to one of the afore-mentioned units. You also have the option to send personnel to the Ops Chief or back to the Labor Pool. At incident start, Transporters and Medical Staff will be most needed by Yellow and Triage. Press the ACCEPT CHANGES button at the bottom of the interface to lock in your decisions. Return back to this interface frequently to check for more staff becoming available.

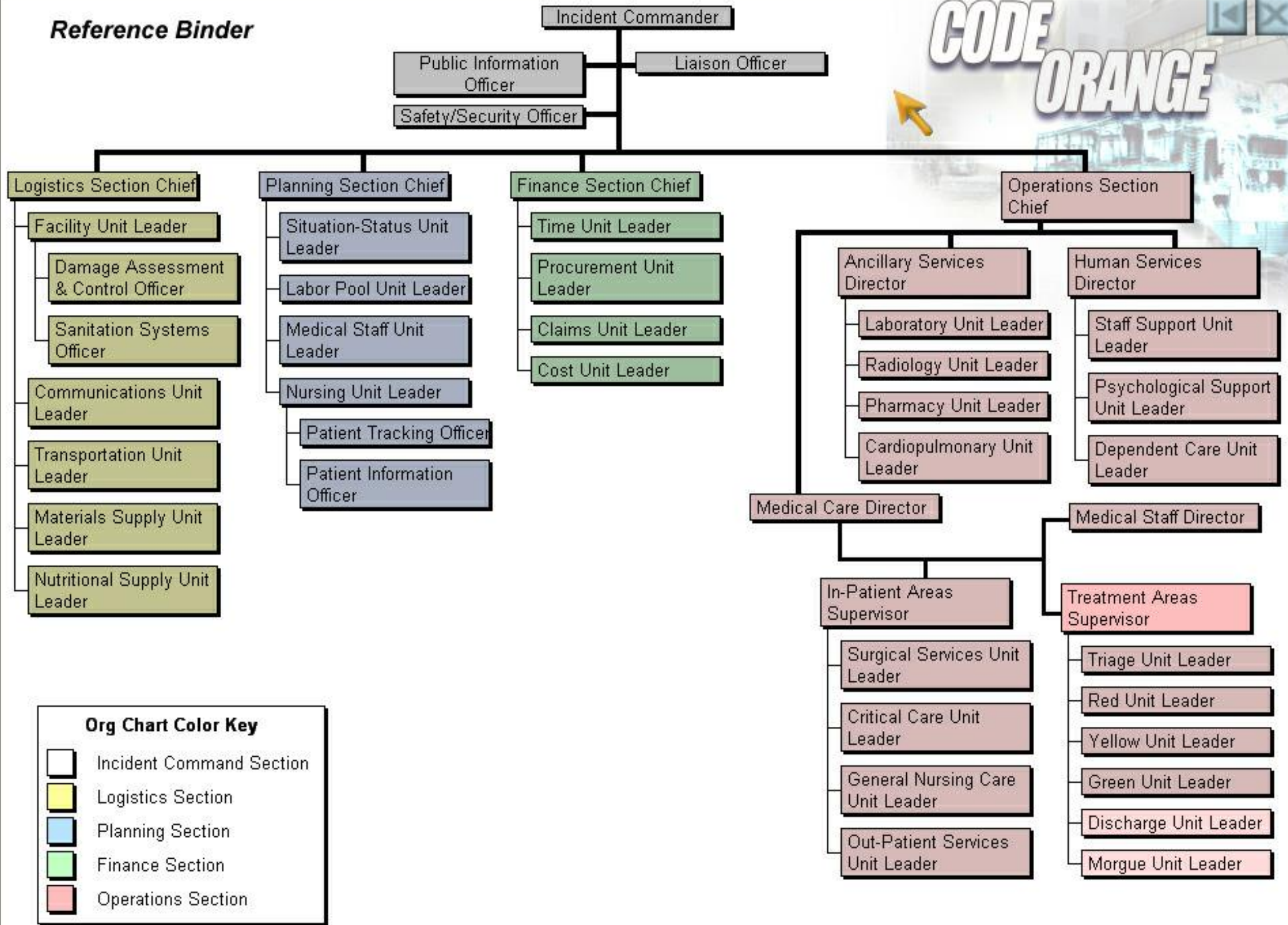


	12:20:06
	13:02:02
	12:01:02
	12:06:03
	12:01:02



Reference Binder

**CODE ORANGE**



**Org Chart Color Key**

- Incident Command Section
- Logistics Section
- Planning Section
- Finance Section
- Operations Section



**CODE  
ORANGE****Treatment Areas Supervisor****Job Action Sheet**

Mission: Initiate and supervise the patient triage process. Assure treatment of casualties according to triage categories and manage the treatment area(s). Provide for a controlled patient discharge. Supervise morgue service.

**Action**

— Assign personnel.

— Manage supplies.

**Immediate**

✓ Receive appointment from Medical Care Director and Job Action Sheets for the Triage, Red, Yellow, Green, Discharge and Morgue Unit Leaders.

✓ Read this entire Job Action Sheet and review organizational chart.

✓ Put on position identification vest.

✓ Receive briefing from Medical Care Director and develop initial action plan with Medical Care Director, In-Patient Areas Supervisor and Medical Staff Director.

✓ Appoint Triage Unit Leader.

✓ Appoint Immediate Treatment Unit Leader.

✓ Appoint Delayed Treatment Unit Leader.

✓ Appoint Minor Treatment Unit Leader.

! Appoint Discharge Unit Leader.

! Appoint Morgue Unit Leader.

! Distribute corresponding Job/Critical Action Sheets, request a documentation aide/assistant for each unit leader from Labor Pool.

! Brief Treatment Area unit leaders. Designate time for follow-up meeting.

! Assist establishment of Triage, Immediate, Delayed, minor treatment areas in pre-established areas.

! Assess problem, treatment needs and customize the staffing and supplies in each area.



**CODE  
ORANGE****Treatment Areas Supervisor****Job Action Sheet**

Mission: Initiate and supervise the patient triage process. Assure treatment of casualties according to triage categories and manage the treatment area(s). Provide for a controlled patient discharge. Supervise morgue service.

You should start this task by 12:00. This task should be completed 2 times.

**Action**

Assign personnel.

Manage supplies.

**Immediate**

- Receive appointment from Medical Care Director and Job Action Sheets for the Triage, Red, Yellow, Green, Discharge and Morgue Unit Leaders.
- Read this entire Job Action Sheet and review organizational chart.
- Put on position identification vest.
- Receive briefing from Medical Care Director and develop initial action plan with Medical Care Director, In-Patient Areas Supervisor and Medical Staff Director.
- Appoint Triage Unit Leader.
- Appoint Immediate Treatment Unit Leader.
- Appoint Delayed Treatment Unit Leader.
- Appoint Minor Treatment Unit Leader.
- Appoint Discharge Unit Leader.
- Appoint Morgue Unit Leader.
- Distribute corresponding Job/Critical Action Sheets, request a documentation aide/assistant for each unit leader from Labor Pool.
- Brief Treatment Area unit leaders. Designate time for follow-up meeting.
- Assist establishment of Triage, Immediate, Delayed, minor treatment areas in pre-established areas.
- Assess problem, treatment needs and customize the staffing and supplies in each area.



The Manage Personnel panel can be improved so that there is more information being packed into the same amount of usable space. The sub-panels for each "Unassigned Staff" member may be better served displaying the following basic information: **Staff Member Name, Staff Member Type, Experience Level, Availability, and Stress Level.** This information can be conveyed using space-saving icons, which would also allow for longer character names.

### Manage Personnel

Move unassigned staff member from Labor Pool to a Unit by drag and drop.

Move unneeded staff to either of these locations to return them as shown.

**Unassigned Staff**

- Dr. Jorgensen  
Neurosurgeon  
Expert
- Dr. Mirro  
ED Physician  
Novice
- Dr. Phillips  
Neurosurgeon  
Skilled
- Nurse Mata  
ED Nurse  
Novice
- Nurse Shampoo  
ED Nurse

**Red Unit**

The Primary Staff Member Types As Displayed In The Unassigned Staff Sub-Panel

**Green Unit**

Neurosurgeon  
ED Physician  
ED Nurse  
Tech  
Transporter  
Admin  
Non-Health Mgmt

**Yellow Unit**

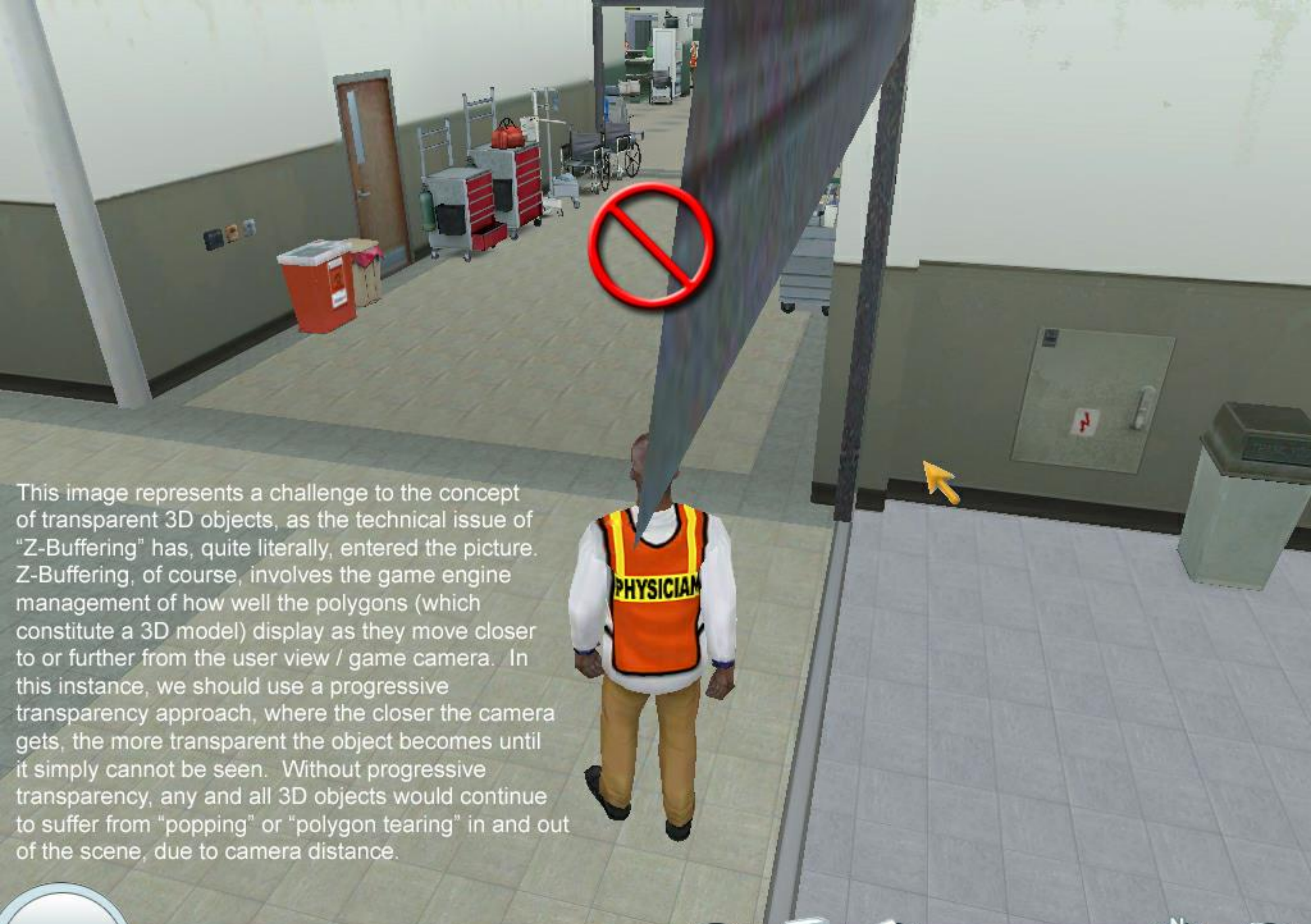
Triage

**Unassigned Staff**

- Dr. Jorgensen  
Expert Experience Level, Skilled Experience Level, Novice Experience Level, Status - Ready For Task, Status - En Route To Task, Status - Busy With Task, Stress Level - Unworried
- Dr. Mirro  
Skilled Experience Level, Novice Experience Level, Status - Ready For Task, Status - En Route To Task, Status - Busy With Task, Stress Level - Unworried
- Nurse Mata  
Novice Experience Level, Status - Ready For Task, Status - En Route To Task, Status - Busy With Task, Stress Level - Unworried
- Mr. Boonmee  
Expert Experience Level, Skilled Experience Level, Novice Experience Labor, Status - Ready For Task, Status - En Route To Task, Status - Busy With Task, Stress Level - Unworried
- Mr. Edwards  
Skilled Experience Level, Novice Experience Labor, Status - Ready For Task, Status - En Route To Task, Status - Busy With Task, Stress Level - Unworried
- Mr. Dossett  
Novice Experience Labor, Status - Ready For Task, Status - En Route To Task, Status - Busy With Task, Stress Level - Unworried
- Mr. Sera  
Skilled Experience Level, Novice Experience Labor, Status - Ready For Task, Status - En Route To Task, Status - Busy With Task, Stress Level - Unworried

Accept Changes





This image represents a challenge to the concept of transparent 3D objects, as the technical issue of "Z-Buffering" has, quite literally, entered the picture. Z-Buffering, of course, involves the game engine management of how well the polygons (which constitute a 3D model) display as they move closer to or further from the user view / game camera. In this instance, we should use a progressive transparency approach, where the closer the camera gets, the more transparent the object becomes until it simply cannot be seen. Without progressive transparency, any and all 3D objects would continue to suffer from "popping" or "polygon tearing" in and out of the scene, due to camera distance.





This entry way of glass bricks should be transparent.



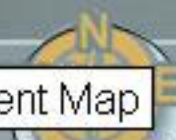
15:46:14

Treatment Areas Supervisor

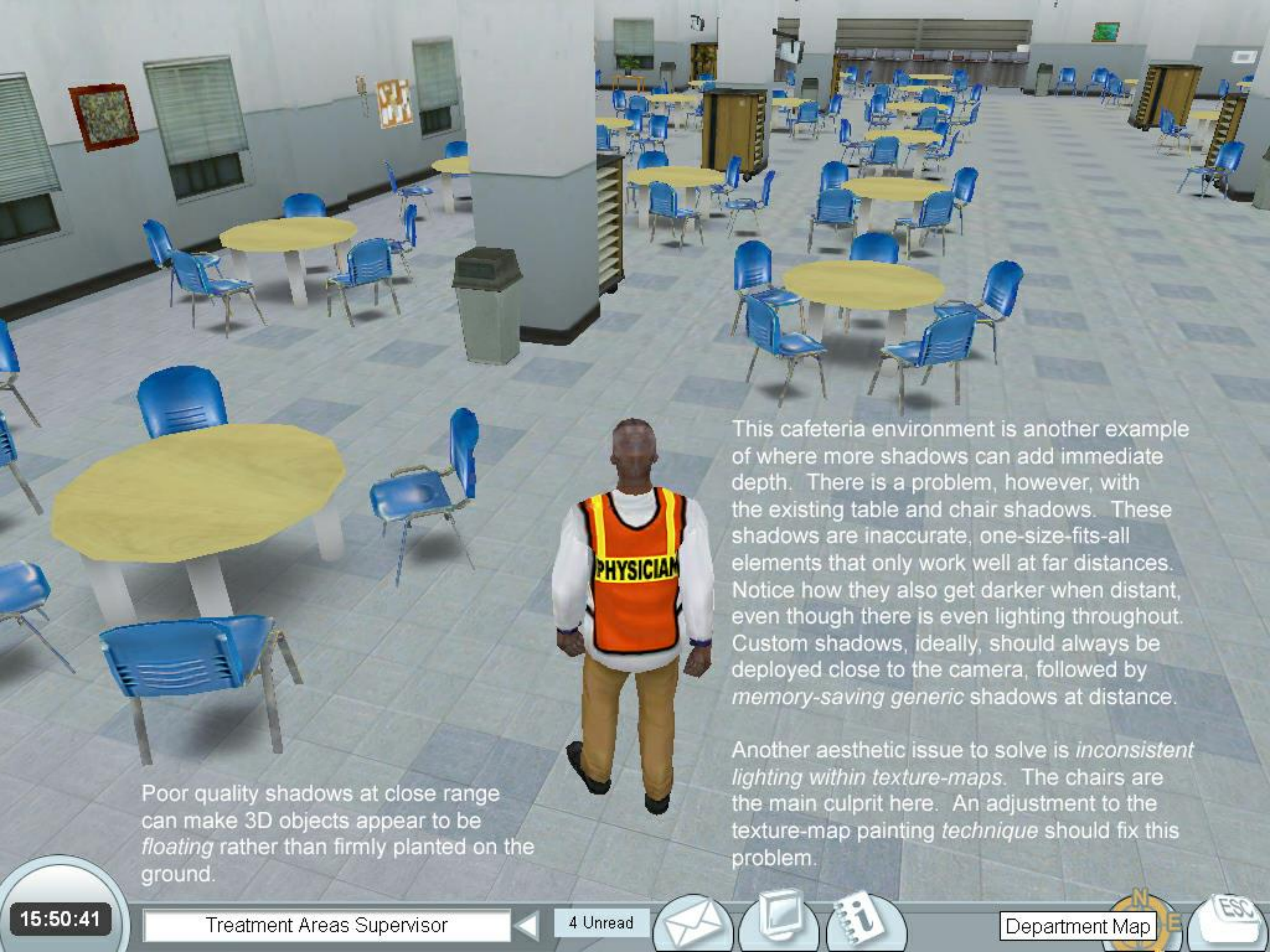
4 Unread



Department Map







Poor quality shadows at close range can make 3D objects appear to be *floating* rather than firmly planted on the ground.

This cafeteria environment is another example of where more shadows can add immediate depth. There is a problem, however, with the existing table and chair shadows. These shadows are inaccurate, one-size-fits-all elements that only work well at far distances. Notice how they also get darker when distant, even though there is even lighting throughout. Custom shadows, ideally, should always be deployed close to the camera, followed by *memory-saving generic* shadows at distance.

Another aesthetic issue to solve is *inconsistent lighting within texture-maps*. The chairs are the main culprit here. An adjustment to the texture-map painting *technique* should fix this problem.

15:50:41

Treatment Areas Supervisor

4 Unread

Department Map







This wall of glass bricks should be transparent.



15:59:00

Treatment Areas Supervisor

4 Unread





## AFTER ACTION REPORT

# CODE ORANGE

### ED Statistics - Patient data per Emergency Department unit

*There should either be an instruction ("To access the task check list for a specific position, simply double-click on that position"), or, there should be "access" icons just to the left of the listed positions.*

Position	Player	Score
Finance Section Chief	Planning/Finance Chief	0
Green Unit Leader	Green Unit Leader	0
Incident Commander	Incident Commander	0
Liaison Officer	Liaison Officer	0
Logistics Section Chief	Logistics Section Chief	0
Medical Care Director	Medical Care Director	0
Operations Section Chief	Operations Section Chief	0
Planning Section Chief	Planning/Finance Chief	0
Public Information Officer	Public Information Officer	0

### FINAL TEAM SCORE:

0

*Only display pertinent information for how the patients were affected. If the user does not have specific control over the "time in area," then it may not be necessarily important for the user to know which patients had to wait longer than others. Bang for the buck data only.*

Area	Patients Received	Patients Stabilized	Patients Admitted	Patients Released	Patient Deaths	Time in Area			Average Wait
						Short	Average	Long	
Triage Area	130	0	0	0	10	00:02:48	00:11:13	00:19:31	00:14:01
Green Unit	16	0	0	0	0	00:00:00	00:00:00	00:00:00	01:56:01
Yellow Unit	11	11	0	0	0	00:00:00	00:00:00	00:00:00	01:56:58
Red Unit	3	3	0	0	0	00:00:00	00:00:00	00:00:00	01:12:09





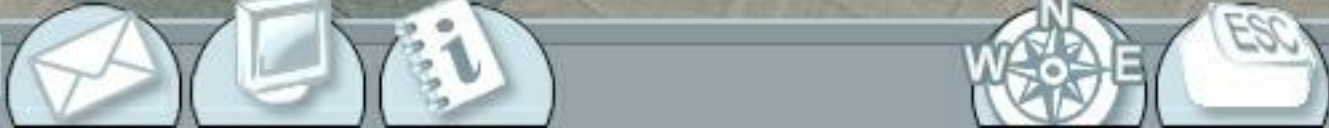
Yellow Unit	
Name:	Sgt. Parsons
Occupation:	Security
Skill:	Expert
Stress:	😊 Unworried

One of the four major tasks is "get walkie talkie". Any first-time user may make several attempts to click on a security guard in order to acquire his walkie talkie. This, obviously, does not work. All walkie talkies should be separate 3D objects that can be picked up off of a counter top or taken from a security guard, after you have taken the appropriate task-driven steps to acquire a walkie talkie.

12:08:56

Treatment Areas Supervisor

3 Unread







This entry way and wall should be transparent.



NEGATIVE PRESSURE ROOM 2



12:16:05

Treatment Areas Supervisor

3 Unread







This scene is a prime example of why you, ideally, want to create a robust 3D environment that pushes the user experience envelope and level of immersion. *This* is the place where a lot of the *real* activity occurs in a hospital. Each of the nurses, techs, and surgeons in this space should have a series of unique idle animations, each of the 3D elements in this space should have nice, depth-producing shadows, and this space should be fleshed-out with *all* of the typical objects and structures you would find here.

12:21:48 Treatment Areas Supervisor 3 Unread

Navigation icons: Envelope, Document, Notepad, Compass, ESC key.





In an environment this large, poorly animated and static characters are even more obvious. Correct this through the use of a series of "idle" animations and character shadows, thus, adding more life and depth to the characters.

Furthermore, this entire environment can also benefit from shadows added to the counters, cabinets, mounted monitors, and pillars. Also, the floor texture-map degrades too easily at a distance. This is due to MIP-Mapping (where a texture-map is displayed at a different resolution depending upon camera distances: farther away is low resolution and blurry vs. closer up being high resolution and detailed).

You can "turn off" MIP-Mapping (through code) which would allow the texture-map detail to hold up better, but it would expose the texture-map to a lack of smoothness at distance. You could also attempt to add a second, slightly darker version of that texture-map and create a pattern that breaks up the original visual degradation.





-  Name
-  Occupation
-  Skill
-  Stress
-  Team
-  Role

### Original Character Properties Panel

Red Unit	
Name:	Nurse Wang
Occupation:	ED Nurse
Skill:	RN
Stress:	😊 Unworried
Team:	Trauma 1
Role:	Support RN

### Enhanced Character Properties Panel

Red Unit	
	Nurse Wang
	ED Nurse
	RN
	😊
	Trauma 1
	Support RN

The staff member status panel should be displayed at an *off-set* so that neither the user's player nor the staff member-of-interest are blocked from view. Furthermore, the user should be able to edit the staff member's status directly from within the status panel if so desired, rather than being forced to go back into the personnel management schematic every single time. This feature upgrade would *not* short-circuit the original process, but it would allow important information to flow more quickly.



There are plenty of small-but-noticeable texture-mapping errors like this one throughout the game.



More use of shadows would make this space more immersive for the user and would allow the props (i.e. desk elevation, cart, etc.) to show more depth.


12:44:53

Treatment Areas Supervisor

3 Unread







When designing elevators, it is imperative that you allow the appropriate amount of space between elevator cars. Whether or not the game calls for any kind of elevator travel, you need to at least be prepared for the minimum: elevator doors opening and closing. You do not want the doors penetrating through an adjoining wall that is too narrow, with the results being unfortunate.

This space is another example of "too much space for too few details". There are a variety of ways in which this space can appear more populated. All of the 3D objects and "signage" you would expect to see in this area of a hospital should be visible (i.e. ceiling and wall-mounted directional signs, fire extinguishers, floor mats under the water fountains, plants, framed product advertisements, product kiosks, etc.).


12:58:02

Treatment Areas Supervisor

3 Unread







When the user is traveling from one room of an environment into another room, the user view should *never* be obstructed. Large, transitional structures, such as this horizontal steel beam, should be separate 3D objects that can be programmatically made transparent. There would be no further obstruction nor any sudden-and-violent disappearance (i.e. “pop”) of the structure when crossing the threshold from one room to the next. In fact, these types of objects would have a special “property” associated with them, allowing the objects to remain opaque or become transparent depending upon the *proximity* of the user’s character to those objects.




13:05:33

Treatment Areas Supervisor

4 Unread







Whether considering exterior or interior environmental design, avoid the “fill ‘er up” approach to creating a 3D environment. The long line of vehicles in the background only *detracts* from the environment because of all of the other *expected* visual elements. If you are going to create a large 3D environment, you should be prepared to generate the appropriate number of 3D “prop objects” (i.e. vehicles, non-essential static characters, trees, plants, trash cans, light posts, elevated sidewalks-and-curbs, gutters, etc.). If budget restrictions or a short production cycle are going to prevent the creation of a well-rounded, well-balanced, *well-populated* environment, then, you should be prepared to create a smaller, more manageable space.

13:18:02

Treatment Areas Supervisor

4 Unread







When dealing purely with aesthetics, you need to be prepared to add more detail and *depth* to exterior or organic elements (even if you are attempting to duplicate a real-life structure and even if the area in question will only be visible for a moment). Notice how poorly the grassy island displays. Cement curbs need volume. Flat grass areas need to be replaced by low riding "grassy knolls". The proper approach to creating a 3D environment is "all or nothing," as "half-way" only *exposes* visual weaknesses, which only *distract* the user from the focus of the game.

13:22:49 Treatment Areas Supervisor 4 Unread



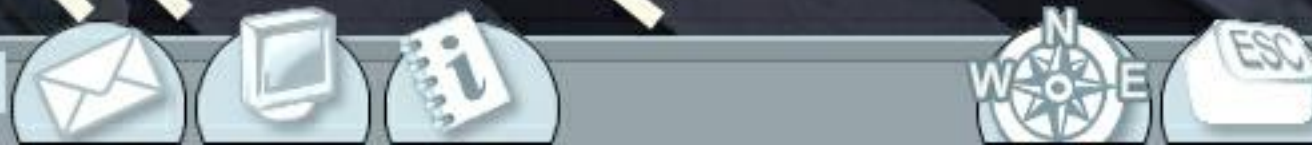


Even when a 3D environment *appears* complete, it is not truly complete until it has received proper collision volumes. Characters should *never* be intersecting or sinking through walk-able surfaces. And, again, if you are going to build an environment, either allow the user to investigate it entirely, or, create the appropriate number of collision volumes, making sure the user gets the visual hint that certain areas of the environment fall under the “look but do not touch” rule.

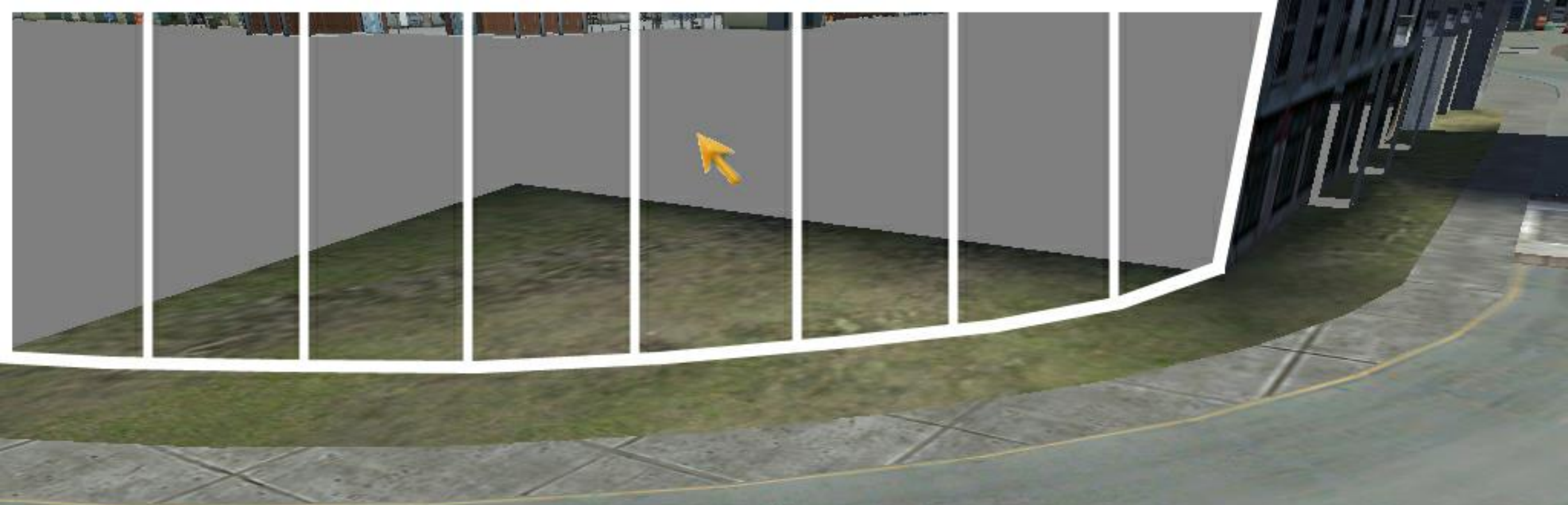
13:27:56

Treatment Areas Supervisor

4 Unread







If you are going to start an environment, you need to be prepared to finish it. 3D environments need to be encapsulated without exception. 3D environments also require thorough collision volumes ("hidden" 3D objects, that mimic the shape of visible structures, that prevent the user from traveling where travel is not permitted).



13:42:39

Treatment Areas Supervisor

5 Unread





If this 3D environment was properly enclosed, along with the necessary collision volumes, the user would *not* be able to click on a patient over 100 yards away and check on his status.



Patient:	John
Status: ✓	stabilized
Condition:	Moderate

13:45:33

Treatment Areas Supervisor

5 Unread







Encapsulate the environment and generate the appropriate collision volumes so that the user never gets an opportunity to “peer behind the red curtain and see OZ”.



13:52:05

Treatment Areas Supervisor

5 Unread





Character models have no  
apparent collision volumes  
or engine-driven detection.

12:49:03

Treatment Areas Supervisor







	UNIT LEADER		TRANSPORTER
	DOCTOR		NON-HEALTH MANAGEMENT
	NURSE		CIVILIAN
	SECURITY		PATIENT

12:13:13

Treatment Areas Supervisor

3 Unread





Choose one product logo and stick with it.  
A logo is how most people immediately identify  
a product. "Do not confuse we, the people".

