

Project Progress Update for CS5245

Title : “The Escape”

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Based on the grade for my last progress report and feedback from lecturer, I have come to the conclusion that what I was doing (or what I have shown so far) did not fully answer the requirements of this project - that is to come out with an **interesting** storyline and include one **major** effect that is **not entirely** computer animation. Therefore there is a need to revise the whole project in terms of the theme and presentation. Of course I am trying my best here to do so with minimal drastic changes in terms of techniques, software and video footages which I have used.

The original storyline and effect

A CG monster escaped from a box and created havoc. It tried to flee, but failed.

A 3D CG model of monster is super imposed on the real life scene. Lighting and shadow should blend with the environment to create realistic appearance. Interactions between the monster and the real environment (leaving footsteps, knocking onto object) could be added to make it more convincing.

My first progress report updated on my experiment to combine the process of match moving, CG rendering with shadow together with video shooting all-in-one to make the whole process easier. Obviously that did not answer much of the project’s requirements.

Revised plan

Storyline: A person has just finished creating a CG robot model on his desktop. He takes a break and left the room to get a drink, but the CG robot emerges out of the computer monitor as soon as he left. What follows is a series of interactions between the CG and real environment. Just as the robot is about to opened the door to leave the room, the person returns and slams the door, instantly kills the robot. Startled to see the CG robot dead, he picks it up and observes it and heaves a sigh. But when he turns around to see his room, he is astonished to see the whole room filled with a dozens more of such robots, aiming their guns at him. The video then fades to black as the sound of guns roars.


Effects: **Match moving** (for both stationary and moving camera) and a **shadow effect** are prerequisites for this video and have been accomplished from my earlier efforts in terms of software implementation. However the **major** effect to be emphasized in the video is the **interactions between the CG robot and the real environment**. The effect would not be shown in a single scene, but a few different scenes (which I hope do not defy project requirement).

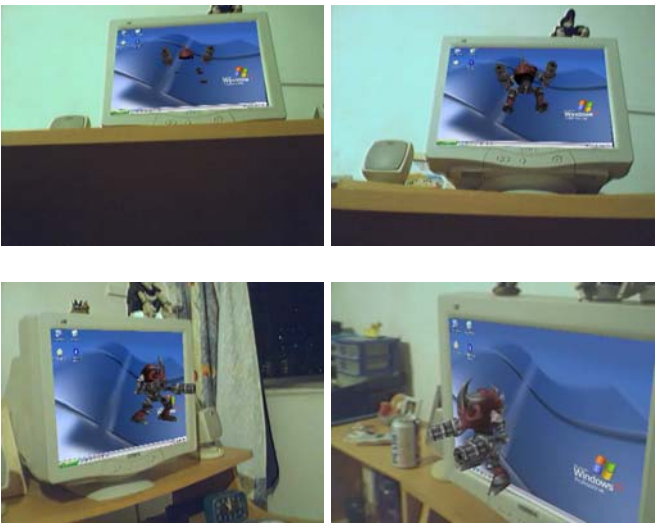
The interaction scenes include the following:

1. CG landed on the table, causing the things on the table to shake and jump up slightly, due to the landing force.
2. CG rammed and knocked away real objects as it runs

3. CG opened and closed a door
4. CG being knocked down by a real object
5. CG being held by a person on the hand

Accomplished video and effects so far

Real-time shadow rendering	
	<p>Shadow rendering of the CG has been successfully implemented to create shadow with desired lighting direction during run time.</p>

Real-time match moving for non-stationary camera with unseen marker	
	<p>CG robot emerges out of computer monitor and shot with moving camera.</p> <p>The computer monitor is in fact off; the Windows XP desktop seen is actually an image used to overlay on the marker that is being used for match moving.</p> <p>The fact that the CG appears to be floating with no support seems weird - a platform will be added later to make it look more convincing</p>

CG robot creating impact upon landing and causing other objects to rebound



A still image from the video sequence - CG robot rebounds upon landing and the other objects in the mid air as they also rebound.

CG knocking away other object as it runs



CG robot knocking away the stapler as it sprints towards the edge of the table.

More objects will be added to create a collision effect with more impact.

CG robots opens and closes door



Left: CG robot trying to open the door from sideways

Right: CG robot squatting and using force to push the door closed

Holding the dead CG Robot in hand



By holding the marker in hand, the CG robot could appear lying on the person's palm. Nonetheless, the presence of marker pattern (the black boundary on the white marker) made it look unnatural. Perhaps some CG image could be used to cover it later.

Things left to be done

Besides some of the parts to be modified mentioned earlier, the part where the CG robot is being knocked by the slammed door is still in the process of making. If time allows, I hope to add in maybe another stronger interaction between CG and the environment. After that, I would try to produce the ending scene with dozens of CG robots with guns aiming at the protagonist, and hopefully can come up with a better twist of unexpected conclusion rather than current one.

Finally, the video to show the process of making of this video would be produced.