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PLANETFARGO

Your parents are wrong.

Ragdoll Physics In Action

Stop! Drop! And Roll! ... And roll! ... And flip over!

By [Dave "Fargo" Kosak](#) | April 18, 2003

Fargo: As a special feature for this week's column, today I'll be speaking with Gary Kwan, the man who claims responsibility for all of the "Ragdoll Physics" that we're seeing in videogames nowadays. Just what is Ragdoll Physics? Well, previously videogames had to have "canned" death animations. When you killed bad guys, they would go through their animation and fall to the floor. Often their head would be sticking out through the wall, or they would be half-floating over a stairway -- not at all realistic. That's where Ragdoll Physics come in. *Unreal Tournament 2003* and *Rainbow Six_3* both use this technique, where the actual physics of a falling body are simulated so that they fall correctly to the ground. Mr. Kwan, could you explain your role in the development of this new technology?



At last - more variety in game death animations!

Gary: Why yes, yes I can. Thank you, very much! I provided the motion capture data for all of the falling bodies in the games you mentioned.

Fargo: Hang on a second there, Gary. I might have my technology mixed up, but I thought the whole point of Ragdoll Physics was that you didn't need to record death animations anymore. A body falling down a stairway could be simulated.

Gary: Oh heavens, no. It just means that there are thousands and thousands of permutations of death that have to be recorded. Over the course of the last 18 months I've shown up at the studio every day to have motion capture equipment record me getting shot, beaten, stabbed, or blown up in a myriad of different ways.

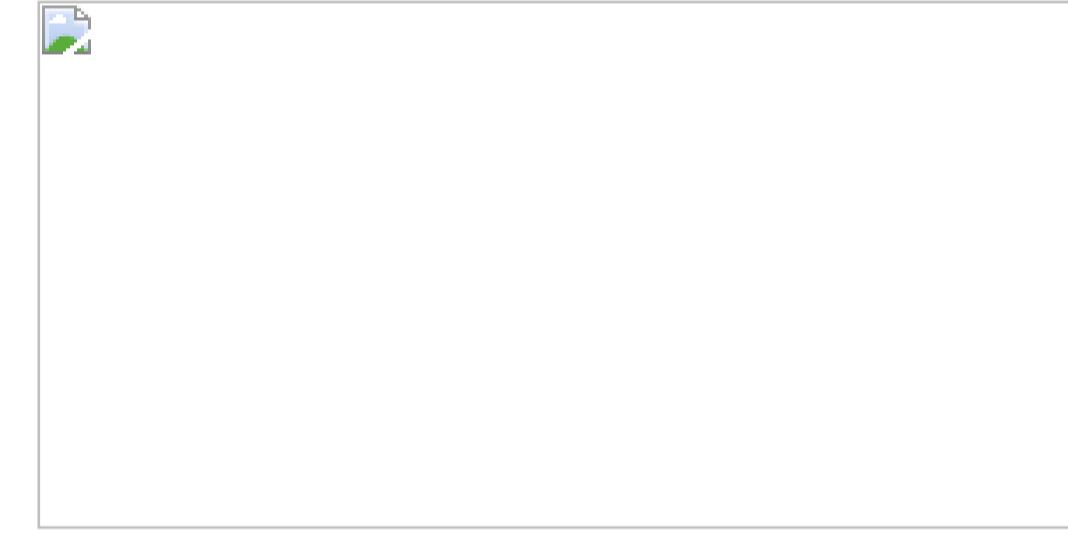
Fargo: That's unreal!

Gary: *Unreal* was only one of the games I worked on. I've been observed falling down a stairway over 7200 times.

Fargo: I'm both shocked and awed (tm).

Gary: Although looking back on it, it's curious that there was no videocapture equipment in the stairwell.

Fargo: Well, it's good that you're here. I have some questions about some of the deaths I've seen in *Rainbow Six_3*, the stunning episode of the Tom Clancy tactical game series where Ross and Rachel get married. On the airport level I shot one guy and this is how he landed:



Fargo: Didn't that hurt?

Gary: Oh my, yes. But at the same time, while we were doing the motion capture for the Caribbean Drug Lords, I spent a great deal of time getting into character. You'd be amazed at what the human body is capable of, if you put the right things up your nose beforehand.

Fargo: So you spent a lot of time training for this position?

Gary: Not really 'training' per se, but getting into character. Doing the motion capture for the oil tanker level was the most difficult -- they had to push me off the top of that ship nearly a hundred times.

Fargo: But sometimes the Ragdoll Physics in *Rogue Spear* seem a little bit ... "off." How do you explain this picture?:



Gary: Oh yes! That was something, all right. I was able to execute that maneuver based on my Limbo skills, without which I never would've escaped to the West.

Fargo: That's impressive! You're flexible, then?

Gary: I can suck my own toes.

Fargo: Well, sure.

Gary: ...from a standing position.

Fargo: You've led quite the life. What would you say to our younger readers out there who are interested in [breaking into the industry](#)? What advice could you give for people who wanted your career?

Gary: I would beat them. Hard. With something heavy, like a log.

Fargo: Er-

Gary: Then I would film them.

Fargo: That's great.

Gary: Maybe push them off a metal catwalk onto a forklift two stories below. I did that six times.

Fargo: I'm guessing you had a hard childhood.

Gary: I was left in the circus for dead.

Fargo: I think that's all we have time for today.

- [Fargo](#)

[PlanetFargo is posted every Friday on GameSpy.com, and there is very little you can do to stop him. Fargo also writes the [Daily Victim](#), so go there! [Mail Fargo](#).]

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