

Repr-alt-effets speciaux

De MAVERICK's Wiki.

1 abstract

Mardi 9 decembre 2008 a 10h en J220, je ferai mon fameux GT successivement reporté depuis mai-juin dernier sur:

"layers, spryticles and voxels in special effects and 3D cartoons"

Ce sera "largeur d'abord" plutot que "profondeur d'abord", avec beaucoup d'exemples tirés notamment de films et cartons, + qq articles:

- layers and textures: (océan in Titanic)
 - mixing particles and drawings (deep canvas and spryticles in Tarzan, ElDorado and WonderTouch(c))
 - mixing particles and voxels (fix and animated hypertextures of Perlin89, fireballs of Dante Peak and Shrek, smoke and water of Stealth, XXX, LOtR)
 - integration multi-modeles.
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2 videos

- **dozens of layers** in a scene: texture layers, (pseudo)shading/lighting layers, rendering layers...
 - *Titanic* (1997)
- **combining particles+drawings**
 - bib particles: Reeves85.pdf (real:TOG'84) and Sims90.pdf. moving primitive (see also:Lagrangian simu), rendering primitive.
 - *Deep Canvas*: 2D stroke sprites attached to 3D surfaces
 - *Tarzan* (Disney, 1999). obj+partics+drawings+details. Drawings: strokes+layers(background+lightings+character) Partics: brush + explodes
 - *Treasure Planet* <goto:3'57>. shaded-lighted strokes
 - *Spryticles*: animates sprites attached to animated particles
 - cf *Antz* (1998), *Spirit* (2002)
 - *Road to El Dorado* <goto:4'> (Dreamworks, 2000). surface + spryticles + partics (splatches). layers
 - *Wondertouch* (<http://www.wondertouch.com/>) software (XP free trial). video1, video2.
 - *advected textures*: flowing textures on surfaces
 - Neyret03 (<http://www-evasion.imag.fr/Publications/2003/Ney03/>) (Eulerian) + Qizhi (Lagrangian)
 - *Pirates of the Caribbean: At World's End* (Digital Domain, 2007). giant waterfall: video wanted !!!
- **combining partics(or obj)+voxels**
 - Fake Volumes
 - textured ellipsoids: Gardner85.pdf(real:CG'84) : fake thick silhouette by combining noise and (N.E)^k.
 - Hypertextures: procedural voxels (unstored)

- Perlin89.pdf: Blob= obj+voxels(proc)+thresholds : noise(X,dist(obj,X+noise(X))). Blobs blend = a+b-ab.
- Musgrave (<http://www.kenmusgrave.com/>) (*Dante Peak*, Digital Domain, 1997) ball1, ball2, comet1, comet2: obj+voxels+thresholds. moving noise domain. world+obj spaces.
- shrek.pdf <goto:p(55)60-66> (PDI, 2001). dragon fireballs: blobs(partic+hypertexture)+surf(isopotential+displ)+shader. rolling blogs, attached noise, isosurface, displacement, blend, solid+gazeous layers.
- *Digital Domain voxel engine*: huge (real or virtual) volume as universal geometry proxy for rendering. Draw in using blobs, geometry, prev volume. hierarchical particles + hypertexture. Volume rendering (algo wanted !!!)
 - cf *Sum of all fears* (Digital Domain, 2002)
 - *Stealth* <goto: clouds: 2'05 explode:2'50> (Digital Domain, 2005) clouds: model+render wanted !!! fireballs: as above.
 - XXX <goto:1'> (Digital Domain, 2002): keyframed avalanche front-curve + triggered blobs of blobs + trigger exploders + rolling blocks
 - *Lord of The Rings* (Digital Domain, 2001) real characters + CG characters + fluid simu + fluid partics+ blobs(hierar partics+hypertxt)+ obj + volume + lighting. partics: fluid simu, blobs, blob of blob, geom proxy, paint-in-volume.
 - Day After Tomorrow (Digital Domain, 2004)
 - big wave: approach:0'37 Making-off:6'09
 - big wave: in town:1'26-2'40 Making-off: 5'45
 - twisters:4'10 Making-off: 7'24

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