

“Treasure Your Life”



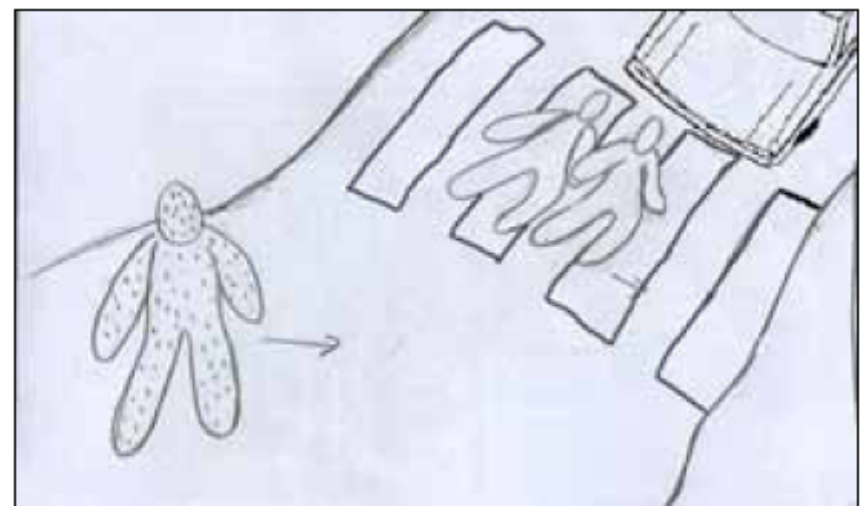
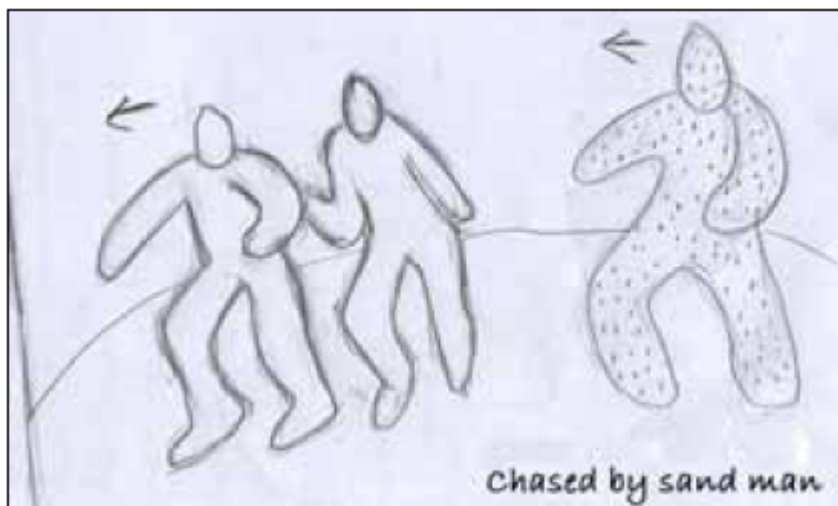
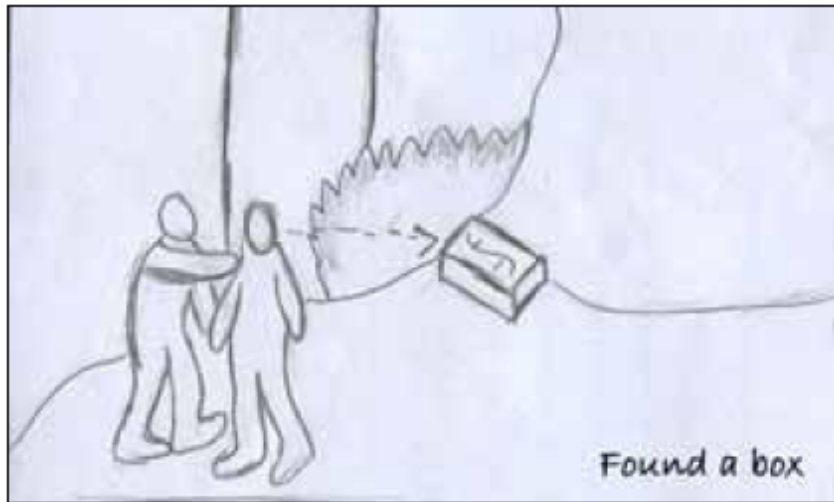
**CS5243 – Vision and Graphics for Special
Effects**

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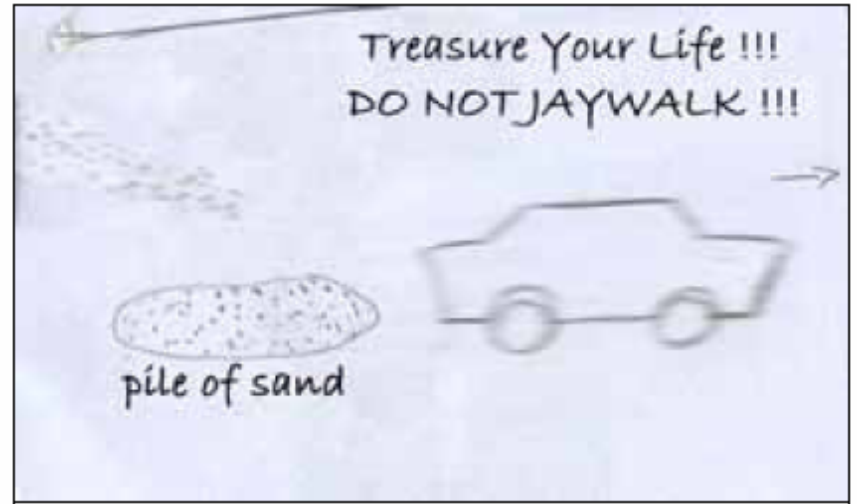
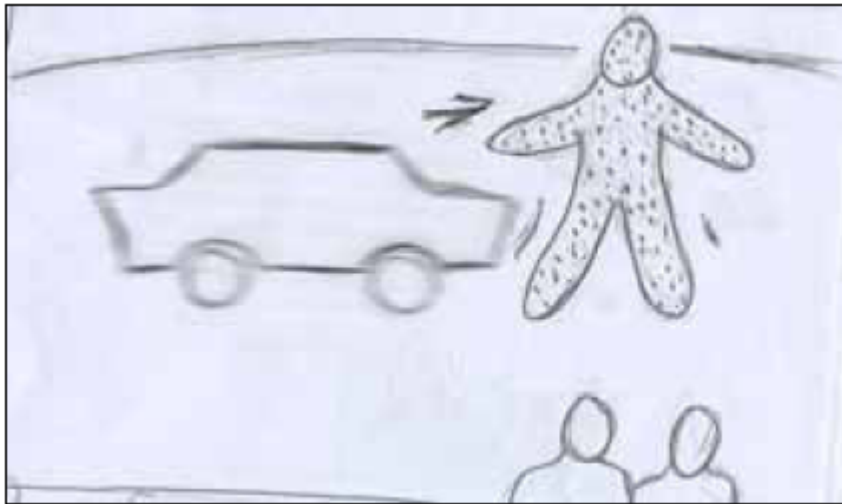
Outline

- Storyline
- Main Effect
- How To Achieve
- Minor Effects
- Compositing
- Final Video
- Questions and Answers

Storyline



Storyline

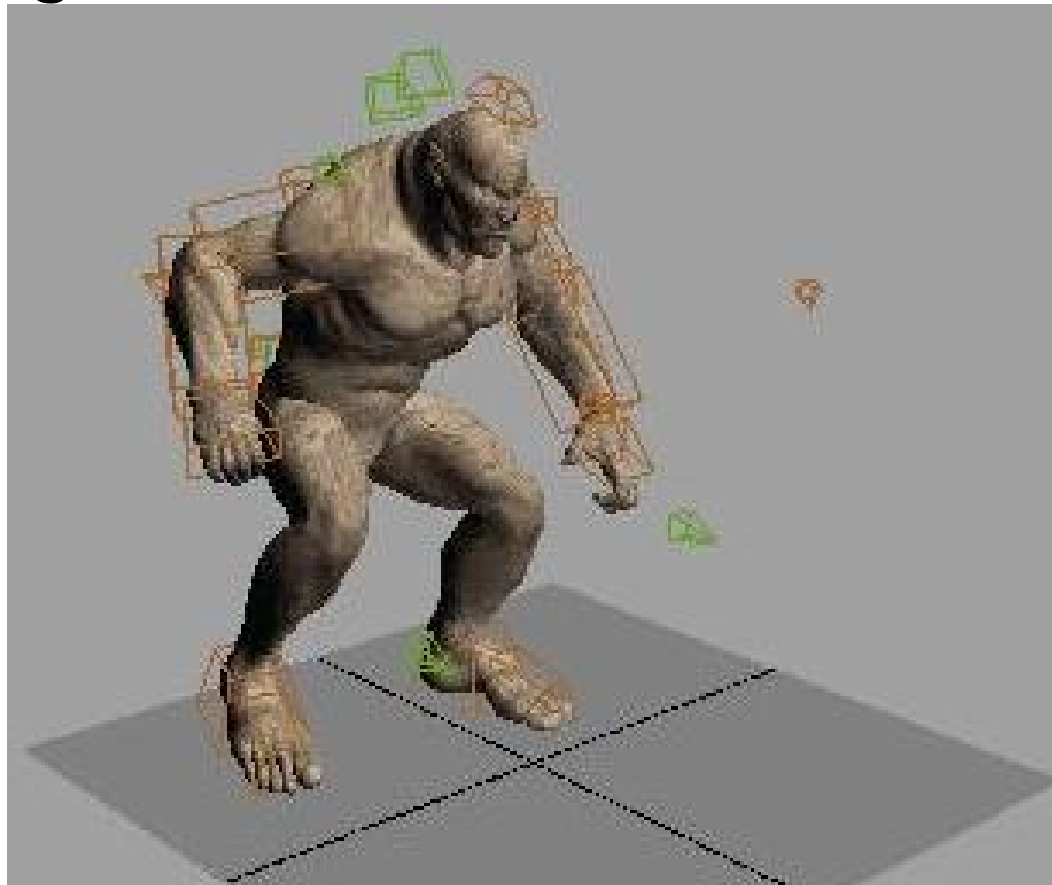


Main Effect

- Freely controlled Sand Particles to form/deform the shape of sandman
- Interaction between sand particles with real elements
- Three scenes:
 - Forming the sandman
 - Sandman punching the plants
 - Sandman hit by a car and splashed into grains of sands

How To Achieve

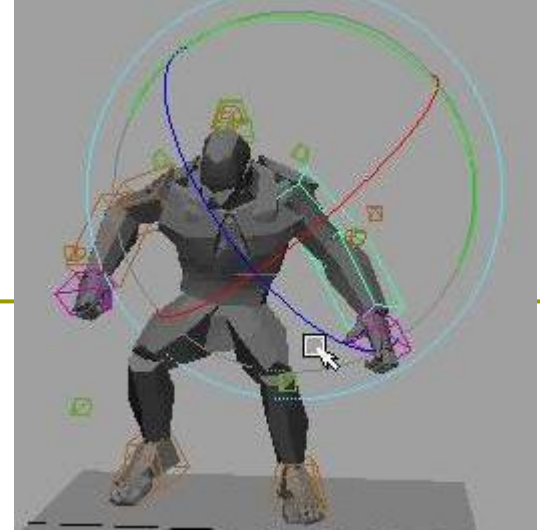
- ▣ Model : taken from Alias Hyper Realistic Rigging and Animation Tutorial



How to Achieve

□ Animating :

- Create a rig to control the model.
- Skeleton is controlled by FullBodyIK , sometimes need to change to FK .
- Low resolution mesh is used to drive high resolution mesh .
- Create control boxes to do animation more easily instead of having a lot of key frames for every joint, locator ,.etc .



How to achieve

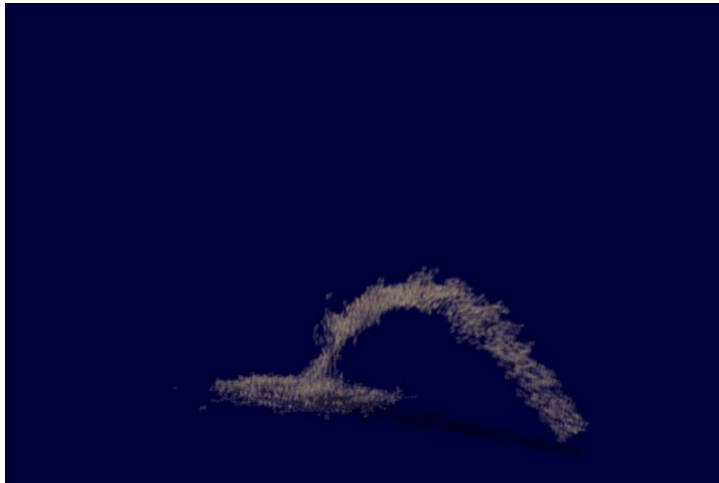
- Do key frame blocking based on raft edited movie, curves later is edited to be smooth.
- There are total 5 animation scenes : sandman stand up and chase , chase when camera is shaken , punching, walk out look then chase , chase then hit by car .

How To Achieve

- Control the sand particles formation and interaction with particle system
- Use Real Flow to help simulating the particle system

How To Achieve

- **First Scene: Forming the sandman**
- Actually consists of two parts:
 - Sand flowing from a box
 - Sand particles forming a sandman (+ alpha blending)



How To Achieve

- ❑ **Second Scene: Sandman punching the plants**
- ❑ Model some simple geometry to represent the tree
- ❑ Sand particles can collide with the geometry



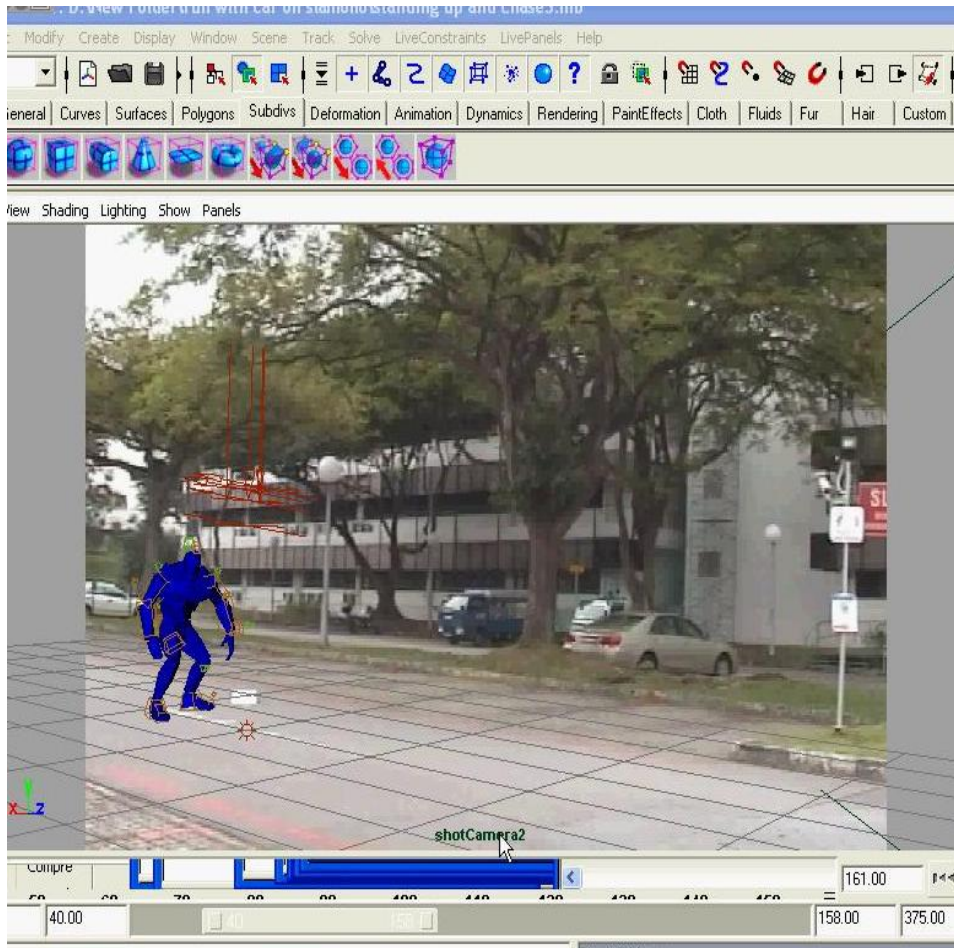
How To Achieve

- ❑ **Third Scene: Sandman hit by a car and splashed into grains of sands**
- ❑ Model geometry (car) to define collision
- ❑ Switch from 3D model to sand particles by blending

Minor Effects

- Integration of CG model into live footage:
 - Camera match move
 - Used Maya Live for shaking scene.
 - Key frames when the sandman standing up .
 - Image plan is created to help the result and cast shadow.
 - Build CG environment and light to cast shadow or to create better animation .
 - Measure scene distance on the day of shooting.
 - Lights are put in according to the live footage.

Minor Effects



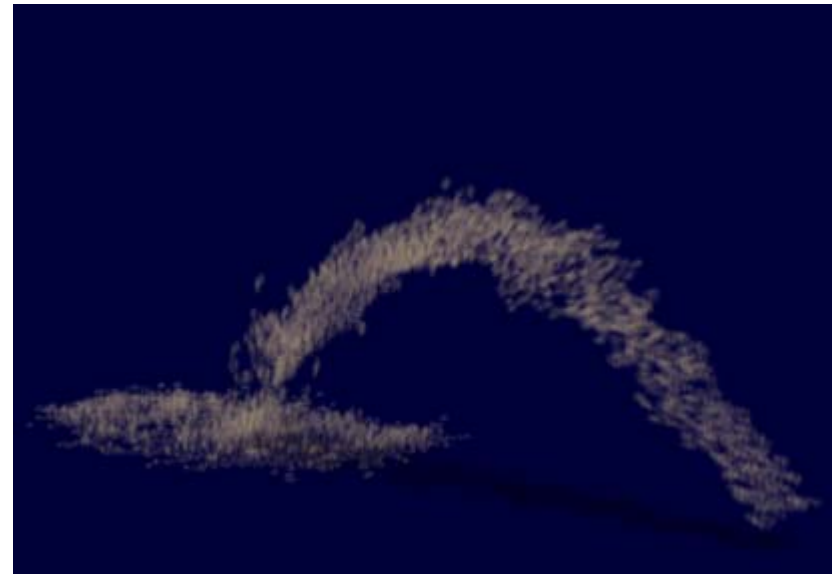
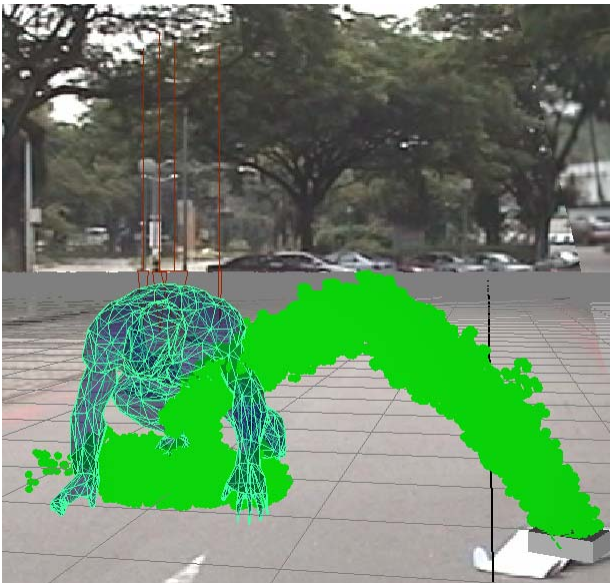
Minor Effects

□ Wind Effect



Compositing

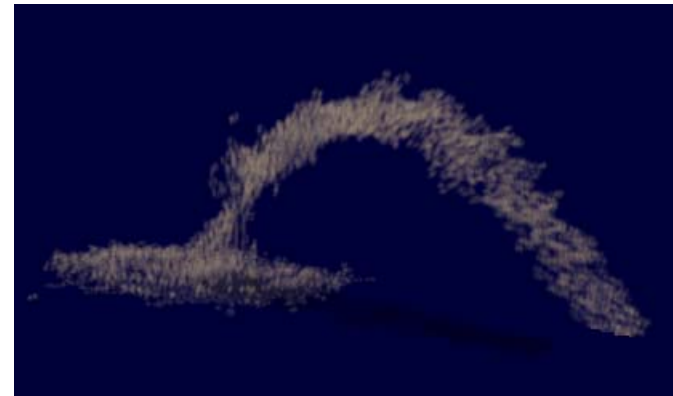
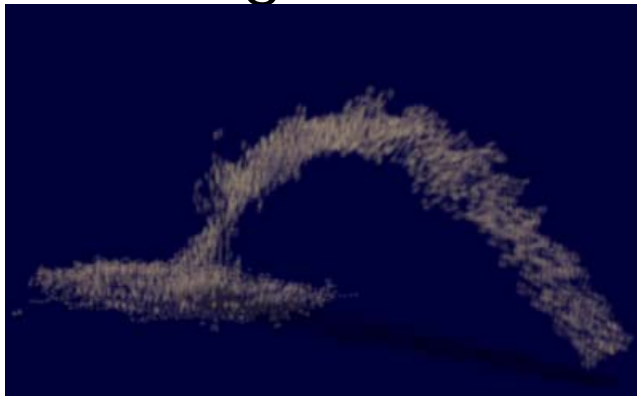
- ❑ Inserting CG elements to Real elements
 - Build 3D model based on real world measurement
 - Purpose: to cast shadows
 - Technique: Blue Screen Matting



Compositing

□ Tricks

■ Handling occlusions



Compositing

□ Tricks

- Remove camera shaking when filming/stabilize camera -> **2D image warping** technique
- Rig removal: **motion blurring** (can you spot the rig?)



Compositing

□ Tricks

- Pull the bush to create realistic punch scene
- Use many layers of sand to make the sand flow look more dense

□ Final touch: add sound FX

Final Video



Questions and Answers
