National University of Singapore
CS5245

VISION & GRAPHICS FOR SPECIAL EFFECTS

Project Update 1

Course Instructor
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Project Team Members

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Title: The time freezer

Progress 1 Updates & Changes

- Modified the plot
- Reallocated individual Work
- Rehearsal of Bullet time effect
- Schedule

The Effect

The video will feature:

- Car hitting a person and the car will have some deformation
- Time freeze (Bullet time), multiple cameras will be used to shoot from different angles
- The person retrieves frozen objects from the scene.

Plot

An unknown group hatches a diabolic plan to assassinate a person, who is currently in Singapore. Individuals who are to carry out the plan are informed that their target has some weird special powers and has evaded similar attacks before in other countries. Hence they are warned to execute the plan with utmost care and it is imperative that the target does not survive this time. Thus the group conspires a hit and run plan. On the day of the attempt, when the targeted person is about to cross a road, suddenly from nowhere a guy accelerates his car and drives in to collide with the person. That person who is about to be hit, sees the car at the last moment and freezes the time. Even though the time is frozen, the person is hit slightly. But he recovers and escapes from that place. Thus successfully thwarting another assassination attempt on him.

Story board – Trial 1

A video is attached of these shots.

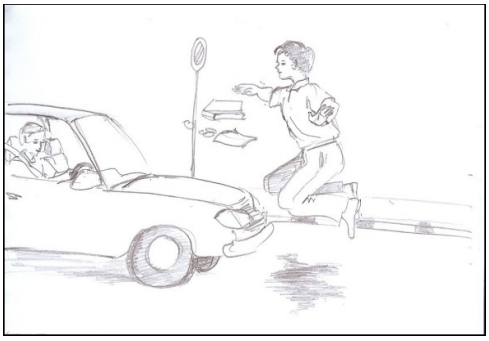

Figure5. The car attacked in no time, but then time stopped for a while. The protagonist was so shocked he stopped the time for himself too.
(Shot taken from outside to emphasize the time freezing effect)

Figure6. The time is still frozen.
(Camera pans around the frozen scene)

Figure7. Time freeze action still continues.
(Camera moved to side view, wide shot)

Shots for Bullet Time Effect – Trial 2

Angle 1:

Angle 2:

Challenges Faced & Resolution

Our special effect is complex, especially when we do not have scores of remote controlled cameras. We are looking for alternate ways of accomplishing the effect.	Taking video of the full sequence and extracting the specific frames of a single instant of time from different videos to create and morph between the various images hence collected will result in a bullet time effect.

Pixel based automatic blending using after effect showed undesirable manipulation of image (resultant video has been attached)	The blending needs to be supervised and motion of blending of certain points has to be controlled, so experiment was done using high resolution still images of a still object from angles about 30 degree apart. (resultant video has been attached)
Morphing with background was tested and found to be unrealistic	Morphing of the actor and background will be done separately
More cameras required	Borrow Cameras from other teams. Reduce the Camera panning angle and manage with available cameras.
Output Format differs in cameras	Use Video Converter to convert to the desired format. (or) Convert the videos to JPEG sequences.
Resolution in cameras are different	Modify and test the settings to bring the closest possible output. Manipulate output Images in After Effects or Photoshop.
Photos or videos taken from different direction have different color due to lighting. Cameras manipulate general hue of an image depending on average background color.	Color correction needs to be done.
Placement of cameras and focusing on the action sequence were different	Plan better by marking and drawing out lines.

Plan of action

The bullet time effect was a major risk and to resolve it early in project we had to do some prototyping, and finally a plan to shoot and a way of compositing has been decided. The following steps have been decided.

Shot 1: Car will pass by without stopping at the scene of accident.
Shot 2: Car will be made to stand in the site of accident and actor will jump in front of the car.
Shot 3: Will dolly the camera around the scene with the car to take a panoramic view of the scene to be later used for compositing into bullet time background.
Shot 4: Actor will be made to rest on some object in a pose as if he is jumping and in flying motion. Green screen will be put all around and shots taken from different angles.
Shot 5: With actor removed but the still cameras still in place shots will be taken so that later normal background can be blended in.
Shot 6: Discussion of the plot will be shot in a separate place.

Video of shot 2 “jumping up” will be morphed with first still image sequence of shot 4.

Stills of shot 4 will be morphed into a single bullet time effect video. The starting and the ending images will be same.

The ending image will be morphed with the “jumping down” of the actor from the flying position.

Background will then be composited to create the full scene of bullet time.

Match moving will be done and CG objects like books and chips packets will be placed in the scene.

Car hood will also be placed with a little dent.

Individual Contribution – Progress Update 1

Morphing was tried in 3 different ways.

Did morphing in Adobe After effects by enabling time remapping and enabling pixel motion in frame blending of trial 1. Ouput was unsatisfactory	Satish
Morphing effect was done using “RE:Flex” Morph Plugin with adobe after effects on trial 2 sequence. Ouput was satisfactory and this method has been finalized.	Samarjit
Morpheus software was used on trial 2 and desired was not able to be produced. Thus discarded.	Bowen

Schedule & Status

Week 6 Story Boarding and Project Proposal Scene survey & Trial footage Walk through story board	**Completed**
Week 7 - 8 Fine-tune story line Experiment with multiple camera time freeze	**Completed**

Week 9 Filming of actual footage, making 3D models. Making of Video clip.	In Progress
Week 10 - 11 Video Editing and compositing	TBD
Week 12 Adding special effects & audio	TBD
Week 13 Submission / Presentation	TBD

Work distribution

Applying bullet time effect on actor morphing. Keying & Compositing.	Satish
3D modeling and Texturing of chips, book and front part of a real car. Creating background of bullet time effect.	Samarjit
MatchMoving and animation of the CG elements, Synchronize visual elements appearances	Bowen