

CS5245:
VISION & GRAPHICS
FOR SPECIAL EFFECTS

PROGRESS REPORT UPDATE 1

BY

GOH CHENG TENG (U035005X)
LEE KENG SIANG (U047184N)
NEO JIET SHERN (U035025N)

I. CHANGES AND UPDATES OF PROJECT PLAN

None at the moment. We have spent a substantial amount of time in the pre-production phase to survey the scene, draw out the storyboard, explore existing software and find out about industrial special effects techniques. The project was then planned with careful consideration of what we can achieve within the stipulated time period.

II. WHAT HAS BEEN DONE

We have done most of the things as planned in our project proposal. We stick to the tight timeline because any delay in any one of us will cause delay for the other group members. These are the things done so far (week 8):

SCENE SURVEY AND MEASUREMENTS

We went to the actual location of the bridge to survey the scene for possible shooting locations. We also measured the dimensions of the bridge for modeling purposes so that the CG model will be done to scale.

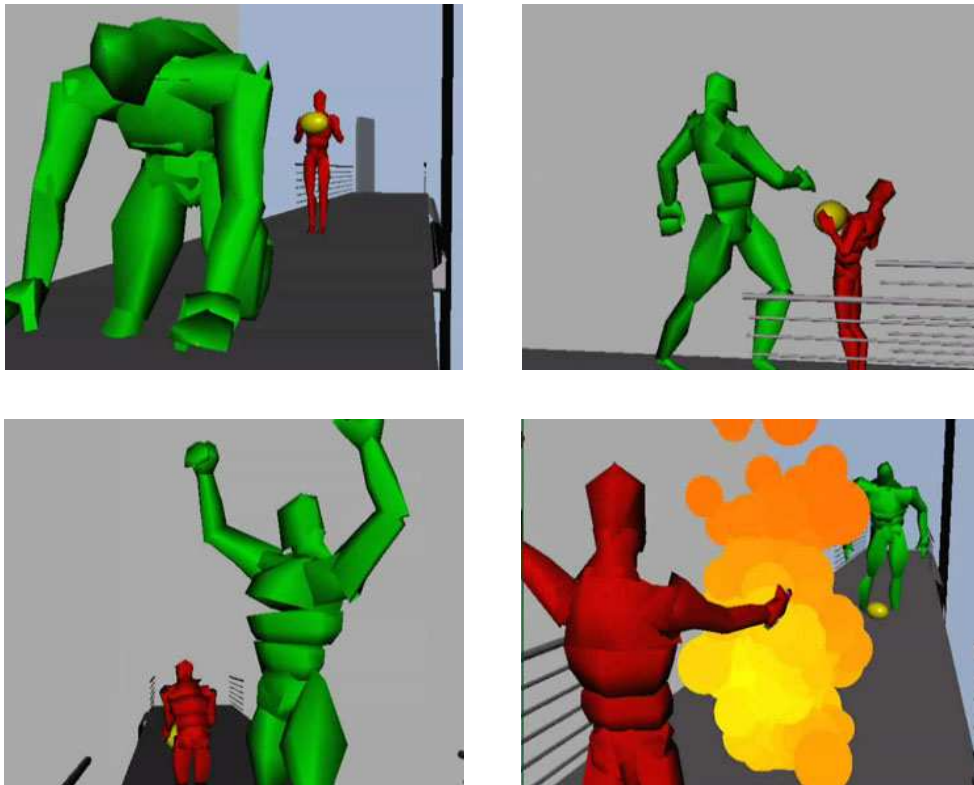
MODELING

These are the models that we have created so far in the production phase of the project:

- The main bridge model (collapsible and destructible)
- Simple CG environment of the SoC1/S15 area
- Rough model of the creature
- Low resolution proxies of the creature and man (used in the pre-viz)

PREVISUALISATION

Although this was not part of our proposal plan, we gathered that it will be extremely useful to create a pre-visualization (pre-viz) of the whole video. It is based on the storyboard which we have carefully planned and drawn out in the earlier part of the pre-production phase.



This serves as a very important part of the pre-production phase for several reasons:

- **It allowed us to get the correct camera angles before the actual shoot**

We were able to try out different camera angles within the CG environment and confirm them before shooting. This saved us a lot of time to find good camera angles during the actual day of shooting. In fact, we referred to the pre-viz extensively during the shooting and managed to finish shooting in a short 3-4 hours, which is considered fast for the large number of shots that we have planned in the storyboard (total of 34 shots in the storyboard).

- **It allowed us to get the timing and feel of the video right before the actual shoot**

- There were many scenes where the actor has to act while imagining a creature in front of him. Without the pre-viz animation timing, it will be very hard for him to fully visualize the shot and act out realistically.
- The pre-viz allowed us to get a good feel of the flow of the video when each shot is placed one after another. A couple of shots drawn in the storyboard were taken out because they were slightly redundant and we would not have been able to know that with the storyboard alone.
- We were able to tell whether the shots were too long or short and whether they flow in the correct sequence such that viewers will not get confused while watching the short 1 minute sequence.

- **It allowed us to get the animation of the creature right**

We had to make a draft animation of the creature while creating the pre-viz. This serves as a very good guide to the actual animation of the creature in the final video.

VIDEO FILMING

All the shots of the video have been recorded and they have been placed together to form the final raw video (with no CG elements and effects). We will be each taking this confirmed video and work on our individual parts based on it.

BRIDGE DESTRUCTION TESTS

Destruction tests of the CG bridge has been done. Initial results look promising. Further tests need to be done to get the final realistic collapse of the bridge.

MATCHMOVING

The CG cameras have been placed into the CG scenes such that they match up with the actual live footage that we have recorded. We are now ready to place the CG elements in once they are finalized.

BRIDGE REMOVAL

We have done research on the various image-based object removal, image in-painting, and projective texturing methods which may be of use to remove the bridge from the existing video footage, and replace the removed regions.

III. DIFFICULTIES AND PROPOSED SOLUTIONS

REALISM OF BRIDGE

The bridge needs to be realistic which involves good lighting, texture, destruction and animation. It would have been much more achievable if the whole bridge is CG. The problem now is that there are some scenes which consist of part of the real bridge on footage and part of the CG bridge. This means that the texturing of the bridge has to be highly similar to the actual one, and that the lighting has to match perfectly. We are planning to obtain actual textures from the bridge. However, it might be hard to do since the bridge is high above the ground and it is difficult for us to take a good photo of the sides, for example. We might have to do some blending of the CG bridge to the actual bridge in the footage via masking.

LIGHTING CONDITION CHANGES

The lighting condition of bridge area during the actual shooting was changing although it was a sunny afternoon. This caused some scenes to appear brighter and some scenes to appear slightly darker in the actual raw video that we have put together. We will have to do some color correction to get the lighting to stay consistent throughout the video.