

# CS5245 Project Progress Report 2

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## 1 Some Minor Changes

- Because the badminton courts had been reserved for other purposes by the school by 20 Mar, we changed our project from badminton to tennis. This change increases the difficulty of our project, mainly on the illumination changes (outdoor shooting) and more complicated background.
- The story has been changed a little: Initially, we have four persons playing. Then one guy has to left. So Roger splits himself into two, and keep playing 2 vs 2.

## 2 Progress

- Outdoor tennis video has been captured, including normal playing scenes, static background, and scenes of Roger acting individually.
- Main algorithm for segmentation (using C++ and Matlab) has been implimented and tested, main steps for compositing (using Adobe After Effects, Photoshop, and Matlab) have been tested, as shown in Figure 1.
- A temporary result for one round has been generated, available at <http://www.comp.nus.edu.sg/~songzhiy/scene11.avi> .

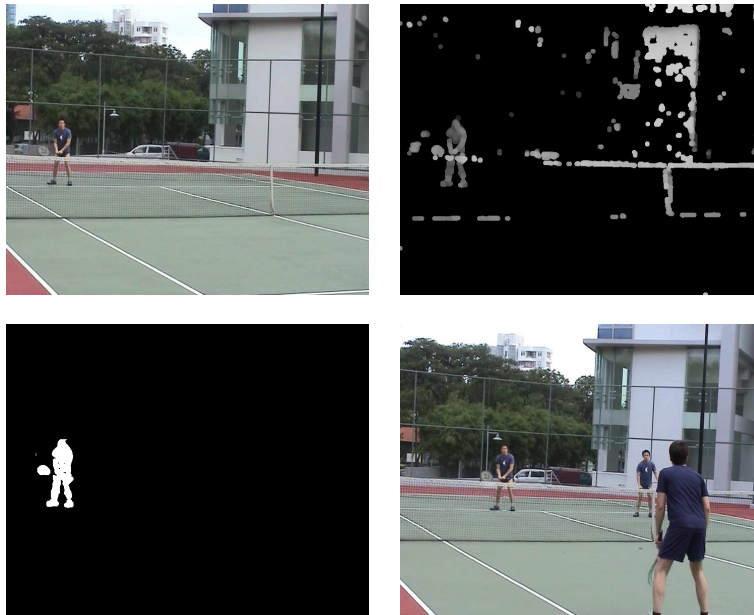


Figure 1: Segmentation and compositing result

### 3 Method

1. Use template matching to track the motion of the player to be replaced from the normal playing scenes. After tracking, use the static background to cover this part.
2. Use an semi-automatic segmentation algorithm to segment Roger, and produce a matte for each frame. This segmentation need to be accurate, so that manual work can be minimized and the compositing result can be seamless.
3. Composite Roger into the normal playing scenes.
4. The moving tennis ball is tracked and replaced in some frames so that the whole scene seems seamless.

### 4 Schedule

April 8: Finish all the video clips

April 12: “Making of” video and final product

April 14: Project presentation