Figure 1: Effects of a task on eye movements. Eye scans for observers examined with different task instructions; 1. Free viewing, 2. Remember the central painting, 3. Remember as many objects on the table as you can, 4. Count the number of books on the shelves.
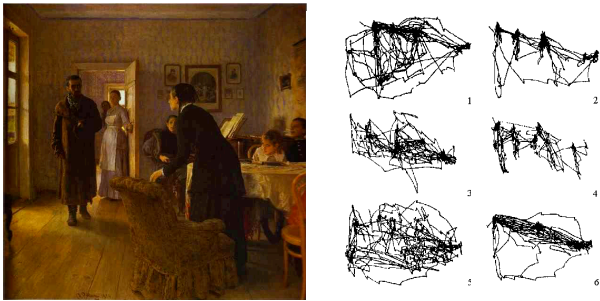

Figure 2: Repin's picture was examined by subjects with different instructions; 1. Free viewing, 2. Judge their ages, 3. Guess what they had been doing before the unexpected visitor's arrival, 4. Remember the clothes worn by the people, 5. Remember the position of the people and objects in the room, 6. Estimate how long the visitor had been away [Yarbus 1967].

Figure 4: High Quality (HQ) image rendered with a sampling resolution of 3072x3072.

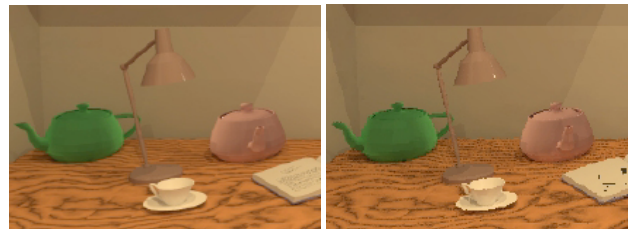**Figure 5:** Selective Quality (SQ) image showing the high quality rendered circles located over the teapots

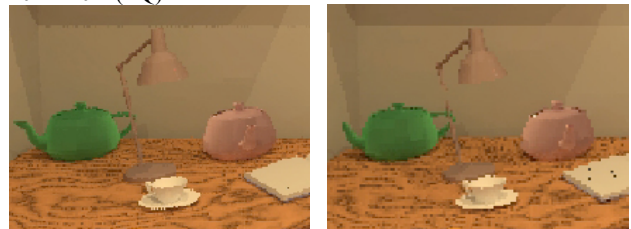**Fig 6:** Sampling resolutions: **a(left)** 3072x3072 (HQ), **b(right)** 1024x1024(LQ)

Fig 6: Sampling resolutions: **c(left)** 768x768 (LQ), **d(right)** 512x512 (LQ)

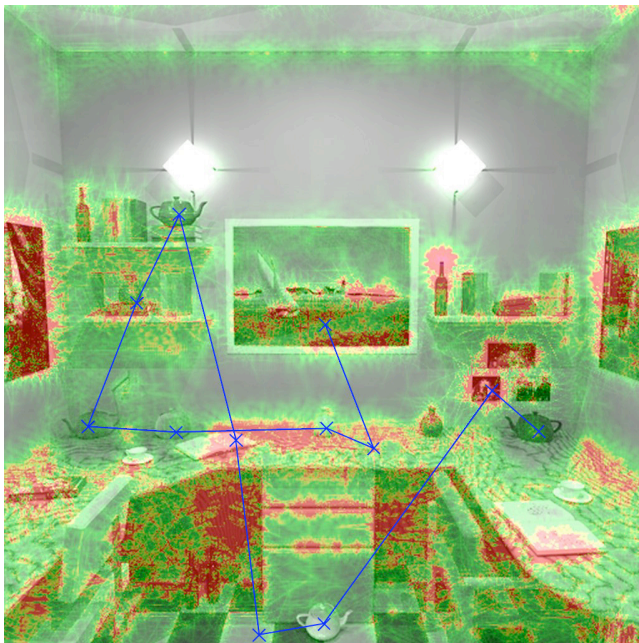**Figure 8:** An eye scan for an observer counting the teapots. The X's are fixation points and the lines are the saccades.

Figure 9: Perceptual difference between SQ and LQ images using VDP [Daly 1993]. Red denotes areas of high perceptual difference.
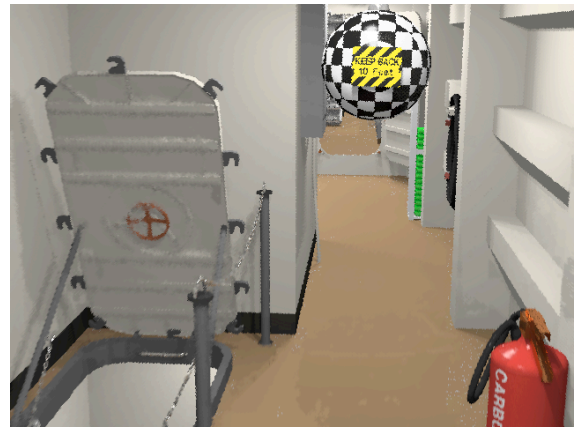
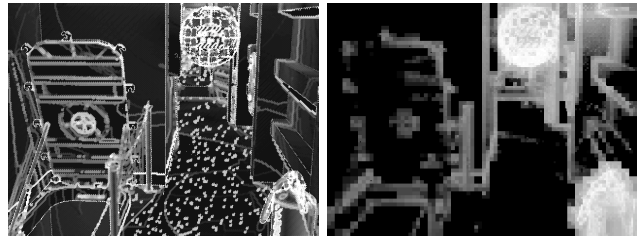

Figure 11: A frame from our task-based animation.

Figure 12(left): Initial frame error. **Figure 13(right):** Initial error conspicuity.

Figure 14: Final frame samples.

Figure 15: Standard rendering taking same time as Fig. 11.