CPSC 444 Tutorial: Video 1

Description:

- This tutorial will introduce you to the use of video in HCI user studies. Each group in the class will use the video equipment provided to film two tasks typically found in HCI research and will compare their approach to the ones from other groups.

Materials:

- SD Card – you may bring your own (8GB min recommended), or check one out from the TA

Objectives:

- By the end of the tutorial, you will be able to:
    - use a video camera
    - understand the areas of HCI research in which video can be useful
    - understand the ethical guidelines and the importance of the informed consent when videotaping user studies

Deliverables:

- None, however you must remember to bring your video footage to the next tutorial.

Tentative Schedule:

- Quiz + discussion (~15 min)

- Interactive tutorial/demonstration: use & setup of a video camera (~20 min)

- Video filming practice section
    - complete task 1 (see below) (~25 min)
    - complete task 2 (see below) (~25 min)

- Video exchange and discussion of results
    - Each group will see a video filmed by another group (see eval. criteria below) (~15 min)
    - Class discussion (~15 min)

- Design brainstorm (time permitting)

Tasks

- Task 1: videotaping user interaction with a GUI
    - High-level scenario: Company "X" is conducting a study on online flight reservation booking. You are asked to film users interfacing with current webpages that provide this service.
    - Specific scenario is to use Expedia.ca to book a flight with the following

requirements: * round trip Vancouver-Atlanta for a one week trip in a sliding schedule of 3 days, beginning the day after the tutorial [i.e., the user has flexibility of when to leave, within a 3 day window] * cost is the primary constraint, and flight duration is secondary: cheapest flight is desired, but if a slightly more expensive flight will yield a much shorter duration, that is okay

- Task 2: videotaping user behaviour
  - Scenario: Company "Y" is designing an interactive tutorial on some new Origami techniques. They want to understand how well novice users will be able to follow the techniques they have developed. They want experts to evaluate the effectiveness of the techniques, and so videos need to be taken of novice users carrying out the techniques. The experts will form their judgement by watching the movements of the novices' hands while following the techniques. The techniques are documented on a sheet of paper with instructions.

Video Tips:

- What type of user interaction will be filmed? This will determine:
  - How the camera should be set in order to get the main issues of the task
  - Do we need a cameraman or a fixed setup is enough?

- *Prepare the shooting as to minimize editing time.* This could be done by means of rehearsal or preparing a script before shooting the users. In other words, as you prepare the experiment, take into consideration what should be filmed and leave some room to position the camera. Try it before conducting the experiment and adjust as necessary. If none of this could be done in advance (ie. filming a field experiment where anything could happen) consider the use of a third person that will direct the attention of the cameraman on what to shoot at a given time. The goal is to minimize the capture of extraneous video in order to minimize the effort that is needed to edit the video.

- *Lights are important – this is what video and photography is about.* Usually standard fluorescent room lights are enough. Nevertheless it's always useful to have an extra light source for those cases where illumination is not adequate for the task. Examples of these are those areas with too much contrast (this could be as simple as a computer display in dim light, for the glowing of the display will cause the camera to adjust in a way that the rest of the scene will be obscured). In other cases existing light conditions could be used to avoid edition time, ie. filming a user against a window to obscure his/her face. The students should record something in the environment that they will be shooting and then play it back to ensure the lighting is sufficient or that there are no shadows obscuring important issues.

- *Determine if the camera microphone is enough* to capture the sound or you should be needing an external microphone. This is particularly relevant when filming in outdoors scenarios and when dealing with subjects facing away from the camera. The students should record something in the environment that they will be shooting and then play it back to ensure the volume is loud enough.

- *Keep documentation of the project included in the video.* Do not rely on tags or labels attached to SD cards or containers, for they might get lost. This is as simple as to shoot a paper with the date, activity and other aspects of interest. A voice over is also useful.

On Camera Setup:

- Nothing can substitute experience. The camera should be an extension of yourself, not an estrange object. Use the camera in advance and get to know how it works.

- Turn off all the extra aids that the camera might provide if you won't be using it them, such as date/time. (Refer to the manual and check what's ON by default). We recommend using the camera in AUTO mode (if available).

- When filming "stationary" users (i.e. users interacting with computers or other devices fixed in a certain position) try to set the camera in a way that only the use of zooming will be necessary to get everything you'll need for the study. In these cases the use of a tripod is a must. Adjust the tripod height such as the camera is slightly over the head level of the user, this facilitate the "over the shoulder" view used to get both the user interaction and the display content. The camera should be positioned in a way that the wider shot should encompass the whole scene and the higher zoom should be more than what it takes to capture the details. (remember that we are referring here to optical zoom where the lens are actually zooming compared to digital zoom where the captured image is just digitally altered), and only the zoom control should be used to go from one frame to another (in other words avoid the use of panning and zooming at the same time, as well as camera tilting).

- When filming experiments that include movements, try to keep a general shot that includes everything on the scene and only zoom into areas when the detailed action is relevant. Again avoid panning as much as possible.

- Try to use at all times the camera small screen instead of the visor/eye piece (if it has one). Two reasons for this: on some cameras the visor/eye piece doesn't cover the whole scene captured (usually it goes from 85 to 95% of the scene) and second it will provide the camera man with enough peripheral vision to identify other details of interest outside what's currently being filmed.

Important Reminders:

- Don't put the camera in awkward positions. Keep it as steady as possible. Use a tripod whenever you can.

- Try to keep the whole experiment with one user in a single shot instead of stopping and restarting again. Always keep in mind that you can always cut out what you don't need but you can't use what you don't film.

- Avoid panning, zooming and tilting as much as possible. If you have to use them, try to adjust the camera in a way that you'll only need one of them at a given time.

- Check your sound sources and lighting.

- Don't rely on editing when considering ethical aspects. Take advantage of the situation you're in and use it in your favor. Break the usual rules of good photography/video if necessary (i.e. shoot against strong light sources to foster anonymity)

- When editing the video for presentations avoid the use of "flashy" special effects (usually fade to black is more than enough) and keep the story short and coherent.

Criteria for Evaluating Video

Each group will evaluate another group's video according to the following criteria:

- Were the main aspects of the task captured in video?

- What could be improved in the way the shoots were taken and why (nothing related to editing here, mostly related to camera positioning, use of lights, etc..)?

- What should be done during the editing process in order to present this in a conference or to other stakeholders? (consider that the relevant permissions have been granted)

- Is there anything on the video you saw that you think is better/worse than the way you filmed yours? Why?

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