1. Main tool for this investigation: 
*MultiCam*, a new video chat plugin
- MultiCam permits use of two or more
webcams simultaneously for video chat
in existing chat software (e.g. Skype)

Typical usage scenarios:

- Important novel feature: participant at
one end can switch views at both ends of
conversation (between tiled views above
and full screen view of any individual
camera):

2. Research questions

1. **Is multiple-camera video chat useful and/or desirable?**
   - Answer: Yes, for certain scenarios

2. **Is remote control of the viewpoint useful and/or desirable?**
   - Answer: In many cases, no. But a minority of
   users prefer remote control in at least some
   scenarios.

3. **Is multiple-camera video chat feasible on commodity hardware, using existing consumer chat software (e.g. Skype)?**
   - Answer: Yes, but with some caveats

3. What is the novel contribution?

The three research questions above are novel in the
context of consumer video chat.
- Multiple cameras are common in virtual reality and
commercial videoconferencing systems, but this is the first
rigorous analysis of the utility of multiple cameras for
consumer video chat

4. Results:

Summary of experience with MultiCam:
- First four figures in panel 1 show the most useful
configurations for common consumer chat
scenarios (i.e. chatting with friends and family)
- Remote participants rarely use the novel “switch
camera” feature, but local camera-switching
occurs frequently
- Substantial positive feedback, and promising
download rate (hundreds per month), suggest
that use of multiple cameras enhances
enjoyment of video chat

4b. Results (continued from previous column)

- Formal user study analyzed utility of the novel
remote camera-switching feature
  - 23 participants in three continents, ages 20-70 (median
  40)
  - Employed the whiteboard lecture scenario with a
  “speaker” and a “listener” (panel 1, bottom 2 figures)
  - For this scenario, most listeners prefer speaker-control
  of the camera view:

  BUT, 18% of listeners preferred listener-control of
camera view, suggesting it is a valuable optional feature

- Theme analysis of user comments:

  - Benchmarks assessed feasibility on commodity
  hardware
    - With up to 4 cameras, CPU usage and frame rate are
generally acceptable:

  - Using multiple cameras generally has little effect on
display latency:

5. Conclusions: see “2. Research questions” above