

Session Title: SOS Software – recent and future improvements

Moderator: John McLaughlin

Note taker: Lexie Brown

Participants: David Himes – NOAA ESRL

General Notes:

- Questions:
 - Sarah Lee: Could we do a presentation on the sphere that could be webcast and shown in real-time on a PC elsewhere?
 - Dave: Yes, that is currently possible. We have a streaming relay server for spherecasting that we might want to employ for this type of webcast.
 - Eddie Goldstein: Is it possible for sites to record “state of the sphere” spherecast and play it later in the week for visitors?
 - Dave Himes: Yes, we record the video and can play it back. We don’t have a process in place yet for posting online for repeat playback. We know that the live aspect may be difficult for museums to show, given their schedules.
 - Carrie McDougall: You can record the person doing the presentation on one video and can record sphere movement on another video. Can the museum play the sphere movement at a later time on the sphere and simultaneously show the presenter video on a flat screen? Will there be a pause capability?
 - Dave: Yes, and the presenter’s Wii movements and pointer use will also show up. Museum could play it at any point that is convenient for them. We will have to think about adding a “pause” capability so docents in a museum could stop and answer questions.
 - Michael Starobin: Do you see any changes in data rate for M-peg 4 and will dimensions expand?
 - Dave: Partially driven by hardware, but I think so in the future. Current systems are probably at a plateau and are limited visually by projectors that are installed. New single computer system can play 3,000 by 1,500 pixel images and can play higher resolution on some datasets. Not sure about data rate yet.

- Michael: Have found substantial difference in playback quality when get beyond 16 megabits (data rate). That is something to keep in mind when making content.
 - Dave: We do need to spend some time figuring out maximums for data rate and resolution.
- Brooke Hsu: Have you explored the use of spherecasting for PD of network?
 - Dave: Talked about that last year, but just haven't put one on yet. Need to come up with a topic and gauge interest. Specific topics?
 - For those of us developing content, we could show to everyone on the network. Maximum number of sites at once?
 - Dave: Max number if sites = all 40 (most likely)
- Bryan Kennedy: Is single computer system part of software upgrade that will happen in the future?
 - Dave: We work with each institution to see where they put their computers. If you have your computers next to projectors, not convenient to upgrade. If they are central, it is more convenient. It will be a software upgrade, so you will get new hardware for it. For 5 computer version, ~\$1200 for each computer. New computers are \$4,000 each, so buying two doesn't save too much money.
 - Bryan: Might not be a whole lot cheaper, but still exciting.
 - Dave: Lowered maintenance and management issues. And prices will drop
- Steve Bishop: Is the data displayed during spherecasting streaming in real-time from your server, or do you we have to download datasets in advance?
 - Dave: Data is not streaming. Playlist is determined ahead of time and sites can download it beforehand in preparation for spherecast.
- Rob Morris: Have you given thought to producing sphere content from local computers? It can be inconvenient to go up to floor to work on a program, so it would be great to have a virtual SOS on a local computer.
 - Dave: Currently is possible with Red Hat computer. For Ubuntu, it will be even easier. Will use a "live CD" and will install Linux in memory. Can create SOS that runs off the CD and can access network drives, etc.
 - Dave: We are always working to make sure SOS software works on Mac (Mike Beire). Likely will not be a release product, but have trial versions.
- Maurice Henderson: Can you comment on closed caption feature?
 - Dave: Only that it was a significant part of Smithsonian Ocean Hall and we didn't have anything to support that. We know there are software interfaces available. We would like a closed caption engine that coordinated and played with SOS datasets and could optionally display on sphere or an external display device. We don't have a lot of experience with that, but there are a lot of different standards and we would like to know what the best way is. It will be digital when we do it (rather than analog).
 - Maurice: Would be good to have multiple font sizes in labels.
 - Dave: Closed caption would be more advanced than label feature.

Recommendations to NOAA (Office of Education, Earth System Research Laboratory, National Visualization Laboratory):

- Add a “pause” capability to spherecast so docents in a museum could stop and answer questions (NOAA ESRL)
- Define maximums for data rate and resolution to increase content playback quality (NOAA ESRL)
- Create spherecast for professional development of the network. Need to come up with a topic and gauge interest.
- Continue pursuing closed captioning in digital form.

Actions/Next Steps:

<i>Action/Next Step</i>	<i>Responsible Network Member/Institution</i>

Research Questions for Further Exploration: