

Data Management Plan

The data coupled with the research project will be systematically managed. The team has multiple backup servers to protect our research findings, and publicly available internet resources to share our results. All aspects of the research will be carefully tracked, stored, and published. The work detailed in the preceding proposal can be anticipated to produce three broad categories of data: computer software, subjective test data, and models. The computer software category consists of video encoders and decoders, including error concealment and forward error correction algorithms; and channel-aware encoding and rendering adaptation algorithms. The subjective test category includes data from the human observer experiments in the packet loss visibility study, as well as data from the quality of experience in channel-aware rendering video study. The model category includes the packet loss visibility model, the cross-layer model with mobility considerations and the quality-of-experience model.

The algorithm development progression will be logged through both handwritten research notebooks as well as digitally generated documents. To ensure the safety of the data, we will use the Video Processing group's existing file server to periodically backup the materials. A Structured Query Language (SQL) database will be created to track the digital documents. We plan to package our algorithm in a MATLAB toolbox, as well as a self-contained software complete with a user interface. All of the computer code produced during the project will be written using the latest version of MATLAB, as well as C/C++, when appropriate. Codes will be developed using volume shadow copy technology, which will allow the recovery of prior iterations for quality control.

The results of the research performed under this proposal will be disseminated primarily through publication in research journals and conference presentations. All of the computer software, subjective test data and model parameters will be available to interested parties upon request, and will be transmitted electronically via e-mail.

All electronic data generated by proposal research will be redundantly archived. Locally, the laboratories have secure servers on which all information is stored. The server hard drives are set up in a RAID that is capable of full recovery even in the case of multiple simultaneous disk failures. Additionally, the server drives are backed up by servers operated by School of Engineering IT. This will allow full recovery of data in the event of catastrophic failure of the local laboratory servers. All of these systems will be in place for the 3 year minimum prescribed by the NSF, as well as the foreseeable future following that.