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Data Management Plan for an Affective Intelligent Tutoring System

Michelle Armstrong
Boise State University

Elisa Barney Smith
Boise State University

Albertsons Library Research Data Management Team

DATA MANAGEMENT PLAN

TYPES OF DATA PRODUCED

The data and materials expected to be produced will consist of laboratory notebooks, raw data files from experiments, experimental analysis data files, and simulation data:

A. Laboratory notebooks: The graduate student and PI will record by hand any observations, procedures, and ideas generated during the course of the research.

B. Experimental raw data files: These files will consist of images, videos, output of biometric sensors (Tobii's eye-tracking system, iMotions Attention Biometric Research Platform, Shimmer GSR (Galvanic Skin Response) sensor, ABM EEG Headset) that represents data directly collected from the participants. When possible we will store only the features extracted by the Facial Expression Recognition algorithms instead of the videos to better preserve participant privacy.

C. Experimental analysis data files: These files will consist of spreadsheets and plots of the raw data mentioned in Part B. The data in these files will have been manipulated to yield meaningful and quantitative values. The analysis will be performed using best practice and acceptable methods for creating new algorithms.

D. Simulation data: These data will represent the results from commercially available simulation and modeling software to model the facial expression recognition signals.

DATA AND METADATA STANDARDS

Using the *Boise State University Study-Level Documentation README.TXT Template*, the PIs will create a descriptive readme.txt documentation file that will include at a minimum: description of the data, structure of data files, and information on confidentiality, access policies, or other conditions of use, and data collection methods used. When appropriate, documentation will also include quality assurance procedures carried out, changes to data collection processes made over time, and related publications or presentations. To ensure appropriate metadata has been collected, the PIs will, as needed, consult with members of the Albertsons Library Research Data Group.

RESPONSIBILITY

Over the course of the research project, the PIs will have primary responsible for implementing and for monitoring compliance with this data management plan and complying with any relevant federal, state, and university policies. If the PI is unable to continue to manage access to the research materials, other project management team members or the department chair will assume these duties.

POLICIES FOR ACCESS AND SHARING

The PI will make the research data from this project available to the broader social science research community.

Public-use data files: These files, in which direct and indirect identifiers have been removed to minimize disclosure risk, may be accessed directly through the ICPSR Web site. After agreeing to Terms of Use, users with an ICPSR MyData account and an authorized IP address from a member institution may download the data, and non-members may purchase the files.

Restricted-use data files: These files are distributed in those cases when removing potentially identifying information would significantly impair the analytic potential of the data. Users (and their institutions) must apply for these files, create data security plans, and agree to other access controls. Timeliness: The research data from this project will be supplied to ICPSR before the end of the project so that any issues surrounding the usability of the data can be resolved. Delayed dissemination may be possible. The Delayed Dissemination Policy allows for data to be deposited but not disseminated for an agreed-upon period of time (typically one year).

INTELLECTUAL PROPERTY RIGHTS

Per university policy 1090 – Intellectual Property, research data is the property of the university and subject to any related research policies and requirements. Sharing of the data is based on compliance with these policies and the approval of the Institutional Review Board. By depositing with ICPSR, investigators do not transfer copyright but instead grant permission for ICPSR to redisseminate the data and to transform the data as necessary to protect respondent confidentiality, improve usefulness, and facilitate preservation.

POLICIES FOR RE-USE, REDISTRIBUTION

Whether based at Boise State or external to the university, any researcher wishing to access or use the project data will be required to submit to the PI a permission request via email or printed letter. Researchers will need to note which files they would like to use, how they would like to use them, and if there will be any derivative materials created or published works generated based on the data. Researchers granted access will be required to comply with any confidentiality conditions or other assurances provided during the original IRB application.

PLANS FOR ARCHIVING AND PRESERVATION

The raw data will be stored on a college or university server farm. The processed data will be stored on a college or university server farm and student computers. The stored data will be backed up on DVDs, CDs, and university archival servers on a frequent basis.

In compliance with the Boise State's Office of Research Compliance IRB policy, all data and related research materials will be retained for three years past the completion of the grant. Codebooks and metadata will be collected and stored with the data to ensure long-term usability. At the end of the post-grant 3 year period, the PIs will work with the Albertsons Library Research Data Group to determine if further archiving or public sharing is possible, and if not, to properly dispose of the data. If data is retained past the 3 year period, the PI will work with the Research Data Group to convert any proprietary file formats into open formats.