

MMDAC Research Project Team Meeting

5/15/08

Team Members: Alexander, Kaber, Kaufmann, Kim, Prinzel, Stelzer, Veil

Agenda:

Review of action items from April meeting (with due dates of 5/15 or earlier):

Final experiment packet for subjects (Kim) – Update

Draft instructions for checkout – 5/19

Briefing (Kim); Training session (Kaufmann); Debriefing (Alexander)

Integration (Kaber) – 5/21

Software for HUD visual property measurement (Veil, Kaber) – Update

Need to output histogram of pixel brightness for images.

Need to output histogram of contrast ratio for iconic vs. non-iconic images.

Need to provide capability for regional assessment of density.

Photometer acquisition (Veil) – Update

Software for analysis of fixations required by semantic groups of information in HUD (Veil) – 5/15

Checklist to confirm experiment procedures and materials (Kaber) – 5/21.

Experiment Scheduling:

Review for checkout - at NASA LaRC – Done

Checkout for experiment - at NASA LaRC – 5/22-5/23

Attendees: Alexander, Kaber, Kaufmann, Kim, Stelzer and Veil (22-23)

Simulator setup (Prinzel) - Update

Four phases:

(1) Psychophysical determination of non-iconic feature gain settings.

Hold fixed icon feature gain setting.

Three trials with each pilot (adjustment from max. non-iconic feature gain; adjustment from min. non-iconic feature gain; verification of preferred gain).

Select gain setting for experiment.

(2) Recording of videos of pure iconic and non-iconic HUD imagery in each phase of flight (refer to “display feature decomposition” file).

Need to know MMADC experiment cases that most closely correspond to these HUD configurations.

Four trials (Tunnel + Primary, Tunnel + IMC, Primary, IMC).

Three trials (SVS, EVS, SVS+EVS).

(3) Recording of baseline, SVS, EVS and SVS+EVS imagery in each phase of flight.

Need to know MMADC experiment cases that most closely correspond to these HUD configurations.

Eight trials (all display configurations tested under IMC-day and IMC-night conditions)

(4) Verification of Y2 experiment cases.

Critical cases to be identified by Prinzel.

Full experiment in IFD - at NASA LaRC – 6/2-19

Week	6/2-6/5	6/9-6/12	6/16-6/19
Primary Experimenter	Kaber / Alexander	Stelzer (Kaber)	Kaber
Second Experimenter	Kim	Kim / Veil	Veil
Confederate FO	Kaufmann	Allamandola	Kaufmann

(Kaber – 6/2-3; Alexander - 6/3-5.)

Recruiting of pilots for study (Johns/Prinzel) – Update

Primary Experimenter:

Brief subject, work in simulator, deliver experiment procedure, administer all response measures, record subject problem and equipment failures, and verify data recording.

Secondary Experimenter:

Collect consent, escort subject on breaks and stage for trials, support primary experimenter by providing all necessary forms, verify data integrity, and handle debriefing.

Confederate FO:

Support pilot in executing flight scenario, fake communication with ATC, and present clearance to pilot.

Publications work:

HFES proceedings paper (Alexander et al.) – In revision

ASEM manuscript (Kaber et al.) – In review

Year 2 Outcomes:

(Need to stay focused on these goals.)

Subjective clutter rating scale (All) - Done

Subjective clutter preference threshold and objective performance clutter threshold

Objective model of perceived clutter

Conference presentation...

Study of Correlation of low-level HUD visual properties with pilot perceptions
of display clutter (collected in Year 1 Experiment).

Another journal article based on Year 2 Experiment.