Follow up 3/25/2011 meeting

Attendees: Christie, Kaber, Gil, Jeon, Qin, Tupler, Yu, Zhu

Hello everyone,
As a follow-up to the meeting on 3/25/2011, below are the notes and the action items I recorded. Please advise if I have missed anything.

Meeting Notes

1. Biwen & Zeno: Preliminary Data Analysis (see also data analysis_3_25.doc):
   1) Biwen conducted preliminary data analysis (Learning % and slope of coefficient) with raw data:
      i. The result showed that the native block training resulted in significantly quicker learning rate (i.e., lower K and higher b) than other two training (i.e., basic VR and augmented VR).
      ii. We need to make sure for outliers.
          1. We gave subjects proper instructions. But, they did not follow it.
      iii. Normalized:
          1. Biwen calculated z-score (avg=(Sum of t1 through t8 divided by 8)
          2. ANOVA revealed opposite results as compared with non-normalized data (p=0.102).
          3. However, this pattern is what we expected.
      iv. ANCOVA:
          1. Biwen conducted ANCOVA analysis with first trial data set as a covariate.
          2. The results showed that there was no significant different in condition with/without covariate.
      v. Data analysis with full dataset.
         1. ANOVA analysis with raw data
            a. Condition, gender, etc.
         2. ANOVA analysis with normalized data (z-score)
         3. ANCOVA analysis with trial 1.
         4. ANCOVA analysis with repeated measures to reduce the error variance.
         5. More data may be helpful to reduce sensitivity.
   2) Zeno and Biwen conducted ANOVA test with pre and post-test data (i.e., matrix reasoning and native block design)
i. There is a significant improvement of block design due to the training processes. However, the type of training is not significantly influential in Block design score.

ii. There is no significant effect of block design score. However, the descriptive data suggested that Native block design resulted in the greatest improvement, followed by Augmented VR.

iii. Matrix reasoning used non-parametric data analysis due to the nature of data set. A Wilcoxon/Kruskal-Wallis test was used. There is no significant effect of condition.

3) ROCF Scoring
   i. Caesar provided Dr. Tupler with additional ROCF images.
   ii. Dr. Tupler is trying to score with the scoring system that was programmed in DUKE by Delphi.
   iii. First day have two chances for ROCF drawing, while there is only one chance in the last day of experiment.
   iv. Caesar compared second data of first day with first data of last day. Thus, he has to compare first ROCF of first day with first ROCF of last day.
   v. He will complete ROCF scoring using Yingjie’s program next week.

2. Preparation of full experiment.
   1) Augmented VR.
      i. How to improve learning capability of augmented VR BD system. It means how to make steep learning curve.
         1. Current features for augmented VR.
            a. Grid, snapping, force feedback (attracting or kicking).
         2. Linus suggested gain control (adjusting C/R ratio).
         3. Caesar suggested reducing one of the force feedback (i.e., attracting and kicking).
            a. He observed subjects were confused with two force feedback.

   2) 3DTV
      i. Compatibility issues using NVIDIA 3D Vision.
         1. Using 3D Vision emitter and goggle with SONY Bravia.
         2. May need to purchase new SONY emitter and goggle.
         3. Contact customer service (SONY and NVIDIA).

These are all the items that I noted or recalled from the meeting. If you have other points, please let me know.
Guk-Ho Gil