Experience Accelerator Goals

To build insights and “wisdom” and hone decision making skills by:
- Creating a “safe”, but realistic environment for decision making
- Exposing the participants to the “right” scenarios and problems
- Providing rapid feedback by accelerating time and experiencing the downstream consequences of the decisions made

Transforming SE Development

We postulate that the new paradigm must be:
- **Integrated**: Provides an integration point of multi-disciplinary skills and a wide range of Systems Engineering knowledge in a setting that recreates the essential characteristics of the practicing environment.
- **Experience Based**: Providing accelerated learning opportunities through experience-based interactive sessions.
- **Agile**: Allowing for quality, timely development of course material that is most appropriate for the target students.
- **Time/Cost Efficient**: Compressing multi-year lifecycle experiences into a much shorter period of time.

Emphasis on Open System Architecture

**Principles**:
1. Establish an Enabling Environment
2. Employs Modularity Design Principles
3. Apply Systems Engineering
4. Use Open Standards

**Benefits**:
- Reduces development time and overall life-cycle cost
- Inculcates technology as it evolves
- Commodity architecture reduces components and avionics to leverage commercial investment

The Experience Accelerator’s emphasis on Open System Architecture is coupled with strong preference for use Open Source Software products for implementation wherever appropriate.

Experience Accelerator Team

**Technology & Tools**:
- George Kamberov – Stevens
- Brent Cox – Stevens
- Wang Yang – Stevens
- Eugene Simonetti* – Stevens
- Yagiz Mungan* – Purdue

**Simulation**:
- Doug Bodner – G. Tech
- Subbu Ramathan-G. Tech
- Pradeep Jawahar* – G. Tech
- Kyle Crawford* – G. Tech

**Prior Member**
- Dana Ruggiero* – Purdue
- Dick Reilly* – Stevens
- Pete Dominick* – Stevens
- John Griffin – consultant
- Alice Squires* – Stevens
- John McKeown – consultant
- Jon Wade, PI – Stevens
- George Kamberov – Stevens
- Pradeep Jawahar – G. Tech
- Kyle Crawford* – G. Tech

Hypothesis: By using technology we can create a simulation that will put the learner in an experiential, emotional state and effectively compress time and greatly accelerate the learning of a systems engineer faster than would occur naturally on the job.

Experience Accelerator Team

**Experience Design**:
- Jon Wade, PI – Stevens
- Alice Squires* – Stevens
- Rick Abel – consultant
- John Griffin – consultant
- John McKeown – consultant

**Evaluation**:
- Bill Watson, CoPI – Purdue
- Pete Dominick* – Stevens
- Dick Reilly* – Stevens
- Dana Ruggiero* – Purdue

Experience Accelerator Phases

**Prototype Feedback Loop**

**Multi-Threaded Java Server Architecture**

**Future Work**

**Capabilities**
- Expand prototype with additional capabilities
- Expand set of challenges and landmines
- Include cost objectives
- Include enhancements based on learner feedback
- Add features to user desktop

**Development Productivity**
- Improve content creation and development tools
- Dialogue authoring
- Artifact creation
- Event descriptions and triggering
- Make Open Source Ready
- Documentation
- Source control and defect tracking
- Port to open development environment

**Evaluate Learning Efficacy**
- User Feedback
- Solicit and analyze learner self-evaluations
- Outcomes and Learning Assessment
- Establish outcomes assessment plan
- Pilot with target learners
- Measure effects on student performance
- Evaluate effect on student learning

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