
Human-Systems Integration (HSI)

Issues in Standardization for Acquisition Reform

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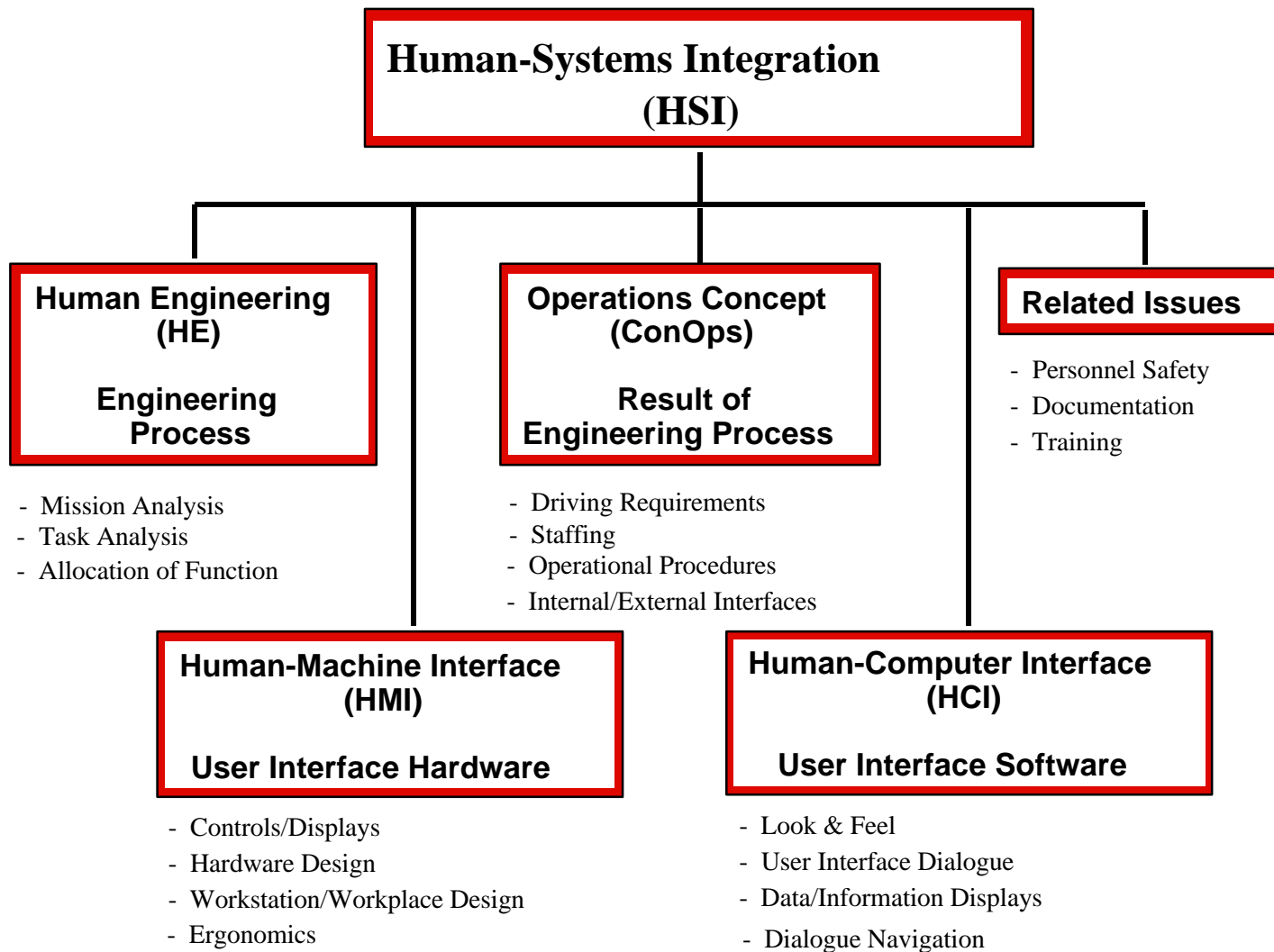
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Briefing Objectives

- ◆ Discuss Comprehensive HSI Consideration
 - Required For Effective Cost Reductions
 - Includes Human Performance
 - O&M Cost Reduction
 - ❖ Staffing
 - ❖ Skill Level
 - Operations And Mission Effectiveness
- ◆ Other Considerations
 - Development versus O&M Cost
 - Metrics

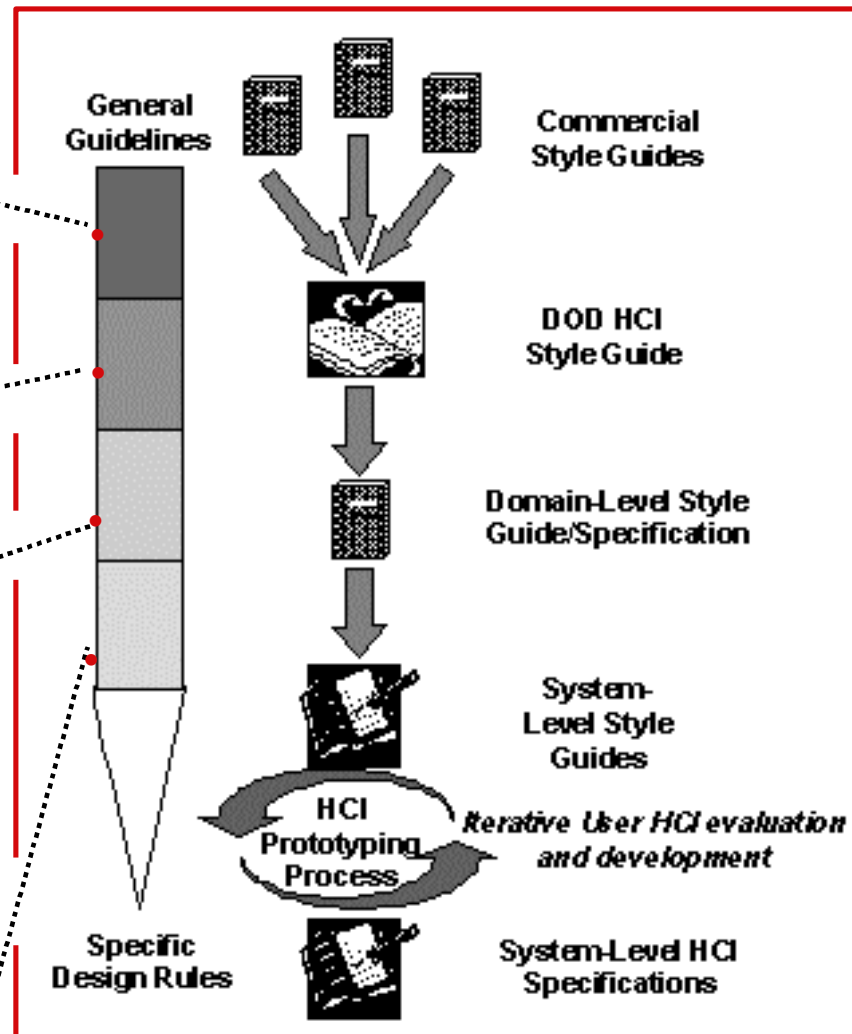
Human-Systems Integration (HSI) Components



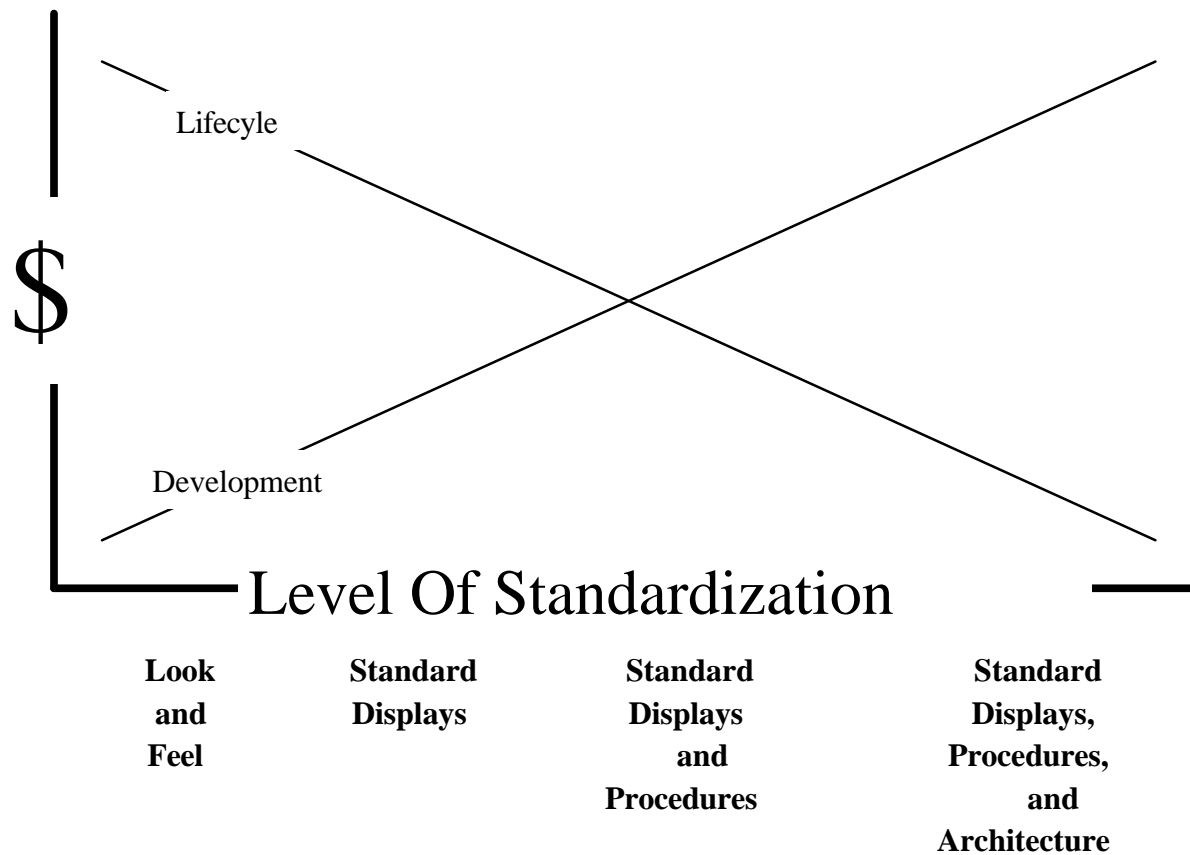
Human-Computer Interface (HCI) Analysis

◆ Levels of Standardization

- GUI Look & Feel
 - ❖ X-Windows/Motif
 - ❖ - or - Windows NT
 - ❖ - or - Win32
 - ❖ CDE
- GUI Style Guidance
 - ❖ TAFIM Volume 8
 - ❖ JTA HCI Style Guide
 - ❖ DII COE Style Guide
- Screen Design(s)
 - ❖ AIAA HCI Style Guide (BSR/AIAA R-023A-1995)
 - Covers satellite command and control only
 - No equivalent for range operations
- “Program-specific” Style Guide



Development Versus Lifecycle Cost



Measurable Criteria For HSI Standardization

- ◆ Fewer Personnel
- ◆ Reduced O&M Costs
- ◆ Reduced Training Time And Complexity
- ◆ Reduced Software Development And Maintenance
- ◆ Fewer Human Errors
- ◆ Greater Mission Availability And Product
- ◆ ...

Conclusions (1 of 2)

- ◆ HSI Often Is Not Sufficiently Specified
 - Acquisition Reform's Focus
 - ❖ Reduce the number of standards on contract
 - ❖ Use commercial Standards
 - Many HSI standards are only found in military standards
- ◆ Human Performance Usually Is Not Specified
 - Is Difficult To Specify And Measure
- ◆ HSI Standardization Is A Hot Topic
 - Efforts To Standardize Must Be Fully Supported
 - ❖ For Example: DoD - JTA and USAF - HMICCB

Conclusions (2 of 2)

- ◆ Efforts Required For HSI Standardization
 - Clearly Specify Standardization As System-Level Requirement
 - Fully Represent HSI Issues In Future Procurements
- ◆ Develop Measures Of Success
 - Such as:
 - ❖ Fewer Personnel
 - ❖ Reduced O&M Costs
 - ❖ Reduced Training Time And Complexity
 - ❖ Reduced Software Development And Maintenance
 - ❖ Fewer Human Errors
 - ❖ Greater Mission Availability And Product
 - Don't Guess - Measure The Measures!