

ShipConstructor

Software USA, Inc.



STDEP Phase II Extension Progress Report

ShipConstructor Software USA, Inc.

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Overview

- **STDEP II Extended Modules**
 - **Module Development Overview**
 - Functional vs. Developmental Specifications
 - Format & Uses
 - **Electrical Detail Design Specification**
 - Overview & Approach
 - Feedback
 - Methodology
 - **Weld Planning Specification**
 - Overview & Approach
 - Feedback
 - Methodology

Module Development Overview

- **Functional Specification**
 - Should be in clear, easily read language
 - Should convey the end-user experience, and what to expect
 - Should anticipate all aspects of user interface and functionality
- **Development Specification**
 - Should contain software specific language for implementation
 - Should clearly present methodology for reproducing user experience according to functional spec
 - Should be written for programmers to understand

Electrical Design Specification

- Overview and Approach
 - Query participating member users for input regarding workflow
 - How is the design process approached and executed
 - Which steps are required and in what order
 - What are common denominators in design phase
- Feedback
 - Kickoff meeting generated a wealth of pertinent information
 - Project correspondence through STDEP collaborative website

Electrical Design Specification

- Methodology
 - Approach Electrical Design in similar fashion to existing modules
 - Up-front project definition of key-traits and attributes
 - Manager for global information:
 - Cable Management
 - Cable Routing
 - Cable Hangars
 - Cable Wireways/Tray Management & Routing
 - Transits
 - Loading
 - Equipment Connections
 - Pin-outs

Electrical Design Specification (cont'd)

- Cable trays could be considered “smart” elements requiring pre-definition (bend radius, loading, allowable cable type).
- Similar user interface to existing pipe module (runs, penetrations, terminations, BOM)
- Cable catalog with attributes – possibly utilizing CPC and stock libraries
- Tray runs act as “super” cable, with variable tray loading and ordering pre-defined for various types of cables

Electrical Design Specification (cont'd)

- Drawing output requirements
 - Cable routing sequence – build strategy
 - Isometric views for cable routing
 - Interactive isometric drawing management for cable tray management
 - Pull list generation
 - Pull sequencing
 - Weight report
 - Length report
 - Drop report or designation (%add – estimate)

Weld Planning Specification

- Overview and Approach
 - Take advantage of current modules and workflow
 - Utilize features of DDROM
 - Similar manager to other modules
- Methodology
 - Possibly key off relationships between welded objects (stiffeners to plates, frames to decks, bulkheads, etc.)
 - Weld definition chosen at time of part creation by designer
 - Weld information/geometry stored as separate entity using DDROM

Weld Planning Specification (cont'd)

- Rules based design
- Weld edge prep assignments
- Automatic model checking for missing weld information
- Weld attributes (eg):
 - Length
 - CG
 - Size
 - Type
 - Process
- Utilize DDROM semi-parameterization for weld geometry

Weld Planning Specification (cont'd)

- Report Generation
 - Profile Summary Information
 - Consumables list
 - BOM
 - Weld list broken down by type/size in unit/assembly stage
 - Summary levels
 - Build strategy integration

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