

# Automated Project Work Order System



# Project Work Order System

## NSRP Subcontract 2005-366

Todd, Northrop, Bollinger, and ATI with NSRP

- looking at the work order document
- the whole process in creating and/or modifying it
- and a framework to rapidly deploy solutions

## The Big Picture in the Shipyard

- Good
  - Quick templates for ITP's, CFR's, etc. to capture electronically and prototype
- Better
  - Work Orders, capture/display structured data
- Best
  - Activity guidance with interaction based on status and work accomplished

## Design Objectives

- Establish common terms on the work order where possible
- Develop work order templates for the membership
- Prototype an automated work order front end to a commercial database. Note: We chose to use SQLServer and .NET framework
- Test using LAN-based PC and wireless Tablet PC

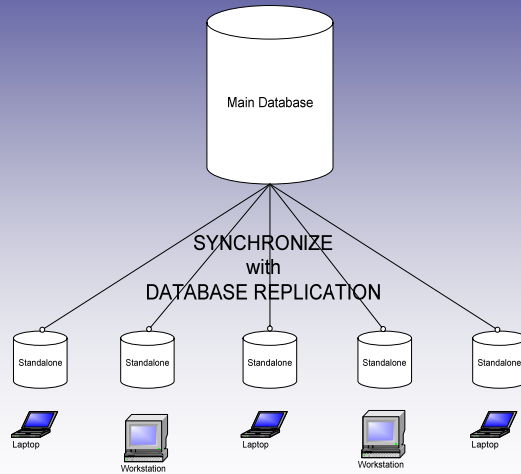
## Design Features

- Automatic Version Update
- Database Synchronization/Replication
- Editable Dynamic Content
- Integrated Security Access

## Software Environment & Tools

- SQL2000 database software and the .NET framework
- Greatis.com Designer for the rapid development environment
- Infragistics.com UltraGrid used by the designer program

# System Diagram



# User Account Setup

The screenshot shows a "Users" dialog box with the following fields and options:

- Current Users:** A list box containing Admin, CMarletti, DLongley (selected), JHuisinga, MTaylor, SAmdt, and SPeterson.
- First Name:** David
- Last Name:** Longley
- User Name:** DLongley
- Password:** A text field with six asterisks (\*\*\*\*\*).
- Access Level:** A dropdown menu set to 9.
- Can Approve:** A checked checkbox.
- Signature:** A text area containing the handwritten signature "David Longley".

At the bottom of the dialog are four buttons: Add, Remove, Save, and Cancel.

# Logon Dialog

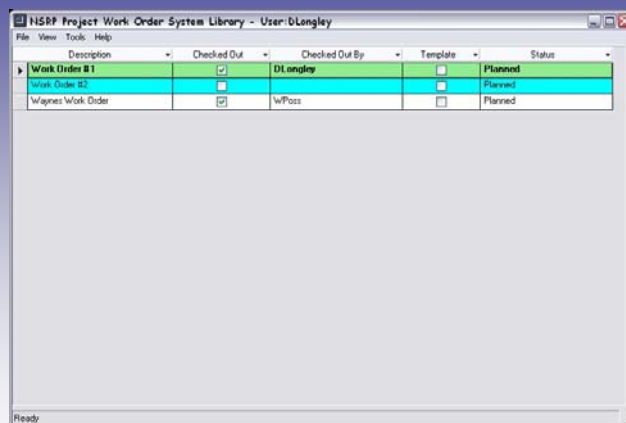
Logon for access.

Access levels by user:  
allows differing levels  
of functionality and  
control



A screenshot of a 'Logon' dialog box. It has a title bar with a small icon and a close button. Below the title bar are two text input fields: 'User Name' and 'Password'. At the bottom of the dialog are two buttons: 'OK' and 'Cancel'.

# Work Order Library

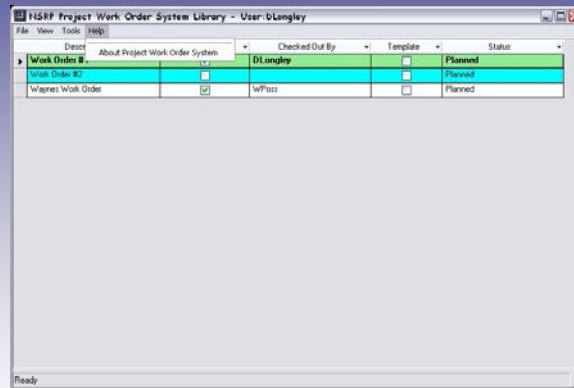


A screenshot of a 'Project Work Order System Library' window. The window title is 'HISB Project Work Order System Library - User:DLongley'. It features a menu bar with 'File', 'View', 'Tools', and 'Help'. Below the menu bar is a table with columns: 'Description', 'Checked Out', 'Checked Out By', 'Template', and 'Status'. The table contains three rows of data. The first row is highlighted in green and has a right-pointing arrow in the first column. The second row is highlighted in cyan. The third row is white. Below the table is a large empty area. At the bottom left of the window, the status bar says 'Ready'.

Description	Checked Out	Checked Out By	Template	Status
Work Order 81	<input checked="" type="checkbox"/>	DLongley	<input type="checkbox"/>	Planned
Work Order 82	<input type="checkbox"/>	WPass	<input type="checkbox"/>	Planned
Waynes Work Order	<input checked="" type="checkbox"/>	WPass	<input type="checkbox"/>	Planned

The library is the starting point for creating or modifying work orders or templates.

# Library Menu System



FILE VIEW TOOLS HELP

# Basic Work Order

## Two Sections:

fixed header >  
common data

user-defined >  
interactive info  
display



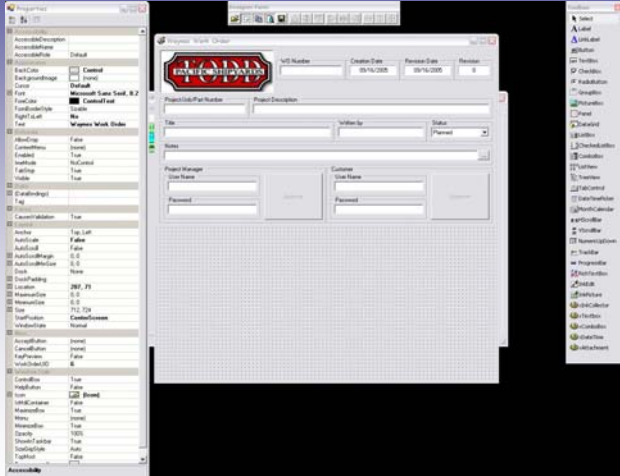
# Template Design Mode



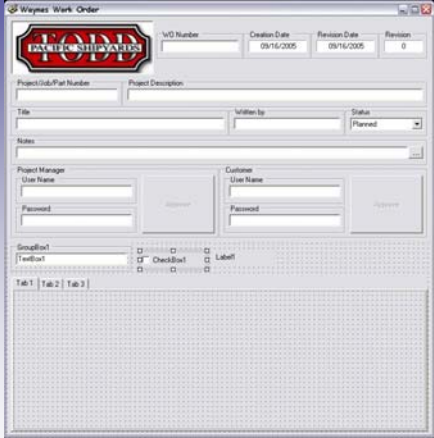
# Design Tools



# Design Mode



# Template With New Elements



Controls and data are in the database as XML

# Work Order Approval Process

Waynes Work Order

**TODD**  
EXCELLENCE IN SERVICE

WO Number: \_\_\_\_\_ Creation Date: 08/16/2005 Revision Date: 08/16/2005 Revision: 1

Project/Job/Pat Number: \_\_\_\_\_ Project Description: \_\_\_\_\_

Title: \_\_\_\_\_ Written by: \_\_\_\_\_ Status: [Planned]

Notes: \_\_\_\_\_

Project Manager: *Therik Longley*

Customs: User Name: \_\_\_\_\_ Password: \_\_\_\_\_ [Login]

SnapBox: \_\_\_\_\_ TreeBox: \_\_\_\_\_ [Check Box] Label: \_\_\_\_\_

Tab 1 | Tab 2 | Tab 3

## The Big Picture at Todd

- Good
  - Quick templates to capture ITP's, CFR's, etc.
- Better
  - Work Orders, capture/display structured data
- Best
  - Think outside the box - guide activity with interaction based on status and progress

## Conclusion

- Objectives Realized
  - Common Definitions and Interfaces
  - Structured Enterprise data access
  - Flexible implementation
  - COTS

Questions? Comments?