

The NaviGate Dispatch Module

SOFTWARE PRODUCT DESCRIPTION

The screenshot displays the NaviGate Dispatch Module interface within a Microsoft Internet Explorer browser window. The browser title is "LVVWD Facility View - Microsoft Internet Explorer". The address bar shows "USA AVL Dispatch". The main interface is divided into two main sections: a data table on the left and a map on the right.

Dispatch - 2004-06-21

Em...	Name	Xfer	Status	Sch Dur	Sch...	Asgn Dur	As...	Cpl Dur	Cpl #
5135	TAYLOR, JEROME			0:00	0	0:00	0	6:59	9
6752	NEWMAN, WILLIAM	07:57		0:00	0	0:00	0	4:02	18
5602	ALEXSON, LORI	08:30		0:20	1	0:00	0	2:44	21
6147	YOUNG, DON	08:30		2:20	7	0:00	0	1:19	8
6765	SCHWARTZ, JER...	08:07		0:00	0	0:00	0	4:44	7
4452	ORME, PHILLIP			0:00	0	0:00	0	4:30	5
5961	MILLS, PHILIP	08:27		0:40	2	0:00	0	3:07	5
5622	GOOD, RICHARD	08:34		0:35	7	0:00	0	0:00	19
4234	ANDERSON, DAVIS	08:38		2:10	7	0:00	0	0:03	7
6749	LYNN, SCOTT	08:20		0:00	0	0:00	0	1:36	17

Map: Dispatch

The map on the right shows a city grid with various colored areas (yellow, orange, green, blue, pink) and numerous colored diamond markers (blue, red, green, purple) representing dispatch locations. The map is titled "Map: Dispatch" and has a search bar labeled "Search: Address".

At the bottom of the interface, there are two tables. The top table has columns: Nr, Type, Status, Sch Ti..., Req Start, Req End, Pri, Dur, Inspector, and Lc. The bottom table has columns: Nr, Type, Status, Sch Ti..., Req Start, Req End, Pri, Dur, Inspector, and Lc.

5 inspections selected

NaviGate: Delivering Spatial Data to the People Who Need It

Gatekeeper Systems



Applications and Systems for the Internet

1010 East Union Street
Suite 205
Pasadena, CA 91106-1756

Phone: +1 626 449 8135
Fax: +1 626 440 1742

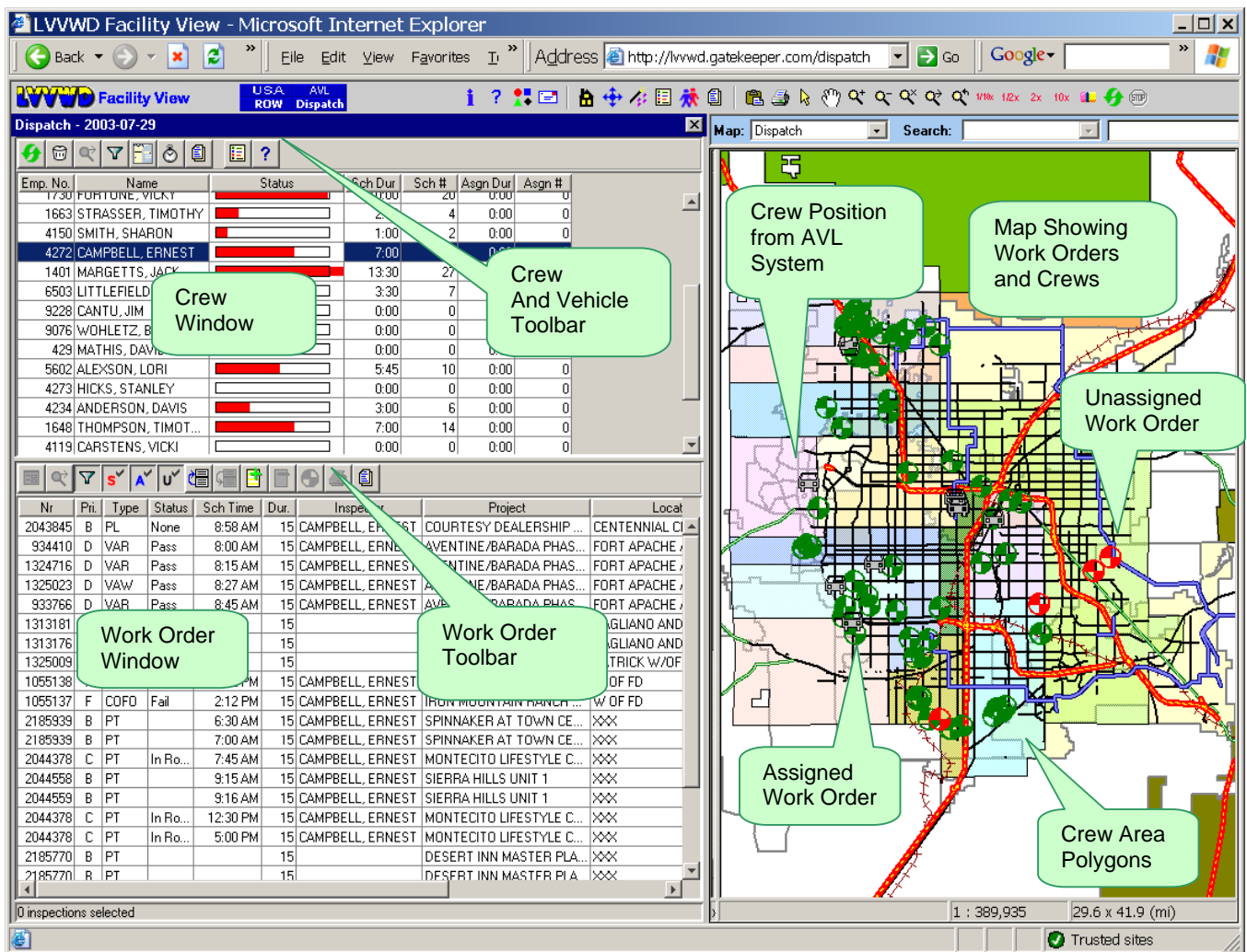
E-Mail: info@gatekeeper.com
URL: <http://www.gatekeeper.com/>

The NaviGate Dispatch Module

General Dispatch Module Functions and Windows

The NaviGate Dispatch Module provides a flexible but simple interface for viewing and managing the workload of field personnel. The Module focuses on two lists: the list of field personnel currently available and the list of work orders for a single day. Both lists are managed together, and also viewed in a map user interface.

The following figure shows the basic layout of the NaviGate Dispatch Module.



Overall Mobile Work Orders Dispatch Window Layout and Functions

- The map works like the rest of NaviGate and displays both work order icons and crew (vehicle) icons
- Crew Window lists all currently available crews

- Toolbar specific to the Crew Window
- Work Order Window lists all work orders scheduled for today
- Toolbar specific to the Work Order Window
- The objects in the three windows are linked. Selecting a crew or work order icon in the map will also select that object in the list. Selecting a crew will allow you to filter the Work Orders Window to match that crew.
- The position of a crew is obtained from the position of the vehicle assigned to the crew. The NaviGate AVL Module provides vehicle position information.
- Work orders are automatically assigned to a crew when the work order is created. A Dispatch Daemon operates as a Windows 2000 Service to assign the crew based on a variety of criteria, including a spatial area of responsibility for each work order.

Work Order Detail Window

The Work Order Detail Window displays pertinent information about a single work order. Some of the data about the work order can also be changed in this window.

The screenshot shows a window titled "Inspection Detail" with a toolbar at the top containing navigation and utility icons. The main area contains several input fields and dropdown menus:

- Insp. Nr.: next 5
- Status: None
- Priority: B
- Type: PROJECT INSPECTION
- Time is Firm:
- Sch. Date: Jul 29, 2003
- Sch. Time: 9:30 am
- Duration: 0:20
- Req. Date: (empty)
- Req. Start: (empty)
- Req. End: (empty)
- Inspector: ORME, PHILLIP
- Location: DECATUR AND ELKHORN, NW
- Project: 75155 - SAVANNAH FALLS
- BackOffice: JOB START
- Inspector: COMPLETED THE JOB START REVIEW WITH REP AND VERIFIED STAKING ON THE TRENCH FOR THE FIRE HYDRANT ON SEVERANCE. WHEN I BROUGHT UP THE LOCATION OF SERVICES BEING OUT OF THE DRIVEWAY, REP WAS CONCERNED WITH THE DRAWINGS. IT APPEARS THAT SOME SERVICES ARE INTENDED TO BE IN THE DRIVEWAY. I SUGGESTED THAT HE DISCUSS THIS WITH THE DEVELOPER TO VERIFY THE HOUSE DESIGNS ARE

Work Order Detail Window Behavior

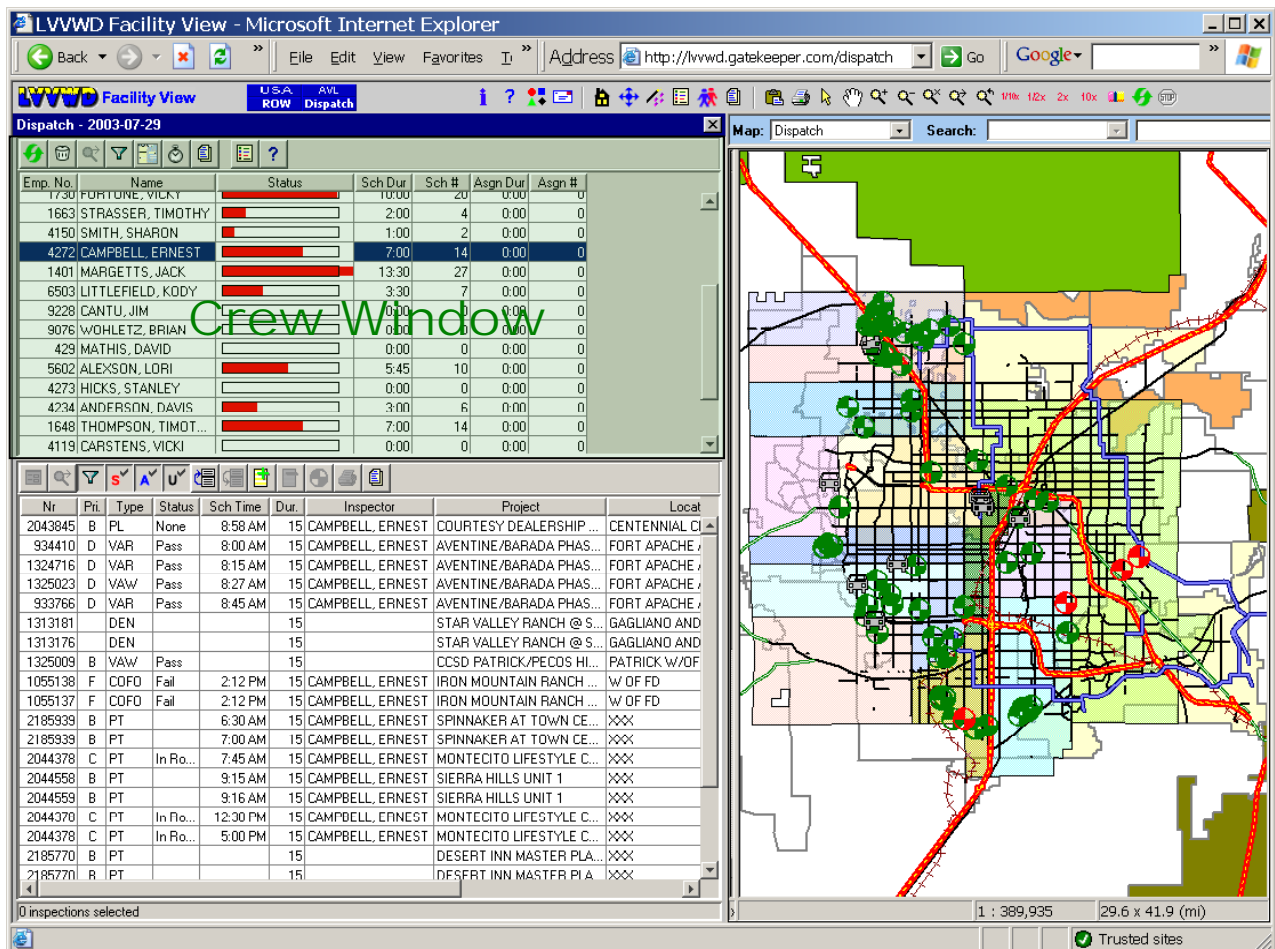
- Displays the details of a selected work order.
- Allows changes to some elements of a work order, including:
 - Scheduled Time
 - Duration
 - Firm Time Flag
 - Priority
 - Comments
- Buttons provide:
 - Save changes
 - Reset (discard changes)
 - Zoom to this work order in the map
 - Print Reports

- Detail
- Access to transaction history in underlying work management system.

Work Order Detail Window Use Cases

- Select a work order in the map. The Work Order Detail Window displays the details about that work order.
- Select a work order in the Work Order Window. The Work Order Detail Window displays the details about that work order.
- Select a work order. Change the work order comments. Press Apply to save the comments to the database.
- Select a work order. Change the work order duration. Press Apply to save the new duration to the database.
- Select a work order. Change the starting time. Cancel from the change by closing the window.

Crews Window



Behavior for Crew Window

- Selected crew(s) in list are highlighted in map. Crew(s) selected on map are highlighted in list.
- List shows all crews who are marked in the work order system as being “available” today
- Crew list columns:

- Crew name (usually crew lead, or individual)
- Status (on-site, en route, unavailable, etc.)
- Last heard from (last synch)
- Scheduled Load (time and count)
- Assigned Load (time and count)
- List of crews can be used to filtered to a selected list, much like in NaviGate AVL Module.
- If one or more crews are highlighted, a Show Work Orders toolbar button provides a way to highlight just that crews work orders. You could accomplish something similar just by sorting the work orders list by crew.
- List is sortable by clicking on the column heading
- Crew toolbar functions:
 - Zoom to crew on the map
 - Print
 - Filter
 - Details
 - Show Work orders (highlight this crew’s work orders in the Work Orders Window)
 - Adjust (adjust work orders between multiple crews by opening the Adjust Work Orders Window)
 - Refresh
- Print various crew activity reports:
 - Current day activity
 - Current day activity summary
- To open the Adjust Work Orders Window for a single crew, click on a single crew and then click on the Adjust Button on the toolbar.

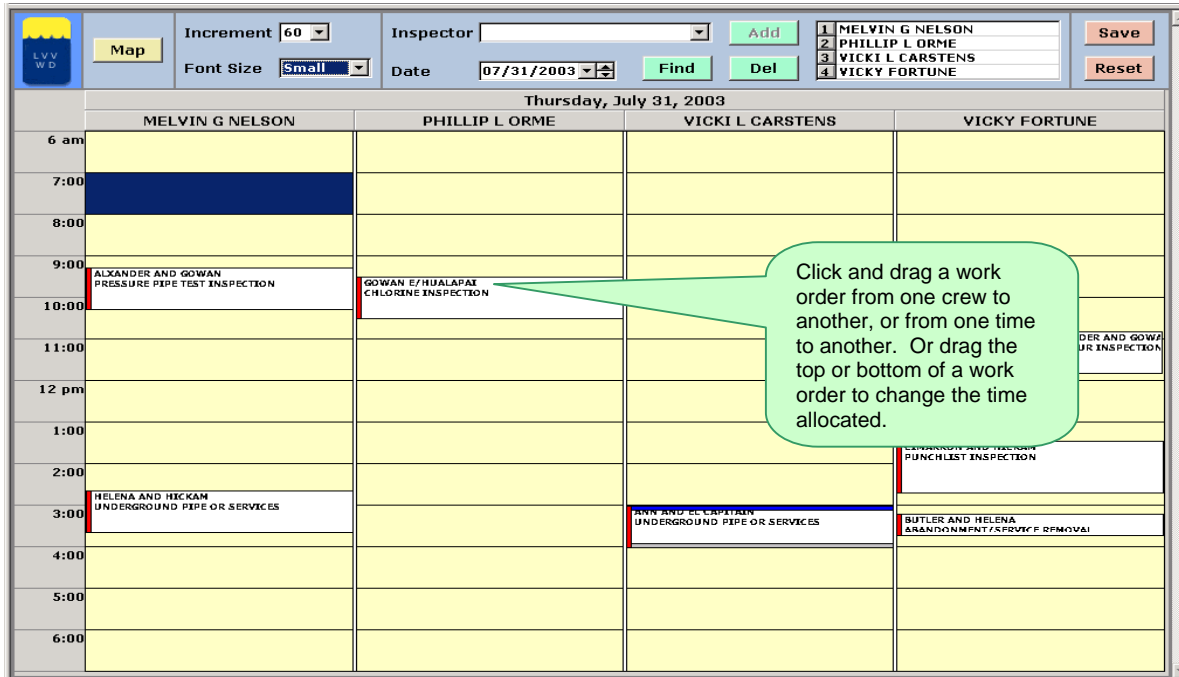
The screenshot displays the NaviGate Dispatch Module interface. On the left, a vertical timeline shows a crew schedule for MELVIN G NELSON on Thursday, July 31, 2003. The timeline is divided into 30-minute slots from 6:00 am to 6:30 pm. A work order for HELENA AND HICKAM, UNDERGROUND PIPE OR SERVICES, is highlighted in the 2:30 pm slot. A green callout bubble points to this work order with the text: "Click and drag a work order from one time slot to another. Or drag the top or bottom of a work order to change the time allocated." The right side of the interface shows the Inspector MELVIN G NELSON, Date 07/31/2003, and a Find button. Below this is a Schedule Summary table showing inspections for All, Time, Hard, Soft, and Time categories. Further down is an Inspection Types Summary table with columns for Inspection Type and Count. At the bottom right is an Inspection Details form with fields for Time (2:39 PM), Minutes (60), Sch. Type (Hard), Location (HELENA AND HICKAM), Project (HELENA ESTATES), Ins. Type (UNDERGROUND PIPE OR SERVICES), and Comments (Witnessed copper service lateral installations). Buttons for Apply, Reset, and Map are also visible.

Inspections					
All	Time	Hard	Time	Soft	Time
0:15	1	0:15	0	0:00	
1:00	1	1:00	0	0:00	
1:15	2	1:15	0	0:00	

Inspection Type	Count
UNDERGROUND PIPE TEST INSPECTI...	1
UNDERGROUND PIPE OR SERVI...	1

Time	2:39 PM	Minutes	60	Sch. Type	Hard
Location	HELENA AND HICKAM				
Project	HELENA ESTATES				
Ins. Type	UNDERGROUND PIPE OR SERVICES				
Comments	Witnessed copper service lateral installations c				

- To open the Adjust Work Orders Window for multiple crews, click on multiple crews and then click on the Adjust toolbar button:



Crew Window Use Cases

- Click on a crew. Click “Select Work orders” to select that crew’s work orders in the Work Orders Window.
- Click on a crew. Click on a work order not belonging to this crew. Click on the “Assign to This Crew Button” to move this work order to the selected work order.
- Click on a crew. Click the Zoom button to display this crew’s current location on the map.
- Click on one crew. Click on the Adjust Button. The Adjust Crews Window opens with the calendar for this one crew.
- Click on three crews. Click on the Adjust Button. The Adjust Work Orders Window opens with the three crews shown in separate columns.
- Click on the Status column to sort by crew status. Scroll to display the crews that are In Route. Select them with click-shift-click. The crew icons are highlighted in the map. Click the Zoom button to zoom to the extent of those selected crews.
- In the map, drag a box around a group of crews to select them in the Crew Window. Click the Filter Button to filter the list to just those selected crews. Click the Select Work orders Button to select just those crews’ work orders. Click Work Order Summary Button to display a summary of those selected work orders.
- Click on a crew. Click on Reports then select the Work Order Summary Report this crew. Print the report.

Work Order Window

The screenshot shows the 'LVVWD Facility View' application running in Microsoft Internet Explorer. The browser address bar shows 'http://lvvwd.gatekeeper.com/dispatch'. The application interface includes a navigation bar with 'U.S.A. ROW Dispatch' and a search bar. The main content area is divided into two sections:

Employee Assignments Table:

Emp. No.	Name	Status	Sch Dur	Sch #	Asgn Dur	Asgn #
1730	FORTUNE, VICKY		10:00	20	0:00	0
1663	STRASSER, TIMOTHY		2:00	4	0:00	0
4150	SMITH, SHARON		1:00	2	0:00	0
4272	CAMPBELL, ERNEST		7:00	14	0:00	0
1401	MARGETTS, JACK		13:30	27	0:00	0
6503	LITTLEFIELD, KODY		3:30	7	0:00	0
9228	CANTU, JIM		0:00	0	0:00	0
9076	WOHLETZ, BRIAN		0:00	0	0:00	0
429	MATHIS, DAVID		0:00	0	0:00	0
5602	ALEXSON, LORI		5:45	10	0:00	0
4273	HICKS, STANLEY		0:00	0	0:00	0
4234	ANDERSON, DAVIS		3:00	6	0:00	0
1648	THOMPSON, TIMOT...		7:00	14	0:00	0
4119	CARSTENS, VICKI		0:00	0	0:00	0

Work Order List Table:

Nr	Pri	Type	Status	Sch Time	Dur	Inspector	Project	Locat
2043845	B	PL	None	8:58 AM	15	CAMPBELL, ERNEST	COURTESY DEALERSHIP ...	CENTENNIAL CI
934410	D	VAR	Pass	8:00 AM	15	CAMPBELL, ERNEST	AVENTINE/BARADA PHAS...	FORT APACHE /
1324716	D	VAR	Pass	8:15 AM	15	CAMPBELL, ERNEST	AVENTINE/BARADA PHAS...	FORT APACHE /
1325023	D	VAV	Pass	8:27 AM	15	CAMPBELL, ERNEST	AVENTINE/BARADA PHAS...	FORT APACHE /
933766	D	VAR	Pass	8:45 AM	15	CAMPBELL, ERNEST	AVENTINE/BARADA PHAS...	FORT APACHE /
1313181		DEN			15		STAR VALLEY RANCH @ S...	GAGLIANO AND
1313176		DEN			15		STAR VALLEY RANCH @ S...	GAGLIANO AND
1325009	B	VAV	Pass		15		CCSD PATRICK/PECOS HI...	PATRICK W/OF
1055138	F	SOPD	Fail	2:12 PM	15	CAMPBELL, ERNEST	IRON MOUNTAIN RANCH ...	W OF FD
1055137	F	SOPD	Fail	2:12 PM	15	CAMPBELL, ERNEST	IRON MOUNTAIN RANCH ...	W OF FD
2185939	B	PT		6:30 AM	15	CAMPBELL, ERNEST	SPINNAKER AT TOWN CE...	XXX
2185939	B	PT		7:00 AM	15	CAMPBELL, ERNEST	SPINNAKER AT TOWN CE...	XXX
2044378	C	PT	In Ro...	7:45 AM	15	CAMPBELL, ERNEST	MONTECITO LIFESTYLE C...	XXX
2044568	B	PT		9:15 AM	15	CAMPBELL, ERNEST	SIERRA HILLS UNIT 1	XXX
2044559	B	PT		9:16 AM	15	CAMPBELL, ERNEST	SIERRA HILLS UNIT 1	XXX
2044370	C	PT	In Ro...	12:30 PM	15	CAMPBELL, ERNEST	MONTECITO LIFESTYLE C...	XXX
2044378	C	PT	In Ro...	5:00 PM	15	CAMPBELL, ERNEST	MONTECITO LIFESTYLE C...	XXX
2185770	B	PT			15		DESERT INN MASTER PLA...	XXX
2185770	R	PT			15		DESERT INN MASTER PI A	XXX

The map on the right shows a city grid with various colored areas (green, yellow, orange, blue) and a red line indicating a route or boundary. A scale bar at the bottom right indicates a scale of 1:389,935 and a distance of 29.6 x 41.9 (mi). The status bar at the bottom shows '0 inspections selected' and 'Trusted sites'.

Behavior for Work Order Window

- Selected work order(s) in list are highlighted in map. Work order(s) selected on map are highlighted in list.
- List shows all work orders scheduled for today and work not yet scheduled.
- Click on an inspector, then click on the Auto-Schedule button to automatically generate a proposed schedule for all of the work assigned to that inspector.
- Work order list columns (not all shown above):
 - Work Order Scheduled Time
 - Assigned Crew (if any)
 - Work order Type
 - Work order Location (text string)
 - Status (on-site, en route, completed, open, etc.)
 - Project
- To move a work order from one crew to another, select the new crew in the Crew Window, select the work order to move in the Work Order Window, and Click the Add to Crew [+] button to add the work order to the crew's list.
- List of crews can be filtered, much like in the NaviGate AVL Module.
- List is sortable by clicking on the column heading
- Double-click a work order to open the work order's detail window

- Work order toolbar functions:
 - Zoom to work order on the map
 - Print
 - Filter (by type)
 - Open Work Order Details
 - Open this crew's schedule for today
- Print various Work Order Reports:
 - Current day activity for selected work orders or all work orders
 - Current day activity summary for selected work orders or all work orders
- Double-click on a work order to open the Work Order Detail Window
 - View details about a work order
 - Change data in the Detail Window and save to the database.

The screenshot shows a window titled "Inspection Detail" with a toolbar at the top containing navigation and action icons. The main area contains several input fields and dropdown menus:

- Insp. Nr.: next 35
- Status: None
- Priority: B
- Type: PROJECT INSPECTION
- Time is Firm:
- Sch. Date: Jul 29, 2003
- Sch. Time: 9:30 am
- Duration: 0:20
- Req. Date: (empty)
- Req. Start: (empty)
- Req. End: (empty)
- Inspector: ORME, PHILLIP
- Location: DECATUR AND ELKHORN, NAW
- Project: 75155 - SAVANNAH FALLS
- BackOffice: JOB START
- Inspector: COMPLETED THE JOB START REVIEW WITH REP AND VERIFIED STAKING ON THE TRENCH FOR THE FIRE HYDRANT ON SEVERANCE. WHEN I BROUGHT UP THE LOCATION OF SERVICES BEING OUT OF THE DRIVEWAY, REP WAS CONCERNED WITH THE DRAWINGS. IT APPEARS THAT SOME SERVICES ARE INTENDED TO BE IN THE DRIVEWAY. I SUGGESTED THAT HE DISCUSS THIS WITH THE DEVELOPER TO VERIFY THE HOUSE DESIGNS ARE

Work Order Window Use Cases

- Click on a work order in the Work Order Window. The work order highlights in the map.
- Click on a work order in the map. The work order is selected in the Work Order Window.
- Click on the Scheduled Time column heading to sort work orders in order of scheduled time.
- Click on the Work Order Type column heading to sort work orders in order of Work Order Type.
- Click on the Crew column heading to sort work orders in order of crew's name.
- Click on a work order in the Work Order Window. Click on Details Button to display a popup window with work order details. Change some attributes of the work order in the Details Window.
- Select several work orders in the Work Order Window. Click on the Summary Button to display the Work order Summary Window.
- Select a work order. Click on "Zoom to Work order on Map" to display that work order location on the map.

- Select a work order. Click on “Select this Crew” to select this work order’s crew in the Crew Window. Click on Summary in the Crew Window to get a summary of all this crew’s work orders.
- Select a work order. Click on Report, and select a Detail Report for this work order.
- Select a work order. Click on Report and select a Summary Report for this work order.
- Select a work order. Click on Report and select a Project Report for the project that this work order is part of.
- Click on Filter. Limit the work orders shown to certain types.
- Click on a crew. Click on a work order not belonging to this crew. Click on the “Move to This Crew Button” to move this work order to the selected crew.

Work Schedule Adjustment Windows

The Schedule Adjustment Windows are web-based applications available to all crews and dispatchers. These windows may be opened from a URL on the web via a work order Schedule Gateway page, and may also be opened from the Dispatch Module.

Work Schedule Gateway Page

The Schedule Gateway Page provides an easy way to launch the other web-based interfaces for modifying schedules.

Inspection Schedule Gateway	
Increment: 30	Inspector: WICKY FORTUNE
Font Size: Medium	Date: 07/31/2003
<input type="checkbox"/> Open schedule in a new window	
<div style="display: flex; justify-content: space-around;"> Single Day Multi Day Multi Inspector </div>	

Schedule Gateway Page Behavior

- Choose several settings before launching a Work Order Adjustment Window.
 - Time increment
 - Font size
 - Starting date
 - Single crew for the single day and multi-day Work order Adjustment Window
 - Multiple crews for the multi-crew Work order Adjustment Window
 - Check box to cause each new Adjustment Window to open in a different window. If the checkbox is unchecked, you will open a single window of each type (single day, multi-day, and multi-crew).

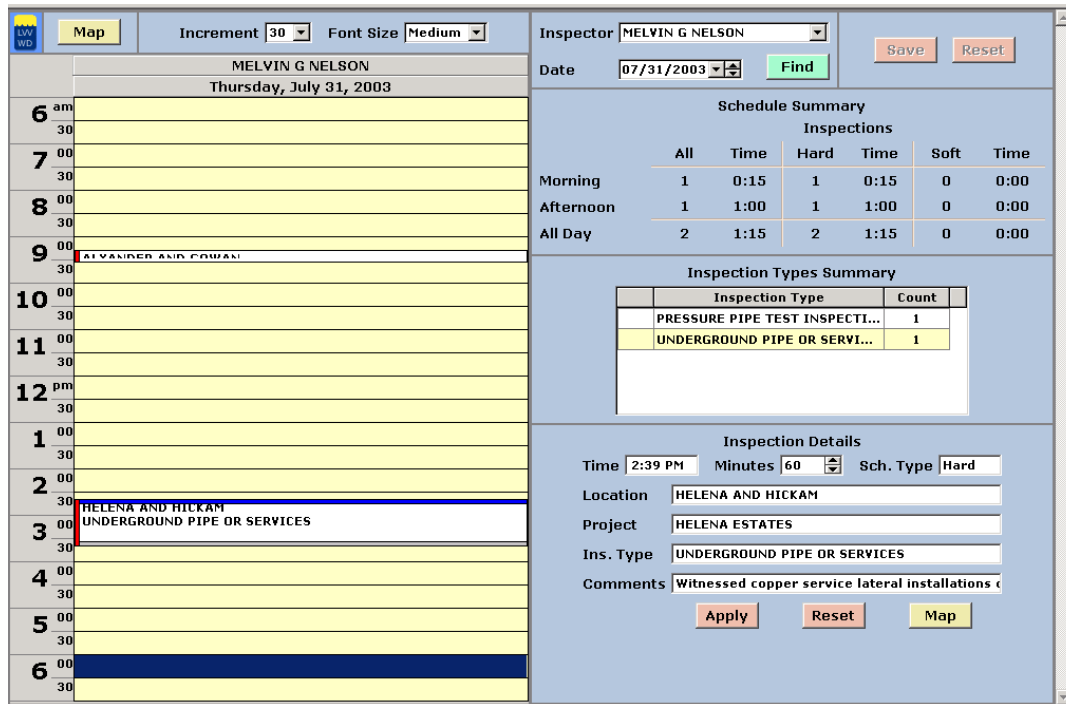
Schedule Gateway Page Use Cases

- Select a time increment, font size, starting date, and crew. Click the Single Day button to view that crew’s schedule for that day.
- Click the Multi Day Button to view that crew’s schedule for the selected day and the five subsequent days.
- Click Add to add that crew the Multi Crew list. Select three other crews from the Crew dropdown, clicking Add after each. Click Multi-Crew to see the work orders of all four crews for the date given.

- Click Delete to remove a crew from the Multi Crew List. Select a different crew and click Add. Click Open Schedule in New Window checkbox. Click Multi Crew to view the new group of crews in a separate window.

Crew Schedule Adjustment Window

The Crew Schedule Adjustment Window is available either as a web page or as a window launched from the Dispatch Module. The window allows visually adjusting the schedule for work orders for a single crew for a single day. It also provides a way to make basic changes to a single work order.



Crew Schedule Adjustment Window Behavior

- Window elements
 - Single-day calendar
 - Schedule summary
 - Work order Types summary
 - Work order details for a single work order
- Click-and-drag to adjust the scheduled start and end times for a work order
- Add work order comments
- View a summary of the day’s work orders, summarized by type
- View a summary of the day’s work orders, summarized by AM/PM and Firm Time Flag (Hard/Soft Time).

Crew Schedule Adjustment Window Use Cases

- Select a work order in the calendar. The work order details are displayed in the Work order Details window. Change the work order duration in the Work order Details window. Click Apply to save the new information to the database.
- Hover the mouse over a work order to view more information about it.

- Click-and-drag to move a work order to a different starting time. If the work order starting time moves across the AM/PM boundary (noon), the Schedule Summary on the right will change.
- Click-and-drag the beginning time or ending time of the work order to change the work order duration.

Multi-Crew Schedule Adjustment Window

The Multi-Crew Schedule Adjustment Window may be used to move work orders between crews and to simultaneously adjust the work order start times and durations.

The screenshot displays a software interface for scheduling work orders. At the top, there are controls for 'Increment' (set to 60), 'Inspector', 'Date' (07/31/2003), 'Font Size' (Small), and buttons for 'Add', 'Find', 'Del', 'Save', and 'Reset'. A crew list on the right includes MELVIN G NELSON, PHILLIP L ORME, VICKI L CARSTENS, and VICKY FORTUNE. The main area is a calendar grid for Thursday, July 31, 2003, with columns for each crew. Work orders are shown as colored blocks: 'ALEXANDER AND GOWAN PRESSURE PIPE TEST INSPECTION' (9:00-10:00 AM, assigned to MELVIN G NELSON and PHILLIP L ORME), 'HELENA AND HICKAM UNDERGROUND PIPE OR SERVICES' (3:00-4:00 PM, assigned to MELVIN G NELSON and VICKY FORTUNE), and 'BUTLER AND HELENA ABANDONMENT/SERVICE REMOVAL' (4:00-5:00 PM, assigned to VICKY FORTUNE). A callout box states: 'Click and drag a work order from one crew to another, or from one time to another. Or drag the top or bottom of a work order to change the time allocated.'

Multi-Crew Schedule Adjustment Windows Behavior

- Choose a date from the calendar control.
- Choose one or more crews by selecting a crew from the Crew Dropdown list and then clicking Add to add the crew to the list shown in the calendar.
- Select a crew from the Crew List and click Delete to remove the crew from the calendar.
- Hover the cursor over a work order to view a pop-up window with work order details.
- Click-and-drag to move a work order from one crew to another, or to a different time slot.
- Click-and-drag the starting or ending time to change the duration of a work order.
- Change the time increment shown (the visible borders in the calendar) by selecting a time increment in the range of five to sixty minutes.
- Adjust the size of the font used to display the schedule entries to improve the window format for your particular computer monitor and use.

Multi-Crew Schedule Adjustment Window Use Cases

- Select four crews from the Crew Dropdown and add them to the Crews List. Click Find to refresh the display.
- Adjust the date to view the work orders for the same four crews, but a different date. Click Find to refresh the display.

- Change the font size and time increment to make the display more suitable for your particular purpose.
- Click and drag a work order from one crew to another.
- Drag the ending time of a work order to change the duration.
- Click and drag a work order from one time to another to make room for more work orders.

Multi-Day Schedule Adjustment Window

The Multi-Day Schedule Adjustment Window may be used to move work orders from one day to another and to simultaneously adjust the work order start times and durations.

VICKY FORTUNE					
	Thu, Jul 31, 2003	Fri, Aug 1, 2003	Sat, Aug 2, 2003	Sun, Aug 3, 2003	Mon, Aug 4, 2003
6 am					
7 30					
8 00					
8 30					
9 00					
9 30					
10 00					
10 30					
11 00			ALEXANDER AND GOWAN PRE-POUR INSPECTION		
11 30					
12 pm	CRAIG AND TENAYA CERTIFICATE OF OCCUPANCY				
12 30		CIMARRON AND HICKAM PUNCHLIST INSPECTION			
1 00					
1 30					
2 00					
2 30					
3 00	BUTLER AND HELENA				
3 30					
4 00					
4 30					
5 00					
5 30					
6 00					
6 30					

Multi-Day Schedule Adjustment Windows Behavior

- Choose a starting date from the calendar control.
- Choose a crew's schedule to be displayed by selecting a crew from the Crew Dropdown list.
- Hover the cursor over a work order to view a pop-up window with work order details.
- Click-and-drag to move a work order from one day to another, or to a different time slot in the same day.
- Click-and-drag the starting or ending time to change the duration of a work order.
- Change the time increment shown (the visible borders in the calendar) by selecting a time increment in the range of five to sixty minutes.
- Adjust the size of the font used to display the schedule entries to improve the window format for your particular computer monitor and use.

Multi-Day Schedule Adjustment Window Use Cases

- Select a crew and a starting date. View the next five days of work.
- Change the crew to view another crew's work for the same five days.

- Change the font size and time increment to make the display more suitable for your particular purpose.
- Click and drag a work order from one day to another.
- Drag the ending time of a work order to change the duration.
- Click and drag a work order from one time to another to make room for more work orders.

Dispatch Assignment Daemon

The Dispatch Assignment Daemon automatically assigns crews to new work order records, based on information in the Dispatch Database. If a default crew is defined for a project, that crew will be assigned. If a default crew is not defined for a project, a table of spatial areas will be checked to find the default crew for that spatial area, and the crew found will be assigned.

Dispatch Daemon Functions

- Operates as a Windows 2000 Service
- Uses project location attributes stored in the enterprise database
 - Spatial boundaries for work order area form a default boundary for each crew.
 - Each project is assigned a Project Location (outside of the Dispatch Module).
 - A project may also be assigned a default crew
 - Tables of scheduled availability times for crews.
- Scans for new work orders without an assigned crew and assigns them to the default crew based on the information in the database.
 - First check for the default crew for the project. If that crew is scheduled to be available for the scheduled time stated in the work order record, assign that crew to the work order.
 - If no default crew is available, use the spatial information for the project to assign the project to a crew. If the spatial location of a work order is covered by a crew and that crew is available at the scheduled time stated in the work order record, assign that crew to the work order.
 - If the location can not be assigned to a crew who is available at the scheduled work order time, the crew assigned is left null and must be manually assigned.

Crew Calendar Management

The Calendar Management function allows users to maintain a database of availability about individual crews.

Behavior of Crew Calendar Management Window

- Implemented as a password-protected web page
- Edit the default work days and default work hours for a crew
- Assign specific days off
- Assign specific time off
- Assignments may be made by:
 - Crews for themselves. (The log-on username must match the username column of the Employee table.)
 - Defined “administrators” (dispatchers) for anyone

Use Cases for Crew Calendar Management Window

- A crew may connect to the Calendar Management web page. Click on a day in the calendar to make change your availability for that day.
- A dispatcher can select multiple crews and make them all unavailable for a particular date.

- A crew is out of service because one crew member goes home sick. A dispatcher makes the crew unavailable for the remainder of the day and for the next day. The dispatcher can then move the current day's work orders from the disabled crew to other crews, using the functions previously described.
- A crew has a doctor's appointment on Friday at 10:30. Using the Calendar Management Interface, the crew can set his status to Unavailable for the hours 10:00 to 12:00.