N*PROJECT

Users' Guide

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Registering N*Project

Registering N*Project gives you access to Nomadic Technologies phone support and reduced pricing for upgraded releases in the future.

If You Downloaded the Demonstration Version

If you are using the demonstration version of N*Project or N*Project Pro, the software will not operate more than fifteen days after you have installed it. You can check N*Project's About screen to find out when the demonstration period will expire.

You may order the diskette version or a Registration applet via e-mail which will converts the demonstration software to the full version of N*Project. To find out how to order either, tap the button below:

Order N*Project

Getting Help

If you have a question or problems, check this user's guide and the N*Project Help screens for answers first. If you're using the electronic version of this manual, you can use the search facility to find the information you need quickly.

If you can't find an answer in the manual send us e-mail directly to:

info@nomadict.com

If you need to talk to us directly you can call us at:

800.713.6291 (U.S. only)

440.331.5771 (Outside the U.S.)

Please have your N*Project Customer ID number ready when you call.

Installation

What You Need

N*Project requires Newton's with OS2.0 or later. For a minimum installation, you'll need about 260KB of storage space. To install all extensions, about 390KB of storage space is required.

You will need the Newton Connection Utility (NCU), Newton Backup Utility (NBU), or the Newton Package Installer (NPI) software for you personal computer. One of these applications probably came with your Newton.

Finally, you'll need a cable to connect your Newton to your Macintosh or Windows personal computer. This cable probably came with your Newton.

What To Install

N*Project (Personal Edition) consists of a Newton application and three optional extensions. What you install on your Newton depends on how you plan to use N*Project:

Package	Description
NProj.pkg	This the main N*Project application and is required.
NPChart.pkg	This extension prints and faxes N*Project Network, Gantt and Budget charts.
NPText.pkg	This extension prints text reports that are available from project Outlines and other locations in N*Project.
NPHelp.pkg	Provides context-sensitive help to N*Project.

If you plan to use N*Project Pro Edition, there is an additional piece of Newton software and Macintosh/Windows software to install. See the N*Project Pro section of this manual for installation details.

Where To Install

N*Project and the extensions can be installed in the internal storage of your Newton, on a PC storage card or any combination of the two.

If you plan to fax N*Project documents using a PC fax modem card and your Newton has just one card slot, then the NPChart and NPText extensions should be installed on the Newton's internal storage.

How To Install
Just follow the instructions that came with your package installer (NCU, NBU or NPI) to download the desired N*Project packages onto your Newton. The first time you open N*Project, it prepares your Newton to run N*Project.

N*Project Basics

N*Project organizes information into projects. You can create as many projects as you like and each of them is shown as an icon in the Projects view that appears when N*Project is opened. New projects are created from the Projects view by using the New button.

Within projects are activities, as many as you need to define the plan. Activities may be:
>Tasks - which define work to be done and require effort and time to complete.
>Milestones - which represent key events or moments during the project. No effort or time is involved.
>Sub-project - are tasks that are linked to another project in N*Project.
>Summaries - are simply names given to groups of other activities in outline. No effort, cost, or dates are associated with them.

Projects can be viewed as an Outline, a Network, Gantt or Budget interchangeably. You can navigate to each of these views from the Projects view by tapping the project icon, and you can reach each of these views from one another.

Activities can be created and changed from the Outline, Network and Gantt views. In most cases, project activities are initially created in the Outline or Network. Which depends on personal preference and the nature of the project.

2. Common Features

This chapter defines features and functions that are found throughout N*Project including:
- Tool Bars
- Navigation buttons
- Scroll elevators
- Help
- The Action button
- The calculation alert
- Newton Dates appointments
- Newton Dates to do items

Tool Bars

Network Tool Bar

The primary project views (Outline, Network, Gantt and Budget) each include a tool bar containing function buttons specific to the view. The tool bars can be oriented horizontally or vertically, and can be dragged anywhere on the screen. The buttons in the tool bar vary by view but each includes the following four:

Close Box
The close box in the tool bar closes N*Project, as does the close box in the Project List view. Tapping the Newton's Overview button returns N*Project to the Project List view.

Navigation Button

◆

**Navigation
Button**

Each tool bar includes a Navigation button.The pop up menu it opens allows you to move among the various views for the current project, gives you access the formatting slip for the current view, tool bar orientation, and the Help facility. There is also an option to rotate the Newton's screen orientation.

Action Button

| 🖶 Print/Fax |
| 🔧 Edit Project |
| ²ᐟ¹ Calc Now |
| Auto Calc On |
| ☑ Add To Do |

The contents of the Action menu depends on the current project view. In general, the menu includes print/fax functions, options to set N*Project's calculation mode, and access to the Edit tool for making mass changes to project data.

In the Action menu, you can turn AutoCalc on or off. This setting tells N*Project if it should recalculate the project's dates immediately when key information changes, or later when you tell it to do so.

Calculation Alert

A

**Calculation
Alert Icon**

If key information has changed and a date calculation is pending, N*Project places a small alert icon in the upper right corner of the tool bar. Tapping the icon causes the date calculation to run.

Scroll Elevators

N*Project provides horizontal and vertical scroll elevators for several views. Drag the elevator handle to scroll the view a corresponding amount. If you tap in the elevator but not on the scroll handle, the view is scrolled about one screen in the indicated direction.

Help

The Info button and the Navigation buttons both provide access to N*Project's Help feature, if you have installed the N*Project Help package on your Newton.

When you activate Help, it is opened to the topic that matches where you are in N*Project. Within Help, you can navigate to related topics or any other topic.

Meeting Appointments

Appointment Button

In the Project Editor and Task Editor slips, the appointment icon allows you to create meeting entries in the Newton's Dates application. These entries remain linked to the project or activity. When the icon is tapped, a menu of existing appointments is shown, plus an option to create a new appointment.

When you create a new or go to an existing appointment, the Newton's Dates window opens on top of N*Project so you can enter information. Close the Dates window to get back to N*Project.

To Do Items

To Do Button

In various places you'll the To Do button. Tap it to get an entry slip to add a To Do to the Newton's Dates application. To Dos you create are not linked to the project or task. If you want to edit the To Do item, you must do so in the Dates application.

3. Projects

This chapter discusses:
- **The Project List**
- **The project book option**
- **The Project Editor**
- **Getting to functions for individual projects**
- **Deleting projects**
- **Moving projects among storage locations**

The Project List
When N*Project is launched, you arrive at the Projects view. Each existing project is represented by an icon. The icons can be arranged as a scrolling list or in a free-form manner so that you can place the icon where you wish. The list format is selected in Prefs.

In the free-form Project List, you can move the icons anywhere on the screen by dragging.

Free-form Projects View
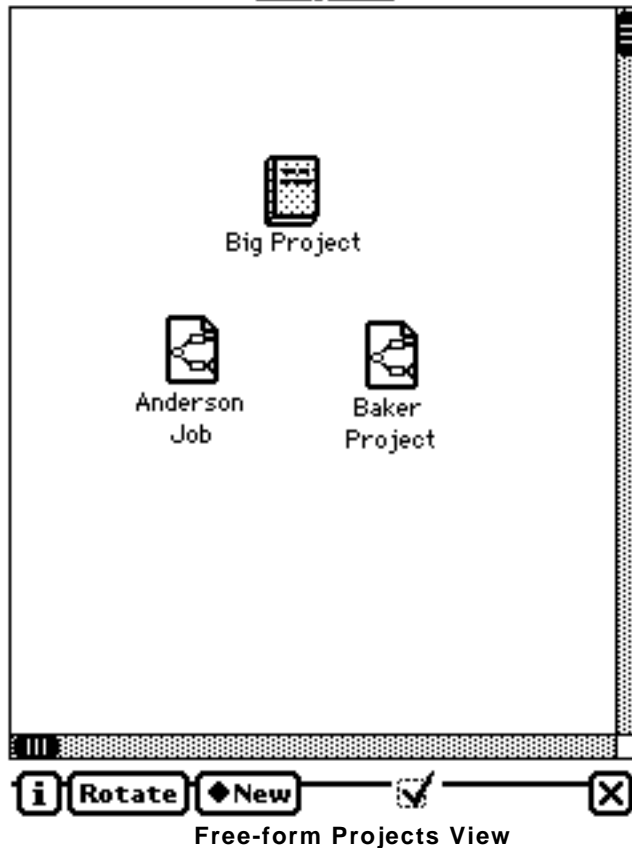
Projects are represented by two different icons:

Project icons.

Sub project icons. These are the same as projects but indicate that this project linked to a task in another project.

Project Books

Projects can also be collected into books to help organize things. This option is only available when projects are in the free-form organization.

If you tap on a book, the Project List changes to show the projects in that book. Projects are filed in the book by dragging the icon on top of the book and "dropping" it there.

To create a new project book, tap the New button in the menu bar and select Book. A book icon named "New Book" will appear in the upper left of the screen. To change the book's name, double-tap the icon to get an entry slip for the book's name. This slip also allows deletion of the book without deleting the contained projects.

Adding a New and Changing an Existing Project

To create a new project, tap [◆New] in the menu bar and select Project. A blank Project Editor slip appears. For an existing project, select the Project Editor option from the icon menu.

	Plan	Actual	Early	Late
Start	◆ 6/2	◆	6/2	6/6
Finish	◆	◆	7/11	7/11

Project: Loan Committee Project

◆ Cost
Plan $6,800
Actual $0

Resources   Work Schedule
Description   Diary
Issues   Risks

Name
Write the project's name into the Project area. When creating a new project, a name is required. If you close the view without entering a name, a project is not created.

Dates
Enter planned and actual project start and finish dates here. Tap the diamonds to get a date selection pop-up. Select the desired date and tap the close box to record it. If you tap outside of the calendar pop-up, it closes and the date is cleared.

The Early and Late dates, and Cost items are calculated by N*Project and displayed if they're available. If you have not entered a start date for the project (planned or actual), N*Project will assume the project starts today when calculating dates.

Resources
You can create a pool of resources for the project and later assign them to tasks. If you have created a global resource pool within Preferences, that list is automatically copied into the project.
For more, see the chapter on Advance Features.

Work Schedule
This button opens a slip that allows you to define the work week and holidays for the project. The schedule is initialized to that contained in Preferences when the project is created.
For more, see the Advance Features chapter.
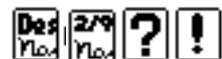
Description, Diary, Issues *and* Risks *Notes*
These buttons open a Note Pad-like window to enter information associated with the project. You can create multiple Risk, Issue and Diary entries and each of these types include a title line. Diary entries are automatically titled with the date and time of creation but you can change it if you wish.

For more details on notes, see the Advance Features chapter.

Currency Format
Tapping the Cost label leads to a slip in which you can alter the format of currency for the current project.

Filing
All soup entries for a project can be moved between the Newton's internal and card storage areas. This icon is not available when initially creating a project.

Project Functions

When you tap on a project icon, you'll see a pop up menu of actions for that project:

Project Editor opens the Project Editor slip. (Double-tapping the project icon takes you directly to the project editor.)

Network accesses the Network View, a PERT-style graphical way of viewing and editing the project.

Outline (or **Selected Outline**) opens the Outline View. This is an organized, textual representation the project that can be edited. The Outline view looks and acts much like the outline stationary in the Newton's note pad.

Gantt (or **Selected Gantt**) opens a bar chart representation of the project showing tasks relative to the calendar.

Budget (or **Selected Budget**) allows you to view a chart of the project's cost either by task or relative to time, or display a resource load chart.

Set Selection (or **Reset Selection**) allows you to select a subset of the project's tasks based on resource assignment, date, task status, or any combination prior to going to the Outline, Gantt, or Budget views. See the Advance Features chapter for details.

Diary gives you quick access to the project's diary for viewing, adding and editing. See the Advance Features chapter for details.

Alerts will list activities in the project due to start or end before a selected date. See the Advance Features chapter for details.

In this chapter learn about:
- Scrolling and zooming the Network view
- Adding tasks, milestones and dependencies
- Rearranging the network
- Erasing tasks, milestones and dependencies
- Editing task data
- Changing the format of the view

If your project has a complex set of dependencies, you may find the Network view is the best place to create tasks and milestones.

The Network view is a CPM-style graphic view of the project. Boxes and circles represent tasks and milestones, respectively. Lines from one item to another represent task dependencies. Hexagonal shapes represent sub-project tasks that are linked to other projects.

Scrolling and Zooming

The view can be zoomed using the buttons in the Tool Bar. Scroll the chart using the vertical and horizontal elevators.

Adding a Task or Milestone

Draw a square approximately where you want a new task on the chart. A slip automatically opens so you can add the a name. When you close the slip, the task box appears in the chart. If you close the slip without entering a name, nothing is created.

Creating a milestone works the same way except you draw a circle or oval to start the process.

Dependent Task Quick Add

Draw a line from within a task or milestone to an empty area in the chart and the name entry slip opens. When the slip is closed, a dependent task box is created approximately where the drawn line ended.

Creating Dependencies
Draw a line from within the starting task/milestone to within the ending task/milestone.

Anderson Job

Document Interviews

Start

Functional Interviews

Data Definitions

Phase Two

Schedule Key Personnel

75%

Network View
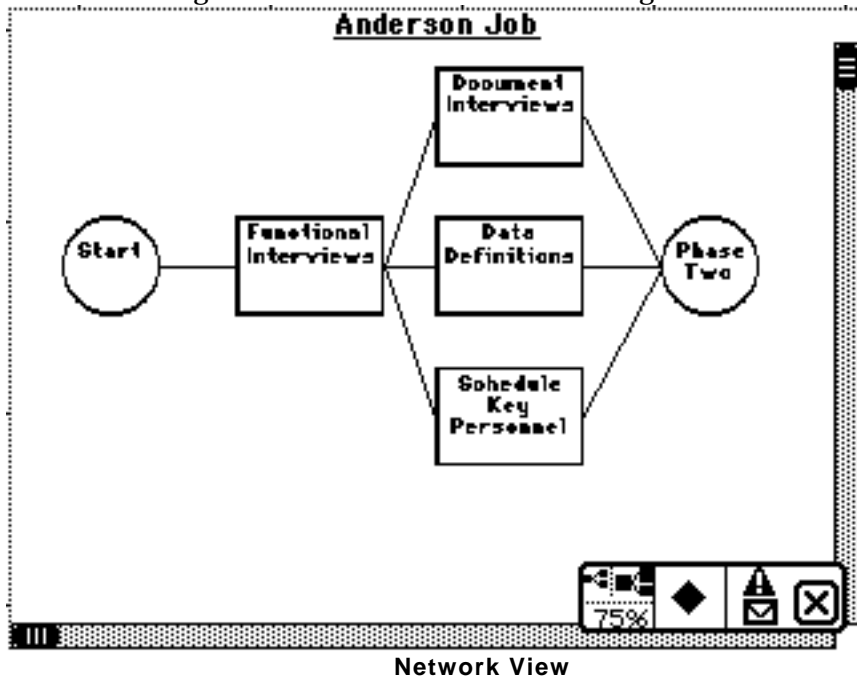
Rearranging the Network
Tap within a box or circle so that it becomes high lighted. You can now move it by placing the stylus down within the figure and dragging it.

If you drag a task on top of another, the second task is automatically "bumped" to the right. If the second task ends up on top of a third, it is also "bumped", and so on.
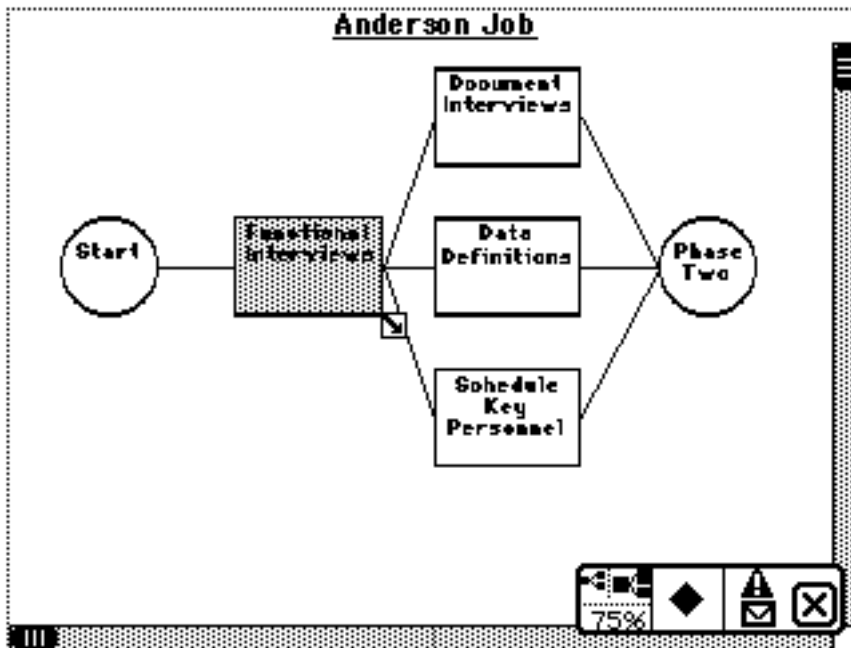
Network View with Task Selected

Editing Task Data

Double-tap within the task/milestone figure and the Task Editor slip will open. Alternatively, tap the task to select it and then tap the expansion icon below and right of the selected item.

Deleting Parts of the Chart

Use the scrub gesture on a task rectangle, milestone circle or dependency line. Undo is supported.

Changing the Format of the Network

Access the Network Format slip by choosing Format from the Navigation menu. The settings here control the Network View's appearance on screen and in print. Once you've made your selections and close the slip, the Network View is redrawn in the new format.
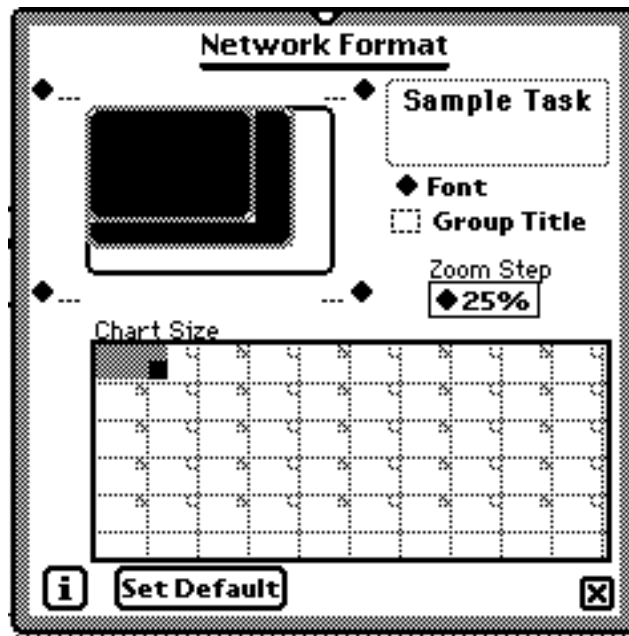
Network Format Slip

Box Size
The small, medium and large box selection controls both the size of task and milestone figures as well as the amount of space separating them. The smaller the size selected, the more compact the chart will be and the more data you can see on the screen.

Font
Controls the font size used for the task name in the task or milestone figure.

Annotations
You can have data appear at the four corners of each task or milestone. Tap any one of the buttons to select what you want to appear. Selecting **…** leaves the space blank. The Earliest Start, Latest Start, etc., are dates that the application calculates.

Group Names
Checking this box causes the name of the task's group from the Outline view, if present, to be included with the task name.

Zoom Stops

This percentage value determines the amount that zooming increments or decrements when you use the zoom buttons in the Tool Bar.

Chart Size
Drag the small, black pull point to enlarge the overall size of the chart.   It will not allow you to size the chart smaller than the right-and-bottom-most figure on the chart. The gray reference grid approximates 8.5 x 11 inch landscape pages when the chart is printed at full-size.

When a new network is created, the chart size is initially set to be about two pages wide. Each time the network is opened, N*Project checks to see if items are close to the right or bottom edge, and adds more space if necessary.

Setting the Default Network Format
When the Set Default button is tapped, the correct format settings are saved. When a project's Network view is opened for the first time, the saved default settings are used to format it.

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This chapter tells you about:
- **Outline basics**
- **Creating an outline**
- **Changing indentation and sequence**
- **Collapsing and expanding the outline**
- **Editing tasks**
- **Tailoring the Outline's format**

Outline Basics

The Outline view allows you to create and view a project in an indented text form. Indenting groups tasks under headings for ease of reference.   Each line in the view represents a task, milestone or a group title.

The outline view operates much like the outline stationary in the built-in Note Pad application.   New lines can be inserted, and the order and indentation of existing lines can be changed by dragging.

To the left of each line is a small icon such as a known as the marker. This icon tells you something about the line:

- ⬜ is the standard marker for a task, milestone or expanded group.
- ⬛ indicates a group that is collapsed.
- ⬜ indicates a task or milestone that is part of the project's critical path.
- ◇ identifies a task that is a sub-project.
- ☑ indicates a completed task or milestone.

Use the Newton scroll arrows to move up and down the list. Optionally, you can include a vertical scroll elevator in the view. This option is located in the Outline Format slip.

Outline View
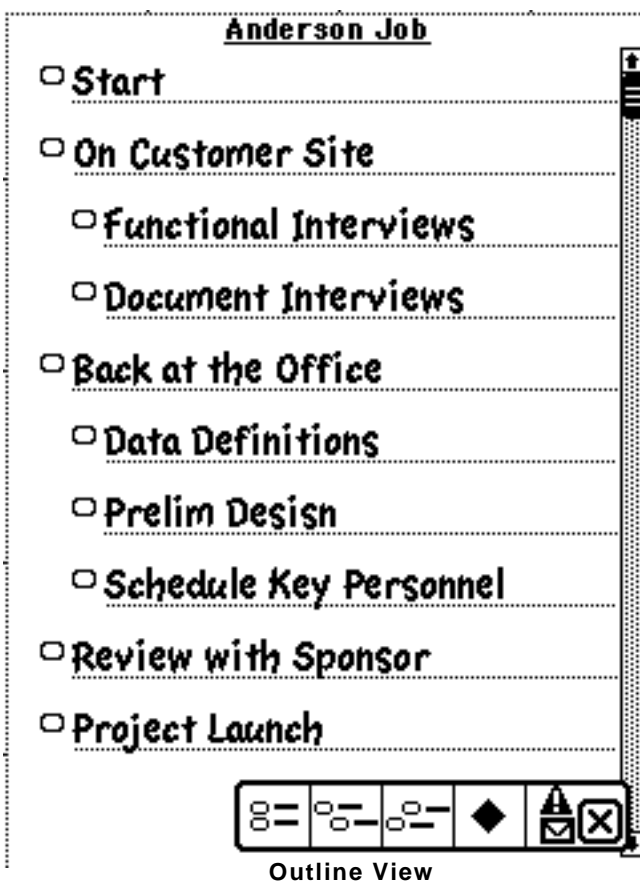
Creating an Outline

The first three icon buttons in the tool bar allow you to add a task below the currently selected task. Depending on which button you tap, a peer, subordinate or superior line is added. If no task is selected, the new line is added at the end of the outline.

You can edit the task's name directly in the outline.

Remember that group lines - that is, lines that have other lines indented below it - are not tasks or milestones. Group lines do not appear in the Network view

Line Location and Visibility

Each line can be dragged around the screen by grabbing it just outside of the marker icon. As you drag a line, an indicator shows where the line will be relocated when you "drop" it by lifting the stylus. When you change a group line's location, all lines subordinate to it are changed correspondingly.

Tap in the marker icon of a group line to expand and collapse its subordinate lines.

Editing Task Details

Double tapping in the marker of a task line opens the the Task Editor slip. Group line double taps are ignored. See the chapter on Task Editor for details on editing tasks.

Outline Format Slip

Access the outline's format slip via the Navigation menu in the tool bar. The Outline View can be formatted by selecting one of four task line forms.
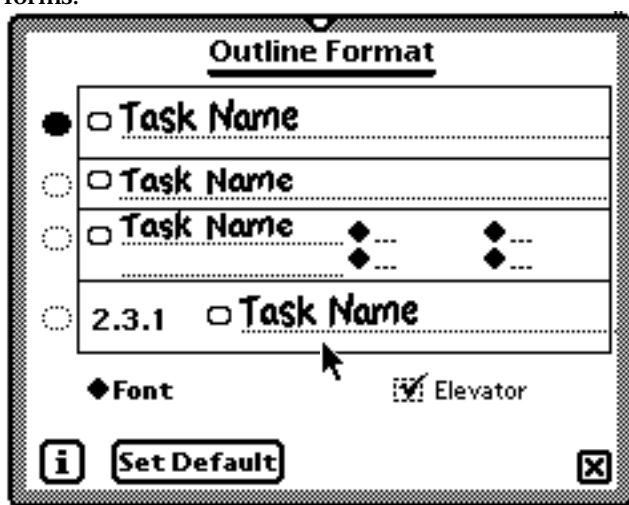
Outline Format Slip

The third form allows selected task detail information to be shown with each task line. The fourth form includes the WBS number of the task. The format of the printed outline is controlled separately.

Setting the Default Outline Format

When the Set Default button is tapped, the correct format settings are saved. When a project's Outline view is opened for the first time, the saved default settings are used to format it.

This chapter discusses:
- **Gantt Basics**
- **Editing activities**
- **Navigating the Gantt chart**
- **Changing the Gantt format**

Gantt Basics

Gantt View
(No Data Columns)
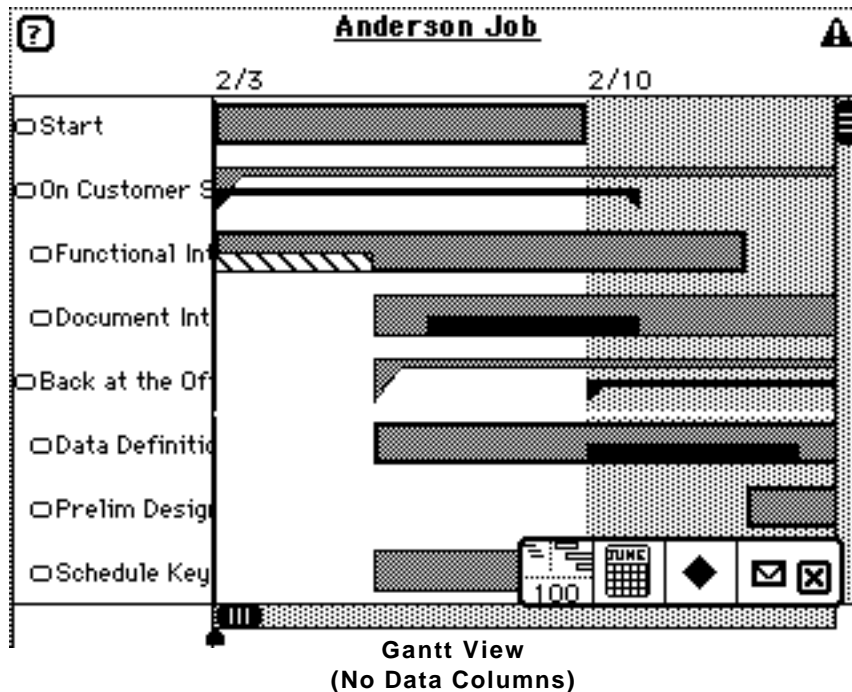
The Gantt chart is a common way to represent the project time line. In N*Project, the Gantt view also includes some display features that will be familiar to spreadsheet users.

The chart is actually divided into two or three vertical sections, depending on options set in the Outline Format slip. In the left section are the task names. In the right section is the time line and activity bars. Optionally, in the center are text data columns that you can configure.

The time line's gray bars span from the task's calculated earliest start date to its latest finish. The black bar spans from the planned start to planned finish dates. If planned or revised dates are not entered for the activity, the calculated early dates are used by default.

Summary lines are represented by bars with points at each end. Their span is the "sum" of the tasks and milestones contained.

If a task is in progress or complete, a slashed bar covers the appropriate part of the black bar.   Bars with diamond shapes on the ends represent sub projects. The time span of groupings are shown with similar black and gray fills but in a uniquely shaped bar.

Working with the Gantt Chart

The Gantt view sequences tasks in the same order as the Outline view.

You can edit tasks in the Gantt view. Double tapping on a task opens the Task Editor slip. Double tapping below the last task name opens a blank Task Editor slip so that you can add a new task.

Navigating the Gantt Chart

Like the Outline view, groups can be expanded or collapsed with a single tap.

The width of the task name, data and time line areas can be controlled by sliding the sizing markers at the bottom of the Gantt view.

The calendar icon in the Tool Bar controls horizontal scrolling of the chart to a date selected from a calendar pop-up.

Tap the ? in the upper left corner to see a chart legend.

Gantt Format Slip

The settings here control the Gantt View's appearance on screen and in print. Open this slip by tapping **Format** in the Navigation menu
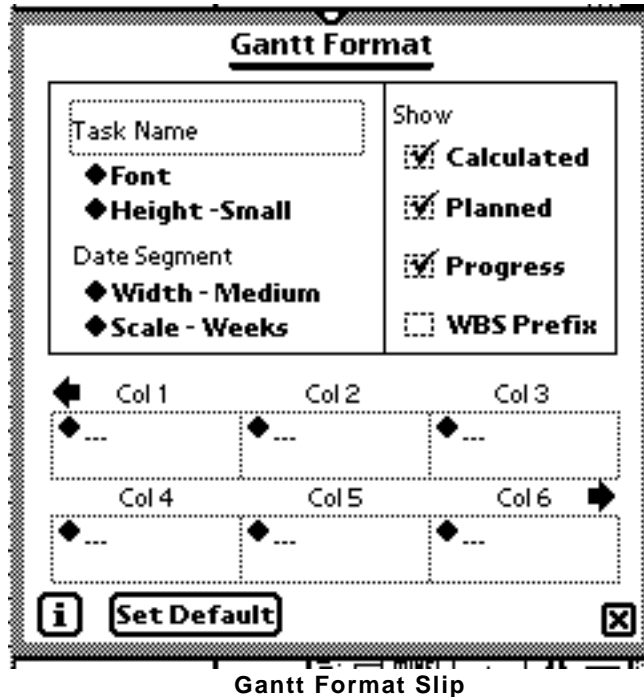
Gantt Format Slip

Sizing, Fonts, Etc.
The top half of the Format slip allows control of the size and appearance of the Gantt.

The task name font and height of each line can be selected.

The width of the chart is controlled by choosing the scale of the time line (days, weeks, months or quarters) and the amount of space for each unit of time.

By default, the chart shows bars for calculated, planned and actual dates. You can include or omit each of these using the corresponding check boxes. When the **WBS Prefix** box is checked, activities' WBS numbers are included in the names.

Text Data Columns
Columns of task data can optionally be shown in the chart between the task names and the time line area. The number and content of those columns depends on the settings at the bottom of the Gantt Format Slip. The left

and right arrows scroll the column settings so that more than six can be utilized.

The current format settings are reflected in the printed version of the Gantt chart.

Setting the Default Gantt Format
When the Set Default button is tapped, the correct format settings are saved. When a project's Gantt view is opened for the first time, the saved default settings are used to format it.

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This chapter describes:
- **Budget Basics**
- **Selecting the chart type**
- **Navigating the Budget chart**

Budget Basics

Budget View
Task Cost Chart
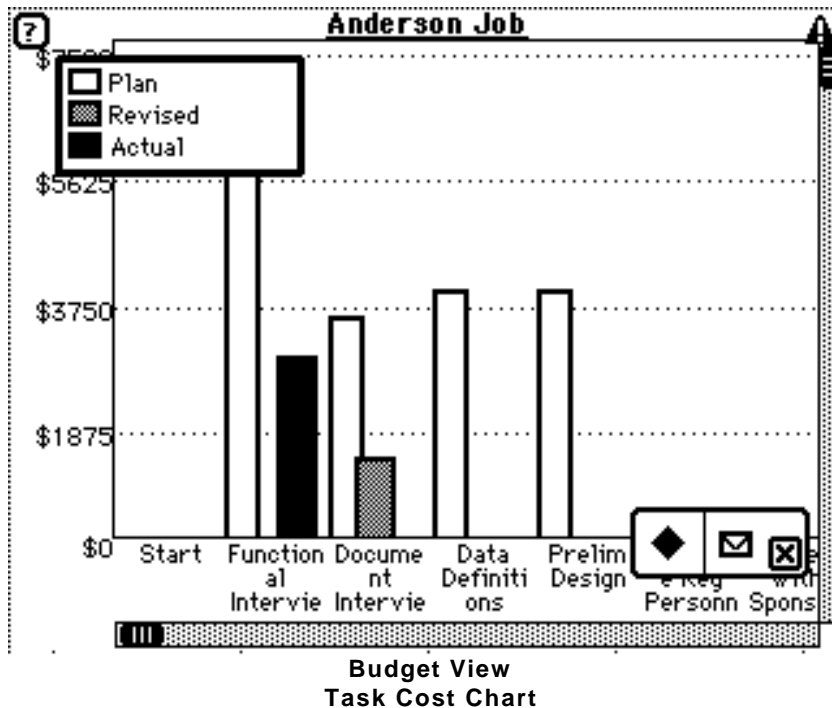
The Budget view portrays the project's cost in terms of money and resources. Three chart formats are available, selected in the Budget Format slip.

The Cost Accumulation form shows planned and actual costs as they accumulate over time.

The Task Cost form shows a column chart with planned, revised and actual cost for each task. The Task Cost chart can optionally be sorted from highest to lowest cost task.

The third format is a Resource Load chart that shows the number of resources active each day during the project.

You cannot edit activities from the Budget view.

Budget Format Slip
The settings here control the Budget View's appearance on screen and in print.

Budget Format Slip

Chart Type
Choose a Task Cost column chart, Cumulative Cost area chart, or Resource Load chart.

Screen Size or Print Size
This selection optimizes the size of the chart for the desired output.

Y-axis Values
The Min, Max and Increment values are calculated unless you enter them.

Other Controls
Depending on the chart type selected, additional format controls are available to set the format of the chart.

When you have the Task Cost type selected you can set the sequence of tasks - either the same as the Outline or in cost Pareto sequence. You can also assign values to column patterns among the planned, revised, and actual costs or exclude them.

The Cumulative Cost controls allow you to assign planned and actual costs to either the area or line portion of the chart.

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8. Task Editor

The Task Editor slip is used enter and edit details about tasks. You can access it from the Network, Outline and Gantt by double tapping an activity. In this chapter learn about:

- Task Basics
- Setting dates
- Recording effort
- Costs
- Dependencies
- Resource assignment
- Sub-projects
- Completion percent

Task Basics

The Task Editor Slip is accessed by double-tapping a task in the Network, Outline , or Gantt views, and when a new task is created in the Gantt view. The layout of the slip varies depending on the the type of entry it is in the project - a task, a milestone, or a sub-project.

Dates and effort information about the task can be entered as the plan, revised and actual information. The check box differentiates revised entries from actual data.

The entry type can be changed among Task, Milestone and Sub-project using the slip's title button.

Setting Dates

Tap the diamonds in date fields to get a date selection pop-up. If you tap outside of the pop-up, the date is cleared.

Effort

Write in the effort in units of hours or days. The time unit defaults to the Prefs setting when the project was created but you can change the unit for this task by tapping the H or D button to toggle between hours and days.

Task Editor

Cost

A fixed cost can also be assigned to the activity by tapping the cost button. In the slip that opens, you can enter the planned, revised and actual fixed cost for the activity.

The effort cost associated with the task's effort is automatically calculated by N*Project based on the resource's rate, effectiveness and the effort.

When N*Project is asked to display activity costs and project cost, it totals effort and fixed costs.

Task Dependency

Depends On and Required By allow you to set and remove task dependencies using a pop up pick list. You can also establish task dependency in the Network view by drawing lines between tasks.

Resource Assignment

The resource name is initially set to "Unassigned" so that you can locate unassigned tasks using Newton Find or the Set Selection feature. If the name card icon is present, tapping it pops open a window with the resource's phone, pager and e-mail information from the Newton's Names application.

Resource Assignment Slip

Tapping the Resource button opens the Assignment slip.

The upper portion of the Assignment slip is a scrolling list of the project's resource pool. Tapping a name moves the resource's name, rate, effectiveness and availability information to the lower part of the slip. Tapping the Assign or Change button completes the assignment.

You can also use a resource name not in the resource pool. Either write it in or tap the diamond to access your Newton's Names and select from there. When a new resource is assigned to an activity, it is automatically added to the project's resource pool.

For more information on managing resource pools, see the Advance Features chapter.

Completion Percent

As a task progresses toward completion, you can indicate that progress with a percentage value. Use the slide dragger to set the value. If you enter 100%, the actual finish date for the task is automatically entered as the current date.

About Sub-Projects

A sub-project is a special kind of task that is linked to another project in N*Project. You identify a task as a sub-project using the type button menu at the top of the Task Editor slip.

Linking a Sub-Project

Once a task has been identified as a sub-project, you can link it to a specific project elsewhere in N*Project.   Do this with a pop up menu accessed by tapping the diamond next to the task name write-in area. If the project doesn't exist, simply write a name in and a new, empty project is automatically created.

When the sub-project task and the project are linked, they inherit information from one another. If you enter date information in the task slip, the project is updated. Project Editor changes to the linked project's date information and new date calculations for the project alter the linked task's dates.   Cost data only moves one-way, from the project to the task.

You can have multiple levels of sub-projects. A project can contain a task linked to a sub-project. That sub-project can have a task linked yet another sub-project. You can have as many layers as you want.   A project can linked to only one sub-project task, though.

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9. Preferences

Set preferences that determine how N*Project operates including:
- **Effort unit of measure**
- **Slack day measurement**
- **Resource constrained schedule**
- **Work schedule**
- **Resources**
- **The Project List format**
- **Double tapping speed**

Effort Unit of Time
Activity effort can be expressed in hours or days. When a project is created, the default unit of effort for the project is set to the Preferences setting. But for any given task, you can change the effort unit in the Task Editor slip.

Slack Days
N*Project determines the slack time for each task and the project as a whole when it calculates the schedule. The Calendar option expresses slack time in calendar days while the Work Schedule option expresses it in terms of work days.

Resource-limited Schedule Calculations
When checked, this option causes N*Project to take into account the effect of multiple, overlapping tasks assigned to the same resource.

Global Work Schedule

A global work schedule and holidays list can be maintained and is copied into a project when it is created. This information can then be edited within the project without changing the global schedule.

See the Advance Features chapter for more.
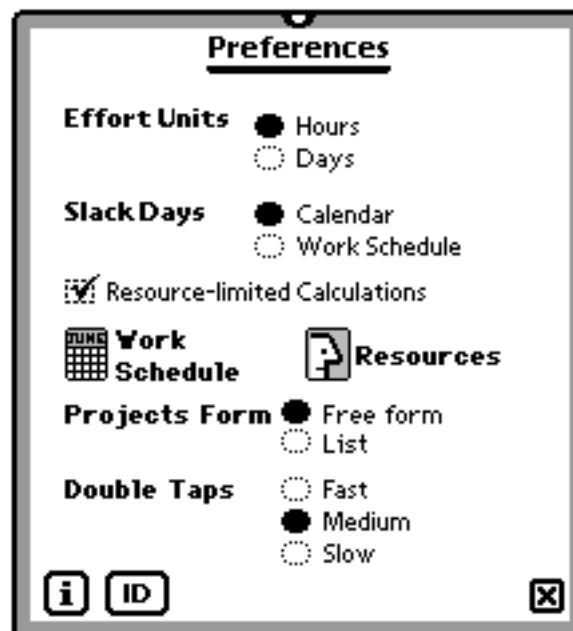
Global Resource Pool

A pool of resources can be created in Preferences. This pool is copied into a project when it is created. Once copied, the resources can be edited within the project without changing the global pool.

See the Advance Features chapter for more.

Project List Format

Choose between free form and list organization projects.

Double Tap Speed

The double tap gesture is used many places in N*Project to indicate that you wish to open the Task Editor slip. You can partially control whether two taps are interpreted as a double tap or two separate taps by this Prefs setting.

Your Newton's Prefs settings also factor into recognizing double-taps. In the Handwriting Recognition settings, you can set a slide bar to indicate how quickly you want the Newton to start recognizing handwriting. If this is set to Immediate, the fastest setting, the Newton expects double taps to be quick.

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10. Advanced Features

N*Project offers an array of tools so you can work faster and smarter:

- Notes
- Resource pools
- Alerts
- Work week and holiday schedule
- Task filtering
- Mass editing
- Copying projects
- Find

Notes

Projects can contain a description, diary entries, risks and issues. Activities can contain a description and diary entries. All of these records use N*Project's note facility.
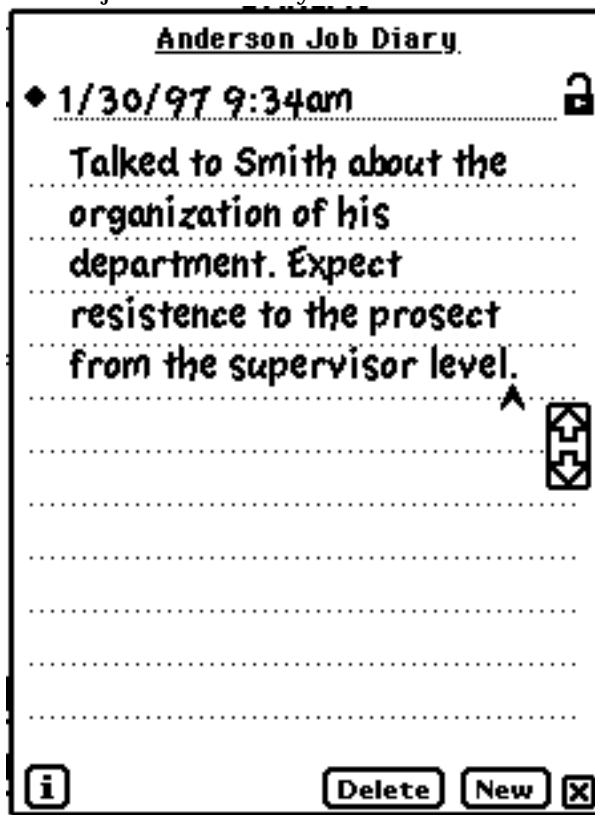
Notes Slip for Diary Entry

An N*Project note is similar to the standard Note Pad note with some unique features.

Notes are attached to the project or activity that is in view when the Note slip was opened. Notes are categorized as description, diary entries and so on, depending on what button you tapped to open the Notes slip.

When the note slip is opened, the last entry of its type, if any, is shown. Tap the New button to create a new entry.

N*Project notes include a privacy setting so that you can keep them from printing, if you wish. Tap the padlock icon to change he privacy setting.

Diary entries are automatically date and time stamped in their title. You can change the title if you wish. Tapping the diamond next to the title pops open a pick list of the notes for the project or task in the current category.

Scrolling within the note is controlled by the arrows in the Note slip. The Newton's scroll arrows move the Note slip from entry to entry when there is more than one.

Resource Pool
Resources can be anything. Individual people, pieces of equipment, and so on. Each resource has a name, an hourly rate, an effectiveness percent, and an availability percent.

Resource Pool Editor

A Multi-Level Approach

N*Project maintains a global resource pool, pools for each project, and individual resource information at the task level.

- When a project is created, the global pool is copied into the new project.
- When a resource is selected from the project pool and assigned to a task in the Task Editor, the information is copied from the pool into the task.

If you alter resource information in a project and tap the Change button, only that project's pool is altered. Neither the global pool nor any other project is affected by the project-level change. Similarly, you can change resource attributes - rate, effectiveness, availability - for a specific task with out altering that resource's information in the project pool or in other tasks.

But if you change a resource's information at the project level and tap the Change All button, all tasks in the project assigned to the edited resource are changed.

An Example
This multi-level approach allows you to handle various situations that often come up in projects. Here is one example:

You are a computer consulting firm and Sharon, a C++ software developer, is one of your resources. Normally, you charge $100/hour for her time, she is 100% effective and 100% available. You added her to the global pool in this way.

A new project is created and Sharon is copied into the project pool. But for this project, Sharon is only available to you half of her time. So from the Project Editor, you edit the resource pool so that Sharon's availability is 50%. This means that if you assign an eight hour task to her, N*Project's date calculator will know that it will take two normal work days to complete.

You assign Sharon to several C++ programming tasks in the project, all using the attributes from the project pool -$100/hour, 100% effectiveness, 50% availability. But another task you assign involves HTML coding, a skill that is unfamiliar to Sharon. You know that Sharon will take longer to complete this task so you set her effectiveness to 50% in the Task Editor. This way, N*Project's date calculator knows that she will require twice as many hours to complete the task. If the HTML task's effort is 8 hours, the date calculator will determine that Sharon will need four calendar days to complete it, since she is operating at 50% effectiveness and is available only 50% of the time.

Since Sharon isn't 100% effective on the HTML task, you may also want to alter her hourly rate from $100 to $50 for the task.

Editing Pools
The global pool can be edited via the Prefs slip. The project pools are edited through the Project Editor slip. Both pools use the Resource Editor.

The resource name can be written in or selected from the Newton's Names application. Tapping the diamond next to the title opens a Names selection window. When a resource name comes from Names, it is linked to that name card so that, when assigned to a task, key contact information (phone, fax, e-mail) is available in the Task Editor slip.

The resource's rate is always expressed in hours. If you are expressing task effort in terms of days, the rate is converted to a daily rate using the Day Length setting in in the projects Work Schedule.

When assigning a resource in the Task Editor slip, you have the option to create a new resource simply by writing in the name, rate, effectiveness and availability. When you do this N*Project automatically adds the new resource to the project pool.

Alerts

Tapping the Alert button in the project's pop up menu causes N*Project to scan all the activities in the project looking for events that are due or will be due in the near future. A list of alert messages is generated and displayed.

Alerts Slip

How far you want Alerts to look into the future is controlled by the tapping the time period just below the slip title.

Each line in the alert list is "hot". That is, if you tap it, the corresponding Task Editor slip is opened so that you can review and change information.

If and when an alert message appears for an activity, it will be one of the following. If the task qualifies for more than one of the messages the one furthest down the list is shown:

"Task X is in process"
"Task X plan start is due"
"Task X late start is due"
"Task X plan finish is due"
"Task X late finish is due"
"Task X dates are unattainable
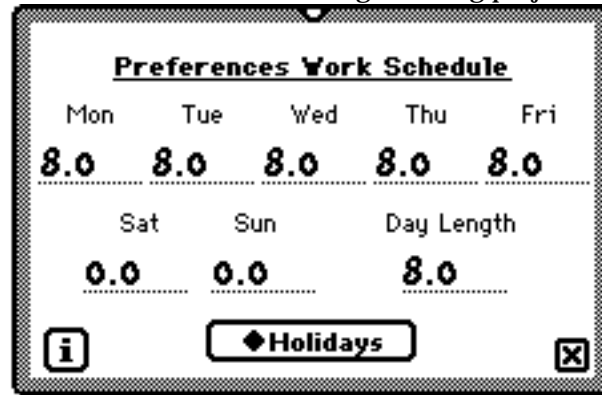
The Refresh button causes the list of Alert messages to be rebuilt. You may want to use this after making Task Editor changes to see the effect.

Work Week and Holiday Schedule

A global work schedule can be created in Preferences. When a project is created, the global work schedule is copied into the project. Changing the project's work schedule does not alter the global work schedule. Similarly, changing the global work schedule does not change existing project work schedules.

Work Schedule

If you change the work schedule for a project, it will probably changes the calculated schedule for the project.

Monday thru Sunday
Write-in the number of hours that are scheduled to be worked for each day of the week.

Day Length
Task effort time can be entered in terms of hours or days. The value entered in the Day Length field allows N*Project to internally convert days of efforts for date and cost calculation purposes.

Holidays
Tap the Holidays button to open a menu of current holidays and other non-working days. You can add, change or delete holidays.

Task Filtering

You can view a selected sub-set of a project's tasks in the Outline, Gantt and Budget views by setting the task selection. The selection criteria can be based on assigned resources, dates, task status, or a combination of these.
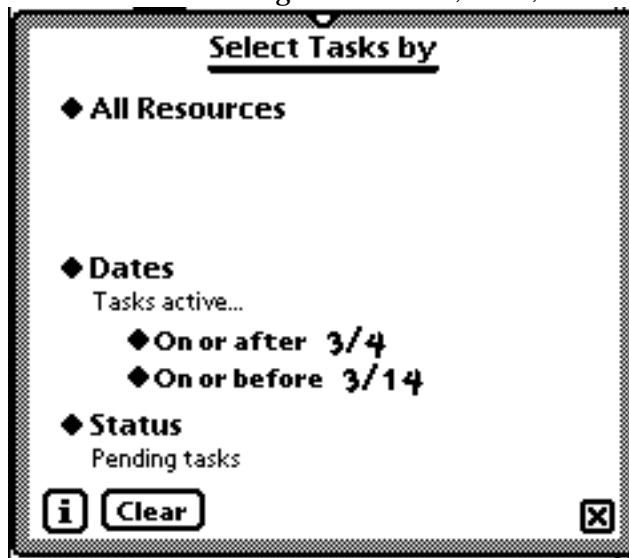
Set Filter

To open the Selection slip, choose Set Selection from the project's pop up menu.

Once the selection criteria have been set, the Outline, Gantt and Budget views include only the tasks that fit criteria when opened or printed. The selection criteria remain in force until you change them or use the Clear button to remove any criteria. When selection criteria are in force, the project menu reflects this.

Selection Limits Some Functions

If selection criteria are in force when you open the Outline view, task lines cannot be dragged to change their sequence or indentation.

Task dates cannot be recalculated while selection is in use.

If you open the Network view while selection is set, the selection criteria are ignored and the entire project is included.

Setting the Selection Criteria

Resource

When the Resource button is tapped, the resource pool for the task appears as a pop up menu so that you can select one or more. "Unassigned" is always included so that you can select unassigned tasks. The current selection list appears below the Resource button.

Dates

Tasks can be selected if their start, finish or active date falls within a date range you set.

For example, if you select tasks that start between April 1 and April 30, then only those that have a planned or actual start date on or between those dates are included. If you set it to include tasks active between those dates, then only tasks with a finish on or after April 1 or a start on or before April 30 are included.

Status

Tasks status can be Pending, Active or Complete. A task is complete if an actual finish date has been entered or the completion percent is 100. A task is considered active if an actual start date is entered or the completion percent is greater than zero.

Mass Editing

The Edit Project tool is available via the Action button menu in many areas of N*Project. Its purpose is to perform certain updates of tasks *en masse*.

The Edit Tool works on activity dates and, in one case, effort and cost data.

Edit Project Data

- ◌ **Move revised dates to plan**
- ● **Copy early dates to plan**
- ◌ **Copy late dates to plan**
- ◌ **Copy early dates to revised**
- ◌ **Copy late dates to revised**
- ◌ **Clear plan dates**

- ◌ **Increase plan dates by**............**days**

- ◌ **Decrease plan dates by**............**days**

[i] [Do It] [X]
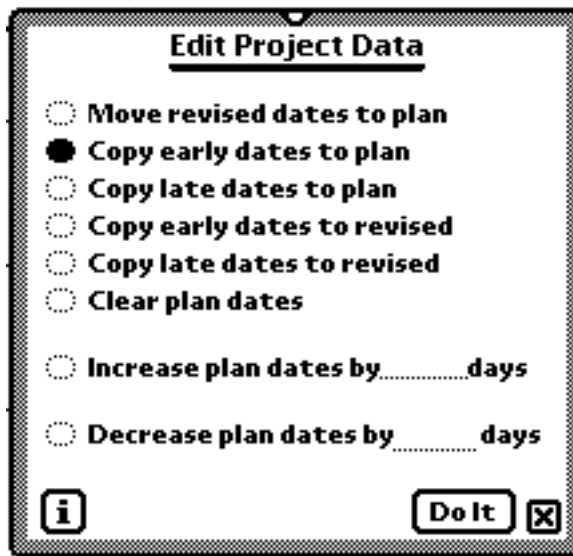
Move revised dates to plan moves revised entries (not actual) to the plan. If the planned dates, costs, and efforts represent an agreement but things in the project change, you might use this feature to move revised elements to planned after the agreement has been changed.

The other movement options might be used if you decide to use the dates calculated by N*Project as your plan.

You can also move all the planned dates in the project forward or backward in time by a specified number of days.

Results Are Final
The action of the Edit Tool cannot be undone once you tap the Do It button.

Copying Projects

In the Action menu of the Project Editor slip is the `Copy Project` option. It causes the current project to be copied as as a template or completely.

Project Template
If copied as a template, the project's task descriptions, planned effort and assignments are duplicated. Dates and diary entries are not. Using template copies, you can quickly create a new project that follows a standard pattern.

Complete Project
A full copy completely reproduces the project. If you have a project plan established but want to experiment with new configurations, assignments, etc., you may want to work on a copy rather than the original project information.

Find

The Newton Find feature offers users a capability that few, if any, other project management applications can provide. It allows the manager to find and work with task data across many projects. For example, you can search for all tasks assigned to a particular resource across multiple projects. Very handy when a team member becomes ill or is reassigned.

You can find information in N*Project by date or by text. When you do a text search, every piece of text store by the application is searched for a match with the search string. This includes task names; text in descriptions, diary entries, risks and issues; and resource assigned.

When you perform a date search, Find and N*Project use the planned, revised and actual dates:
- If you do a "date on" search, N*Project looks for tasks and projects that will start before and end after the search date.
- If you do a "date before", tasks and projects that start before the entered date are found.
- A "date after" search looks for tasks and projects that finish after the entered date.

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11. Printing and Faxing

N*Project offers printing and faxing in three major forms:
- **Charts (Network, Gantt, or Budget)**
- **Outline**
- **Project and task pages**

Printing Basics

When you select a printing function from one of the Action button menus, one of three print control slips will open, depending on what you are printing. Each of these control slips allow certain printing options to be selected and include an Action button which causes the printing or faxing action to take place.

N*Project creates a default report title that appears at the top of the control slips. You can edit the report title. The title, along with date and time, and page number, appear on each page of the report.

Chart Printing

When print is selected from the Action button in the Network, Gantt, or Budget views, the Print Chart slip appears.

You can choose to print the entire chart on one page or print it full size on as many pages as are required.

You can also choose portrait or landscape orientation.

The chart printed will reflect the format settings and data in force at the time you select print from the Action button in this slip. In other words, if you print a chart to the Outbox and then make changes to chart, the printed output will not reflect those changes.

Project Chart Print

Title

Anderson Job Network

....

Chart Size

● Fit ▢   ○ Full ▥

(One page at
full size)

1.0 / 5.3

🕐 ⓘ   ✉ ✕

Chart Print Control

Gantt Chart Considerations

If you use the Fit option to print the Gantt chart on one page and N*Project has to shrink the chart to less than 50% to make it fit, the printed results may not be very attractive. In this case, use the Gantt Format slip to change the Date Scale of the chart to a setting setting . (Days, weeks, months and quarters are the options.)

Outline Printing

Outline printing is different from chart printing in that you can format to printed report in the control slip.

The product of Outline printing has a spreadsheet appearance. Task names always appear in the left-most column. One or more rows of task data appear to the right of the task name. You select what data appears there in this control slip.

Tapping in a column area pops up a long list of data options, as shown in the sample to the right.

If an outline is printed to the Outbox and then data is changed, the printed output will reflect the changes.
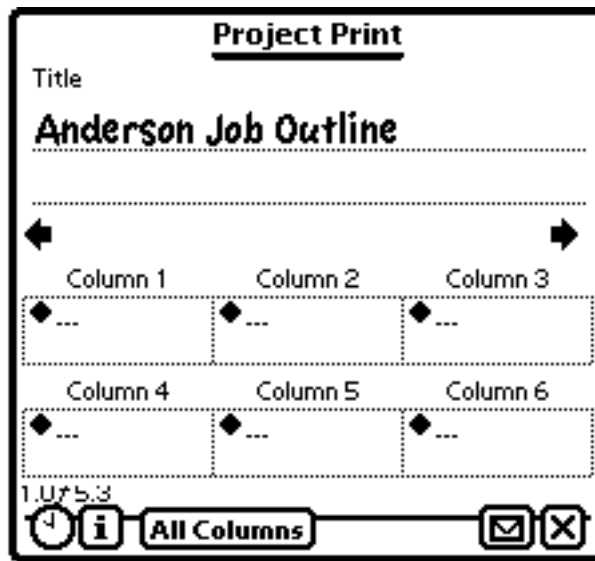
Outline Print Control

Project and Task Text Printing

The scope of information that will be printed depends on where the print action originated in N*Project.

- If you chose Print in the Task Editor slip, just that task will be printed.
- If you selected Print All in the Project Editor slip, information will printed for the project and each contained task.
- If you selected Print Project in the Project Editor slip, the project summary page is printed.
- If you chose Print Tasks in the Outline view, those tasks contained in the view are printed. If the Outline view contains selected tasks, i.e.., you have used the Set Selection feature, then only the selected tasks are printed.

Project Print

Title

Anderson Job Tasks

☑ Dates and costs   ☑ Page breaks

☑ Description   ☑ Private notes

Diary entries:
    ☑ All   ☐ Last

☑ Risks

☑ Issues

1.0/5.3

Text Print Control

The control slip allows you to determine what information will be printed with a series of check boxes.

Project and task printing is always in portrait orientation.

If an outline is printed to the Outbox and then data is changed, the printed output will reflect the changes.

12. Sample Project

This chapter contains step-by-step instructions on how to create and manipulate a simple project.

N*Project is extremely flexible in how you can create and edit projects and these instructions are by no means the only way to go about creating a project. It does serve as a way to get started and get a feeling for how things are done.

The √ lines tell you what to do. The italicized text provides further explanation and details.

---

1. Launch N*Project

√ Tap the N*Project icon in the Newton Extras drawer. After a moment, N*Project opens to a view showing all projects contained in N*Project.

If you're just starting with N*Project, this view will be empty.

---

2. Create the Project Master

√ Tap the New button at the bottom of the screen and select Project from the pop up menu. N*Project opens the Project Editor so you can enter information.

Give the Project a Name
√ Write "Sample Project" in the Project field and tap the close box in the Project Editor window.
For now, all we're going to do is provide a name for the project.

√ A project icon labeled "Sample Project" appears in the upper-left of the screen. Place the stylus on the

project icon and drag it to the center of the screen.

---

3. Sketch the Project Network

In this example, we'll use the Network view to create the basic project. Depending on your preference and the kind of project, you could use the Outline view for this purpose.

√ **Tap the Sample Project icon and select Network from the pop up menu. A blank Network view appears.**

Create a Start Milestone
√ **Draw a circle near the left edge and about half way down of the screen.**
Make sure the start and end point of the circle join up. A small write-in slip appears so you can give the activity a name.

√ **Write "Start" in the slip and tap the close box in the slip. A circle with the text "Start" appears.**
You've just created a milestone activity. Milestones are used to mark key locations in the project's plan. No effort or elapsed time is associated with a milestone. Project's don't require a starting milestone but using them can add clarity to the Network chart.

Create a Task
√ **Draw a rectangle to the left of the Start milestone. The small write-in slip appears.**

√ **Write "Task One" in the slip and tap the close box. A rectangle with the text "Task One" appears.** *Now you've created a task activity.*

Add a Dependency Line
√ **Draw a line from within the Start circle to within the Task One rectangle. Your sketched line is replaced by a straight one.**
You've now made Task One dependent on the Start milestone. A dependent task is one that does not begin until the prerequisite activity has been completed.
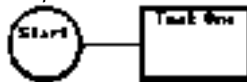
Rotate and Zoom the View
Let's zoom the view out and rotate it so so we can see more of the network at one time. If your Newton is

in portrait orientation:

√ **Tap the diamond in the tool bar. Tap the** Screen **option. If you have an MP2000, select right or left 90 degree rotation. The screen rotates.**

√ **Tap the left side of the zoom button in the tool bar.**
N*Project zooms the view out (makes it smaller) so that you can see more of the chart.

Dependent Task Quick Add
We'll add more tasks to the project. This time we'll use a shortcut to create tasks with dependencies.
√ **Draw a line from with the Task One box to a blank area to the right. The now-familiar name entry slip appears.**

√ **Write in "Task Two" and tap the close box. A new task with the text "Task Two" that is dependent on Task One appears in the Network.**

√ **Draw a line from with the Start circle to a blank area to the right and below. Write "Task Three" in the name slip and close it.**

√ **Draw a line from with the Task Three box to a blank area to the right. Write "Task Four" in the name slip and close it.**

Finish Up the Sketch
Let's add a milestone activity to represent the end of the project.
√ **Draw a circle to the right of Task Four. Write in "End" and tap the close box.**

√ **Draw a line from Task Two to End. Draw a line from Task Four to End.**

You should end up with network that looks something   like this:

li
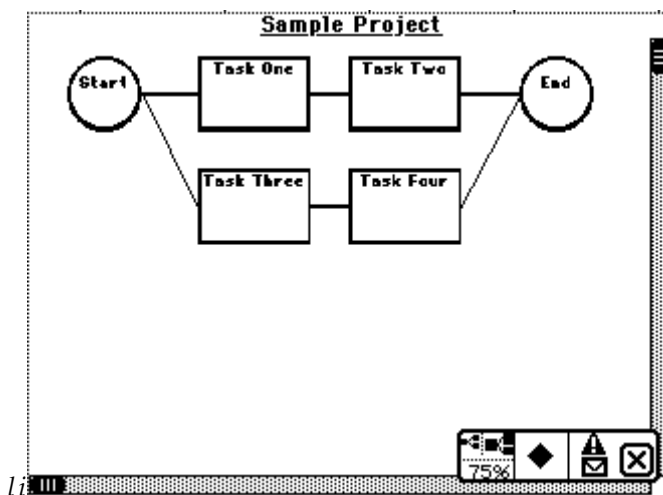
Move an Item

Let's move the End milestone to a different place in the chart.

√ **Tap within the End circle once. The item becomes high lighted.**

√ **Drag the high light down so it is level with Task Four and raise the stylus.**

4. Enter Task Details in the Network View

We'll enter some task detail information from the Network view and then switch to the Outline to enter more.

√ **Double-tap on the Task One box and the Task Editor opens for the task.**

Planned Effort

√ **In the Plan Effort field, write 8. If the box next to it says "D", tap it so it says "H".**
"H" indicates hours and the "D" represents days.

Assign a Resource

√ **Tap the resource icon (the little face). The Resource slip appears.**

√ **Write in the name Joe and an hourly rate of $100.**

√ Tap the Assign button.

√ **Close the Task Editor by tapping the close box.**

For purposes of this exercise, we'll switch to the Outline view and enter more task details.

---

5. Enter Task Details in the Outline View

Navigate to the Outline View
√ **Tap the diamond-shaped Navigation button in the tool bar.**

√ **Select Outline from the menu.**

After a moment, the Outline for our Sample Project will appear, looking something like this:
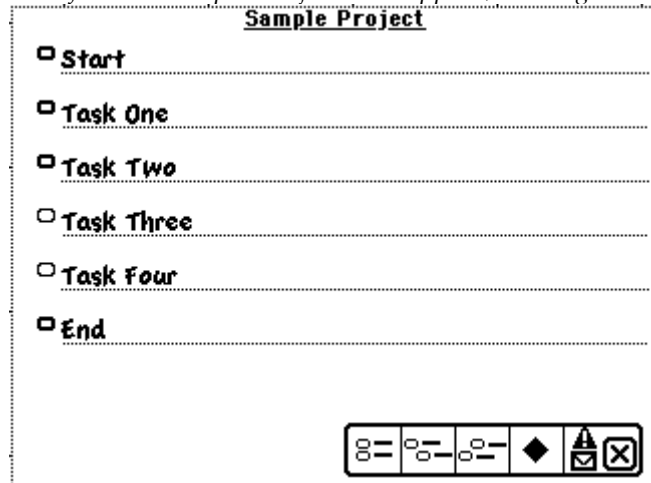
Enter More Task Details
√ **Double-tap inside the marker of the Task Two line. The Task Editor opens.**
The marker is the rectangular shape left of the text.

√ Write-in a plan effort of 16 hours in the Task Editor.

√ Tap the Resource button and assign the task to Jane at a rate of $100 per hour. Close the Task Editor.

√ Double-tap the marker in the Task Three line. Write-in a plan effort of 24 hours. Close the Task Editor. *We'll leave this task unassigned.*

√ Double-tap the marker in the Task Four line. Write-in a plan effort of 32 hours. Close the Task Editor. *We'll leave this task unassigned too.*

---

6. Edit the Outline

For purposes of the exercise, let's organize the four tasks in Sample Project Outline into two groups - Phase One and Phase Two.

Insert New Lines

√ Tap within the "Start" line to select it.
The insertion caret appears and a dotted line shows around it to indicate the Start line is selected.

√ Tap the new line button in the tool bar. In this case, we want one at the same indentation as the Start line so use the 8= button. A blank line will appear between the Start and Task One lines.

√ Write "Phase One" in the write-in space on new the line.

√ Select the Task Two line. Tap the new line button and write-in "Phase Two" on the new, blank line.

Indent Tasks Below the Phase Summary Lines

√ Grab the edge of the marker for the Task One line. Drag it to the right. You'll see a horizontal reference line that indicates the insertion point. Lift the stylus to "drop" the line.

√ Drag the Task Two line to the right.

√ Drag the Task Three line to the right.

√ Drag the Task Four line to the right.

The Outline now looks like this:
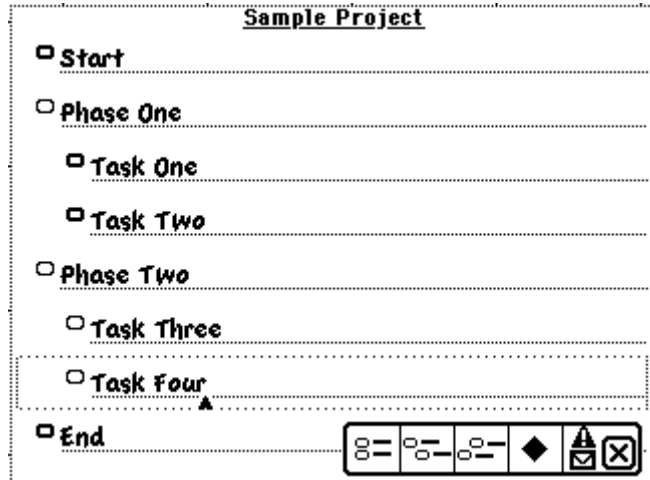
You can also drag lines to change their sequence in the Outline. We won't do that now.

The the two group lines, Phase One and Phase Two, only serve to help organize the Outline and, as you'll see later, in the Gantt chart. They are not activities. In fact, if you go back to the Network view, you'll see that neither Phase One or Phase Two appear there.

Changing the indentation or sequence of a line has no effect on task dependencies unless you reposition a line that was a task or milestone so that it becomes a group line. When a line changes to a group line, the dependencies are removed.

Collapse and Expand Groups

√ **Tap the inside the marker for Phase One once. The two lines subordinate to it disappear and the marker changes to solid black.**

√ **Tap the Phase One marker again. The two subordinate lines reappear and the marker changes back to normal.**

7. Calculate the Schedule

So far, we've created tasks with effort amounts and set up dependencies. Now we're going to have N*Project calculate the plan's schedule plan. In our exercise, we're going to provide the project's start date. We could also set its finish date or both.

Set the Project Start Date

√ **Tap the diamond navigation button and select** `Project` **from the menu. The Project Editor appears.**

√ **Tap the diamond under the** `Plan` **column header and next to** `Start`**. A calendar picker appears.**

√ **Select a date and tap the close box in the picker. The date now appears in the Project Editor.**
We used May 1, 1997 for the screen samples here.   You may choose a different date.

√ **Tap the Project Editor's close box.**
The year of the date you selected doesn't appear in the Project Editor in order to save space on the screen. But N*Project does keep that information internally.

Run N*Project's Date Calculation
N*Project tells you when a date calculation is needed by showing a small alert icon in the tool bar, just above the Action button.

√ **Tap the calculation alert button.**
A progress window will appear as N*Project runs the calculation. When it goes away, the calculation is complete. The calculation alert icon also disappears.

---

8. The Gantt Chart

√ **Tap the navigation button in the tool bar and select** `Gantt`**. The Gantt chart for the project appears.**

Below is what the Gantt looks like. We used May 1, 1997 as the project start date. Your dates may be different.

There a number of things you should note about the Gantt chart:
- *The list of activity names on the left replicates the Outline. Groups can be collapsed and expanded as in the Outline by tapping their name once.*

- *The Start, Task Three, Task Four and End lines have a heavier marker next to them. This means that these activities are on the project's Critical Path.*

- *In the chart area on the right, each line sports a gray bar and a black bar.*
  - *The gray bar spans from the activity's earliest start to its latest finish calculated by N*Project.*
  - *The black bar spans from the activity's plan start to plan finish. Since we didn't enter any plan dates in the Task Editor, N*Project uses the earliest start and finish dates. If we had entered plan dates, the black bar would reflect them.*
  - *Group lines have a bar shaped differently and match the total span of all activities grouped beneath it.*

- *The little arrow at the very bottom is a sizing handle. Drag it left or right to change the width of the names column.*
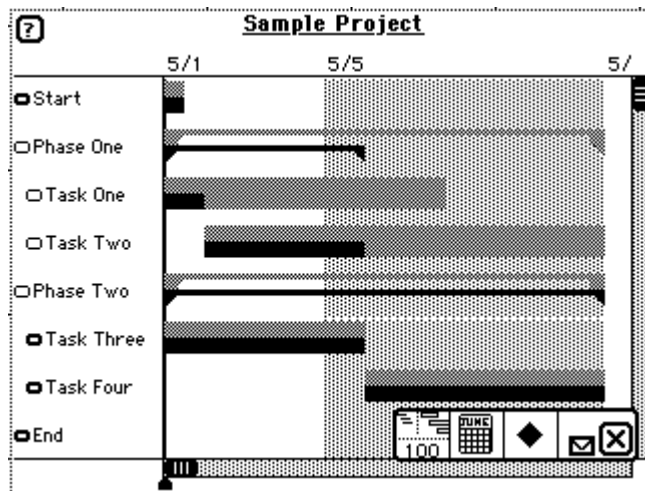
Change Project Information, Watch the Gantt Change

Let's change some information in the project to see the effect it has on the Gantt chart.

√ **Double-tap on the activity name "Task One". The Task Editor will open.**

√ **Change the planned effort from 8 hours to 40 hours. Tap the Task Editor close box.**
Note that the calculation alert icon appears in the tool bar.

√ **Tap the calculation alert icon so that N*Project calculates a new schedule.**

Do you see how the Gantt chart has changed? The bars are different and the activities marked as part of the Critical Path are different because changing Task One's effort to 40 hours has made it become part of the critical path.

Alter the Gantt Format

All of N*Project's views have a format control slip. We'll introduce you to the one associated with the Gantt.

√ **Tap the navigation button in the tool bar (the diamond) and select** Format **from the menu.**

√ **Tap the** Scale **menu and select** Days **from the menu.**

√ **Tap the button in the** Col 1 **box. Find and select** Planned - Effort **in the pop up menu.**

√ **Tap the close box in the Gantt Format slip.**
After a moment, the Gantt chart is redrawn with a number of changes. The most obvious is the presence of a column of numbers between the names and the chart. Selecting Planned Effort in the column box did this. On closer inspection, you'll see that the scale of dates in the chart is now different. Choosing Daily from the Scale menu did this.

9. Making Progress

Let's simulate some of the things that happen as your project is running. Take a look at the Start milestone in the Gantt chart and note the date it is set to occur. In our version of the project that date is May 1 but your date might be different.

√ **Double-tap on the Start line in the names area of the Gantt chart. The Task editor will open.**

√ **Tap the diamond under** Revised • Actual **and select a date that is two days later than the date noted earlier. In our sample, that is May 3. Tap the date selection close box. The selected date is now seen in the Task Editor.**

√ **Tap the check box next to the date just set. This means that the date selected is the actual date that the milestone occurred.**

√ **Tap the Task Editor close box.**
Notice what happened to the Gantt bar for the Start activity? It moved. And notice that no other activity bars changed. That's because N*Project needs to recalculate the effect of this new piece of

information.

√ **Tap the calculation alert icon so that N*Project calculates a new schedule.**
Now you can see that the bars for the other activities in the project have shifted to new dates. That's because they are each dependent, directly or indirectly, on the Start activity. Since the actual date we entered for Start was different than the plan, those dependent activity dates had to change.

√ **Double-tap on the activity name "Task One". The Task Editor will open.**

√ **Drag the % Complete control so that it registers 50%.**

√ **Tap the Task Editor close box.**
The Gantt bar for Task One looks different now, displaying the 50% completion status that you just set.

Good project management practice involves regular checks on how activities are progressing and stepping back to gauge the effect of that progress on the overall schedule. Sometimes this can be difficult in the midst of all that goes on in a project manager's life.

Fortunately, N*Project makes this much easier. Keep your Newton handy. Enter actual dates, completion percents, and revised effort estimates as soon as that information becomes available. Every day or so, recalculate the schedule with the new information and then use the Gantt chart, the Project Editor, or the Alerts function to see what the new information means to the project as a whole.

This ends our basic tutorial for N*Project. You probably noticed that there are many functions in N*Project that we didn't get into. We encourage you to continue experimenting with Sample Project and use the rest of this manual as a reference.

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Advanced users of N*Project who wish to understand how project schedules are calculated will find it described here.

What is Calculated

When the N*Project date calculation runs, it determines the following for the project as a whole:

- Project earliest start
- Project latest start
- Project latest start
- Project latest finish
- Critical path
- Planned and actual total project cost

If the planned or actual start date for the project is present, they override the calculated dates. If the planned finish date for the project is present, it overrides the calculated date. If the actual finish date is present, the calculation does not occur.

Dates are also calculated for each task and milestone:

- Earliest start
- Latest start
- Latest start
- Latest finish

Naturally, if actual start or finish dates for a task are present, they take precedence over calculated dates.

Early and Late Date Calculations

N*Project calculates the early and late dates separately and in that order.

To calculate early dates, N*Project first identifies all tasks and milestones that have no prerequisite

dependencies. Call these initiating activities. The early start date of each of these becomes either the actual or planned start date for the project, or the current date, if no entered project start is available. The early finish date is determined for each initiating activity using the effort, resource information, and the work schedule. See below for details.

After each initiating task is computed, each chain of dependencies for each originator is calculated. The early start for a dependent task becomes the early finish of the prerequisite task and the early finish is again calculated using the effort, resource information, and the work schedule. If an activity is dependent on more than one other activity, the later early finish becomes the early start for the dependent activity.

Late dates are calculated in a similar fashion. Finishing activities are identified by finding those activities with no dependents. The late finish date of each finishing activity is set to the planned finish of the project. If that is not available, then the early finish date of the project, calculated as described above, is used. Then each dependency chain starting from the finishing activities is calculated a manner similar to what is described for early dates.

Task and Milestone Date Calculations

Within the calculation process described above, dates for each activity are calculated based on an early start or late finish date and the following activity information:
- Planned or revised effort
- Resource availability
- Resource effectiveness
- The weekly work schedule
- Holiday and other non-workdays

The elapsed time for the activity is calculated using the formula:
(Task Effort/Resource Effectiveness) / Resource Availability

The elapsed time is then plotted over calendar days using the weekly work schedule and the holidays list. If the calculated finish date and time is such that it falls on the end of a work day, the calculated finish date varies depending on the Prefs Slack Days setting. If Calendar is set, then the finish date is adjusted to be the beginning of the next work day. If Work Schedule is selected in Prefs, then the finish date remains unchanged.

If the activity has an actual start and/or finish date entered, then these dates override the calculation.

Automatic Schedule Calculation

You can create a project activities, effort, and dependencies, but with no planned date anywhere, and N*Project

will calculate a complete schedule.

With no dates entered, N*Project assumes the current date to be the start of the project. If you enter only a planned start date for the project, N*Project uses that as the basis of calculation.   If you enter only a project finish date, N*Project calculates activity dates from the end of the project and works through dependency chains in reverse to determine a project start date.

In all three situations described above, the schedule calculated by N*Project is "tight". That is, there will be no slack time in the project's critical path. If you have provided both a planned project start and finish date, then N*Project will include slack in the critical path, assuming the dates allow for it.

Once N*Project has calculated the schedule, you can move the calculated dates for each activity into the corresponding planned dates *en masse* using the Editor Too.

Critical Path
N*Project determines the project's critical path by locating the activity with the latest finish date and tracing back through the dependency chains to the start of the project, locating the latest finish date whenever there are multiple dependencies present. If there is a tie between two activities, the choice is arbitrary.

Slack Time
Slack time can be displayed in several places in N*Project. The value shown is the number of days an activity's start and completion can be delayed without changing the project's overall finish date. N*Project calculates slack time based on the difference between the early finish and late finish dates.

If the Slack Time setting in Prefs is "Calendar", slack time is the number of calendar days. If set to "Work Schedule", slack time reflects the number work days in the slack.

14. Frequently Asked Questions

Some frequently asked questions about N*Project and the answers:
- Can N*Project calculate a schedule for me?
- Can N*Project calculate a schedule with tasks that have fixed dates?
- All I want is a Gantt chart. How?
- Does N*Project take resource loading into account?
- How can I tell if my project schedule can be met?
- How do I fax reports when I need to remove my storage card?
- What are the Risks and Issues?
- How do I make one set of parallel activities dependent on another set of parallel activities?

• Can N*Project calculate a schedule for me?

Yes it can.

Create a project by entering tasks, their dependencies, and estimated effort. Enter a planned start or finish date for the entire project in the Project Editor. That's all N*Project needs to calculate a schedule.

Earliest start, earliest finish, latest start, and latest finish dates are calculated for each task and the project as a whole. If desired, you can use the Edit Tool to move calculated dates into the planned dates *en masse*.

• Can N*Project calculate a schedule with tasks that have fixed dates?

Yes, N*Project can calculate the schedule when you have activities in the project that must happen on a

certain date.

Open to the Task Editor for the task and set an actual start or finish date. N*Project takes actual dates into account when it calculated the schedule.

- **All I want is a printed Gantt chart of my project using my planned dates. What's the easiest way to get it?**

  Use the Outline view to create your list of activities as you want them to appear in the Gantt chart. Add your planned start and finish date to each task.

  Then go to the Gantt view. In the Gantt Format slip, "un-check" the "Show Calculated" check box. The Gantt chart will now show only your planned dates as black bars. You can print it using the Action button.

- **Does N*Project take resource loading into account?**

  Yes, if you have checked the Resource Constrain check box in N*Project's Prefs slip.

  If a resource is assigned to two tasks and those tasks turn out to be scheduled at the same time, the schedule dates for one of the tasks will be altered to resolve the conflict. Further, if a resource is used both individually and as part of a team, the team membership is taken into account.

- **How can I tell if my project schedule can be met?**

  Before the project has started...
  Enter all you know about the project and cause N*Project to calculate dates. Then scan the Gantt chart for the project. If any of the Gantt's black bars fall outside of the gray bars, then you have a problem.

  The gray bars span a task's calculated earliest start to latest finish dates. The black bars span your planned start and finish dates. (If you haven't entered planned dates for a task, the black bar reflects the

earliest start to earliest finish dates.) If any gray bars are later than the black bars, then your planned schedule is not attainable.

While the project is active...
Keep the project information up to date by entering task completions, revised effort estimates, and revised start and finish dates. Make sure N*Project has calculated dates using the latest information.

You can scan the Gantt chart as above. Or you can use N*Project's Alerts feature. Any task whose plan dates cannot be met will be listed in Alerts.

• **I use a PC card fax modem and I have a storage card where I keep N*Project data. Can I fax N*Project reports from my MessagePad that has only one PCMCIA slot ?**

Yes, but you have to set things up properly.

If you're faxing a Network, Gantt or Budget chart...
1. Make sure the N*P Chart Print package is installed on the internal storage area.

2. Go through the steps to fax the chart, choosing the "Fax Later" option so that the fax item is placed in the Newton's Outbox. Quit out of N*Project.

3. If you have told the Newton to "Store new items on card", you will need to open the Outbox and use the File button to move the Outbox item to the internal storage area.

4. Eject the storage card, insert the fax modem card, and send the chart item from the Outbox.

If you're faxing project or Outline text reports...
1. Make sure the N*P Text Print package is installed on the internal storage area.

2. Make sure the data for the project is located on the internal storage area. You can do this by using the File button in the Project Editor slip for the target project.

3. Go through the steps to fax the report, choosing the "Fax Later" option so that the fax item is placed in the Newton's Outbox. Quit out of N*Project.

3. If you have told the Newton to "Store new items on card", you will need to open the Outbox and use the File button to move the Outbox item to the internal storage area.

4. Eject the storage card, insert the fax modem card, and send the chart item from the Outbox.

- **What are the Risk and Issue buttons in the Project Editor ?**

  In technical terms, Risks and Issues are just two more kinds of notes that you can add at the project level.

  Project managers will tell you they manage people, resources and time. *Good* project managers will add risks, issues and expectations to that list. We haven't figured out how N*Project can help you manage expectations but it can help you manage risks and issues.

  Risks are things outside of your control that may happen to your project. Usually they're bad things. It is wise to identify risks before a project begins, plan a response, and gain agreement on the plan from the project's sponsor.

  Let's say your project is the installation of a network and personal computers. A risk may be that the equipment supplier does not ship on time. You and the sponsor have agreed that the response will be to extend the project's finish date. The Risk area of N*Project allows you to record this information so that weeks or months after the agreement, you can recall the details when you need it.

  Issues are questions and concerns that arise during a project but cannot be immediately answered. Recording these open questions in N*Project's Issues area allows you to keep track of them and manage their resolution.
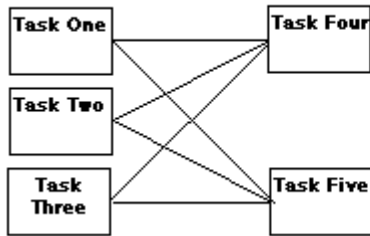

- **How do I make one set of parallel activities dependent on another set of parallel activities ?**
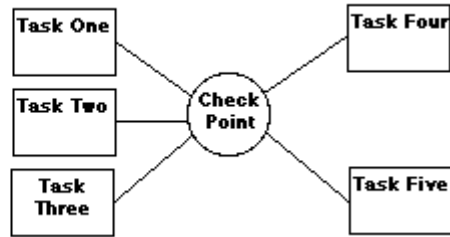
  There is an easy and a hard way to do this. The easy way involves the use of a milestone to serve as a check point between the two sets of parallel activities. The example below illustrates this in the Network view.

  The hard way is not only more difficult to create and understand, it also takes longer for N*Project to calculate dates.

The Hard Way

Task One	Task Four
Task Two	
Task Three	Task Five

The Easy Way

Task One		Task Four
Task Two	Check Point	
Task Three		Task Five

15. Keyboard Commands

If your Newton has OS2.1 or later, and you are using a Newton keyboard, the following command key functions are available in N*Project. 🍎 represents the command key on the keyboard.

Commands That Work Everywhere

🍎- O	Same as tapping the Newton overview button.
🍎- Q	Quit N*Project.
🍎- P	Same as selecting Print/Fax from the Action menu of front-most window.
🍎 -W	Same as tapping the close box of the front-most window.
🍎-←	Scrolls view to the left.
🍎-→	Scrolls view to the right.
🍎-↓	Scrolls view down.
🍎-↑	Scrolls view up.

Outline Commands

🍎 =	Inserts new line below active line at the same level.
🍎 [	Inserts new superior line below active line.
🍎]	Inserts new subordinate line below active line.
Tab	Make next line the active line.
Shift-Tab	Make previous line the active line.
Opt-🍎-T	Open Task Editor for active line.

16. Installation

Instructions for installing N*Project Pro including:
- **What you need**
- **Macintosh installation**
- **Windows installation**
- **Special instructions for Windows NT**
- **Installing the Comms package on the Newton**
- **Installing on multiple desktop systems**

What You Need

	Macintosh	Windows
N*Project Pro application	N*Project Pro	NProjPro.exe
N*Project DLL's		X
Comms.pkg for Newton	X	X
Apple Modem Tool*	X	
CPU	68030 or better	80486 or better
Operating system	Mac OS 7.x or later	Win3.x, '95, or NT
Newton serial cable**	X	X
Newton package installer***	X	X

*   If you're already using NBU, NCU or NPI on your Macintosh, this tool is installed.
       If not, you'll find the file and installation instructions on the Newton Backup
       Utilities diskette that came with your Newton.
**   N*Project Pro does not operate over AppleTalk.
***   Any utility that installs packages on the Newton including Newton Connection
       Utility, Newton Backup Utility, and Newton Package Installer.

Install N*Project Pro for Macintosh
Decompress N*Project Pro for Macintosh after downloading the file. After decompression, you'll find:
- N*Project Pro application
- Comms.pkg for the Newton
- A ReadMe file.

Check the ReadMe for any late-breaking news or instructions about N*Project Pro.

Move N*Project Pro application to the desired folder. You may want to create a new folder for this purpose since N*Project Pro will be creating some database files to hold the project archives.

N*Project Pro also requires that the Apple Modem Tool be installed in your System Folder (Extensions folder). If you currently use the Newton Connection Utility or the Newton Backup Utility, then this extension is already installed. If you need to install the Apple Modem Tool, you'll find a copy of it on the Macintosh diskettes that came with your Newton.

Install N*Project Pro for Windows
Decompress N*Project Pro for Windows after downloading the file. After decompression, you will find:
- NProjPro.exe
- A number of *.dll files
- Comms.pkg for the Newton
- A ReadMe file.

Check the ReadMe for any late-breaking news or instructions about N*Project Pro.

The NProjPro.exe and the *.dll files need to remain in the same directory/folder and at the same level. In other words, keep these files together and don't create sub-folders to hold a portion of these files.

Note to Windows NT Users: When N*Project Pro is opened under Windows NT, a message is issued asking if you want to continue without "Persistent Data". You can answer "Yes" and continue. To prevent this message from appearing, use a text editor like Notepad to create a file in the same directory as NPROJPRO.EXE called NPROJPRO.INI. In the INI file place the lines

```
[Settings]
PersistentData=C:\mypath\NPROJPRO.PDT
```
where mypath is the path to the directory containing NPROJPRO.EXE.

Note to Networked Windows Users: N*Project Pro is delivered as a "16 bit" application so that it can run on

Windows 3.x, '95 and NT systems. If N*Project Pro fails to run on your networked Windows '95 or NT system, it may be because running 16 bit software has been disabled by your network administrator. Ask him/her if the "policy" settings allow 16-bit applications to run on your workstation and if "file security" will allow N*Project Pro to write data to your disk drive.

Install the Comms Package On Your Newton
Use the Newton Backup Utility (NBU), Newton Connection Utility(NCU), or any other package installation tool to install Comms.pkg file on your Newton.

Installing on Multiple Desktop Systems
You may install N*Project Pro for Window or Macintosh on as many systems as you like without violating the N*Project license agreement. When you purchase a single license, you may only load and run the N*Project Newton software on a single Newton device.

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17. Connecting

Instructions for installing N*Project Pro including:
- **Cabling**
- **Selecting a port**
- **Initiating the connection**
- **Disconnecting**
- **Reconnecting**

These instructions assume you have already installed N*Project on your Newton and opened it at least once.

Step 1: Connect the Cable
Create a connection between the Newton and the desktop system using a standard Newton serial cable. You can use either serial port on the Macintosh, the Modem or the Printer Port. On Windows, you can use COM1 or COM2.

Step 2: Start N*Project Pro on the Desktop
Launch N*Project Pro.

Step 3: Set the Port Selection
When N*Project Pro is opened, it automatically begins to listen for the Newton connection on the assigned port. The first time the program is opened, it defaults to the Modem Port on Macintoshes and COM2 on Windows systems. In the upper left of the screen you'll see something like this:
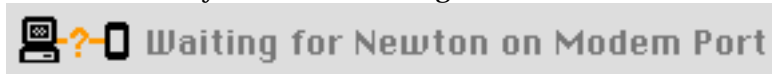
To change ports, pull down the Port menu and select Printer Port on Macs or COM1 on Windows machines. N*Project Pro stops listening on the Modem Port/COM2 and begins to listen on the Printer Port/COM1. The next time you open N*Project Pro, it will automatically listen on the newly selected port.

If N*Project Pro encounter a problem when trying to listen - for example, the selected port may be busy - an error message is displayed and the connection icon will look like this:

Correct the problem and tap on the icon. N*Project Pro will begin listening on the selected port.

Macintosh Notes: Be sure AppleTalk is inactive if you use the Macintosh's Printer Port. If you have an internal modem, that modem must be deactivated to use the Modem Port.

Windows Notes: In Windows 3.x, some some software that uses COM ports, such as fax receivers, may have to be closed to use N*Project Pro. Be aware that internal modem use one of your COM ports even though the physical port may be vacant.

Step 4: Tell the Newton to Connect

Launch the connection program on the Newton. You can do this by:
> • Tapping the Action button in N*Project's main screen and selecting Pro Connection from
>   the menu.
> • Launching RCU 2.2 from the Extras Drawer.

When RCU is open, tap the Connect button. Once the connection has been made, you'll see something like this in the upper left of the N*Project Pro screen:

Note: Connection usually takes a second or two but, under certain conditions it is normal for it to take five seconds or more to complete.

As soon as the connection is made, N*Project Pro automatically reads the list of projects on your Newton and displays them.

Note: N*Project can be open or closed on the Newton during a communication session.   If you leave it open, you <u>should not</u> enter information into N*Project during the session. There's nothing to stop you doing this but it could cause unpredictable results. For fastest performance, close N*Project on the Newton while communicating.

To Disconnect

To disconnect, do any of the following:
- Tap the Disconnect button in RCU's window on the Newton.
- Click on N*Project Pro's connection icon in the upper left of the main window.
- Quit N*Project Pro.

To Reconnect

To reconnect, click on the red X in the connection icon.

This tells N*Project Pro to start listening on the serial port. Then tap the Connection button on the Newton.

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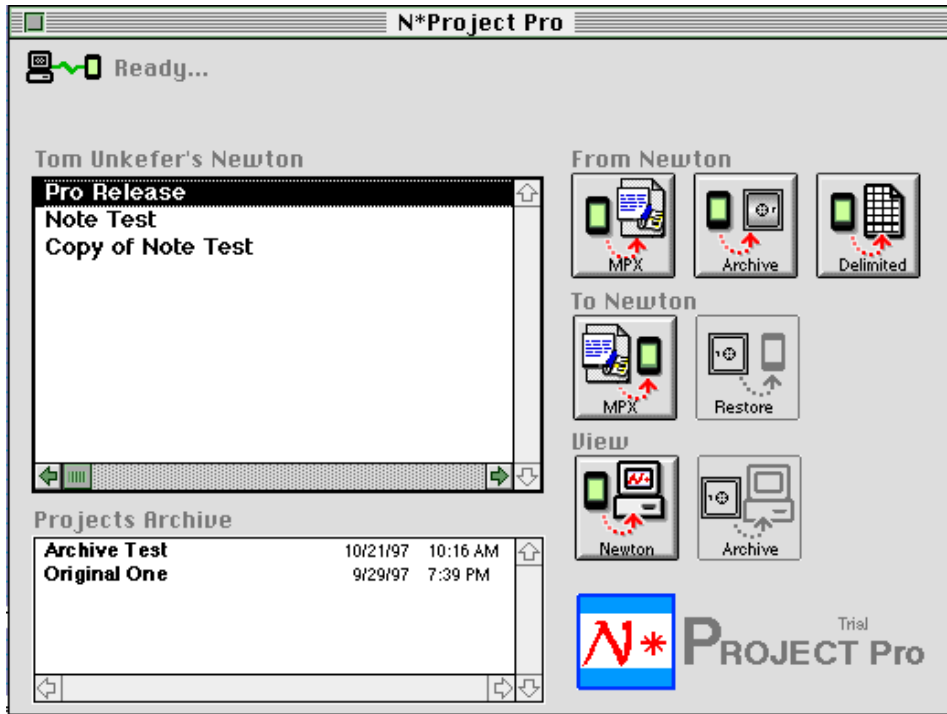
18. Main Window

The features of N*Project's main window are discussed including:
- **The Newton project list**
- **The archive project list**
- **The function buttons**
- **The menu options**

The screen samples shown here are from the Macintosh. The Windows screens are essentially the same.

The Newton Project List

When N*Project Pro is opened and the Newton connection is established, the names of projects on the Newton are automatically retrieved and listed in N*P Pro's main window. When you click on one of the projects there, as has been done in the screen sample, it is highlighted and the appropriate function buttons on the right are enabled.

The Archive Project List

When N*Project Pro is launched, it automatically opens the archive database that was in use when N*Project Pro was last open. You can create and access as many archive databases as you like. Details are described in the chapter on archiving and restoring projects

As with the Newton project list, clicking on a project name activates that member of the archive and enables the appropriate function buttons.

The Function Buttons

 The function buttons in the right-hand side of the window are shown in color when enable and gray when disabled. Whether or not they are enabled depends on the state of things in N*Project Pro. Their functions are described in detail in the following chapters.

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19. Viewing a Project

You can view project information on the Newton or in the archive with N*Project Pro:

- **Select a project**
- **Opening a project**
- **Opening a task**

Project information contained in the the archive database and on your Newton can be viewed in N*Project Pro. The displays used approximate those used in N*Project on the Newton.

Open the Project Window

When you select a project in the Newton project, this button is enabled in the N*Project Pro main window:

Selecting a project in the archive list enables this button:

Clicking the enabled button opens the Project View which combines the information in the Project Editor and Outline on the Newton. The icon buttons for Resources, Schedule, Description, Diary, Risks and Issues lead to other displays are equivalent to the same buttons on the Newton's Project Editor.

The Outline frame is just what it appears to be. Clicking on a task in the Outline opens the Task window. (Clicking on group headings has no effect.)

Task Data

To view task data details, click on the task in the outline list.   As with the Project Window, the Task Window approximates the Task Editor on the Newton and clicking the icon buttons opens other windows in a manner similar to N*Project on the Newton.

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N*Project Pro can import and export projects in the de facto standard MPX file format:

- **Importing an MPX file**
- **Exporting an MPX file**
- **MPX exchange limitations**

Importing an MPX File

N*Project Pro is designed to interpret any MPX file that follows the rules and contains at least the minimum amount of information about a project. When you export a project from a desktop project manager to MPX, use whatever settings are standard in the application for the export.

In MS Project, for example, you should use the global export table that is created when the software is installed.

Select a Project

After the connection to the Newton has become active, the MPX-to-Newton button is enabled.

MPX

Just click on it, go through the standard Open dialogue to open the desired MPX file and the processing begins.

N*Project Pro reads through the MPX file to extract and interpret the project information, and then creates the necessary soup entries on the Newton. A status windows gives you information about what is going on and alerts you when the project has been created on the Newton.

One Final Step on the Newton
A newly-imported project appears in N*Project on the Newton with a special icon. When you tap it, N*Project works for a few seconds to perform some final processing on the project data and then pops up the standard project menu.

<u>Note</u>:If N*Project was open while you sent the MPX project to it, tap the Overview button on the Newton to refresh the projects list and see the new project icon.

<u>Note</u>:The suggested memory allocation for N*Project Pro should be sufficient to import most MPX project files. If the project is very large, it may be necessary to increase N*Project Pro's memory allocation. To do this, select N*Project in the Finder, select Get Info file menu, and adjust the allocation. An additional 500 to 1,000KB should be enough.

Exporting an MPX File
Click on the target project in the Newton project list in N*Project Pro's main window. The Newton-to-MPX button becomes enabled.

Click on the button and a standard Save As dialogue will appear. Once you've selected a location and name for the new MPX file, processing begins. A status window keeps you informed about what's going on and alerts you when it is complete.

The MPX File on the Macintosh
When N*P Pro creates an MPX file on the Macintosh, it gives it a creator type such that the file icon will appear as a special MPX icon, if you have MS Project (version 4.0 for the Macintosh) installed on your Macintosh. When you double-click this icon, it will launch MS Project and import the MPX file. If MS Project is already open, use the Open command to import the MPX file.

If MS Project is not installed, the file icon is that of a generic text file.

The MPX File on Windows Systems

The file is created with a type suffix of .MPX.

MPX Exchange Limitations

General Limitations
N*Project and many other project management systems include MPX file exchange capability. Each of these systems has its own design philosophy and feature set.   While MPX is a de facto exchange format, it is not application neutral so some project information can be lost or altered when transferred from one project manager to another via MPX.

Import Limitations
The following information may be in an MPX file and is ignored by N*Project:
- Dependency relationships other than finish-to-start
- Dependency lag times
- Delays
- "Start no earlier than" or "Finish no later than" date constraints

If N*Project Pro finds a name for the project in the MPX file, this is used to name the project in N*Project. If this name is not found, the the project is named with the date and time that it was moved to the Newton. You can change the project name in N*P's Project Editor.

If a task in the MPX file includes multiple resources assigned to it, N*P Pro automatically creates a team in N*Project and assigns it to the task.

Export Limitations
If a task has a team resource assigned to it, the MPX file will include resource assignments (code 75 lines) for each team member. The Units value for each of these resources is calculated from the Availability percentage of each resource in N*Project's project resource pool.

MPX rules require that all predecessor tasks appear in the file before their successors. Since N*Project doesn't have that limitation, it automatically re-sequences tasks in the MPX file so that this rule is followed.

21. Delimited Export

Use N*Project Pro's delimited export feature to move project information to spreadsheet, database and other applications on your desktop system:
- **Select a project**
- **Select data items**
- **Set file format options**
- **Output a text file or clipboard item**

Select a Project

When a project has been selected in the project list, the Newton-to-Delimited button is enabled.

Tap it and this window appears:
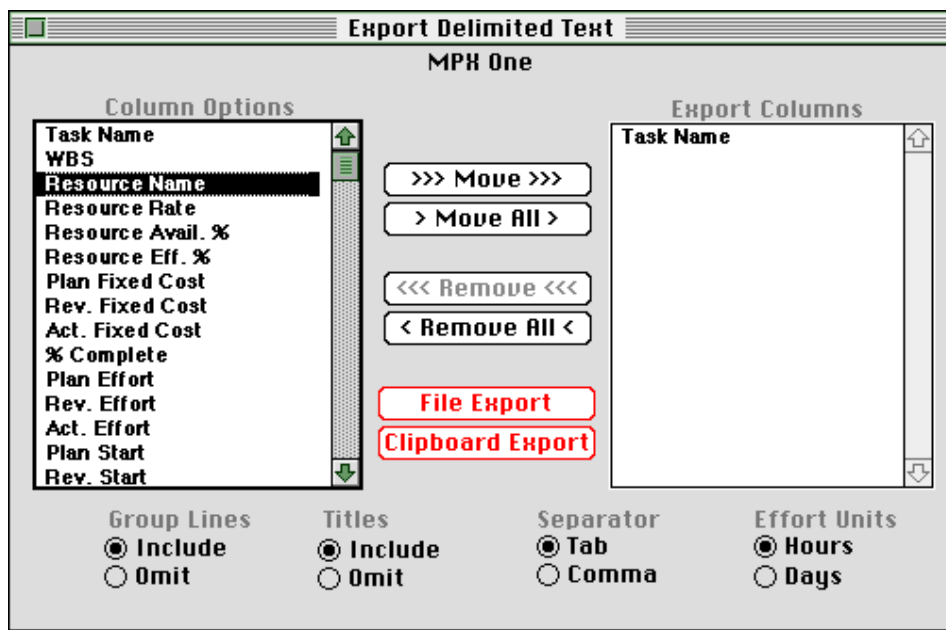
Set Up Columns

The Column Options on the left lists the task data items that can be exported. Click on one to select it and tap the >>>Move>>> button to place at the bottom of the Export Columns list on the right. This is the list of data items that will be included in the delimited text file.

Items in the Export Columns list can be removed by selecting one and clicking on the <<<Remove<<< button or by tapping <Remove All<.

File Format Settings

The radio buttons across the bottom of the window control certain formatting options for the file to be created.

- Group Lines allows you to include or exclude lines in the project that are group summaries in its outline.

- Titles allows you to include or exclude column titles in the exported file.

- Columns can be separated with a tab character or a comma. In most cases, the tab

separator will be used but some database software expects comma separators.

• N*P Pro will automatically convert effort amounts into hours or days based on the Effort Units setting. This is necessary since different tasks may use different time units within the same N*P project.

File or Clipboard Export
Click the desired button. If the File Export is clicked, a standard Save As dialogue will ask you to locate and name the file.

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22. Archive and Restore

Individual projects on the Newton can be archived to the desktop and later restored to the Newton. Besides ensuring the safety of your project information, the archive and restore can be used to save a snapshot of a project at different points in time and to move project information to multiple Newtons:
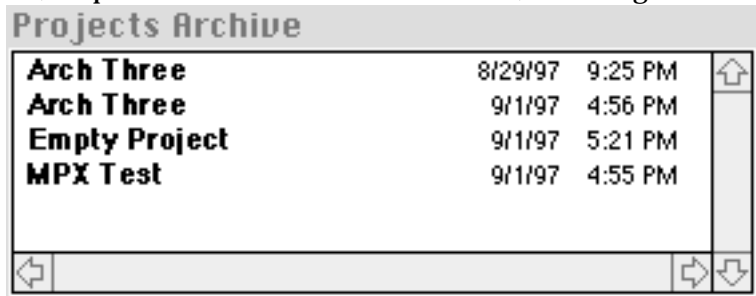
- About archive files
- Creating an archive
- Switching archives
- Archiving a project
- Restoring a project

About Archive Files

N*Project Pro stores archived projects in database files. You can create multiple archive databases and switch from one to another you wish.

When N*P Pro is launched, it opens the archive database last used, assuming it exists in the same location.

```
Projects Archive

Arch Three          8/29/97   9:25 PM    ⬆
Arch Three          9/1/97    4:56 PM
Empty Project       9/1/97    5:21 PM
MPX Test            9/1/97    4:55 PM



⬅                                   ➡ ⬇
```

You can switch from one archive to another, or create a new archive and switch to it using the Archive menu.

When an archive database is opened by N*Project Pro, its contents are listed in the archive window. The date and time shown in the list notes when an archive was created.

Note for Windows Users: The first time you launch N*Project Pro, you will need to create an archive database using the steps in the next paragraph.

Creating an Archive

To create a new archive, pull down the Archive menu and select New. A Save As dialogue will ask you to name and locate the new archive. Once this is done, the archive list in the main window is opened to the new archive.

Note: When an archive is created, two files are created, one called "My File.npp" and another called "My File.npt". These two files work in tandem and should be kept together in the same folder/directory level.

Switching Archives

Pull down the Archive menu and select Switch. A standard Open dialogue will as you to locate the database. Once this is done, the archive list in the main window is opened to the new archive.

Archiving a Project

When you select a project in the Newton list (and the Newton connection is active), the Archive button is enabled.

Tap the Archive button. If the project already exists in the archive, N*P Pro asks wither you want to replace it or create a copy. If you replace, the older archived project is deleted and a new archive member is created from data on the Newton. If you create a copy, then a second version of the project is placed in the archive from the current data on the Newton.

You can distinguish project archive copies of the same project by the date and time shown in the archive list. For some N*Project users, saving archive generations is useful for conducting post-project "autopsies."

Note: When project and task notes (Descriptions, Diaries, Issues and Risks) are archived, only recognized text data in the notes is saved. Digital ink and drawings are not.

Restoring a Project

When a project in the archive list is selected (and the Newton connection is active), the Restore button is enabled.

Tap the Restore button to start the restore process.

If the project already exists on the Newton, N*P Pro will ask you if you wish to create a copy of the project on the Newton. If you answer Yes, N*Project Pro renames the project to "Copy of ..." on the Newton. If you answer No or Cancel, the restore process is canceled.

Viewing Archived Projects

Archived projects can be viewed and printed in the same way that projects on the Newton can be viewed and printed. When an archived project is selected in the list, the View button is enabled.

23. Printing

When the Project window is open, either when viewing a project on the Newton or one in an archive, the Print item in the File menu is active.

Selecting Print when the Project window is front-most prints a text report of the project.

When the Task window is front-most and Print is chosen, a text report on that task is printed.

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___Other   Other_____

          ____None