User Guide

ESTIMATE (COMMUNITY EDITION)

Document Version *1.0*

Created on December 07, 2010

COPYRIGHT NOTICE

Copyright © 2010 Amit Kumar (amitkriit@gmail.com)

All other trademarks, service marks, and trade names are owned by their respective companies.

Revision History

Version	Change By	Comments	Date	Pages
1.0	Amit Kumar	Initial Draft	12/07/2010	92

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

Glossary- Read First

AJAX	Asynchronous JavaScript And XML
APPLICATION	Estimate (Community Edition)
CPU	Central Processing Unit
GB	Giga Bytes
GHz	Giga Hertz
HTTP	Hypertext Transfer Protocol
J2EE	Java 2 Enterprise Edition
JSP	Java Server Pages
LAN	Local Area Network
MBPS	Mega Bytes Per Second
MVC	Model View Controller
RDBMS	Relational Database Management System
SSL	Secure Socket Layer
SQL	Structured Query Language
TLS	Transport Layer Security
WAN	Wide Area Network
XML	Extensible Markup Language

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

Contents

1 Introduction 7
1.1 Features 7
1.2 Modules 7
2 Getting Started 9
2.1 Logging-in 9
2.2 User Interface 9
2.2.1 Workspace 9
2.2.2 Navigating Around 10
2.2.3 Using the Workspace 10
3 Costing Master 12
3.1 Assemblies 12
3.1.1 Moving Around 12
3.1.2 Adding a new Assembly 13
3.1.3 Editing an Existing Assembly 15
3.1.4 Deleting Assemblies 16
3.1.5 Moving or Copying Assemblies 17
3.2 Resources 18
3.2.1 Moving Around 18
3.2.2 Adding a new Category or Resource 18
3.2.3 Editing an existing Category or Resource 20
3.2.4 Deleting existing Categories and Resources 21
3.2.5 Moving or Copying Categories/Resources 21
3.3 CostBooks 22
3.3.1 Moving Around 22
3.3.2 Adding a new Category or Cost-Book 23
3.3.3 Editing an existing Category or Cost-Book 23
3.3.4 Deleting an existing Category or Cost-Book 24
3.3.5 Moving an existing Category or Cost-Book 25
3.3.6 Analysis of Rates 25
4 Projects 35
4.1 Definitive Estimate 35
4.1.1 Moving Around 35
4.1.2 Adding a new Project or Estimate 36
4.1.3 Editing an existing project or estimate 36
4.1.4 Deleting an existing Project or Estimate 37
4.1.5 Moving an existing Project or Estimate 38
4.1.6 Preparing Cost-Sheet 38
4.1.7 Managing Jobs 42
4.1.8 Managing overheads 44
4.1.9 Managing References 46
4.2 Control Estimate 47
4.2.1 Moving Around 47
4.2.2 Adding a new Project or Estimate 48
4.2.3 Editing an existing Project or Estimate 49
4.2.4 Deleting an existing Project or Estimate 50
4.2.5 Moving an existing Project or Estimate 50
4.2.6 Using Control Estimates 51
4.2.7 Managing References 55
5 Utilities 56
5.1 Calculator 56
5.2 Unit Converter 58
5.3 Contacts 58
5.3.1 Adding a new Directory or Contact 58
5.3.2 Modifying existing Directories or Contacts 60
5.3.3 Deleting Directories or Contacts 62
5.3.4 Moving/Copying an existing Directory or Contact 62

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

5.3.5 Viewing details of an existing Directory or Contact 63
5.4 Documents 63
5.4.1 Adding a new Folder or File 64
5.4.2 Modifying an existing Folder or File 65
5.4.3 Deleting existing Files or Folders 66
5.4.4 Moving/Copying an existing Folder or File 67
6 Reports 68
6.1 Assemblies 68
6.1.1 Printing list of Assemblies 68
6.1.2 Printing Analysis of Rate 70
6.2 Resources 70
6.2.1 Printing list of resources 71
6.3 Definitive Estimate 72
6.3.1 Project Reports 72
6.3.2 Definitive Estimate Reports 76
6.4 Control Estimate 78
6.4.1 Project Reports 78
6.4.2 Control Estimate Reports 81
7 Administration 84
7.1 Personalize 84
7.2 User Management 85
7.2.1 Adding a new User 85
7.2.2 Deleting existing Users 85
7.2.3 Access Rights 86
8 Installation Guide 88
8.1 Deployment Environment 88
8.2 Installation and Configuration 88

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

This Page was intentionally Left Blank

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

1 Introduction

Estimate(Community Edition) hereafter referred to as **APPLICATION** is an efficient, web-based, robust and secure Construction Estimation Software which has been designed for Construction Project Estimation, Control and Execution from anywhere, anytime with error free results.

1.1 Features

A. General:
   a. Web-Based Solution
   b. Convenient, Interactive and Easily Adaptable User-Interface
   c. Customized to suit construction industry
   d. Time Saving
   e. Reduce Conflicts (Centralized Database)
   f. Error Free (Reduce Manual Interference)
   g. Secure (Administrator may Configure Access rights for registered users)
   h. Generate accurate Cost Estimates and Bill of Quantities for Projects

B. Functional:
   a. Manage Schedule of Rates and Bill of Material
   b. Use Cost-Books to easily prepare Analysis of Rates
   c. Prepare Material Takeoffs and schedules
   d. Track and monitor project status and generate projections
   e. Manage documents and contacts
   f. On-the-fly generation of detailed reports in PDF format

1.2 Modules

There are five (5) basic modules in the application:

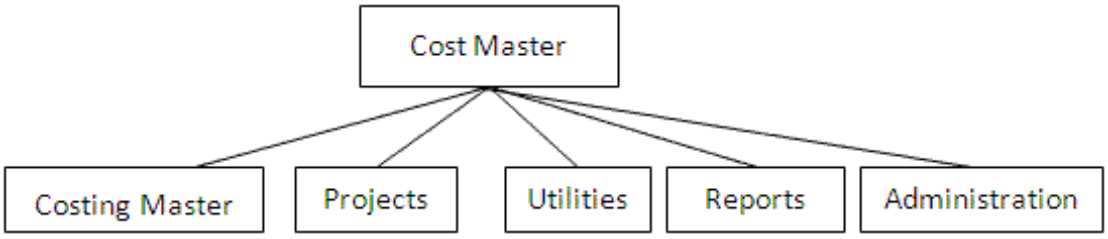


Fig 1-1: Basic modules

Costing Master: This module can be used to maintain database of items which are used/referenced frequently by other modules in the application, for example Assemblies, Bill of Material, Cost-Books.

Projects: Manage your projects and estimates through this module. Prepare material-takeoffs and project plans; gather as-built data from the site.

Utilities: This module provides general purpose utilities like calculator, unit converter, document manager, contact directory.

Reports: APPLICATION has an independent Reports module for Generating detailed and useful reports in PDF format.

Administration: Use this module to execute administrative functions like user-management and configuration of access-right.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

These modules have been further subdivided into a number of sub-modules and interfaces.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

2 Getting Started

2.1 Logging-in

Open your favorite web-browser (Internet Explorer 7 or above recommended) and enter the address of the hosted application. A login-screen will appear (fig 2-1). Enter username and password and click on Login button.

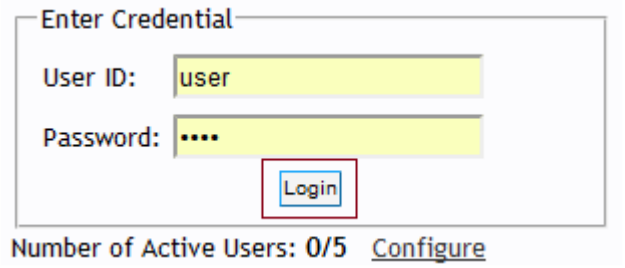


Fig 2-1: The login-box

2.2 User Interface

2.2.1 Workspace

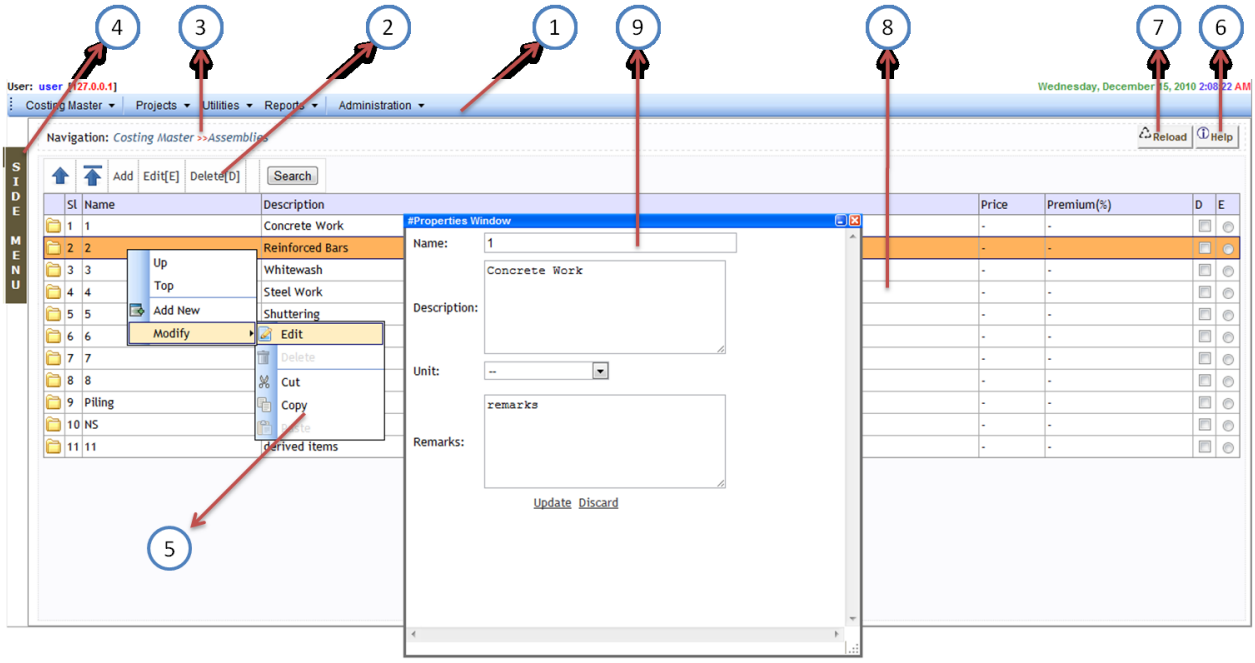


Fig 2-2: User Interface

1. **Main menu-bar**: Menu options inside the main menu-bar provide access to APPLICATION's modules.
2. **Workspace menu**: Contains controls for working with the database e.g. navigation, edit, delete etc.
3. **Navigation bar**: Displays the currently loaded module.
4. **Side Menu**: Expands on click, lists frequently used modules.
5. **Context Menu**: Appears on right-click inside the content-table, select menu-options to perform actions on database.
6. **Help button**: Use this button to open help contents for the currently loaded module.
7. **Refresh Button**: Use this button to refresh the data in content-table.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

8. **Content Table**: Database contents are loaded and displayed in this table.
9. **Internal Window**: Internal DHTML window opens inside the workspace. Window can be resized, minimized, restored and closed like normal windows.

2.2.2 Navigating Around

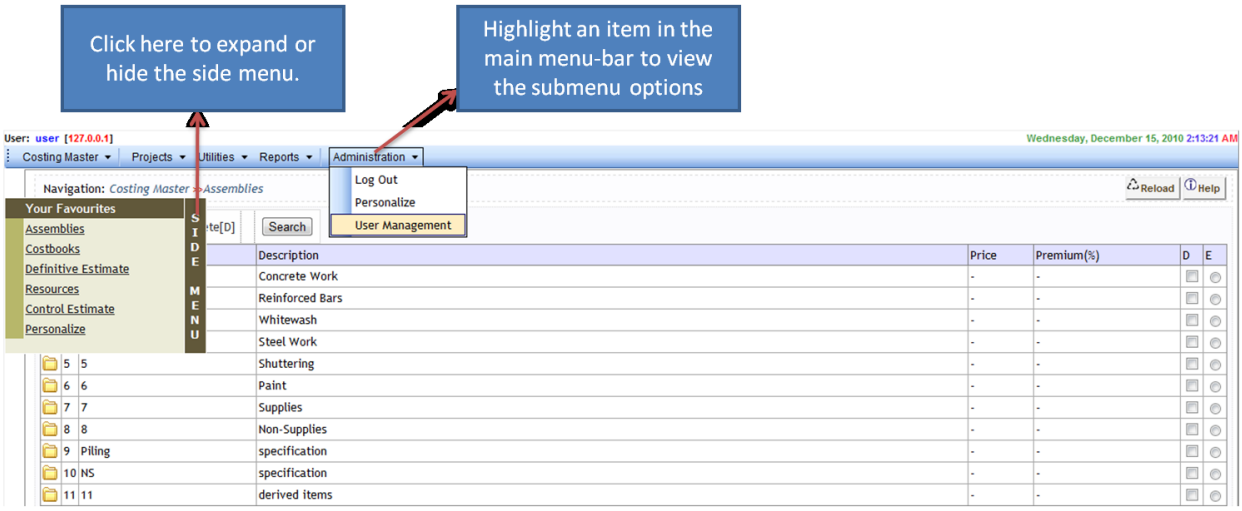


Fig 2-3: Using main-menu and side-menu

Modules of APPLICATION can be accessed by selecting one of the menu-options in the main menu-bar.
Side menu-bar displays a list of most frequently accessed modules. Click on one of the listed items to load corresponding module into the workspace.

2.2.3 Using the Workspace

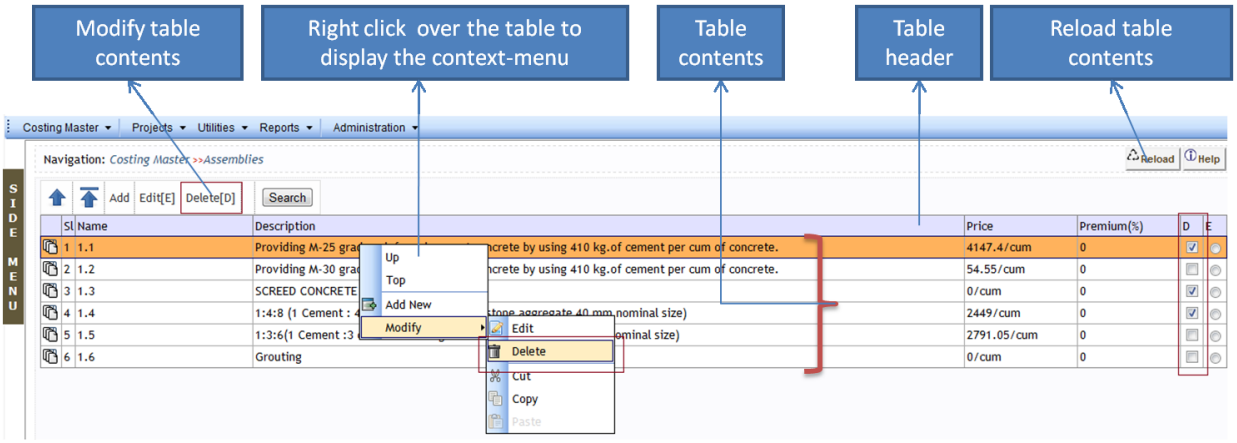


Fig 2-4: Using the workspace

Select options from the workspace menu and context menu to modify the items listed in the content-table.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

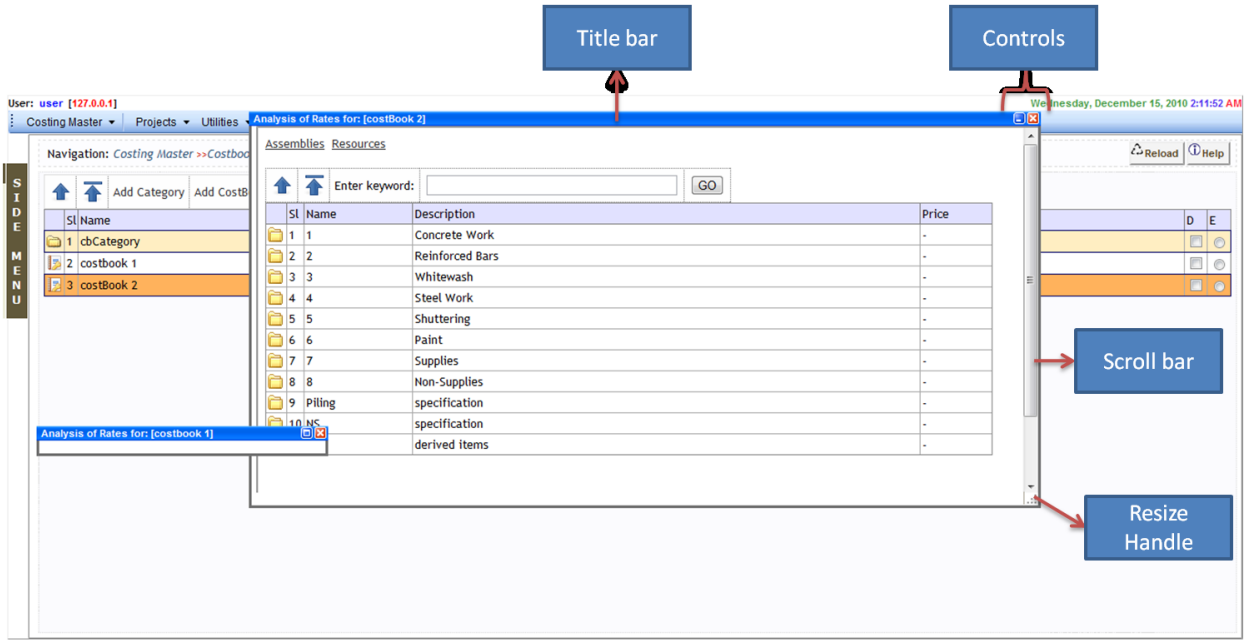


Fig 2-5: Internal windows

Internal windows are similar to desktop windows, but they are bounded inside APPLICATION's workspace. Internal windows generally appear while working with the items of the content-table. In case multiple internal windows have been opened inside the workspace, one of the windows may be made **active** by clicking over its title bar, all overlapping windows will be tiled at the back of the active window. Click on title bar of a window and drag to move the selected window. Click over the resize handle and drag to resize the window.

Other UI elements and features will be introduced in later parts of the user guide.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

3 Costing Master

Costing Master is a collection of features which provides the capability to create, modify, navigate and build "Schedule of Rates", "Specification of Resources" and "Analysis of Rates".

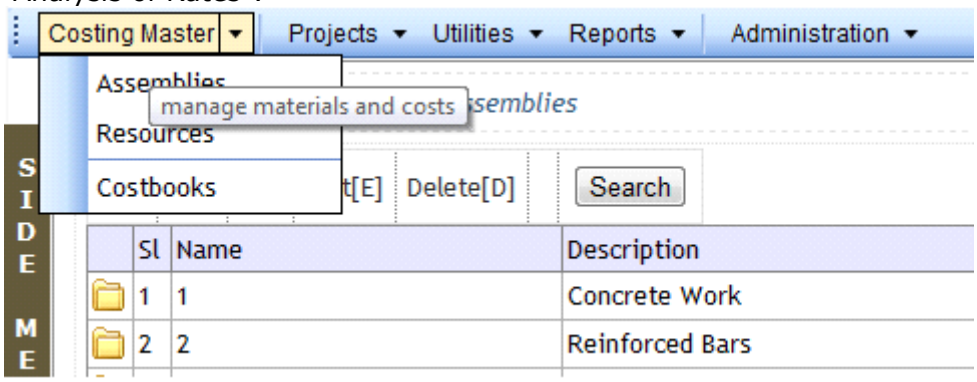


Fig 3-1: Costing Master menu

Getting Started

Expand the "Costing Master" menu in Main menu-bar, menu options may be used to access following modules:

Assemblies: Assemblies are the basic building blocks of any construction estimate. Assemblies also known as "Schedule of Rates", "Schedule of Works" are the specifications of works which are to be carried out in a project. Every organization maintains a database of specification of works with their detailed description, detailed analysis, and unit-rates. **APPLICATION** provides a central repository for maintaining the database of assemblies.

Resources: Construction projects require variety of resources (Material, Manpower and Equipment). **APPLICATION** provides a central repository for maintaining specifications of generally used resources, including detailed description, unit and standard rate (prices can be modified through CostBooks module).

CostBooks: Unit-rates of assemblies change across projects. CostBook module is used to prepare "Analysis of Rates" of assemblies on the basis of resource requirements, miscellaneous charges and overheads. Unit-rates of assemblies are derived from their analysis of rate.

3.1 Assemblies

Following tutorial guides a user through the process of using the **Assemblies** module.

3.1.1 Moving Around

Select Costing Master-> **Assemblies** from main menu-bar to load the **Assemblies** module.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

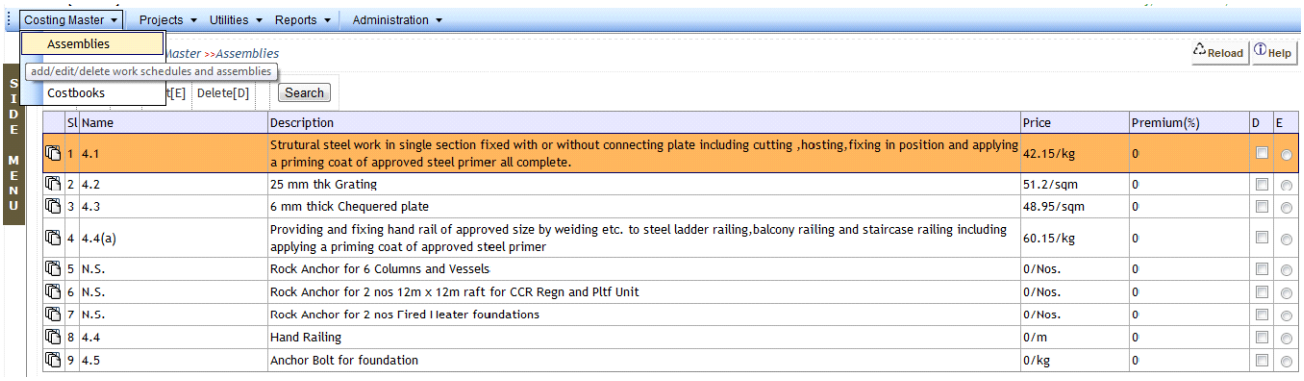


Fig 3-2-a: Loading Assemblies module

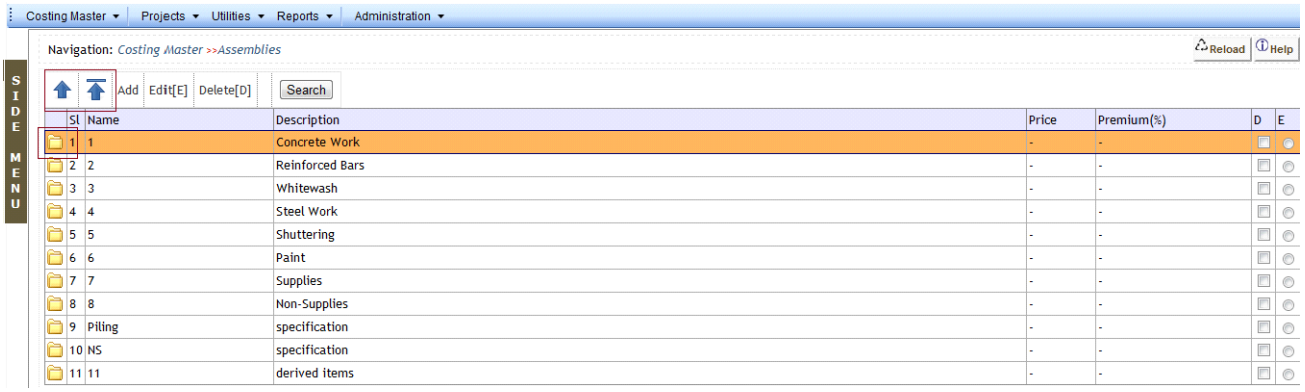


Fig 3-2-b: Viewing the list of assemblies

Assemblies may be arranged in categories. Click on the "category icon" to view all items under a selected category. E.g. click on the "category icon" on the left of the category named "Concrete Works" to view all items listed under "Concrete Works". Click on "up icon" to move back to the parent category. Click on "top icon" to move back to the top level.

3.1.2 Adding a new Assembly

Click on "Add" inside the workspace menu. Alternatively right click over the content-table and select "Add New" from the context menu.

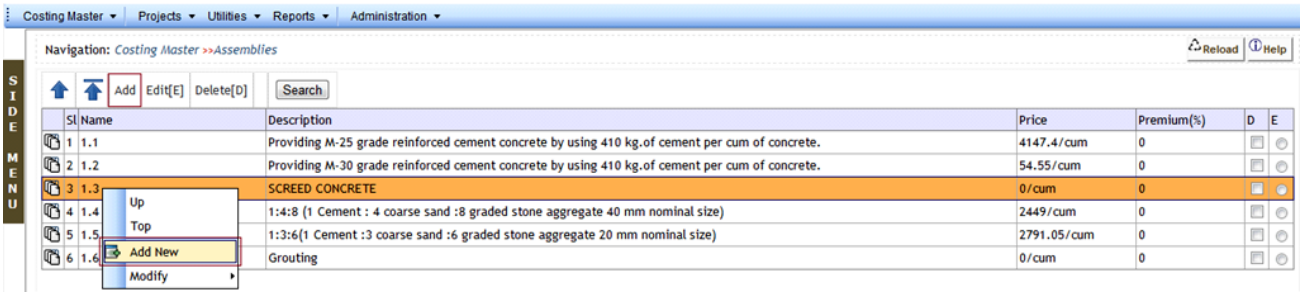


Fig 3-3-a: Adding a new assembly

A properties window will appear inside the workspace.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

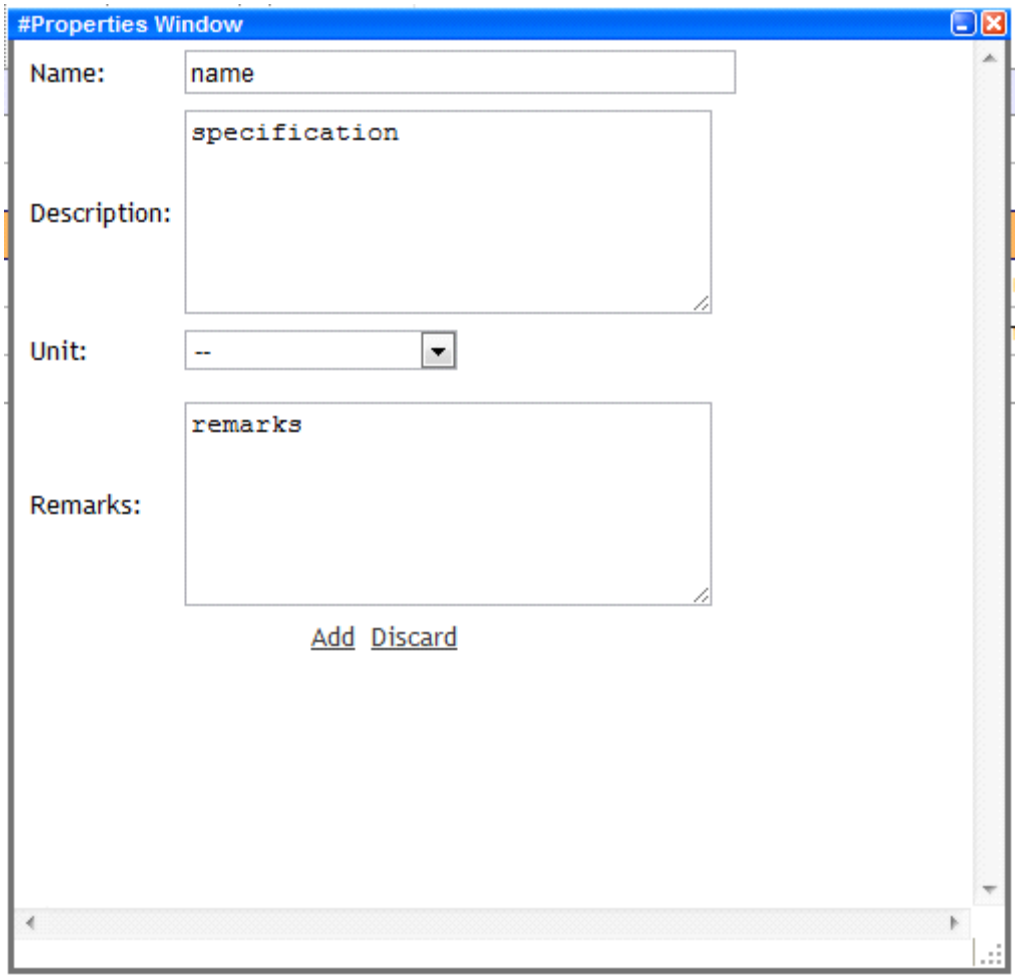


Fig 3-3-b: Adding a new category

Adding a category: Leave the unit field blank (--). All fields are mandatory, and must be filled. Click on "Add" to add a new category. Click over "Discard" to close the Properties Window without making any changes.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

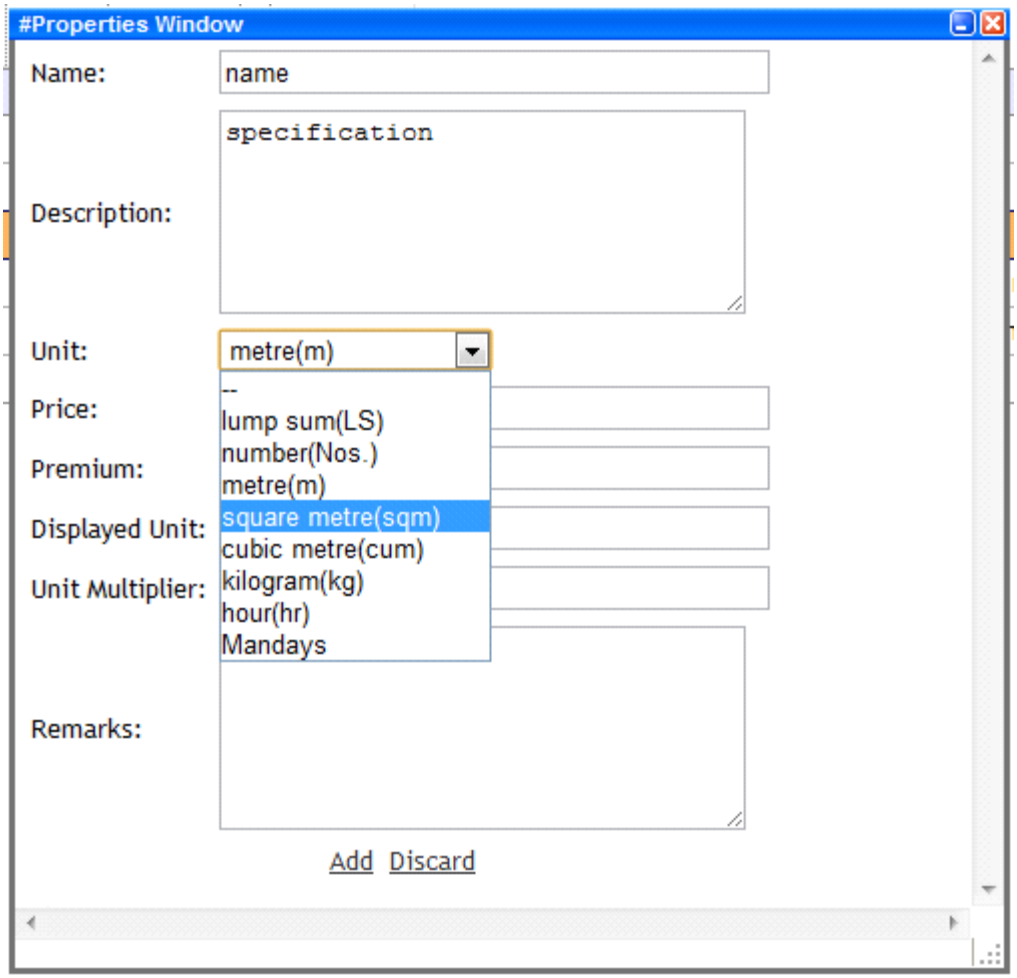


Fig 3-3-c: Adding a new assembly

Adding a new assembly: Select a unit from the drop-down list. Following additional fields must be filled:
Price: Enter the Unit Price
Premium: Enter the premium amount (% over the unit rate).
Displayed Unit: If unit to be displayed in the reports is different from the standard unit, enter the display unit in the text-box, or leave it to default ("-") or blank if not applicable.
Unit Multiplier: Enter the conversion factor from the displayed unit to the standard unit (e.g. if the displayed unit is 100cum and the standard unit is cum, unit multiplier will be 100). Value of Unit Multiplier will be ignored if Displayed Unit is set to "-" or blank.

Note: all fields are mandatory; leaving any field blank will generate a "System Error".

3.1.3 Editing an Existing Assembly

Select an assembly through radio-button, and click on "Edit" option inside the workspace menu. Alternatively right click over an assembly and select Modify->Edit from the context menu.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

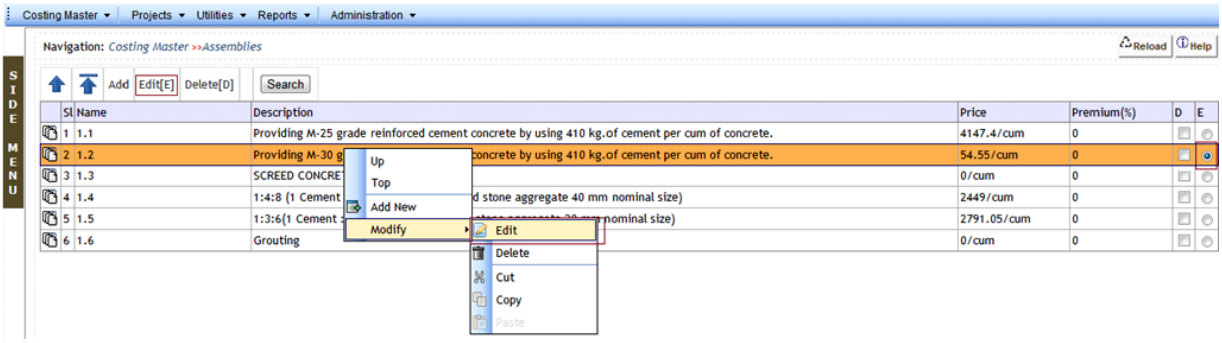


Fig 3-4-a: Editing an assembly

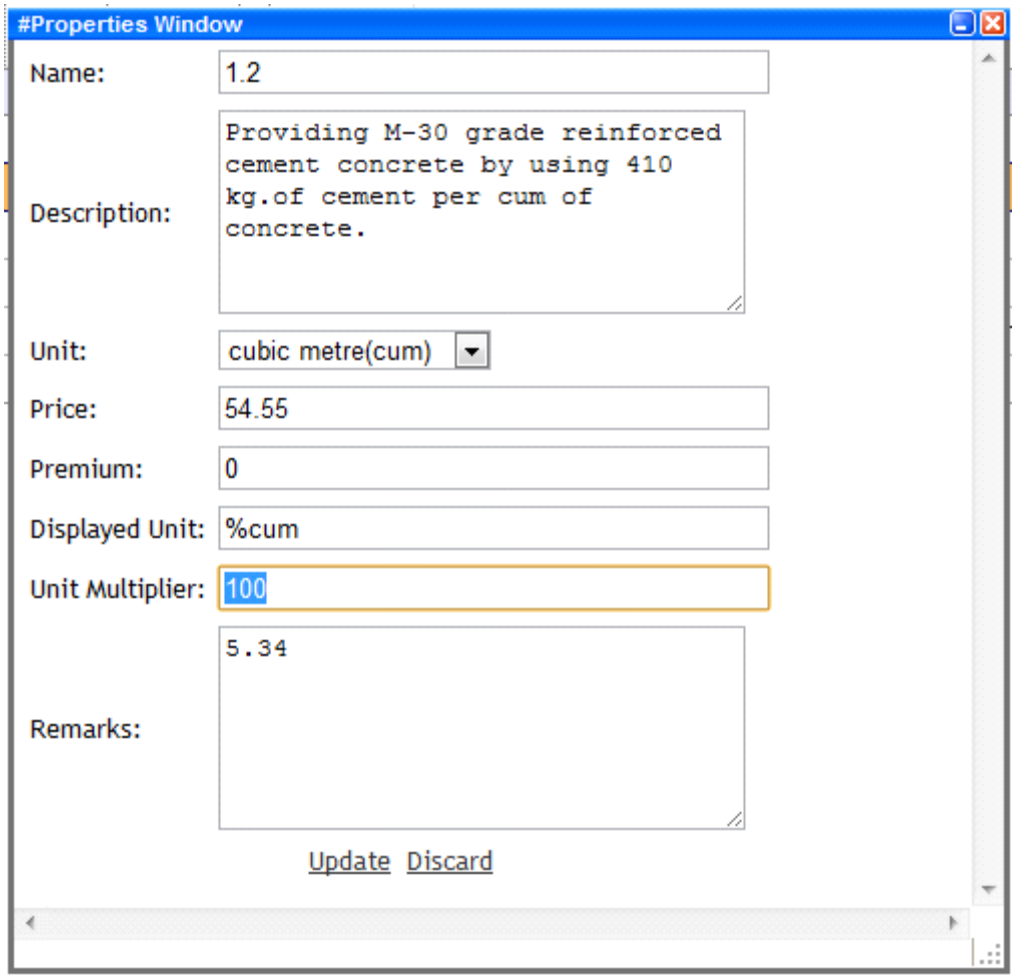


Fig 3-4-b: properties window showing details of a selected assembly

Properties window containing current details of the selected assembly will appear inside the workspace. Make required changes and click on "Update" to complete the request. Click on "Discard" to close the Properties Window without making any changes. No field can be left blank.

3.1.4 Deleting Assemblies

Select one or more assemblies through checkboxes and click on "Delete" option inside the workspace menu to delete selected items. Alternatively right click over an assembly and select Modify-> Delete from the context menu. Please note that there is no option available to restore back the deleted items.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

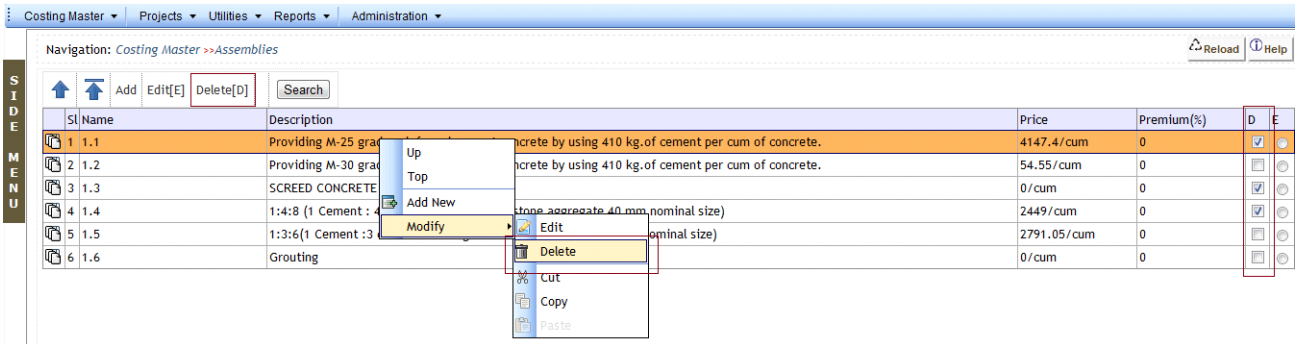


Fig 3-5: Deleting assemblies

3.1.5 Moving or Copying Assemblies

Right click over an assembly and select Modify->Cut to move it or select Modify->Copy to copy it. Navigate to destination category and select Modify->Paste from context menu to complete the request. "Paste" option in the context menu will be available only if an item has already been selected to be moved or copied.

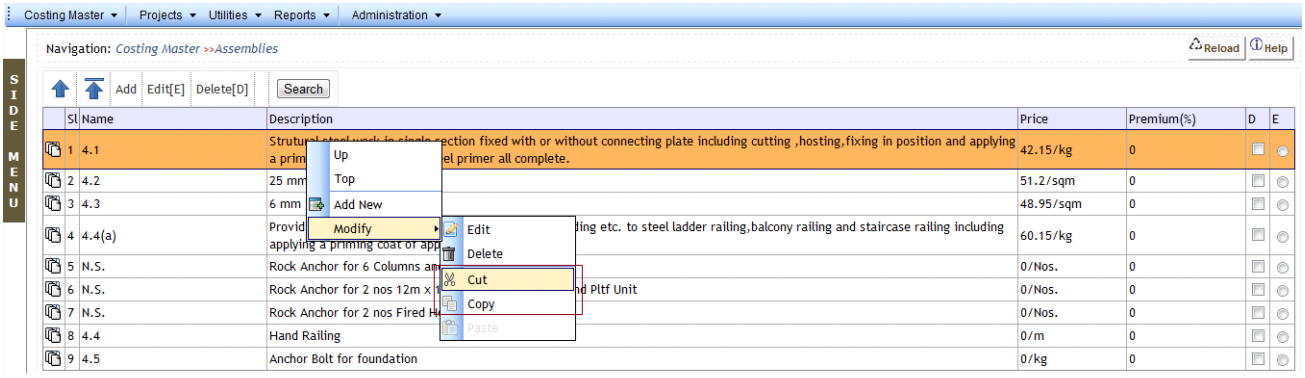


Fig 3-6-a: Moving/Copying assemblies

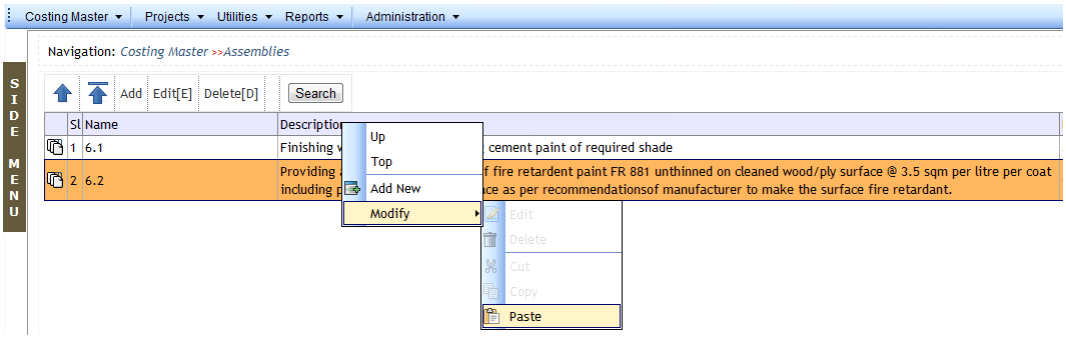


Fig 3-6-b: Moving/Copying assemblies to another category

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

3.2 Resources

This guide provides basic instructions on using the **Resources** module.

3.2.1 Moving Around

Select Costing Master-> **Resources** from the main menu-bar to list resources (material, manpower, equipments) and categories stored in the database.

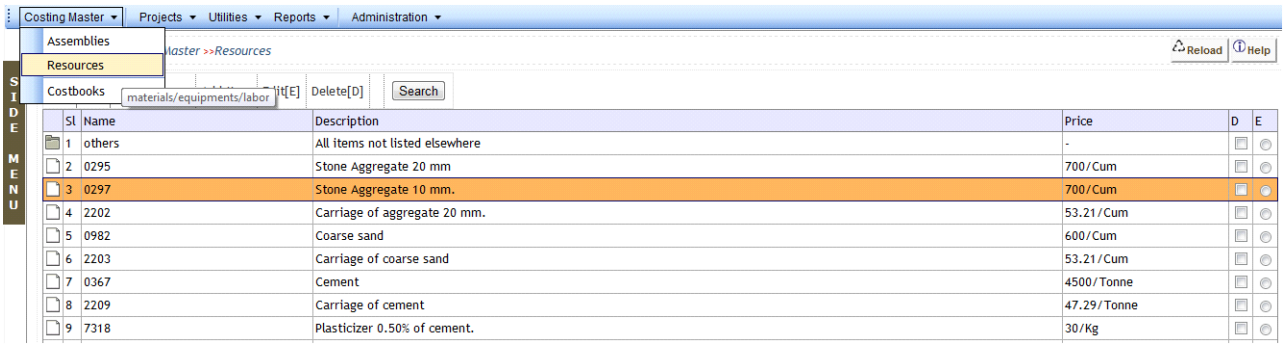


Fig 3-7-a: Loading Resources module

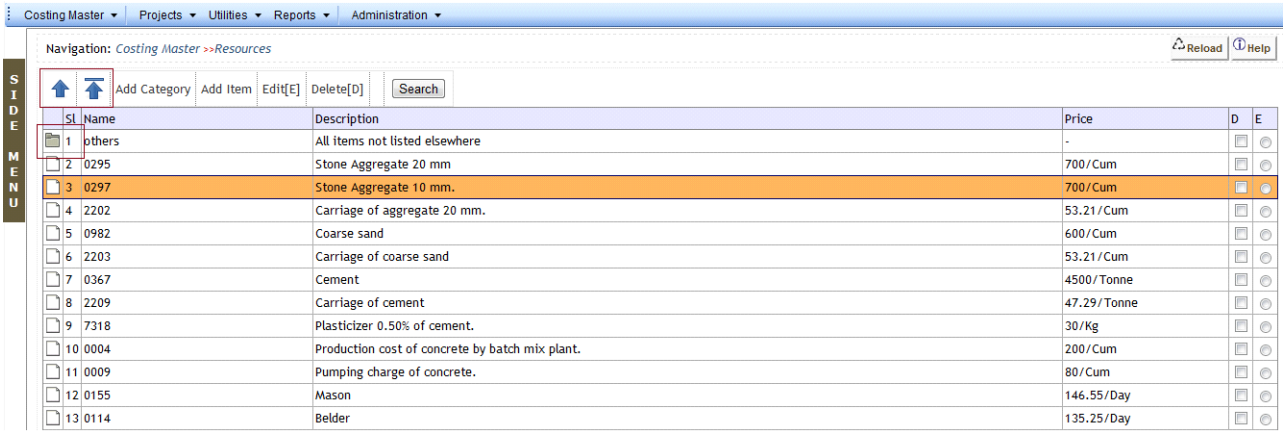


Fig 3-7-b: Navigating through the content table

Resources may be arranged in categories. Click on the "category icon" to view all the resources listed under a category. Click on "up icon" to move back to the parent category. Click on "top icon" to move back to the top level.

3.2.2 Adding a new Category or Resource

Adding a new category: Click on "Add Category" option inside the workspace menu. Alternatively right click anywhere inside the content-table and select Add New->New Category from context menu.

Adding a new Resource: Click on "Add Item" option inside the workspace menu. Alternatively right click anywhere inside the content-table and select Add New->New Resource from context menu.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

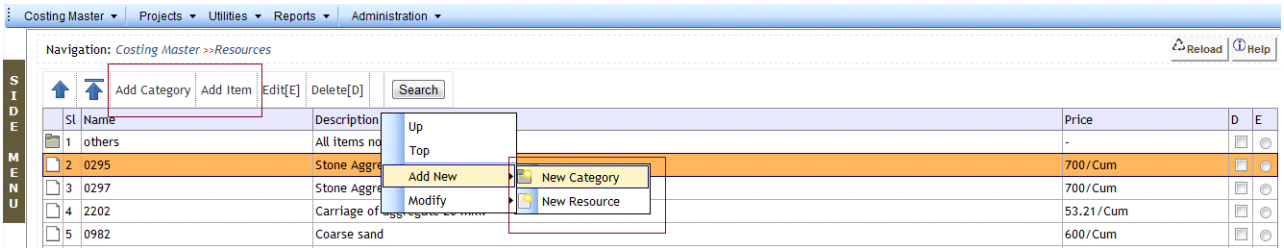


Fig 3-8-a: Adding a new category or resource

Properties window will appear inside the workspace. Fill in the details and select "Add" inside the properties window to complete the process. Select "Discard" to close the properties window without making any changes. All fields are mandatory.

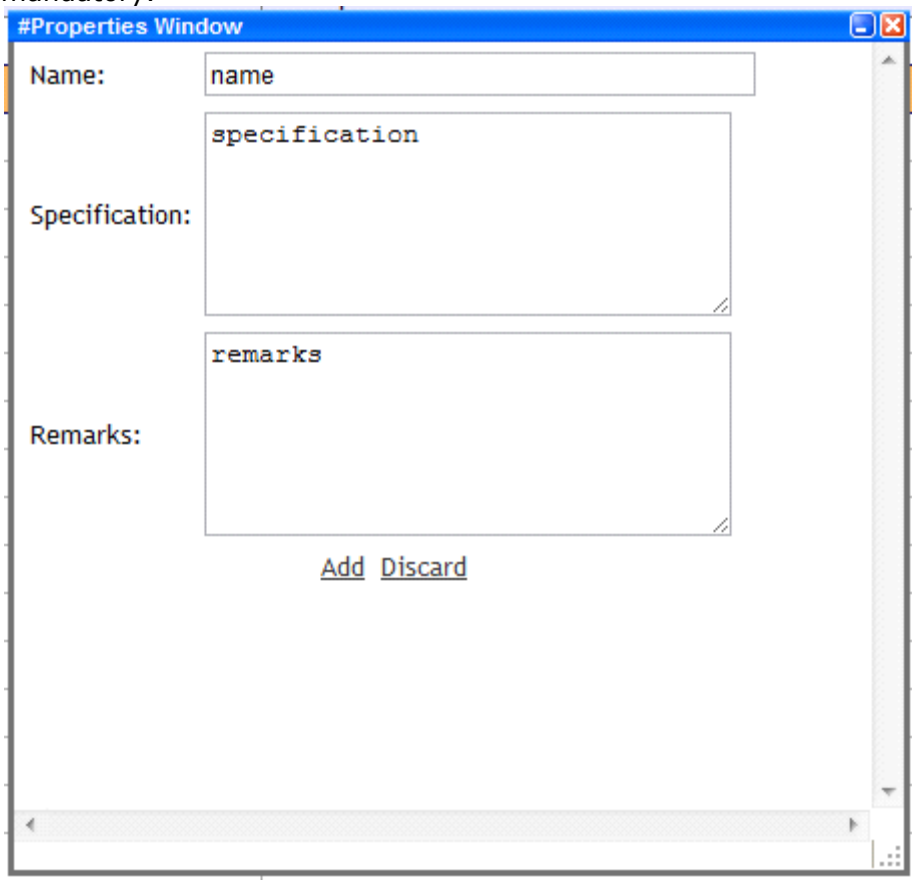


Fig 3-8-b: Properties window for adding a new category

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

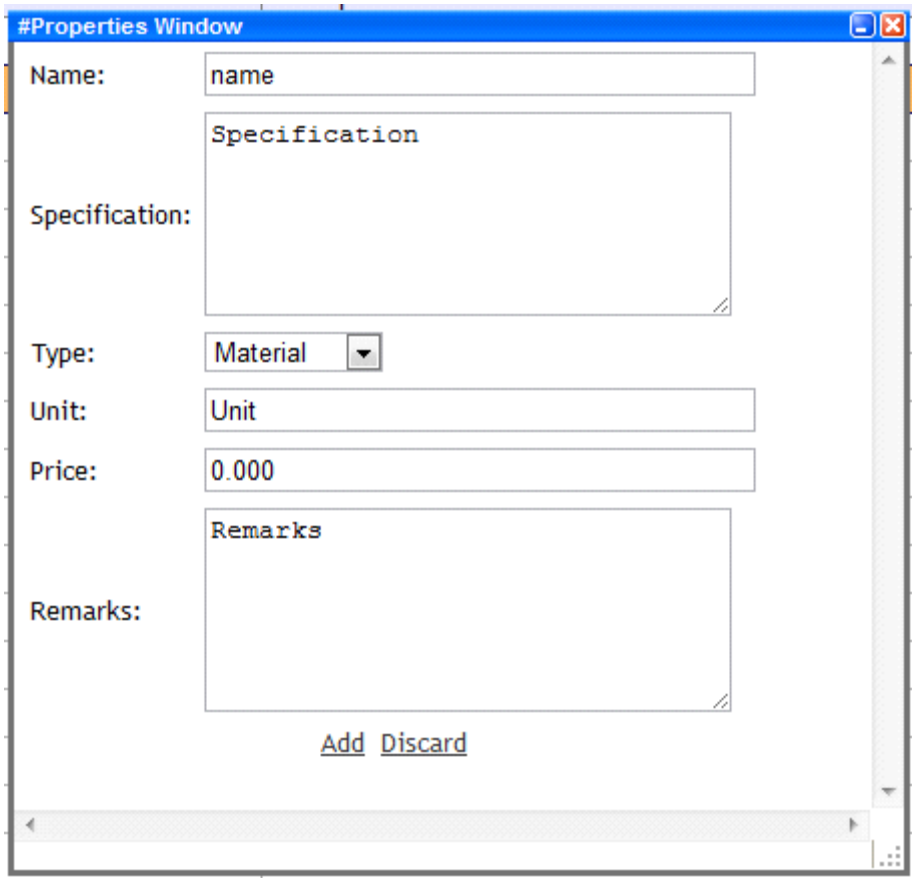


Fig 3-8-c: Properties window for adding a new resource

3.2.3 Editing an existing Category or Resource

Select an item through radio-button, and click on "Edit" option inside the workspace menu. Alternatively right click over a category or resource and select Modify->Edit from the context menu.

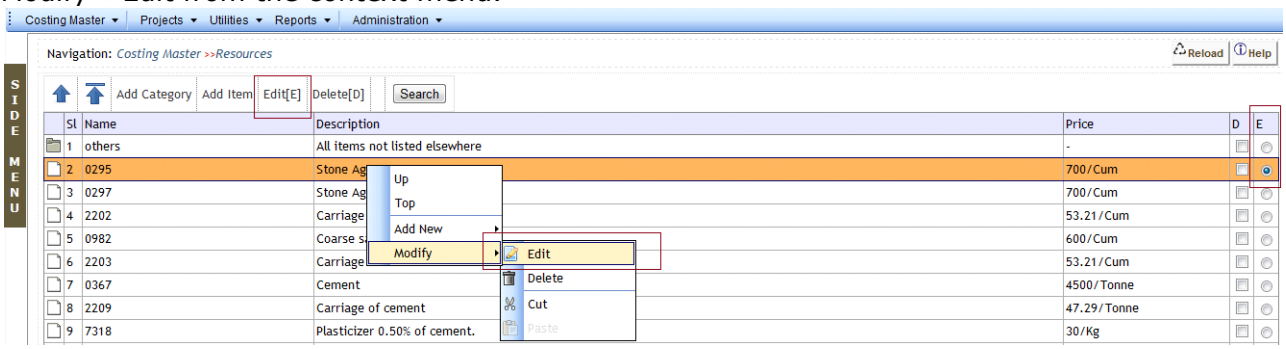


Fig 3-9-a: Editing a category or resource

Properties window containing current details of the selected category/resource will appear inside the workspace. Click on "Update" option at the bottom of the properties window to commit the changes. Click on "Discard" option to close the properties window discarding the changes.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

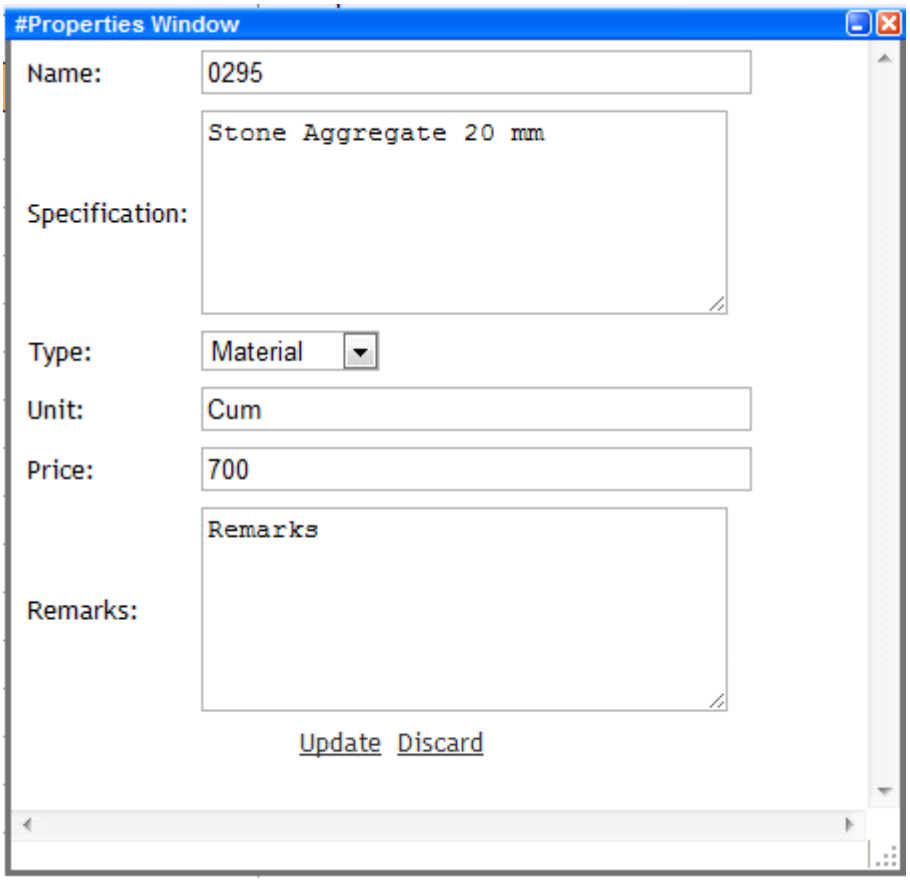


Fig 3-9-b: Properties window displaying the current details of a selected Resource

3.2.4 Deleting existing Categories and Resources

Select one or more items (categories/resources) from the content table through checkboxes and then click on "Delete" inside the workspace menu to delete selected items. Alternatively, right click over an item and select Modify-> Delete from the context menu. Please note that there is no option available to restore back the deleted items.

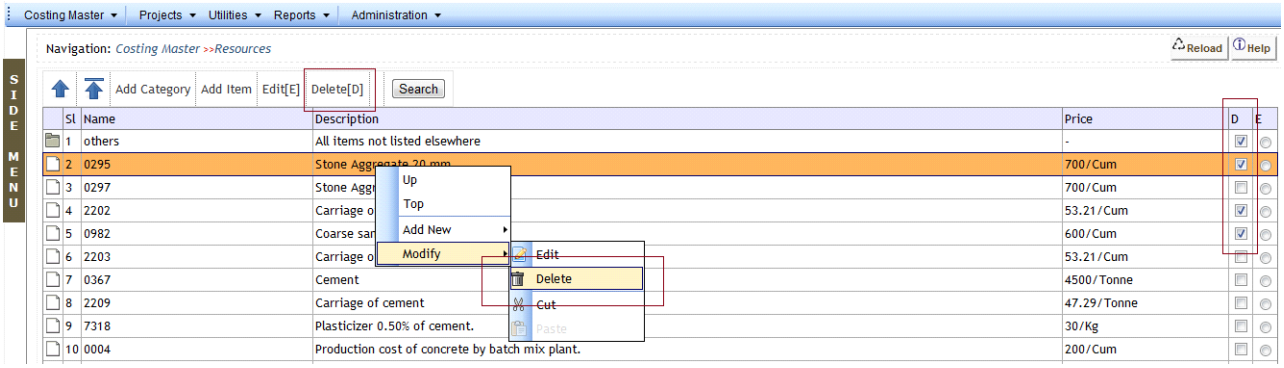


Fig 3-10: Deleting items from database

3.2.5 Moving or Copying Categories/Resources

Right click over an item and select Modify->Cut to move the item. Navigate to destination category and select Modify->Paste from the context menu to complete the request. "Paste" option in the context menu is available only if an item has already been selected to be moved or copied. "Copy" option is not available in the current package.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

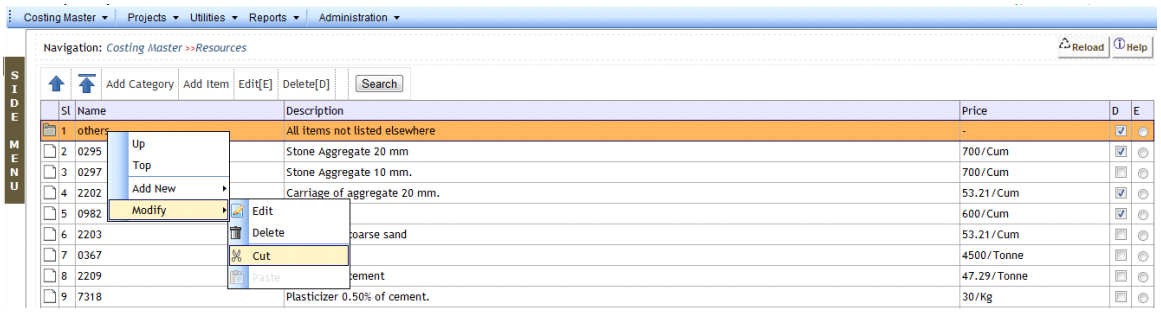


Fig 3-11-a: Moving an item

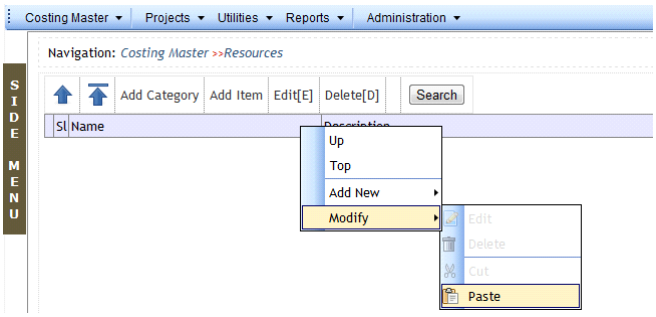


Fig 3-11-b: Moving an item into another category

3.3 CostBooks

CostBooks module is used to prepare accurate "Analysis of Rates".

3.3.1 Moving Around

Select Costing Master->**CostBooks** from the main menu-bar to access the list of existing cost-books and categories.

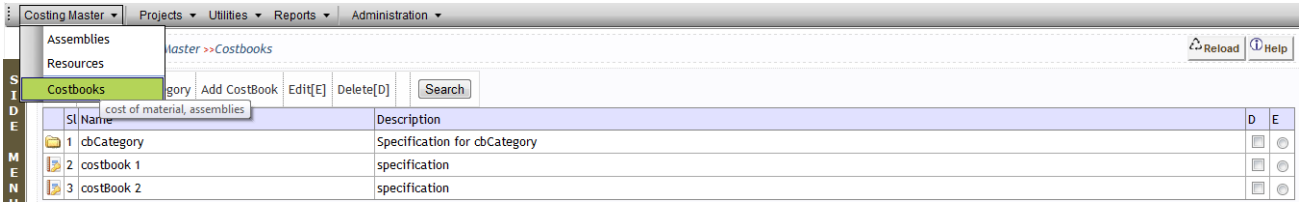


Fig 3-12-a: Accessing the CostBooks module from main menu-bar

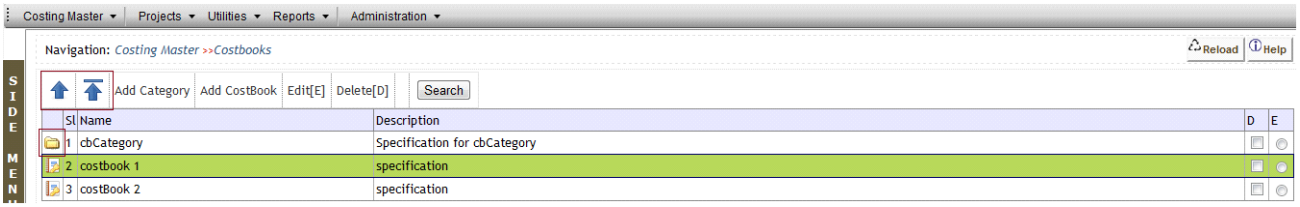


Fig 3-12-b: Navigating through the content-table

Cost-books may be arranged in categories. Click on the "category icon" to view all cost-books under a category. Click on "up icon" inside the workspace menu to move back to the parent category. Click on "top icon" to move back to the first level.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

3.3.2 Adding a new Category or Cost-Book

Adding a new Category: Click on "Add Category" option inside the workspace menu to add a new category. Alternatively, right click inside the content-table and select Add New->New Category from context menu.

Adding a new Cost-Book: Click on "Add CostBook" option inside the workspace menu to add a new cost-book. Alternatively, right click inside the content-table and select Add New-> New CostBook from context menu.

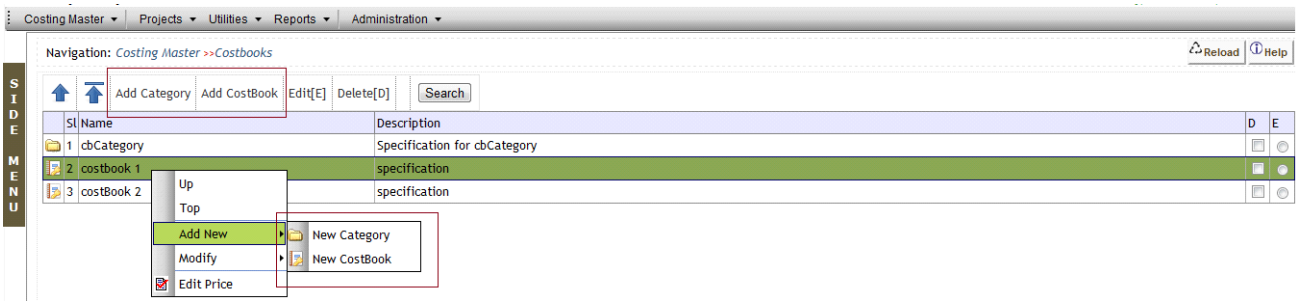


Fig 3-13-a: Adding a new category or cost-book

Fig 3-13-b: Properties window for adding a new item

A new properties window will be displayed inside the workspace. Fill-in the details and click on "Add" option at the bottom of the properties window to add a new item into the database. Click on "Discard" to close the properties window without making any changes.

3.3.3 Editing an existing Category or Cost-Book

Select a category or cost-book through the radio-button, and then click on "Edit" option inside the workspace menu. Alternatively right click over an item and select Modify->Edit from the context menu.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

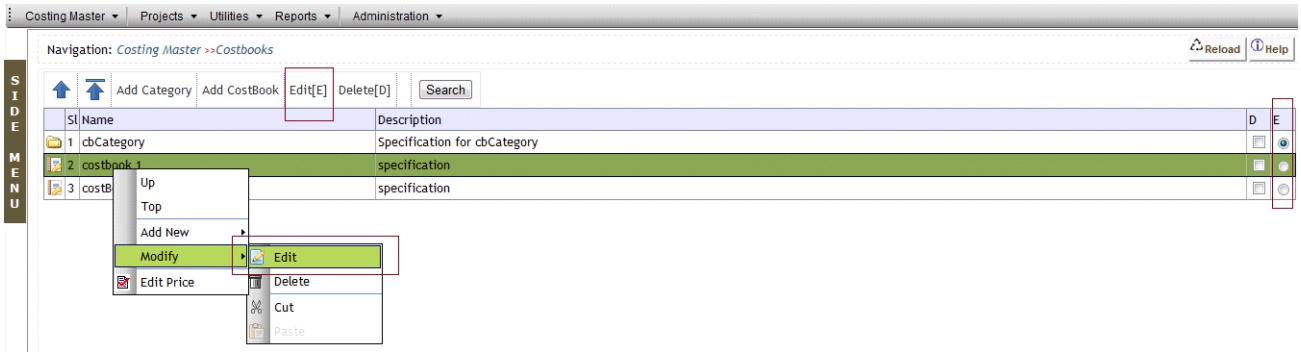


Fig 3-14-a: Editing a category or cost-book

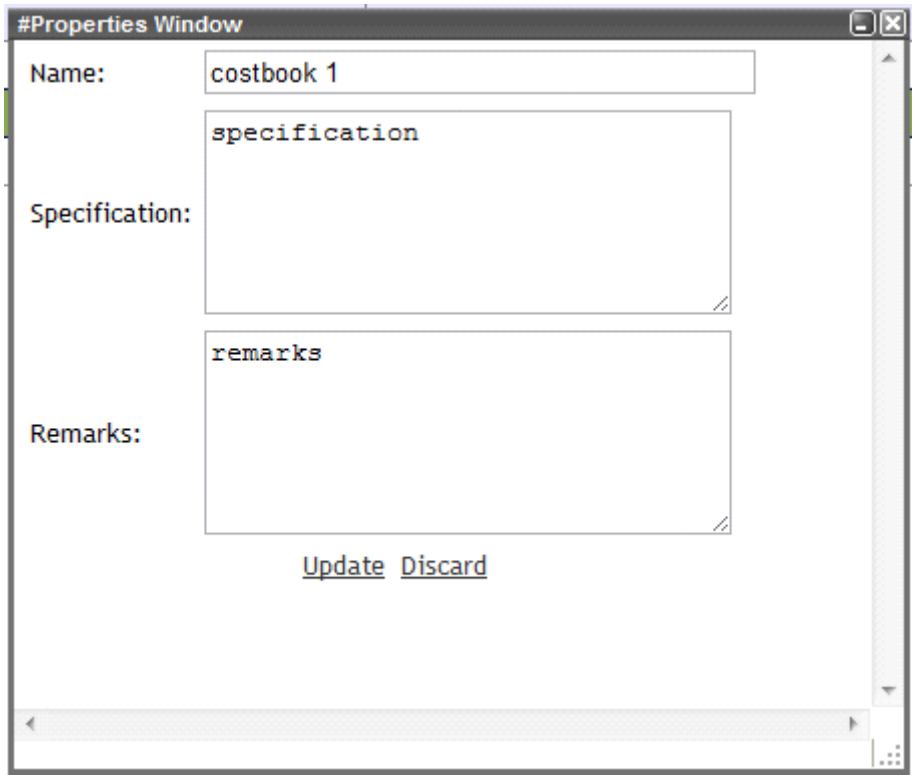


Fig 3-14-b: Properties window showing details of the selected cost-book

A properties window containing current details of the selected item will be displayed inside the workspace. Make requisite changes and click on "Update" to commit the changes into the database. Click on "Discard" to close the window and discard the changes.

3.3.4 Deleting an existing Category or Cost-Book

Select at least one item from the list through checkboxes and then click on "Delete" inside the workspace menu. An item may be deleted from the list by right clicking over it and selecting Modify->Delete from the context menu. Please note that selected items and associated records will be permanently deleted from the database.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

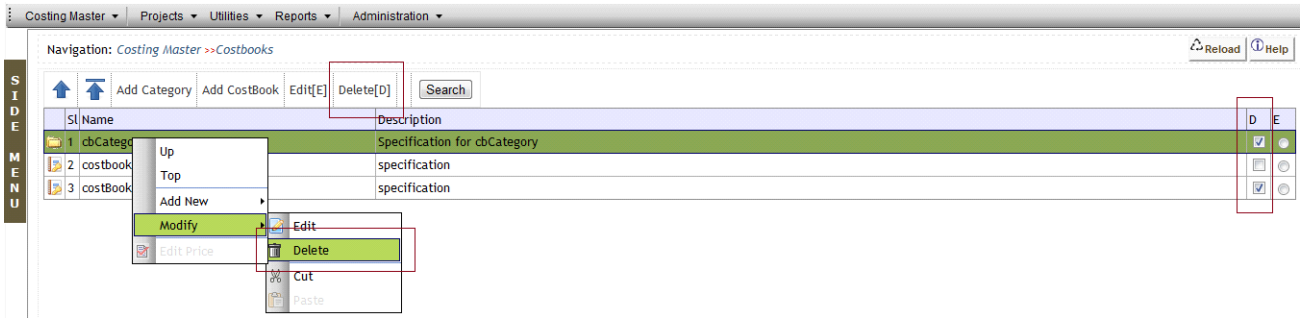


Fig 3-15: Deleting items from the database

3.3.5 Moving an existing Category or Cost-Book

Right click over an item and select Modify->Cut to move the item. Navigate to destination category and select Modify->Paste from the context menu to complete the request. "Paste" option in the context menu is available only if an item has already been selected to be moved or copied. "Copy" option is not available in the current package.

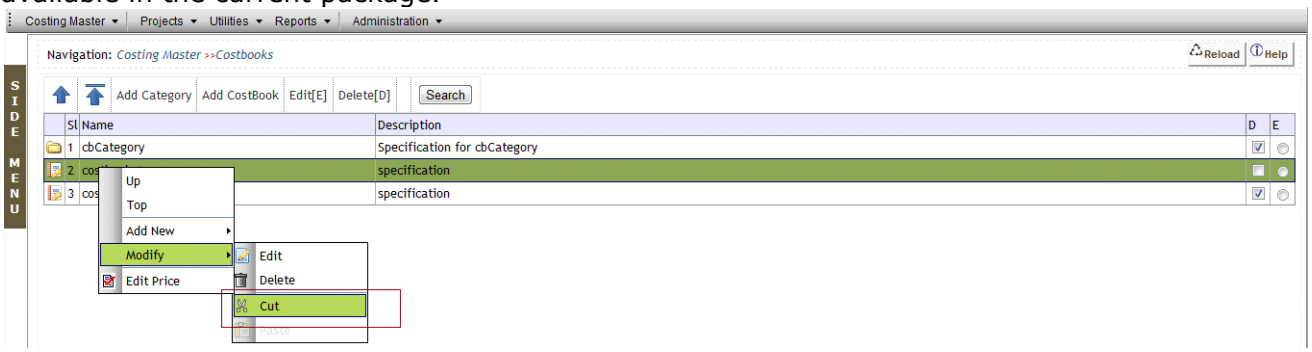


Fig 3-16: Moving items to another category

3.3.6 Analysis of Rates

Unit-rate of an assembly is derived from:
a) Resources (material, manpower, equipments) required to execute a fixed amount of specific work
b) Overheads (e.g. water charges, profit) for a fixed amount of specific work

Click over the "cost-book icon" or right click over a cost-book and select "Edit Price" from the context menu to display the "Analysis of Rates" window.

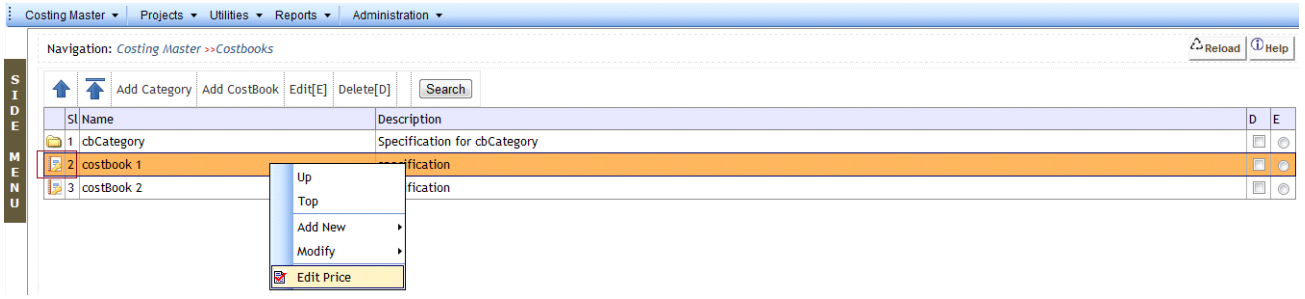


Fig 3-17-a: Opening the Analysis of Rates window for a cost-book

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

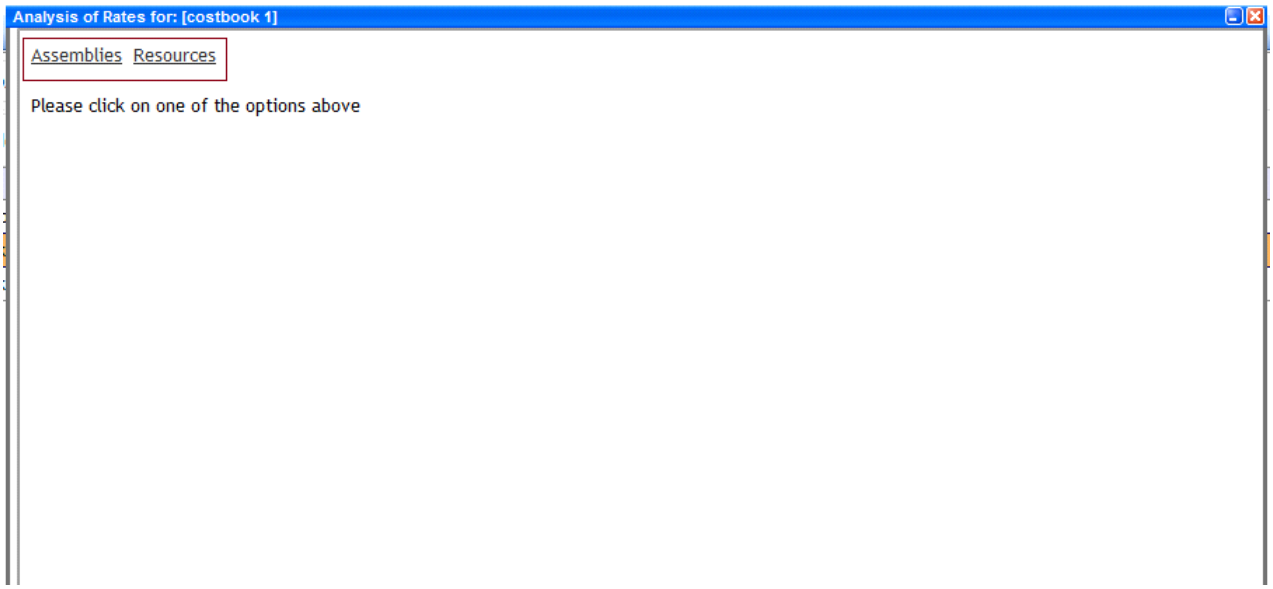


Fig 3-17-b: Analysis of Rates window for a selected cost-book (name of the cost-book is displayed in the title-bar)

Click over "Assemblies" option to populate the list of assemblies (with cost-book defined unit-rates). Click over "Resources" option to populate the list of resources which have been used to prepare "Analysis of Rates" in the selected cost-book.

3.3.6.1 Viewing Analysis of Rate of an Assembly

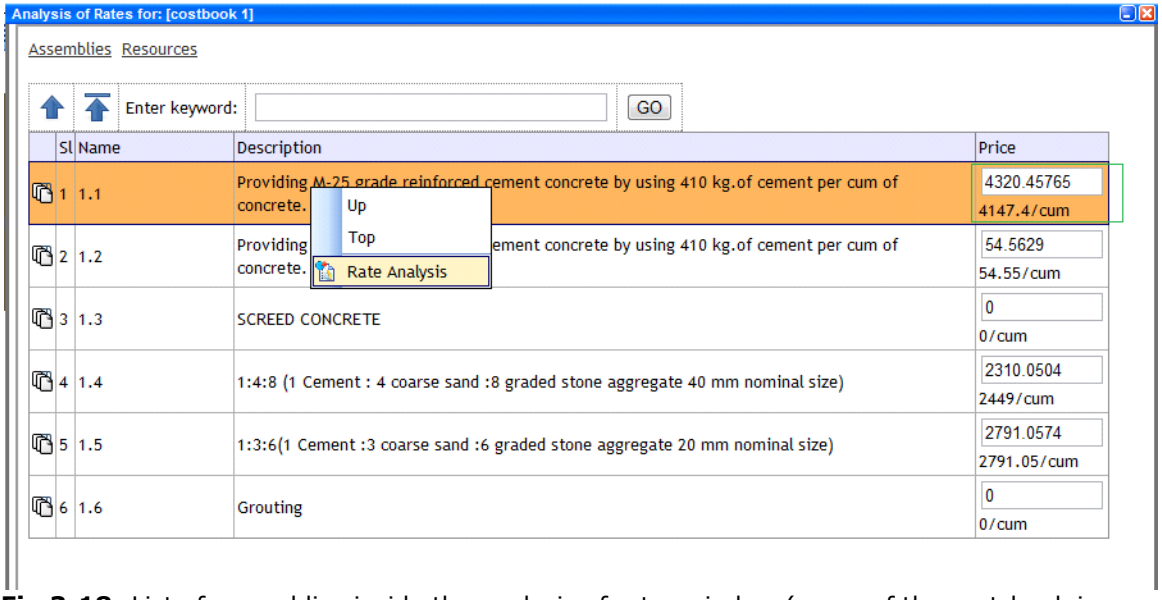


Fig 3-18: List of assemblies inside the analysis of rates window (name of the cost-book is displayed on the title-bar)

Unit-rates displayed inside the text-boxes are the rates derived on the basis of analysis of rate, while the ones displayed below are the standard rates which have been defined directly in the **Assemblies module** (read section 3.1).
Right click over an assembly and select "Rate Analysis" from the context menu to view the analysis of rate of the selected assembly.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

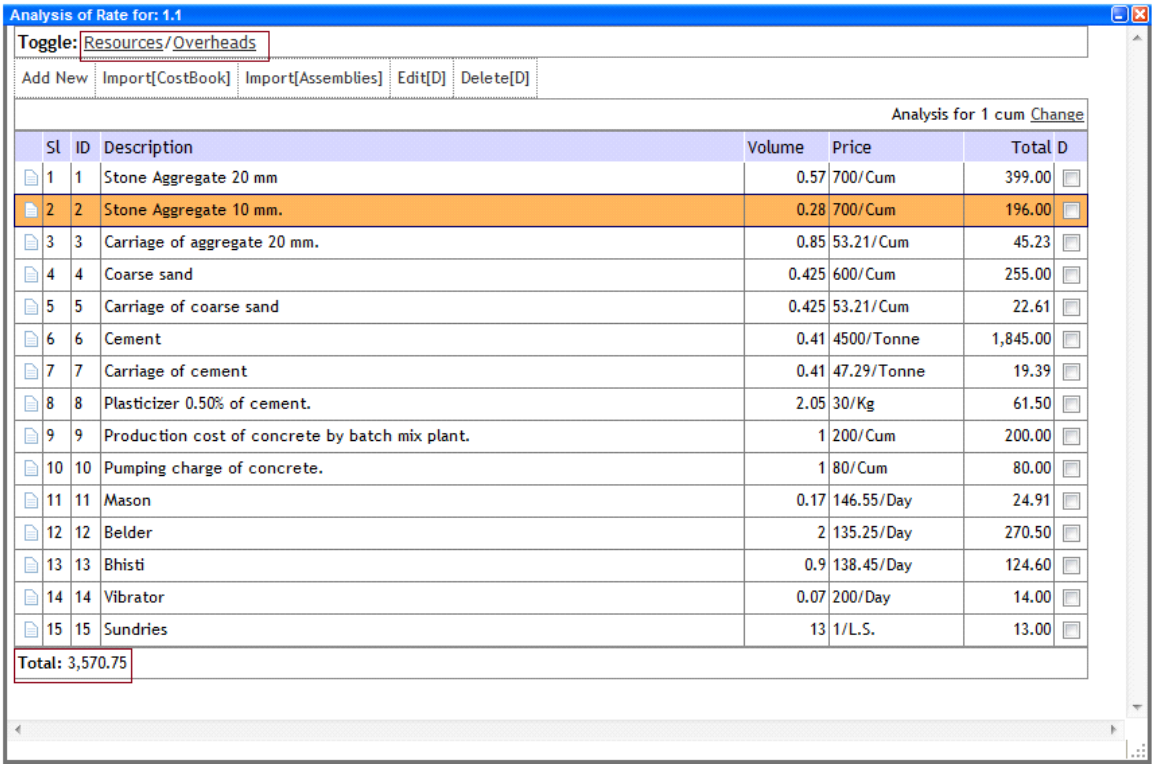


Fig 3-19-a: Sub-window displaying the analysis of rate of an assembly (name of the assembly is displayed in the title-bar), list of resources is being displayed

Click over "Resources" link inside the analysis of rate sub-window to view all resources associated with the selected assembly.

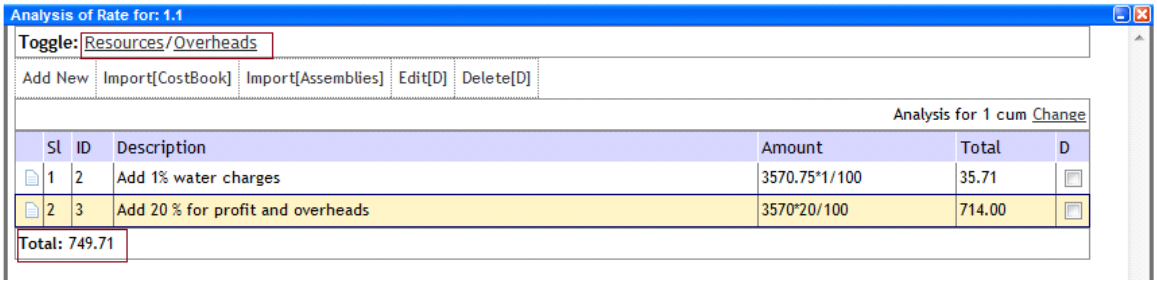


Fig 3-19-b: Sub-window displaying the analysis of rate of an assembly (name of the assembly is displayed in the title-bar), list of overheads is being displayed

Click on "Overheads" option inside the sub-window to display all overheads associated with the selected assembly.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

3.3.6.2 Defining the Basis

Analysis of rate of an assembly is prepared for a fixed volume (default is one unit) of the selected assembly, this is volume referred to as the **basis**. To change the **basis**, click on "change" on the left of the current basis.

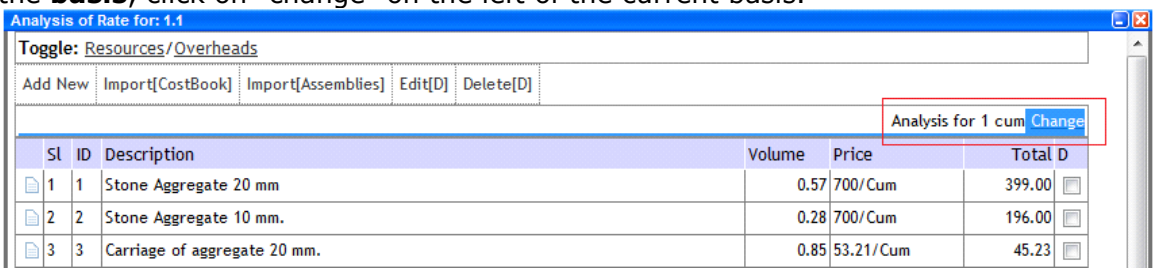


Fig 3-20-a: Basis of the analysis

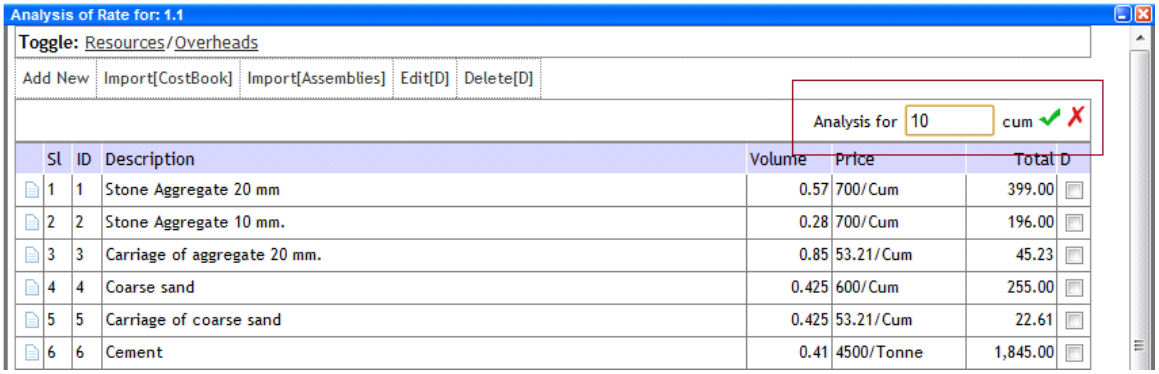


Fig 3-20-b: Changing the basis

A text box will appear in place of the text displaying the current basis, click on "Tick icon✔" to commit the change into the database. Click over "Cross icon ✗" to discard.

3.3.6.3 Adding new Items (Resources/Overheads) into Analysis of Rate

Adding a new Resource: Move into the resources section by clicking on "Resources" option inside the sub-window (top-left corner). Right click inside resources table and select "Add Resource" from context menu; this action will populate a resource selection sub-window. Alternatively, click on "Add New" option in the top menu.

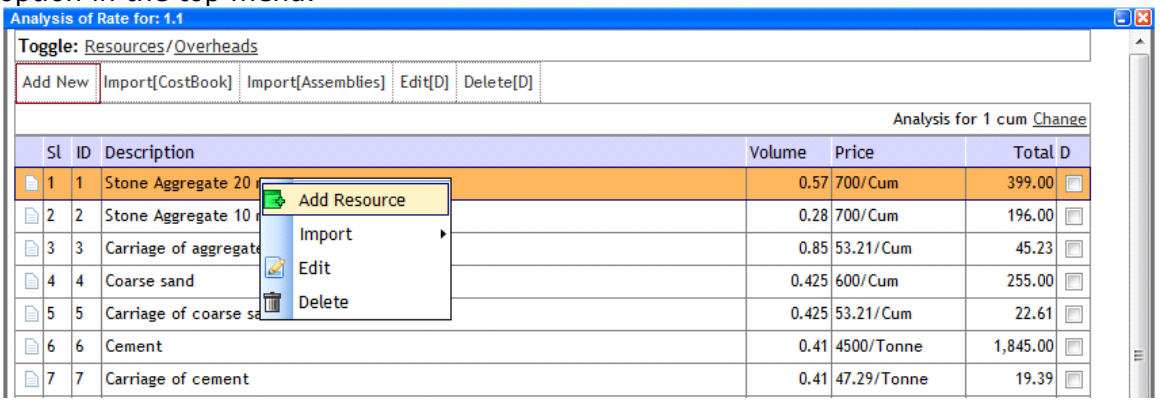


Fig 3-21-a: Adding a new resource

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

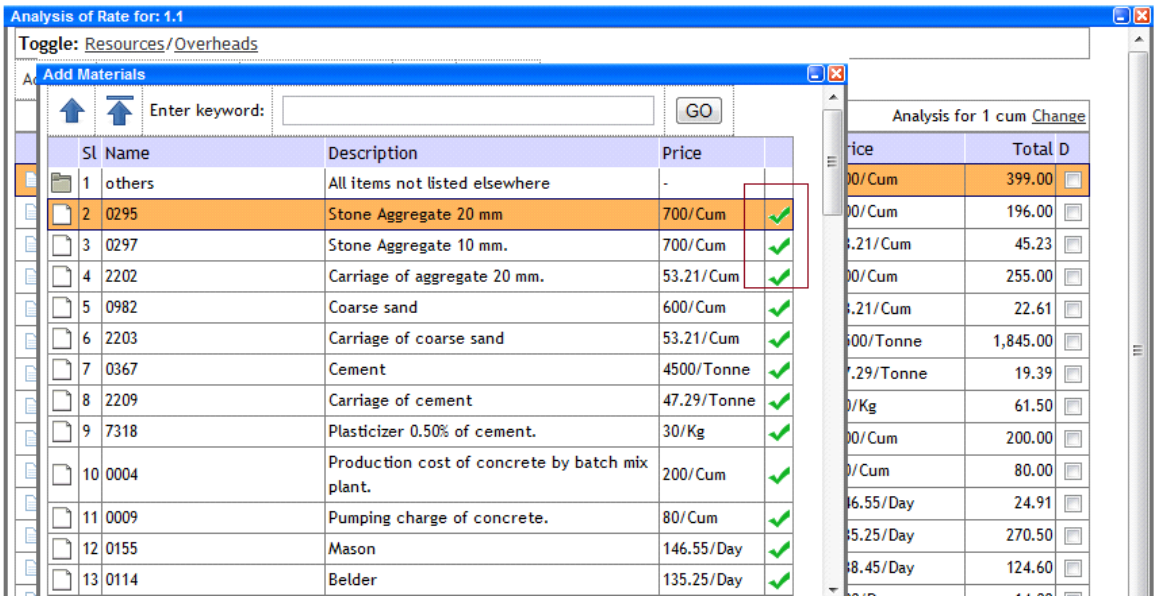


Fig 3-21-b: Selecting resources and adding them into analysis table

Add resources into the table by clicking on the "Tick icon✔". Please note that if unit-price of a resource is not defined in the cost-book, standard unit-price will be used (will be displayed in red-font inside the selection window). Each resource can only be added once.

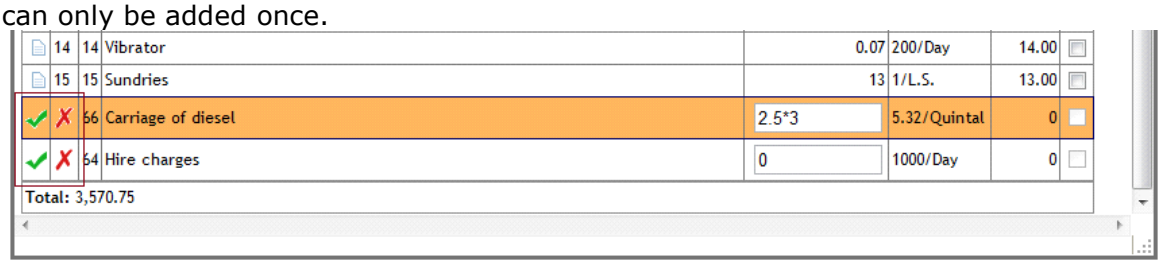


Fig 3-21-c: Entering amount of resource

Newly added resources will be displayed at the bottom of the list, fill-in the amount (arithmetic expression can be used) for the current basis (read section 3.3.6.2), and click on the "Tick icon✔" to finalize. Click on "Cross icon ✗" to discard.

Adding a new Overhead: click on "Add New" in the top menu (user must be inside the Overheads section), or select "Add Overhead" from the context menu. A blank row containing editable fields will be displayed at the bottom of the table.

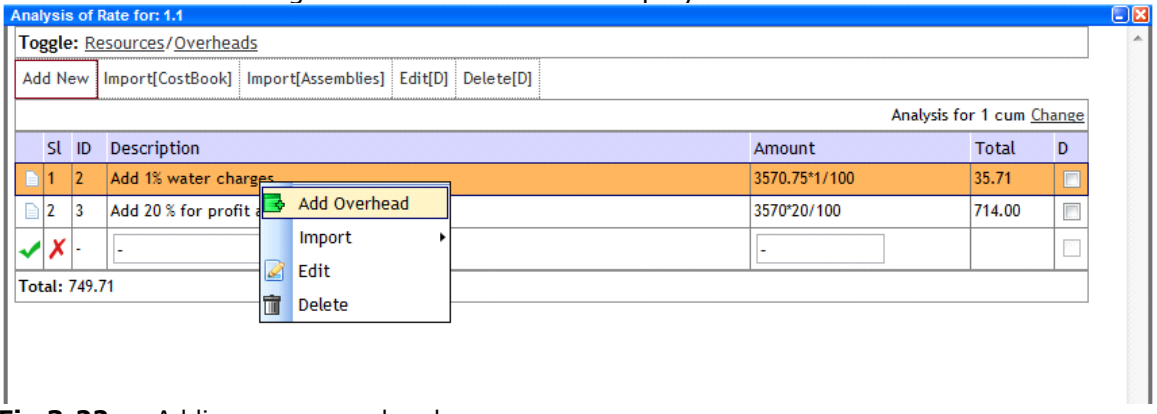


Fig 3-22-a: Adding a new overhead

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

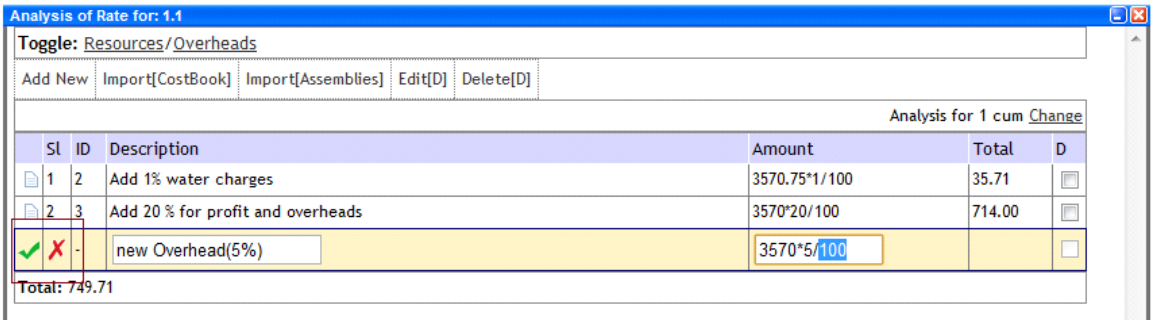


Fig 3-22-b: Entering details of the overhead

Fill description and amount and click over "Tick icon✔" to add the new overhead into database. Click on "Cross icon ✗" to discard.

3.3.6.4 Importing Analysis of Rate

Analysis of Rate of an assembly can be imported from other cost-books (if Analysis of rate of the selected assembly is defined in other cost-books).

Analysis of rate of an assembly can be derived from other assemblies.
Please note that the existing analysis of rate will be discarded.

Importing from other Cost-Book: Click on "Import[CostBook]" in the top menu, or right click inside the analysis table and select Import-> From CostBook from the context menu.

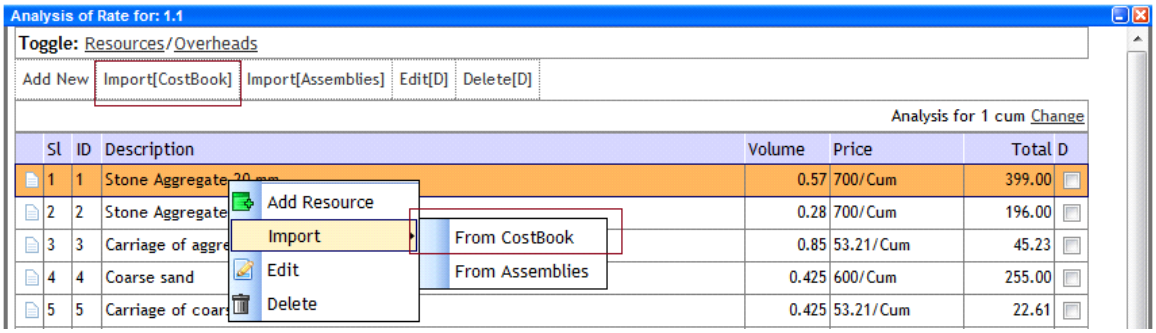


Fig 3-23-a: Importing analysis of rate from another cost-book

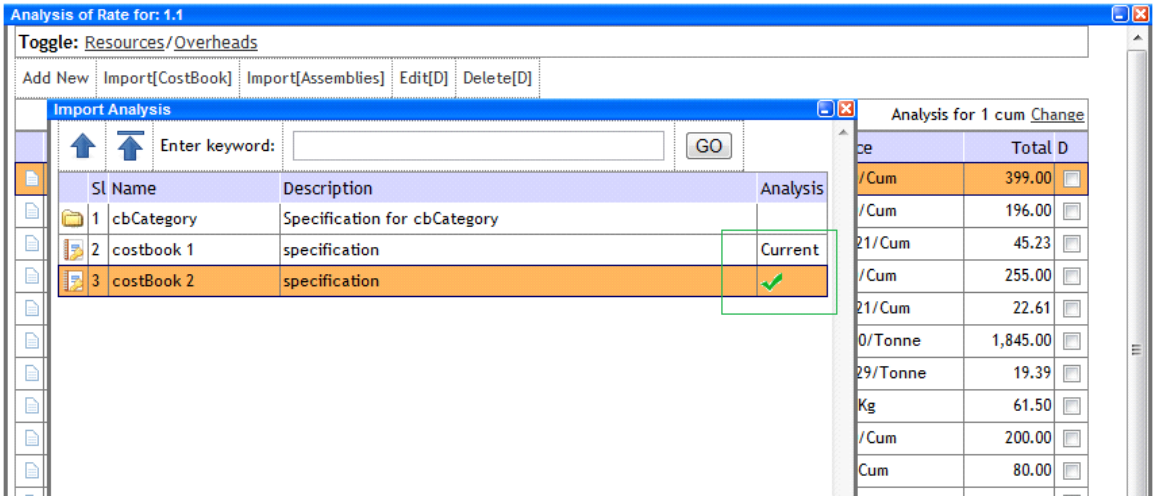


Fig 3-23-b: Cost-book selection window

Select a cost-book by clicking over the "Tick icon✔". All resources and overheads defined for the current assembly (for which analysis of rate is being prepared) will

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

be imported from the selected cost-book.

Deriving Analysis of Rate: Analysis of rate of an assembly may be derived from other assemblies provided that their analysis of rates exists in the current cost-book. Click on "Import[Assemblies]" in the top menu, or right click inside the analysis table and select Import->From Assemblies from the context menu.

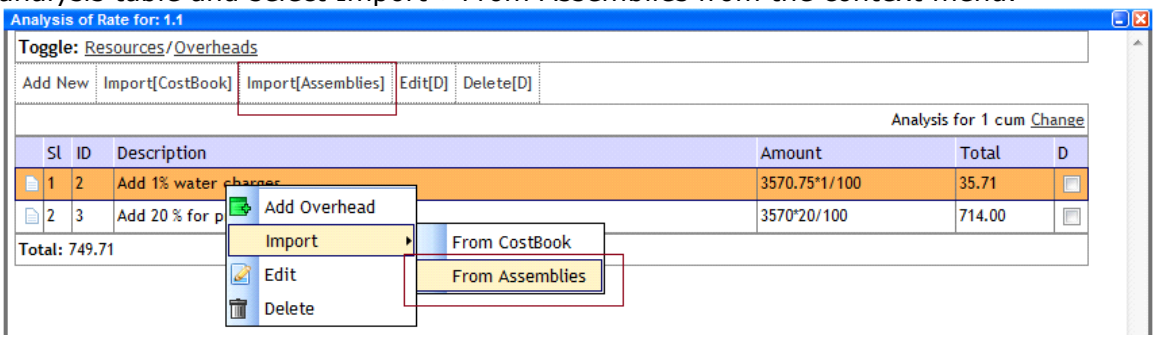


Fig 3-24-a: Deriving the analysis of rate from other assemblies

A new sub-window will appear displaying the list of all assemblies whose analysis of rates has been defined in the current cost-book.

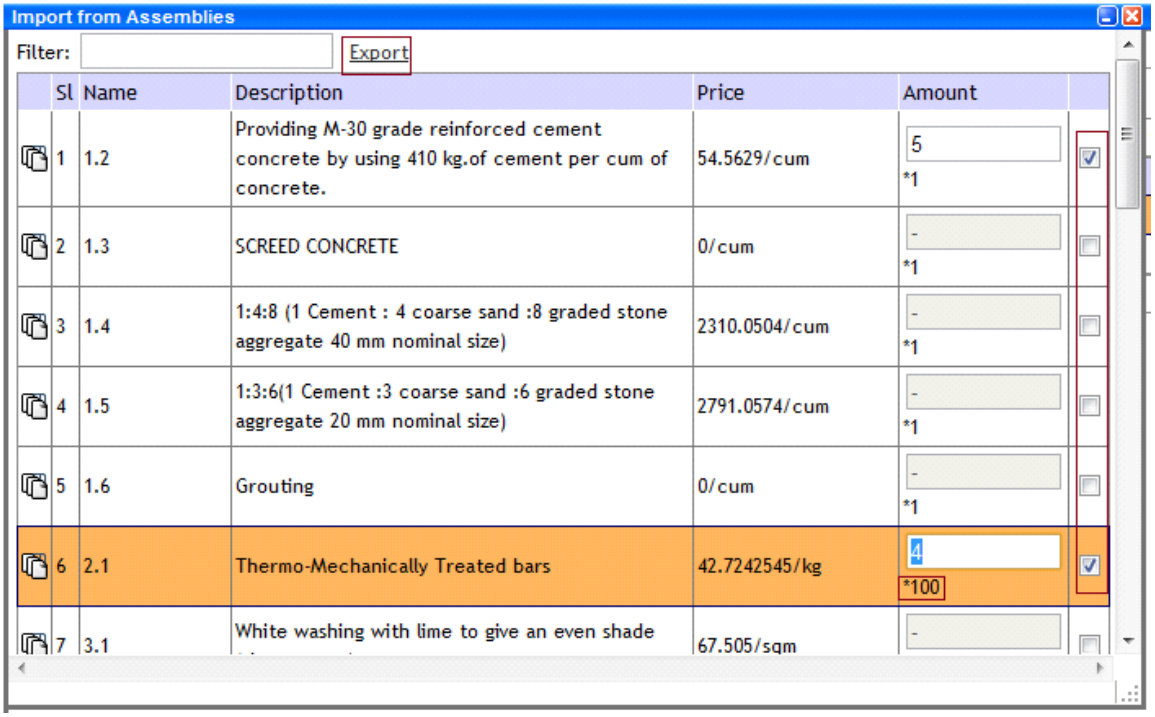


Fig 3-24-b: Selecting assemblies

Select assemblies through checkboxes and fill volumes inside the text-boxes. Numerical figure after each textbox will be multiplied to the volume entered inside the text-box. E.g. in **figure 3-24-b** analysis of rate for [4*100=400kg] of the assembly named 2.1 will be combined with the analysis of rate for [5*1=5cum] of the assembly named 1.2. Volume multipliers are the basis (read section 3.3.6.2) of the selected assemblies.

Click on "Export" at the top of the sub-window to finish.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

3.3.6.5 Editing volume and description

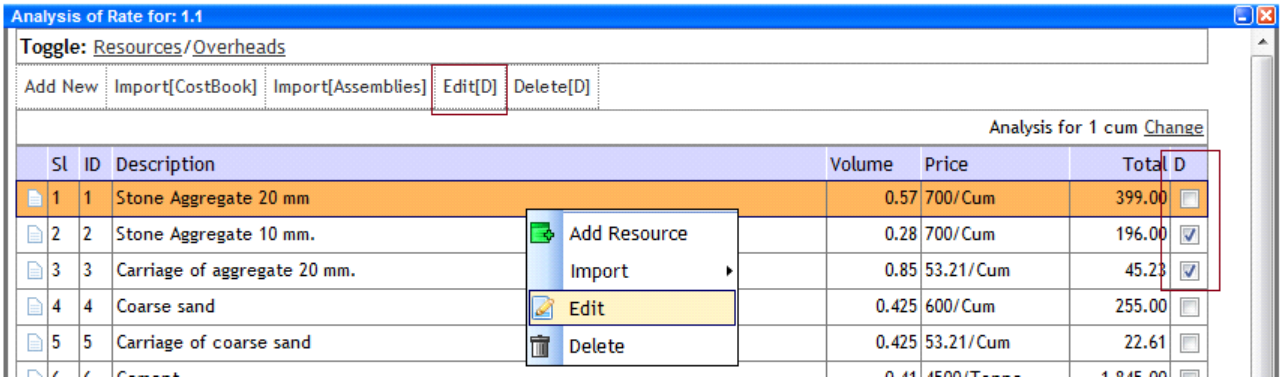


Fig 3-25-a: Editing an item in the analysis of rate

Select one or more items and then click on "Edit" option inside the top menu. Alternatively, right click over an item and select Edit from the context menu.

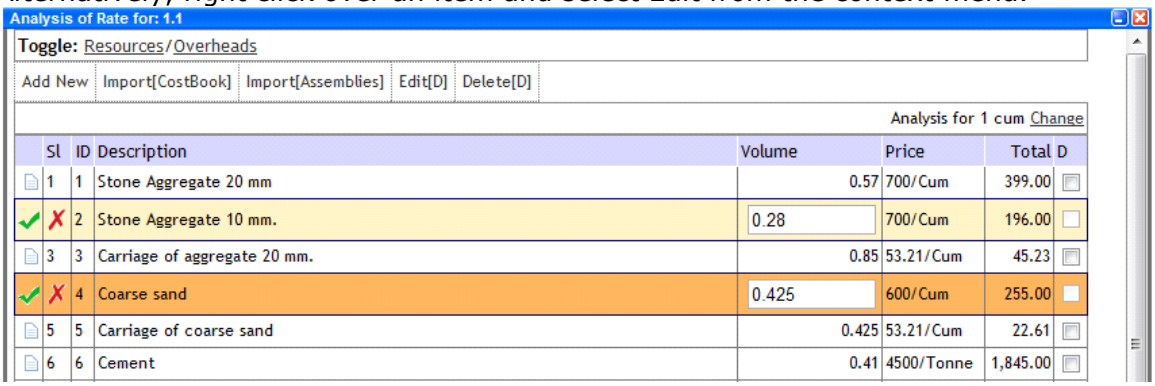


Fig 3-25-b: Screenshot showing resources being edited (only the volume field is editable)

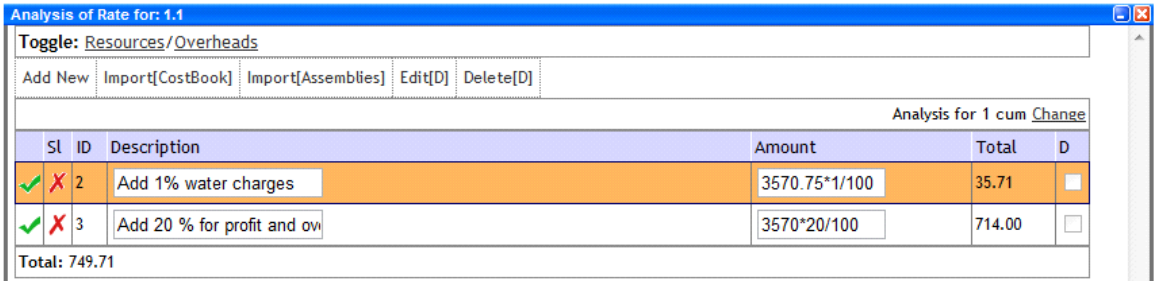


Fig 3-25-c: Screenshot showing overheads being edited

After making changes, click on the "Tick icon✔" to commit the changes back into the database. Click on "Cross icon ✗" to discard the changes.

3.3.6.6 Deleting Items from Analysis of Rate

Existing items (resources/overheads) can be deleted from analysis of rate, by selecting them (through checkboxes) and then clicking on "Delete" option inside the top menu. Alternatively, to delete an item right click over it and select "Delete" from the context-menu.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

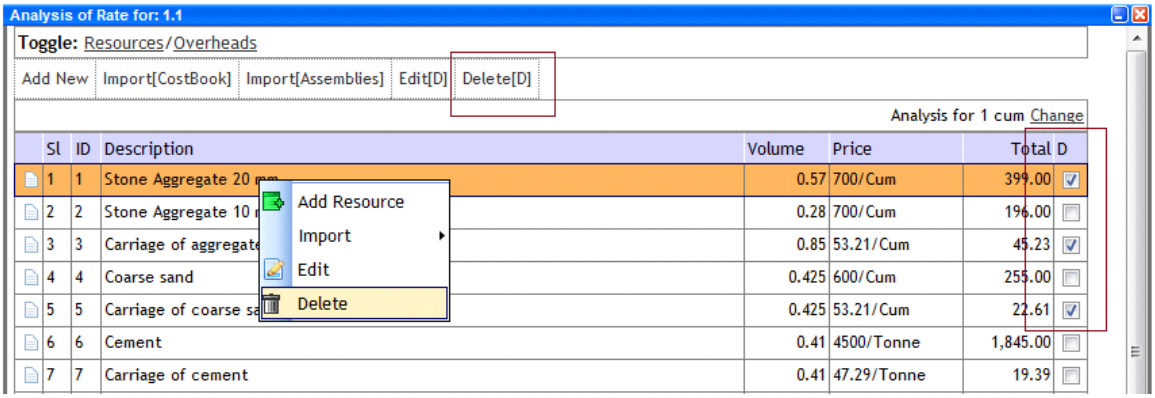


Fig 3-26-a: Deleting resources from analysis of rate

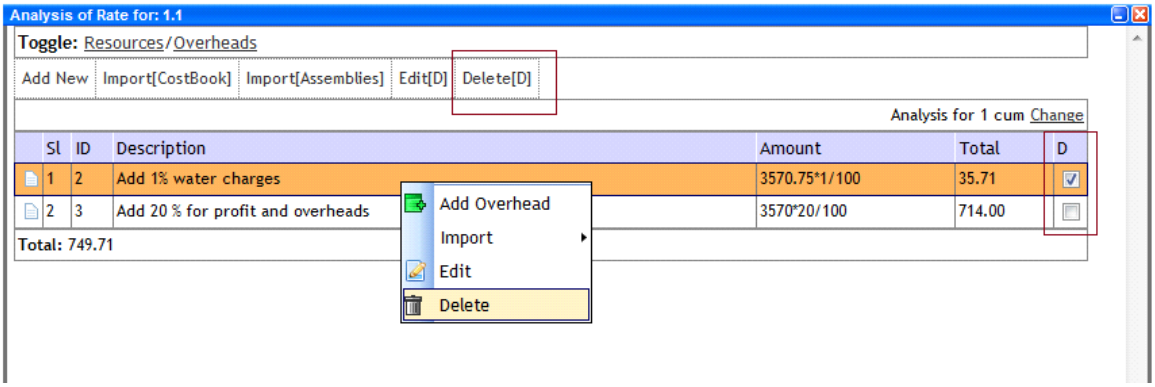


Fig 3-26-a: Deleting overheads from analysis of rate

3.3.6.7 Editing Unit Price of Resources

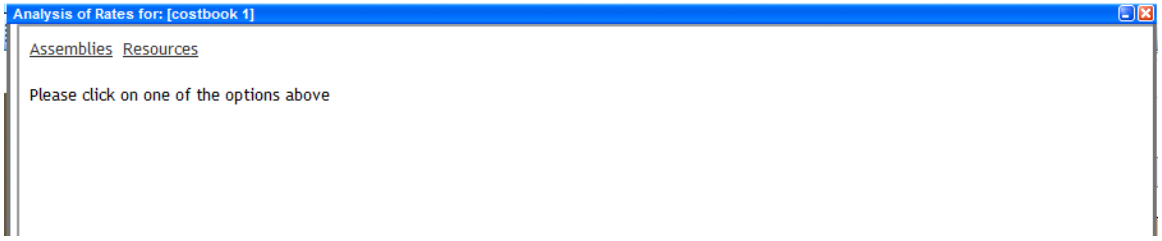


Fig 3-27-a: "Analysis of Rates" window (cost-book's name is displayed on the title bar)

When a resource is added into the analysis of rate, its standard unit-price is used to derive unit-rate of the dependent assembly. To customize unit-prices of used resources, click on "Resources" option inside the main window.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

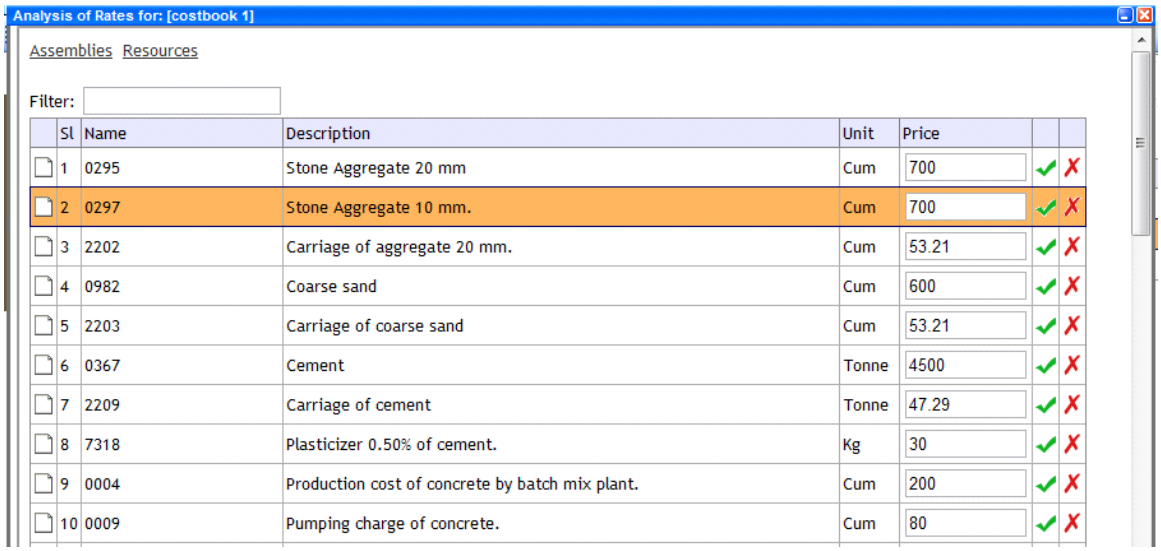


Fig 3-27-b: Main internal window showing the list of resources (cost-book's name is displayed over the title-bar)

After changing the unit-price of a resource, click on the "Tick icon✔" to commit the change. Click on "Cross icon ✗" to roll-back. When unit-price of a resource is updated, unit rates of all assemblies dependent on that particular resource are updated automatically.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

4 Projects

Projects module has been designed to assist estimators and engineers in preparation of accurate estimates.

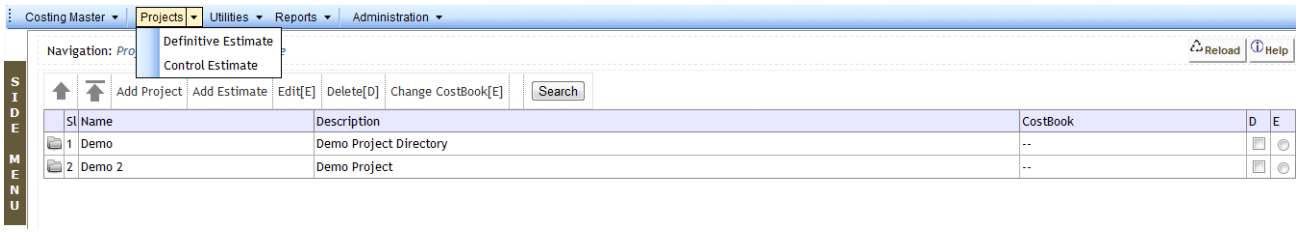


Fig 4-1: Projects menu in the main menu-bar

Getting Started

Expand the "Projects" menu in the main menu-bar to access following modules:

Definitive Estimate: Definitive Estimate module provides a set of tools for generating accurate cost-sheets, material takeoffs and Bill of Quantity for construction projects.

Control Estimate: Control Estimate module is an extension of Definitive Estimate module. This module enables engineers and project managers to gain full control over three basic variables that affect a construction project and its profitability: Schedule, Cost and Resources. This Module can be used for collecting as-built data, for generating Projections and for Audit & Reconciliation.

4.1 Definitive Estimate

This tutorial aims at familiarizing users with the "Definitive Estimate" module. Main function of this module is preparation of detailed Cost-Sheets and Material takeoffs.

4.1.1 Moving Around

Select Projects-> **Definitive Estimate** from the main menu-bar to display the list of existing projects and estimates.

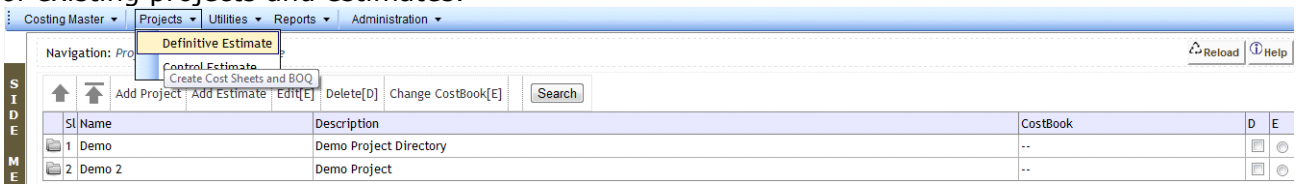


Fig 4-2-a: Loading the Projects module

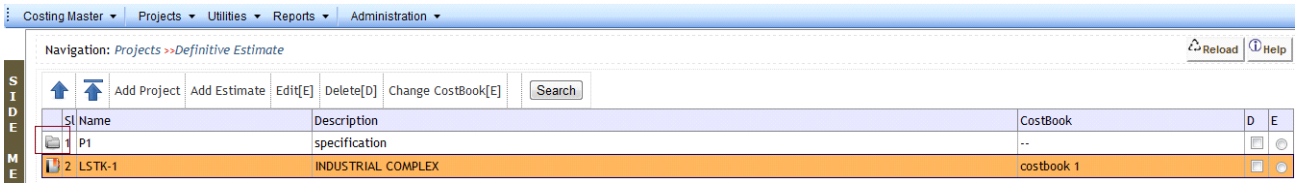


Fig 4-2-b: Exploring the content-table

Estimates may be arranged in Project directories. Click over the "directory icon " of a listed Project to access its contents. Click on "up icon" to move back to parent Project directory. Click on "top icon" to move to the top level.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

4.1.2 Adding a new Project or Estimate

Adding a new Project: Click on "Add New" link inside the workspace menu, or right click inside the content-table and select Add New-> New Project from the context menu.

Adding a new Estimate: To add a new estimate into the database click on "Add Estimate" link in the workspace menu. Alternatively, right click inside the content-table and select Add New->New Estimate from the context-menu.

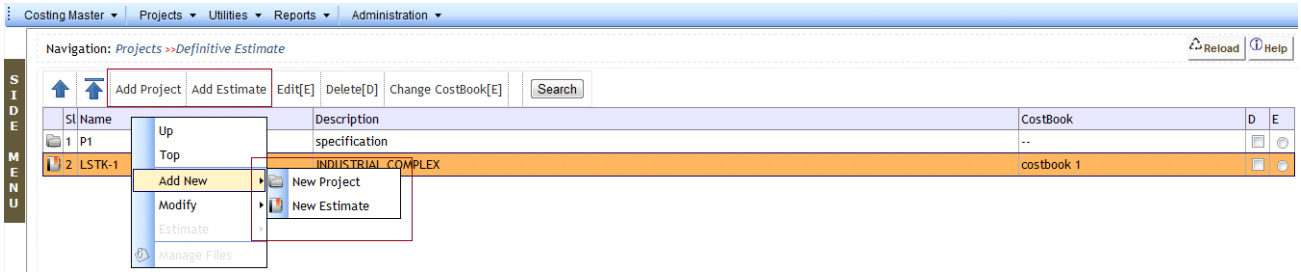


Fig 4-3-a: Adding a new project or estimate

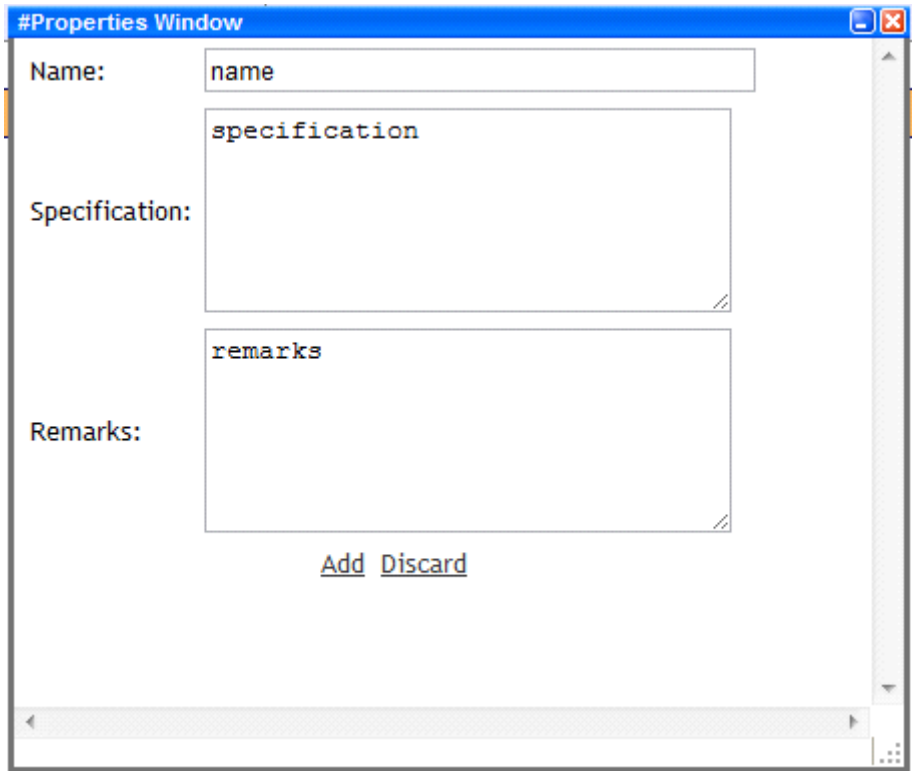


Fig 4-3-b: Properties window for new project or estimate

A properties window will appear inside the workspace. Fill-in the details and click on "Add" inside the properties window to add a new item. Click on "Discard" to close the window discarding the changes.

4.1.3 Editing an existing project or estimate

Select a project/estimate through radio-button and then click on "Edit" option inside the workspace menu. Alternatively right click over an item and then select Modify->Edit from the context menu.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

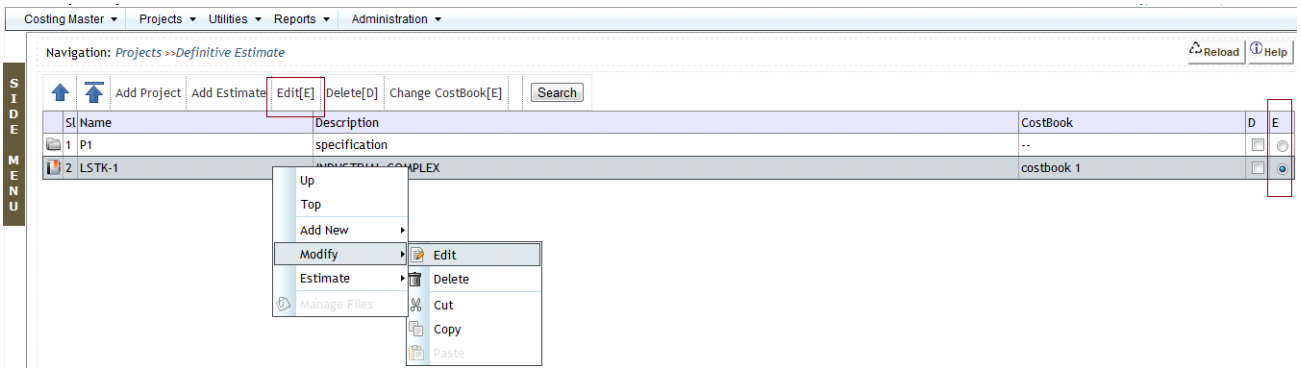


Fig 4-4-a: Editing a project or estimate

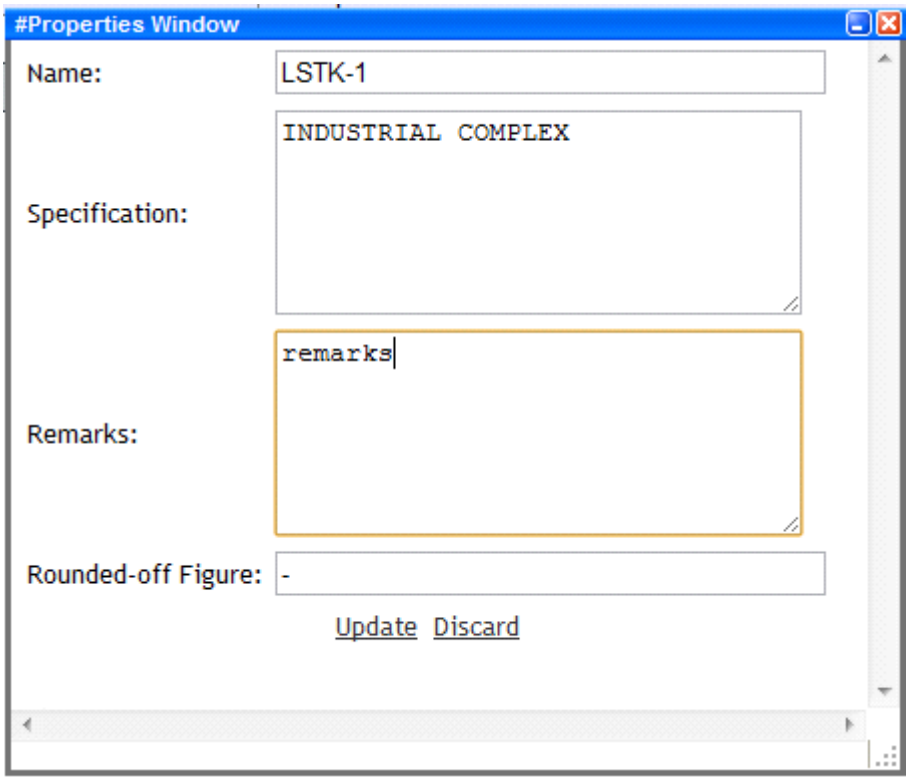


Fig 4-4-a: Properties window showing the details of an estimate

A properties window containing current details of the selected project/estimate will be displayed inside the workspace. Make changes and click on "Update" to commit the changes back into the database. Click on "Discard" to close the window discarding all changes.

4.1.4 Deleting an existing Project or Estimate

Select one or more items from the content-table through checkboxes and then click on "Delete" in the workspace menu. An item can be deleted by right clicking over it and then selecting Modify->Delete from context menu. Please note that selected items and associated records will be permanently deleted from the database.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

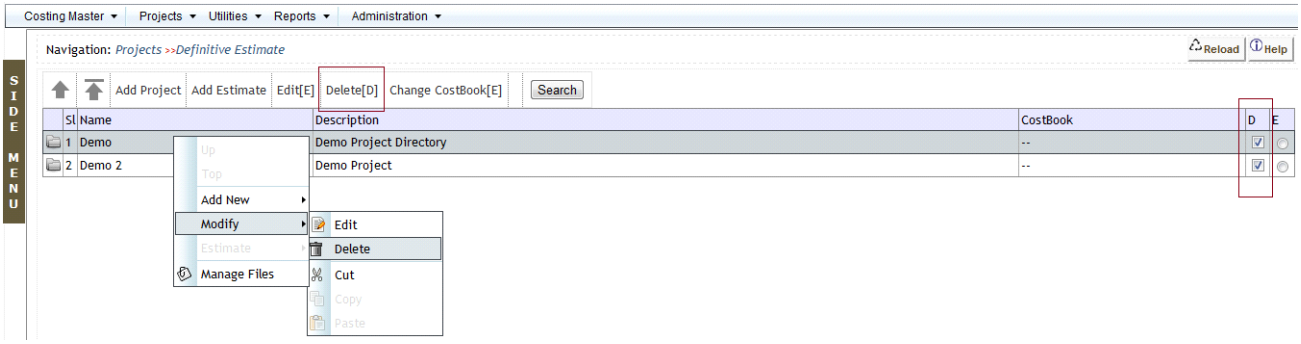


Fig 4-5: Deleting items

4.1.5 Moving an existing Project or Estimate

Right click over a project/estimate and select Modify->Cut to move the item, select Modify->Copy to copy. Navigate to destination project directory and select Modify->Paste from the context menu to complete the request. "Paste" option in the context menu is available only if an item has already been selected to be moved or copied. Please note that option to "Copy" a project directory is not available in the current package.

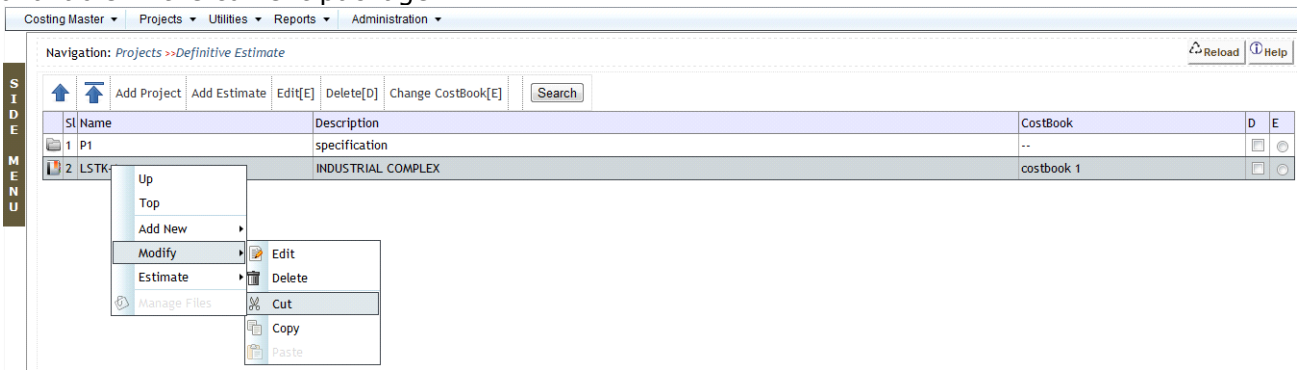


Fig 4-6: Copying or moving items (only estimates can be copied)

4.1.6 Preparing Cost-Sheet

A project may be divided into sub-projects and each sub project may contain several estimates. Each estimate contains a detailed cost-sheet. Each Cost Sheet contains a list of jobs and their dimensions as per the drawings. All jobs of the same nature are grouped together under one assembly.

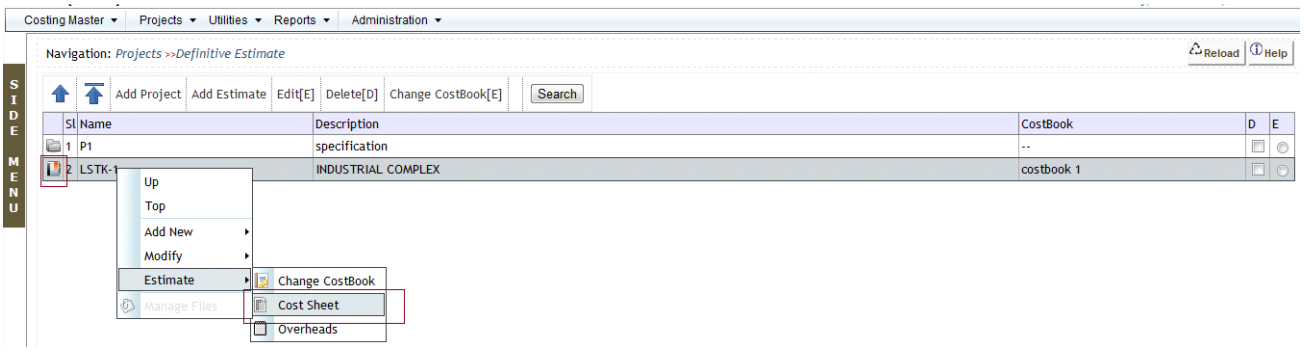
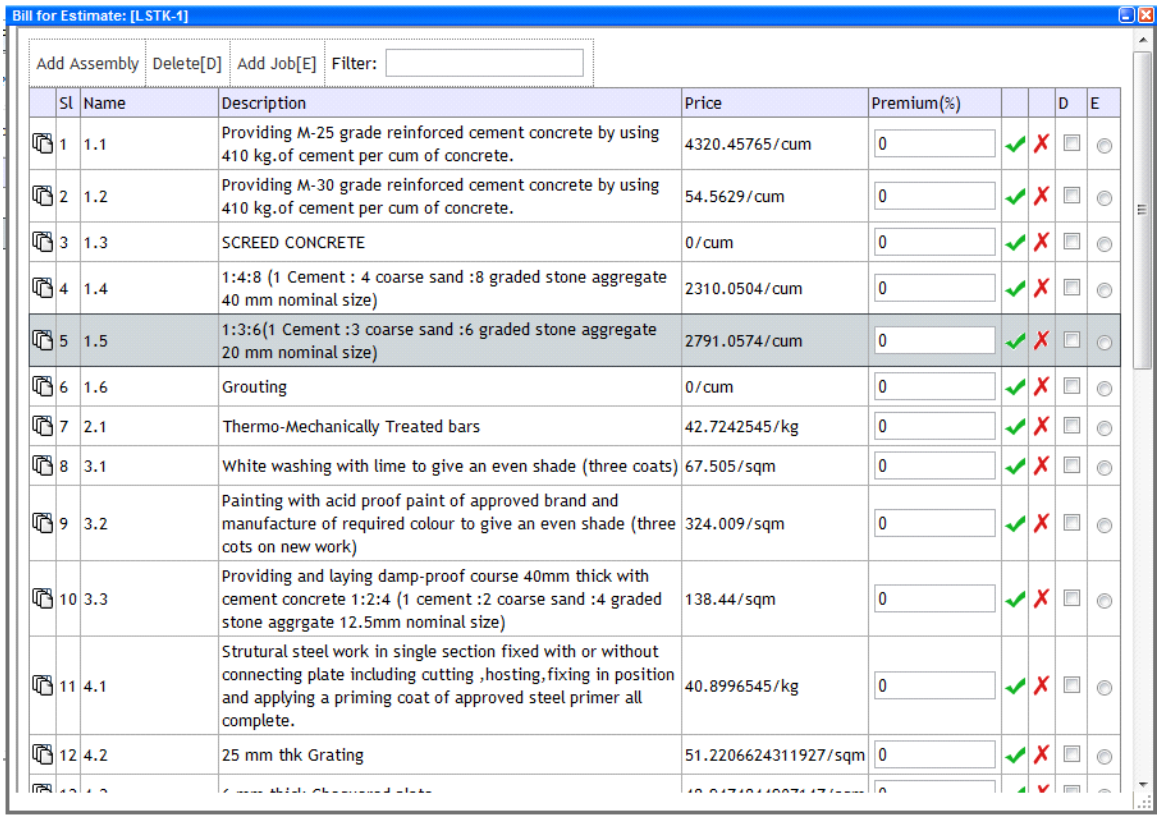


Fig 4-7-a: Opening the cost-sheet window

Click over the "estimate icon”, or right click over an estimate and then select Estimate->Cost Sheet from the context menu to display the cost-sheet window.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.



Sl	Name	Description	Price	Premium(%)	D	E
1	1.1	Providing M-25 grade reinforced cement concrete by using 410 kg.of cement per cum of concrete.	4320.45765/cum	0		
2	1.2	Providing M-30 grade reinforced cement concrete by using 410 kg.of cement per cum of concrete.	54.5629/cum	0		
3	1.3	SCREED CONCRETE	0/cum	0		
4	1.4	1:4:8 (1 Cement : 4 coarse sand :8 graded stone aggregate 40 mm nominal size)	2310.0504/cum	0		
5	1.5	1:3:6(1 Cement :3 coarse sand :6 graded stone aggregate 20 mm nominal size)	2791.0574/cum	0		
6	1.6	Grouting	0/cum	0		
7	2.1	Thermo-Mechanically Treated bars	42.7242545/kg	0		
8	3.1	White washing with lime to give an even shade (three coats)	67.505/sqm	0		
9	3.2	Painting with acid proof paint of approved brand and manufacture of required colour to give an even shade (three cots on new work)	324.009/sqm	0		
10	3.3	Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 (1 cement :2 coarse sand :4 graded stone aggrgate 12.5mm nominal size)	138.44/sqm	0		
11	4.1	Strutural steel work in single section fixed with or without connecting plate including cutting ,hosting,fixing in position and applying a priming coat of approved steel primer all complete.	40.8996545/kg	0		
12	4.2	25 mm thk Grating	51.2206624311927/sqm	0		

Fig 4-7-b: Screenshot of a Cost Sheet displaying the list of Assemblies. Assemblies are used to group together all jobs of similar nature (name of the estimate is displayed in the title bar)

4.1.6.1 Unit Rates of Assemblies

If no cost-book is associated with an estimate (this is default), standard unit-rates of assemblies will be used in the cost-sheet. Select an estimate through radio-button and then click on "Change CostBook" link inside the internal workspace menu, or right click over an estimate and then select Estimate->Change CostBook from the context menu.

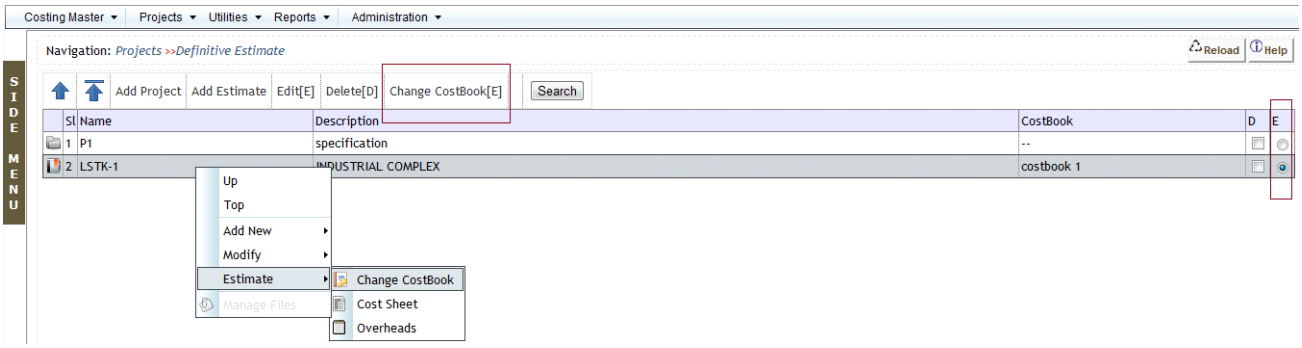


Fig 4-8-a: Selecting a cost-book

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

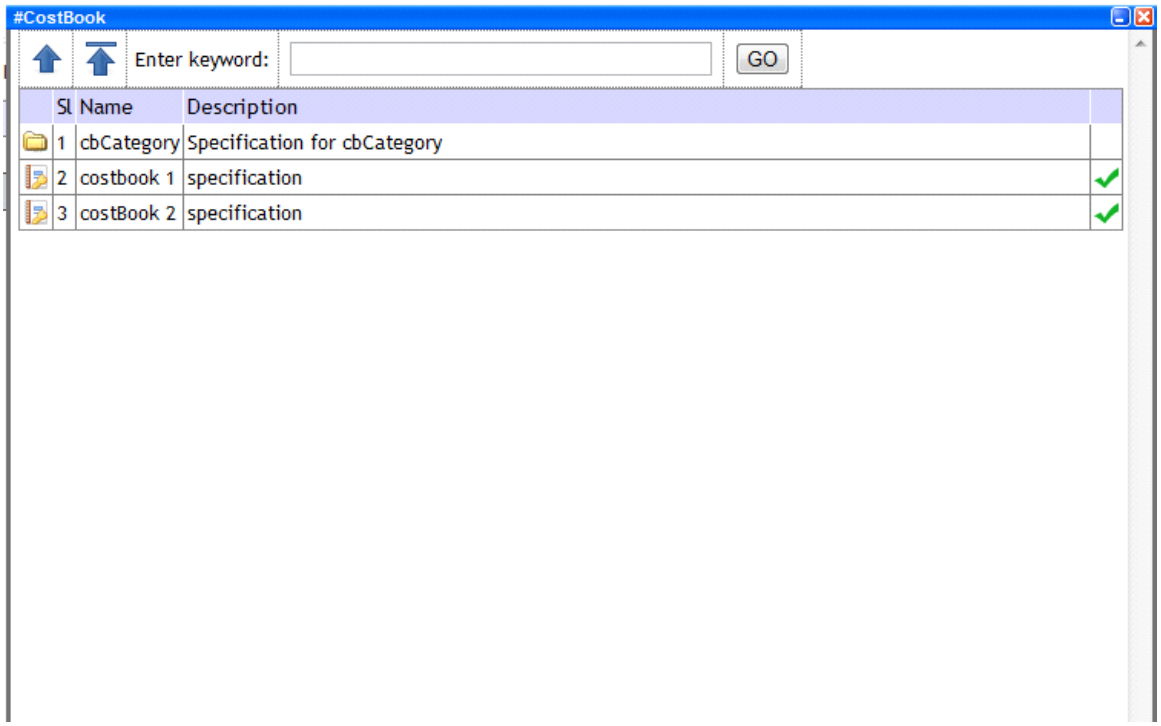


Fig 4-8-b: cost-book selection window

A window containing the list of existing cost-books will be displayed. Click over the "Tick icon✔" on the left of a cost-book to associate it with the selected Estimate. Please note that if unit-rate of an assembly is not defined in the cost-book, then standard unit-rate of that assembly will be used instead.

4.1.6.2 Adding Assemblies into the Cost-Sheet

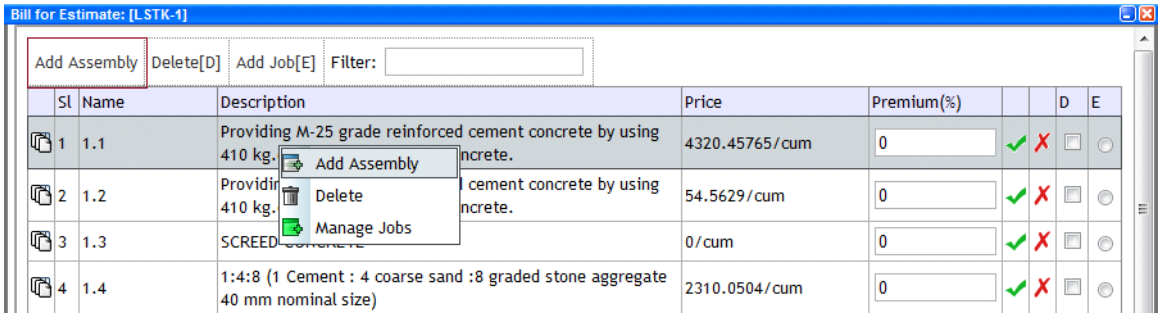


Fig 4-9-a: adding new assembly

Click on "Add Assembly" option inside the top menu, or select "Add Assembly" from the context menu.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

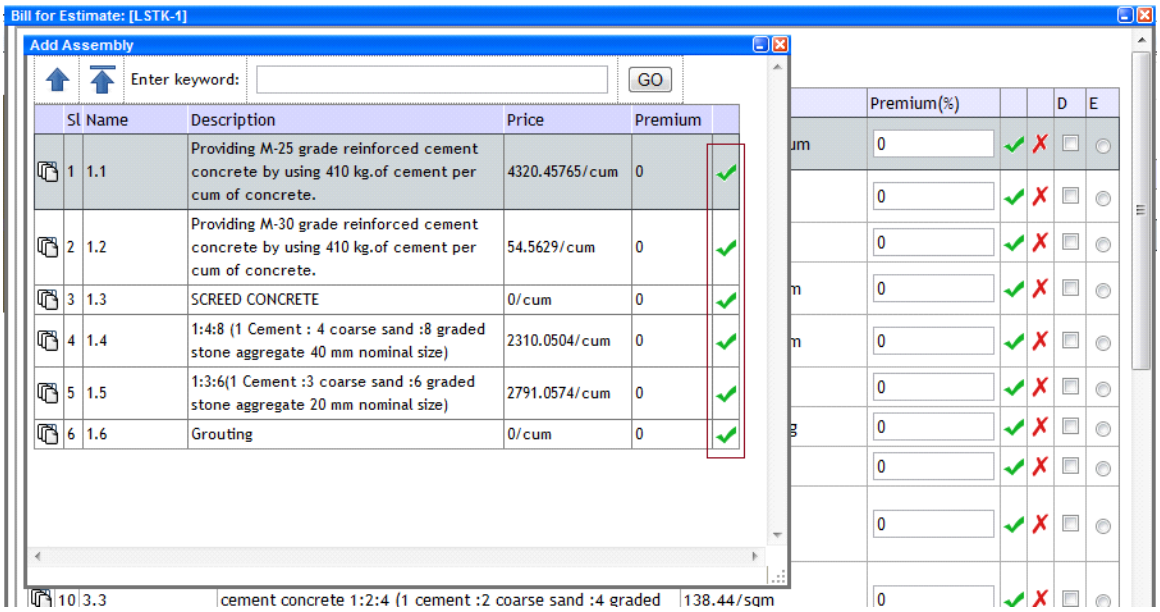


Fig 4-9-b: Assembly selection window

Add an assembly into the cost-sheet by clicking over the "Tick icon✔". Selected assembly will be added at the bottom of the cost-sheet.
Premium: To adjust the premium amount (% over the unit-rate) of an assembly, edit the amount inside the premium text-box and then click over "Tick icon✔" to update the database. Click over "Cross icon ✗" to roll-back.

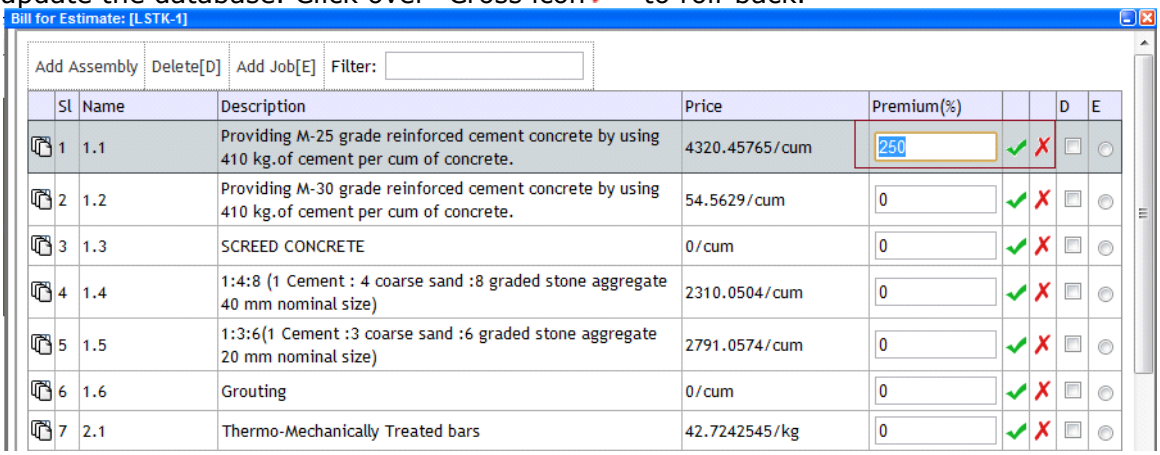


Fig 4-9-c: Updating premium

4.1.6.3 Deleting Assemblies from the Cost Sheet

Select one or more assemblies and then click on "Delete" inside the top menu. Alternatively, right click over an assembly and select "Delete" from the context menu.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

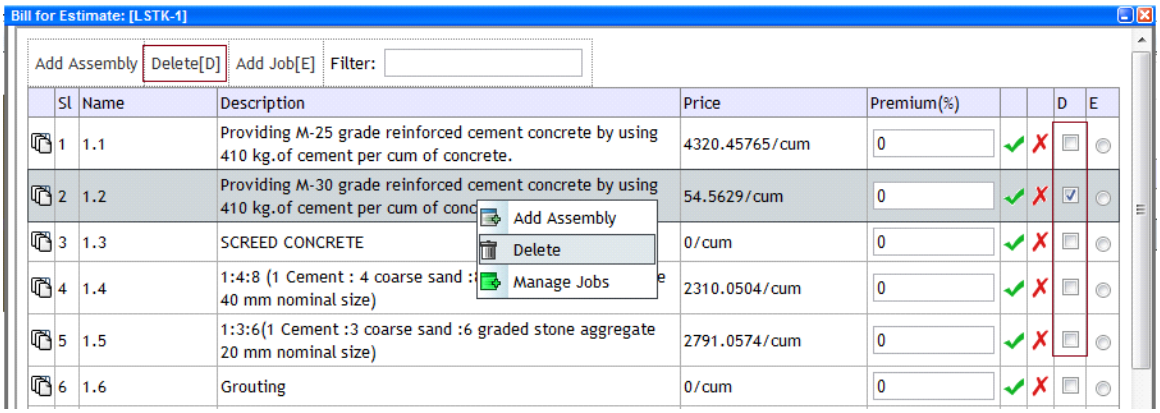


Fig 4-10: Deleting assemblies

4.1.7 Managing Jobs

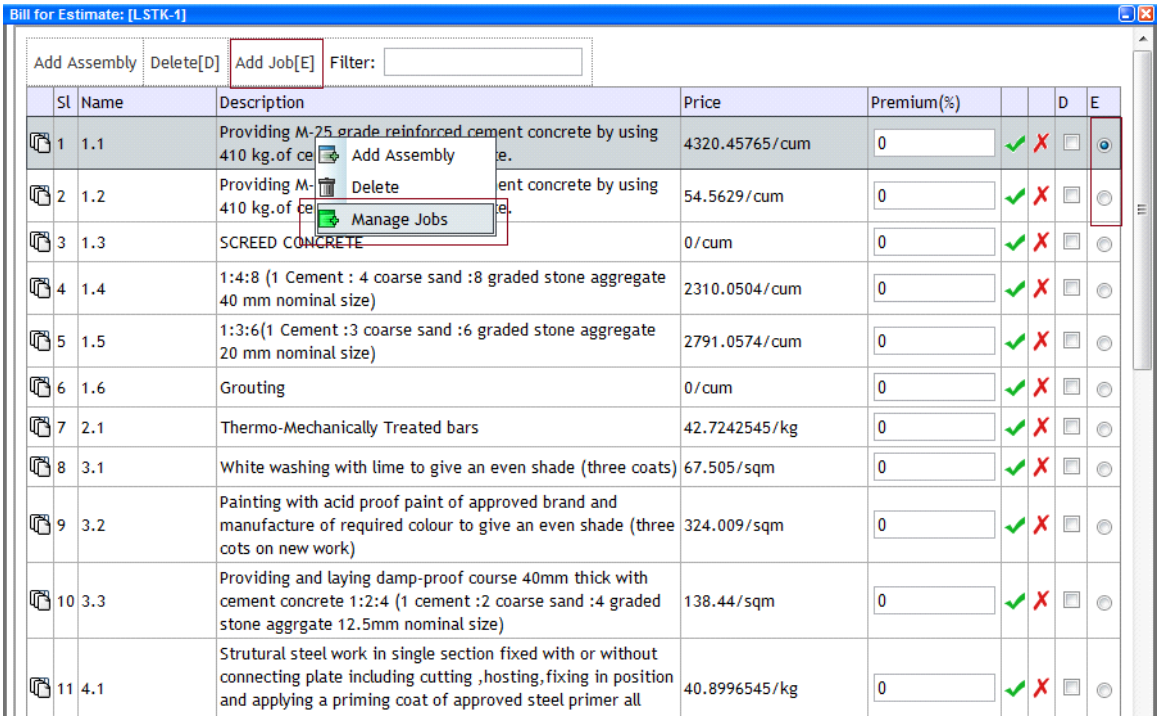
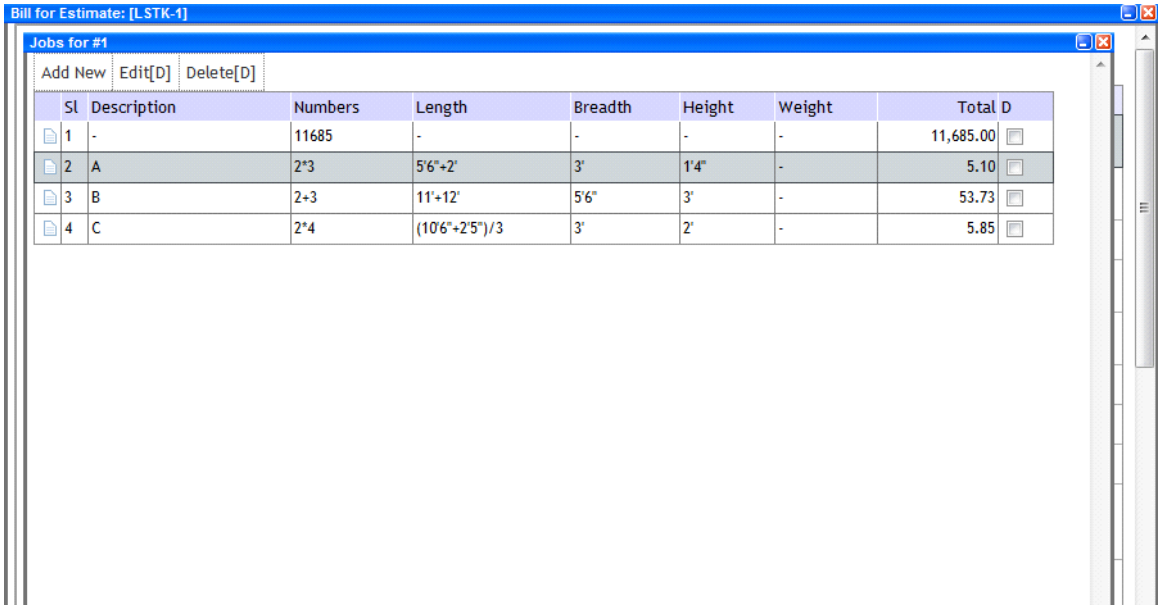


Fig 4-11-a: Opening jobs sub-window

Select an assembly through radio-button and click on "Add Job" in the top menu, or right click over an assembly and select "Manage Jobs" from the context menu.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

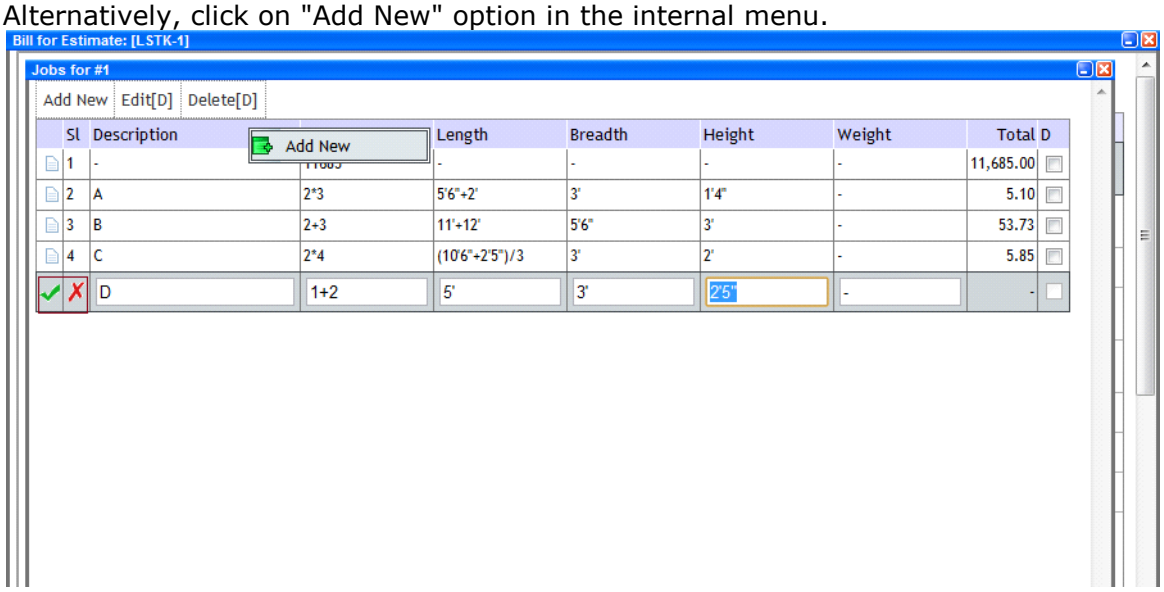


Sl	Description	Numbers	Length	Breadth	Height	Weight	Total	D
1	-	11685	-	-	-	-	11,685.00	
2	A	2*3	5'6"+2'	3'	1'4"	-	5.10	
3	B	2+3	11'+12'	5'6"	3'	-	53.73	
4	C	2*4	(10'6"+2'5")/3	3'	2'	-	5.85	

Fig 4-11-b: Screenshot showing the list of jobs in a sub-window

4.1.7.1 Adding a new Job

Right click inside the jobs table and select "Add New" from context menu. Alternatively, click on "Add New" option in the internal menu.



Sl	Description		Length	Breadth	Height	Weight	Total	D
1	-		-	-	-	-	11,685.00	
2	A	2*3	5'6"+2'	3'	1'4"	-	5.10	
3	B	2+3	11'+12'	5'6"	3'	-	53.73	
4	C	2*4	(10'6"+2'5")/3	3'	2'	-	5.85	
✓ ✗	D	1+2	5'	3'	2'5"	-	-	

Fig 4-12: Adding new job

A new empty row with editable text-boxes will be added at the bottom of the jobs table. Fill description and dimensions and click on "Tick icon✓" to add a new job into the database. Click on "Cross icon✗" to discard.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

4.1.7.2 Editing existing jobs

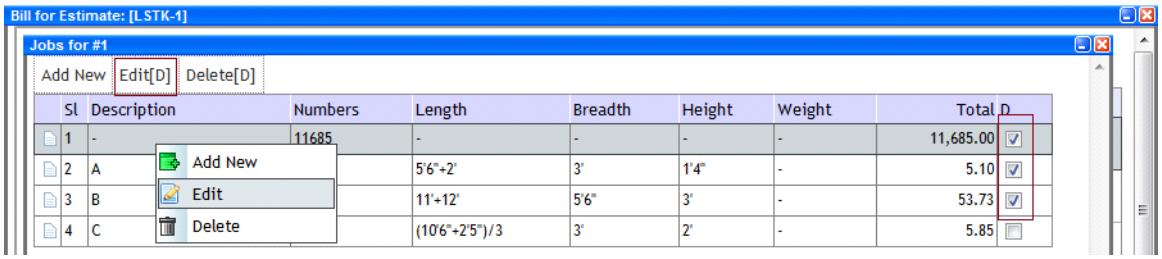


Fig 4-13-a: Editing a job

Select jobs through checkboxes and then click on "Edit" in the internal menu. To edit a job right click over it and select "Edit" from the context menu.

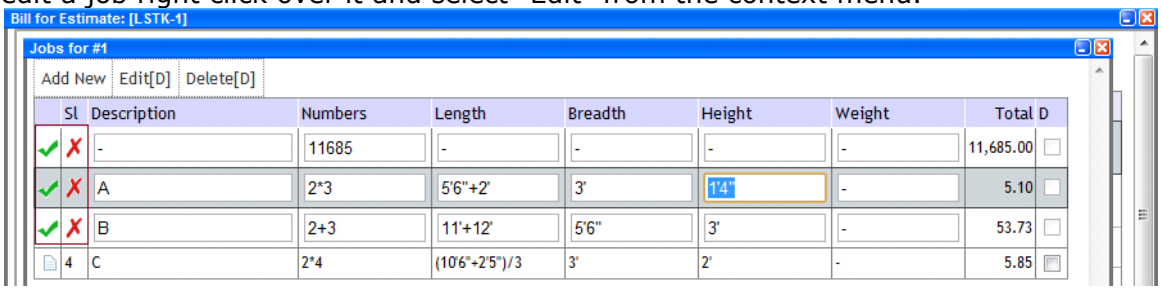


Fig 4-13-b: Screenshot showing rows of jobs being edited

Editable fields containing current details (description, dimensions) of the selected jobs will appear, make changes and click on "Tick icon✔" to commit the changes into database. Click on "Cross icon" to discard the changes.

4.1.7.3 Deleting existing jobs

Select one or more jobs from the list and then click on "Delete" option inside the top menu, or right click over a job and select "Delete" from the context menu.

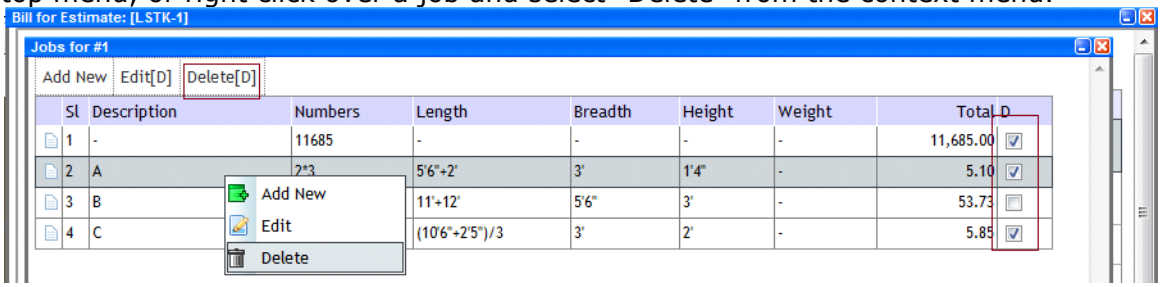


Fig 4-14: Deleting jobs

4.1.8 Managing overheads

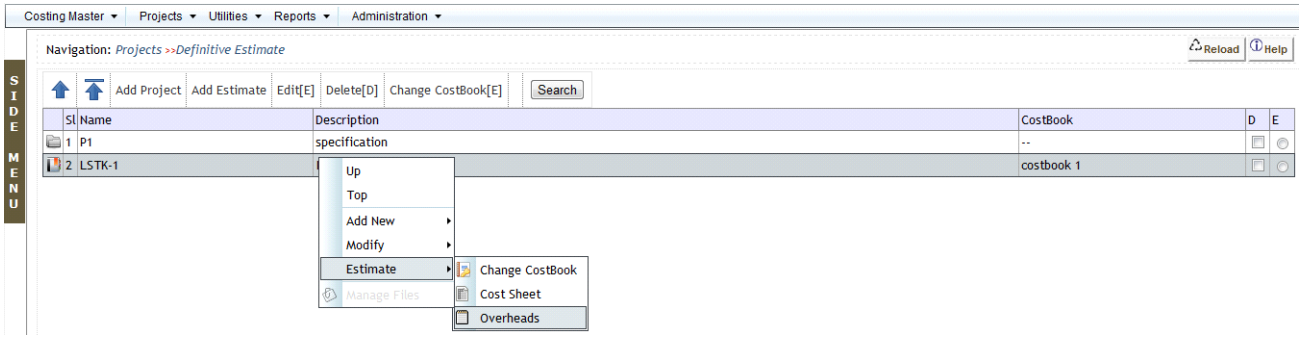


Fig 4-15-a: Opening overheads window

Right click over an estimate and select Estimate-> Overheads from the context menu.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

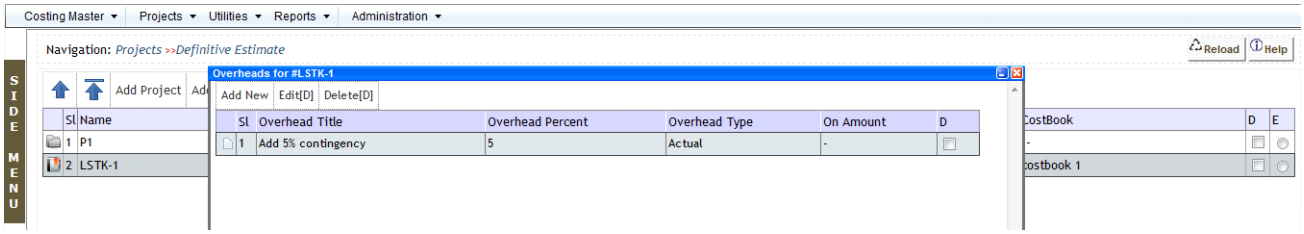


Fig 4-15-b: Screenshot of the overheads window

4.1.8.1 Adding new overheads

Click on "Add New" in the internal menu, or right click over the overheads table and select "Add New" from context menu.

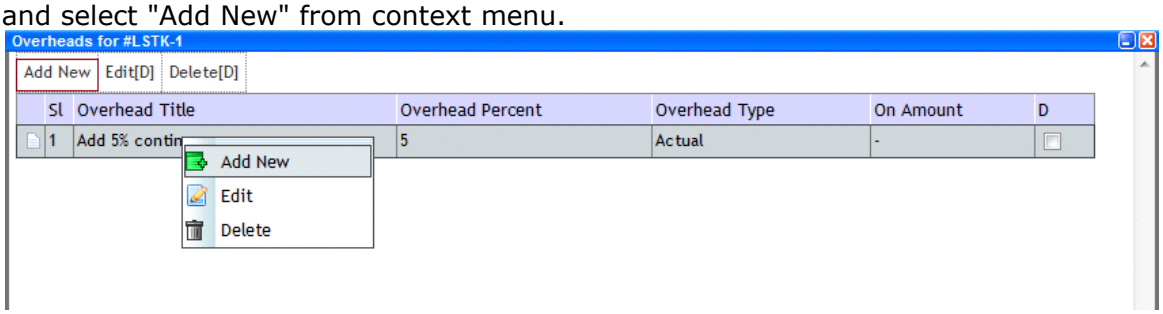


Fig 4-16-a: Adding new overhead

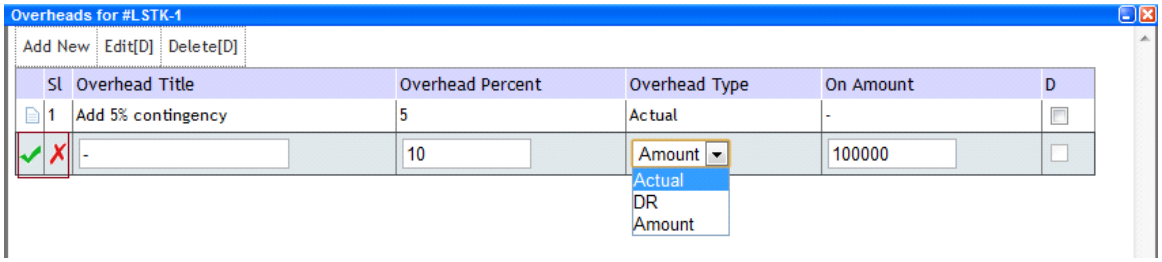


Fig 4-16-b: Screenshot showing blank row for adding a new overhead

A new empty row with editable text boxes will be added at the bottom of the list.
Overhead types: Overheads are always defined in %.
Actual: Overhead defined as % over the amount derived from the cost-sheet.
Derived: Overhead defined as % over the amount derived till the point (cost-sheet+overheads).
Amount: Overhead defined as % over a fixed amount (filled in "On Amount" text-box).

4.1.8.2 Editing Overheads

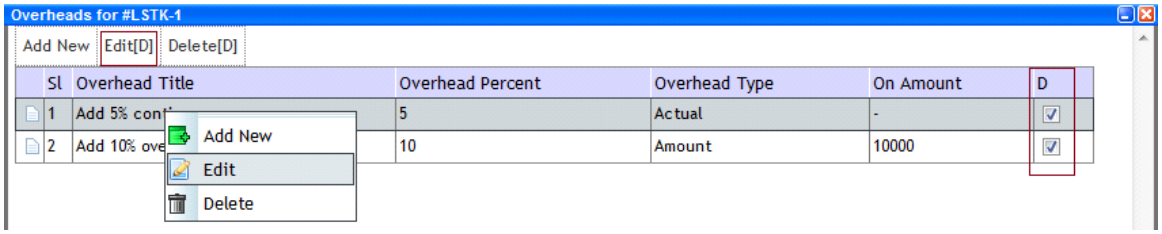


Fig 4-17-a: Editing an overhead

Select one or more overheads and click on "Edit" in the top menu. Alternatively, right click over an overhead and select "Edit" from the context menu.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

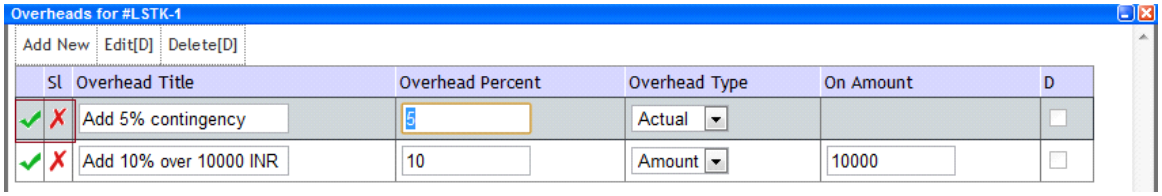


Fig 4-17-b: Screenshot showing overheads being edited

Fields in the selected rows will be replaced by editable boxes. Click on "Tick icon ✔" to commit the changes into the database. Click on "Cross icon ✗" to discard the changes.

4.1.8.3 Deleting Overheads

Select one or more overheads through checkboxes and then click on "Delete" link in the top menu. Alternatively right click on an overhead and select "Delete" from the context menu.

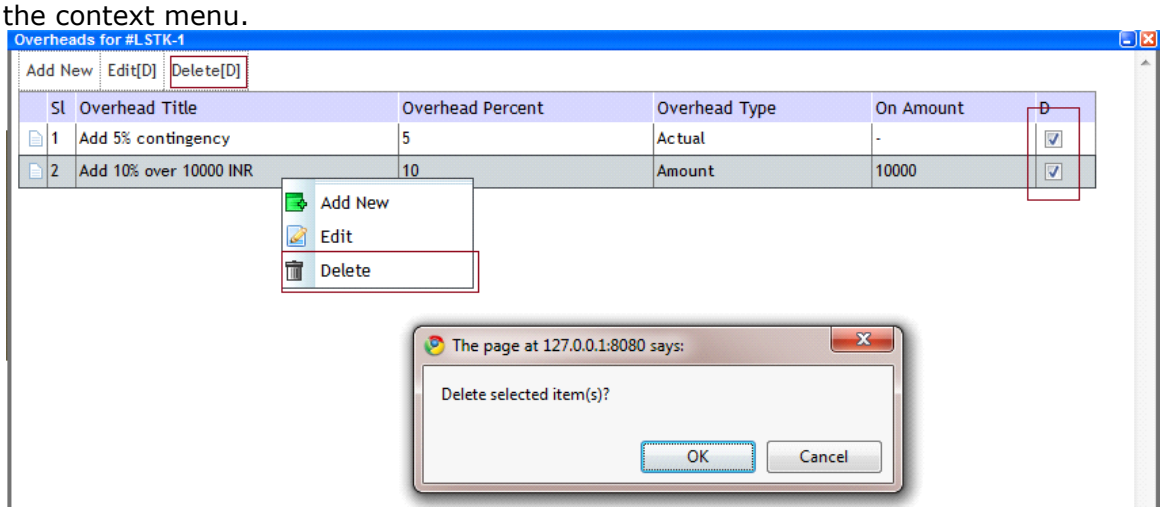


Fig 4-18: Deleting overheads

4.1.9 Managing References

External files can be uploaded and attached with the project directories. Right click over a project and select "Manage Files" from the context menu.

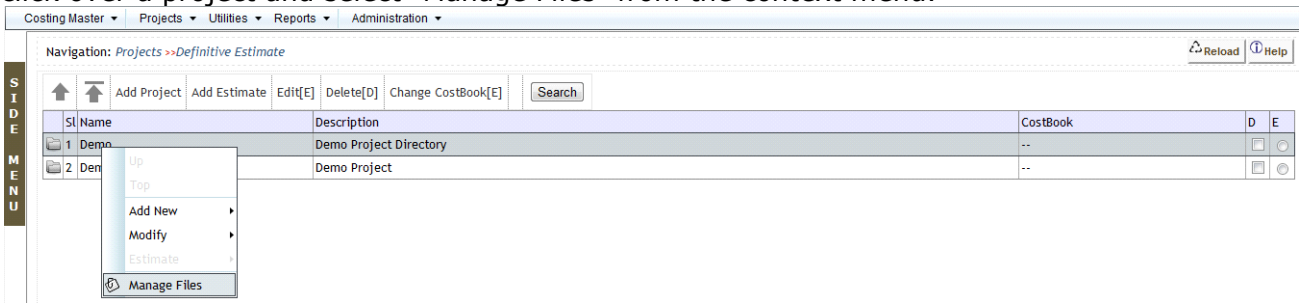


Fig 4-19-a: Opening references window

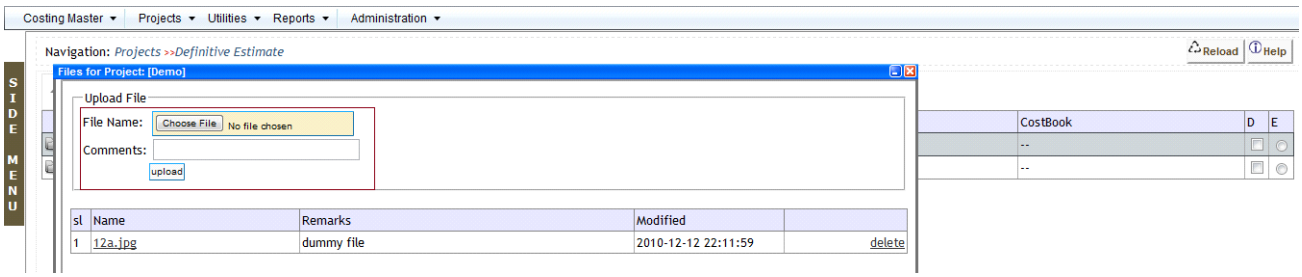


Fig 4-19-b: Screenshot of references window

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

4.1.9.1 Uploading a new Reference

Click on "Choose File" button, and select a file. Add a comment and click on upload. Please note that maximum size of the file is limited by "***max_allowed_packet***" configuration of the database server (default is ***1048576 bytes***) in case of MYSQL. Newly added file will be listed in table.

4.1.9.2 Deleting a Reference

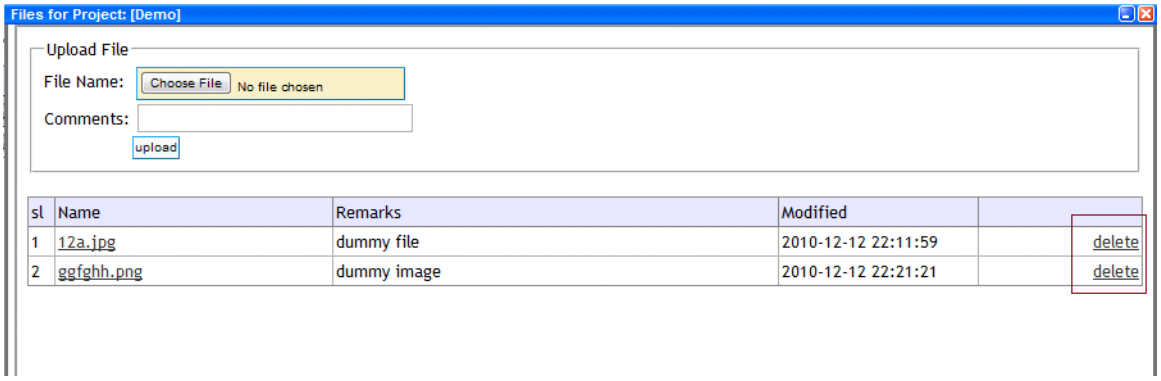


Fig 4-20: Deleting references

Click over "delete" on the left of a listed reference to delete it.

4.1.9.3 Viewing a Reference

Click on the file-name of a listed reference to download/open the referenced file on local machine.

4.2 Control Estimate

This tutorial presents a basic overview of the **Control Estimate** module.

4.2.1 Moving Around

Select Projects-> **Control Estimate** from the main menu-bar to display the list of existing projects and control estimates.

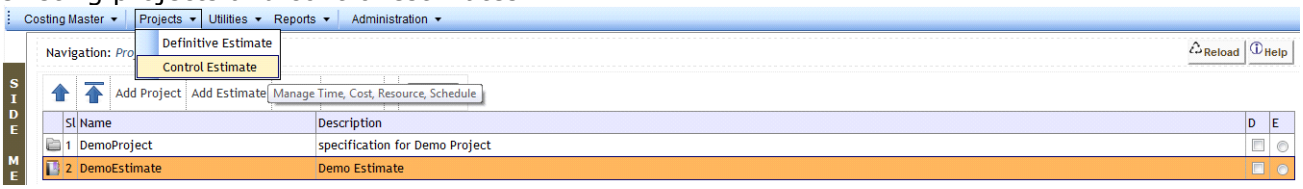


Fig 4-21-a: Accessing Control Estimate module

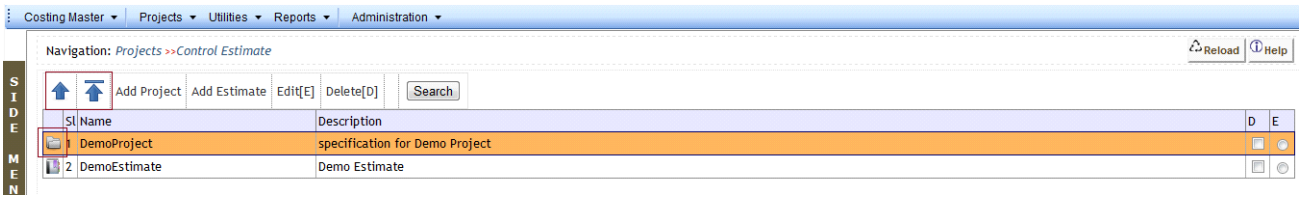


Fig 4-21-b: Moving around content table

Control Estimates may be arranged in project directories. Click over the "directory icon" of a listed project to view its contents. Click on "up icon" to move back to the parent Project directory. Click on "top icon" to move to the top level.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

4.2.2 Adding a new Project or Estimate

Adding a new Project: Click on "Add Project" option inside the workspace menu, or right click over the content-table and select Add New->New Project from context menu.

Fig 4-22-a: Adding new project or estimate

Fill in the details and click on "Add" to finalize. Click on "Discard" to close the properties window, discarding all changes.

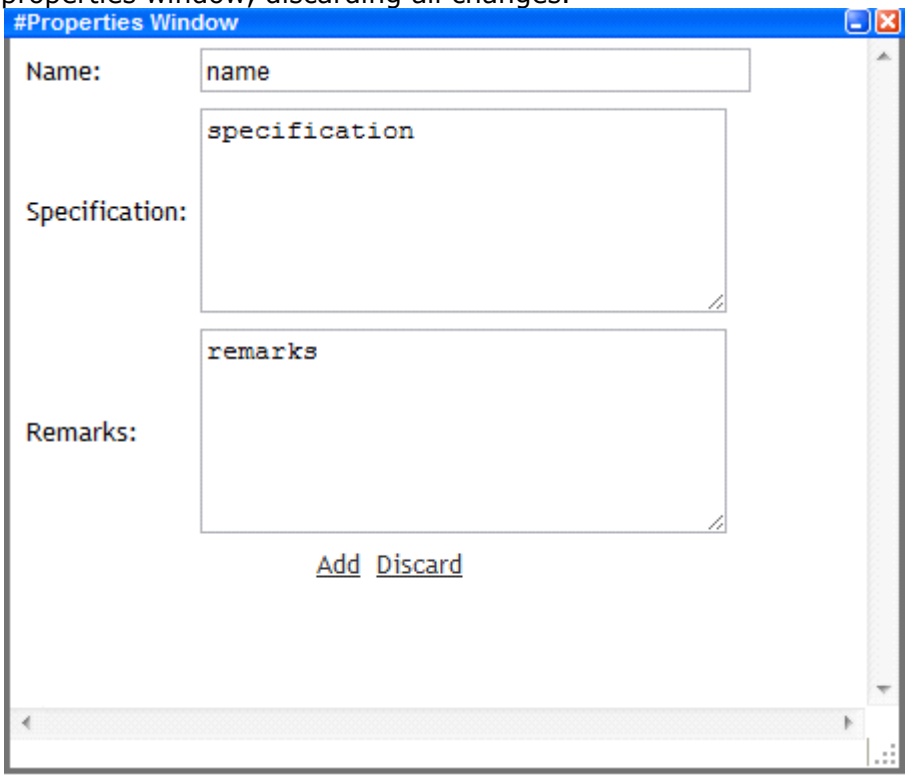


Fig 4-22-b: Properties window for adding a new project

Adding a new Estimate: Click on "Add Estimate" in the workspace menu, or right click inside the content-table and select Add New->New Estimate from context menu.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

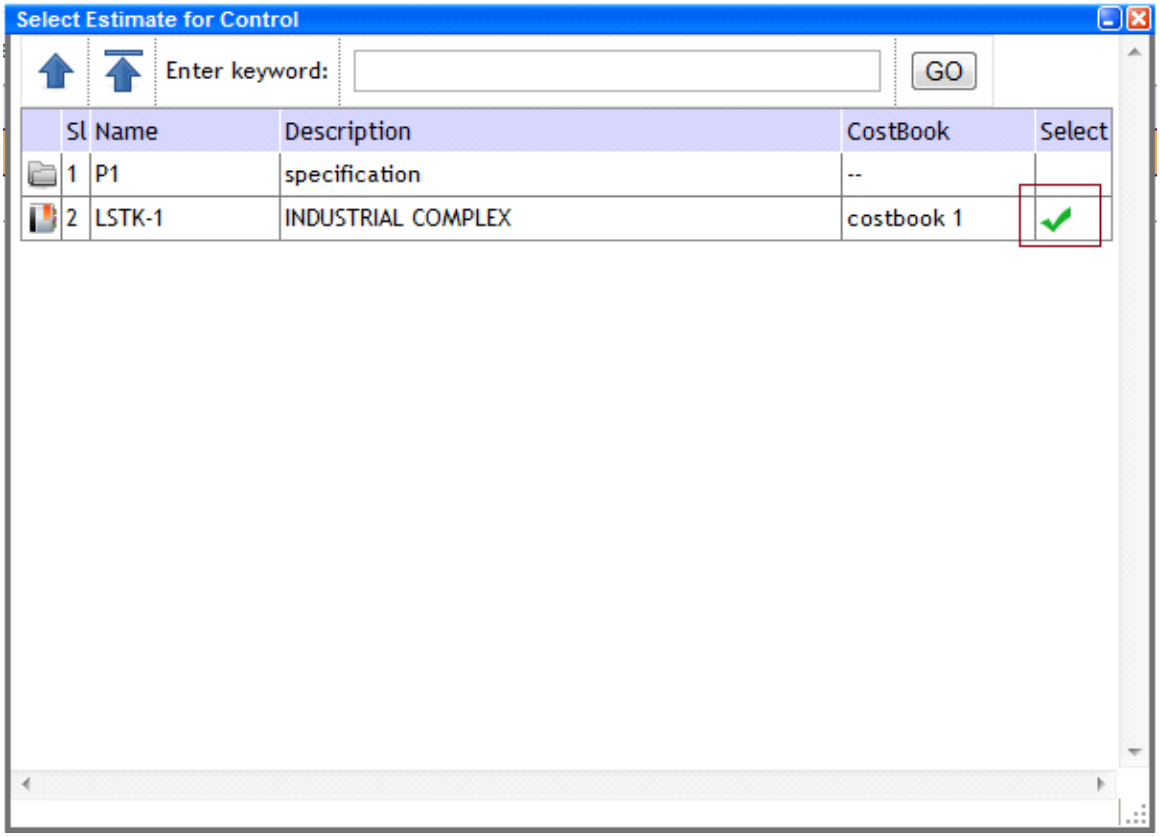


Fig 4-22-c: Selecting a definitive estimate

Select a definitive estimate from the list by clicking over "Tick icon". Selected definitive estimate will be added as control estimate in database. If the referenced definitive estimate is deleted, the control estimate will be removed automatically.

4.2.3 Editing an existing Project or Estimate

Select a project through radio-button and then click on "Edit" inside the workspace menu. Alternatively right click over an item to be edited and then select Modify->Edit from the context menu. Control estimates inherit their name and description from the referenced definitive estimates.

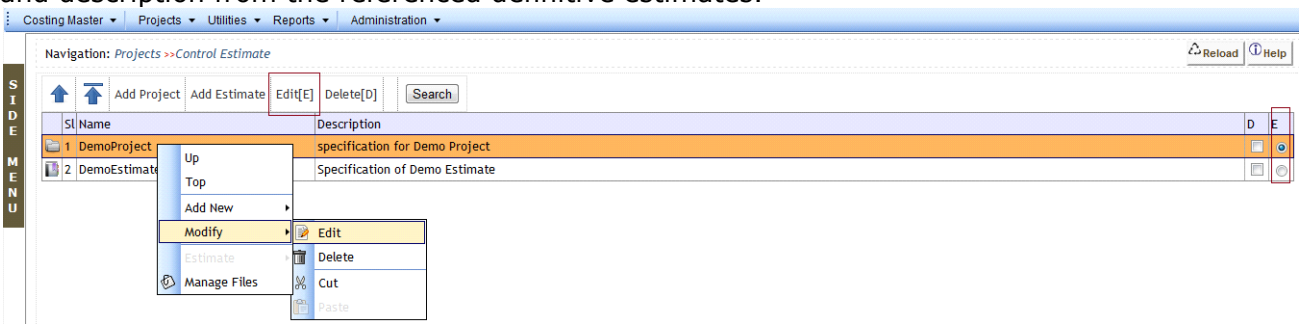


Fig 4-23-a: Editing a project/estimate

A properties sub-window containing current details of the selected item will be displayed inside the workspace. Click on "Update" to commit the changes into database. Click on "Discard" to close the sub-window discarding the changes.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

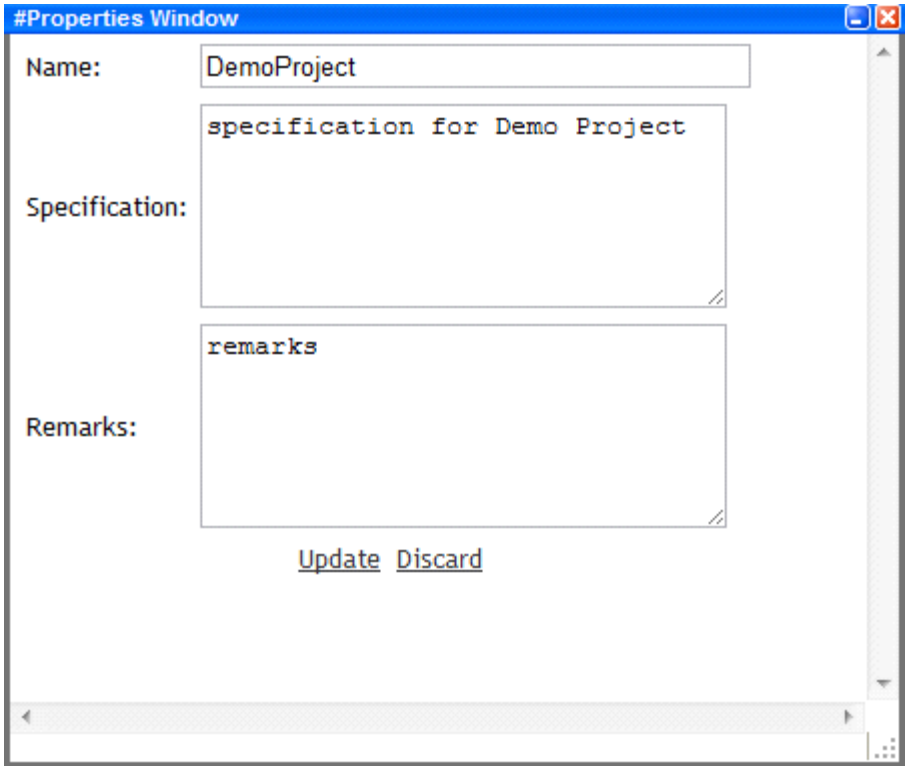


Fig 4-23-b: Properties window showing the current details of a project

4.2.4 Deleting an existing Project or Estimate

Select one or more items from the table through checkboxes and click on "Delete" inside the workspace menu. An item can be deleted from the list by right clicking over it and then selecting Modify->Delete from the context menu. Please note that deleted items cannot be restored back.

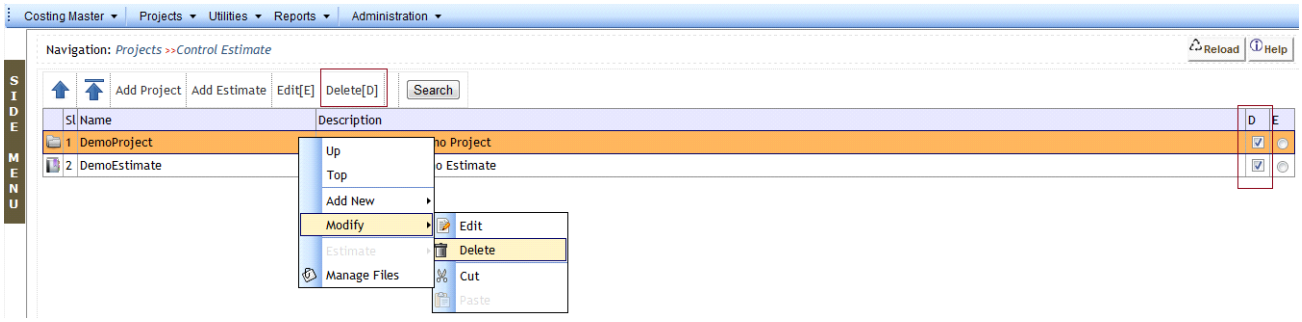


Fig 4-24: Deleting a project/estimate

4.2.5 Moving an existing Project or Estimate

Right click over a project/estimate and select Modify->Cut to move the item, select Modify->Copy to copy. Navigate to destination project directory and select Modify->Paste from context menu to complete the request. "Paste" option in the context menu is available only if an item has already been selected to be moved or copied. Please note that option to "Copy" a project directory or a control-estimate is not available in the current package.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

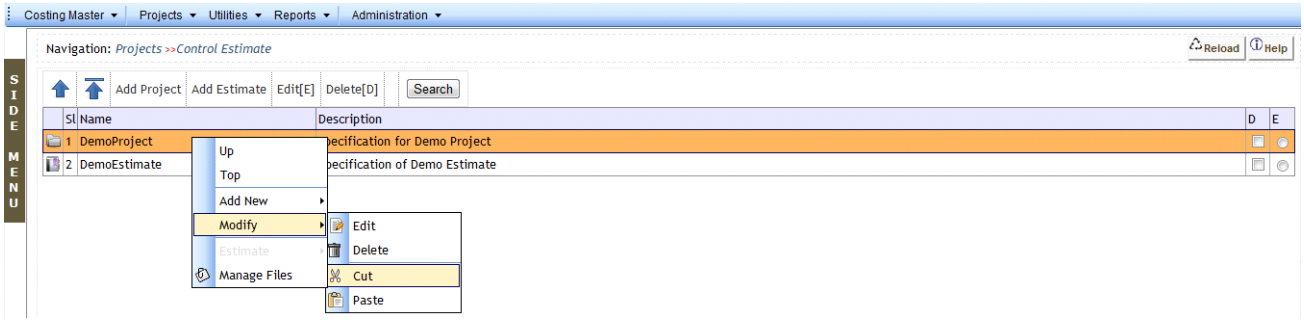


Fig 4-25: Moving a project/estimate

4.2.6 Using Control Estimates

Control Estimates are used for scheduling the planned jobs, and for collecting as-built data from the sites.

4.2.6.1 Managing Schedules

Click over "Control Estimate icon" on the left of a listed estimate, or right click over an estimate and select Estimate->Prepare Tasks from the context menu.

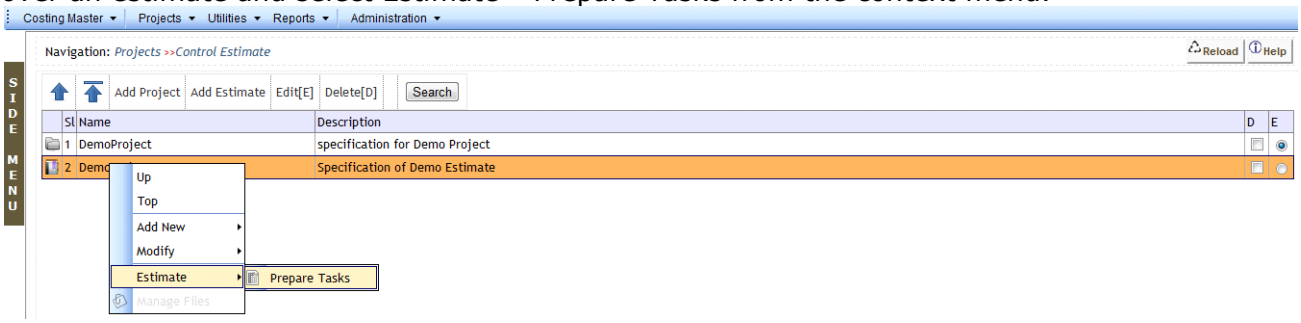


Fig 4-26-a: Managing jobs

A sub-window containing a list of assemblies and jobs (from the referenced definitive estimate) will be displayed inside the workspace.

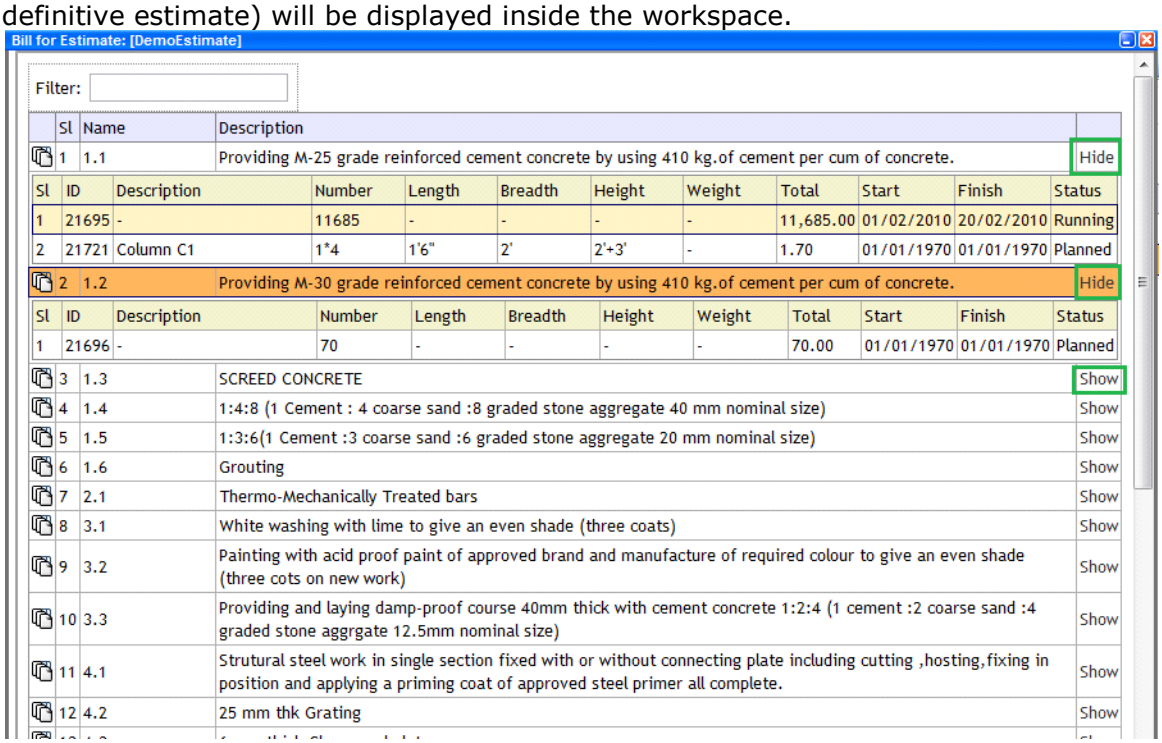


Fig 4-26-b: Screenshot of the jobs window for a selected control estimate (name of the estimate is shown in the title bar)

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

Like in case of definitive estimates, jobs of similar nature are grouped together under one assembly. To view the jobs grouped under an assembly, click on "Show". To hide the jobs click on "Hide".

4.2.6.2 Scheduling a job

Right click over a listed job and select "Prepare Schedule" from the context menu.

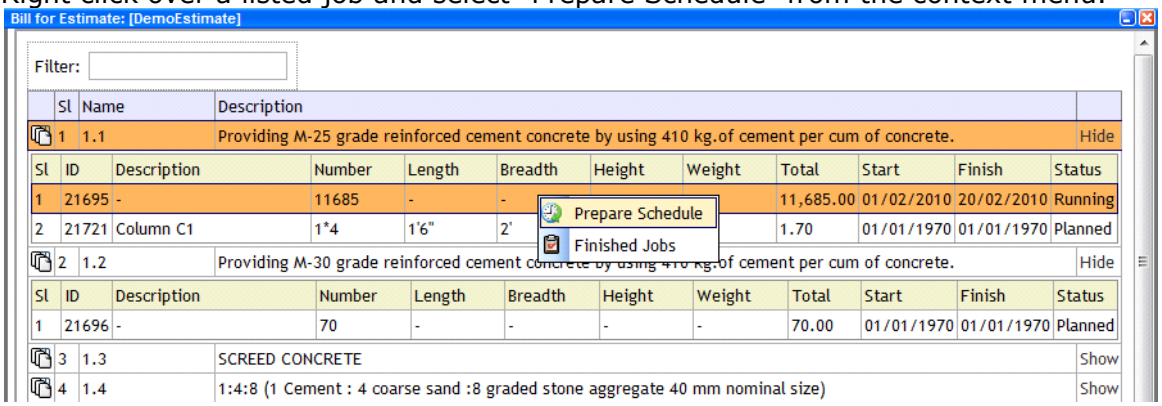


Fig 4-27-a: Scheduling jobs

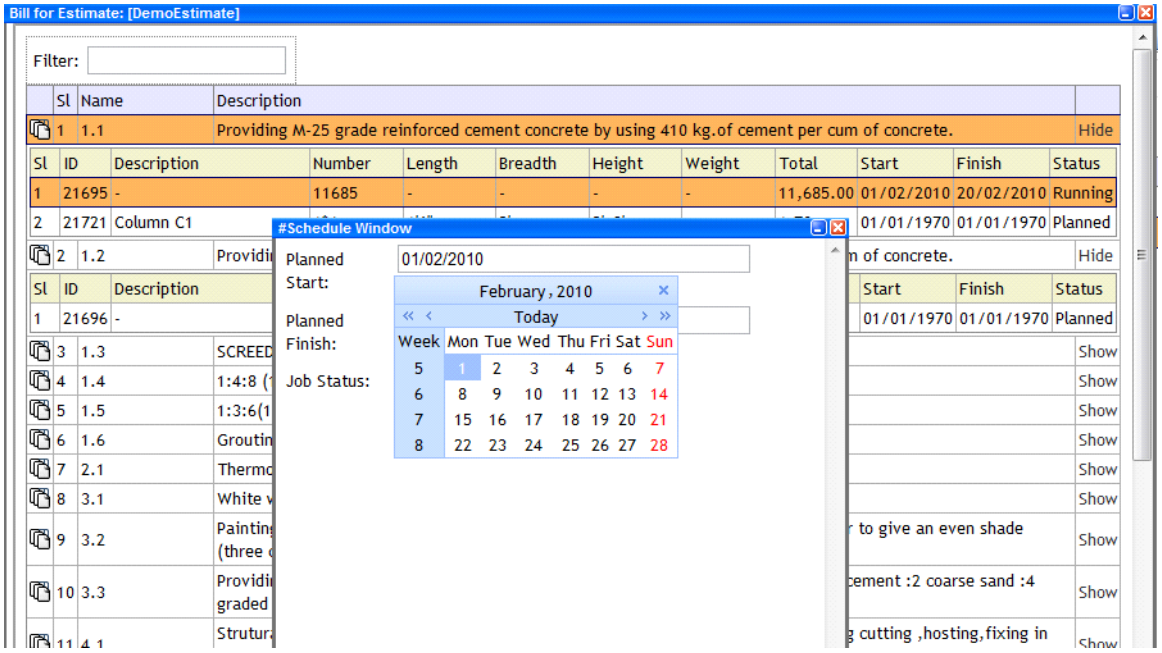


Fig 4-27-b: Picking start and end dates using the calendar

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

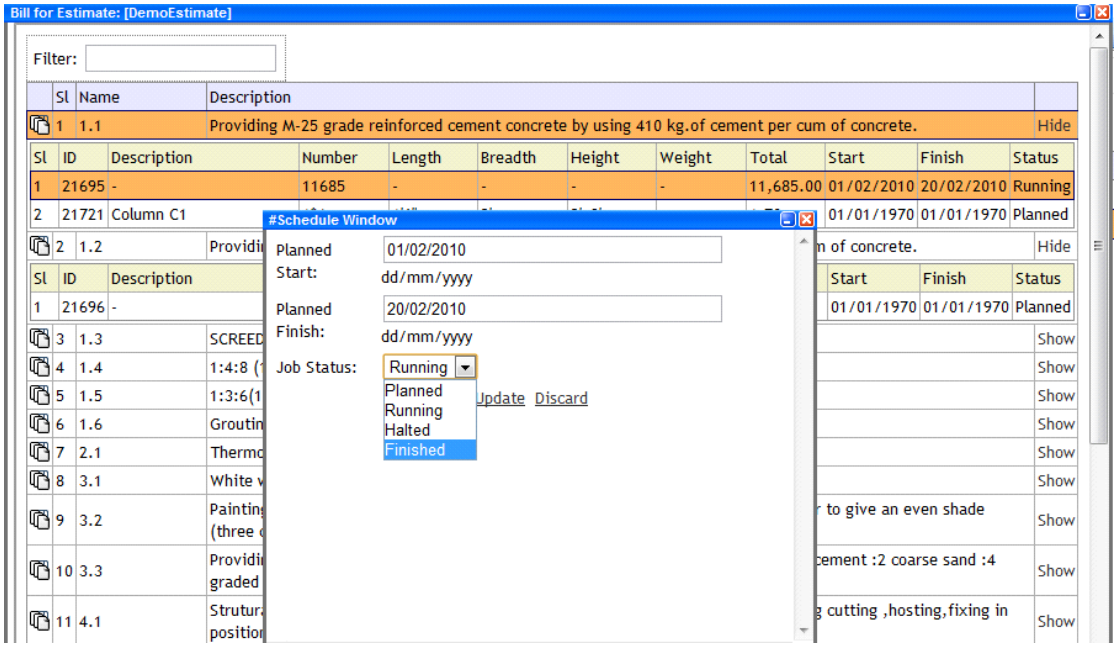


Fig 4-27-c: Setting job status

Select planned start and finish dates. Select status of the job (Planned, Running, Halted and Finished). Please note that as-built quantity can be viewed only for the jobs which are currently running. Click on "Update" to finalize the changes.

4.2.6.3 Managing As-Built data

Right click over a running job and select Finished Jobs from the context menu.

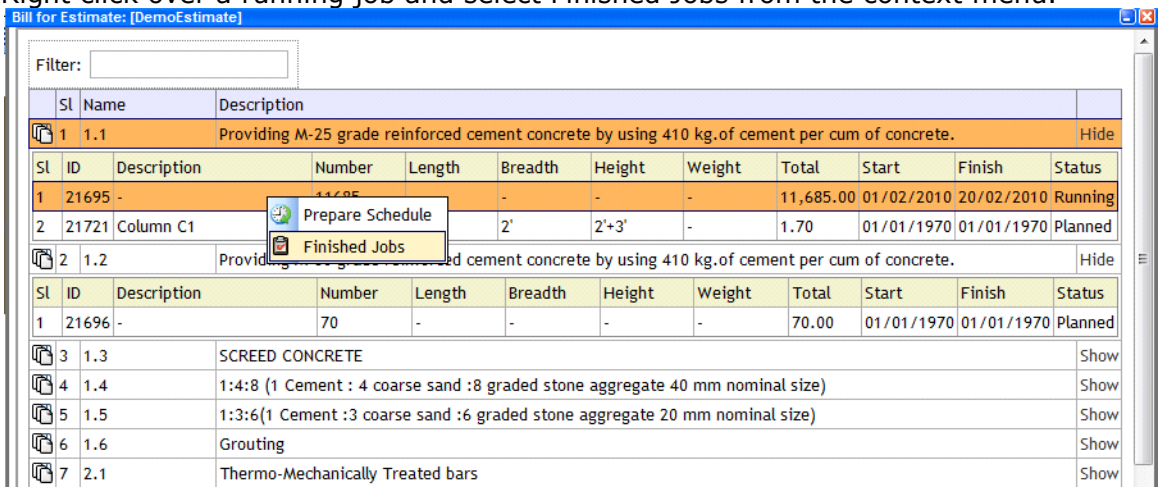


Fig 4-28-a: Viewing as-built data for a running job

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

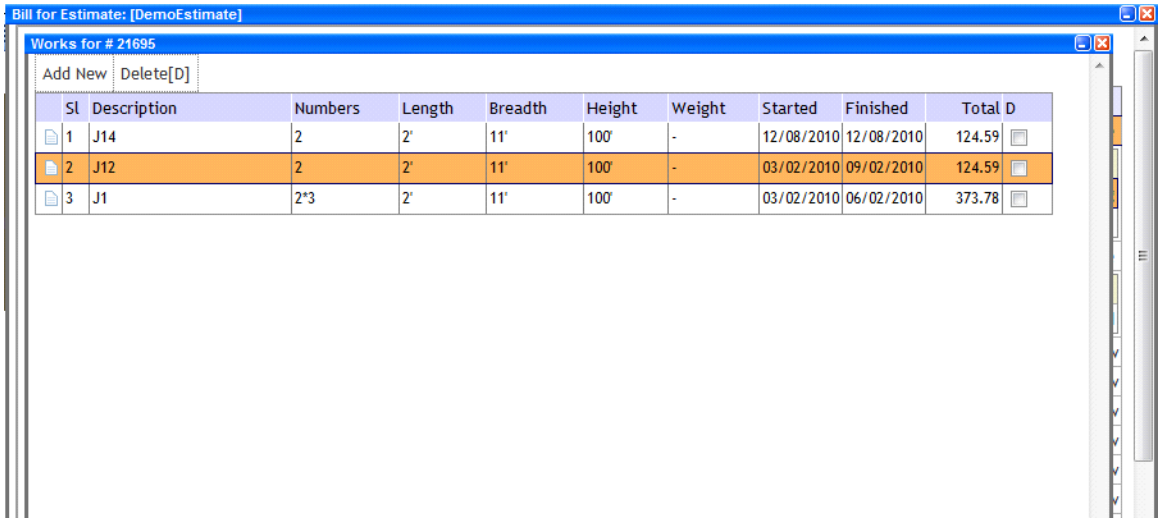


Fig 4-28-b: Screenshot showing As-built data for a running job

4.2.6.4 Adding As-Built data

Click on "Add New" option inside sub-window's top menu, or right click inside the content-table and select "Add New" from context menu.

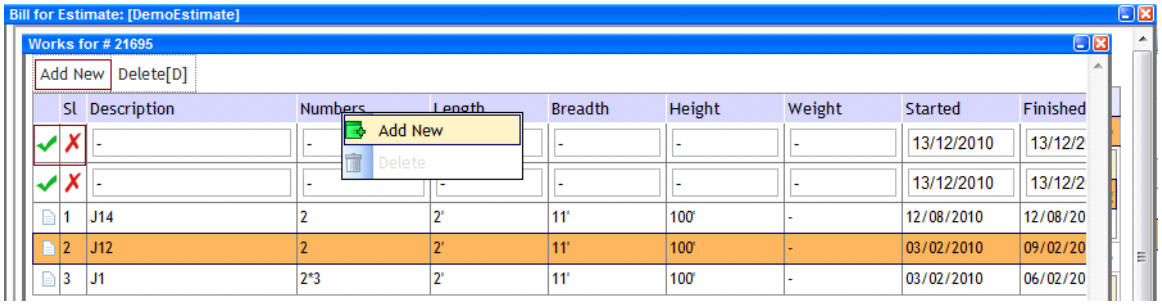


Fig 4-29-a: Adding a new as-built data

Empty rows containing editable fields will be added inside the table.
Fill description, dimensions, start and end dates and then click on "Tick icon✔" to add a finished work into the database.

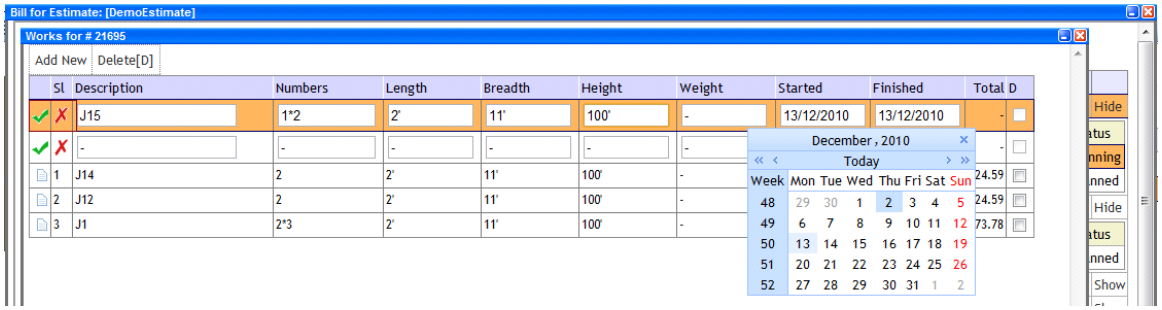


Fig 4-29-b: Adding start and end dates to as-built data row

4.2.6.5 Deleting As-Built data

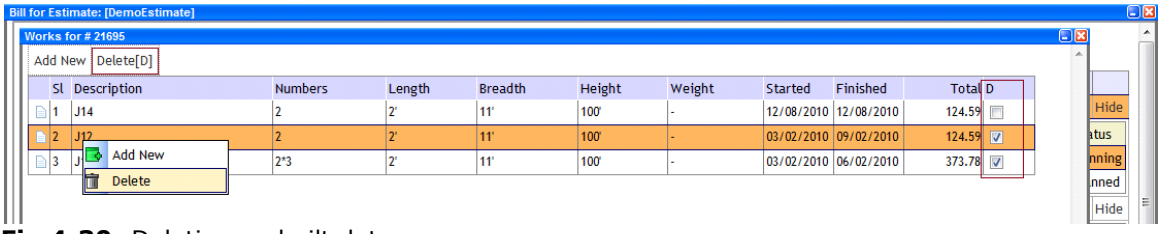


Fig 4-30: Deleting as-built data

Select one or more items from the table, and click on "Delete" inside the top

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

menu to delete selected items from the database. Alternatively, right click over an item (to be deleted) and select "Delete" from the context menu.

4.2.7 Managing References

External files may be attached (uploaded) to Project directories. Right click over a project and select Manage Files from the context menu to view the list of references.

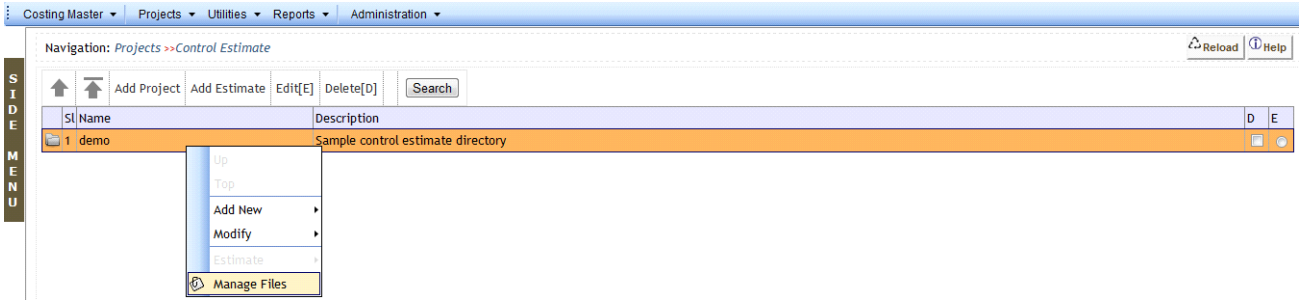


Fig 4-31-a: Opening references window

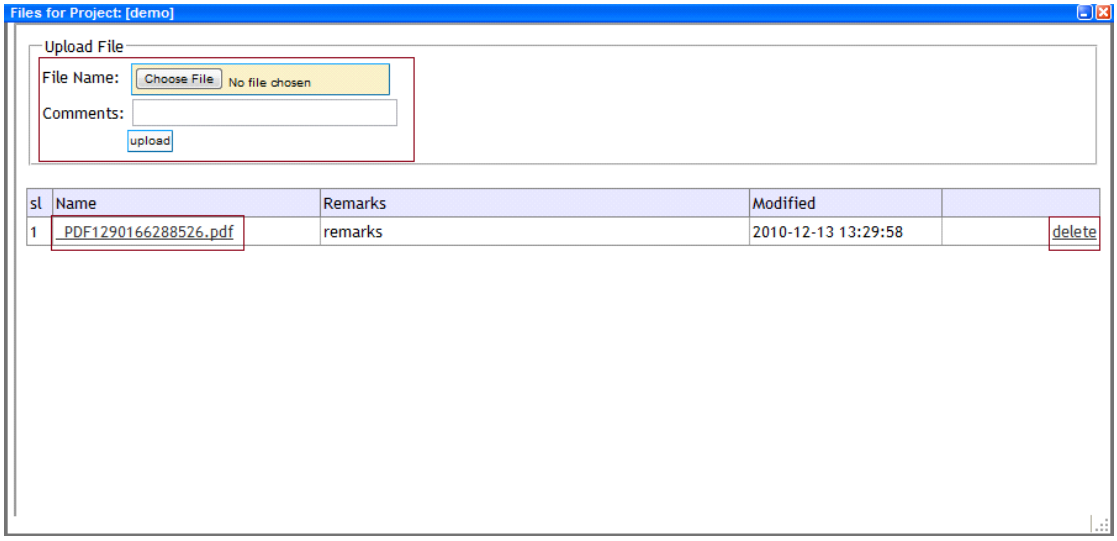


Fig 4-31-b: Managing references

Click on the "Choose File" button and select a file. Add a comment and click on upload button. Please note that maximum permitted size of the file is limited by "***max_allowed_packet***" configuration of the database server (default is ***1048576 bytes***) in case of MySQL server. Newly added file will be displayed in the table.
Click on "delete" link on the left of a listed reference to delete it from database.
Click on the file-name to open/save the file locally.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

5 Utilities

APPLICATION is shipped with a set of useful modules like Unit Converter, Document Management system.

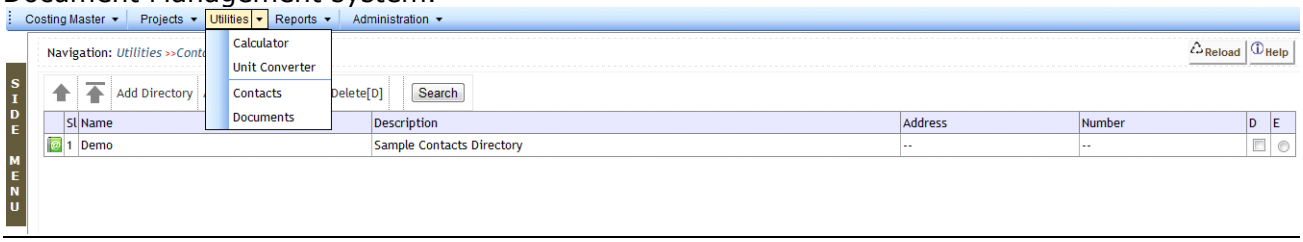


Fig 5-1: Utilities menu

Getting Started

Expand the Utilities menu in the main menu-bar to access following modules:

Calculator: General purpose Expression calculator.

Unit Converter: Convert between commonly used units.

Contacts: Manage important contacts.

Documents: Lightweight document management system, documents are stored in database.

5.1 Calculator

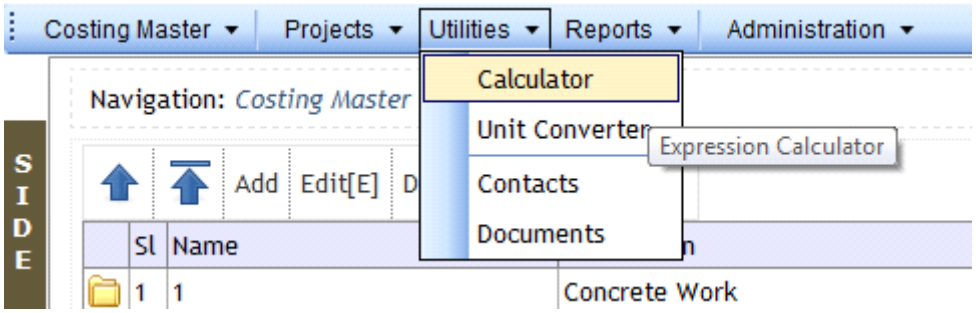


Fig 5-2-a: Opening calculator

Calculator module can be accessed by selecting Utilities-> **Calculator** from the main menu-bar.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

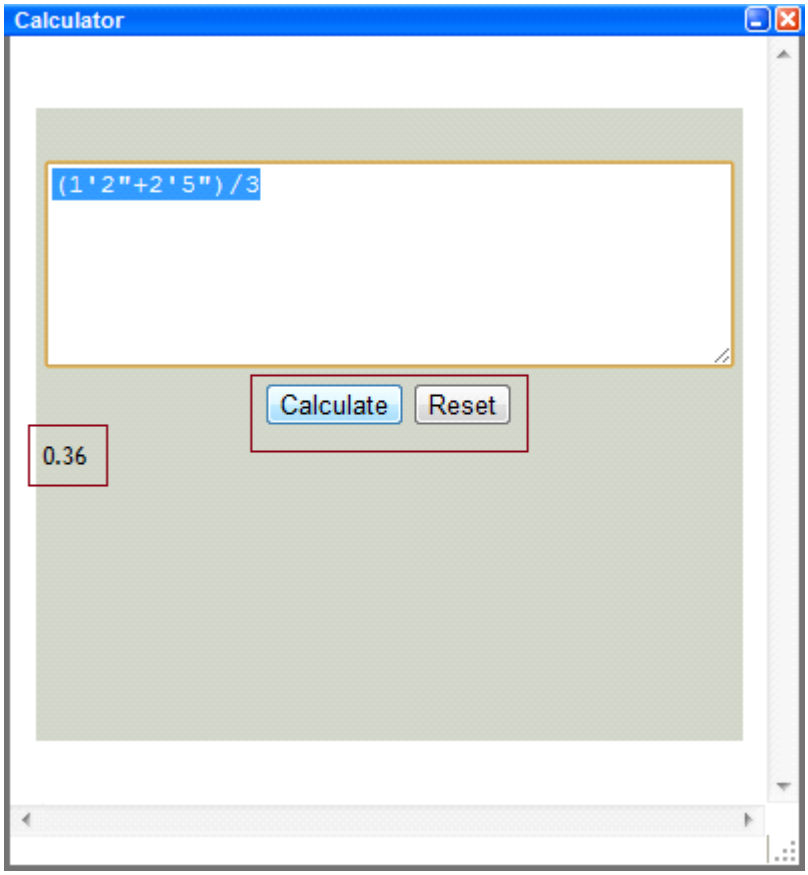


Fig 5-2-b: using the calculator

Enter an arithmetic expression and click on Calculate button to evaluate the expression. Following arithmetic operations are supported: Braces [()], Addition [+], Subtraction [-], Multiplication [*], Division [/]. Values expressed in Feet ['] and Inches ["] are supported but these values are internally converted into meters before the final calculation.
Click on the reset button to clear the text-field.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

5.2 Unit Converter

Select Utilities->**Unit Converter** from the main menu-bar to open the unit-converter sub-window inside the workspace. Unit converter is based on Open-Source JUnitconv applet.

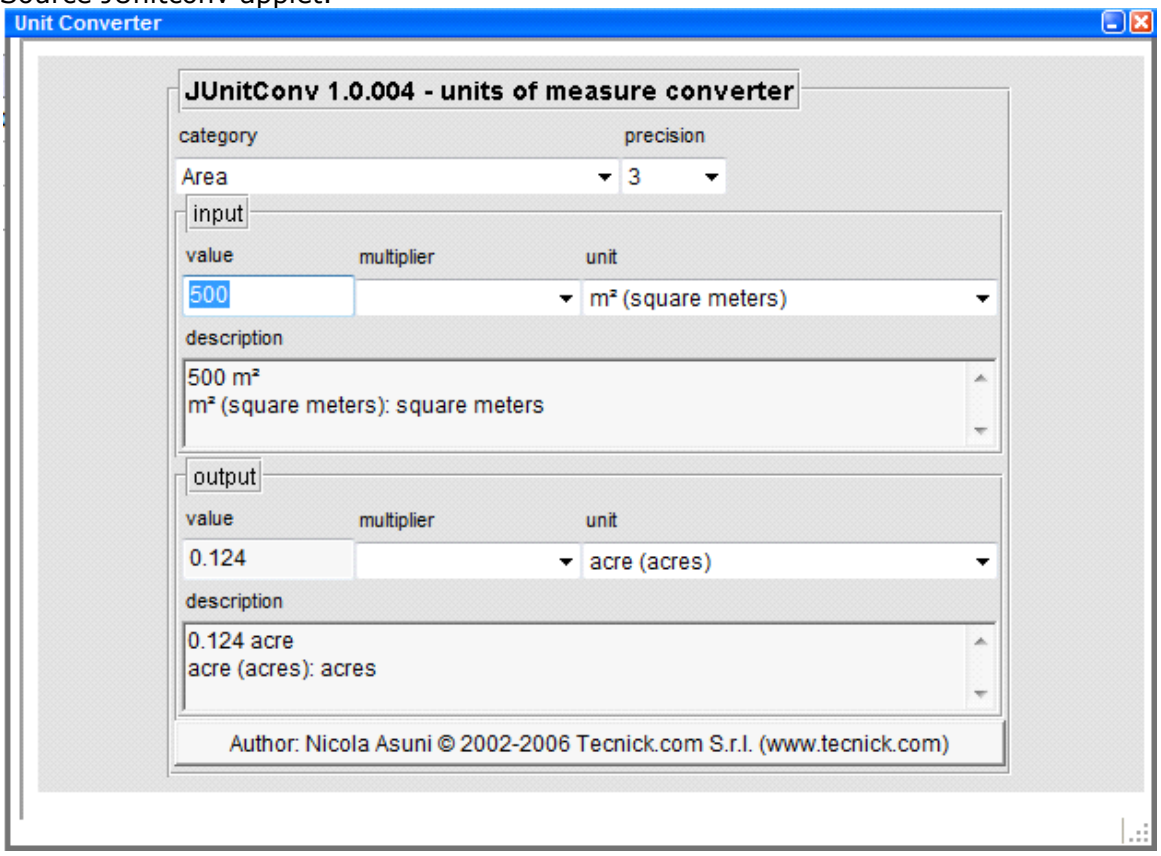


Fig 5-3: Unit converter applet

5.3 Contacts

Contacts module may be used for managing contact records (e.g. employees, vendors, clients). Select Utilities->**Contacts** to access the contacts database.

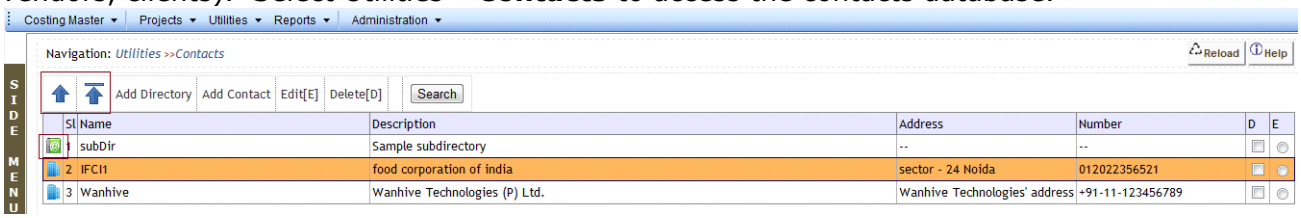


Fig 5-4: Contacts module

Moving Around: Contacts may be arranged in directories. Click on "directory icon" to view the contents of a directory. Click on "up icon" to move back to the parent directory. Click on "top icon" to move to the first level.

5.3.1 Adding a new Directory or Contact

Adding a new directory: Click on "Add Directory" in the workspace menu, or right click inside the content-table and select Add New->New Directory from the context menu.

Adding a new contact: Click on "Add Contact" in the workspace menu. Alternatively, right click inside the content-table and select Add New->New

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

Contact from the context menu.

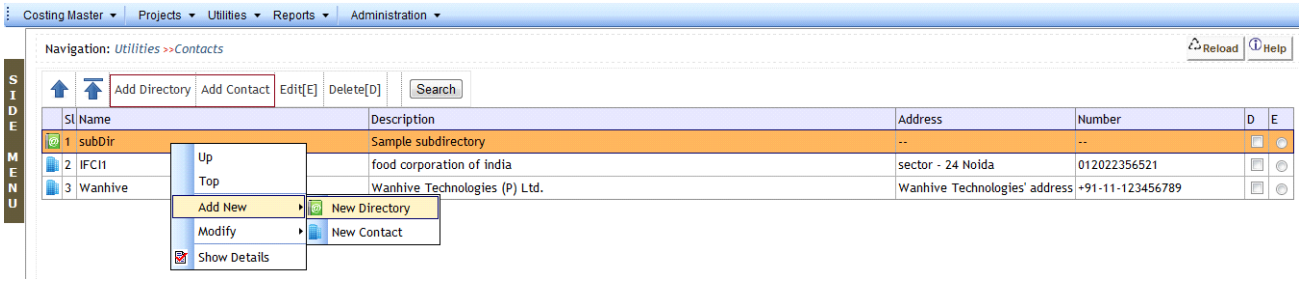


Fig 5-5-a: Adding new directory or contact

Fig 5-5-b: Screenshot of properties window for adding a new directory

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

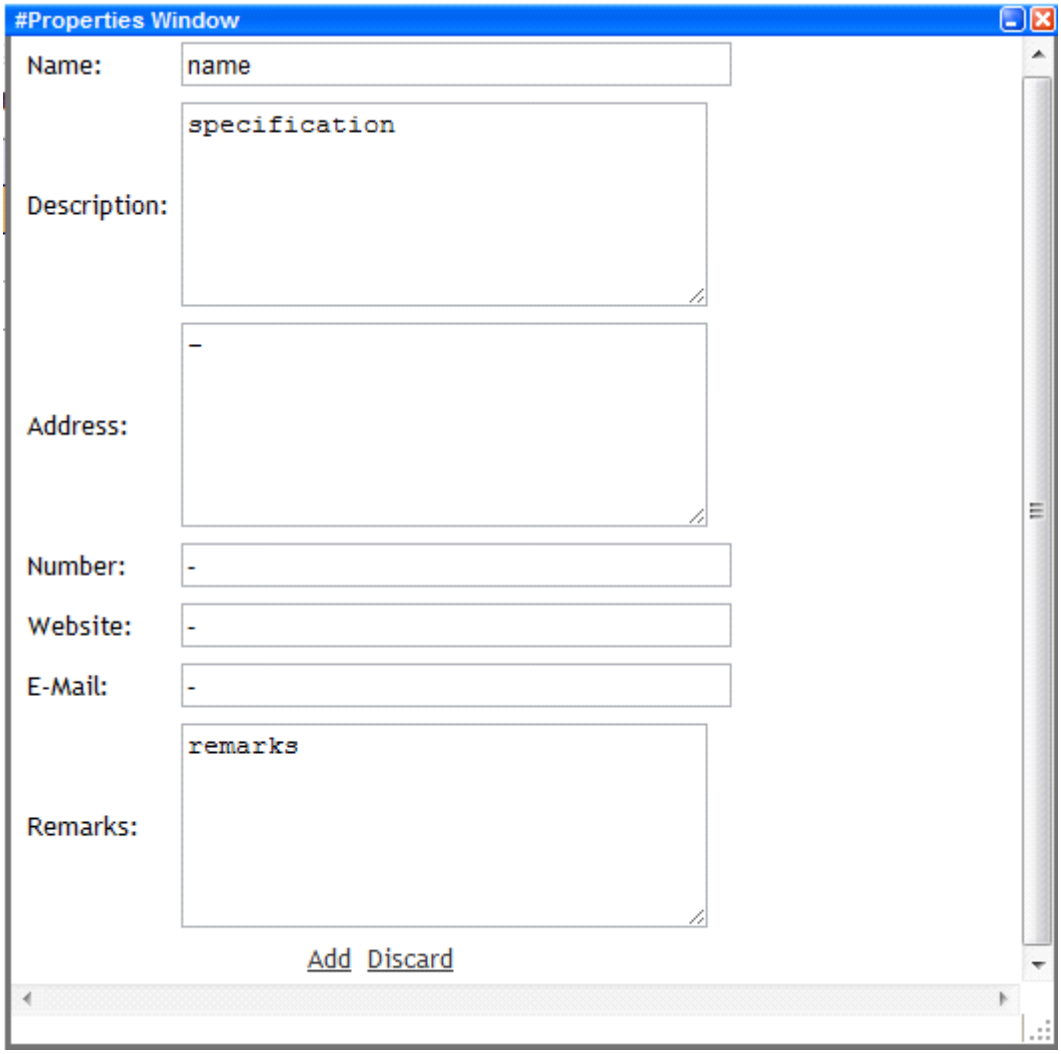


Fig 5-5-c: Screenshot of the properties window for new contact

Fill-in the details and click on "Add" inside the properties window to add the new item into database. Click on "Discard" to close the properties window without modifying the database. Please note that all fields are mandatory and may not be left blank.

5.3.2 Modifying existing Directories or Contacts

Select an item from the list through radio-button and click on "Edit" in the workspace menu. Alternatively, right click over an item and select Modify->Edit in the context-menu.

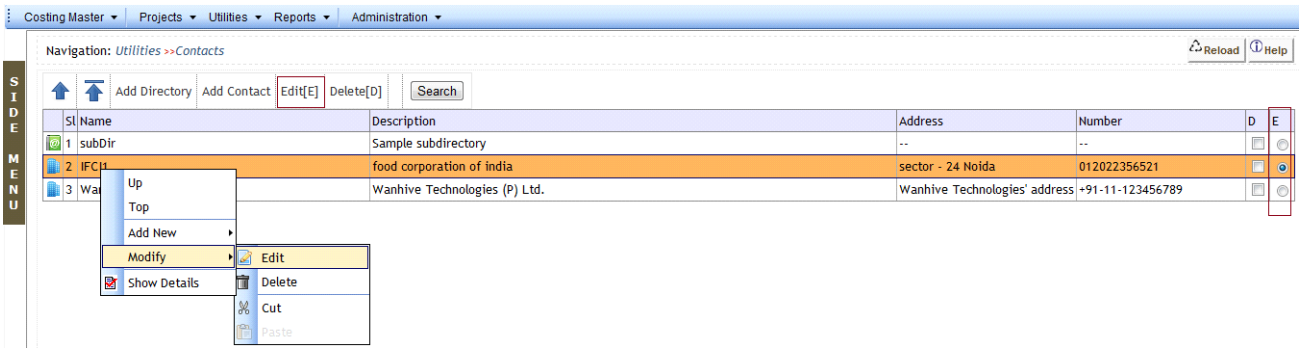


Fig 5-6-a: Editing an existing contact or directory

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

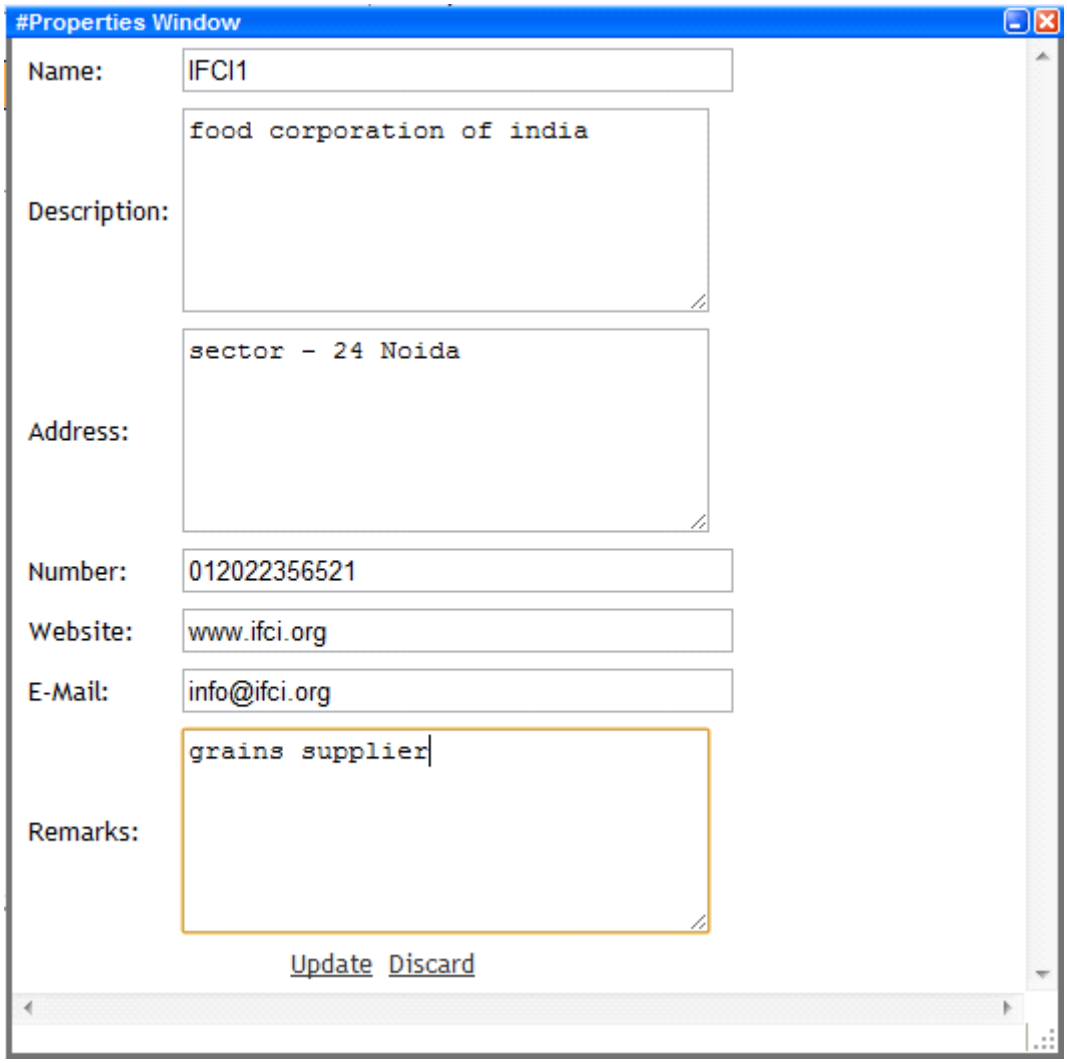


Fig 5-6-b: Screenshot of the properties window showing details of a contact

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

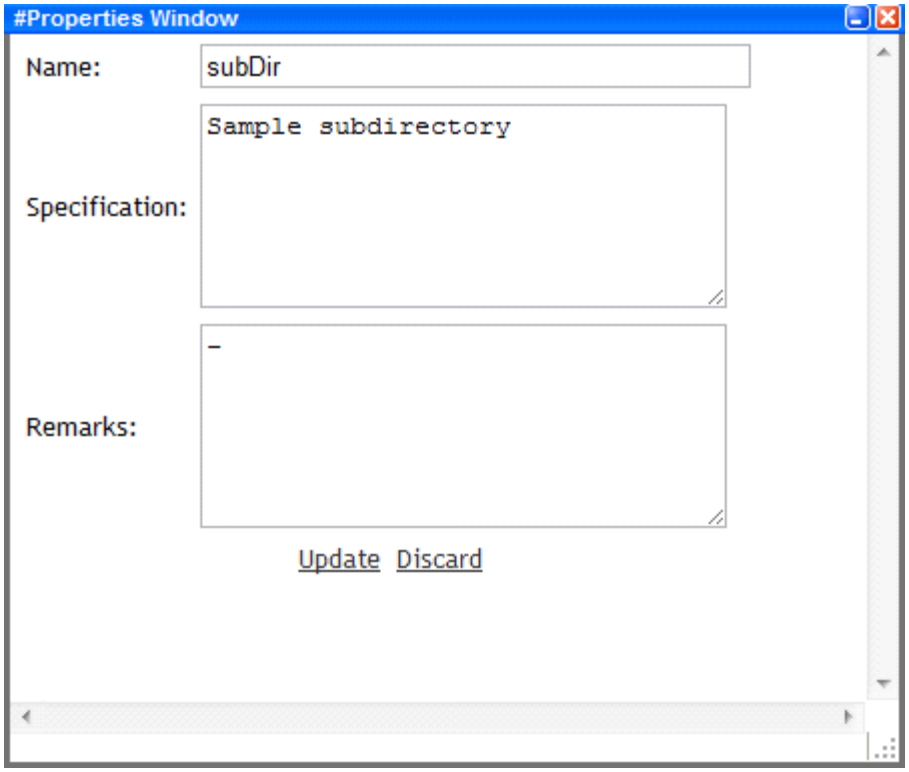


Fig 5-6-c: Screenshot of properties window showing the current details of a directory

Click on "Update" to update details of the selected item, or click on "Discard" to close the window discarding all changes.

5.3.3 Deleting Directories or Contacts

Select one or more items through checkboxes and click on "Delete" inside the workspace menu, or right click over an item and select Modify->Delete from the context menu.

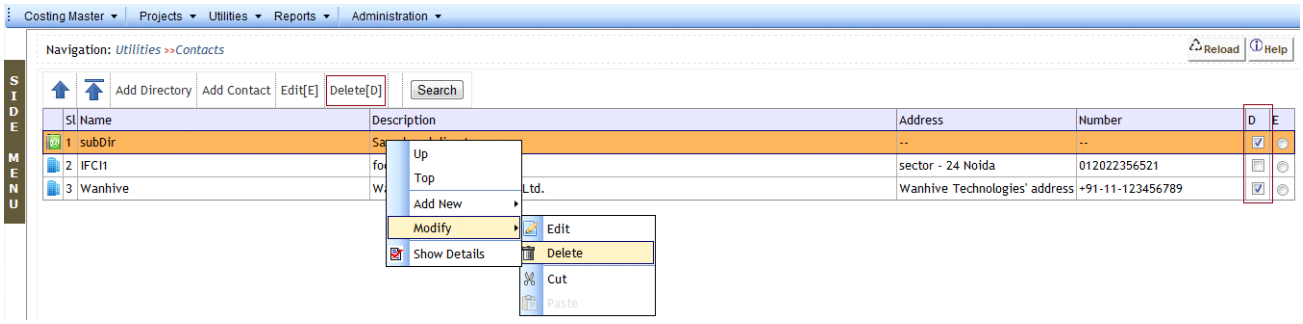


Fig 5-7: Deleting a contact/directory

5.3.4 Moving/Copying an existing Directory or Contact

Right click over an item and select Modify->Cut from the context menu. Navigate to destination directory, right click and select Modify->Paste from the context menu. Please note that "Copy" option is not available, and "paste" option is available if an item to be moved has already been selected.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

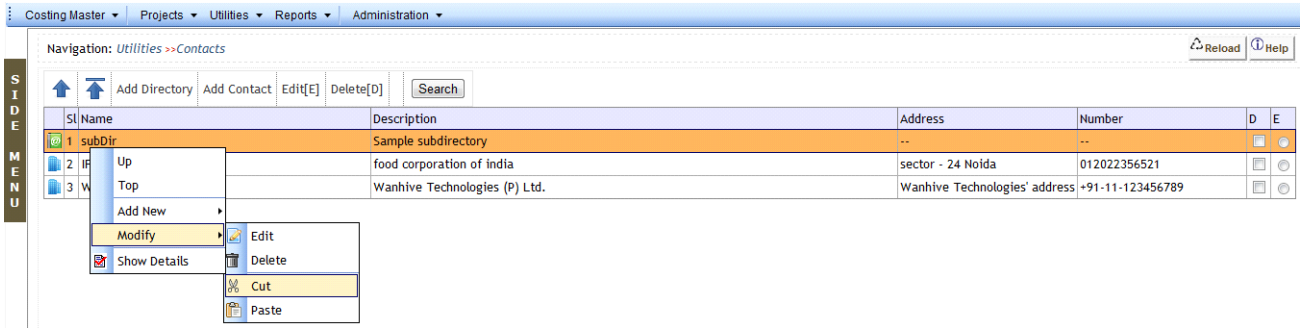


Fig 5-8: Moving a contact/directory

5.3.5 Viewing details of an existing Directory or Contact

Right click over an item and select "Show Details" from the context menu to view the details.

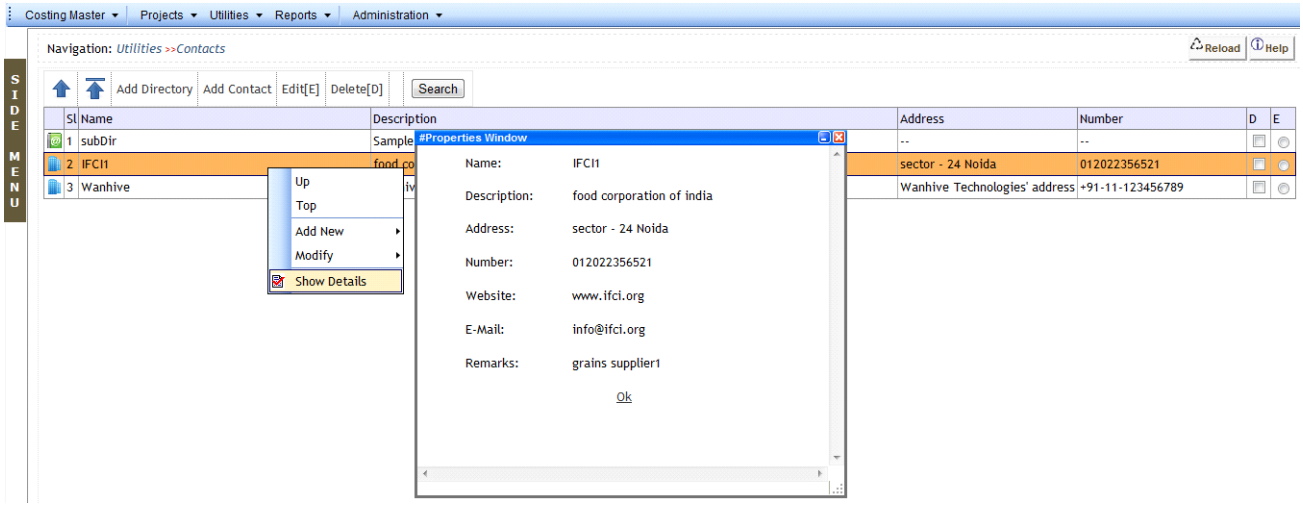


Fig 5-9: Details of a contact

5.4 Documents

Select Utilities->**Documents** from the main menu-bar to load the lightweight document management system.

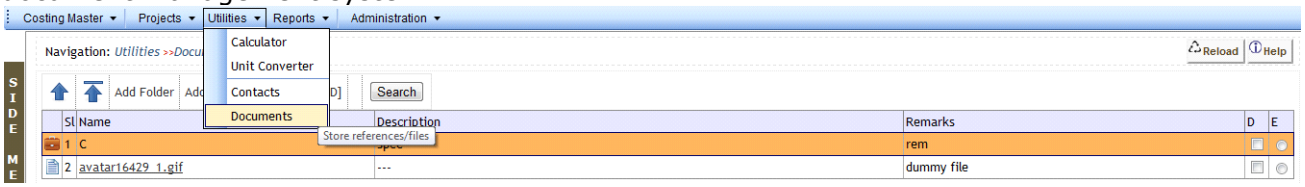


Fig 5-10-a: Loading Documents module

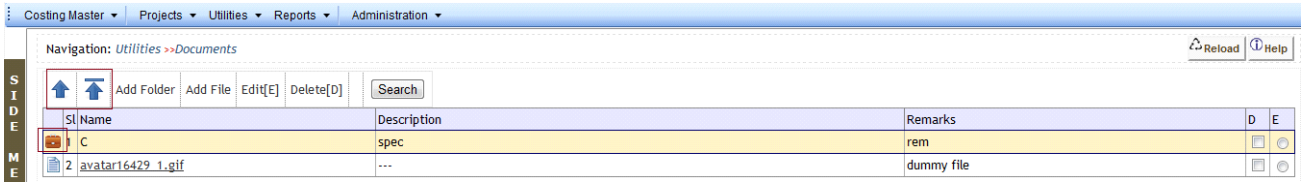


Fig 5-10-b: Viewing files and folders

Moving Around: Click on the "folder icon" to view items (files/folders) inside a folder. Click on "up icon" to move back to the parent folder. Click on the "top icon" to move to the first level.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

5.4.1 Adding a new Folder or File

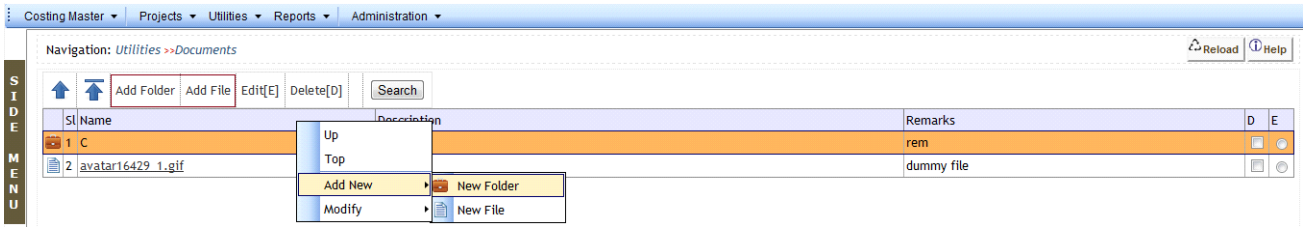


Fig 5-11-a: Adding files/folders

Adding a new Folder: Click on "Add Folder" in the workspace menu or right click inside the content-table and select Add New->New Folder from the context menu.

Fig 5-11-b: Screenshot of the properties window for new folder

Fill-in the details and click on "Add" to add a new folder into database. Click on "Discard" to close the window discarding the changes.

Adding a new File: Click on "Add File" in the workspace menu or right click inside the content-table and select Add New->New File from the context menu.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

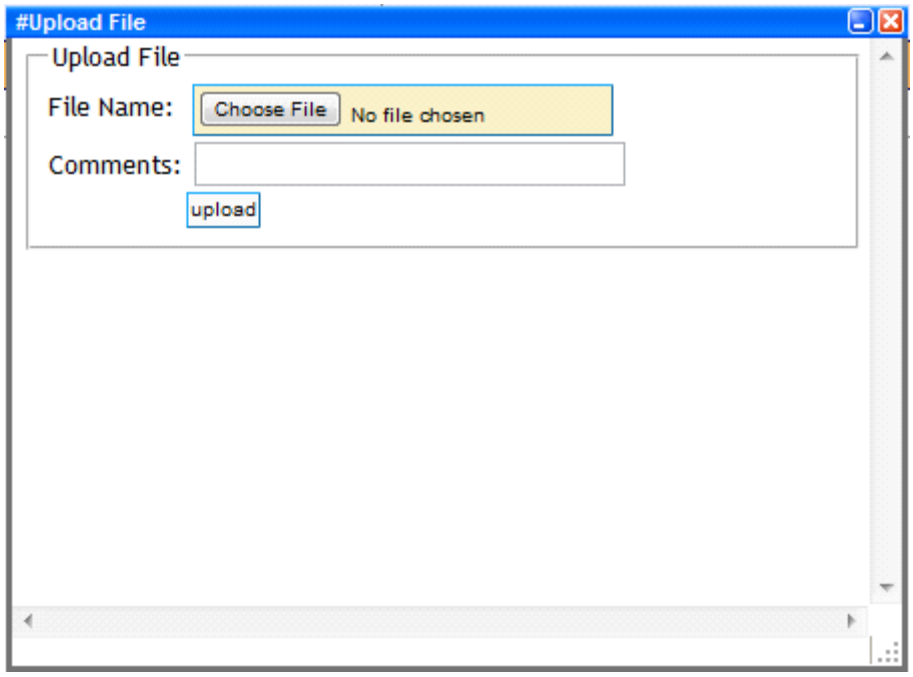


Fig 5-11-c: Screenshot showing the File upload window for adding a new file into the database

Choose a file from local disk, add a comment and click on "upload" button to upload the file into database. Please note that maximum size of the file is limited by "**max_allowed_packet**" configuration of the database server (default is **1048576 bytes**) in case MySQL database server is being used.

5.4.2 Modifying an existing Folder or File

To modify details of an existing folder or file select the item through radio-button and click on "Edit" in the workspace menu. Alternatively, right click over an item and select Modify->Edit from the context menu.

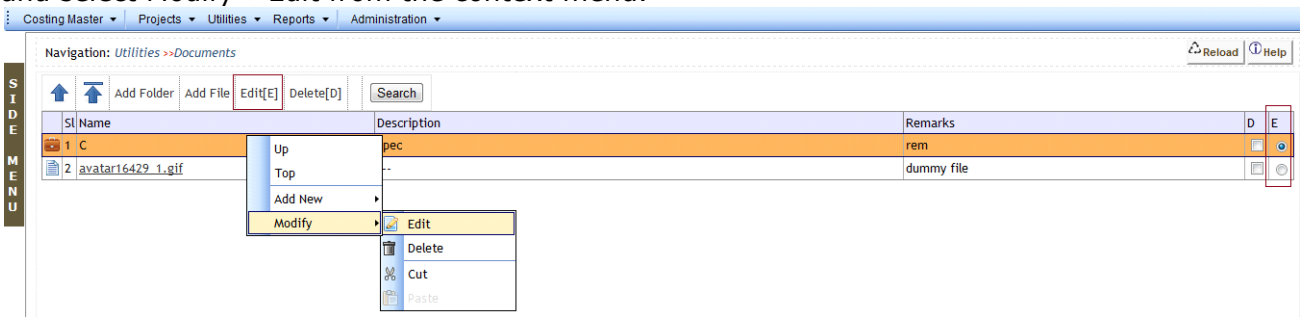


Fig 5-12-a: Editing a file/folder

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

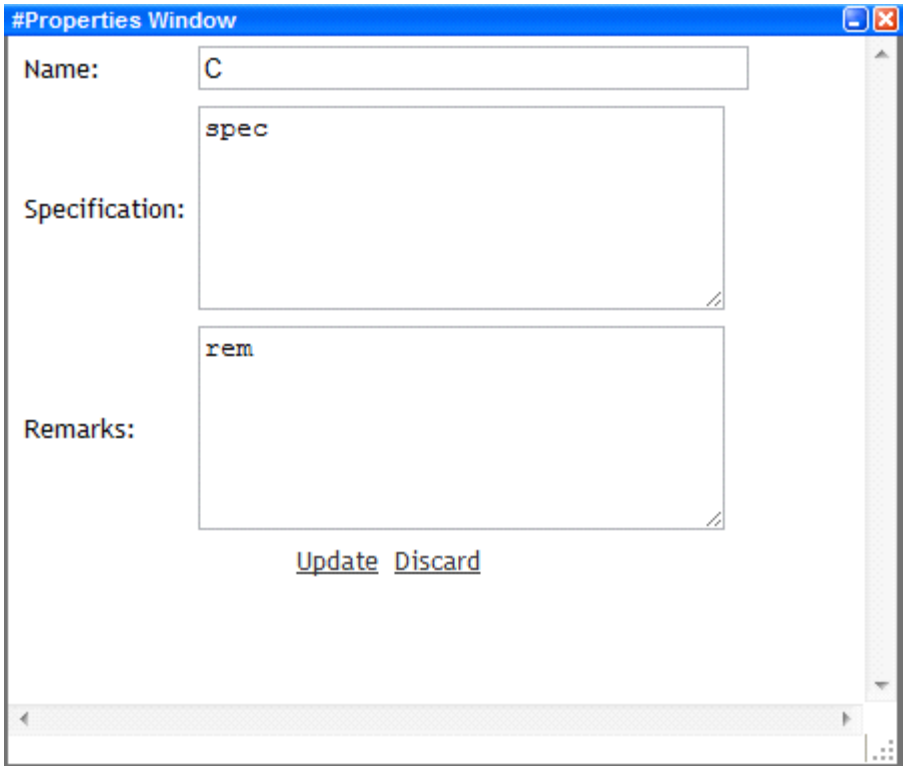


Fig 5-12-b: Screenshot of the properties window displaying the details of a folder

Make changes and click on "Update" to update the database. Click on "Discard" to close the window discarding the changes.

5.4.3 Deleting existing Files or Folders

Select one or more items through checkboxes, and click on "Delete" in the workspace menu. An item can be deleted by right clicking over it and selecting Modify->Delete from the context menu.

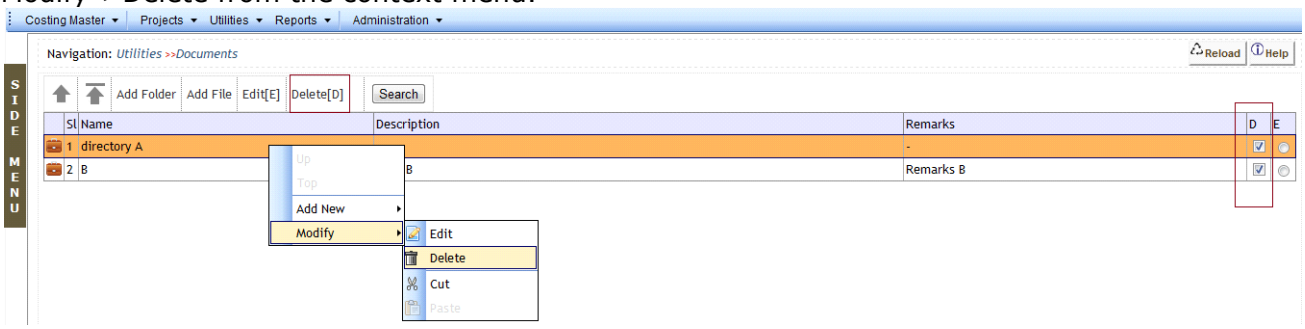


Fig 5-13: Deleting a file/folder

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

5.4.4 Moving/Copying an existing Folder or File

Right click over an item and select Modify->Cut from the context menu. Navigate to destination folder, right click inside the content-table and select Modify->Paste from the context menu. Please note that the current application doesn't support copying of files or folders.

Fig 5-14: Moving a file/folder

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

6 Reports

This tutorial familiarizes users with the Reports module.

Getting started

Current package provides facility for generating reports in PDF only.

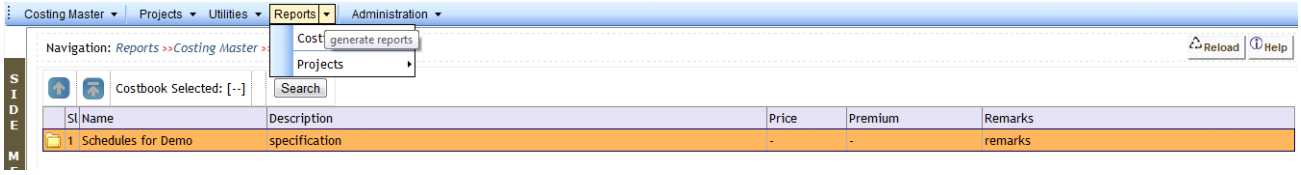


Fig 6-1: Reports menu

Expand the "Reports" menu in the main menu-bar. Menu items direct users to following modules:

Costing Master

Assemblies: Print list of assemblies and "Analysis of Rates".
Resources: Print the list of resources.

Projects

Definitive Estimate: Print Material Takeoff, Bill of Quantity for projects and estimates.
Control Estimate: Print status reports and projections for projects and estimates.

6.1 Assemblies

Select Reports->Costing Master->**Assemblies** to view the list of assemblies in database.

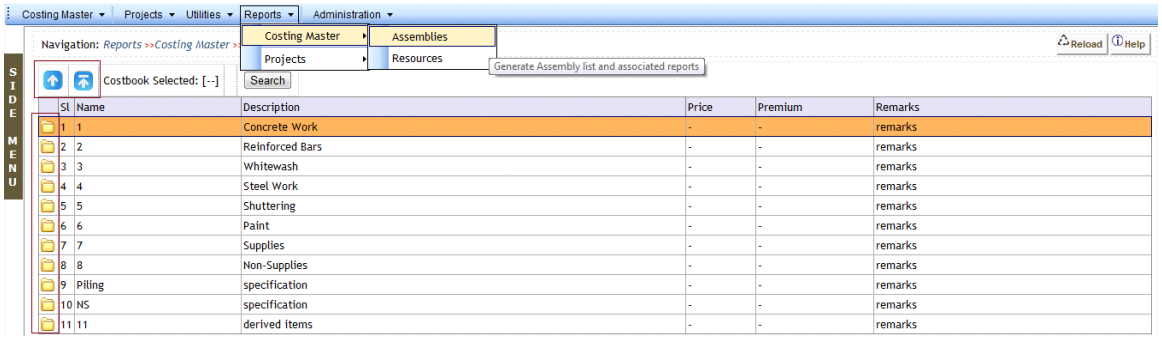


Fig 6-2: Loading assemblies report module

Moving Around: Assemblies may be arranged in categories. Click on "category icon" to view all assemblies listed under the selected category. Click on "up icon" in the workspace menu to move back to parent category. Click on "top icon" to move to the first level.

6.1.1 Printing list of Assemblies

Right click over an item and select Print Assemblies from the context menu. If the selected item is a category, all nested items will be recursively printed.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

Assembly Report: [1] Concrete Work
{CostBook: "--"}

Sl	Name	Specification	Unit	Price	Premium(%)	Remarks
#	1	Concrete Work	--	-	-	remarks
1	1.1	Providing M-25 grade reinforced cement concrete by using 410 kg.of cement per cum of concrete.	cum	4,147.40	0.00	5.33
2	1.2	Providing M-30 grade reinforced cement concrete by using 410 kg.of cement per cum of concrete.	cum	54.55	0.00	5.34
3	1.3	SCREED CONCRETE	cum	0.00	0.00	NS
4	1.4	1:4:8 (1 Cement : 4 coarse sand :8 graded stone aggregate 40 mm nominal size)	cum	2,449.00	0.00	4.1.8
5	1.5	1:3:6(1 Cement :3 coarse sand :6 graded stone aggregate 20 mm nominal size)	cum	2,791.05	0.00	4.1.5
6	1.6	Grouting	cum	0.00	0.00	N.S.

Fig 6-3: Printing Assemblies

Printing cost-book defined unit-rates: Cost-books are used for preparing "analysis of rates" of assemblies. Please note that it's not mandatory to define "analysis of rates" of all assemblies in a cost-book. To print the cost-book defined unit-rates and premiums, right click inside the content-table and select CostBook->Select from the context menu.

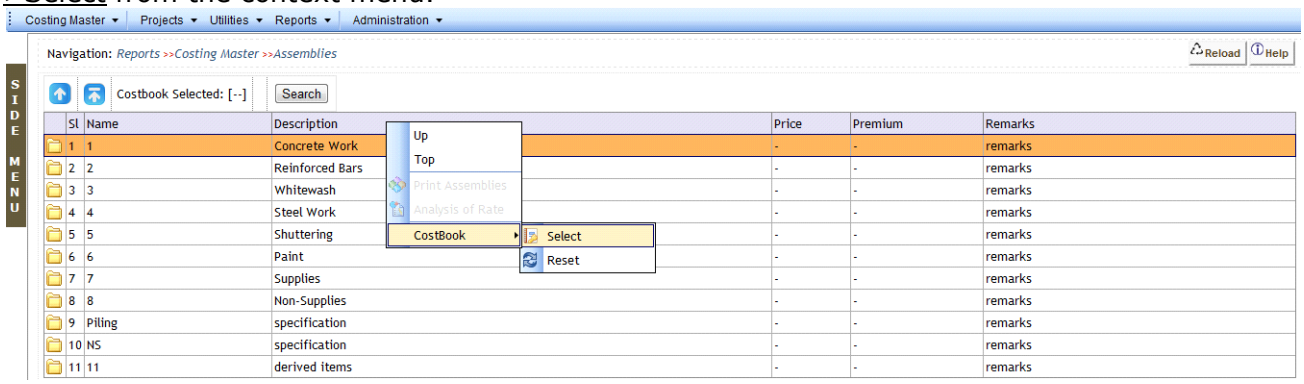


Fig 6-4-a: Selecting cost-book

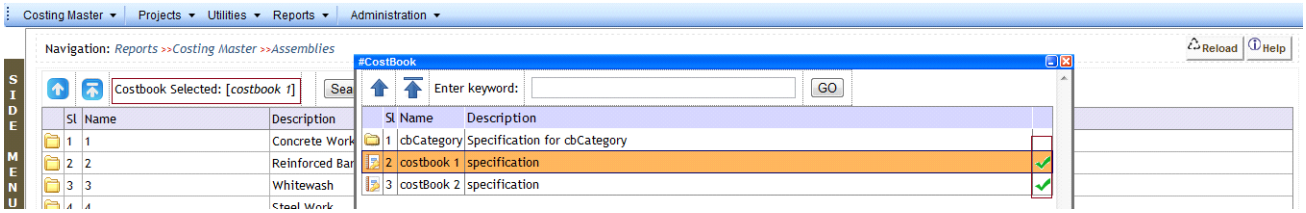


Fig 6-4-b: Cost-book selection window

Click on "Tick icon✔" to select a cost-book from the list. Selected cost-book's name will be displayed inside the workspace menu.

Assembly Report: [1] Concrete Work
{CostBook: "costbook 1"}

Sl	Name	Specification	Unit	Price	Premium(%)	Remarks
#	1	Concrete Work	--	-	-	remarks
1	1.1	Providing M-25 grade reinforced cement concrete by using 410 kg.of cement per cum of concrete.	cum	4,320.46	0.00	5.33
2	1.2	Providing M-30 grade reinforced cement concrete by using 410 kg.of cement per cum of concrete.	cum	54.56	0.00	5.34
3	1.3	SCREED CONCRETE	cum	0.00	0.00	NS
4	1.4	1:4:8 (1 Cement : 4 coarse sand :8 graded stone aggregate 40 mm nominal size)	cum	2,310.05	0.00	4.1.8
5	1.5	1:3:6(1 Cement :3 coarse sand :6 graded stone aggregate 20 mm nominal size)	cum	2,791.06	0.00	4.1.5
6	1.6	Grouting	cum	0.00	0.00	N.S.

Fig 6-5: Screenshot of report showing the list of assemblies with cost-book defined unit-rates (if unit-rates of assemblies are not defined, standard unit-rate will be displayed in the report)

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

6.1.2 Printing Analysis of Rate

Select a cost-book (this is an important step, as "Analysis of Rates" are prepared in the cost-books) as described above. Right click over an assembly and select Analysis of Rate from the context menu.

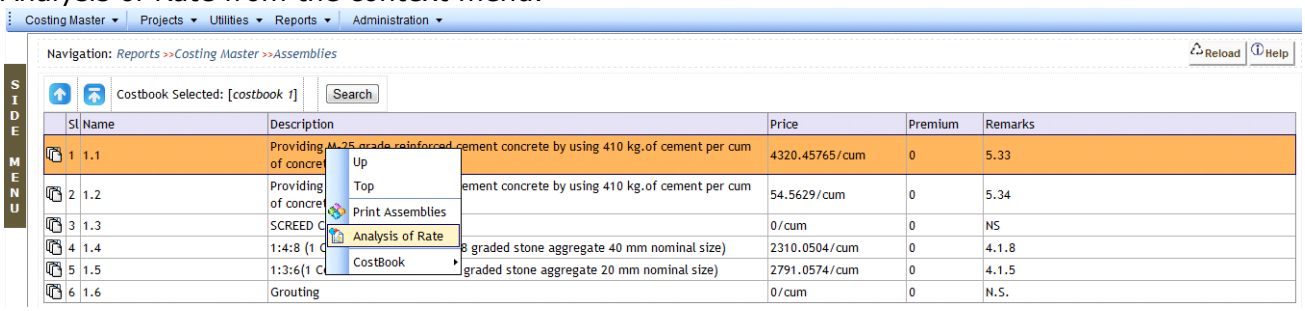


Fig 6-6-a: Printing Analysis of Rate

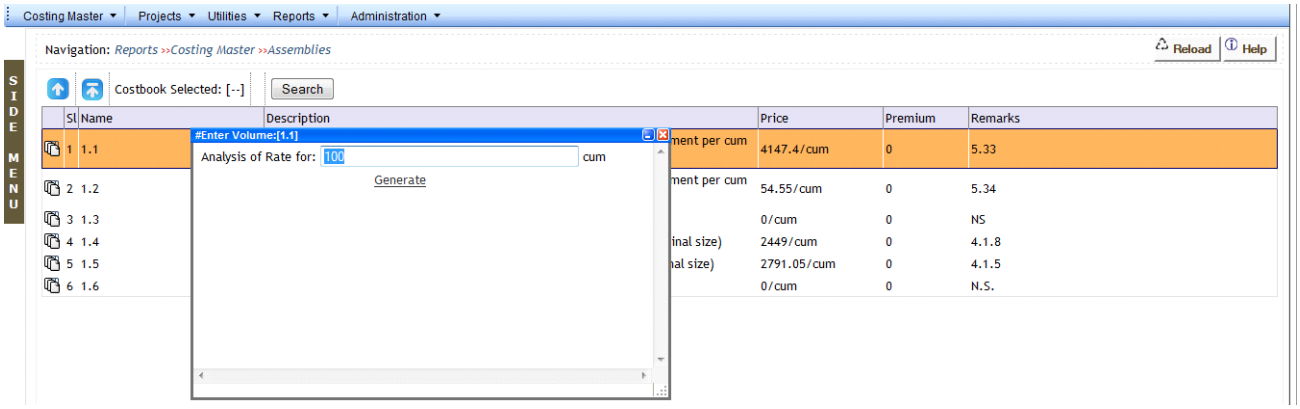


Fig 6-6-b: Filling-in amount of assembly for which analysis of rate will be generated

Fill an amount inside the text-box and click on "Generate.

Analysis of Rate for 100.0 cum of: [1.1] Providing M-25 grade reinforced cement concrete by using 410 kg.of cement per cum of concrete.
{CostBook: "costbook 1"}

Sl	Name	Specification	Unit	Price	Volume	Amount(INR)
1	0295	Stone Aggregate 20 mm	Cum	700.00	57.00	39,900.00
2	0297	Stone Aggregate 10 mm.	Cum	700.00	28.00	19,600.00
3	2202	Carriage of aggregate 20 mm.	Cum	53.21	85.00	4,522.85
4	0982	Coarse sand	Cum	600.00	42.50	25,500.00
5	2203	Carriage of coarse sand	Cum	53.21	42.50	2,261.42
6	0367	Cement	Tonne	4,500.00	41.00	184,500.00
7	2209	Carriage of cement	Tonne	47.29	41.00	1,938.89
8	7318	Plasticizer 0.50% of cement.	Kg	30.00	205.00	6,150.00
9	0004	Production cost of concrete by batch mix plant.	Cum	200.00	100.00	20,000.00
10	0009	Pumping charge of concrete.	Cum	80.00	100.00	8,000.00
11	0155	Mason	Day	146.55	17.00	2,491.35
12	0114	Belder	Day	135.25	200.00	27,050.00
13	0101	Bhisti	Day	138.45	90.00	12,460.50
14	0012	Vibrator	Day	200.00	7.00	1,400.00
15	9999	Sundries	L.S.	1.00	1,300.00	1,300.00
Total(INR): 357,075.02						

Sl	Specification	Amount
1	Add 1% water charges	3,570.75
2	Add 20 % for profit and overheads	71,400.00
Total(INR): 74,970.75		

Sl	Specification	Amount
(a)	Rate for 1.0cum	4,320.46
(b)	Unit Rate	4,320.46/cum
(c)	Rate for 100.0cum	432,045.76

Fig 6-6-c: Screenshot of the report containing detailed "Analysis of Rate" of an assembly

6.2 Resources

Select Reports->Costing Master->**Resources** from main menu-bar to view the list of resources and categories.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

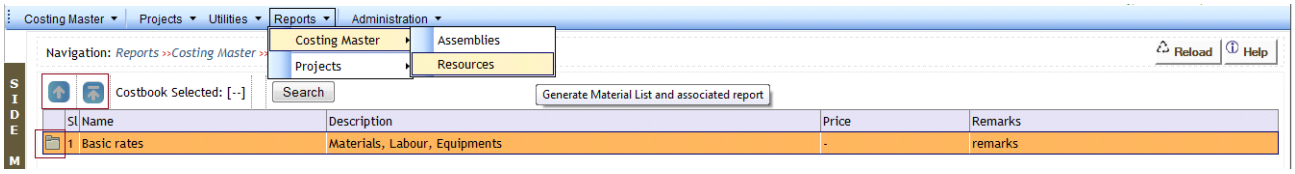


Fig 6-7: Loading Resources (reports) module

Moving Around: Resources may be arranged in categories. Click on "category icon" to view all resources and sub-categories listed under a category. Click on "up icon" inside the workspace menu to move back to the parent category. Click on "top icon" to move to the top level.

6.2.1 Printing list of resources

To recursively print the list of resources under a category right click over the category and then select "Print" from the context menu.

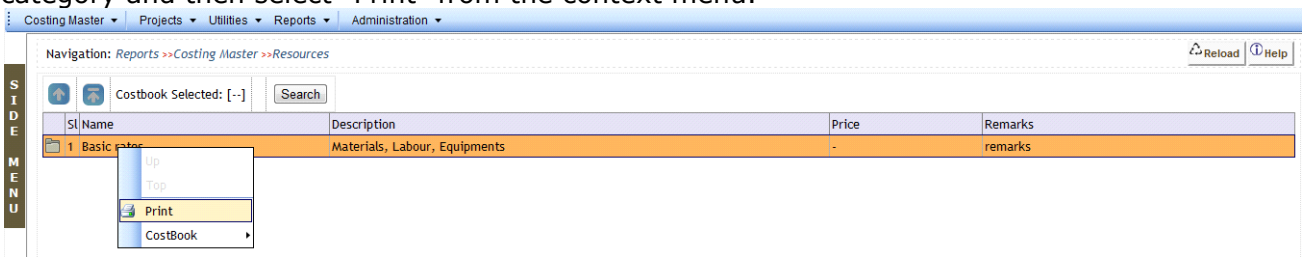


Fig 6-8-a: Printing resources

Details for Category: [Basic rates] Materials, Labour, Equipments
CostBook: [--]

Sl	Name	Specification	Price (INR)	Remarks
1	0295	Stone Aggregate 20 mm	700.0 [-]/Cum	Remarks
2	0297	Stone Aggregate 10 mm.	700.0 [-]/Cum	Remarks
3	2202	Carriage of aggregate 20 mm.	53.21 [-]/Cum	Remarks
4	0982	Coarse sand	600.0 [-]/Cum	Remarks
5	2203	Carriage of coarse sand	53.21 [-]/Cum	Remarks
6	0367	Cement	4500.0 [-]/Tonne	Remarks
7	2209	Carriage of cement	47.29 [-]/Tonne	Remarks
8	7318	Plasticizer 0.50% of cement.	30.0 [-]/Kg	Remarks
9	0004	Production cost of concrete by batch mix plant.	200.0 [-]/Cum	Remarks
10	0009	Pumping charge of concrete.	80.0 [-]/Cum	Remarks
11	0155	Mason	146.55 [-]/Day	Remarks
12	0114	Belder	135.25 [-]/Day	Remarks
13	0101	Bhisti	138.45 [-]/Day	Remarks
14	0012	Vibrator	200.0 [-]/Day	Remarks
15	9999	Sundries	1.0 [-]/L.S.	Remarks
16	0293	Stone aggregate 40 mm	650.0 [-]/Cum	Remarks

Fig 6-8-b: Screenshot of the report showing the list of resources (no cost-book has been selected) under the selected category

Selecting a cost-book: To print report with cost-book defined unit-prices, right click inside the content-table and select CostBook->Select from the context menu.

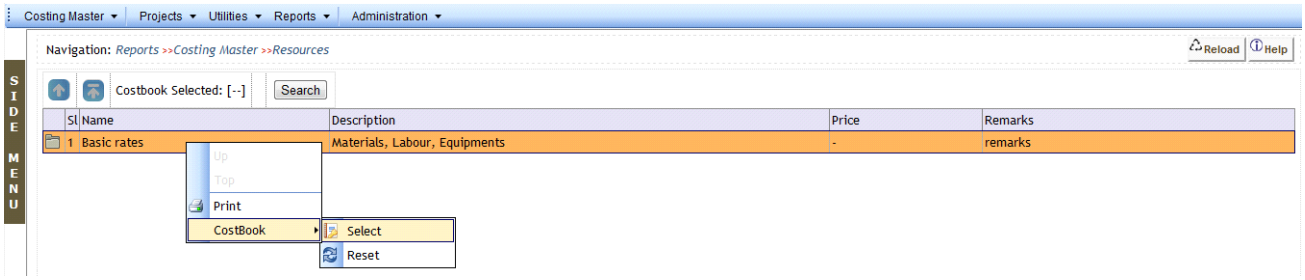


Fig 6-9-a: Selecting a cost-book

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

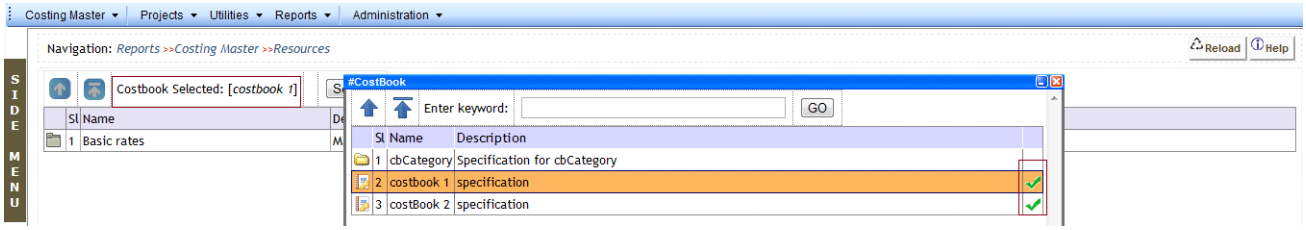


Fig 6-9-b: Cost-book selection window

Click on "Tick icon✔" to select a cost-book from the list. Selected cost-book's name will be displayed inside the workspace menu.

Details for Category: [Basic rates] Materials, Labour, Equipments
CostBook: [costbook 1]

Sl	Name	Specification	Price (INR)	Remarks
1	0295	Stone Aggregate 20 mm	700.0 [700]/Cum	Remarks
2	0297	Stone Aggregate 10 mm.	700.0 [700]/Cum	Remarks
3	2202	Carriage of aggregate 20 mm.	53.21 [53.21]/Cum	Remarks
4	0982	Coarse sand	600.0 [600]/Cum	Remarks
5	2203	Carriage of coarse sand	53.21 [53.21]/Cum	Remarks
6	0367	Cement	4500.0 [4500]/Tonne	Remarks
7	2209	Carriage of cement	47.29 [47.29]/Tonne	Remarks
8	7318	Plasticizer 0.50% of cement.	30.0 [30]/Kg	Remarks
9	0004	Production cost of concrete by batch mix plant.	200.0 [200]/Cum	Remarks
10	0009	Pumping charge of concrete.	80.0 [80]/Cum	Remarks

Fig 6-10: Screenshot of Report showing the list of resources with cost-book defined unit-price (inside the braces)

6.3 Definitive Estimate

Select Reports->Projects->**Definitive Estimate** from the main menu-bar to view the list of projects and estimates.

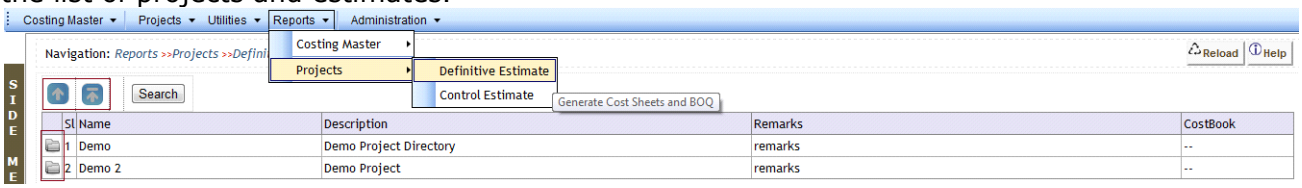


Fig 6-11: Loading definitive estimate (reports) module

Moving Around: Click on the "Project Directory icon" to view the list of all sub-projects and estimate under a project directory. Click on "up icon" in the workspace menu to move back to the parent project directory. Click on "top icon" to move back to the first level.

6.3.1 Project Reports

Right click over a listed project directory and select options from the context menu to generate reports in PDF.

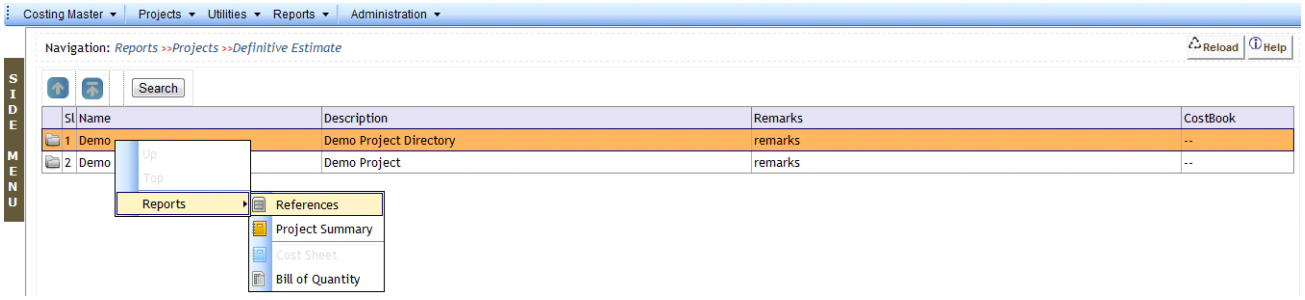


Fig 6-12: Context menu showing report options for a project

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

6.3.1.1 References

Select Reports->References from the context menu to view and download references associated with the selected project.

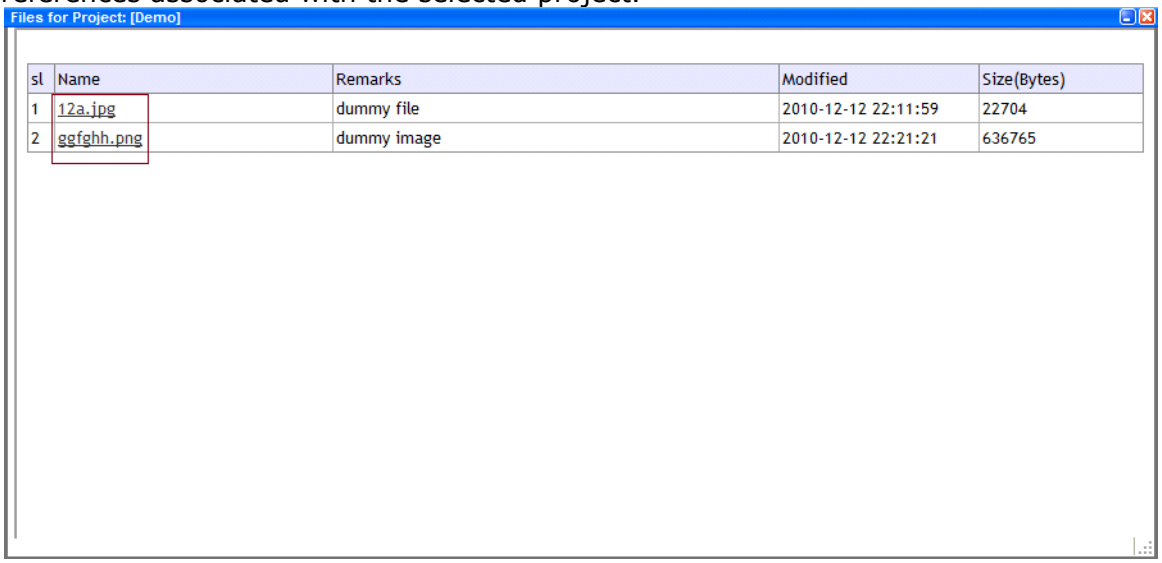


Fig 6-13: References window

Click on the file name to open/save the file on local machine.

6.3.1.2 Project Summary

Select Reports-> Project Summary to generate the project summary report in PDF. Report contains details of subprojects and estimates under the selected project directory.

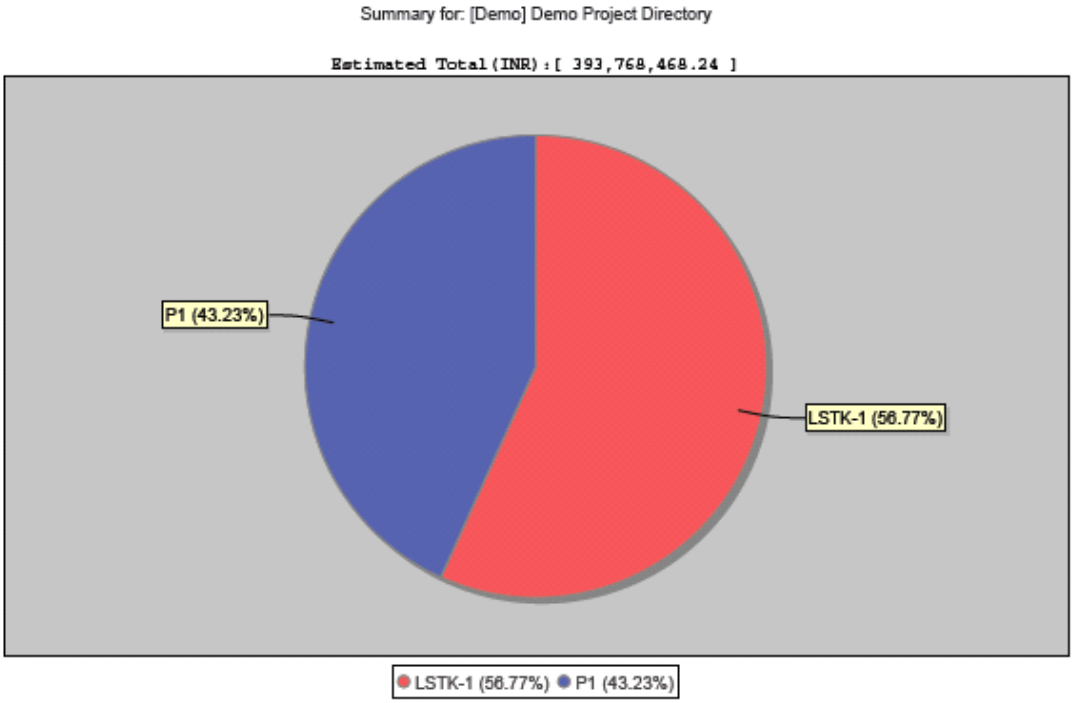


Fig 6-14-a: Pie chart (Project summary)

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

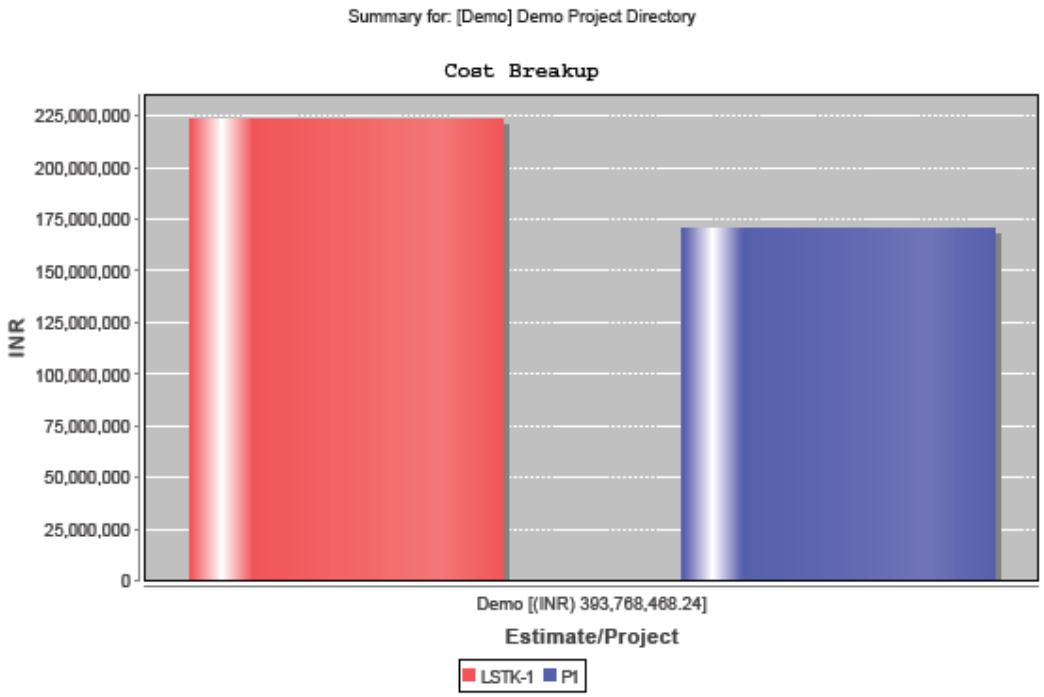


Fig 6-14-b: Bar chart (Project summary)

Summary for: [Demo] Demo Project Directory

Sl	Name	Specification	Total (INR)
1	*LSTK-1*	*INDUSTRIAL COMPLEX*	*223,529,586.07*
1.	P1	specification	**170,238,882.17**
1	*LSTK-2*	*MANGALORE AROMATIC COMPLEX*	*170,238,882.17*
Total (INR): 393,768,468.24			

Fig 6-14-c: Project summary in tabular format

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

6.3.1.3 Bill of Quantity

Select Reports->Bill of Quantity from the context menu to generate "Bill of Quantity" for the selected project.

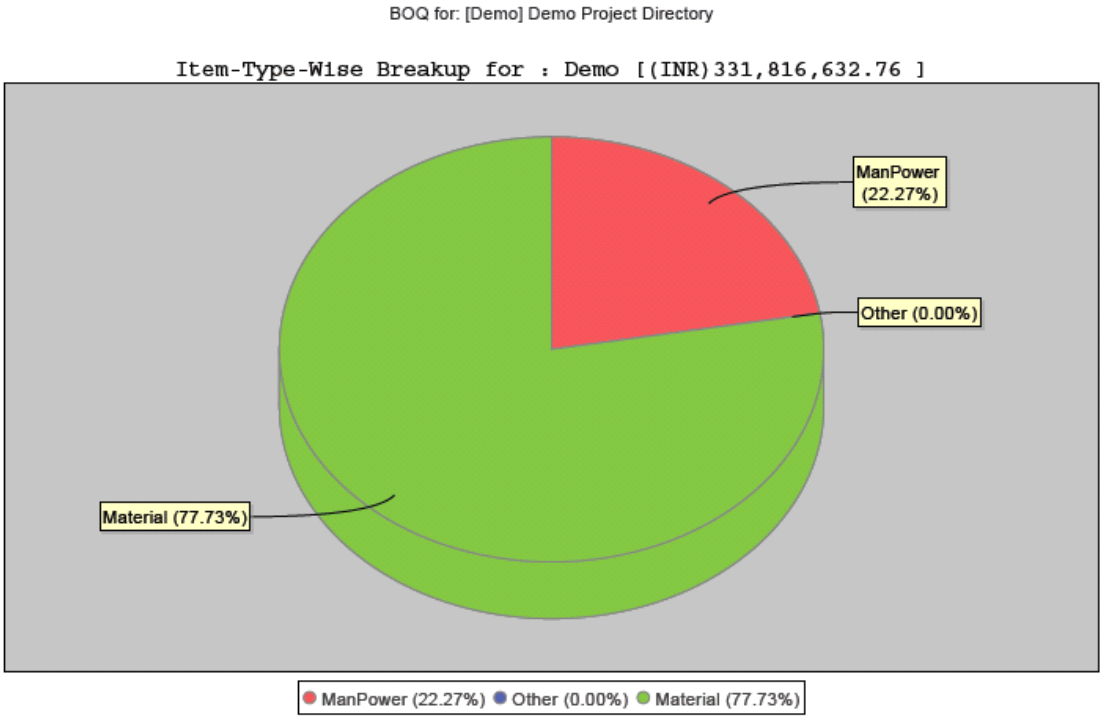


Fig 6-15-a: Pie chart (Bill of Quantity)

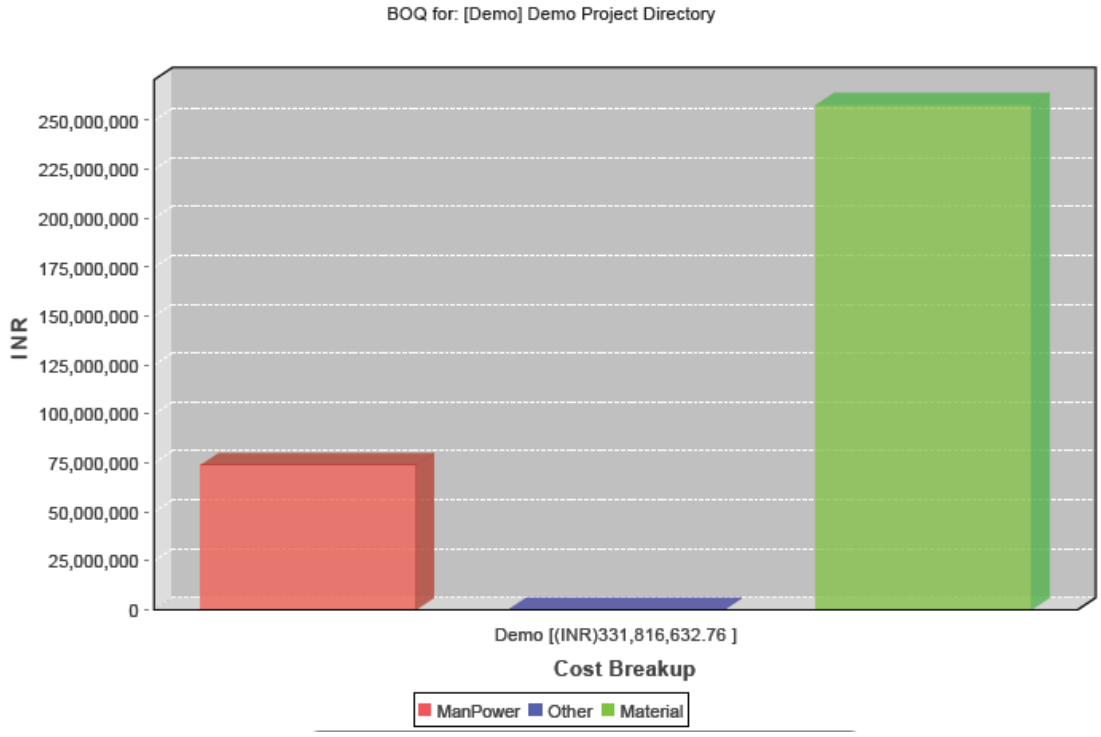


Fig 6-15-b: Bar chart (Bill of Quantity)

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

Sl	Name	Specification	Total	Average Price	Amount (INR)
36	0100	Bandhani	105.39	138.45/Day	14,591.00
37	0827	Acid proof paint	359.60	93.00/litre	33,442.80
38	0131	Painter	3,019.40	141.60/Day	427,547.04
39	9999	Cover block	672,880.00	1.00/L.S	672,880.00
40	9999	Carriage of paint	443.30	1.00/L.S	443.30
41	9999	Indigo gum etc	155,716.60	1.00/L.S	155,716.60
42	(A)	Priming cost	74,811.09	12.65/Sqm	946,360.25
43	1008	Details of lm*lm framed guard bar grating	40.37	2,900.00/Quintal	117,084.17
44	9999	Putty etc	1,652.30	1.00/L.S	1,652.30
45	99999	Brushes, sand paper etc	46,425.60	1.00/L.S	46,425.60
46	7326	Corner angel(1.5 long)	906.82	280.00/Nos	253,910.74
47	7319	Wall foam panel 1250*500 mm	3,627.30	980.00/Nos	3,554,750.37
48	4009	Details od cost for hand rail of railing	6,088.66	38.00/Kg	231,369.11
49	1002	M.S. bar	23.39	3,100.00/Quintal	72,505.87
50	7330	Ms tube	2,448.42	225.00/Meter	550,895.62
51	7329	Single clip	1,813.65	60.00/Nos.	108,818.89
52	7328	Double clip(bridge clip)	3,627.30	75.00/Nos.	272,047.22
53	7327	100 mm channel shoulders 2.5 m long	1,813.65	1,000.00/Nos	1,813,648.15
54	0851	Water proofing cement paint	23,808.00	36.00/Kg	857,088.00
55	9999	Carriage Labour	873,875.74	1.00/L.S	873,875.74
56	9999	Slustering oil	554,762.96	1.00/L.S	554,762.96
57	9999	Assembly nuts and bolts	235,774.26	1.00/L.S	235,774.26
58	0113	Chokidar	245.80	135.25/Day	33,244.45
59	0128	Mate	301.80	138.45/Day	41,784.21
60	2335	Carriage of jamuna sand labour	13,377.20	53.21/Cum	711,800.81
61	6501	Jumna sand	12,620.00	175.00/Cum	2,208,500.00
62	(A)	(Rate as per item no 13.50.3)	5.44	12.65/Sqm	68.75
63	0003	Hire charges	245.80	1,000.00/Day	245,800.00
64	1235	Diesel	4,424.40	30.25/litre	133,838.10
65	2342	Carriage of diesel	43.02	5.32/Quintal	228.84
66	(A)	Welding charge	21,426.37	1.00/Sqm	21,426.37
Total (INR): 331,816,632.76					

Fig 6-15-c: Bill of Quantity in tabular format

6.3.2 Definitive Estimate Reports

Right click over an estimate and select options from the context menu to generate following reports:

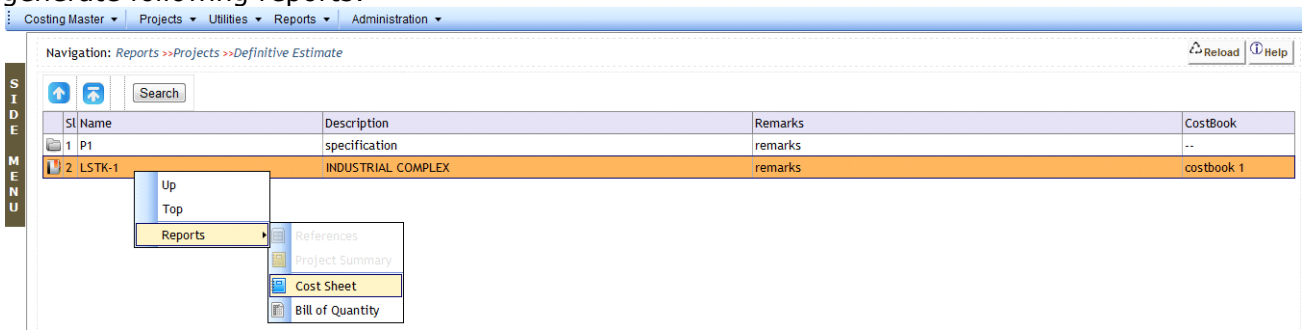


Fig 6-16: Generating reports for an estimate

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

6.3.2.1 Cost Sheet

Select Reports-> Cost Sheet from the context menu to generate cost-sheet for the selected estimate.

Detailed Estimate for: INDUSTRIAL COMPLEX

Sn	SOR No.	Description	Number	Length	Breadth	Height	Weight	Quantity	Rate	Unit	Basic Amount	Premium (%)	Net Amount
1	1.1	Providing M-25 grade reinforced cement concrete by using 410 kg.of cement per cum of concrete.											--
1		-	11685	-	-	-	-	11,685.00 cum					--
2		A	2*3	5'6"+2'	3'	1'4"	-	5.10 cum					--
3		B	2+3	11'+12'	5'6"	3'	-	53.73 cum					--
4		C	2*4	(10'6"+2'5")/3	3'	2'	-	5.85 cum					--
								11,749.68 cum	4,320.46	cum	50,763,996.56	0.0	50,763,996.56
2	1.2	Providing M-30 grade reinforced cement concrete by using 410 kg.of cement per cum of concrete.											--
1		-	70	-	-	-	-	70.00 cum					--
								70.00 cum	54.56	cum	3,819.40	0.0	3,819.40
3	1.3	SCREED CONCRETE											--
1		-	270	-	-	-	-	270.00 cum					--
								270.00 cum	0.00	cum	0.00	0.0	0.00
4	1.4	1:4:8 (1 Cement : 4 coarse sand :8 graded stone aggregate 40 mm nominal size)											--
1		-	1030	-	-	-	-	1,030.00 cum					--
								1,030.00 cum	2,310.05	cum	2,379,351.91	0.0	2,379,351.91
5	1.5	1:3:6(1 Cement :3 coarse sand :6 graded stone aggregate 20 mm nominal size)											--
1		-	6	-	-	-	-	6.00 cum					--
								6.00 cum	2,791.06	cum	16,746.34	0.0	16,746.34
6	1.6	Grouting											--
1		-	9	-	-	-	-	9.00 cum					--
								9.00 cum	0.00	cum	0.00	0.0	0.00

Fig 6-17-a: Cost-sheet showing assemblies and jobs

Sn	SOR No.	Description	Number	Length	Breadth	Height	Weight	Quantity	Rate	Unit	Basic Amount	Premium (%)	Net Amount
24	N.S.	Preparation of soil investigation report from out side agents											--
								0.00 Nos.	0.00	Nos.	0.00	0.0	0.00
													Total : 212,884,367.69

Estimated Total:	212,884,367.69
Add 5% contingency	10,644,218.38
Add 10% over 10000 INR	1,000.00
Net Total:	223,529,586.07
Say Rupees:	223,529,586.07

Fig 6-17-b: Footer section of the cost-sheet showing overheads and summary

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

6.3.2.2 Bill of Quantity

Select Reports->Bill of Quantity to generate "Bill of Quantity" for the selected estimate.

Details for: [LSTK-1] INDUSTRIAL COMPLEX
{CostBook: "costbook 1"}

Sl	Name	Specification	Total	Price	Amount (INR)
1	0295	Stone Aggregate 20 mm	6,948.72	700.0/Cum	4,864,102.48
2	0297	Stone Aggregate 10 mm.	3,291.35	700.0/Cum	2,303,945.36
3	2202	Carriage of aggregate 20 mm.	10,240.07	53.21/Cum	544,874.04
4	0982	Coarse sand	5,480.53	600.0/Cum	3,288,320.50
5	2203	Carriage of coarse sand	4,996.43	53.21/Cum	265,860.26
6	0367	Cement	4,994.49	4500.0/Tonne	22,475,200.33
7	2209	Carriage of cement	4,994.49	47.29/Tonne	236,189.38
8	7318	Plasticizer 0.50% of cement.	24,090.34	30.0/Kg	722,710.34
9	0004	Production cost of concrete by batch mix plant.	11,749.68	200.0/Cum	2,349,936.08
10	0009	Pumping charge of concrete.	11,749.68	80.0/Cum	939,974.43
11	0155	Mason	2,101.05	146.55/Day	307,908.24
12	0114	Belder	240,572.11	135.25/Day	32,537,378.55
13	0101	Bhisti	23,701.56	138.45/Day	3,281,481.31
14	0012	Vibrator	822.90	200.0/Day	164,579.53
15	9999	Sundries	814,768.35	1.0/L.S.	814,768.35
16	2206	Carriage of aggregate 40 mm.	669.50	57.83/Cum	38,717.18
17	0293	Stone aggregate 40 mm	669.50	650.0/Cum	435,175.00
18	1005	Twisted steel / deformed bars	13,587.00	3175.0/Quintal	43,138,725.00
19	0002	Mixer	0.42	400.0/Day	168.00
20	2261	Carriage of coarse sand	484.10	53.21/Cum	25,758.96
21	2205	Carriage of steel	2,666.96	47.29/Tonne	126,120.68
22	0123	Mason 1st class	84.00	151.5/Day	12,726.00
23	0102	Blacksmith 1 st class	13,073.27	151.5/Day	1,980,600.23
24	1007	Steel	13,020.18	3100.0/Quintal	40,362,551.44
25	0124	Mason 2nd class	84.00	141.6/Day	11,894.40
26	0103	Blacksmith 2 nd class	9,300.00	0.0/Day	0.00
27	0116	Fitter (Grade 1)	10,200.69	151.5/Day	1,545,405.21
28	1010	Plate for tread	0.06	3400.0/Quintal	211.04
29	1003	M.S. round bars	0.02	3050.0/Quintal	64.02
30	1549	G.I pipe for railing	1.50	160.0/meter	239.95
31	0141	White Washer	3,523.00	138.45/Day	487,759.35
32	0115	Coolie	117,615.87	135.25/Day	15,907,546.42
33	2271	Carriage og g.i Pipe approx. wt	0.01	47.29/tonne	0.26
34	0775	Dehradun white lime	528.45	295.0/Quintal	155,892.75

Fig 6-18: Screenshot of the report containing the BOQ of the selected estimate

6.4 Control Estimate

Select Reports-> Projects->**Control Estimate** to view the list of Control Project directories and Estimates.

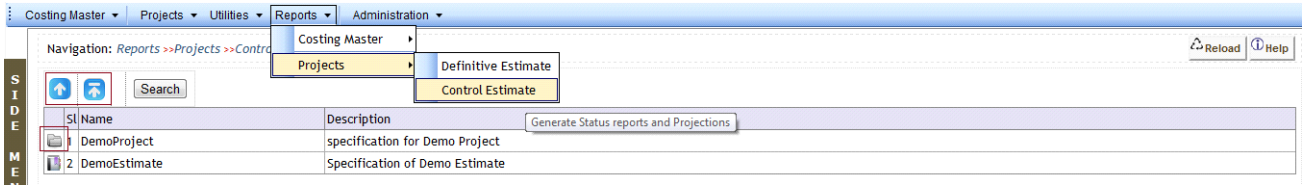


Fig 6-19: Loading Control estimate (reports) module

Moving Around: Click over "Directory icon" on the left of a project directory to view all items (sub-projects/estimates) contained inside it. Click on "up icon " in the workspace menu to move back to the parent project directory. Click on "top icon " to move to the first level.

6.4.1 Project Reports

Right click over a listed project directory and select options from the context menu to generate reports for the selected project in PDF:

6.4.1.1 References

Select Reports->References to view references attached to the selected project.

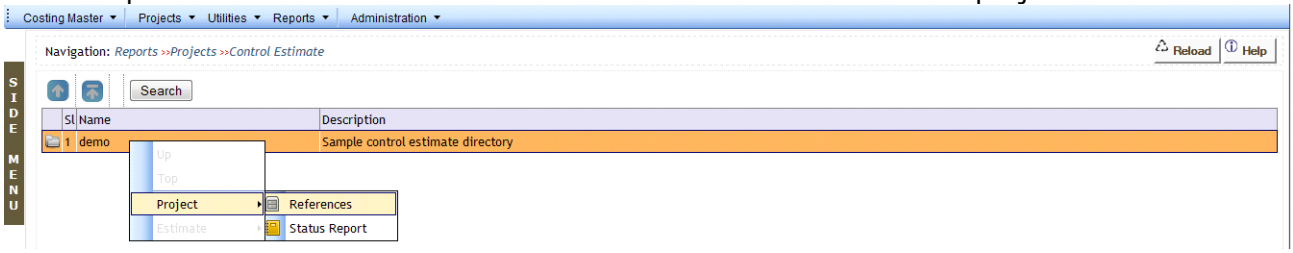


Fig 6-20-a: Context menu options for generating project reports

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

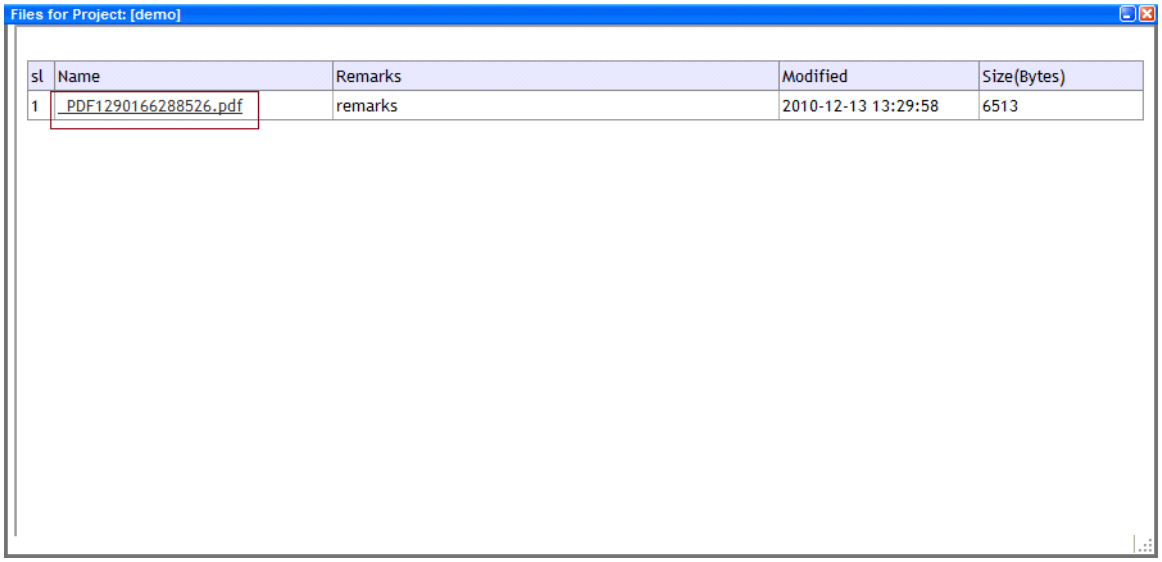


Fig 6-20-b: Screenshots of the reference window

Click on the file name to save/open the file on local machine.

6.4.1.2 Project Status

Select Reports->Status Report to view the project status report in a selected period. Status report can be generated for the purpose of audit or projection.

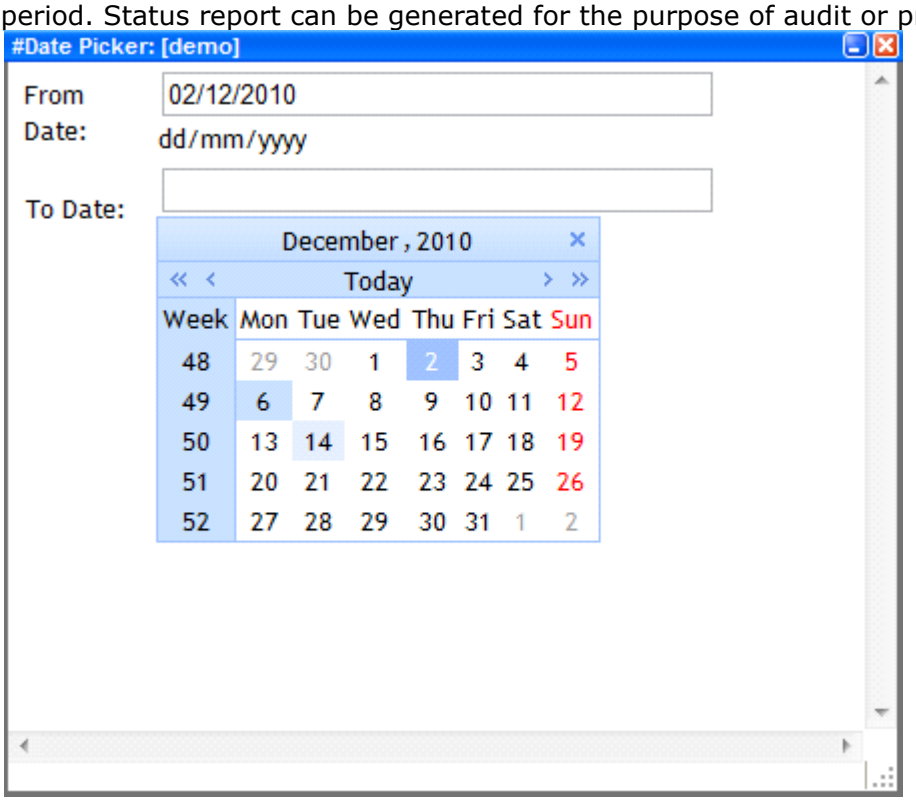


Fig 6-21-a: Picking start and end dates using the calendar

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

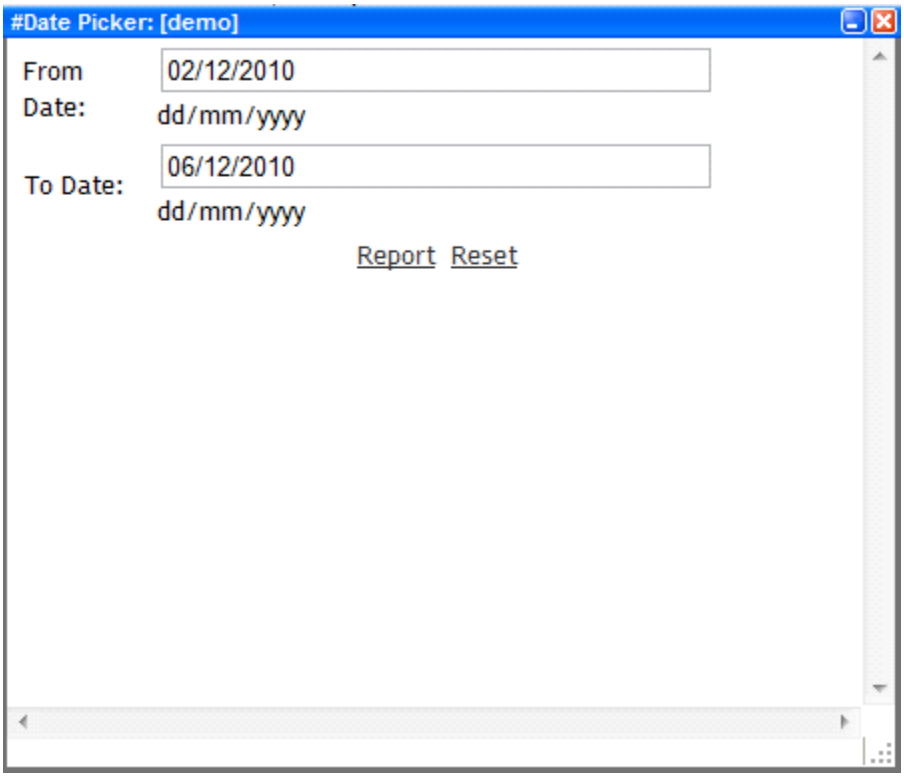


Fig 6-21-b: Status report will be generated for the selected time-frame

Select start and end dates and click on "Report" to generate the status report.

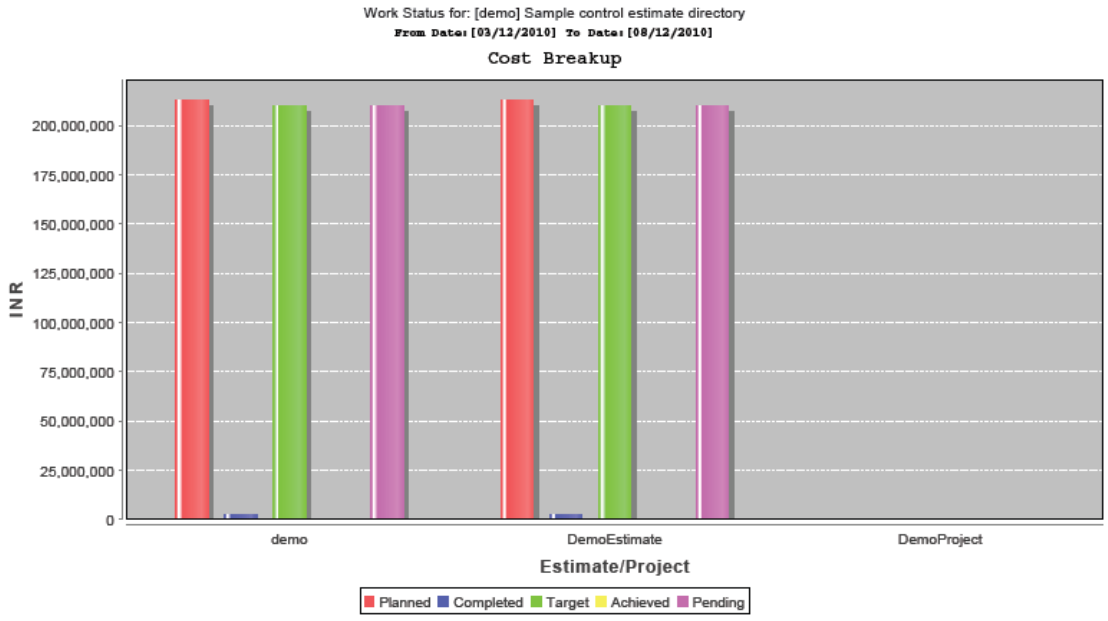


Fig 6-22-a: Bar Chart showing status report for all sub-projects and estimates

Summary of Cost

Sl	Name/ID	Description	Planned	Completed	Target	Achieved	Pending
	1 DemoEstimate	*Specification of Demo Estimate*	*212,431,619.86*	*2,691,518.20*	*209,740,101.66*	*0.00*	*209,740,101.66*
1.	DemoProject	specification for Demo Project	0.00	0.00	0.00	0.00	0.00
			212,431,619.86	2,691,518.20	209,740,101.66	0.00	209,740,101.66

Fig 6-22-b: Status report in tabular format

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

Summary of BOQ

Sl	Name	Description	Unit	Planned	Consumed	Target	Spent	Required
1	0295	Stone Aggregate 20 mm	Cum	6,912.82 [4,838,972.91]	355.09 [248,565.28]	6,557.73 [4,590,407.63]	0.00 [0.00]	6,557.73 [4,590,407.63]
2	0297	Stone Aggregate 10 mm.	Cum	3,273.72 [2,291,601.01]	174.43 [122,102.24]	3,099.28 [2,169,498.76]	0.00 [0.00]	3,099.28 [2,169,498.76]
3	2202	Carriage of aggregate 20 mm.	Cum	10,186.53 [542,025.48]	529.53 [28,176.03]	9,657.01 [513,849.46]	0.00 [0.00]	9,657.01 [513,849.46]
4	0982	Coarse sand	Cum	5,453.77 [3,272,260.25]	264.76 [158,857.51]	5,189.00 [3,113,402.74]	0.00 [0.00]	5,189.00 [3,113,402.74]
5	2203	Carriage of coarse sand	Cum	4,969.67 [264,435.99]	264.76 [14,088.01]	4,704.90 [250,347.97]	0.00 [0.00]	4,704.90 [250,347.97]
6	0367	Cement	Tonne	4,968.67 [22,358,999.67]	255.42 [1,149,380.80]	4,713.25 [21,209,618.87]	0.00 [0.00]	4,713.25 [21,209,618.87]
7	2209	Carriage of cement	Tonne	4,968.67 [234,968.24]	255.42 [12,078.72]	4,713.25 [222,889.53]	0.00 [0.00]	4,713.25 [222,889.53]
8	7318	Plasticizer 0.50% of cement.	Kg	23,961.23 [718,836.99]	1,277.09 [38,312.69]	22,684.14 [680,524.30]	0.00 [0.00]	22,684.14 [680,524.30]
9	0004	Production cost of concrete by batch mix plant.	Cum	11,686.70 [2,337,339.80]	622.97 [124,594.13]	11,063.73 [2,212,745.68]	0.00 [0.00]	11,063.73 [2,212,745.68]
10	0009	Pumping charge of concrete.	Cum	11,686.70 [934,935.92]	622.97 [49,837.65]	11,063.73 [885,098.27]	0.00 [0.00]	11,063.73 [885,098.27]
11	0155	Mason	Day	2,090.34 [306,339.16]	105.91 [15,520.38]	1,984.43 [290,818.78]	0.00 [0.00]	1,984.43 [290,818.78]
12	0114	Belder	Day	240,312.24 [32,502,230.10]	1,245.94 [168,513.55]	239,066.30 [32,333,716.55]	0.00 [0.00]	239,066.30 [32,333,716.55]
13	0101	Bhisti	Day	23,644.88 [3,273,633.51]	560.67 [77,625.25]	23,084.21 [3,196,008.26]	0.00 [0.00]	23,084.21 [3,196,008.26]
14	0012	Vibrator	Day	818.49 [163,697.79]	43.61 [8,721.59]	774.88 [154,976.20]	0.00 [0.00]	774.88 [154,976.20]
15	9999	Sundries	L.S.	812,092.64 [812,092.64]	8,098.62 [8,098.62]	803,994.02 [803,994.02]	0.00 [0.00]	803,994.02 [803,994.02]
16	0293	Stone aggregate 40 mm	Cum	669.50 [435,175.00]	0.00 [0.00]	669.50 [435,175.00]	0.00 [0.00]	669.50 [435,175.00]
17	2206	Carriage of aggregate 40 mm.	Cum	669.50 [38,717.18]	0.00 [0.00]	669.50 [38,717.18]	0.00 [0.00]	669.50 [38,717.18]
18	0002	Mixer	Day	0.42 [168.00]	0.00 [0.00]	0.42 [168.00]	0.00 [0.00]	0.42 [168.00]

Fig 6-22-c: Resource utilization chart

Fig 6-22-a to 6-22-c show screenshots of the status report containing Planned, Target and Completed data in terms of Project cost and Resource utilization. Status report may be used for generating projections for a selected timeframe as well.

6.4.2 Control Estimate Reports

Right click over an estimate and select options from the context menu to generate following reports:

6.4.2.1 Status Report

Select Reports->Status Report to generate status report for selected estimate on the basis of planned and as-built data.

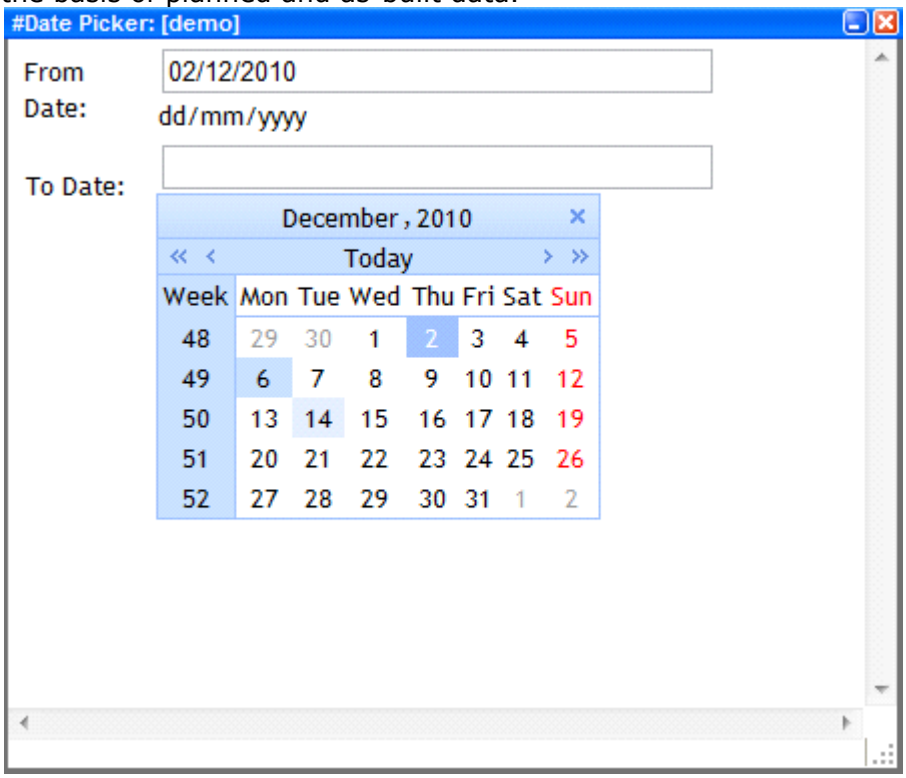


Fig 6-23-a: Picking start and end dates using the calendar

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

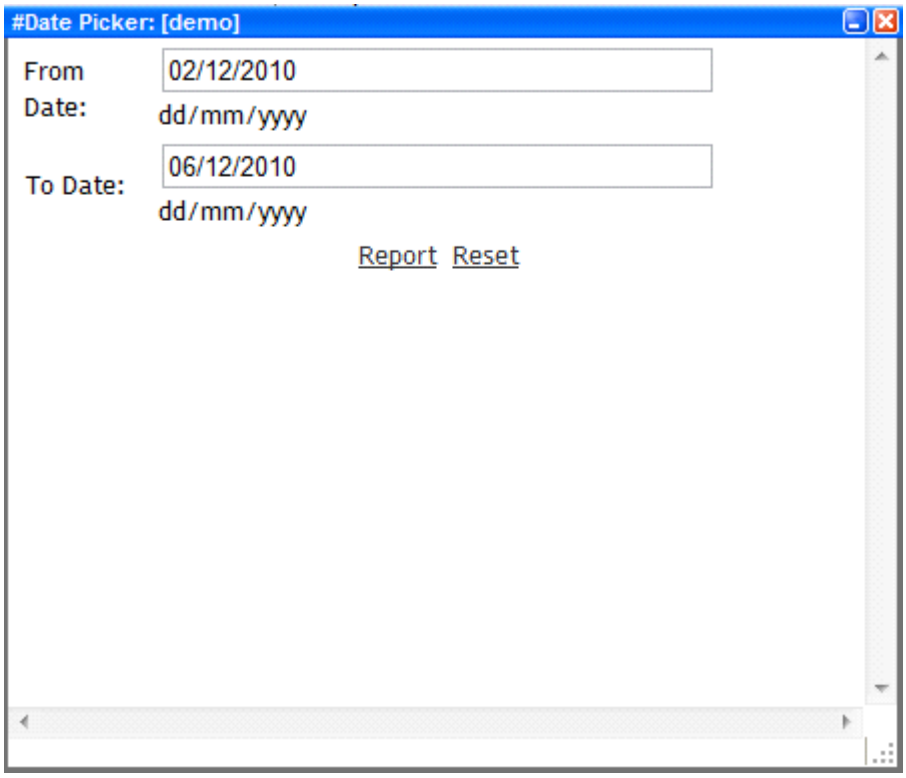


Fig 6-23-b: Status report will be generated for the selected time-frame

Select a timeframe (From date-To date) and then click on "Report" to generate the status report in PDF.

Work Status for: Specification of Demo Estimate

From Date: [01/02/2010] To Date: [08/02/2010]

Work Status Summary

Sl	ID	Description	Unit	Planned	Completed	Target	Achieved	Pending	Planned Start	Planned Finish	Actual Start	Actual Finish	Status
1	1.1	Providing M-25 grade reinforced cement concrete by using 410 kg.of cement per cum of concrete.	cum										
1		-		11,685.00	622.97	4,674.00	480.58	4,193.42	01/02/2010	20/02/2010	03/02/2010	12/08/2010	R
2		Column C1		1.70	0.00	1.70	0.00	1.70	01/01/1970	01/01/1970	-	-	P
				11,686.70	622.97	4,675.70	480.58	4,195.12	01/01/1970	20/02/2010	03/02/2010	12/08/2010	
2	1.2	Providing M-30 grade reinforced cement concrete by using 410 kg.of cement per cum of concrete.	cum										
1		-		70.00	0.00	70.00	0.00	70.00	01/01/1970	01/01/1970	-	-	P
				70.00	0.00	70.00	0.00	70.00	01/01/1970	01/01/1970	-	-	
3	1.3	SCREED CONCRETE	cum										
1		-		270.00	0.00	270.00	0.00	270.00	01/01/1970	01/01/1970	-	-	P
				270.00	0.00	270.00	0.00	270.00	01/01/1970	01/01/1970	-	-	
4	1.4	1:4:8 (1 Cement : 4 coarse sand :8 graded stone aggregate 40 mm nominal size)	cum										
1		-		1,030.00	0.00	1,030.00	0.00	1,030.00	01/01/1970	01/01/1970	-	-	P
				1,030.00	0.00	1,030.00	0.00	1,030.00	01/01/1970	01/01/1970	-	-	
5	1.5	1:3:6(1 Cement :3 coarse sand :6 graded stone aggregate 20 mm nominal size)	cum										
1		-		6.00	0.00	6.00	0.00	6.00	01/01/1970	01/01/1970	-	-	P
				6.00	0.00	6.00	0.00	6.00	01/01/1970	01/01/1970	-	-	
6	1.6	Grouting	cum										
1		-		9.00	0.00	9.00	0.00	9.00	01/01/1970	01/01/1970	-	-	P
				9.00	0.00	9.00	0.00	9.00	01/01/1970	01/01/1970	-	-	
7	2.1	Thermo-Mechanically Treated bars	kg										

Fig 6-24-a: Work Status report

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

Bill of Quantity

Sl	Name	Description	Unit	Planned	Consumed	Target	Spent	Required
1	0295	Stone Aggregate 20 mm	Cum	6,912.82	355.09	2,916.55	273.93	2,642.62
2	0297	Stone Aggregate 10 mm.	Cum	3,273.72	174.43	1,310.64	134.56	1,176.07
3	2202	Carriage of aggregate 20 mm.	Cum	10,186.53	529.53	4,227.18	408.49	3,818.69
4	0982	Coarse sand	Cum	5,453.77	264.76	2,474.09	204.25	2,269.85
5	2203	Carriage of coarse sand	Cum	4,969.67	264.76	1,989.99	204.25	1,785.75
6	0367	Cement	Tonne	4,968.67	255.42	2,094.16	197.04	1,897.12
7	2209	Carriage of cement	Tonne	4,968.67	255.42	2,094.16	197.04	1,897.12
8	7318	Plasticizer 0.50% of cement.	Kg	23,961.23	1,277.09	9,588.68	985.18	8,603.50
9	0004	Production cost of concrete by batch mix plant.	Cum	11,686.70	622.97	4,675.70	480.58	4,195.12
10	0009	Pumping charge of concrete.	Cum	11,686.70	622.97	4,675.70	480.58	4,195.12
11	0155	Mason	Day	2,090.34	105.91	898.47	81.70	816.77
12	0114	Belder	Day	240,312.24	1,245.94	226,290.24	961.15	225,329.08
13	0101	Bhisti	Day	23,644.88	560.67	17,334.98	432.52	16,902.46
14	0012	Vibrator	Day	818.49	43.61	327.72	33.64	294.08
15	9999	Sundries	L.S.	812,092.64	8,098.62	720,949.64	6,247.51	714,702.13
16	0293	Stone aggregate 40 mm	Cum	669.50	0.00	669.50	0.00	669.50
17	2206	Carriage of aggregate 40 mm.	Cum	669.50	0.00	669.50	0.00	669.50
18	0002	Mixer	Day	0.42	0.00	0.42	0.00	0.42
19	1005	Twisted steel / deformed bars	Quintal	13,587.00	0.00	13,587.00	0.00	13,587.00
20	2205	Carriage of steel.	Tonne	2,663.91	0.00	2,663.91	0.00	2,663.91
21	2261	Carriage of coarse sand	Cum	484.10	0.00	484.10	0.00	484.10
22	0102	Blacksmith 1 st class	Day	13,037.56	0.00	13,037.56	0.00	13,037.56
23	0123	Mason 1st class	Day	84.00	0.00	84.00	0.00	84.00
24	0124	Mason 2nd class	Day	84.00	0.00	84.00	0.00	84.00
25	1007	Steel	Quintal	13,020.18	0.00	13,020.18	0.00	13,020.18
26	0116	Fitter (Grade 1)	Day	10,200.69	0.00	10,200.69	0.00	10,200.69
27	0103	Blacksmith 2 nd class	Day	9,300.00	0.00	9,300.00	0.00	9,300.00
28	1010	Plate for tread	Quintal	0.06	0.00	0.06	0.00	0.06
29	1549	G.I pipe for railing	meter	1.50	0.00	1.50	0.00	1.50
30	1003	M.S. round bars	Quintal	0.02	0.00	0.02	0.00	0.02

Fig 6-24-a: Resource utilization report

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

7 Administration

This tutorial guides users and system administrators through the system-maintenance processes like personalization, user management etc.
Select menu-options from the Administration menu to access following modules:
Log-Out: This is self-explanatory; select this menu-item to log-out from the system. Number of allowed active sessions is limited, therefore users must log-out when not using the APPLICATION. Sessions automatically expires after a period of inactivity of 20 minutes. After expiry, a user must log-out and log-in again.
Personalize: Change account's password and select UI theme.
User Management: This module may be used for registering new system users and for configuring access-rights of existing users.

7.1 Personalize

Select Administration->**Personalize** from the main menu-bar.

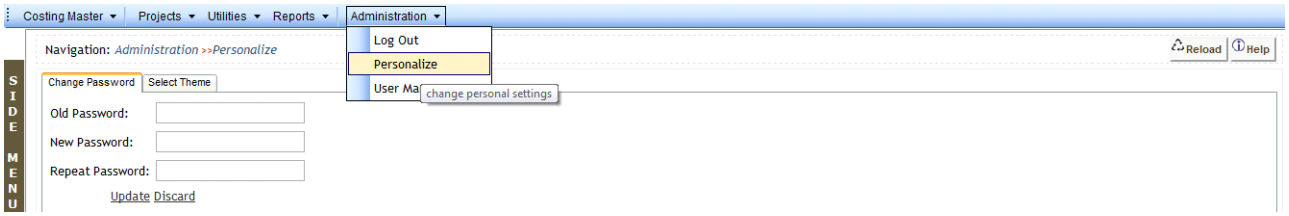


Fig 7-1: Loading Personalize module

Changing Password: Click on the "Change Password" tab. Fill current and new passwords and the click on "Update" to change the. When a new user account is created, default password is set to "abc". It's advisable that first-time users must immediately change their password after logging into APPLICATION.
Changing Theme: Click on the "Select Theme" tab and choose one of the predefined themes from the list. Theme will be applied in the next session.

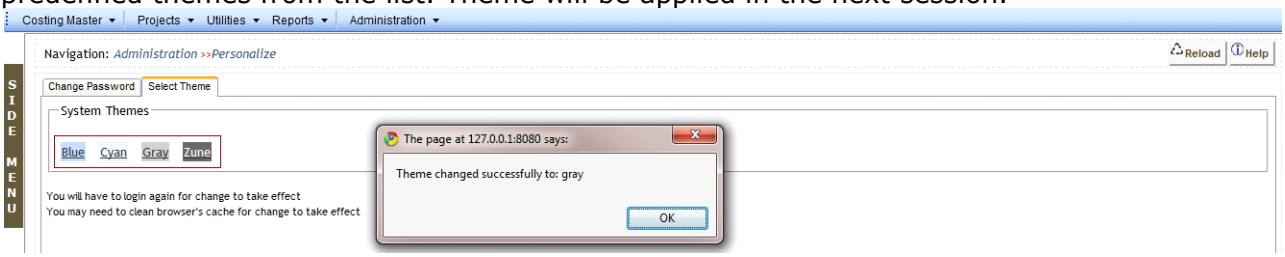


Fig 7-2-a: Changing theme

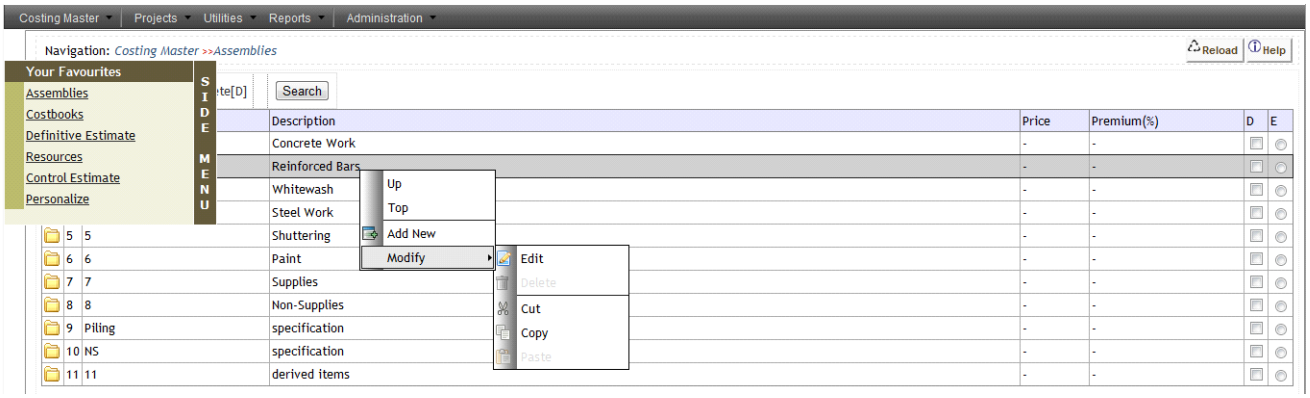


Fig 7-2-b: Screenshot of the User interface with Zune theme

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

7.2 User Management

Select Administration->**User Management** from the main menu-bar to view the list of registered users.

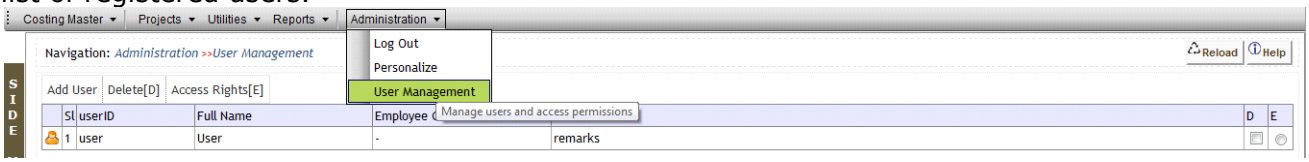


Fig 7-3: Loading User Management module

7.2.1 Adding a new User

Click on "Add User" option in the workspace menu, or right click over the content-table and select "Add User" from the context menu.

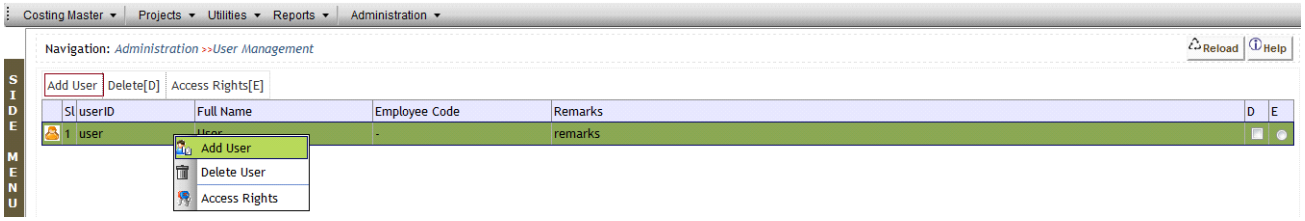


Fig 7-4-a: Adding new user

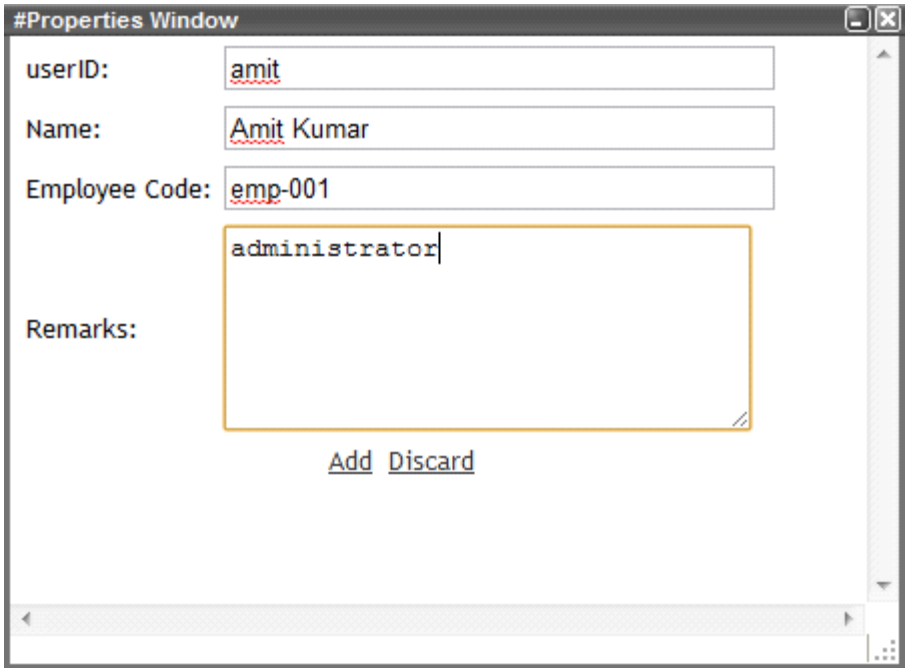


Fig 7-4-b: Properties window for adding a new user

Fill user's details and click on "Add" to add a new user into the database. Default password for the newly added user is "abc".

7.2.2 Deleting existing Users

Select one or more users from the list through checkboxes and then click on "Delete" option in the workspace menu. To delete a user right click over it and select "Delete User" from the context menu.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

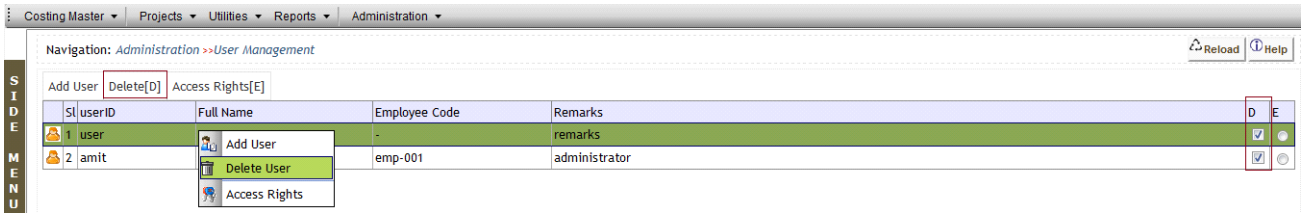


Fig 7-5: Deleting users

7.2.3 Access Rights

Select a user through the radio-button and then click on "Access Rights" option in the internal menu. Alternatively, right click over a user and select "Access Rights" from the context menu.

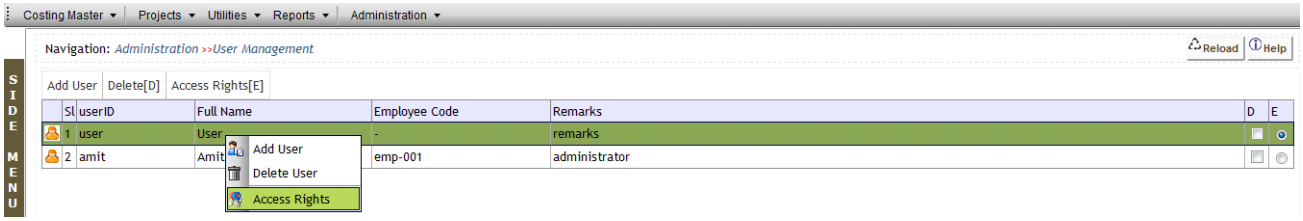


Fig 7-6-a: Configuring access rights for a user

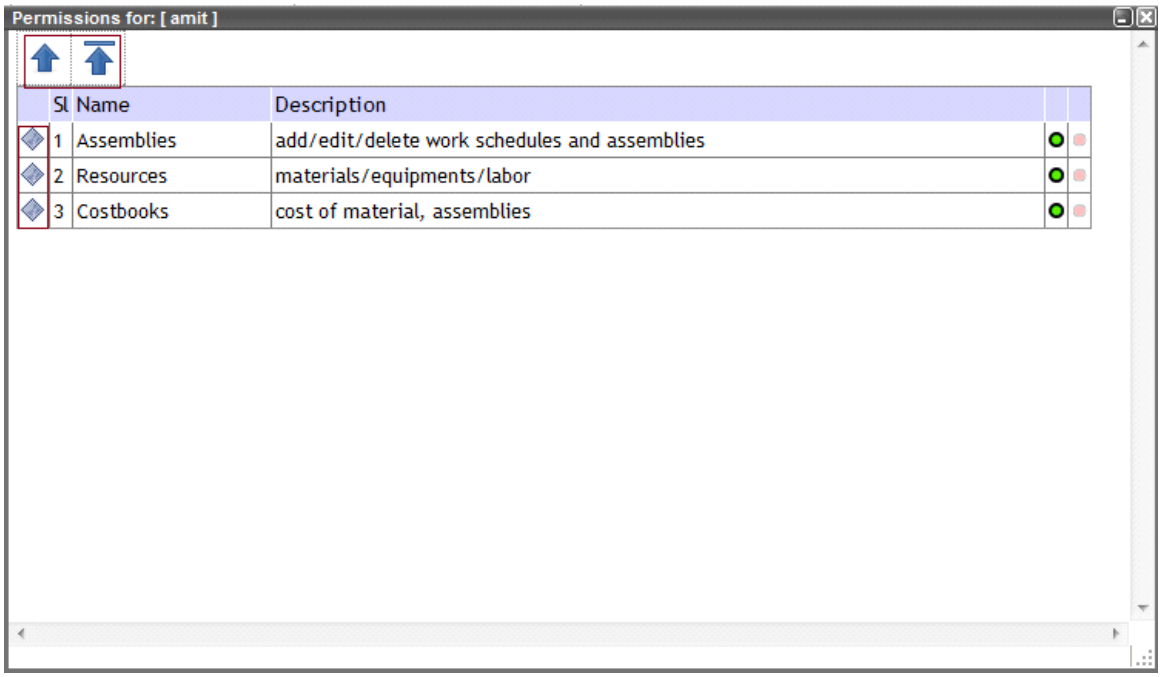


Fig 7-6-b: Screenshot of the permissions window for a selected user

Moving Around: Click on the "module icon" on the right of a listed module to view nested modules/actions. Click on "up icon" to move up to the parent module. Click on "top icon" to move back to the first level.

7.2.3.1 Changing Access Rights

A newly added user has access to all modules by default. Access rights are configured recursively, i.e. if access to a particular module is denied to a user, access to all sub-modules/actions will also be denied automatically.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

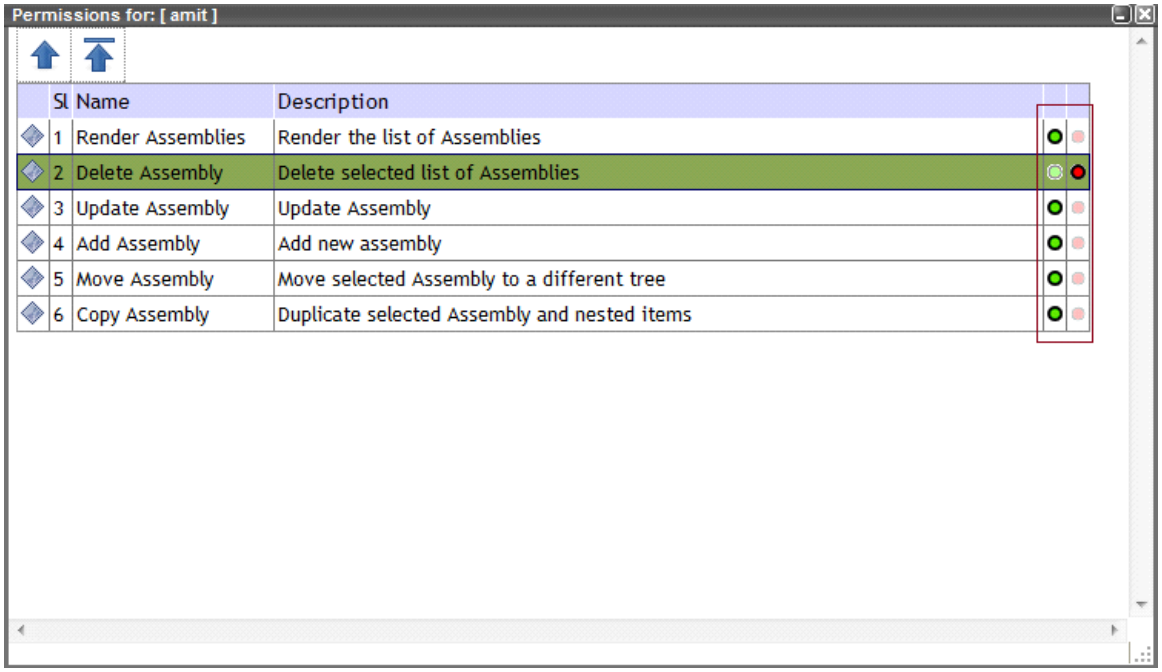


Fig 7-7: Viewing and changing access rights

If the red indicator is highlighted, access to that module/action is denied to the user. To allow access to a module/action click on the un-highlighted "Green indicator". To deny access click on the un-highlighted "Red indicator".

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

8 Installation Guide

8.1 Deployment Environment

Attributes	**Details**	**Numbers**
Production CPU	PIV 2.0 GHz, 1GB Ram,1 GB Disk Space, RAID controller, NIC	1
10 MBPS LAN/WAN		1
Operating System	Windows 2003 Server*/Windows XP Professional (sp2)*/Linux 2.6.x	1
Deployment Environment	Apache Tomcat* 5.5* Mysql Community Edition 5.x	1
Internet Browser (JavaScript enabled)	IE 6 or Above, Mozilla Firefox 3.4, latest versions of Opera, Chrome, Safari	
Postscript viewer	Adobe PDF reader 7 or above	

8.2 Installation and Configuration

1. Installing the war package: Start the tomcat server and copy the war package into tomcat's web directory (webapps). Tomcat server will attempt to automatically deploy the package.
2. Configuring the System Variable: Set the system variable ESTICON which must point to an empty writable directory. This directory will be used by APPLICATION to store configuration files.
3. Configuring System settings: ***APPLICATION can be configured only if it is being accessed from the local machine***. After completing steps 1 and 2, start tomcat server and Mysql database server. Open web browser and enter the path to the hosted application.
http://127.0.0.1:TOMCAT-PORT/NAME-OF-WAR-FILE

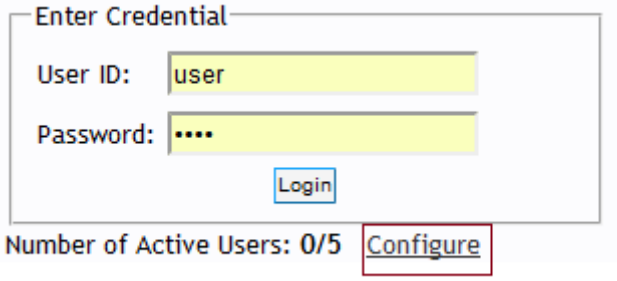


Fig 8-1: Link to configuration page

Click on "Configure" to continue.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

4. Accepting License Agreement: User must accept the license agreement.

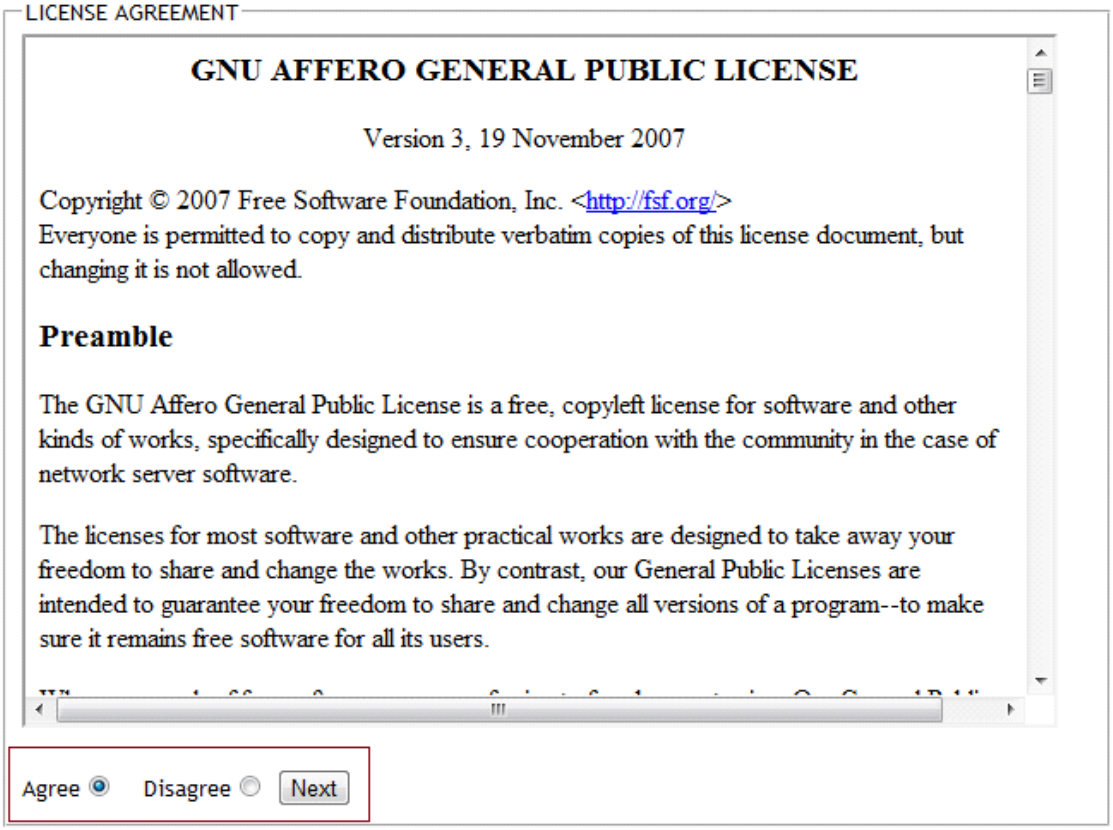


Fig 8-2: License Agreement

Select Agree and click on Next.

5. Checking Environment Variable: System will automatically check if the ESTICON environment variable has been set correctly:

Fig 8-3: Environment variable diagnostics

In case of an error, check if the environment variable ESTICON has been set and if it points to a writable and empty directory (directory must be manually created). Application will store all configuration files in this directory. Directory must not be moved or modified after finishing the configuration. After rectifying errors, click on "Retry" button to continue.

6. Database Configuration: Click on the "Database Settings" option.

Fig 8-4-a: Configuration Menu

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

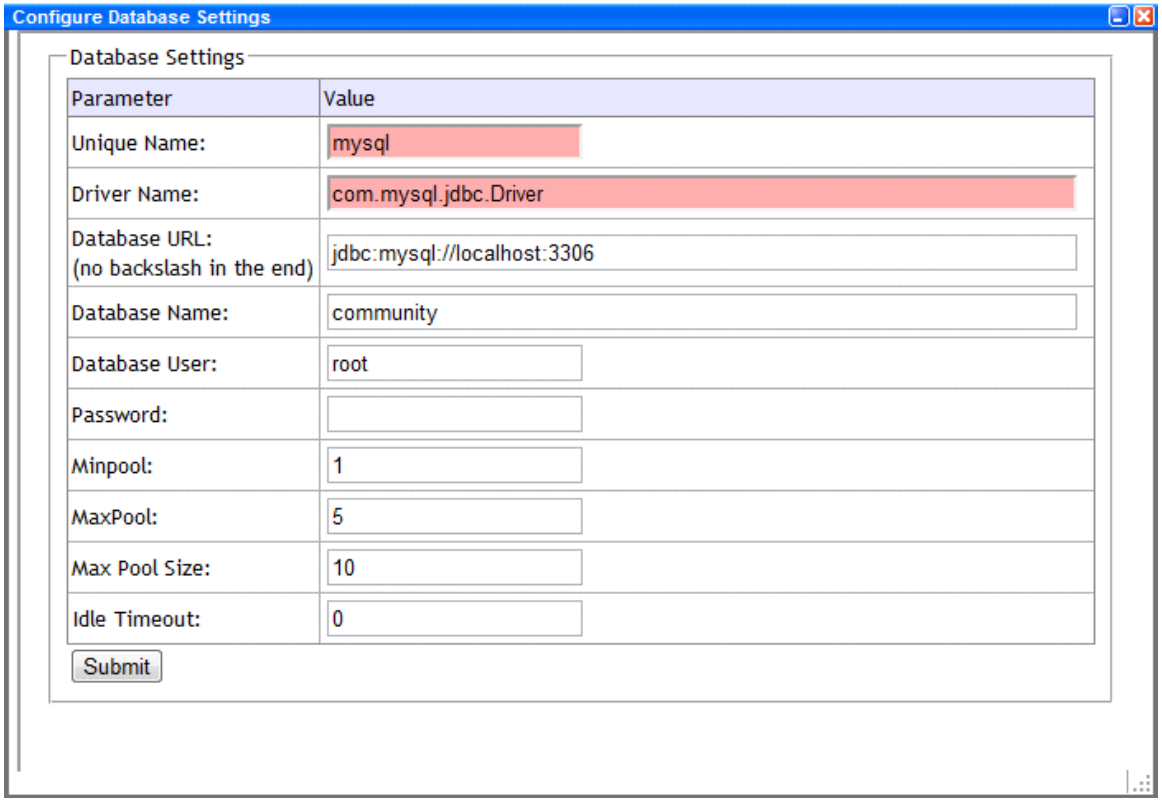


Fig 8-4-b: Database configuration

Fill-in following details in the Database configuration window:
Database Server URL: ***jdbc:mysql://IP-ADDRESS:PORT-NUMBER***. No trailing backslash or space must be added into the url.
Name of the Database: Enter unique name of the database. This database will be used to store all the application data.
Database User Name: Enter the username having sufficient privileges. The application will try to create the database if it doesn't exist, in case of insufficient privilege this step will fail, and the user will have to create the database manually using console.
Database Password: Enter the password of the database user.
Minpool: Application maintains a pool of connections with the database for faster database access. Minpool defines the minimum number of connections the application must create at startup.
Maxpool: Maximum number of active connections in the database pool. 2 is usually a sufficient number.
Maximum Pool Size: Total number of Active+Inactive database connections in the pool. If the number of connections exceeds this limit, system will attempt to close the inactive connections.
Idle Timeout: Timeout after which a database query is dropped. Set to 0 to ignore.
After filling the details click on the "Submit" button.

7. Initializing the database: Database must be initialized before using the application. To test the connection to the database click on "Test Connection", if the attempt to connect to the database is successful, application will display a success message. In case of a connection failure please check if the database settings have been correctly entered and if the database server is running. If database doesn't exist on server, application will return a failure message, but this is not a fatal error since the application will attempt to create the database (if doesn't exist) during initialization (*Manually creating a mysql database*).

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

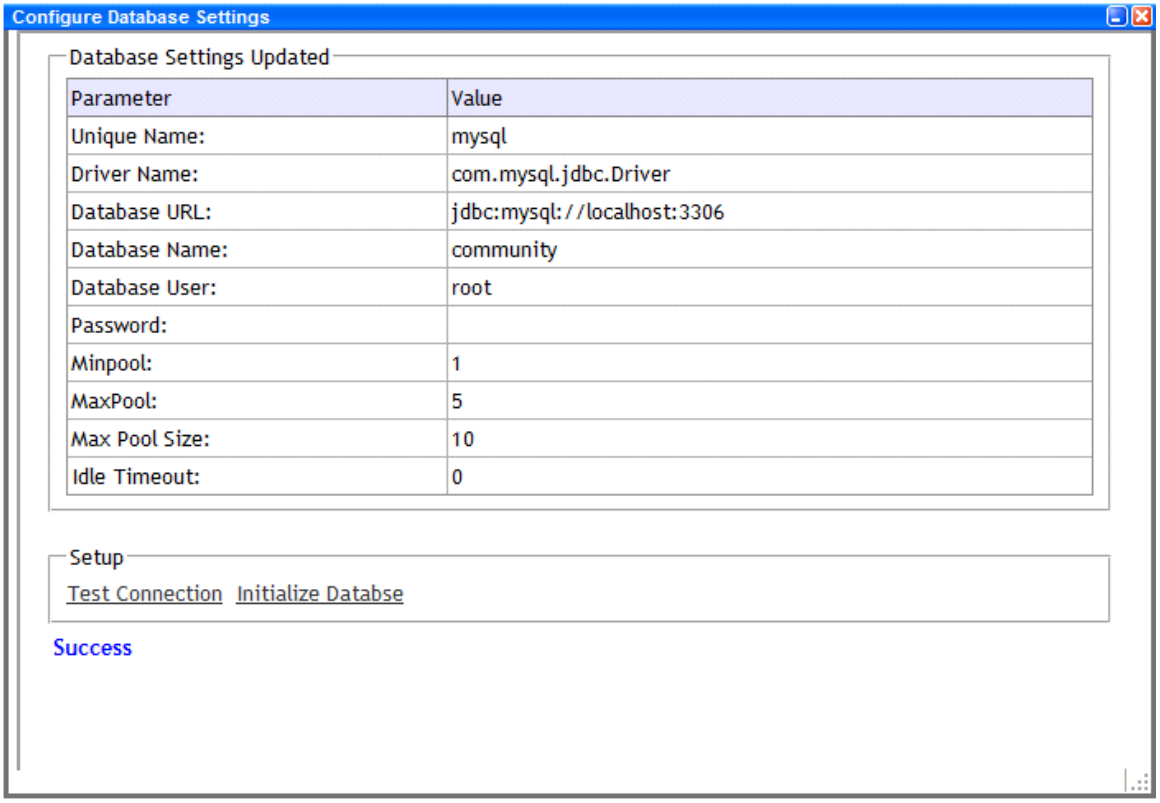


Fig 8-5: Database initialization

Click on Initialize Database to initialize the database. All database tables will be recreated. In case of a failure, check database settings.

8. Application Settings: Click on the "Application Settings" link.

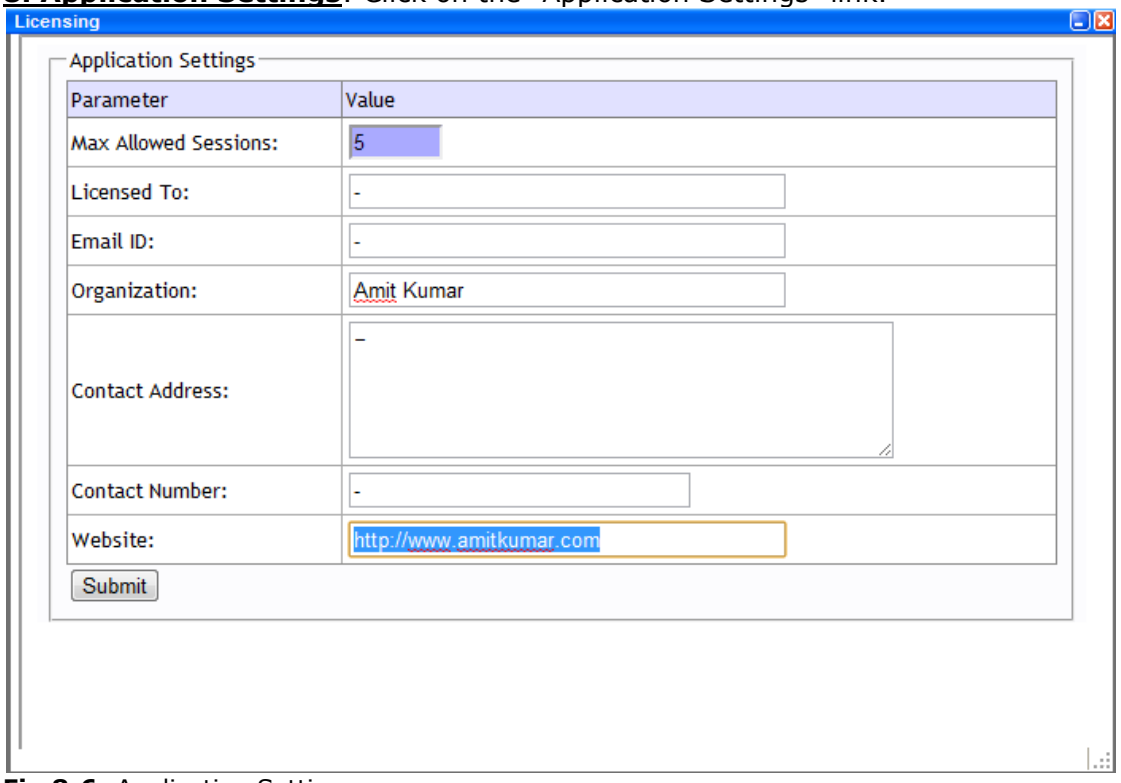


Fig 8-6: Application Settings

"Max Allowed Sessions" field is mandatory. The application will not allow a registered user to log into the system if the number of users already logged into

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.

the system is equal to or more than "Max Allowed Sessions".

9. Logging into the system for the first time: After finishing the configuration, click on "Home" to return back to the login screen. For the first time usage default username and password are: *user* and *abc* respectively.

Copyright© 2010 Amit Kumar (amitkriit@gmail.com) All rights reserved.