



Project and Time Management Design

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Enterprise Database Solutions
Backed by technical excellence

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1 Introduction

Procase Consulting is a professional services company with offices in Woodbridge and San Francisco. Procase was founded in 1992, and has a major client base throughout North America.

Weekly tracking of time, expenses and projects is fundamental to our success. For many years, Procase could not find the right solution – off the shelf products where either too complex or did not meet our needs. In 2002, Procase developed a custom solution designed to address the following goals:

Goal	Priority
Quickest way to input time and expenses	#1 for consultants
Simple way to review and approve time	#1 for project managers
Flexibility to configure unit-project-task hierarchy at varying levels	#2 for project managers
Automated late notices which are saved for year-end reviews	#1 for admin and HR
Timely web access to weekly timesheets and monthly reports	#1 for clients
Security, integrity and locking to ensure reliable extracts for billing	#1 for accounting
Simple and flexible architecture which can be evolved by others	#1 for IT
Powerful summary/detail reporting and XLS extracts	High for all users

Project iTracker uses a 3-tier architecture, which includes the following components: Oracle 9i database, Oracle's 9iAS application server, and Java. It uses Adobe Acrobat PDF reports that are table driven to easily facilitate additional reports. Table driven Microsoft Excel extracts are also available to support interfacing to any downstream system.

Project iTracker site was launched in April 2003. The system is actively used by Procase consultants, managers, admin, and accounting users as well as many customers. Today, our customers compliment us on our timely, detailed and accurate time and expense reports!

2 Functional Overview

2.1 Users and Modules

Project iTracking is a web-based application for tracking time and expenses. It supports detailed and timely reporting of time and expenses. The system supports 4 types of users:

User Type	Description
Employees	Enter their time and expenses and view their historical information
Managers	Approve employee timecards and expenses View project timecard and expense history
Accounting	Execute end-of-week "Close" procedures Extract data to billing
Clients	View project timecard and expense history

The system has four modules:

Module	Description
Set-up	Managers set-up companies, business units, projects, people, and person assignments All users can change their profile information
Track	Employees use the track page to enter their time and expenses One web page is used to enter time and expenses for each week
Approve	Managers approve employee timecards and expenses Managers approve employees assigned to their projects, then Admin closes all
Report	All users have access to reports based on their privileges Clients can run reports to view the complete history of hours, fees and expenses for all consultants on their projects Employees can view their project assignments, hours and expenses Employees can view vacation time, sick time and number of missed timecard cut-offs Managers have access to all employee reports for all members in their team Admin has access to all reports For all users, detail and summary reports are available to cover any reporting needs

2.2 Weekly Processing Cycle

To support timely reporting for clients, Procase has defined a weekly processing cycle. The process utilizes the following status values:

Status	Timecard
None	Does not exist
Draft	Started but not complete Used by employees during the week
Submitted	Submitted by employee for approval at the end of the week Employee cannot edit submitted timecards
Rejected	Sent back to employee for additional changes Approval process will be repeated
Approved	Approved by a manager Manager can continue to edit
Closed	Approved and locked by admin Manager cannot edit closed timecards

The weekly approval cycle is enforced using an automated email notification system which generates the following notifications:

User	Activities
Employee	Employees must submit timecards by Monday morning If an employee needs to change a submitted or approved timecard, their manager must reject it so that the approval cycle can be repeated Employees receive up to 3 late notices during Monday and Tuesday
Managers	Managers must Approve or Reject employee timecards Employees with Rejected timecards are notified 2 nd and 3 rd late notices Employees receive 1 st late notice at end of Monday and 2 nd on Tuesday morning
Admin	Admin moves expenses with missing receipts to the following week Admin Closes all timecards Managers cannot update timecards with Closed status
Client	Clients can view timecards after they are closed on Tuesday

2.3 Email Statistics

All email notices are logged in the database and used for statistical reporting at year-end. For employees, reports track how many late notices (1st, 2nd and 3rd) an employee received during the year. For managers, reports track how many late approval notices (1st and 2nd) they received during the year.

2.4 Reporting

The application contains close to 30 reports and extracts designed to support data analysis and reporting needs of all users.

Company Reports

Weekly Time and Expenses	Business unit hours, fees and expenses per week. Expenses are converted to company's currency. Sub-total each business unit and grand total. Used by clients and managers to review weekly amounts for each business unit.
Person Time and Expenses	Business unit hours, fees and expenses per person. Expenses are converted to company's currency. Sub-total each business unit and grand total. Used by clients and managers to review employee amounts for each business unit.
Project Time	Business unit hours and fees per project. Sub-total each business unit and grand total. Used by clients and managers to review project amounts for each business unit.
Person Time and Expenses by Week	Business unit hours, fees and expenses per person and week. Expenses are converted to company's currency. Sub-total each business unit and each person and grand total. Used by clients and managers to review employee amounts for each business unit at the weekly level.
Project Time by Week	Business unit hours, fees and expenses per project and week. Expenses are converted to company's currency. Sub-total each business unit and each project and grand total. Used by clients and managers to review project amounts for each business unit at the weekly level.
Time Details	Business unit detail hours and fees. Includes week, person, rate, project, task, daily hours, total hours and total fees. Totals are not included because they appear on other reports. Used by clients and managers to review time details for each business unit.
Expense Details	Business unit detail expenses. Includes week, person, expense type, currency, description, exchange, daily expenses, and total expenses. Total expenses are converted to company's currency. Totals are not included because they appear on other reports Used by clients and managers to review expense details for each business unit..
Time Details Extract	Extract of business unit detail hours and fees
Expense Details Extract	Extract of business unit detail expenses

Other Reports

Person Reports

- Hours by Project Type
- Business Unit Hours and Expenses
- Weekly Hours and Expenses
- Weekly Expenses by Expense Type
- Hours Details
- Expense Details
- Assigned Business Units
- Late Notices Per Month
- Time Detail Extract
- Expense Detail Extract

Audit Reports

- Time and Expense Audit

Billing Extracts

- Time for Billing
- Expenses for Billing

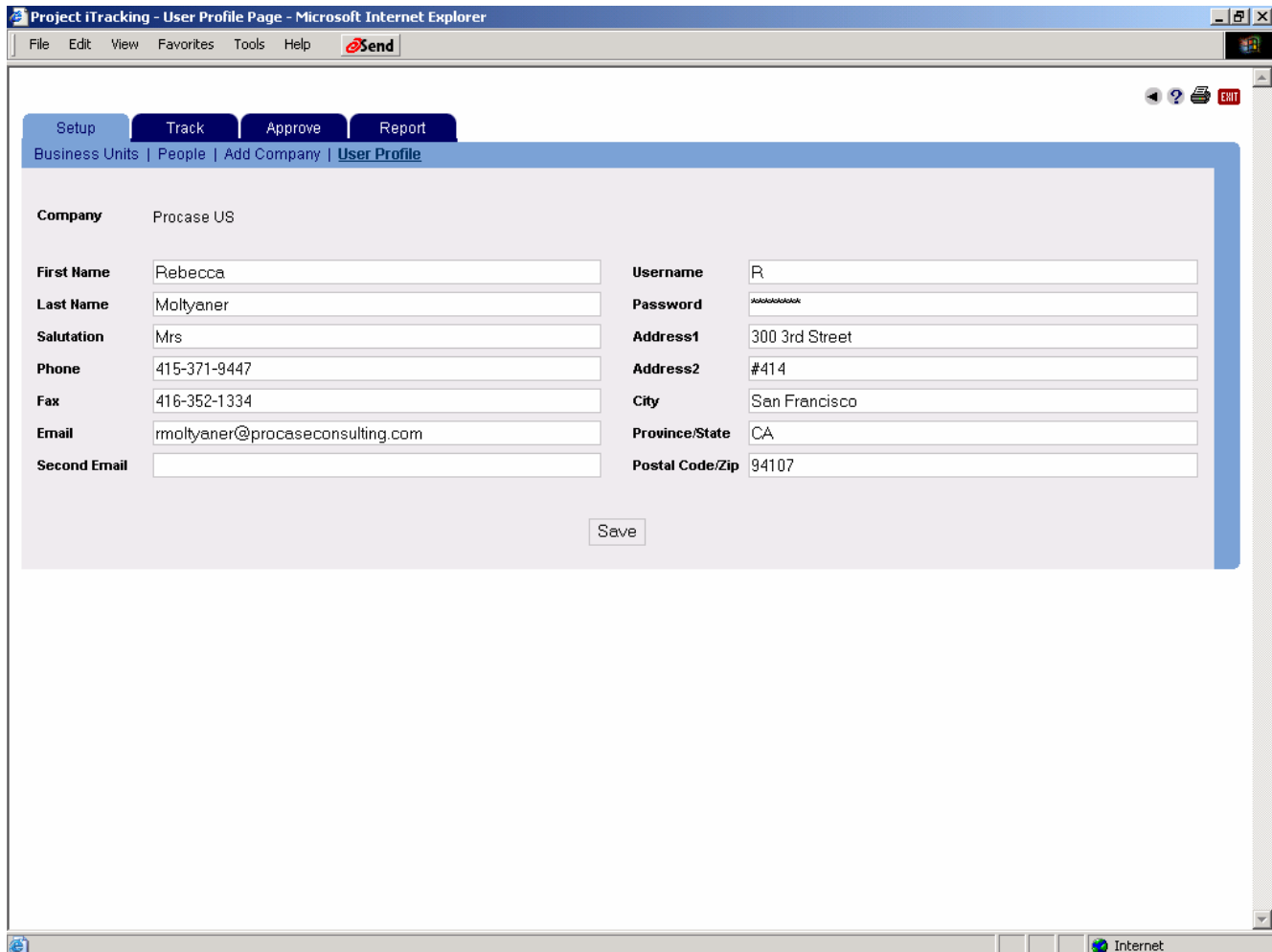
Set-up Reports

- Business Units and Projects
- Business Unit People
- Employee Admin and Project Roles
- Client Contact
- Fiscal Calendar and Statutory Holidays

3 Application Overview

3.1 User Interface

User interface has been designed to be user-friendly, consistent, and efficient. Four main tabs represent the four application modules. A user can click on any tab to jump to that module. Under each tab, there is a space for a sub-menu which is used to jump to a specific page within the module. Each page also has a toolbar in the top right corner which includes on-line help.

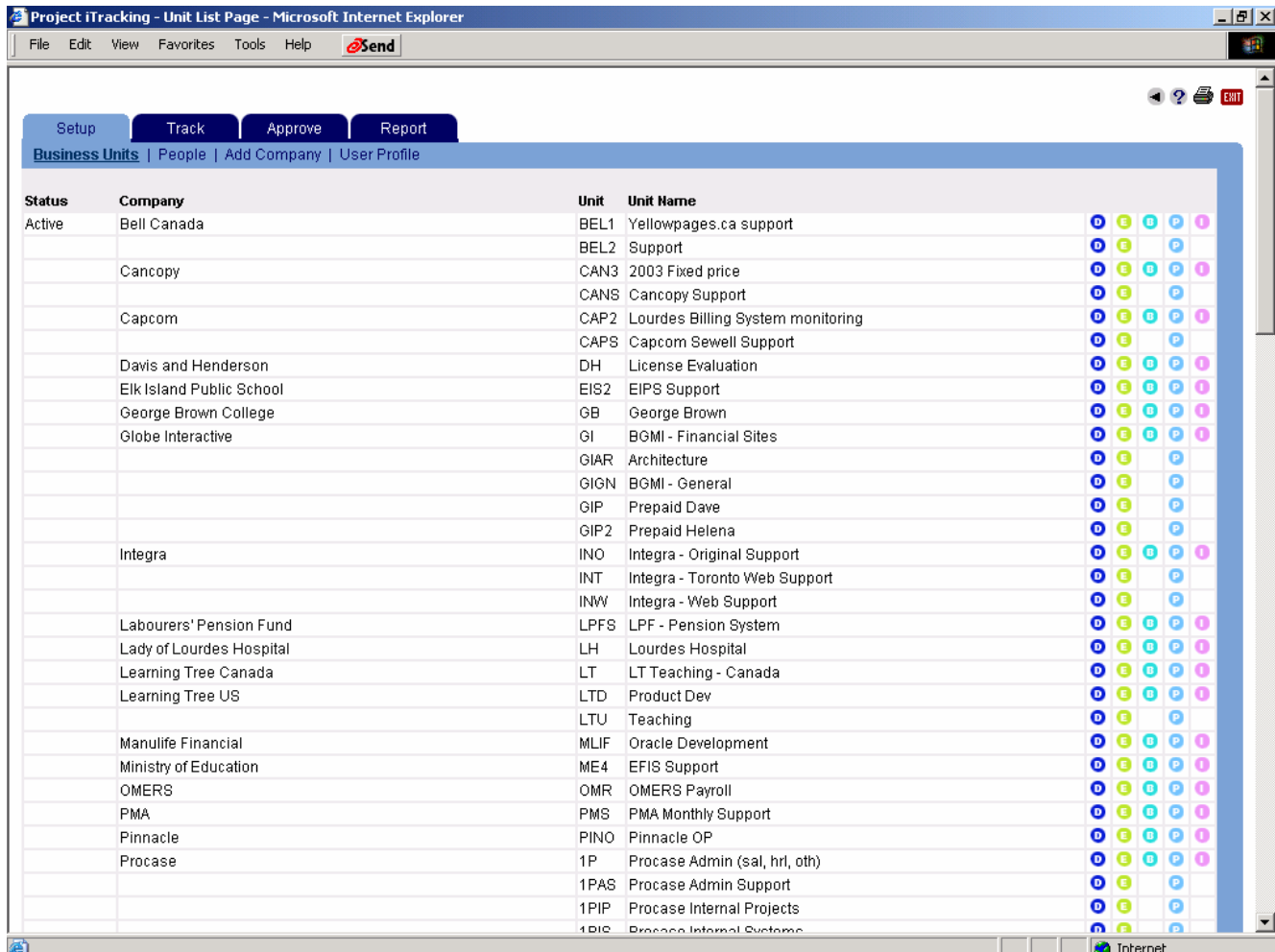


3.2 Set-up Module

3.2.1 List Pages

List pages provide an easy way to locate required data. Each row contains buttons used to access other pages. Example of Business Units List page.

Button	Function	Description
D	Delete Business Unit or Company	Delete business unit. If business unit does not exist, delete company. Displayed only if user type is admin because only admin is allowed to delete business units.
E	Edit Company & Business Unit	Goes to Business Unit page for this company and business unit. If business unit does not exist, it can be added on that page.
B	Add Business Unit	Goes to Business Unit page for this company. Used to add additional business units. Displayed only on the first row for a company and only if another business unit exists.
P	Edit Projects	Goes to Projects page for this business unit. Displayed only if business unit is active.
I	Add Person	Goes to Person page for this company. Displayed only if company exists and is active.



3.2.2 Edit Pages

Edit pages provide an easy way to insert, update and delete data. Example of Edit Business Unit Roles page. After defining project roles, the user would normally jump to Edit Projects page to setup projects within the Business Unit.

Project iTracking - Unit Page - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Setup Track Approve Report

Business Units | People | **Add Company** | User Profile

Info: Information Saved!

Company **Unit**
Country **Unit Name**
Currency **Start Date**
Vendor **End Date**

Role	Person	Start Date	End Date	Rate
Team Member	Francis Tan	01-Jan-2002		120.00
<input type="text" value="Team Member"/>	<input type="text" value="Igor Balabanov"/>	01-Dec-2002	01-Feb-2004	120.00
<input type="text" value="Team Member"/>	<input type="text" value="Andrew Okimi"/>	01-Jan-2002		145.00
<input type="text" value="Team Member"/>	<input type="text" value="Bryan Boulton"/>	01-Jan-2002		120.00
<input type="text" value="Team Member"/>	<input type="text" value="Nasser Kazi"/>	01-Jan-2002		120.00
<input type="text" value="Reviewer"/>	<input type="text" value="Bryan Boulton"/>	01-Jan-2002		
<input type="text" value="View"/>	<input type="text" value="Eric Farquharson"/>	01-Jan-2002		
<input type="text" value="Client"/>	<input type="text" value="Client-David George"/>	01-Jan-2002		
<input type="text" value="Client"/>	<input type="text" value="Client-Michelle Lozon"/>	01-Jan-2002		
<input type="text"/>	<input type="text"/>			
<input type="text"/>	<input type="text"/>			
<input type="text"/>	<input type="text"/>			
<input type="text"/>	<input type="text"/>			
<input type="text"/>	<input type="text"/>			

Done Internet

3.3 Track Module

3.3.1 Enter/Approve Time and Expenses

This is the most commonly used page in the application. It allows employees to quickly enter their time and expenses during the week. It is also used by managers and admin to edit, approve or reject timesheets. In this example admin is editing a closed timesheet. Remarks are also used to as a simple communication tool.

Project iTracking - Track Page - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Setup Track **Approve** Report

Garry Chan 26-Jan-2004 to 01-Feb-2004, Closed

Remarks

Unit-Project	Task	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
1PSS-Pre-Sales	Sales support; RPF; AC	0.50	1.00		1.00	2.00			4.50
LPFS-12 Pension Calc	Training: preparation and presentation, and issues review	0.50							0.50
WW-EE Dev	EE changes to include FSA data		1.50	1.00	1.00				3.50
WW-FSA Claims UI	EOB generation, data cleanup	2.00	1.00						3.00
WW-FSA Claims UI	Monthly statement design	2.00	1.50	2.00	2.00				7.50
WW-FSA Claims UI	Project management	4.00	4.00	4.00	4.00	6.00			22.00
WW-FSA Partner	Provider network support			1.00					1.00
Total		9.00	9.00	8.00	8.00	8.00	0.00	0.00	42.00

Unit	Expense	Description	Bill Cur	Exch	Mon	Tue	Wed	Thu	Fri	Sat	Sun	GST	Total
1P	Car/Gas	SF gas	<input type="checkbox"/> US	1.305			27.10						35.37
1P	Per Diem	WW per diem	<input type="checkbox"/> CN	1.000	50.00	50.00	50.00	50.00	50.00	50.00	50.00	22.90	350.00
1P	Phone	SF phone	<input type="checkbox"/> US	1.305			33.36						43.53
			<input type="checkbox"/>										
			<input type="checkbox"/>										
Total					50.00	50.00	128.90	50.00	50.00	50.00	50.00	22.90	428.90

Save and Reject Save and Close

3.3.2 View Time and Expenses

Employees and managers can see a complete history of timesheets but cannot edit them once they have been submitted or closed. In this example a manager is viewing a closed timesheet. Users can use the calendar feature to quickly access a historical week. A manager can use the drop down list to quickly switch to a different employee.

Project iTracking - Track Page - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Setup Track **Approve** Report

Garry Chan 26-Jan-2004 to 01-Feb-2004, Closed

Unit-Project	Task	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
1PSS-Pre-Sales	Sales support, RPF, AC	0.50	1.00		1.00	2.00			4.50
LPFS-12 Pension Calc	Training: preparation and presentation, and issues review	0.50							0.50
WW-EE Dev	EE changes to include FSA data		1.50	1.00	1.00				3.50
WW-FSA Claims UI	EOB generation, data cleanup	2.00	1.00						3.00
WW-FSA Claims UI	Monthly statement design	2.00	1.50	2.00	2.00				7.50
WW-FSA Claims UI	Project management	4.00	4.00	4.00	4.00	6.00			22.00
WW-FSA Partner	Provider network support			1.00					1.00
Total		9.00	9.00	8.00	8.00	8.00	0.00	0.00	42.00

Unit	Expense	Description	Bill Cur	Exch	Mon	Tue	Wed	Thu	Fri	Sat	Sun	GST	Total
1P	Car/Gas	SF gas	US	1.305			27.10						35.37
1P	Per Diem	WW per diem	CN	1.000	50.00	50.00	50.00	50.00	50.00	50.00	50.00	22.90	350.00
1P	Phone	SF phone	US	1.305			33.36						43.53
Total					50.00	50.00	128.90	50.00	50.00	50.00	50.00	22.90	428.90

Done Internet

3.4 Approve Module

Approve page is an easy way for managers to review, approve or reject timesheets. Managers see a list of all employees they have access to but have a check box only beside the employees they must approve. To approve employees they simply click on one or more check boxes and press the save button.

This page is also used by managers for daily/weekly project monitoring. It summarizes hours into 4 major categories: project hours, vacation hours, sick hours and other hours. Total hours are the sum of these 4 categories and are highlighted in red if they are below 40. Expenses are summarized into billable and other expenses. Thus managers, use this page as a control panel. If they want to research specific hours or expenses further, they simply click on a person's name to go to the detailed timesheet for the week.

Project iTracking - Approve Page - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Setup Track **Approve** Report

09-Feb-2004 to 15-Feb-2004

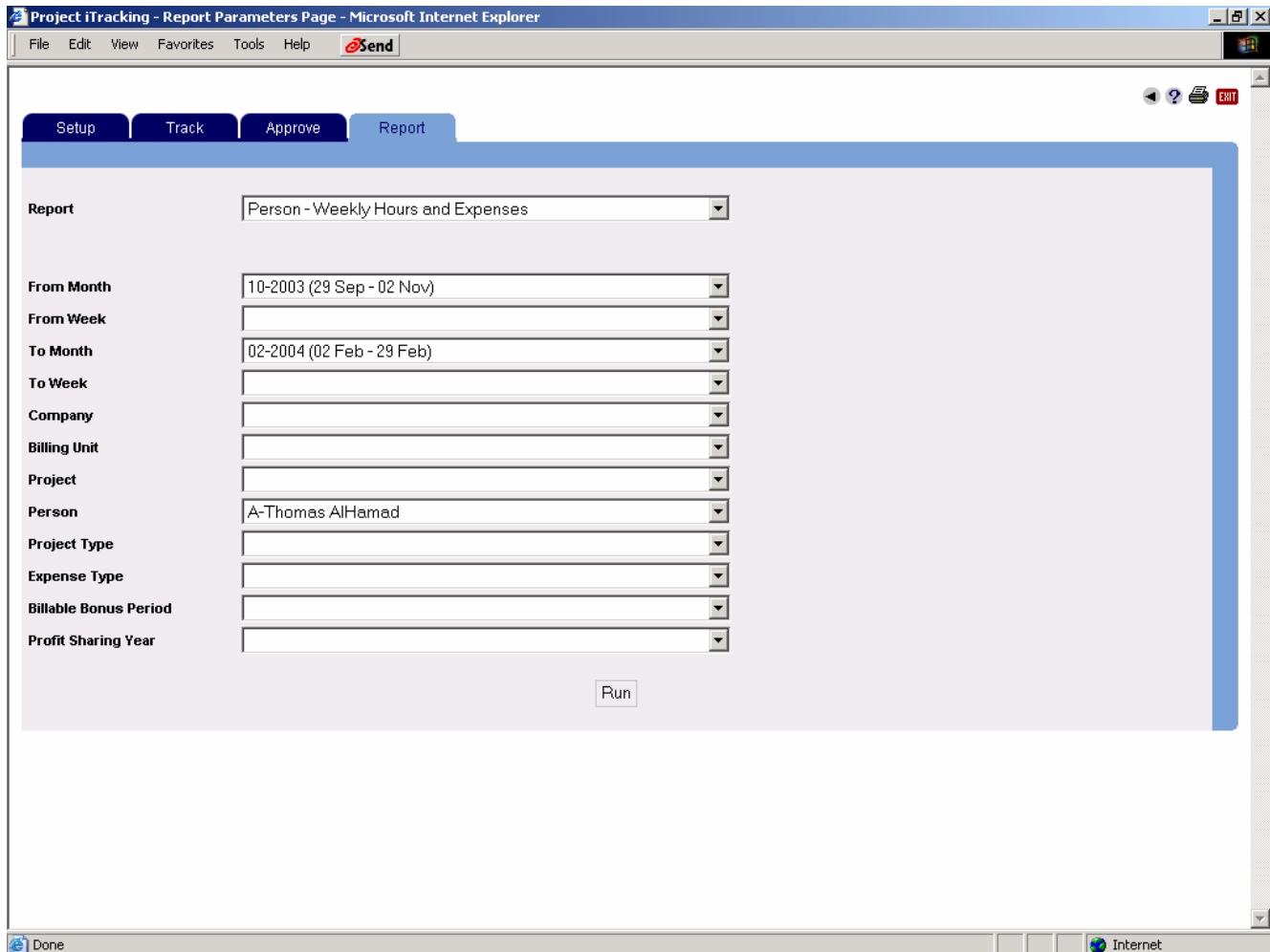
OK?	Status	Name	Proj	Vac	Sick	Other	Total	On Hol	Bill Exp	Oth Exp	Remark
<input type="checkbox"/>	Draft	Eric Lu	24.00				24.00				
<input type="checkbox"/>	Draft	Thomas AlHamad	42.50				42.50				
<input type="checkbox"/>	Draft	Yitao Long	32.00				32.00				
	None	Michael Schneider									
	Draft	Bryan Boulton	32.50				32.50				
	Draft	Garry Chan	39.20			1.60	40.80				
	Draft	Nasser Kazi	7.50				7.50				
	Approved	Andrew Okimi	40.00			2.00	42.00		643.01	1.00	Not in office Tues PM
Total			217.70	0.00	0.00	3.60	221.30	0.00	643.01	1.00	

Save

3.5 Report Module

3.5.1 Report Submission

This page is used to launch all reports and extracts. Parameters are refreshed each time a user selects a different report. Majority of the reports allow the user to leave all parameters blank. Months are defaulted to limit the output. The report engine is table driven. Thus additional reports can be added without any changes to the front end.



3.5.2 Sample PDF Report

Acrobat Reader - [Person - Weekly Hours and Expenses[1].pdf]

File Edit Document View Window Help

PROCASE

Person - Weekly Hours and Expenses
29-Sep-2003 to 29-Feb-2004

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Person	Week	Proj Hrs	Vac Hrs	Sick Hrs	Other Hrs	Total Hrs	Bill Exp	Other Exp	Total Exp
Thomas AlHamad	29-Sep-03	44.50			9.00	53.50	470.00		470.00
	06-Oct-03	32.00	8.00		1.00	41.00			
	13-Oct-03	33.00			1.00	34.00			
	20-Oct-03	51.50			5.00	56.50			
	27-Oct-03	46.50			2.00	48.50	525.00		525.00
	03-Nov-03	18.50	24.00			42.50			
	10-Nov-03	48.50			4.00	52.50	280.54		280.54
	17-Nov-03	46.50			5.00	51.50	284.37		284.37
	24-Nov-03	41.00				41.00			
	01-Dec-03	40.00				40.00			
	08-Dec-03	47.00				47.00			
	15-Dec-03	47.00				47.00			
	22-Dec-03	27.50				27.50			
	29-Dec-03	12.00		24.00		36.00			
	05-Jan-04	42.50			8.00	50.50			
	12-Jan-04	42.50			10.00	52.50	516.00		516.00
	19-Jan-04	42.50				42.50			
	26-Jan-04	42.50				42.50			
	02-Feb-04	42.50				42.50			
09-Feb-04	42.50				42.50				
Total		790.50	32.00	24.00	45.00	891.50	2,075.91		2,075.91
Grand Total		790.50	32.00	24.00	45.00	891.50	2,075.91		2,075.91

124% 1 of 1 11 x 8.5 in

3.5.3 Sample XLS Extract

Microsoft Excel - Company - Time Details Extract[2].xls														
File Edit View Insert Format Tools Data Window Help														
Arial 10 Style... Normal														
Page Setup... Print Preview Help Series... All fx Σ New Window Arrange... Delete Sheet Paste Special...														
A1 = Unit														
Unit	Week	Person	Rate	Project	Task	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Tot	Fees
2	GB	08-Dec-03	Thomas AlHamad	115.00	Web Registration	GB : meeting, introduce to new environment, analyze the problems			6.00				6.00	630.00
3	GB	08-Dec-03	Thomas AlHamad	115.00	Web Registration	GB student registration packages walk through			3.00				3.00	345.00
4	GB	08-Dec-03	Thomas AlHamad	115.00	Web Registration	Register and De-register students for courses getting no available seats				8.00	8.00		16.00	1840.00
5	GB	08-Dec-03	Yitao Long	115.00	Web Registration	Resolve deregistration issue			8.00				8.00	920.00
6	GB	15-Dec-03	Thomas AlHamad	115.00	Web Registration	CONED shopping walk through for Public course listings	3.00	3.00					6.00	690.00
7	GB	15-Dec-03	Thomas AlHamad	115.00	Web Registration	GB : Report for timetable students	3.00						3.00	345.00
8	GB	15-Dec-03	Thomas AlHamad	115.00	Web Registration	GB student registration packages walk through	1.00						1.00	115.00
9	GB	15-Dec-03	Thomas AlHamad	115.00	Web Registration	Student registration problem (fetch more than 1 record)	1.00						1.00	115.00
10	GB	15-Dec-03	Thomas AlHamad	115.00	Web Registration	Data model documentation for understanding data work flow		5.00					5.00	575.00
11	GB	15-Dec-03	Thomas AlHamad	115.00	Web Registration	Requirements meeting			2.00				2.00	230.00
12	GB	15-Dec-03	Thomas AlHamad	115.00	Web Registration	Timetable analysis			6.00	8.00	8.00		22.00	2530.00
13	GB	22-Dec-03	Thomas AlHamad	115.00	Web Registration	Timetable analysis/development and design	8.00	8.00	8.00				24.00	2760.00
14	GB	29-Dec-03	Thomas AlHamad	115.00	Web Registration	Timetable development and design	8.00						8.00	920.00
15	GB	05-Jan-04	Thomas AlHamad	115.00	Web Registration	Timetable development and design	8.00	8.00	8.00				30.00	3450.00
16	GB	05-Jan-04	Thomas AlHamad	115.00	Web Registration	Meet and review new requirements and fixes				2.00			2.00	230.00
17	GB	05-Jan-04	Thomas AlHamad	115.00	Web Registration	Documentation and release control						3.00	3.00	345.00
18	GB	05-Jan-04	Thomas AlHamad	115.00	Web Registration	Waiting list courses analysis					5.00		5.00	575.00
19	GB	05-Jan-04	Yitao Long	115.00	Web Registration	Item 3: add display of failed course for BCA students	4.00	8.00					12.00	1380.00
20	GB	05-Jan-04	Yitao Long	115.00	Web Registration	Worked on viewing pre-schedule time table: javascripts	4.00						4.00	460.00
21	GB	05-Jan-04	Yitao Long	115.00	Web Registration	Item 10: Staff course searching process			8.00	4.00	8.00		20.00	2300.00
22	GB	05-Jan-04	Yitao Long	115.00	Web Registration	Tech Meeting with Lidia, Thomas and Maria				2.00			2.00	230.00
23	GB	05-Jan-04	Yitao Long	115.00	Web Registration	Fix PROD bug				2.00			2.00	230.00
24	GB	12-Jan-04	Yitao Long	115.00	Web Registration	Item 10: Worked on course search display page	8.00	4.00					12.00	1380.00
25	GB	12-Jan-04	Yitao Long	115.00	Web Registration	Item 10: Worked on time conflicting function			8.00				8.00	920.00
26	GB	12-Jan-04	Yitao Long	115.00	Web Registration	Item 10: Worked on registration page		4.00		4.00			8.00	920.00
27	GB	12-Jan-04	Yitao Long	115.00	Web Registration	Unit Testing				4.00	8.00		12.00	1380.00
28	GB	19-Jan-04	Thomas AlHamad	115.00	Web Registration	Web registration requirements analysis and documentation	8.00	8.00					16.00	1840.00
29	GB	19-Jan-04	Thomas AlHamad	115.00	Web Registration	Admission analysis and document design			8.00	8.00	8.00		24.00	2760.00
30	GB	19-Jan-04	Yitao Long	115.00	Web Registration	Testing Staff Course Searching Pages	8.00				4.00		12.00	1380.00
31	GB	19-Jan-04	Yitao Long	115.00	Web Registration	Business requirement discussion with Melisa		2.00					2.00	230.00
32	GB	19-Jan-04	Yitao Long	115.00	Web Registration	Worked on Min. Payment Requirement for Adv. student		6.00	4.00				10.00	1150.00
33	GB	19-Jan-04	Yitao Long	115.00	Web Registration	Worked on alert to select English course			4.00	8.00			12.00	1380.00
34	GB	19-Jan-04	Yitao Long	115.00	Web Registration	Display failed course info					2.00		2.00	230.00
35	GB	19-Jan-04	Yitao Long	115.00	Web Registration	Meeting with Lidia (GBC)					2.00		2.00	230.00
36	GB	26-Jan-04	Thomas AlHamad	115.00	Web Registration	Admission analysis and document design		8.00	8.00	8.00	8.00		32.00	3680.00
37	GB	26-Jan-04	Yitao Long	115.00	Web Registration	Worked on Fee Payment Information Pages				4.00	8.00		12.00	1380.00
38	GB	26-Jan-04	Yitao Long	115.00	Web Registration	Worked on returning student major multiple choices page		8.00	6.00	4.00			18.00	2070.00
39	GB	26-Jan-04	Yitao Long	115.00	Web Registration	Worked on alert to select English course	4.00						4.00	460.00
40	GB	26-Jan-04	Yitao Long	115.00	Web Registration	Worked on Massege displaying on timetable page			2.00				2.00	230.00
41	GB	26-Jan-04	Yitao Long	115.00	Web Registration	Implemented stopping withdrawn student from registration	4.00						4.00	460.00
42	GB	02-Feb-04	Thomas AlHamad	100.00	Web Registration	Admission analysis,document design and partial file fixing problem	8.00	8.00	8.00	8.00	8.00		40.00	4000.00
43	GB	02-Feb-04	Yitao Long	100.00	Web Registration	Worked on message for Eng/Math course selection	4.00						4.00	400.00
44	GB	02-Feb-04	Yitao Long	100.00	Web Registration	Worked on displaying timetable page	4.00						4.00	400.00
45	GB	02-Feb-04	Yitao Long	100.00	Web Registration	Testing on Fee Payment Information Pages		8.00	6.50				14.50	1450.00
46	GB	02-Feb-04	Yitao Long	100.00	Web Registration	Meeting with Lidia and Melisa					2.00		2.00	200.00
47	GB	02-Feb-04	Yitao Long	100.00	Web Registration	Worked on alert to select English course					2.00		2.00	200.00