
Case Study for *Freight Management System*

For

Verve Systems Pvt. Ltd.

Ver 1.0 Draft

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1. Revision History

Ver	Date	Description	Author(s)	Approved by /Date (dd.mm.yyyy)
1.0	14/10/2009	Case study document	Ravi Ranjan	

2. Freight Management System

2.1. Overview

2.1.1. Client Introduction

Our client is Australia's leading software solution provider in Logistics & transportation sector. Verve Systems is their preferred vendor to create various solutions right from business intelligence, human resource management, performance management, project management etc.

2.1.2. Project Introduction

Transportation Application is a web based Freight Management system which offers every service connected to the transportation of goods, business to business; anywhere in Australia and overseas. The personalized attention is provided to every user with the "care for you" factor. This web based system has simplified the process of generation of quotations for the broker for their clients by reducing the time and thus increasing their productivity.

2.2. Requirement/ Need

Our Client needed to develop an application which could provide a single platform to end user in order to find, compare and select the services & charges of various service providers for transportation of goods within Australia and/or Overseas. The requirement was to develop an application which could provide the widest range of choice and flexibility in the freight business which could work like an interface between the end client and the freight service providers. From this interface the users can enter their requirement and choose the service providers from the list and a collective quotation is generated as a pdf document. The user can finalize any service provider based on the competitive prices and the services (such as insurance, track & trace etc.) .

As the USP of this application was to providing the best possible services at the most economic pricing, so there need to have an administrative section where all the details including Transport company, Insurance details, service details, Post code details, Zone details, Rate details, Item details, User details, Client details, Remote location details, Over dimensional surcharge, Import Zone/Rate, and Zone checker tools can be managed.

2.3. Solution

2.3.1. Screenshots: Welcome Page



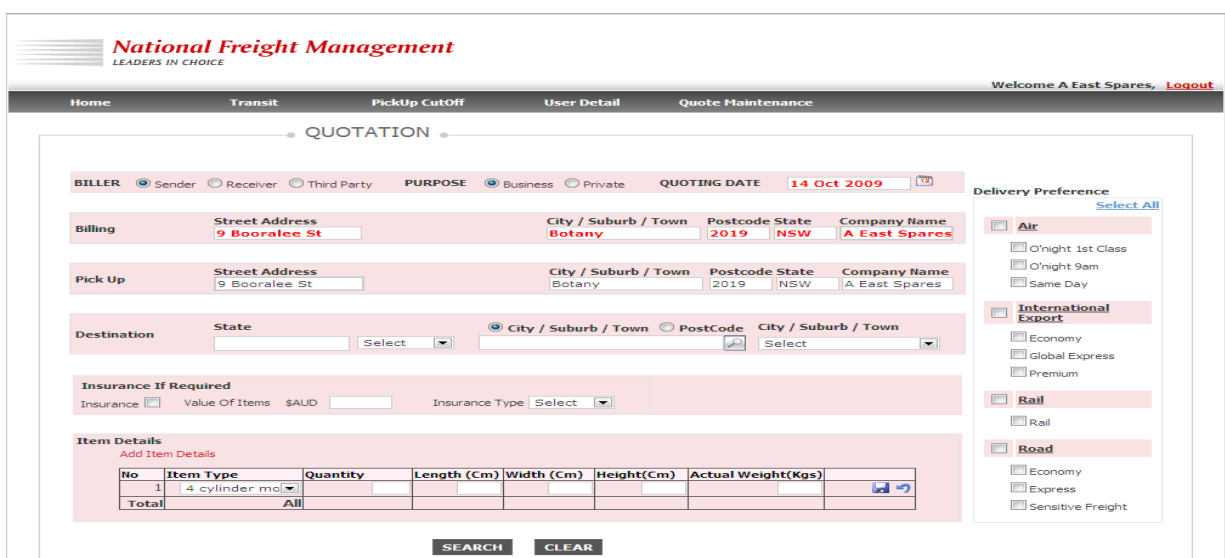
The screenshot shows the National Freight Management website's welcome page. The header includes the company logo and navigation links: Home, About us, Disclaimer, and Contact us. The main banner features a truck and a person at a computer, with the tagline "The Easy Way to Transport Goods Business to Business." Below the banner is a navigation menu with links: HOME, FREIGHT FORWARDERS, WHY USE US, CONSIGNMENT NOTE, FREIGHT TIPS, TRANSIT INSURANCE, and CONTACT US. The page is divided into several sections:

- MEMBER LOGIN:** A form with fields for User Name and Password, a LOGIN button, and links for New Client Sign Up and Forgot Username/Password?
- WELCOME TO NATIONAL FREIGHT MANAGEMENT:** A central text area providing an overview of services and a "read more" link.
- WHY USE NATIONAL FREIGHT MANAGEMENT?:** A bulleted list of benefits, including 22 years of experience and a global network of carriers.
- NEWS & EVENTS:** A section for updates, featuring a news item from 28 July, 2008.
- Freight Modes:** A row of icons representing different transport methods: AIR FREIGHT, SEA FREIGHT, ROAD FREIGHT, RAIL FREIGHT, and GLOBE FREIGHT.

At the bottom, there is a copyright notice for 2007-2008 and a page counter showing 010180.

The welcome screen provides the interactive interface for the users with an option to login with the user-id and password to find the services & Price quotations. A new user can sign up as well. The welcome screen provides the necessary information to the users such as details of Freight forwards and their services, mechanism of consignment charges, Freight tips, details of the transit insurance and the contact details.

2.3.2. Screenshots: Post Login Page



The screenshot shows the National Freight Management website's post-login interface, specifically the "QUOTATION" page. The header includes the company logo and navigation links: Home, Transit, PickUp CutOff, User Detail, Quote Maintenance, and a user-specific welcome message: "Welcome A East Spares, Logout".

The main content area is titled "QUOTATION" and contains several sections:

- BILLER:** Radio buttons for Sender, Receiver, and Third Party.
- PURPOSE:** Radio buttons for Business (selected) and Private.
- QUOTING DATE:** A date field set to 14 Oct 2009.
- Billing:** Fields for Street Address (9 Booralee St), City / Suburb / Town (Botany), Postcode (2019), State (NSW), and Company Name (A East Spares).
- Pick Up:** Fields for Street Address (9 Booralee St), City / Suburb / Town (Botany), Postcode (2019), State (NSW), and Company Name (A East Spares).
- Destination:** Fields for State, City / Suburb / Town, and PostCode.
- Insurance If Required:** Fields for Insurance (checkbox), Value OF Items, SAUD, and Insurance Type.
- Item Details:** A table with columns: No, Item Type, Quantity, Length (Cm), Width (Cm), Height (Cm), and Actual Weight (Kgs). The table shows one item: "4 cylinder mo" with a quantity of 1. A "Total" row is also present.
- Delivery Preference:** A section with "Select All" and checkboxes for various options: Air (O'night 1st Class, O'night 9am, Same Day), International Export (Economy, Global Express, Premium), Rail (Rail), and Road (Economy, Express, Sensitive Freight).

At the bottom, there are "SEARCH" and "CLEAR" buttons.

This is the personalized login page for the user from where they can submit their requirement according to the various options available to choose from. User has the flexibility to choose from the

various mode of shipping such as Airways, Rail, Ship or Road or can simply select all. Moreover, in this post login page user gets the link to various other options such as transit, pickup cutoff, user details and quote maintenance.

2.3.3. Screenshots: Calculated Quote

CALCULATED QUOTE						
Transport Company: TNT Phone1: 13 11 50 City(Phone): ADELAIDE (13 11 50) BRISBANE (13 11 50) CANBERRA (13 11 50) DARWIN (13 11 50) PERTH (13 11 50) SYDNEY (13 11 50)						
SERVICE	TRANSIT TIME	CHARGE WEIGHT	QUOTE	GST	TOTAL	
Air (O'night 1st Class)	1 Day (s)	102 Actual	\$ 81.87	\$ 8.19	\$ 90.05	<input type="checkbox"/>
Road (Express)	1 Day (s)	102 Actual	\$ 47.57	\$ 4.76	\$ 52.33	<input type="checkbox"/>
Air (O'night 9am)	1 Day (s)	102 Actual	\$ 114.51	\$ 11.45	\$ 125.97	<input type="checkbox"/>
Air (Same Day)	1 Day (s)	102 Actual	\$	\$	\$	<input type="checkbox"/>
Transport Company: TNT EXPRESS Phone1: 13 11 50 City(Phone): ADELAIDE (13 11 50) BRISBANE (13 11 50) CANBERRA (13 11 50) DARWIN (13 11 50) PERTH (13 11 50) SYDNEY (13 11 50)						
SERVICE	TRANSIT TIME	CHARGE WEIGHT	QUOTE	GST	TOTAL	
Road (Express)	1 Day (s)	102 Actual	\$ 51.48	\$ 5.15	\$ 56.63	<input type="checkbox"/>
Transport Company: DIRECT FREIGHT EXPRESS Phone1: 03 9303 1300 City(Phone): ADELAIDE (08 8182 5999) BRISBANE (07 3714 5000) PERTH (08 9365 6444) SYDNEY (02 9721 8100)						
SERVICE	TRANSIT TIME	CHARGE WEIGHT	QUOTE	GST	TOTAL	
Road (Express)	1 Day (s)	102 Actual	\$ 70.73	\$ 7.07	\$ 77.81	<input type="checkbox"/>

Based on the requirement submitted by the user this system calculates the quote with various details from all available service providers whoever meets the client requirement. From this table user can select any service provider to get an autogenerated quotation in PDF format and further more the request is sent to the administrator for further proceedings.

2.3.4. Screenshot: Admin Login

National Freight Management
LEADERS IN CHOICE

Welcome BRYANT PARSONS (Admin), Logout

Home Admin Quotation

Client Details

Client Name: AA Automotive SEARCH Add Client

No	Client Name	Password	First Name	Last Name	Company Name	Status	Selected Transport Companies
1	AA Automotive	aaa4988	Adrian		AA Automotive	Active	Select
2	A & R Auto Spares	a8r115	Chris/Richard		A & R. Auto Spares	Active	Select
3	A East Spares	aeast121	Tony		A East Spares	Active	Select
4	A1 Jap Auto Parts	jap116	Bruce/Debbie		A1 Jap Auto Parts	Active	Select
5	A1 PANEL & PAINT	A1PANEL4982	VICKI & WAYNE	POTHECARY	A1 PANEL & PAINT	Active	Select
6	AA automotive	aaa988	Adrian	Akhurst	AA automotive	Active	Select
7	AAA Automotive Spare	aaa117	Sam		AAA Automotive Spares	Active	Select
8	ABC Spares	abc118	JASON / CRAIG		ABC Spares	Active	Select
9	ABCO SPARES	ABCO7334	MATHEW / CHRIS		ABCO SPARES	Active	Select
10	ACCESS AUTO WORKS	ACCESS1311	STEVE / JASON		ACCESS AUTO WORKS	Active	Select
11	AD Prestige	adp119	Abdul		AD Prestige	Active	Select
12	adelaide z cars	twodogs	Nick		Adelaide Z Cars	Active	Select
13	ADRIAN BLACKEBY	ADRIAN442	ADRIAN		ADRIAN BLACKEBY	Active	Select
14	AFFORDABLE TABLE TENNIS	ANDREA	ANDREA		AFFORDABLE TABLE TENNIS	Active	Select
15	Agnova Technologies	agnova123	Andrew Watson		Agnova Technologies	Active	Select

Block/UnBlock Clients

Block/UnBlock all clients access to site: BLOCK CLIENTS

This is the home page for Admin login where the list of all clients can be maintained and managed. In this Client management section the administrator can Add/Edit/Delete/Search and Block/Unblock the clients.

2.3.5. Screenshot: Administrative Panel

National Freight Management
LEADERS IN CHOICE

Welcome BRYANT PARSONS (Admin), Logout

Home Admin Quotation

Insurance Details

Transport Company Details

Insurance Details

Service Details

PostCode Details

Zone Details

Rate Details

Item Details

User Details

Client Details

Remote Location Details

Over Dimensional Surcharge

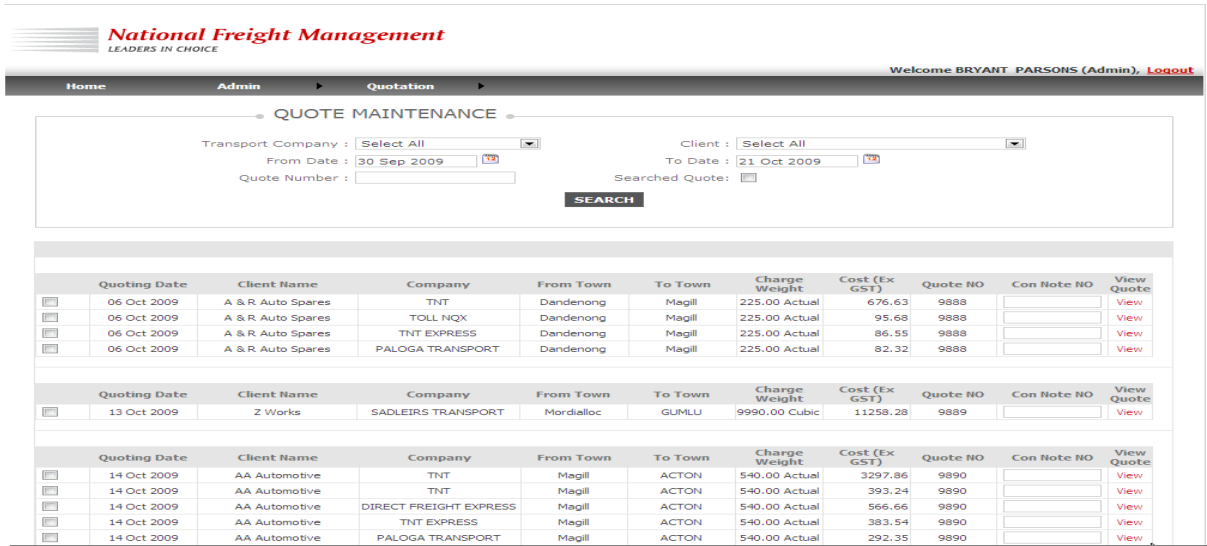
Import Zone / Rate

Zone Checker Tool

Insurance Name	Insurance Fee	Date	Status
UNRESTRICTED WARRANTY	1.25 %	06 Dec 2007	Active
UNRESTRICTED WARRANTY	6 %	06 Dec 2007	Active
UNRESTRICTED WARRANTY	1.25 %	08 Apr 2008	Active
UNRESTRICTED WARRANTY	6 %	08 Apr 2008	Active
TOLL EXTRA SERVICE	1 %	26 Aug 2008	Active

In the Admin login, The administrator can choose from the various sections to be managed from a drop down list under admin menu. The sections which can be managed from this administrative panel are Transport company details, Insurance details, service details, Post code details, Zone details, Rate details, Item details, User details, Client details, Remote location details, Over dimensional surcharge, Import Zone/Rate, and Zone checker tools. In these sections the administrator have the rights to Add/Edit/Delete/Search and activate/deactivate.

2.3.6. Screenshot: Administrative Panel-(Quote Maintenance)



National Freight Management
LEADERS IN CHOICE

Welcome BRYANT PARSONS (Admin). [Logout](#)

Home Admin Quotation

QUOTE MAINTENANCE

Transport Company : Client :

From Date : To Date :

Quote Number : Searched Quote:

Quoting Date	Client Name	Company	From Town	To Town	Charge Weight	Cost (Ex GST)	Quote NO	Con Note NO	View Quote	
<input type="checkbox"/>	06 Oct 2009	A & R Auto Spares	TNT	Dandenong	Magill	225.00 Actual	676.63	9888	<input type="text"/>	View
<input type="checkbox"/>	06 Oct 2009	A & R Auto Spares	TOLL HQX	Dandenong	Magill	225.00 Actual	95.68	9888	<input type="text"/>	View
<input type="checkbox"/>	06 Oct 2009	A & R Auto Spares	TNT EXPRESS	Dandenong	Magill	225.00 Actual	86.55	9888	<input type="text"/>	View
<input type="checkbox"/>	06 Oct 2009	A & R Auto Spares	PALOGA TRANSPORT	Dandenong	Magill	225.00 Actual	82.32	9888	<input type="text"/>	View
<input type="checkbox"/>	13 Oct 2009	Z Works	SADLEIRS TRANSPORT	Mordialloc	GUMLU	9990.00 Cubic	11258.28	9889	<input type="text"/>	View
<input type="checkbox"/>	14 Oct 2009	AA Automotive	TNT	Magill	ACTON	540.00 Actual	3297.86	9890	<input type="text"/>	View
<input type="checkbox"/>	14 Oct 2009	AA Automotive	TNT	Magill	ACTON	540.00 Actual	393.24	9890	<input type="text"/>	View
<input type="checkbox"/>	14 Oct 2009	AA Automotive	DIRECT FREIGHT EXPRESS	Magill	ACTON	540.00 Actual	566.66	9890	<input type="text"/>	View
<input type="checkbox"/>	14 Oct 2009	AA Automotive	TNT EXPRESS	Magill	ACTON	540.00 Actual	383.54	9890	<input type="text"/>	View
<input type="checkbox"/>	14 Oct 2009	AA Automotive	PALOGA TRANSPORT	Magill	ACTON	540.00 Actual	292.35	9890	<input type="text"/>	View

Another section which is available in this administrative panel is Quotation management. The administrators has the rights to add/edit/view/delete and export the Quote, manage the report format and exported quote.

2.3.7. Features

1. Freight Management System
2. Service comparison
3. Integrated consignment tracking system
4. Competitive prices
5. Clientele management
6. Zone and Postcode management
7. Item Management
8. Location management
9. Pricing Management
10. Multiple security layer
11. Report generation

2.4. Challenges

Scale complexity was the biggest challenge of the project because with the few numbers of quote requests it was quite easy to use any application but our client needed an application which could manage thousands of quote requests on one single platform.

Optimization of the process remains a very big challenge with any application and with this application it was also there as due to large amount of data processing it used to take several minutes for the processing but we put our best to bring it down to less than five seconds which was also a daunting challenge.

Another challenge with this application was to keep it simple and easy-to-use because with such a large volume of data and several functionalities included in the application were bound to make it complex and lessen its flexibility. And one of the requirement “personalized attention “was going to compound the challenge even further.

They needed the application flexible enough to be even integrated with external system too, which posed another big challenge. As System has to be integrated with myob.com and there might be the possibility that they must be using different database, so seamless integration feature had to be in the system which was quite a challenging task.

2.5. Technology Statistics

Development Tool: ASP. NET, C#, Crystal Reports

Database : MS SQL Server

2.6. Project Duration

6 Months