



Adventure Works Cycles Application Project

Functional Specification Summary

Adventure Works Cycles

Sales Automation and Web Site Enhancement

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Revision & Sign-off Sheet

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January 23, 2003	Yan Li	1.5	General updates and modifications to bring document inline with the project.

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1. Introduction

1.1 Project Overview

Customer satisfaction with Adventure Works Cycles seems to be declining. It is believed that there are two main reasons for this. The first is that customers are now used to the Internet and expect to be able to place orders and track orders without direct contact with Adventure Works Cycles or its employees. The second is that the Adventure Works Cycles sales staff is not being supported with accurate and timely information to enable them to be effective. To increase customer satisfaction, and better support the Adventure Works Cycles sales staff, the Adventure Works Cycles Application Project has been commissioned.

For more information about the details of the current environment and the needs of the business, please see the following documents:

- Interview with a Product Clerk.doc
- Interview with a Territory Sales Manager.doc
- Interview with a Web Customer.doc
- Interview with the CEO.doc
- Interview with the Human Resources Manager.doc
- Interview with the Information Services Manager.doc
- Interview with the Network Administrator.doc
- Interview with the Purchasing Manager.doc
- Interview with the Vice President of Engineering.doc
- Interview with the Vice President of Production.doc
- Shadow Report for a Sales Representative.doc

1.2 Background

Note: Many of the following sections begin with a list of related documents that contain the actual completed work for that section.

1.2.1. Key Business Processes and Activities

- AWC – Vision Scope.doc
- Use Cases (see document library on Dev01)
- Usage Scenarios (see document library on Dev01)

For an overview of the key business processes, see the Opportunity and Scope sections of AWC – Vision Scope.doc. More detailed documentation of the business process and activities that are involved in the Adventure Works Cycles application is

located in the Use Case and Usage Scenario document library that is housed on the Dev01 server.

1.2.2 Customer and User Profiles

- AWC – Actor Catalog.xls
- User Profiles.doc

Please refer to Actor Catalog.xls as the authoritative definition of each actor role to be used when modeling use cases, usage scenarios, and test scenarios. As is the standard practice for Contoso, User Profiles are developed to initially identify the user groups that will be affected by or involved with the Adventure Works Cycles application. At this point, users from multiple profiles may execute the same use case. As use case development begins in earnest after the Vision/Scope milestone, users are tracked as “actors” in the actor catalog. The actor catalog defines which user profile names will be used in use cases and describes their constituency.

1.3 Vision and Scope

1.3.1 Vision Statement

Over the next 2 years, we will double last year’s sales of bicycle products, while reducing costs and increasing customer satisfaction.

1.3.2 Scope

- AWC – Vision Scope.doc

For information about the scope of the project, see AWC – Vision Scope Document.doc.

1.4 Critical Success Factors

- AWC – Vision Scope.doc

To determine the success of the project, see the section Success Criteria in AWC – Vision Scope Document.doc.

1.5 Risk Assessment

- AWC – Risk Tool.doc
- AWC – Simple Risk Assessment.xls

For a detailed discussion of the risks associated with the project, and the associated risk mitigation strategies that have been identified, see AWC Simple Risk Assessment Tool.xls and AWC – Risk Tool.xls. This document is updated weekly (at a minimum)

and is owned by Yan Li, Principal Consultant and Program Manager for the Adventure Works Cycles Application Project.

2. Project Organization

2.1 Project Team

- AWC – Project Structure.doc

For a resource summary, a table showing the roles and responsibilities of team members, and a list of contacts, see AWC – Project Structure.doc.

2.2 Deliverables

- AWC – Project Structure.doc
- AWC – Project Plan.mpp

For a list of deliverables and baseline dates, see AWC – Project Structure.doc. The development plan for the majority of the deliverables resides in AWC – Project Plan.mpp.

3. Design Goals and Constraints

3.1 Performance

No more than a 5-percent degradation in average page response is allowed with each 100 concurrent users that are added to the system.

Processor utilization should not exceed 80 percent during spikes of 1000 concurrent users.

3.2 Availability

Because the Web site is accessed by customers across the world, it needs to be available 24 hours a day, 7 days a week.

3.3 Reliability

Because of the need for 24*7 availability, automatic failover will be required. In addition, existing disaster recovery and backup plans and procedures must be revised to incorporate the Adventure Works Cycles Application.

3.4 Scalability

Adventure Works Cycles anticipates an average load of 500 concurrent users after the system is fully operational, and expects that to grow by 5 percent each year for the next five years.

3.5 Security

For the Web Site Enhancement project, customers will need to log on securely, and sensitive information will be encrypted by using SSL.

For the Sales Force Automation project, no data encryption is required. Sales staff will need to log on, and their user names will be used to determine access to different parts of the system.

3.6 Interoperability

In Version 1.0 of the Adventure Works Cycles application, there are no requirements for interoperability with other systems.

3.7 Location

The Sales Force Automation project will be used by sales staff within Adventure Works Cycles locations. In addition, it will be used in disconnected mode with the information required by the sales staff being held in CE devices.

The Web Site Enhancement application will be used by customers using a range of browser clients in a variety of locations around the world.

3.8 Internationalization

The application needs to support international currencies, character sets, and date/time formats.

3.9 Setup/Installation

Setup and installation must not interrupt the sales staff's daily tasks and work flow.

3.10 Assumptions and Constraints

- AWC – Project Structure.doc

For information about assumptions made by the team in the preparation of the project plans and supporting documentation, see the Constraints section of AWC – Project Structure.doc.

3.11 Costs

- AWC – Project Structure.doc

Adventure Works Cycles has approved a version 1.0 cost of \$2,500,000.

3.12 Resources

- AWC – Project Structure.doc

For information about resources, see the Team Structure section of AWC – Project Structure.doc.

3.13 Schedule

- AWC – Project Structure.doc
- AWC – Project Plan.mpp
- The major milestones of the schedule for the project can be found in AWC – Project Structure.doc. The development plan for the majority of the deliverables resides in AWC – Project Plan.mpp.

4. Features/Functionality

- AWC – Requirements.xls
- AWC Use Cases - Intent.xls
- See Use Cases/Usage Scenarios

The following sections summarize features and functionality described by use case title. Please see AWC – Requirements.xls for the authoritative documentation of requirements for the Adventure Works Cycles application, and the list of usage scenarios that follows this section. A summary of the intention behind specific tasks can be found in the AWC Use Cases - Intent.xls.

4.1 Manage Orders

4.1.1 Description

This function will enable customers to place orders for Adventure Works Cycles products, track submitted orders, and view completed orders by using a Web browser.

4.1.2 Business Need

This function will enable customers to interact with Adventure Works Cycles catalog directly without the intervention of an Adventure Works Cycles employee.

4.1.3 Priority

High

4.2 Manage Products

4.2.1 Description

This function allows Adventure Works Cycles staff to create, maintain, and delete information about products in the product database that can then be browsed and ordered by customers, and accessed and downloaded by the sales staff.

4.2.2 Business Need

This function will support the sales staff with accurate and relevant information, and will also support the Manage Orders function by ensuring up-to-date product information.

4.2.3 Priority

High

4.3 Manage Contacts

4.3.1 Description

This function enables the sales staff to create and manage contacts as well as share contact information with the rest of the company.

4.3.2 Business Need

This function enables Adventure Works Cycles staff to have accurate and up-to-date contact information when working with customers.

4.3.3 Priority

Medium

4.4 Analyze Customers

4.4.1 Description

This function allows management to analyze the customer database and find out information, such as the identities of the best customers, the top buyers, and the most popular products.

4.4.2 Business Need

This function will allow management to determine the most (and least) profitable customers and product lines, enabling better decision making in the running of the business.

4.4.3 Priority

Medium

4.5 Forecast Sales

4.5.1 Description

This function allows management to plan and track production costs, track sales results, and plan sales staffing needs.

4.5.2 Business Need

This function will allow management to manage the revenue streams of the organizations and control costs.

4.5.3 Priority

Medium

4.6 Establish Sales Goals

4.6.1 Description

This function allows management to view current sales trends and employee performance and to determine sales goals for the sales staff within the organization.

4.6.2 Business Need

This function will allow management to set goals for staff, review the performance of staff members, and track employee performance.

4.6.3 Priority

Medium

4.7 Usage Scenarios

Usage scenarios that describe how users will use the solution within the context of the business are documented individually. For more information about usage scenarios, please see the following documents:

- Usage Scenario 04.5 Retrieve Customer Data.doc
- Usage Scenario 04.5.1 View Price Modifications.doc
- Usage Scenario 05.1 Order Product Specifications.doc
- Usage Scenario 05.1.1 Order Product Specs by Mail.doc
- Usage Scenario 05.1.2 Print Order Product Specs.doc
- Usage Scenario 05.1.3 View Product Specs Online.doc
- Usage Scenario 05.2 Track Order.doc
- Usage Scenario 05.3 Revise Order.doc
- Usage Scenario 05.4 Cancel Order.doc
- Usage Scenario 05.5.1 Apply Discount to Product.doc
- Usage Scenario 05.5.1.1 Request a Higher Level of Discount.doc
- Usage Scenario 05.7 Locate Nearest Sales Office.doc
- Usage Scenario 05.8 Get Help.doc
- Usage Scenario 05.8.1 Get Help from IM Session.doc
- Usage Scenario 05.8.2 Get Help from a Wizard.doc
- Usage Scenario 05.8.3 Get Help from FAQ.doc
- Usage Scenario 05.9 Create Order.doc
- Usage Scenario 05.9.2 Employee Creates Order with CE Device.doc
- Usage Scenario 06.1 View Catalog.doc
- Usage Scenario 06.1.1 Add Items in Catalog.doc
- Usage Scenario 06.1.2 Employee View Catalog.doc
- Usage Scenario 06.2 View Item Summary.doc
- Usage Scenario 06.3 View Item Detail.doc
- Usage Scenario 06.3.1 Edit Items in Catalog.doc
- Usage Scenario 06.5 Search Items in Catalog.doc

5. Solution Architecture

5.1 Infrastructure

New servers must be dual processor 1.26 GHz computers, with 1 GB of RAM. The operating system software will be Microsoft® Windows® 2000 with the latest service pack, although use of Windows Server 2003 will be considered when it is available. The database will be Microsoft SQL Server™ 2000, again with the latest service pack.

These servers will be installed on Adventure Works Cycles' existing network.

To help provide security of the Web Site Enhancement application, both an internal and external firewall will be installed. The internal firewall will be Microsoft ISA Server; the technology for the external firewall has not yet been selected.

5.2 Visual Design

For a Microsoft PowerPoint presentation outlining the user interface, see AWC – Ecommerce User Interface.ppt.

5.3 Conceptual Design

For information about the conceptual design of the Adventure Works Cycles application, please see the following documents:

- AWC – Requirements for Chapter 2.xls
- AWC – Requirements w/ questions.xls
- AWC – Use Cases Chapter 2.vsd
- AWC – Requirements Document – Chapter 3.xls
- AWC Use Cases – Chapter 3.vsd
- Business Rules Catalog.doc
- AWC – Requirements – Chapter 4.xls
- AWC Use Cases – Chapter 4.vsd
- AWC Use Cases – Intent.xls.

5.4 Logical Design

For more information about the logical design of the Adventure Works Cycles application, please see the following documents:

- Logical Business Object Model.vsd.
- AWC Service Matrix.doc
- CRC – On-Line Order Line Item.doc
- CRC – On-Line Order.doc
- CEC – Shopping Basket.doc
- SD 05.2 Track Order.vsd

- SD 05.5 Apply Discount to Order.vsd
- SD 05.7 Locate Nearest Sales Office.vsd
- SD 05.9 Create Order.vsd
- SD 06.1 View Catalog.vsd
- UC 01 Forecast Sales.vsd
- UC 02 Establish Sales Goals.vsd
- UC 03 Manage Contacts.vsd
- UC 04 Analyze Customers.vsd
- UC 05 Manage Orders.vsd
- UC 05.5 Apply Discount to Order.vsd
- UC 06 Manage Products.vsd
- The usage scenarios listed in section 4.7 Usage Scenarios of this document.

5.5. Physical Design

For more information about the physical object model of the Adventure Works Cycles application, please see the following documents:

- AWC Physical Object Model.vsd.
- Add Products to Catalog Sequence Diagram.vsd
- AWC – Network.vsd
- AWC – Requirements.xls
- AWC Component Packaging Strategy.doc
- AWC Component Topology.vsd
- AWC Schema for Orders and Catalog.vsd
- Order Class Model.vsd
- AWC – Ecommerce User Interface.ppt
- Adventure Works Data Dictionary.doc
- Adventure Works Data Schema.vsd
- Customers and related tables.vsd
- Employees and related tables.vsd
- Products and related tables.vsd
- Purchase and Related tables.vsd
- Sales and Marketing Specification.doc
- Sales and related Tables.vsd
- SalesTablesDefinitions.doc
- AWC Security Plan.doc
- AWC Technical Specification.doc
- AWC Test Plan.doc

6. Acceptance

Acceptance of the functional specification indicates that the requirements that are documented in this functional specification have been agreed to and understood. Acceptance by a role is demonstrated by a signature and date.

Table 1. *Roles and Responsibilities*

Role	Person	Signature	Date
Executive Sponsor	Geoff Grisso		
Product Manager	Heidi Steen		
Program Manager	Yan Li		
Design	Syed Abbas (Contoso) Mike Danseglio (Adventure Works Cycles)		
Development	Nicole Holliday (Contoso) Mike Danseglio (Adventure Works Cycles)		
Test / Quality Assurance	Maria Hammond		
User Education	Scott Cooper		
Logistics	Mary Baker		
User Acceptance	Scott Cooper		

7. Appendices

This section includes information that is produced during the course of the project that may be relevant to understanding the functional specification more completely. The information shown here is optional, but the project team should include pertinent information when it is needed.

7.1 Analysis

The project will be developed by using the Microsoft Solutions Framework (MSF). The analysis and design phases will be documented by using appropriate software tools and techniques.

Interviews with key stakeholders will be documented.

Standard UML outputs, such as use cases, usage scenarios, sequence diagrams, and Class Responsibility Collaboration (CRC) cards will be developed to document how the system will function and how users will interact with the system.

Object models, entity-relationship diagrams and a data dictionary will be developed to document the data requirements of the project.

7.2 Project Schedule

A Gantt chart, showing the project schedule, can be found in AWC – Project Structure.doc.

7.3 Quality Factors

All projects should have a quality plan developed for it by the Test/Quality Assurance role. This plan describes the quality factors that are most important to the customer, and they can help guide the project team when difficult decisions or tradeoffs must be made.