# Extending The Data Dictionary

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## Overview

One of the most highly anticipated features of Visual FoxPro has been it's data dictionary, but there weren't enough programmers in the world to implement all the features that developers would have liked. Realizing this, Microsoft intentionally structured the data dictionary with an open architecture so that developers could extend it as they needed. This session will discuss several aspects of extending the data dictionary.

First, we'll take a look at what essential features and functionality aren't included but should be part of your applications, and how to best fill those holes. Next, we'll discuss strategies for correctly extending the data dictionary to include additional functionality of your own, and point out what pitfalls to watch out for while doing so. Finally, we'll look at specific techniques for extracting data from the data dictionary structures that you'll need to know when working with the data dictionary.

# Data Dictionary Definition (Review)

## The Need for a Data Dictionary

## Requirements

Self-definition

Metadata repository

## Functionality

Active vs. Passive

Rebuilding

## Structure

Normalized vs. Flat File

Tools and Utilities

## Implementations in FoxPro 2.x

Stonefield Data Dictionary

FoxExpress

Tom Rettig's Office/XCatalog

Homegrown data dictionaries

# The Visual FoxPro DBC (Review)

## Structure and Contents

### Columns
OBJECTID

PARENTID

OBJECTTYPE

OBJECTNAME

PROPERTY

CODE

RIINFO

USER

### Rows
Self-descriptor

Transaction Log

Stored Procedures

Tables

Fields

Indexes

Relation

Views

## Why it's NOT a Complete Data Dictionary
Missing complete defintinitions of components

Additional meta-data required

## Holes to Fill

# Approaches to DBC Extensions

## Adding Rows and Columns to the DBC

### Adding Columns for Additional MetaData

The Mechanism

The Problem

### Using Additional Rows for non-DBC Elements

The Mechanism

The Problem

## Using the USER Field

Sample Mechanisms

The Problem

## Using a Separate Table

The General Concept

The EDC Mechanism

The DBCX Mechanism

Why Two Different Sets of Extensions?

# Tom Rettig's EDC

## The EDC Model

The EDC Table

EDC Methods

## Components

Contents of the EDC

Using the EDC Class Library

A Sample Extension

# DBCX (Flash, Micromega, Neon)

## The Shopping Cart Model

The Handle - The Project Manager or ???

The Cart - The DBCX Registry & Manager

The Wheels - Product Specific Extensions

## Implementation and Use

Contents of the DBCX

Using the Manager

A Sample Extension