Scanned Plat Viewer (SPV)

MapObjects LT (Lite) Application

MWGLAIUG 99 - Technical User Presentation

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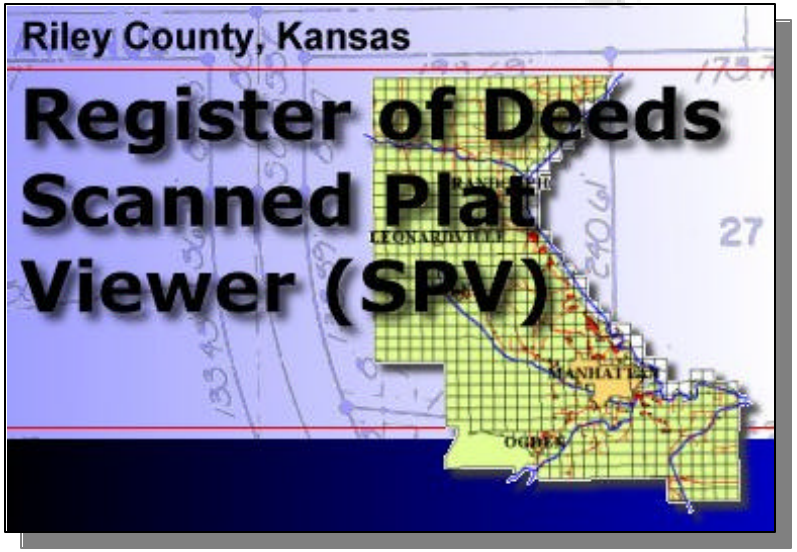
Introduction

- Why was the Scanned Plat Viewer Application written?
- What is the Scanned Plat Viewer Application?
- How was the Scanned Plat Viewer built?
- Thoughts on designing Visual Basic Applications



SPV: Why was it written?

- Register of Deeds - Charlotte Shawver
  - Provide quicker access to plat documents
  - Expedite customer service
- Public Works - Rod Meredith
  - Locate and permit utilities in subdivision easements
  - Plan, layout, and inventory signs and traffic control devices
  - Locate, analyze and permit new entrances
  - Locate drainage structures and waterways
- GIS Mapping
  - Reference plats to compile parcel information (i.e. streets widths, lot structure, annotation source)
  - Quality Control of parcel mapping

SPV: Why was it written?

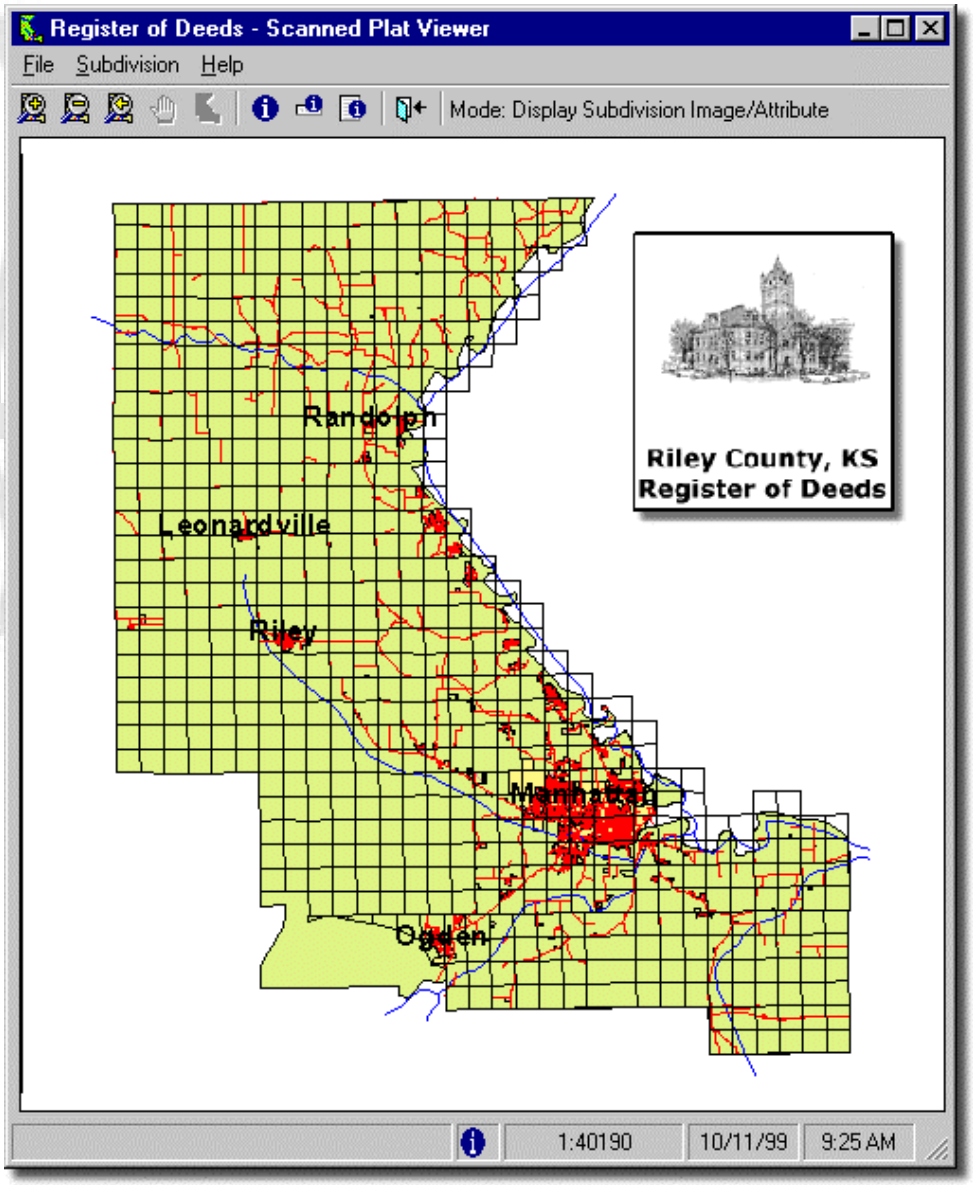
- Disseminate information on Sub-divisions or Plats in digital form
- End user community range from GIS technical staff to non-map users
- Stand-alone application with no royalty or application costs
- Application needed to be run from CD with minimal footprint
- Scanned over 300+ plat drawings as multi-page TIF images

What is the SPV?

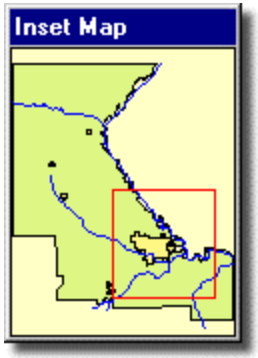
- A tool …
  - for browsing a map of Riley County
  - for locating a particular Subdivision by map browsing, simple Subdivision ID query or by locating a scanned TIF image named with a Subdivision ID
  - for viewing the scanned TIF image for a selected Subdivision
  - for viewing the attributes of a selected Subdivision
  - managing database path access for scanned TIF images and required ShapeFiles

What is the SPV?

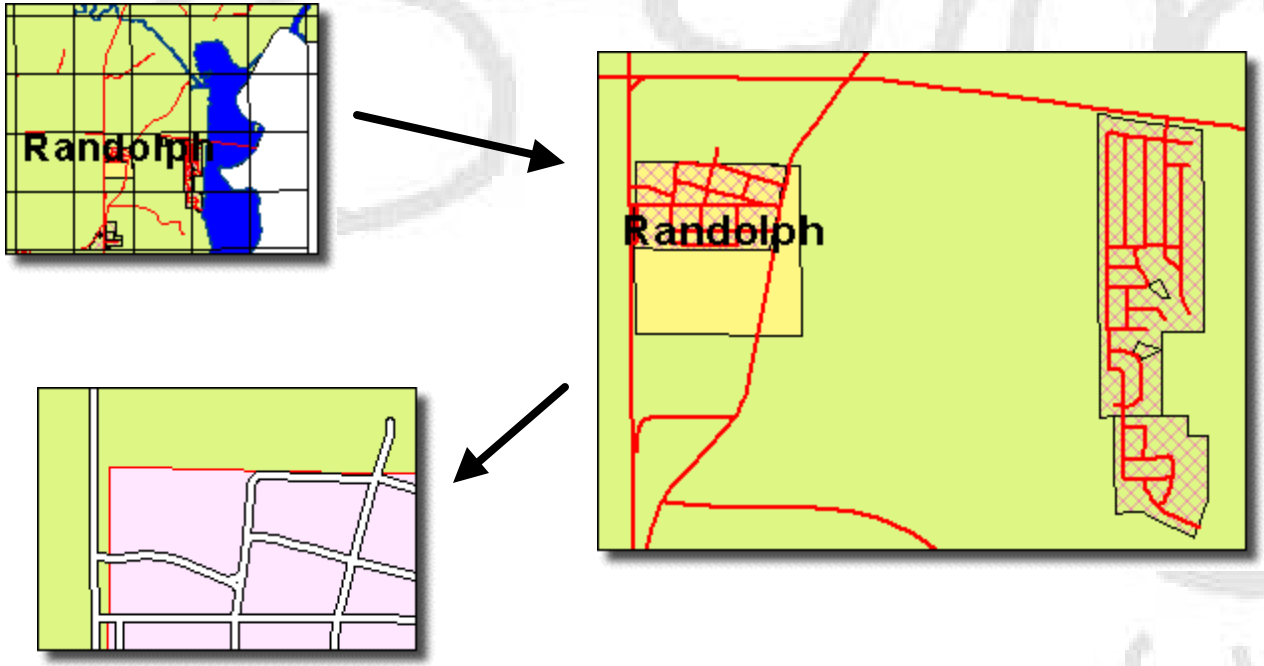
- Map Display and Tools



What is the SPV?

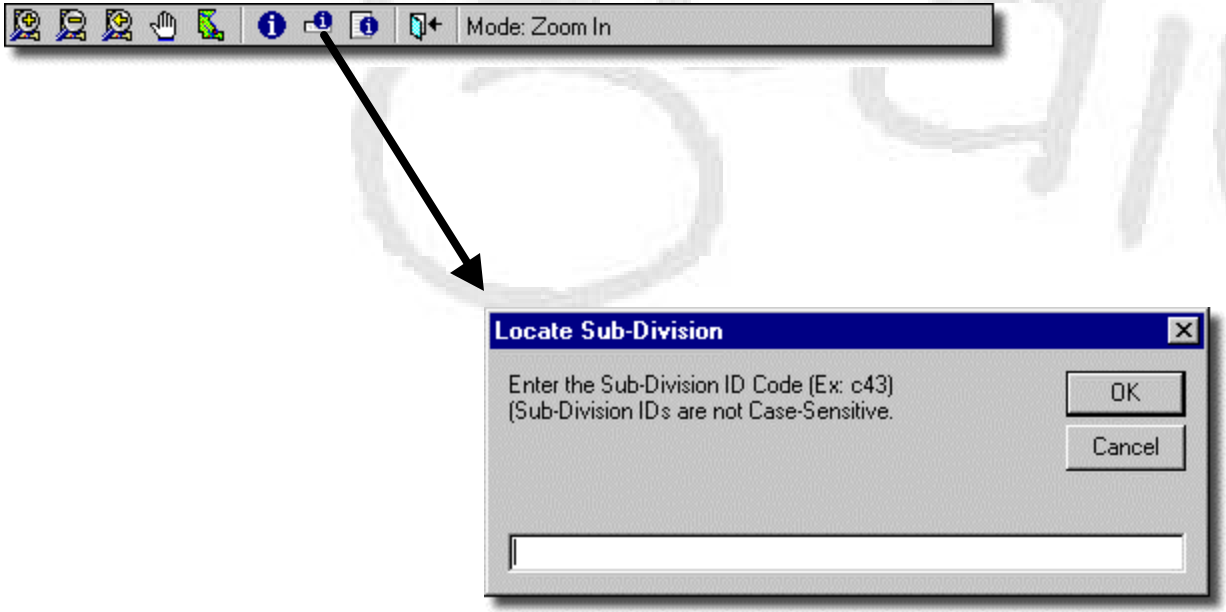


- Locating a particular Subdivision by map browsing
- Map Display Generalization and Tool Tips



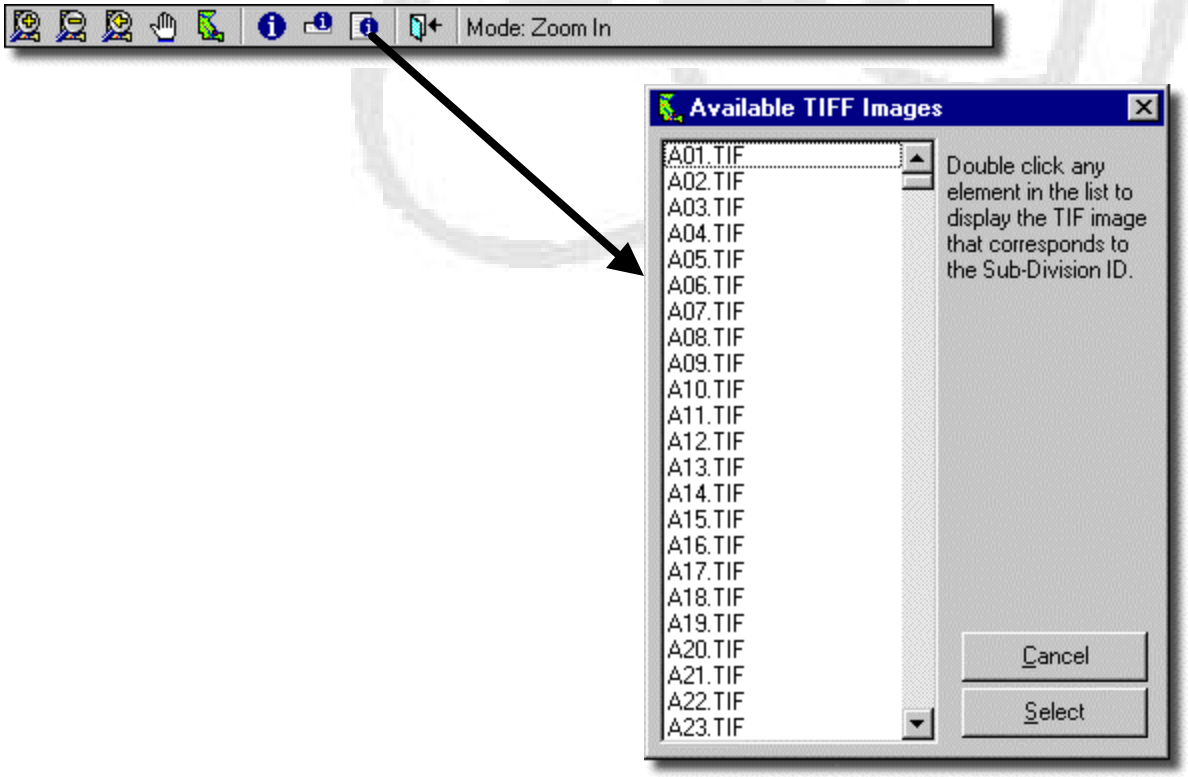
What is the SPV?

- Locating a particular Subdivision by simple Subdivision ID query



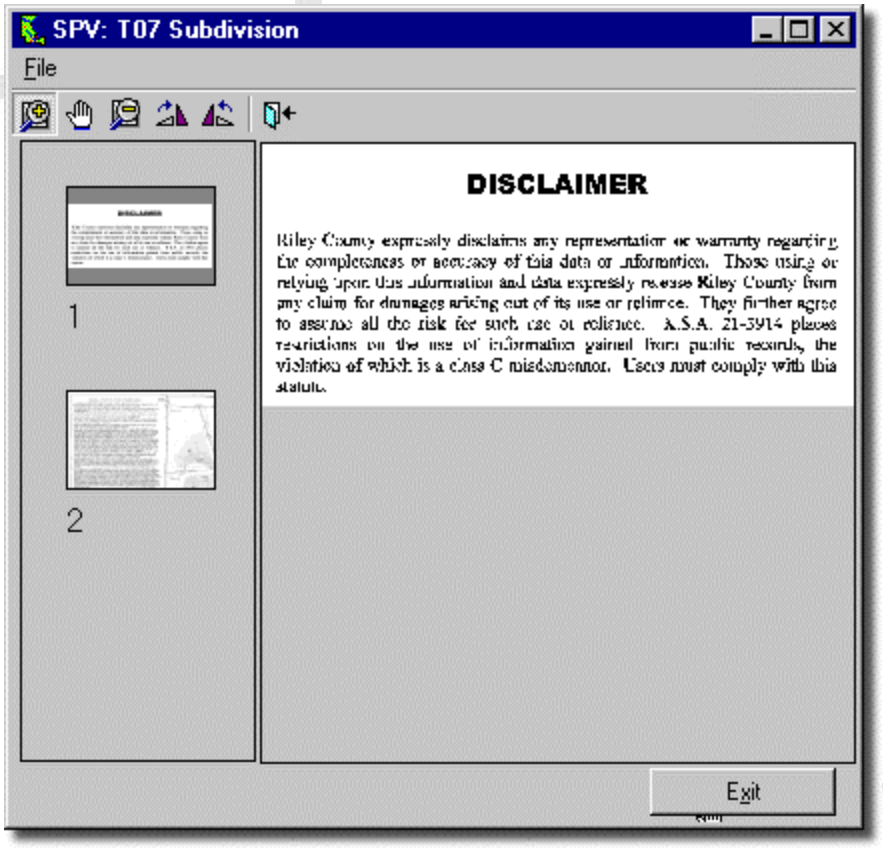
What is the SPV?

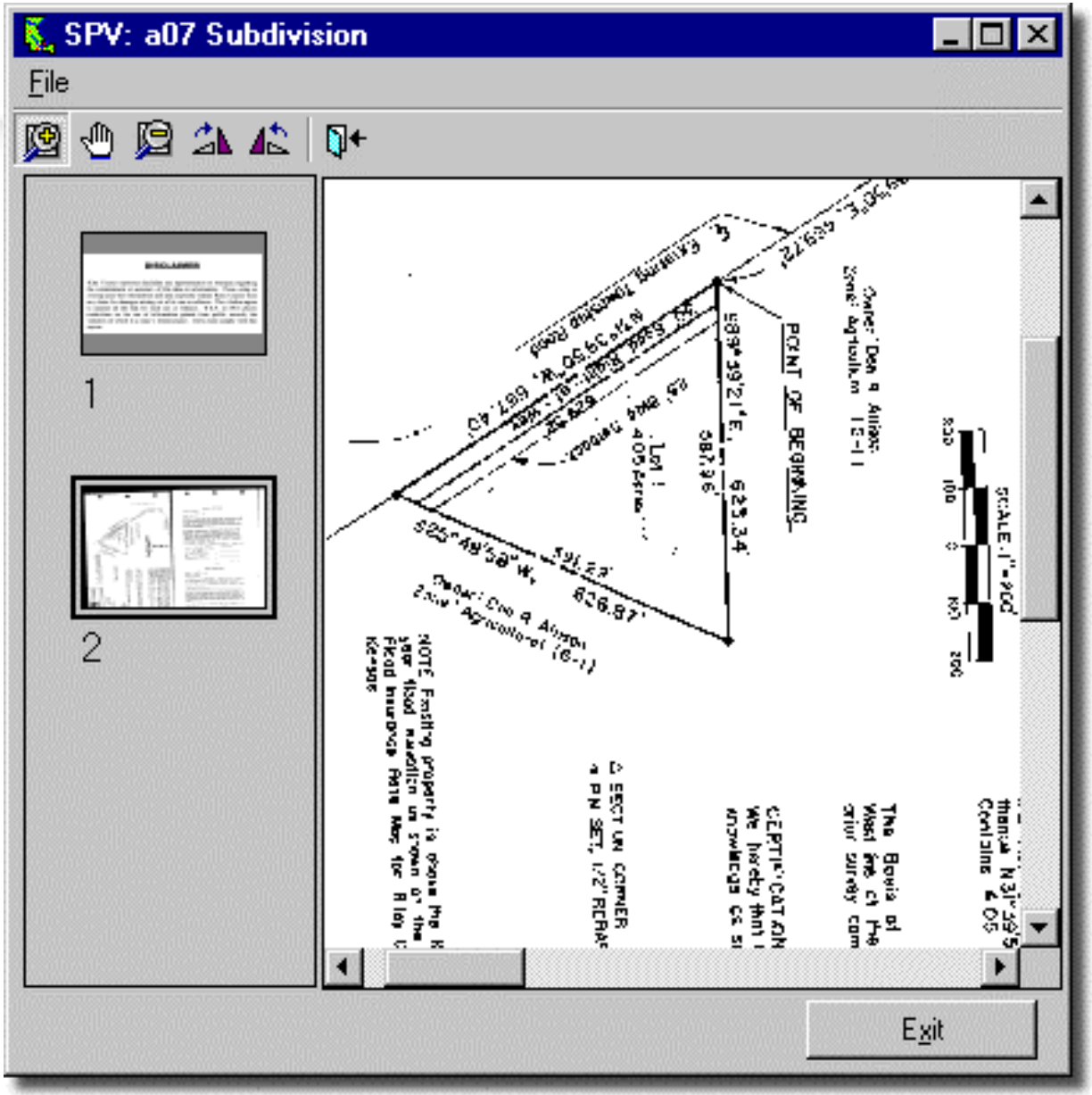
- Locating a particular Subdivision by locating a scanned TIF image named with a Subdivision ID



What is the SPV?

- Viewing the scanned TIF image for a selected Subdivision





Scanned Plat Viewer

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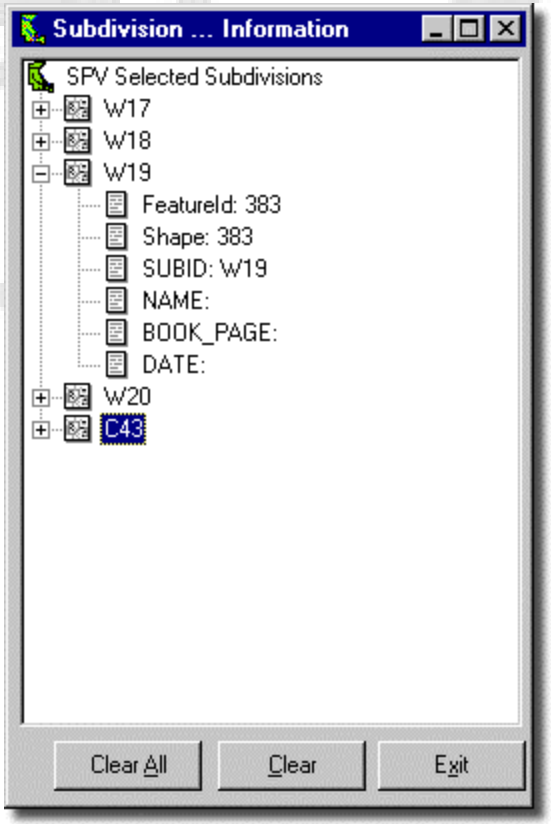
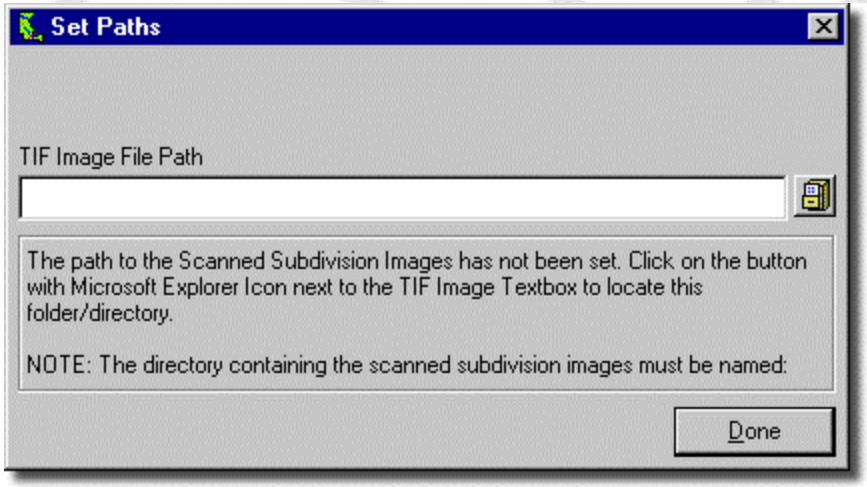
What is the SPV?

- Viewing the attributes of a selected Subdivision



What is the SPV?

- Manage database path access for scanned TIF images and required ShapeFiles



How was the SPV built?

- Visual Basic - Enterprise Edition (Service Pack 3)
- MapObjects LT (Lite) *-- (Tastes Great!, Less Filling!)*
- Wang Image Edit and Thumbnail Control
- Target Platform: Windows98 and Windows NT 4.0
- 3Mb Local Install, +180Mb for Images, +8Mb for ShapeFiles

- Detailed ...
  - Requirements Specification
  - Functional Specification
  - Use Cases and Data Flow
  - Process Flow Analysis
  - Object Oriented Design

How was the SPV built?

- Objects designed for Application …
  - clsMapDisplay - functionality for map browsing (zoom, click)
  - clsMapLayers - load, order, manage map layers
  - clsMapTip - display ToolTips on Map Control on the fly
  - clsMoLtSearch - perform attribute and shape searches
  - clsMoLtUtility - mapscale, layer indexing and managing
  - clsVerifyShapeFiles - verify required ShapeFile location/attributes
  - clsVerifyPaths - verify image and ShapeFile directory paths
  - clsPathReg - read/write of directory paths to Windows Registry
  - clsPathRegKeyInfo - key-based windows registry access

How? clsMapDisplay

MapMouseDown
(ButtonIndex as Integer,
Shift as Integer,
X as Single,
Y as Single,
TextBox as Textbox)
as Boolean

ZoomToFeatureBySelection
(Opt. SubID as String)
as Boolean

DisplayScannedImage
(SubID as String)
as Boolean

clsMapDisplay

- Initialize
- GetTIFFImage (X as Single, Y as Single)
- DisplayAttributeWindow (X as Single, Y as Single) as Boolean
- DisplayTIFFImage (ImageName as String)
- ZoomToSubDivision (SubID as String)
- IsMapControlSet ( ) as Boolean
- GetExtent (Mode as String) as MOLT.RectanIgle
- StripFileExtension (File as String, Extension as String) as String

MapControl (MapObjectsLT.Map)

MapModeControl (TextBox)

MapMode ( ) as Integer

How? clsMapLayers

AlterLayerDisplay (LayerName as String, MapScale as Long) as Boolean

AppStart_MapLoad ( ) as Boolean

InsetMapLayers ( ) as Boolean

clsMapLayers

- **Initialize**
- **LabelShow (LayerName as String, On as Boolean, FieldName as String, FontStyle as String, Size as Single, FontName as String) as Boolean**
- **LayerShow (LayerName as String, On as Boolean) as Boolean**
- **AddAlterLayer (Add as Boolean, LayerType as Integer, Name as String, SymbolType as Integer, Color as Long, Size as Integer, Outline as Boolean, OutlineColor as Long) as Boolean**
- **IsMapControlSet ( ) as Boolean**

MapControl (MapObjectsLT.Map)

How? clsMapTip

MouseMove
(X as Single, Y as Single)
as Boolean

clsMapTip

- Initialize
- IsMapControlSet ( ) as Boolean
- DoSearch (X as Single, Y as Single) as String
- ShowTipText (Tip as String)

MapControl (MapObjectsLT.Map)

Layer (MapObjectsLT.MapLayer)

Field (Integer)

How? clsMoLtSearch

MouseClickSearch (LayerName as String, X as Single,Y as Single, FieldName as String, Opt. Tolerance as Integer) as Boolean

AttributeSearch (LayerName as String, SelectStatement as String, FieldName as String) as Boolean

clsMoLtSearch

- **Initialize**
- **IsMapControlSet ( ) as Boolean**
- **FindXY (LayerName as String, X as Single, Y as Single, FieldName as String, GetAttributes as Boolean, GetMapUnits as Boolean, Opt. Tolerance as Integer) as Boolean**
- **FindByQuery (LayerName as String, SelectStatement as String, FieldName as String) as Boolean**

MapControl (MapObjectsLT.Map)

FeatureFound ( ) as Boolean

Feature ( ) as MOLT.Shape

FieldNames ( ) as MOLT.Strings

FieldValues ( ) as MOLT.Shape

How? clsMoUtility

clsMoUtility

- Initialize
- IsMapControlSet ( ) as Boolean
- FindXY (LayerName as String, X as Single, Y as Single, FieldName as String, GetAttributes as Boolean, GetMapUnits as Boolean, Opt. Tolerance as Integer) as Boolean
- FindByQuery (LayerName as String, SelectStatement as String, FieldName as String) as Boolean

GetLayerName (Index as Integer) as String

GetLayerIndex (LayerName as String) as Index

MapScale ( ) as Double

PollLayers (Opt. LayerName as String) as Boolean

MapControl (MapObjectsLT.Map)

How? clsVerifyShapeFiles

FindLayerField (MapLayer as MOLT.MapLayer, Field as String) as Integer

GetFieldIndexFromName (Map as MOLT.Map, LayerName as String Field as String) as Integer

VerifyShapeFiles (FullPath as String, ShapeFileNames as Variant) as String

VerifyShapeFields (Map as MOLT.Map)

clsVerify - ShapeFiles

- **Initialize**
- **VerifyLayerFile (FullPath as String, LayerFileName as String) as Boolean**
- **LocateFile (FullPath as String, FileName as String) as Boolean**
- **LocateFile (Fullpath as String, FileName as String) as Boolean**

FieldSubID ( ) as Boolean

FullFieldName ( ) as Boolean

FullCityName ( ) as Boolean

How? clsVerifyPaths

GetLayerName (Index as Integer) as String

GetLayerIndex (LayerName as String) as Index

MapScale ( ) as Double

PollLayers (Opt. LayerName as String) as Boolean

clsVerifyPaths

- **Initialize**
- **IsMapControlSet ( ) as Boolean**
- **FindXY (LayerName as String, X as Single, Y as Single, FieldName as String, GetAttributes as Boolean, GetMapUnits as Boolean, Opt. Tolerance as Integer) as Boolean**
- **FindByQuery (LayerName as String, SelectStatement as String, FieldName as String) as Boolean**

MapControl (MapObjectsLT.Map)

How? clsPathReg

Designing VB Applications

- Requirements Specification - the 'what' of the application
- Functional Specification - the 'what and how-is-it-used' of the application
- Use Cases and Data Flow - the 'all-the-things-that-could-go-wrong' of the application
- Process Flow Analysis - the 'how is the user going to use' the application
- Object Oriented Design - the 'LEGO' of the application

Summary

- Why was the Scanned Plat Viewer Application written?
- What is the Scanned Plat Viewer Application?
- How was the Scanned Plat Viewer built?
- Thoughts on designing Visual Basic Applications

Thank You

Visit the M.J. Harden Associates Inc. booth for a demonstration of the Scanned Plat Viewer Application

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