Presentation Title: AV WIMAS- An ArcView Based GIS Application for Kansas Water Right Analysis
Presenter: Brownie Wilson, Kansas Water Office
Software: ArcView 3.1 (Windows Version Only)

Problem:
How do I connect to an ORACLE RDMS using Avenue and SQL?
Required Steps:
An ODBC driver and possibly the native database client software has to be installed on your machine first.
Reference *Setting up your machine for ODBC* in the ArcView help file.
Code Sample:

```
'Establish the ODBC data connection name.
theSQL = SQLCon.Find("water")

'Set the user name and password.  You could prompt the user for the login name and password with a msgbox.
theUser = "tank_girl"
thePassword = ARockNRoll@

'Log on to the ORACLE server using the above info.
theSQL.Login("UID="+theUser+";"+"PWD="+thePassword)

'Setup the SQL statement to be used for the data retrieval.  The SQL statement is a one large character string.
theSQLString =    "select distinct ptc.wua_corr_pers_person_id person_id,"++
                  "ptc.wua_corr_corr_seq_num corr_num, lp.last_name lname,"++
                  "lp.first_name fname, ptc.wua_umw_code umw_code, ptc.wua_year,"++
                  "ptc.wua_fo_field_office_num fo_num, ptc.ptc_population_served pop_served,"++
          "ptc.ptc_total_connections total_con, ptc.ptc_residential_connections res_con,"++
          "ptc.ptc_comm_instit_connections commer_con, ptc.ptc_industrial_connections ind_con,"++
          "ptc.ptc_past_stk_fdlt_connections stk_con, ptc.ptc_other_connections other_con"++
          "from water_mrkt_part_bcd ptc, legal_person_code lp"++
          "where ptc.wua_umw_code = 'MUN' and lp.person_id = ptc.wua_corr_pers_person_id"

'Send the SQL statement to the defined ODBC data connection and create a temporary Vtab from the results.
theVtab=Vtab.MakeSQL(theSQL,theSQLString)

'Create an ArcView Table from the Vtab and open the table.
myTable = Table.Make(theVtab)
myTable.GetWin.Open
```

Problem:
How do I setup a customized GUI using Avenue Coding?
Code Sample (partial):

```
'Setup the MAIN gui for Wimas
theMainGUI = DocGUI.Make("View")        'theMainGUI is a clone of the View GUI
theMainGUI.SetName("WIMAS Main Menu")       'Set the name of the GUI
theMainGUI.SetTitle("Main Menu")          'Set the title as it will appear in the project window
theMainGUI.SetIcon(av.FindGUI("View").GetIcon)       'Set the icon in the project window the same as a View
theMainGUI.SetNewScript("Doc.New")         'Set the scripts assigned to the buttons on the project window
theMainGUI.SetOpenScript(ADoc.Open")
theMainGUI.SetActionScript(ADoc.Action")
theMainGUI.SetNewUpdateScript("Doc.NewUpdate")    'Set the update scripts to the buttons on the project window
theMainGUI.SetOpenUpdateScript("Doc.OpenUpdate")
theMainGUI.SetActionUpdateScript(ADoc.Print.Update")
av.GetProject.AddGUI(theMainGUI)  'add the new GUI to the project
theMainGUI.SetVisible(true)   'Make sure it is visible
```

```
'Add a button to the new WIMAS Main Menu GUI
CountyButton = Button.Make
CountyButton.SetClick("WimasCountyAnalysis")      'Set the script that is activated when the button is clicked
CountyButton.SetHelp("County Analysis//Run water right query by county")      'Set the help display info
CountyIconFile = "$WIMAS\symbols\county.bmp"      'Source image to be used as an icon on the button
CountyIcon = Icon.Make(CountyIconFile.AsFileName)      'Create a new icon based on the source image
CountyButton.SetIcon(CountyIcon)            'Assign the icon to the button
'Add the button as the first occurrence on the button bar for the new WIMAS Main Menu Gui.
av.FindGUI("WIMAS MAIN MENU").GetButtonBar.Add(CountyButton, -1)

'Setup the first occurrence of a menu in the Menu bar of the WIMAS Main Menu GUI
WimasFileMenu = av.FindGUI("WIMAS MAIN MENU").GetMenuBar.New(-1)
WimasFileMenu.SetLabel("&File")     'Any character following the & symbol is flagged for use by the TAB button
        'Create the first menu choice under the File Menu.
        ThemeChoice = WimasFileMenu.New(-1)
        ThemeChoice.SetLabel ("&Data Set Review")     'Set the name of the choice as it appears under the menu
        ThemeChoice.SetClick ("WimasThemeReview") 'Set the script that is activated when the choice is selected
        ThemeChoice.SetHelp("Examine GIS themes and metadata used by WIMAS")  'Display help info
        'SPACE
        WimasFileMenu.Add(Space.Make, 1)
        'EXIT CHOICE
        ExitChoice = WimasFileMenu.New(2)
        ExitChoice.SetLabel ("E&xit Wimas")
        ExitChoice.SetClick ("WimasExit")
        ExitChoice.SetHelp ("Exits WIMAS")

'Open the WIMAS Main Menu view
WimasMainView = View.MakewithGUI("WIMAS Main Menu")
WimasMainView.SetName("WIMAS Start Screen") 'This sets the name of the doc (e.g. View1, View2)
WimasMainView.GetWin.Open
```

Problem:
How do I get the latitude and longitude from view that has a defined map projection?
Code Sample:

```
theView = av.GetActiveDoc
'Get the defined projection from the view.  The projection could also be set through the avenue code as well
theProjection = theView.GetProjection

'Get the point based on where the user clicks on the view
thePoint = theView.GetDisplay.ReturnUserPoint

'If the view=s projection is null then we assume it is geographic, else return the unprojected coordinates.
if (theProjection.AsString.IsNull) then
        theLongitude = thePoint.GetX   'the X dimension of the point is the longitude coordinate
        theLatitude = thePoint.GetY      'the Y dimension of the point is the latitude coodinate
else
        theGeographicPoint = thePoint.ReturnUnProjected(theProjection)      >unprojects the point
        theLongitude = theGeographicPoint.GetX
        theLatitude = theGeographicPoint.GetY
end

'Set the number format to 5 decimal places.
theLongitude.SetFormat("d.ddddd")
theLatitude.SetFormat("d.ddddd")
```

```
'Report the results to the user
msgbox.info(ALongitude =@++theLongitude.AsString+NL+@Latitude =@++theLatitude.AsString,@Coordinates@)
```