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## Introduction

- Research & GIS Division at the Office of Planning and Zoning provides regular updates on Sub-Division and Site Development activities in the County.
- County regularly receives new Sub Division requests, which requires adding new Sub Division polygons to the existing GIS layer
- Based on the approval process in the County the status of Sub Divisions also changes regularly.
- New updates of the layer are published (Maps and Tables) and used by other Departments and Citizens.

### **Business Need:**

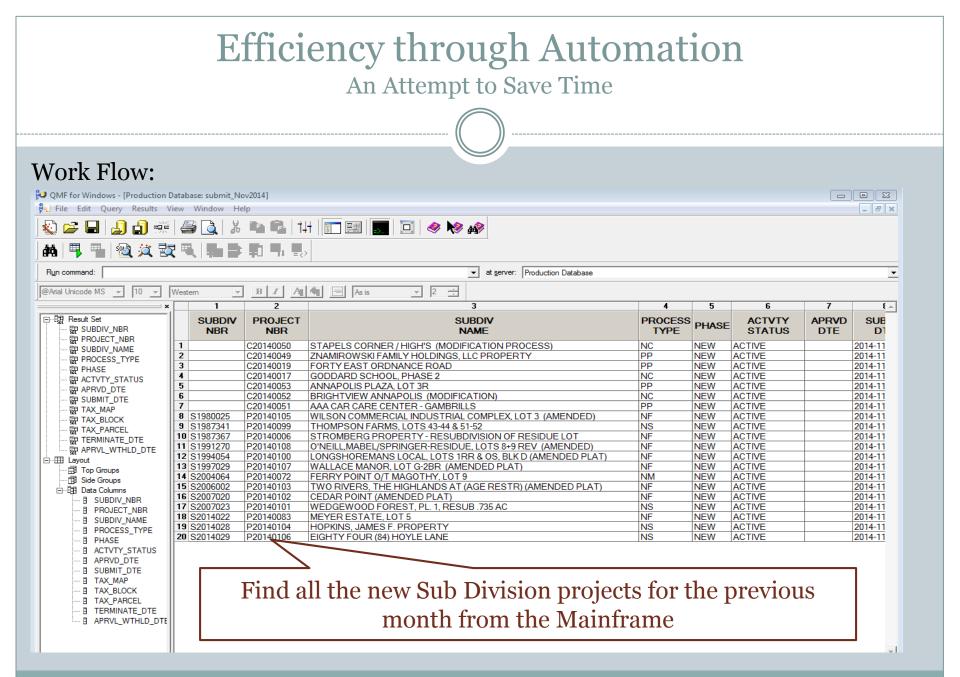
• Update County's sub-division layer with the new activities (new submission, approval status etc.) every month

### Process involved:

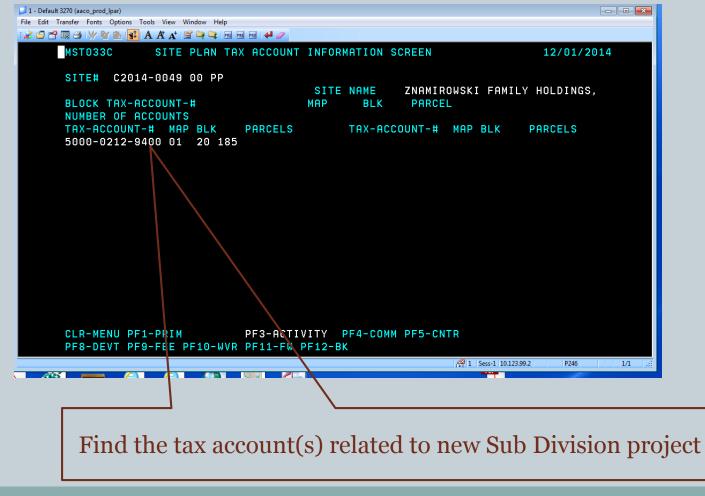
- Querying multiple databases, checking/updating GIS data and creating reports
- Being a routine responsibility this process if automated, would make sense both in terms of efficiency and reduced staff hours.
- Development of an "Add-in" for Desktop seemed to be the answer

### Work Flow:

- Execute queries in the County's Main Frame Database environment to find the project numbers from the recently added/updated records for new or approved Sub Divisions
- Execute queries to find tax account information for the project numbers
- Find the property ID(s) for those project numbers
- Find the properties related to the projects
- Edit the parcels (if needed) and add them to the Sub Division layer
- Make necessary updates to the attribute table
- Update Sub Division maps and publish them



#### Work Flow:



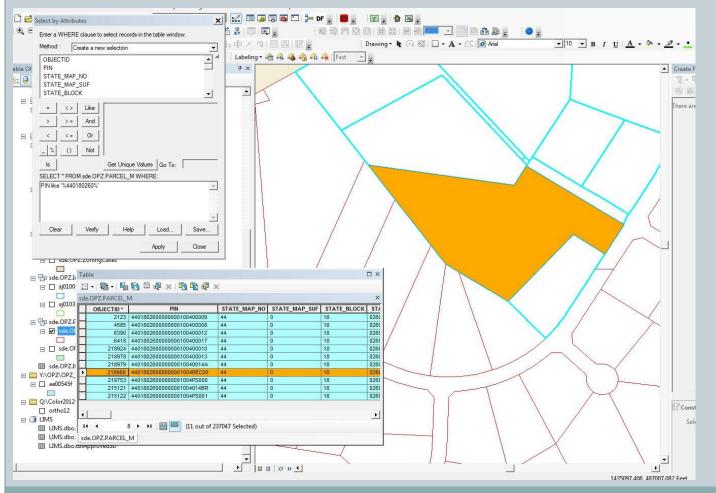
#### Work Flow:

Table

BJECTID *	ACCOUNT_NO	PIN	PROP_DESC1	PROP_DESC2	PROP
1	800090229633	81001009900000000000003A	LT 3A	6343 JOHNS LN	KASULKE PRO
2	266790014147	4401802600000001004REC00	4.7225 ACS SC 1 PL 4	RECREATION AREA	ROLLING HILL
3	266790015758	44018026200000001006FP000	1.2823 ACS SC 1 PL 6	FLOOD PLAINS	ROLLING HILL
4	267103917950	440240249000000001000206	IMPSLT 206 PL 10	619 WAYWARD DR	ROLLING KNO
5	297790052942	44014027500000000000000004	IMPSPT LT 4 OR 5.826 ACS	985 BRAMLEIGH LN	WORTHINGTO
6	287790102006	4401103080000000000000018	IMPSLT 18	1212 MANSION WOODS RD	THE VINEYARI
7	267102888511	4402402490000000001000200	IMPSLT 200 PL 10	2196 THOREAU CT	ROLLING KNO
8	285290058968	440210082000000000300018	IMPSLT 18 PL 3	1912 MACKIEBETH CT	TWIN HILLS
9	242506587705	4400601960000000000000000	IMPSLT 2	1762 DUNTON RD	DUNTONS ADI
10	200009133751	440220092000000000000000A	IMPSLT A OR 1.27 ACRES	1913 CROWNSVILLE RD	GAMBRILLS
11	263490093163	44019013300000020000025	IMPSLT 25 SC 2	2008 HAVERFORD DR	ANNAPOLIS PF
12	234790077414	44022028000000020000005	IMPSLT 5 SC 2	109 YELLOWTWIG LN	GREENWOOD
13	256190026687	440200272000000300200045	IMPSLT 45 SC 3 PL 2	599 PINEDALE DR	NORTH RIVER
14	267190009553	440180252000000001200001	IMPSLT 1 PL 12	616 MARTI LN	ROLLING KNO
15	285290058970	440210082000000000300020	IMPSLT 20 PL 3	1916 MACKIEBETH CT	TWIN HILLS
16	267109367450	44018021300000000000000127	IMPSLT 127 PL 6	1978 GLENCREST LN	ROLLING KNO
17	212790109611	4402202960000000000000000000000000000000	0.9795 ACRE	OPEN SPACE	BROAD OAK E
18	266790014143	440180260000000100400012	IMPSLT 12 SC 1 PL 4	520 CORBIN PKWY	ROLLING HILL
19	515190061000	0501401100000000100100000	IMPSU 302 SC1 BLD1 PH 20	6701 WHITE WATER CT	CROMWELL F(
20	264690035178	44020006700000030000067	IMPSLT 67 SC 3	1921 CHAPARRALL CT	THE RIDGES
21	256190026367	440200269000000200200026	IMPSLT 26 SC 2 PL 2	2001 TUNDRA CT	NORTH RIVER
22	287790102014	44011030800000000000000000	0.227 AC	PRIVATE R/W "B"	THE VINEYARI
23	267109938660	4401802140000000000700135	IMPSLT 135 PL 7	570 WAYWARD DR	ROLLING KNO
24	297790052945	44014027500000000000000000	IMPSLT 2	973 BRAMLEIGH LN	WORTHINGTO
25	263490093204	44019013300000020000066	IMPSLT 66 SC 2	1510 CHELTENHAM CT E	ANNAPOLIS PF
26	212790109607	4402202960000000000000000	IMPSLT 5	100 NEEDLE PINE LN	BROAD OAK E
27	857990227964	810210008003300000600005	LT 5 BK 33	7003 MYRTLE AVE	NORTH BEACH
28	285290058969	440210082000000000300019	IMPSLT 19 PL 3	1914 MACKIEBETH CT	TWIN HILLS
29	267109195875	4401802480000000000900157	IMPSLT 157 PL 9	608 WAYWARD DR	ROLLING KNO
PZ.ICPF_M		t of *2000 Selected)			

Find the Property ID for each tax account from a stand alone table in SDE

#### Work Flow:



Query Parcel layer with the property ID (PIN) to find the parcel(s) for new Sub Divisions

## Need of Automation:

- A routine task
- Involves simple but tedious processes
- Repetitive work that does NOT need smart analysis
- Time consuming
- Would save staff hours if automated

### All we needed:

- A mechanism to have the table containing all the new Sub Divisions (submitted within the previous month) to be added to the editing environment (.mxd)
- Detect the selected new Sub Division records
- Find the relevant tax information and property ID
- Zoom to the related property for a Sub Division which could be added directly or after some edits to the Sub Division Layer

## **Considerations:**

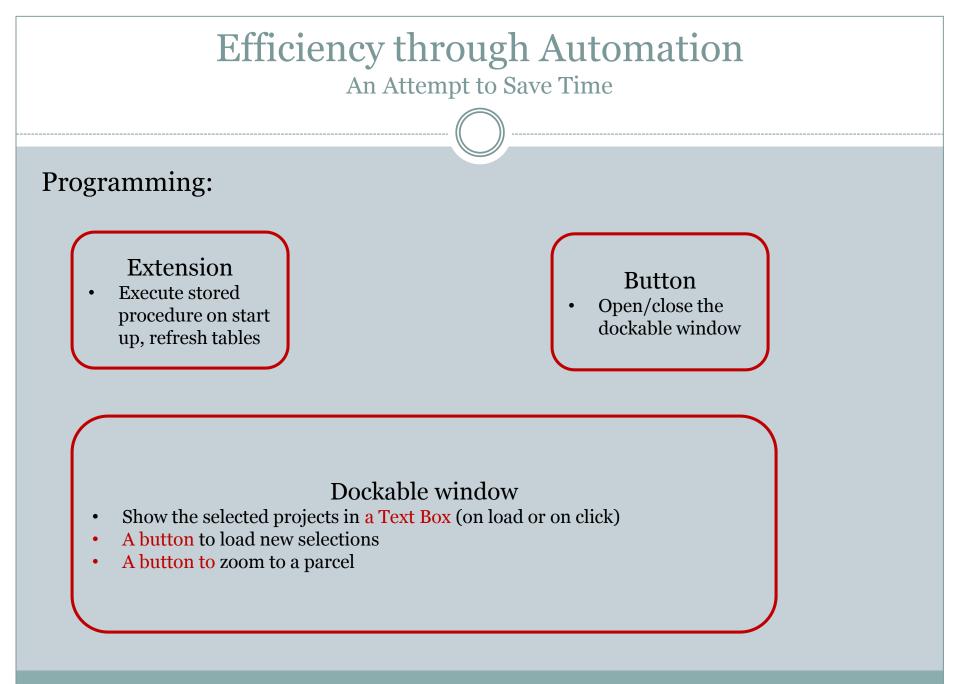
- Can be done in house without a lot of programming
- Can be done quickly and easily shared

### Creating Add-in

- The ArcGIS desktop Add-in provided it all:
  - Easy to build and share
  - Simple Framework no installation program, no registration, do not require administrative rights
  - Optimized for common scenarios i.e. Buttons, Menus, Combo Boxes etc. can easily be implemented in ArcGIS environment.
  - ESRI provides integrated development environment (IDE) templates for building and deploying these custom UI elements

## Programming:

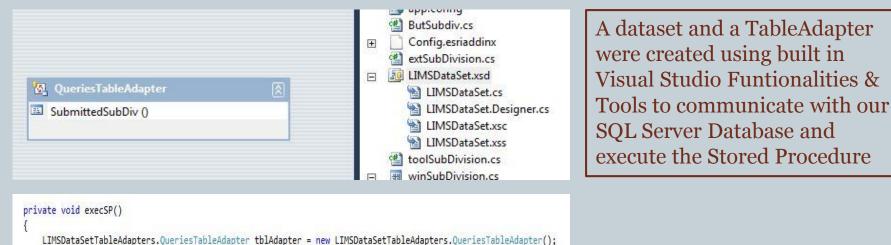
- Stored Procedure in SQL Server to get the records from Mainframe database
- An extension, a Button, and a dockable window were created
- Function to execute the stored procedure, which would be called during the loading of the extension
- A few functions to make the necessary queries to find the selected new records, project numbers, relevant tax and property IDs
- An Interface that shows the selected project, a button to load new selections and a button that zooms to the parcel(s) when clicked.



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rogr	ramming:		
!=	2	Add-in Components mponent to be added to the project and modify its properties.	
ubi Mi	Add-in Components  Button Tool	Class Name:  Caption:  Ky Button	Extension, Button and
∍(	Construction Tool Combo Box Multi-Item	Image:  Add-In Controls  On Demand:	Dockable Window were added using ArcGIS Add-Ins Wizard
riı Arı Dui	<ul> <li>Editor Extension</li> <li>Dockable Window</li> </ul>	Tooltip:        Add-in command tooltip.         Add-in command generated by Visual Studio project         Description:        Wizard.	Add-IIIS Wizard
er: .Ci		Previous Next Finish Cancel	

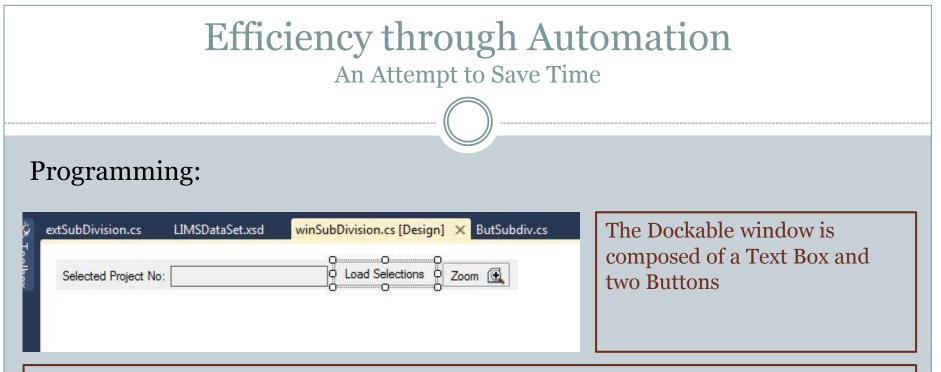
### **Programming:**

int rowsAffected = tblAdapter.SubmittedSubDiv();



}

A function executes the Stored Procedure using the TableAdapter. The Function is called when NewDocument event (ArcMap.Events.NewDocument) is fired, i.e. during the opening of the associated .MXD file. The Event is handled during the when the Extension is loaded (i.e. when OnStartUp() method is called).



- ITableSelection and Iselectionset Interfaces were used to get selected project numbers from the table with new Sub Division info.
- IQueryFilter, Icursor Interfaces were used to query through different tables to find the tax accounts, Property IDs and finally the Parcel Polygons representing the selected new Sub Divisions.
- Finally a function is called to zoom (by assigning the extent of the selected polygon to map's extent) to the selected parcel when the "Zoom" button is clicked.

