



The Panoramic VR Integration of Web-based GIS Residential Property Marketing Information System (WGPMIS)

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Commission No. 9



Contents

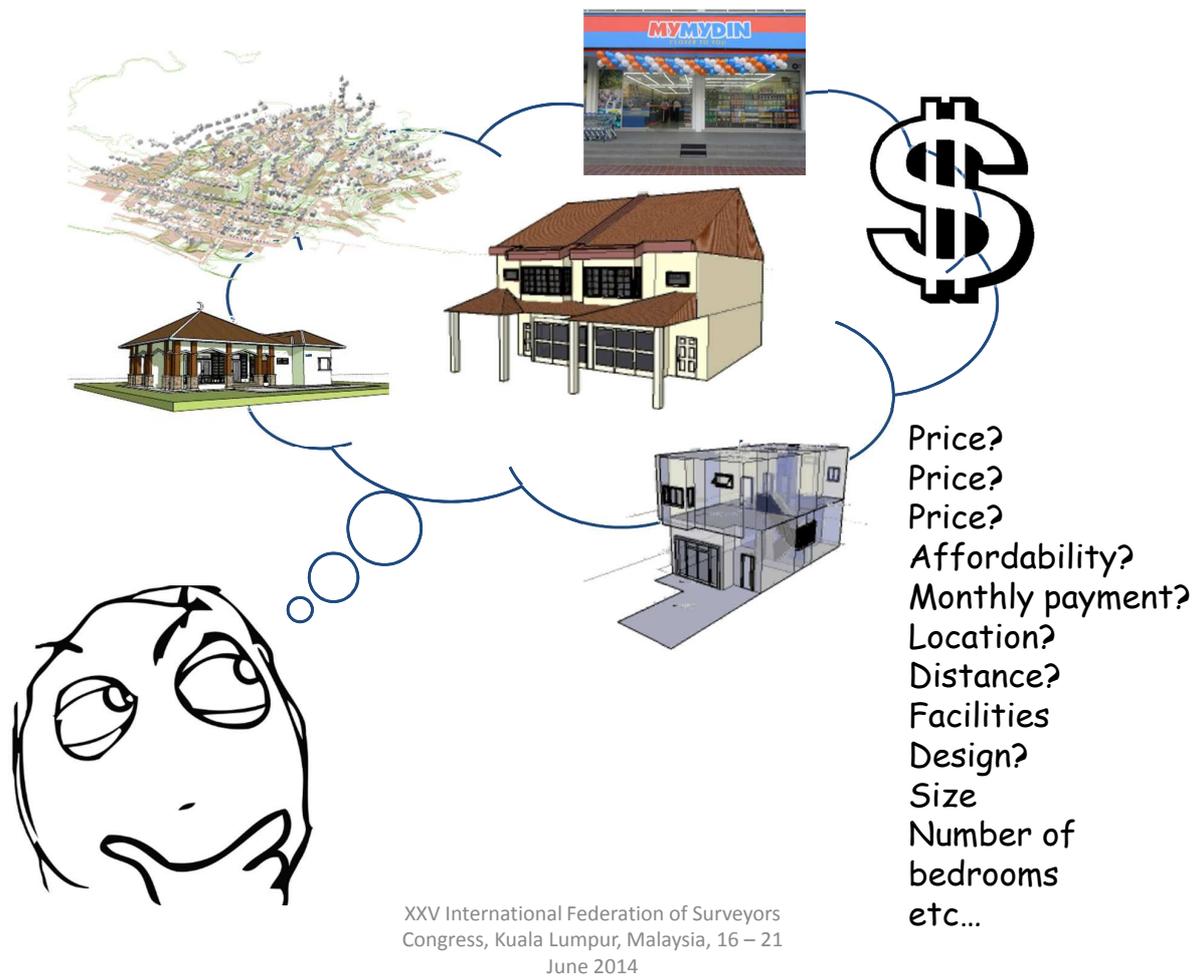


- Why?
- Pilot WGPMIS & its limitation
- The improvements
 - Web-based platform
 - Geoprocessing & network functions
 - Photographic panoramic display functions
- Conclusion
- Acknowledgement



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Benefit of GIS for land & property management

Tangible: ability to visualise relationships between property and the surrounding geography

+

Intangible: data audit and cleaning

(Wyatt & Ralphs, 2003)

+

Web & 3D visualisation + Panoramic VR

=

POWERFUL MARKETING TOOLS



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In reality...



- Housing buying and selecting - site visiting and verbal communication
- Some of the property developers and estate agents have advertise their property on the web for selling and renting purposes

BUT!

- consumer still have to go to the site in order to get the real situation on the ground and the physical state of the property



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In reality...



- Making decision
 - identifying locations and the residential features
 - time consuming process
 - consumers delay
- Graphic map
- Limitations
 - Lack of interior looks
 - No details location & terrain information
 - Visit the potential site is often require



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Current development in property marketing system: Malaysian scenario

mudah.my PROPERTIES for sale in Selangor: Banglo

Home | Insert ad | See All Ads | Favourites | PRO Niaga BETA | Customer Service

Banglo -- PROPERTIES -- Selangor Search

Show only **URGENT** All For sale For rent Wanted Wanted to rent

New See Singapore PROPERTIES

INSURE Your Worry-Free Travel with AirAsia starts here Starting from RM7.50

Get it NOW BEST VALUE GOLF TRAVEL PROTECTION

Home >> Selangor >> PROPERTIES

All 1 - 40 of 44 Private, 5 Company, 39 Hide Images | Show cheapest first

22 Sep 16:35		Lot Banglo, Subang Delima, Sekyen U4, Shah Alam	Land (c) Shah Alam
21 Sep 22:08		Banglo 1 tingkat tmn Pantal Sepang Putra	Houses (c) Shah Alam
21 Sep 14:28		Sekyen 9 Banglo lot, behind IPK Shah Alam	Land (c) Shah Alam
21 Sep 12:29		Sekyen 12 banglo lot, Shah Alam	Land (c) Shah Alam
21 Sep 10:32		Shah Alam Sekyen 9 Banglo 2 Tingkat	Houses (c) Shah Alam

Shah Alam Sekyen 9 Banglo 2 Tingkat

Advertised by Nizam
Contact Advertiser 21 Sep 10:32 List-ID: 23406898 Manage

Location: Selangor - Shah Alam
Price: RM 3 850 000

Address: No.2-2,Jalan 5/4C,Desa Melawati,53100 Kuala Lumpur
Location: Selangor - Shah Alam
Postcode: 53100
Price: RM 3 850 000 Type: Houses, For sale Area: Shah Alam
Title type: Leasehold Tenure: 99 Other info: Bumi Lot
Size: 18800 sq.ft. Bedrooms: 10 Bathroom: 5
Estate agency no: 30628
Property Type: Bungalow / Villa / Cluster houses

Shah Alam Sekyen 9,Banglow 2 1/2 tingkat,l/h,l/a 18800kp,b/u 9000kp,10 bilik 5 bilik air,kabinet dapur,hawa dingin,ubahsuai,auto gate,dekat kemudahan,kawasan strategik & Eksklusif

Nizam property

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iProperty.com

iProperty.com DISCOVER SOUTH EAST ASIA'S LARGEST INTEGRATED DEVELOPMENT ISKANDAR MALAYSIA

Buy Rent New Properties Commercial Overseas Find An Agent Sell Home Services Condo Directory Resources Survey

Create small alert

Refine Search

Property For: Sale Rent New Property

Property Type: Semi-D/Bungalow

State: Selangor Area: Shah Alam

Keyword: Enter Keyword

Price (RM): Min. Max.

Size (sq.ft.): Min. Max.

More Options

Surrounding Areas: Select Areas

Perbadanan Kemajuan Negeri Selangor (PKN... From RM 701,698

Aquavilla, Shah AL... Section 7, Shah Alam, Selangor

Citrina RM1,623,000

Semi-detached House 5+1

Location: TTDI Alam Impian, Shah Alam, Selangor
Posted Date: 11/07/2013
Developer: TTDI Land Sdn Bhd

iProperty.com hansgrahs MADE IN GERMANY

Special Promotion 40% off

Citrina TTDI Alam Impian, Shah Alam, Selangor From RM1,623,000

Property Details Gallery Floorplan Map Register

Product Description General Features

QuikPro No: NC2572
Address: TTDI Alam Impian, Shah Alam, Selangor
Property Type: Semi-detached House
Land Title: Residential
Tenure: Freehold
Land Area: 45385
Built Up: 3,674 - 4,681 sq. ft.

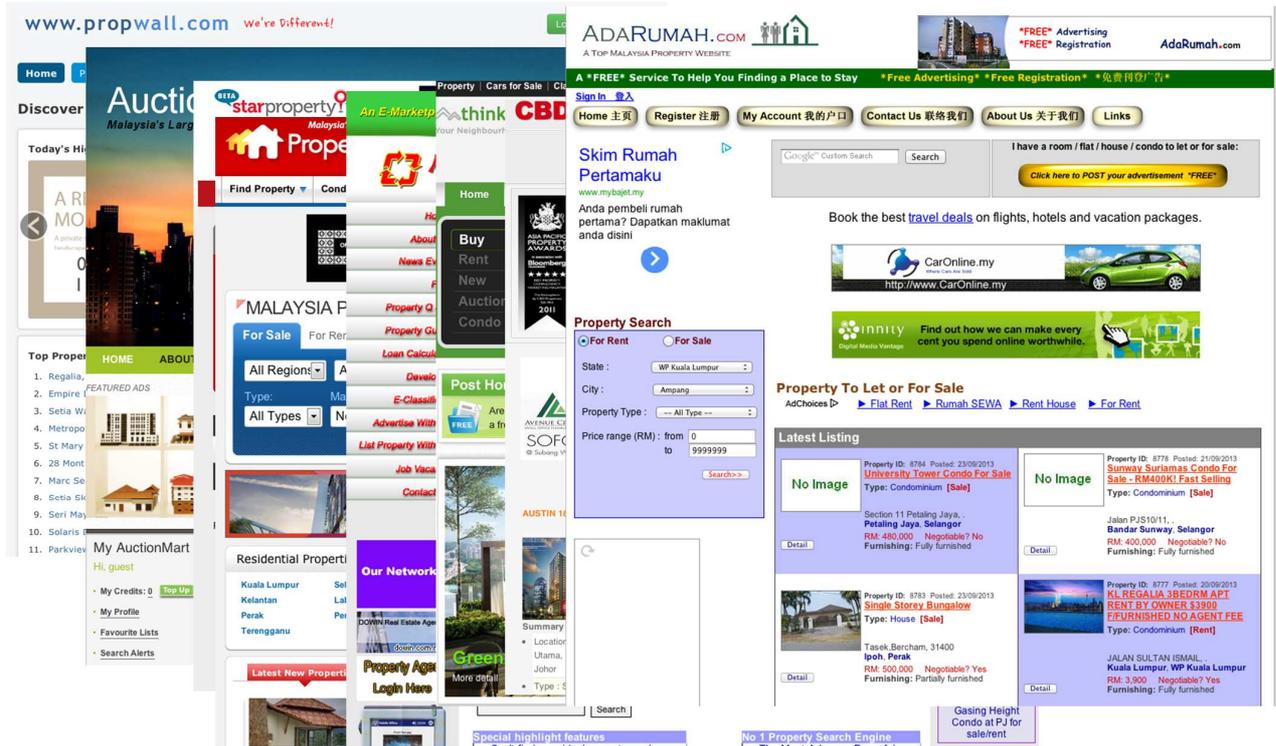
Listings Price: From RM1,623,000
Total Units/Lots: 95
Bumiputera: 75%
Site Tel: 03-2787 7969
Bedrooms: 5+1
Bathrooms: 6
Posted Date: 11/07/2013

TTDI Land Sdn Bhd
No. 1, Jalan Marathon 1301, Sekyen 13, Shah Alam 40100 Selangor
Call Now: +603-51...
Contact Developer
+603-51...
http://www.ttdiland.com
View Developer Profile

Location map?

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...and many more...

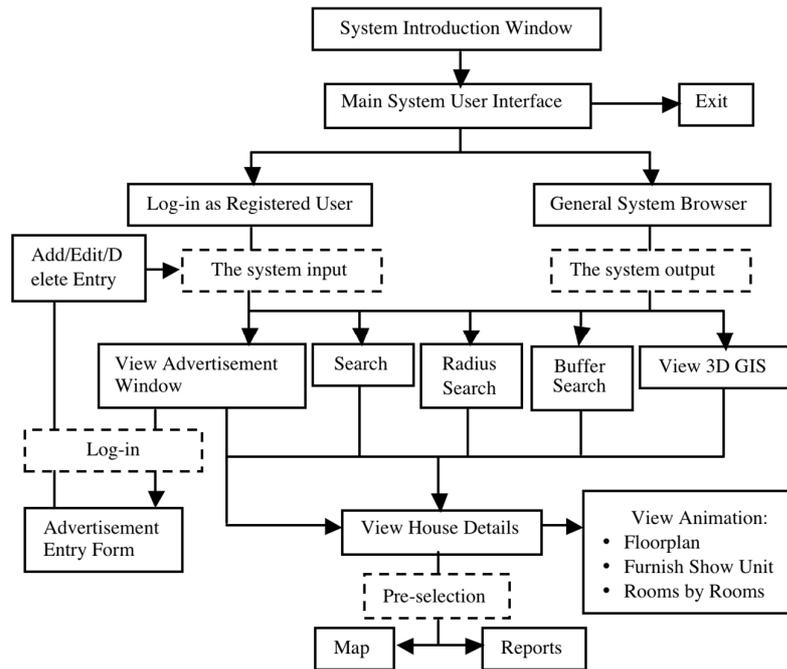


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What we have developed before...



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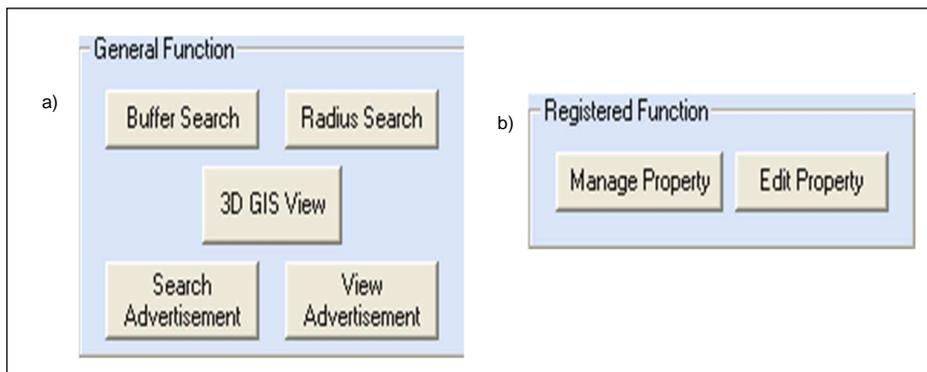
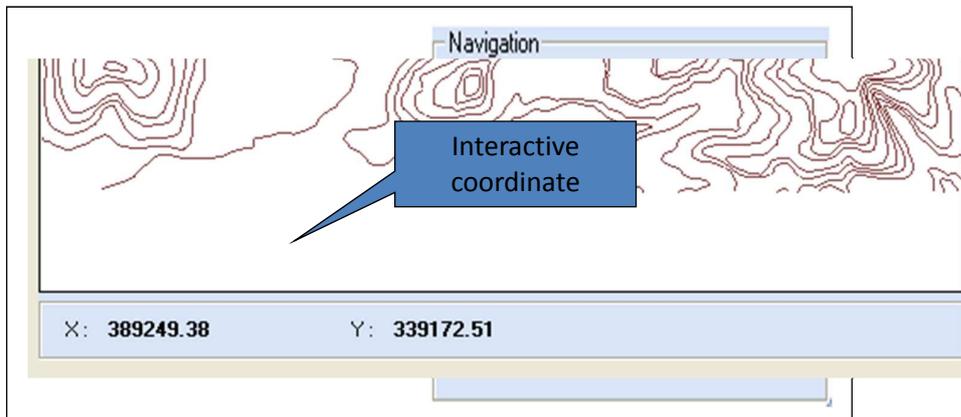
Levels of User

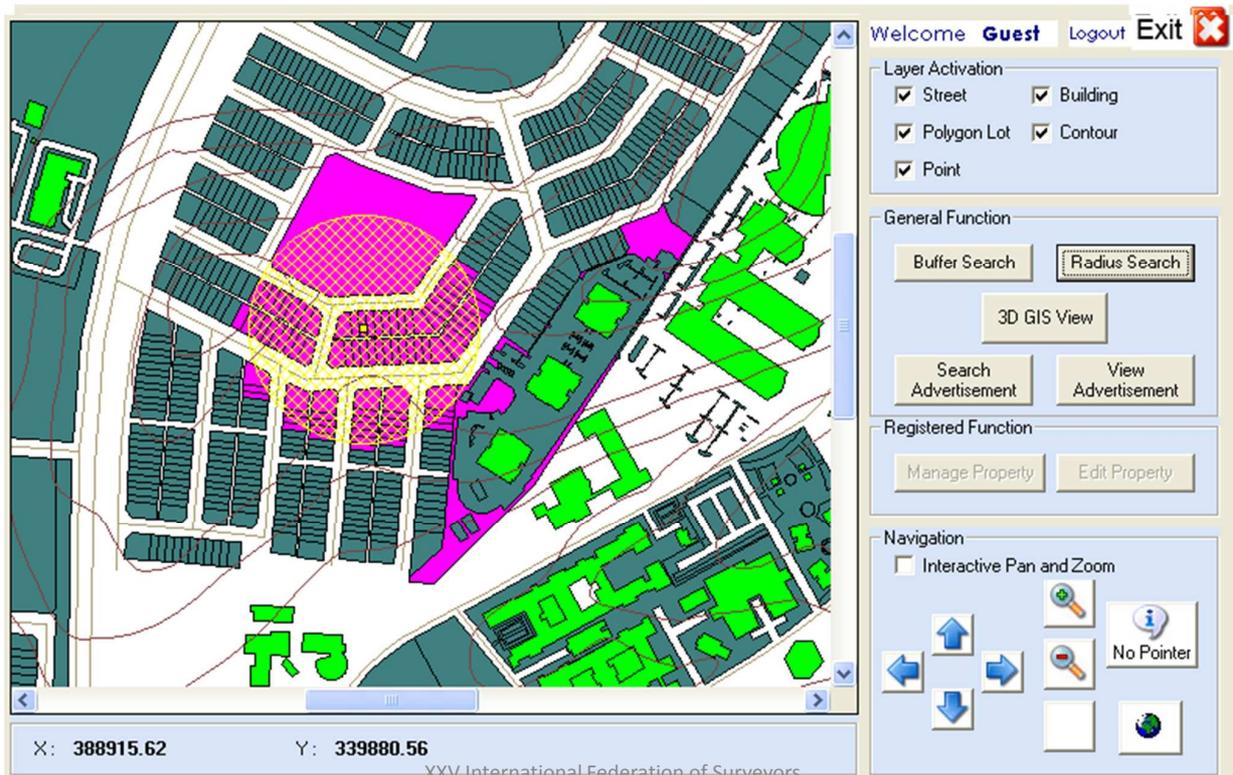
The User Interface Functions	Guest	Registered Users	Admin User
Buffer Search	✓	✓	✓
Radius Search	✓	✓	✓
3D GIS View	✓	✓	✓
Search Advertisement	✓	✓	✓
View Advertisement	✓	✓	✓
Edit Property	✗	✓	✓
Manage property	✗	✗	✓

GENERAL FUNCTIONS	DESCRIPTION
Query Search	Search function by query form according to attributes
Buffer Search	Query intended to visualize surrounding area of the selected features within the specify buffer parameter.
Radius Search	Query intended to visualize surrounding area of the selected point of interest within specify radius parameter.
3D GIS View	Viewing housing area in Perspectives View
View Advertisement	View property advertisement
REGISTERED FUNCTIONS	DESCRIPTION
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3D GIS View	Viewing housing area in Perspectives View.
View Advertisement	View property advertisement.
Edit Property	Owner/agents can advertise their property and edit or remove their advertisement also edit/update/change their property information.
Manage Property	Exclusively for the system Administrator

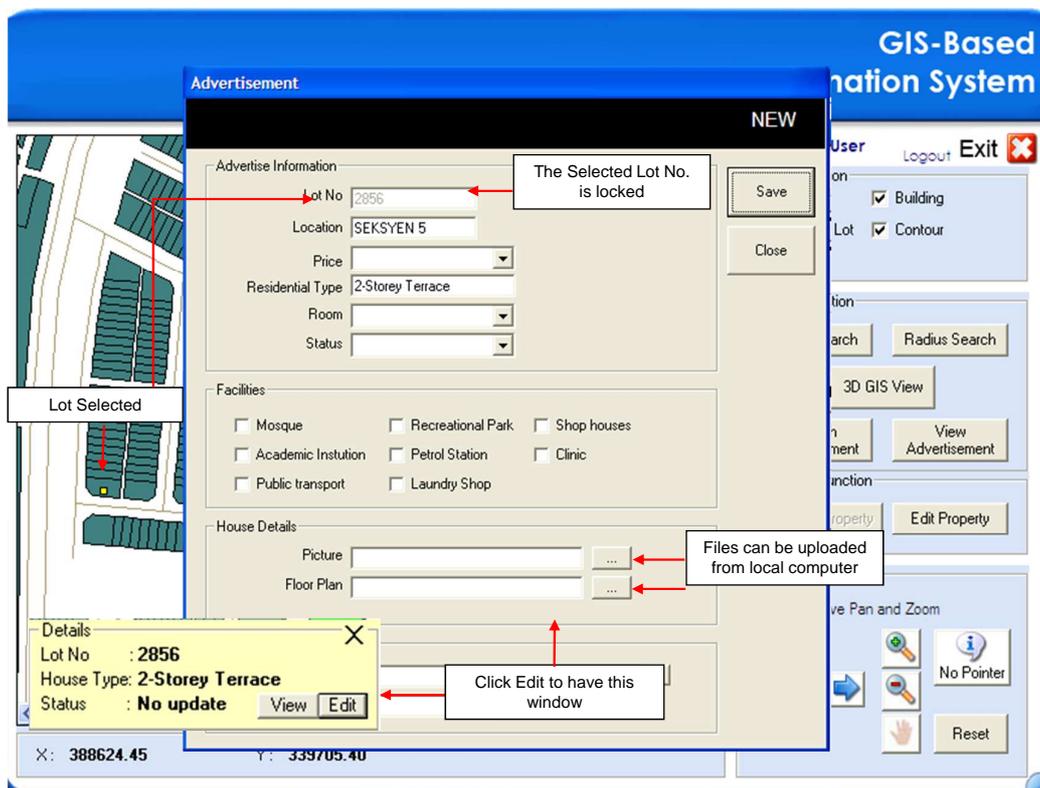


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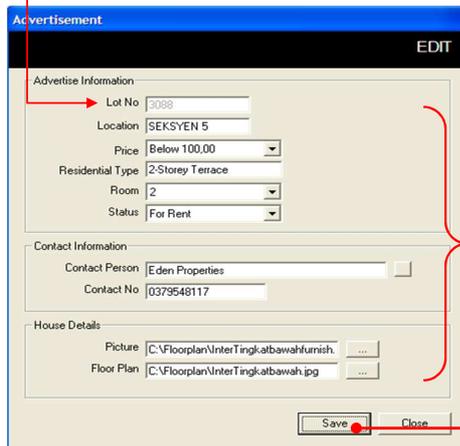
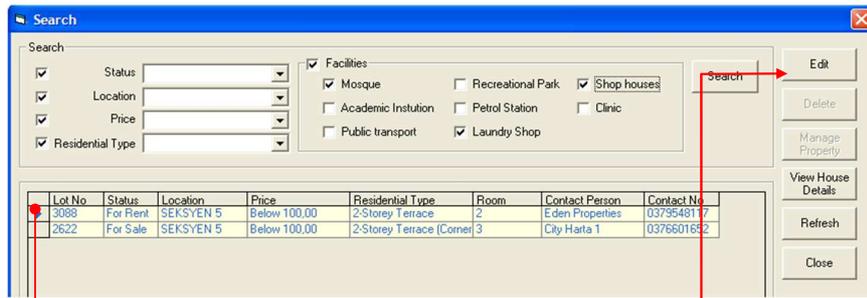




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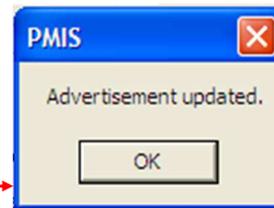


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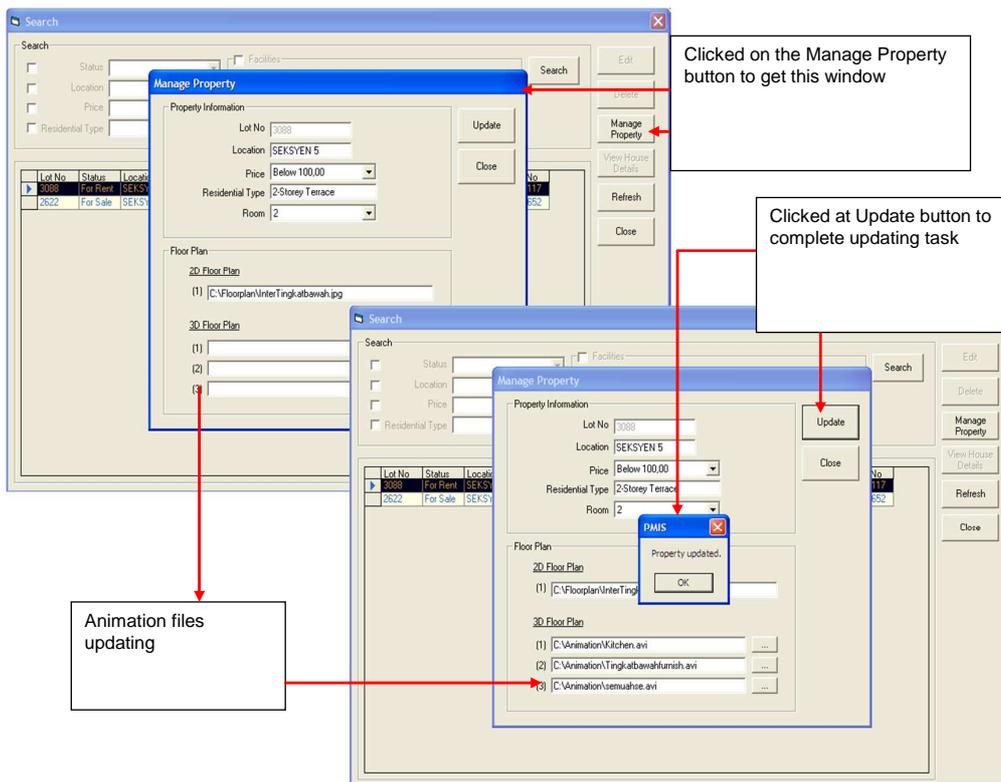


Editing Pre-existing database

From a Relational Database



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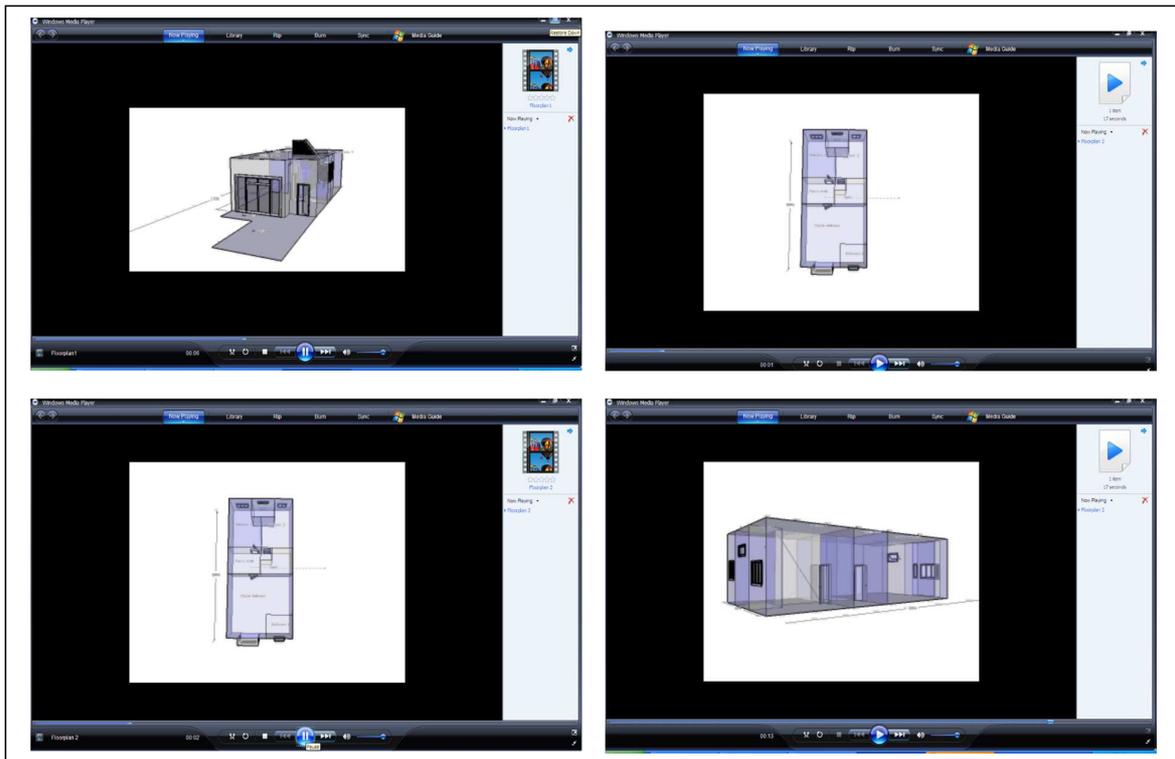
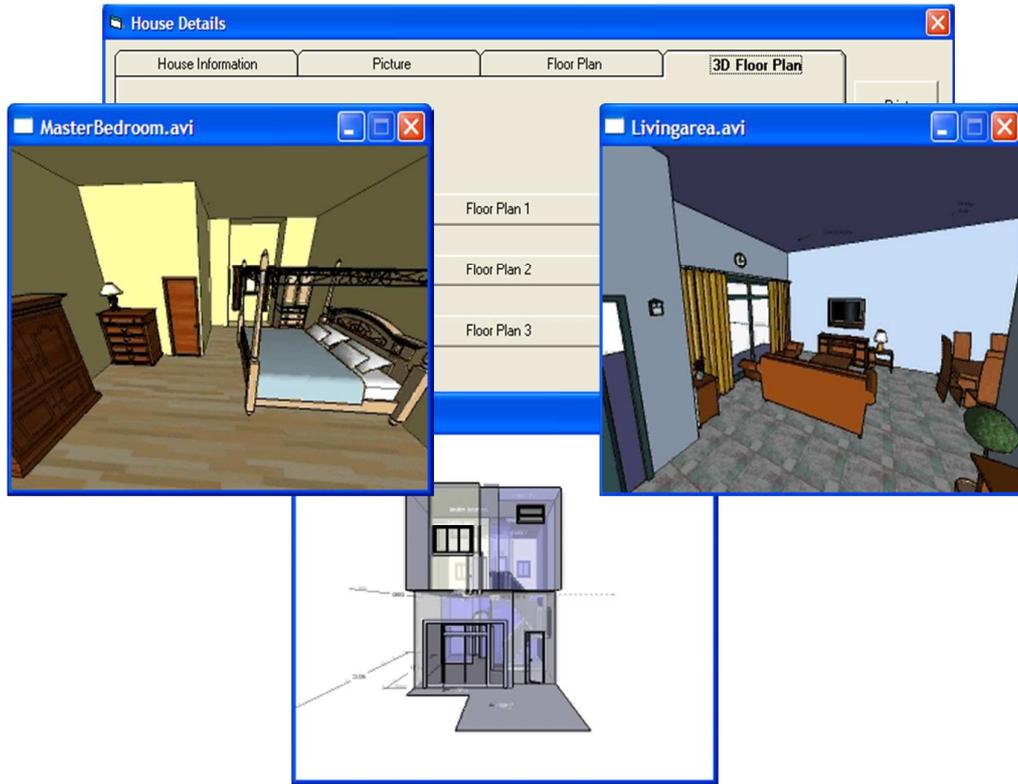


Clicked on the Manage Property button to get this window

Clicked at Update button to complete updating task

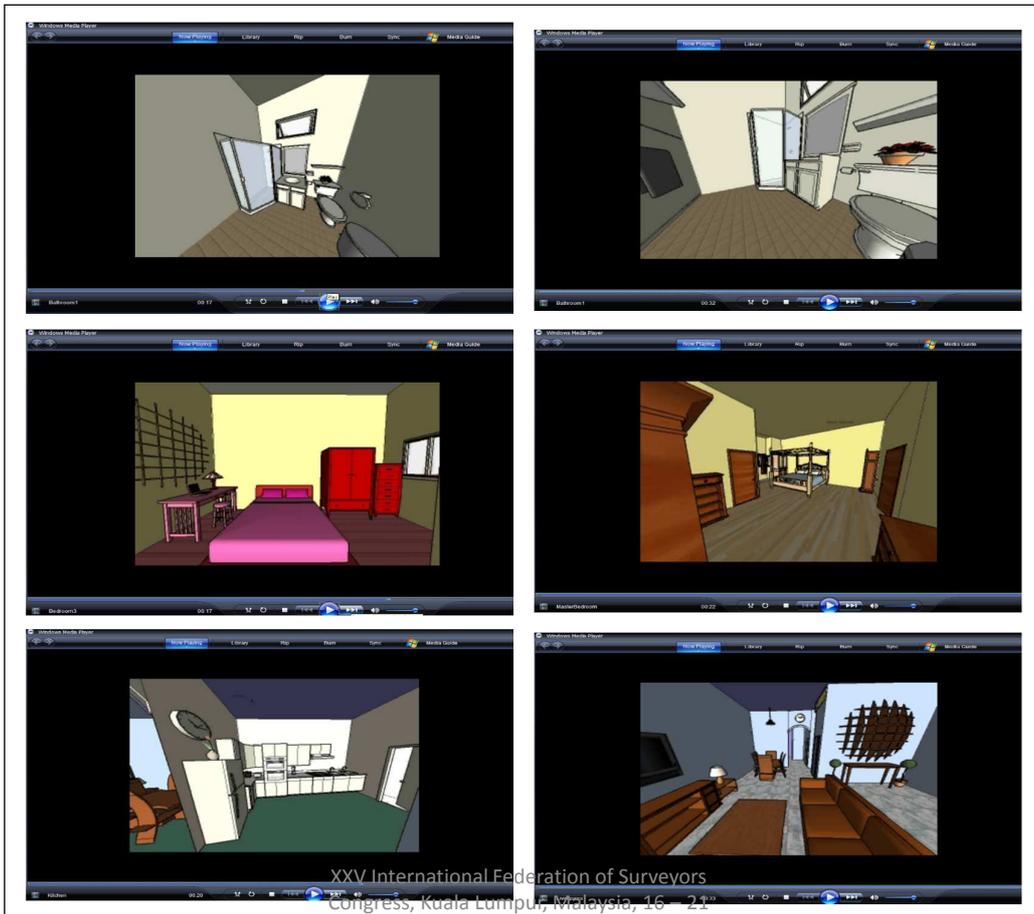
Animation files updating

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- Not actually a web-based platform
- Based on VB programming language
- Very dull, static, back dated & not interesting interface

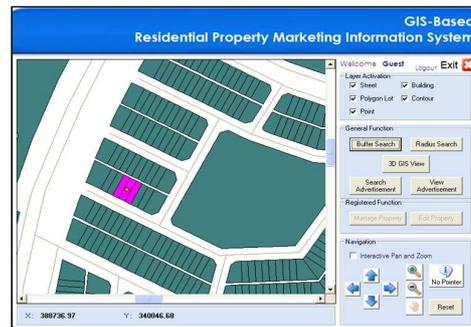
```
Private Sub btnLogin_Click()
If (txtUserName.Text = "Admin" And txtUserPass.Text = "password") Then
    lLogin = True
    lAdmin = True
    sUsername = "Admin"
    Unload Me
ElseIf (txtUserName.Text = "user" And txtUserPass.Text = "user")
Then
    lLogin = True
    lUser = True
    sUsername = "User"
    Unload Me
ElseIf (txtUserName.Text = "" And txtUserPass.Text = "") Then
    lLogin = True
    lGuest = True
    sUsername = "Guest"
    Unload Me
End If
End Sub
```



Welcome Admin

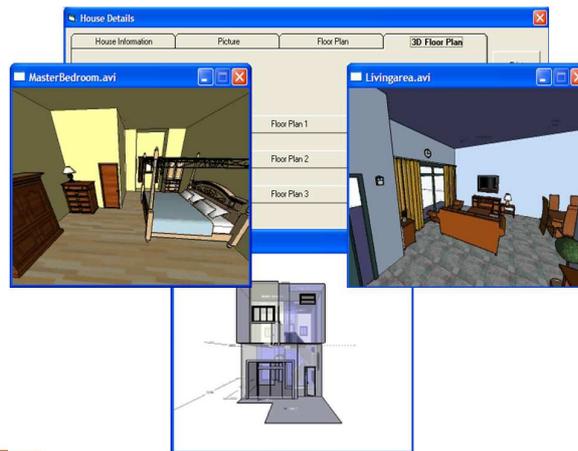
System Function for the Admin User

- Geoprocessing capabilities: no geometric network available on radius & buffer query
- Search have to be on the range of network distance & accessibility through road



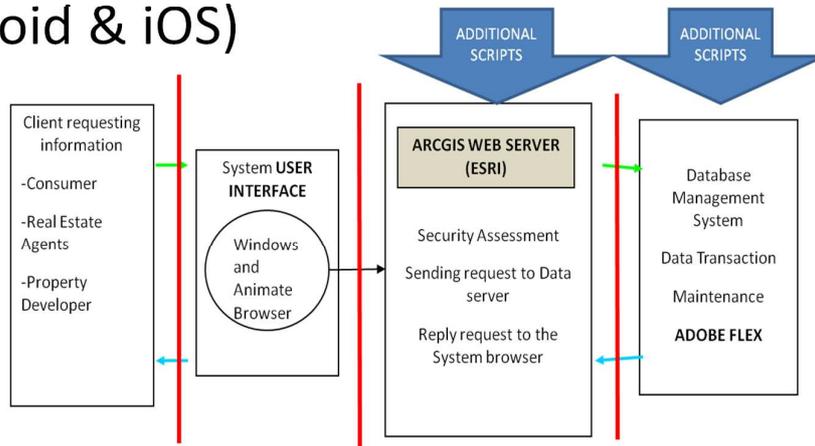
The limitations: numero tres

- Pre-recorded 3D visualisation object/scene linked from property attribute table
- Static & not interactive

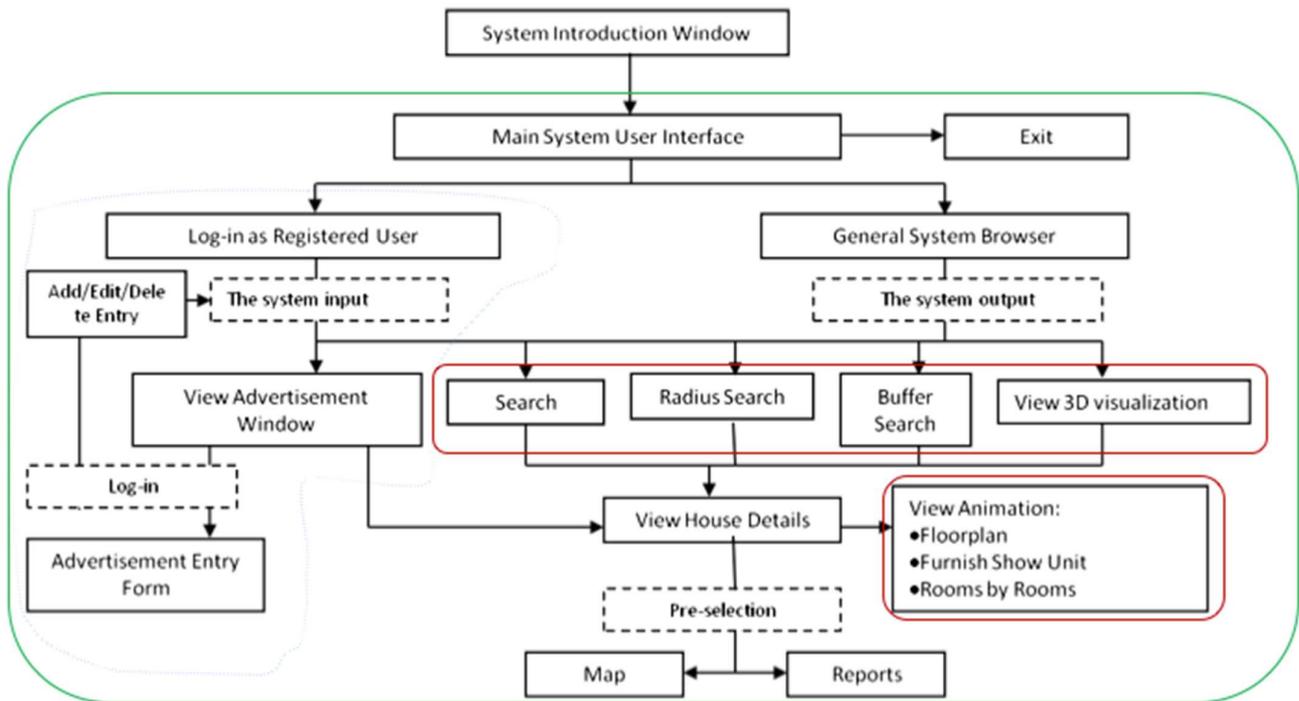


The improvements: numero un

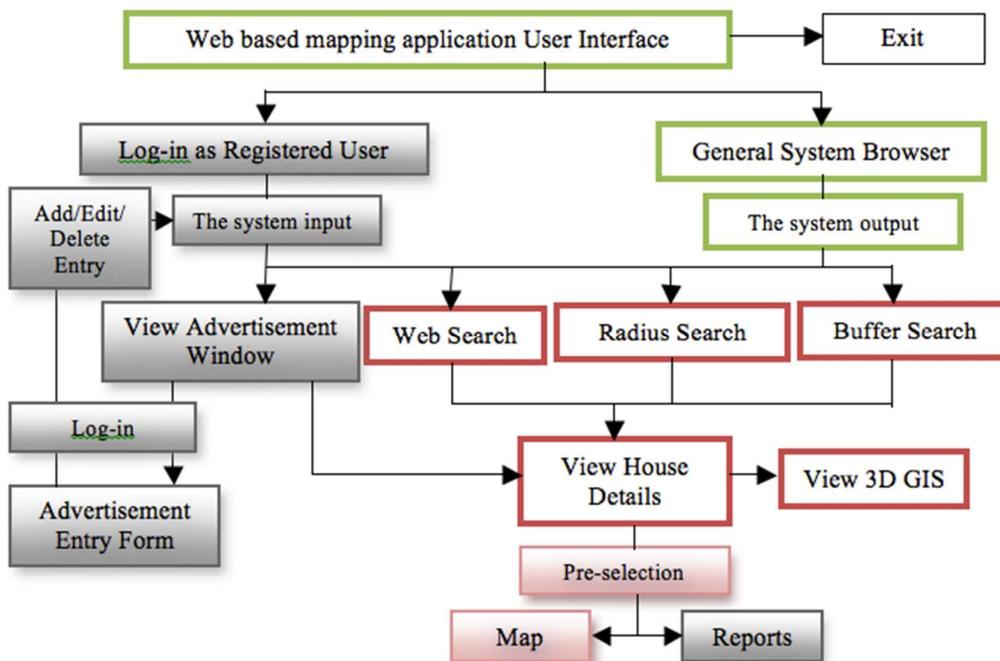
- ArcGIS Server as a new platform
- Coupled with highly interactive Flex viewer
- Viewed in desktop, web-based & even mobile (Android & iOS)



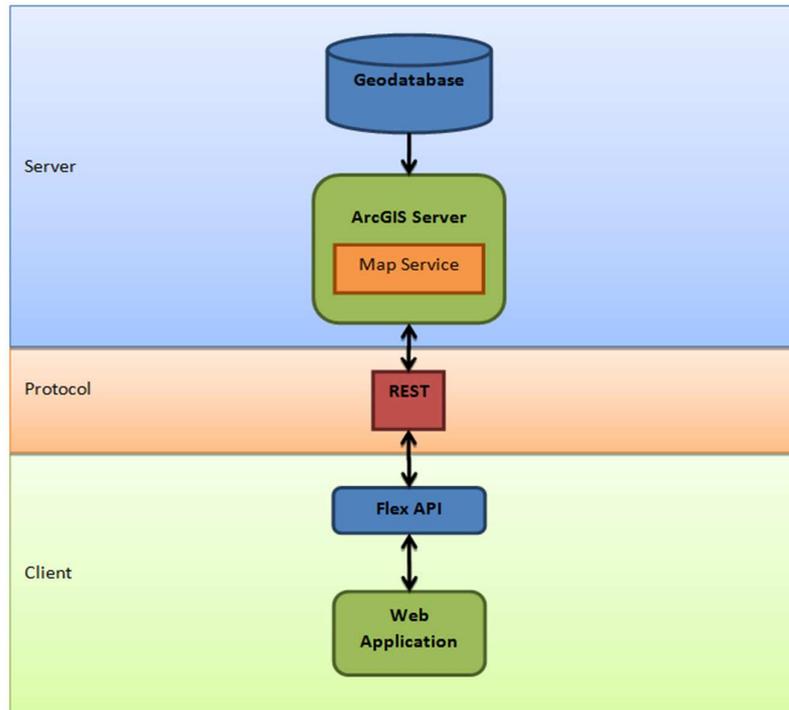
The improvements: numero un



The improvements: numero un

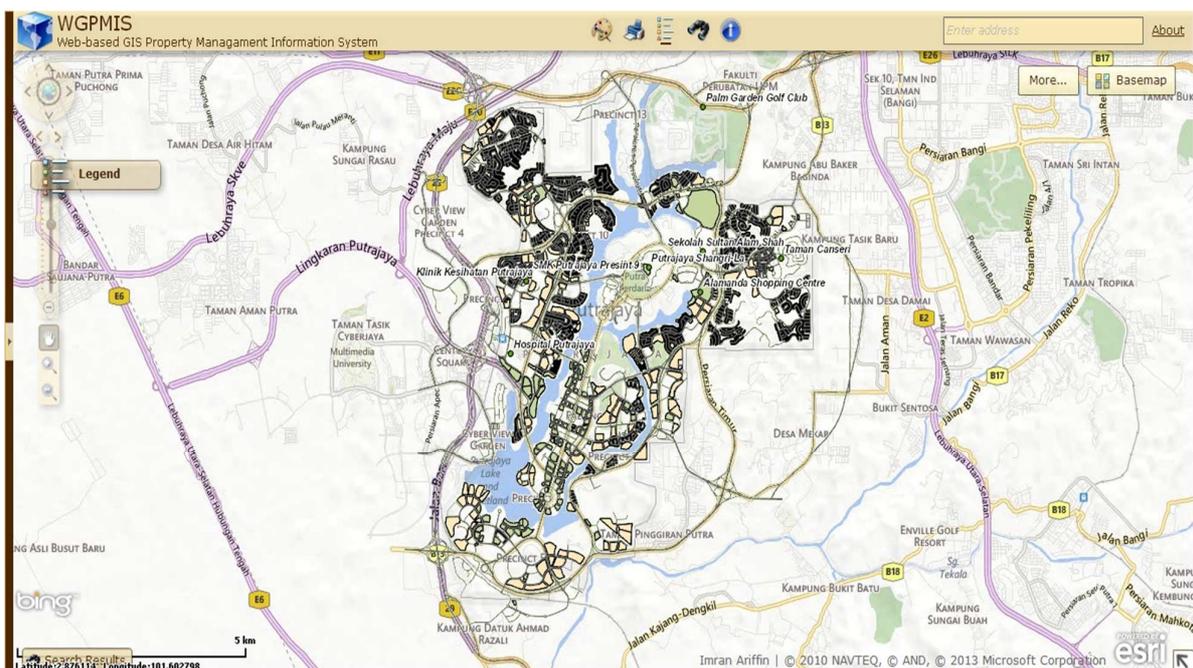


The improvements: numero un



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The improvements: numero un



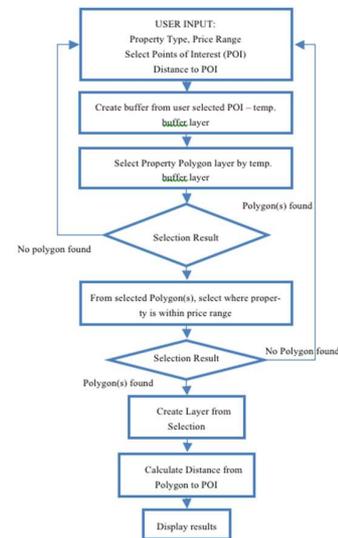
The web application

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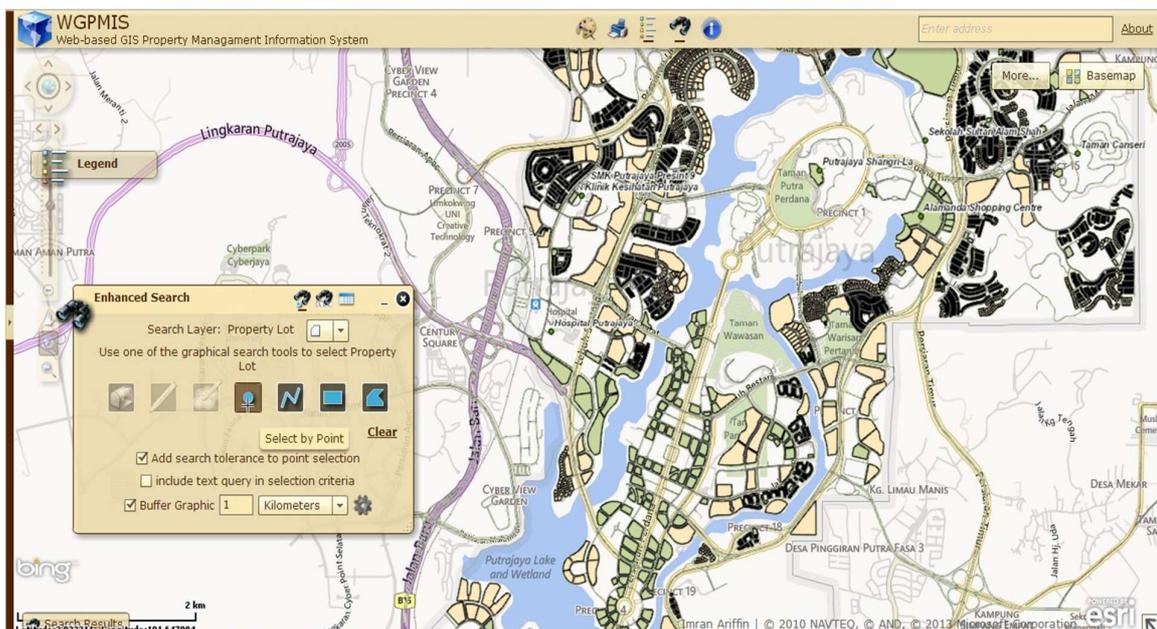
The improvements: numero deux

- Enhanced geoprocessing engine & geometric network functions using ArcGIS server tools
- Improving
 - Street network data
 - POI data
 - Property data

1. User selects a POI
2. Create a Buffer layer of the POI based on the user specified Distance
3. Intersect buffer layer with the property polygon layer
4. Select from the selected property polygon, with the query statement formed using the user's input variables (Property Type and Price Range)
5. Create layer from the new selection
6. Calculate the route distance from the property to the user selected POI using network analysis
7. If more than one property is found, iterate the process in no. 6
8. Display results

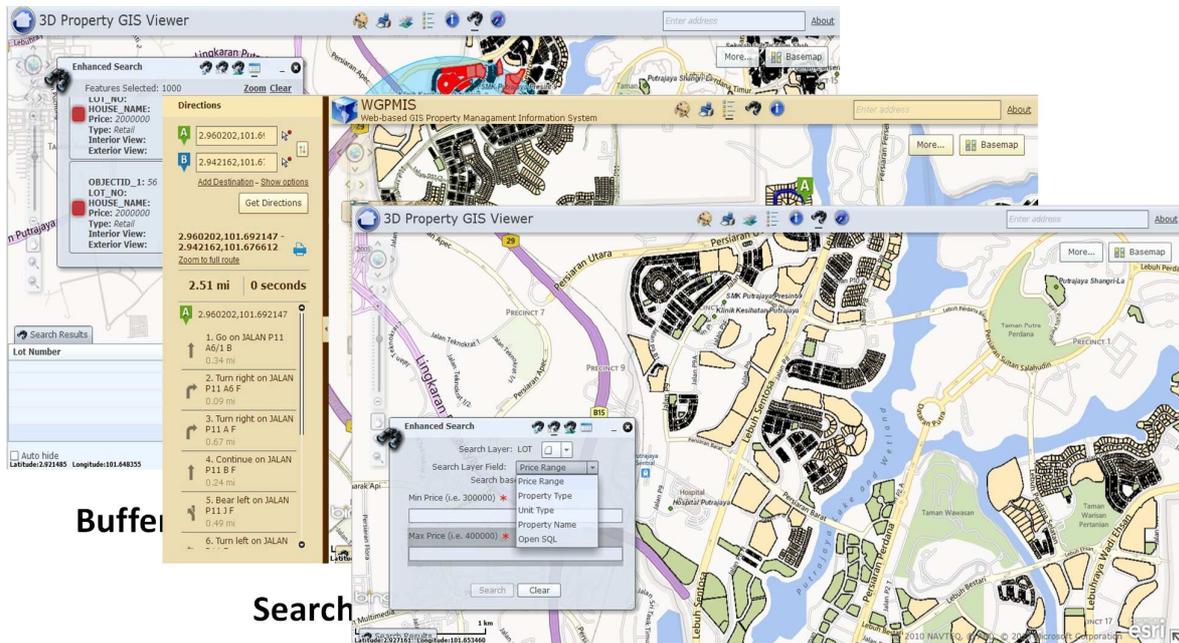


The improvements: numero deux



Enhanced Search interface

The improvements: numero deux

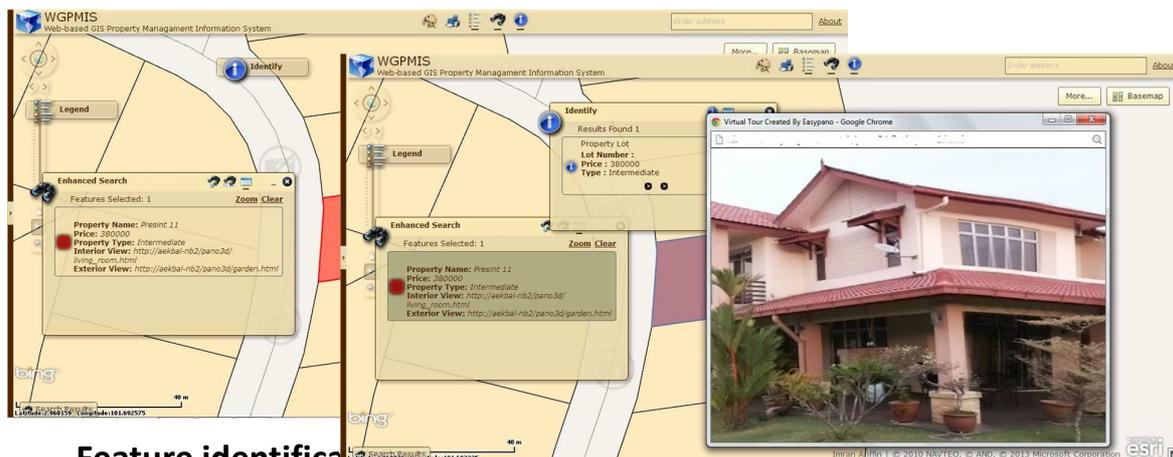


Attribute-based search

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The improvements: numero trois

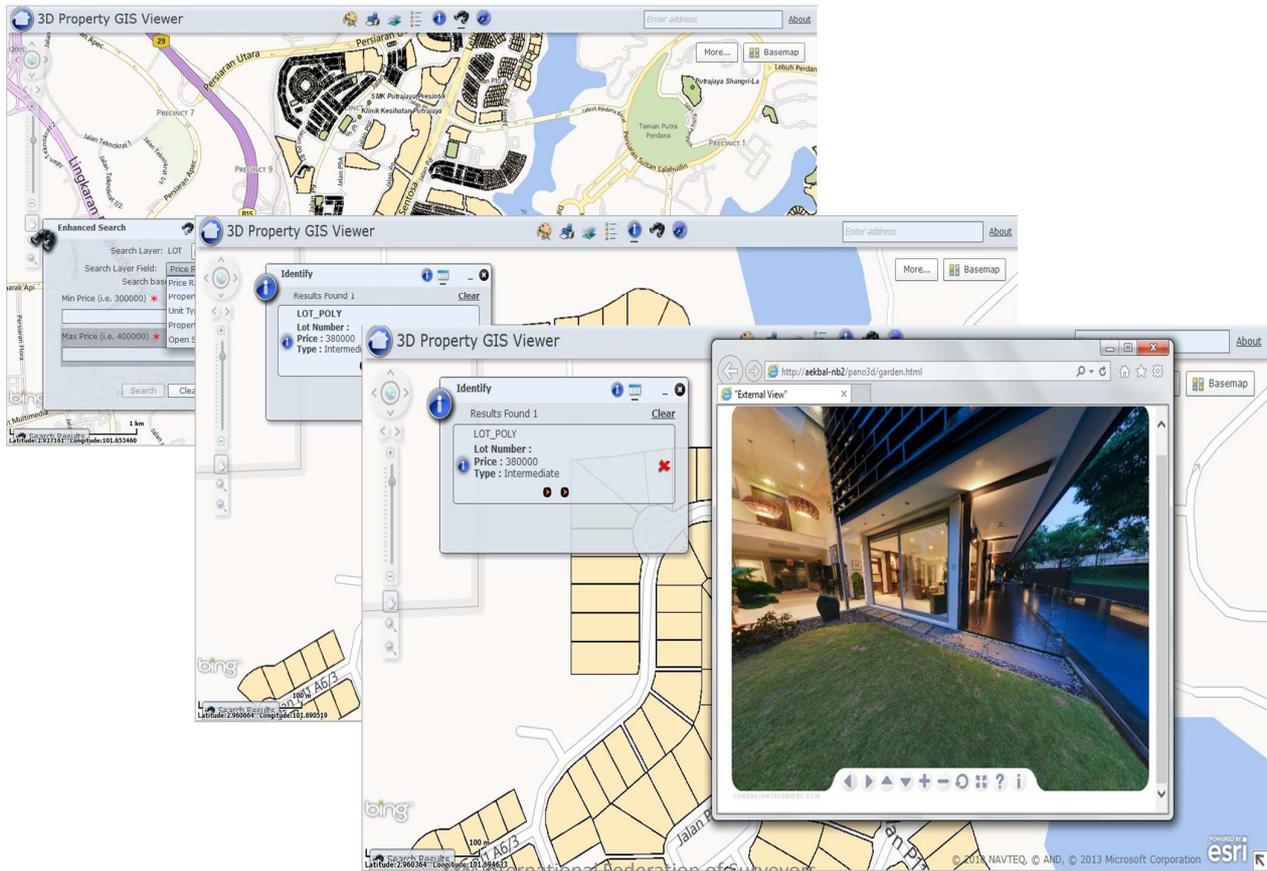
- Photographic panoramic display to replace heavy 3D visualisation format
- Increase speed & reduce complex processing time



Feature identification

SWF file opens in a new window

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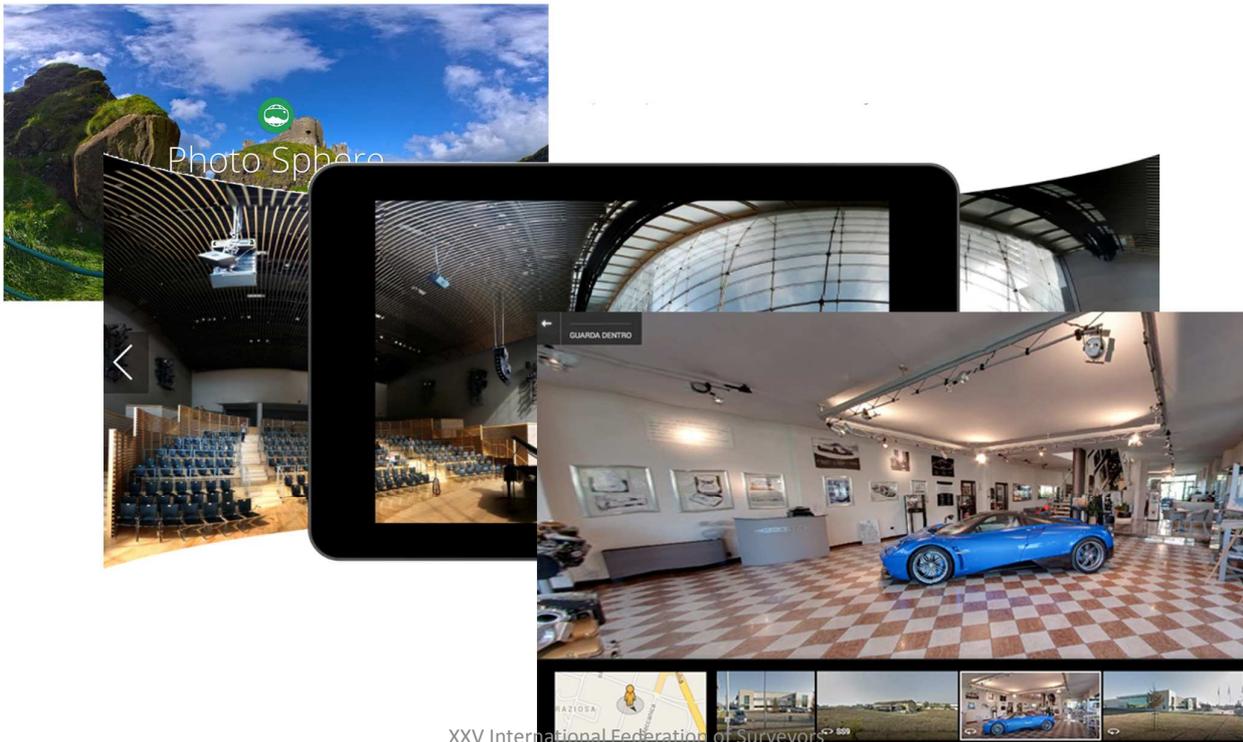
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More improvement



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More improvement



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Conclusion



- Highlight the main improvements of the conceptual design
- Three limitations of the pilot system:
 - Platforms
 - Geoprocessing & network functions capabilities
 - Complexity of 3D LOD (3D texture, façade etc.)
- Solutions
 - ArcGIS Server & Flex
 - Panoramic VR



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- It can be embedded to the existing portal or link to it
- Powerful marketing tools for both seller & buyer
- Panoramic VR can be capture using mobile phone and uploaded to the system
- Simplicity & functionality
- To migrate into mobile platform (Android & iOS)

- Financial assistance from Malaysian Land Surveyors Board (LJT)
- Centre of Geospatial Technology (CGT), Universiti Teknologi MARA (UiTM)



Thank you for your attention!

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