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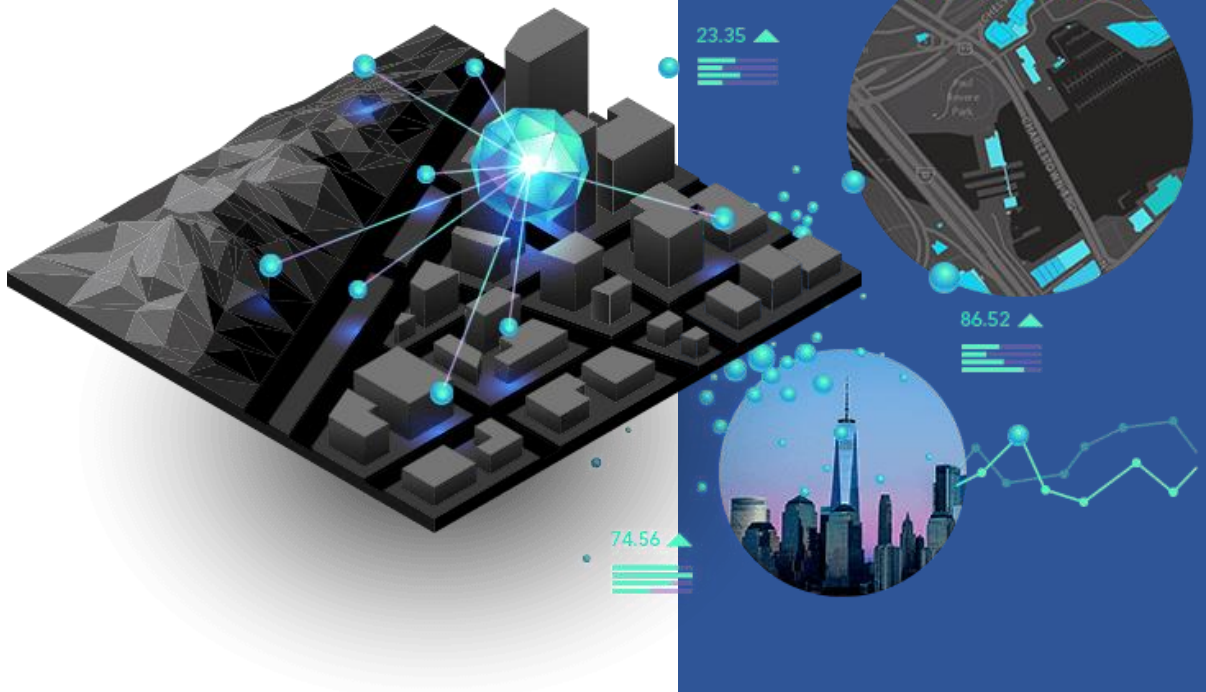
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What's New in ArcGIS Enterprise 11.0

ArcGIS Enterprise is being turned up to 11! We are excited to announce ArcGIS Enterprise 11.0, part of the ArcGIS 2022 Q2 releases, is now available to all eligible customers worldwide. This release is full of new enhancements and functionality. This release will be the first time we have increased the major version number of ArcGIS Server, now part of ArcGIS Enterprise, in over 10 years. We are moving to ArcGIS Enterprise 11.0 because of the significant under-the-hood changes in technology for our Windows and Linux deployment options.

For a comprehensive view into everything included with this release, look at the documentation available in the What's New in ArcGIS Enterprise help topic. The ArcGIS blog site will also provide additional blogs covering specific features, including a blog about new beta features coming ArcGIS Enterprise 11.0.

Jump to a category

ArcGIS Enterprise portal

Content and data management

Administration

Apps

ArcGIS Enterprise server roles

ArcGIS Enterprise on Kubernetes

Important changes in ArcGIS Enterprise 11.0

Learn more

For more details visit Blog: What's New in ArcGIS Enterprise 11.0

Utility Data Management Support tools - 2.9.0 Release

Esri have officially released version 2.9.0 of the Utility Data Management Support (UDMS) toolbox. This toolbox is included in the updated version of the Electric Utility Network Foundation and the Communications Utility Network Foundation solutions. There are some great tools in this toolbox to help you get started and tailor your Utility Network configuration for your organization. Below, I will highlight some changes since the March update and talk about some future plans for the toolbox. If you are unfamiliar with these tools, start out but reading the following articles:

- [Introduction to the toolbox](#)
- [February 2022 Update](#)
- [March 2022 Update](#)

What's New

ArcGIS Pro

Are the UMDS tools supported in ArcGIS Pro 3.0? Yes they are, but due to some limitations, the 2.9.0 toolset provided with the solutions does not work in ArcGIS Pro 3.0. The limitations include changes in Python (3.7 vs 3.9) and ArcGIS Pro, that have resulted in 2.9.x version of the toolbox not working in ArcGIS Pro 3.0. A version of the tools for ArcGIS Pro is available in the github repo.

Configure UN Layers

A new parameter was added that provides the ability to remove the pop-ups and display filters if you do not need these in your map.

Export/Import Matrix

The tools now include a new option and excel tab to review and assign Association Roles.

Select by Association

A new user interface has been added to make the tool easier and faster to use. This tool previously required you to input a json string to select associated features. This is still supported and provides advanced control over selected features. In the example below, we configured the tool to first select all MV Transformer assemblies. We set its group value to 0, so that this selection is preformed first and independent of the other rows. Then we select the HV and MV poles that the assembly is attached to. The group value is set to 1, so these selections are run together.

For more details Visit Blog: [Utility Data Management Support tools - 2.9.0 Release](#)

Blockchain for Real Estate and Geospatial Projects

Blockchain is a set of digital records, or blocks, each containing data on transactions. It can be thought to hold information on electronic monetary transactions. The word "block" is in reference to the way that these blocks link together in both time and space.

Blockchain can be applied in the Geospatial and Real Estate industries due to its immutability. It helps to authenticate ownership of data and property and helps in maintaining records in a more transparent manner.

The Blockchain process provides the technological foundation for all participants involved in (example) for a land ownership and the chain transaction. Each participant has specific roles and rules assigned within the blockchain. This process provides each participant the ability to agree or not agree with information that is to be recorded into the blockchain ledger. For instance, financial information such as cost and price, legal information such as land titles and land property history, and spatial information such as parcel area and parcel measurements.

The Hyperledger project is decentralized and allows for more transparency in real estate agreements. Hyperledger Fabric is an open source framework for making private (permissioned) blockchain business networks, where identities and roles of land owners/members are known to other members. The network built on fabric serves as the back-end, with a client-side application front-end.
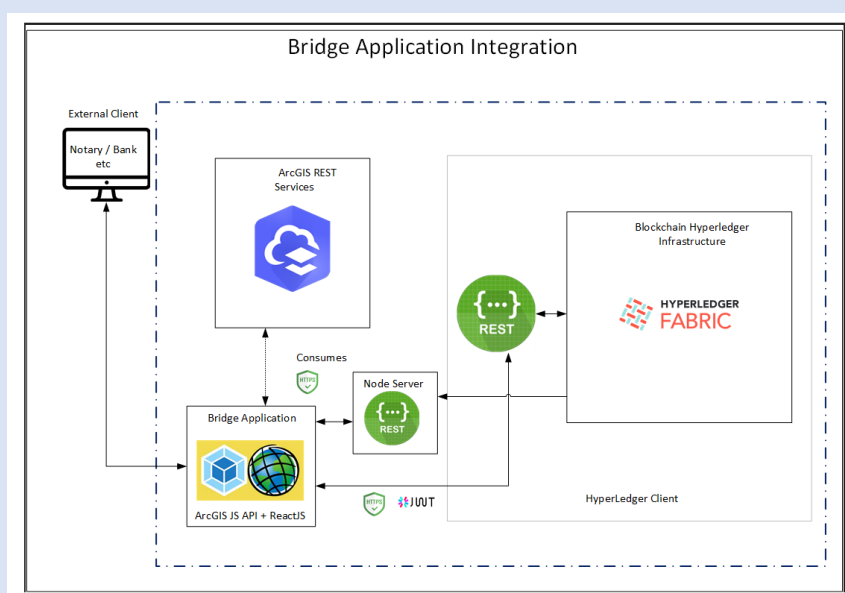
GIS Integration of systems to Blockchain

In order to make the Bridge application i.e. (an integration if Blockchian& GIS) will have a complete map interface with the map services consumed from ArcGIS REST Services -CLIENT server. External entity (such as Bank) can use the bridge application to perform the registration operations (apply / review / approve etc.).

The bridge application will expose REST services to consume from Blockchain network. The Bridge application will invoke the Block Chain Network using the REST Services published by Blockchain Network.

We can develop a new GIS web application with the functionality (display map, selecting the parcel to view documents). Also we will publish REST services to interact with Blockchain module to interact with GIS.

Hyperledger Fabric API will communicate with Esri ArcGIS Enterprise API through a custom API. This provides the capability to geolocate all the raw location data from the Blockchain, for example, latitude and longitude coordinates into GeoJson points.

The following is the high level diagram

GIS Integration of systems to Blockchain

**ArcGIS maps and Unique Land Parcel Identification Number (ULPIN)**

ArcGIS maps include Spatial information; like, spatial points, lines, and polygons, which is necessary for a land ownership use case as… Parcel boundaries (inc. latitude and longitude), Parcel ID, Property value (i.e. Price Paid, Property Tax Value), Tenure Type (ie. leasehold, freehold, protected lands, public lands, customary lands).

Blockchain technology can be used to confer a unique cryptographic identifier to each land parcel based on its geographic coordinates, ownership, and purpose of usage.

For example, an agricultural land parcel owned by a farmer may be assigned a unique identifier and any changes in the land are also assigned different identifiers.

The Unique Land Parcel Identification Number (ULPIN) is a 14-digit identification number accorded to a plot of land.

 It is an alpha-numeric unique ID for each land parcel that contains ownership details of the plot besides its size and longitudinal & latitudinal details.
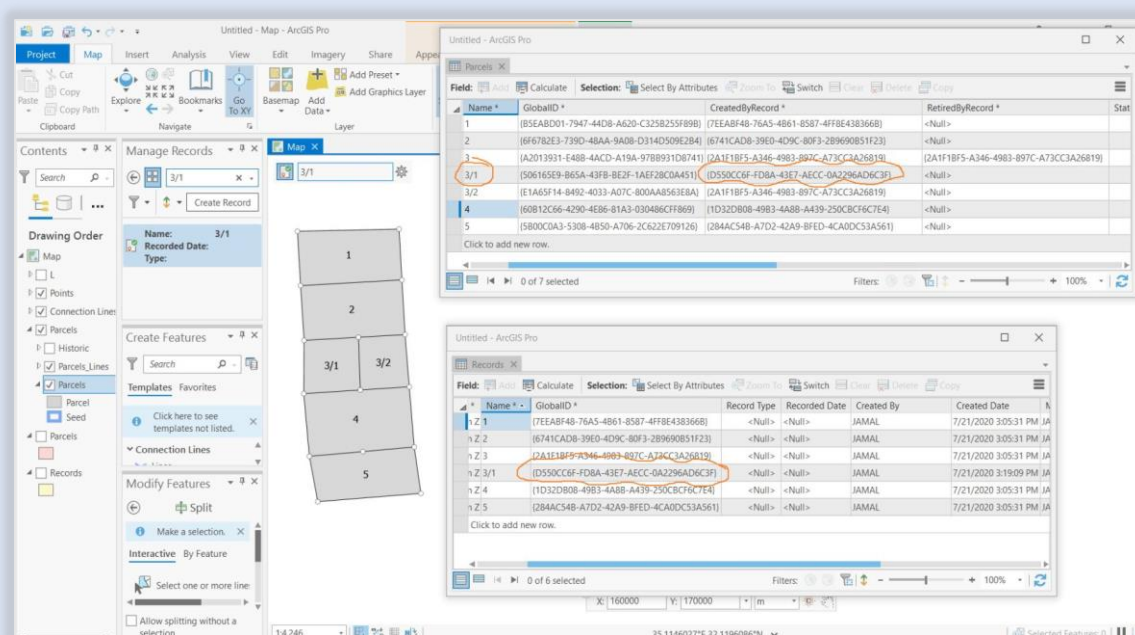
ULPIN in ArcGIS Pro

GIS based land registry on the Blockchain system

- Design and development of the back-end components where the Hyperledger Fabric blockchain API service utilized along with the ArcGIS Enterprise API rest service.
- The creation of various coding artifacts that connect the Blockchain API services and Geospatial API services resulting in the creation of the Blockchain on the Reals estate/ Land registry system.
- The creation of the frontend; an interactive dashboard that visualizes the Land registry - Blockchain results on a web-based application that includes various widgets and map-based output.

Business definition

Pain points for buying and selling property include: a lack of transparency during and after transactions, possible fraud, and errors in public records to name just a few.

A blockchain provides a secure way to record transactions between parties and share data with other networks by creating a shared database, or blockchain. This enables organizations to reduce the cost, complexity and risk of maintaining ledgers by making them digital and distributed.

Public Health and Social Care using GIS

Transform Your Organization with ArcGIS
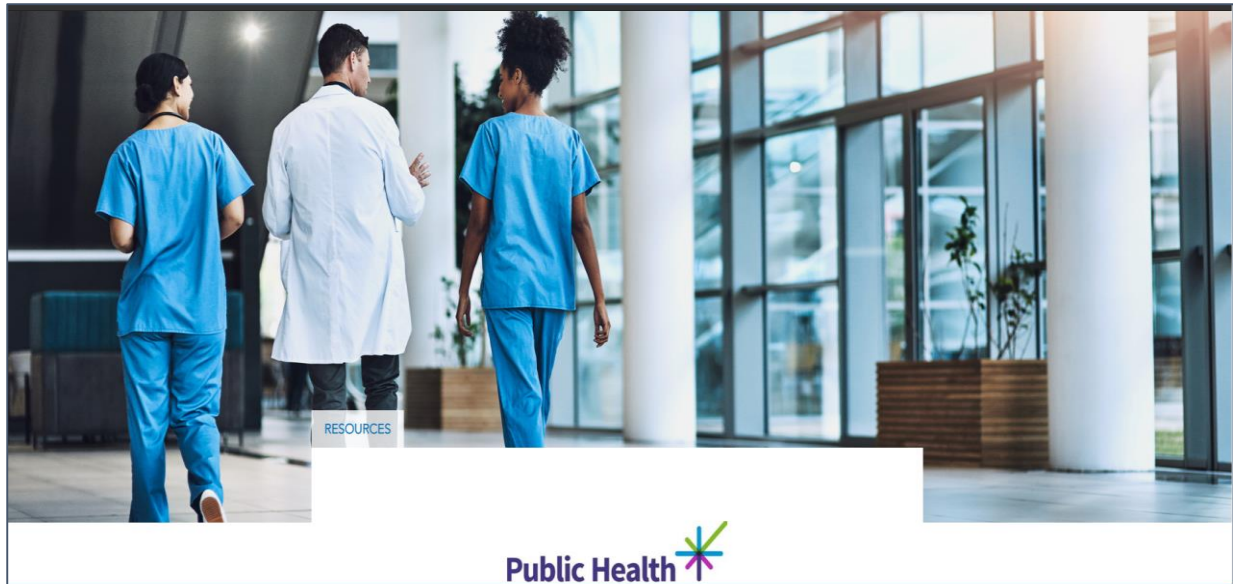
Public Health and Social Care are fields of study where GIS mapping is widely used.

GIS mapping is a valuable tool for public health and social care because it can be used to identify areas with high disease rates, plan interventions, monitor the progress of intervention programmes, and predict future threats.

Community health assessments

Community health assessments are conducted by public health professionals to identify social determinants of health. These methods include mapping the surrounding environments of patients to identify barriers to accessing healthy food, medical care, and more. Geospatial maps have proven useful in this process because they help communities understand their surroundings better for an improved quality of life.

The health assessment process starts with identifying the boundaries of a neighbourhood or community. Then, with GIS mapping tools (using Esri ArcGIS Pro), it overlays this data on top of maps that contain various health outcomes for those neighbourhoods or communities.

This information is then aggregated, allowing for comparisons to be made between different communities based on various health factors. GIS mapping allows for this because it can be used to show geographic relationships between different statistics, trends and events in large datasets across time and space - such as large.

Address Population health management

Globalization, population growth and urbanization have created new challenges in health care. GIS maps provides a spatial analysis for decision-making across the entire health system-from hospitals to neighbourhoods.

GIS can help address population health management challenges. For example, it is used to map the locations of health facilities in order to assess their adequacy for delivering adequate services and efficiently allocate resources to those areas most in need.

One of the most important aspects of addressing population health management is understanding the geographical aspects of disease distribution.

Geospatial maps are used to identify the locations with highest risk exposure based on demographic data and population density which helps inform people on the disease risks they face.

Performance monitoring

GIS mapping has been used by public health departments to map communities in order to identify the needs of the population. It can be used for performance monitoring of healthcare and community service providers in order to evaluate their performance.

This technology can also be used for other purposes, like analysing public health data, or identifying areas with high levels of poverty.

GIS benefits Public health

GIS can be beneficial to public health by analysing data and providing helpful insights. It allows users to analyse spatial patterns and make connections with public health.

For example, when we create maps of environmental hazards in areas where there is a high concentration of health diseases, we can navigate, develop the analytical dashboards (using ArcGIS Experience Builder) and find out what it is about that specific area that is causing these health issues.

Challenges in data collection

Geospatial maps are very useful in healthcare analytics. They can be used to present data from the health records of a specific area. The data can be analysed and the information that is found can be used to improve on the healthcare interventions and programs for the people in that area.

The government health organizations typically collect data from various sources. These data are then used to develop policies and programs in order to regulate the health of their population. The challenge lies in the fact that not all the data is collected, and not all of it is accurate.

One solution proposed is a "hybrid" solution, where both government and other agencies would join forces to collect more accurate data. This would cut out any problem of bias or misinformation in the dataset. Additionally, there are other methods that can be used such as using information from social media posts as well as having companies provide their own datasets on individuals' behavior and health care records.

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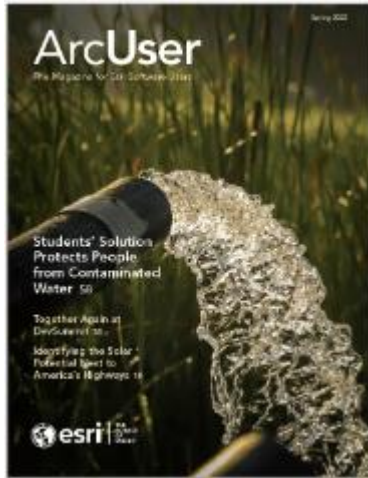
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MicroCenter Group

Founded in 1983, MicroCenter Group is a pioneer in providing information technology solutions in Bahrain. Initially it was starred with the aim of providing customized IT solutions to small and medium organisations but today with over 100 customers, both in the Government and private sector it has attained a leadership position in the industry within the country. With four group companies and an office in Saudi Arabia, today it has diversified into various other businesses that include IT Business Solutions, Geographical Information Systems (GIS), Utility network GIS surveys, LiDar Technology / BIM modeling, and Digital media solutions & Specialized training.

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