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2024



San Diego County Assessor's GIS Transition Challenges: ArcGIS Pro and the Parcel Fabric

By Jennifer Benavides & Leeanna Kirby



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SD Assessor's Mapping Department Functions

- Verify parcel legal description for all recorded deeds
- Segregate/Combine parcels & tax rate areas per documents/Maps identified
- Assign APNs and Create Assessor Parcel Maps (APMs) for Assessment Purposes
- Prepare paper form transaction documents for Appraisal (CUT)
- Update parcel data systems (mainframe & **GIS**)
- Provide *GREAT* customer service!
- Collaborate with stakeholders such as the San Diego County Local Agency Formation Commission (LAFCO) and the Joint Powers Authority (JPA) San Diego Geographic information Source (SanGIS), among others.

As of 2023...



Staff Break Down:

1 Division Chief

Subdivisions Crew

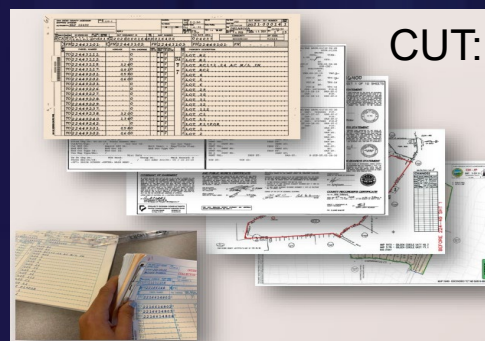
1 Sr GIS Analyst/Sup
1 Sr Cadastral Tech
3 GIS Analysts
1 GIS Tech*

P.I. / Mobile Homes Crew

1 Sr GIS Analyst/Sup
1 Sr Cadastral Tech
1 GIS Analyst
1 GIS Tech*

Segregations Crew

1 Cadastral Supervisor
1 Sr Cadastral techs
2 Cadastral Techs
1 GIS Tech*



* 2 positions unfilled

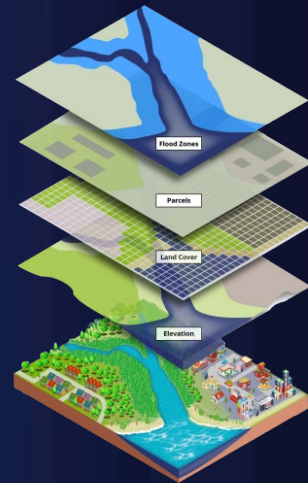
OVERVIEW

- GIS Implementation History
- The Transition to ArcGIS Pro
- Parcel Fabric Implementation and Collaboration with the SanGIS Agency
- The Future of GIS in the AO Mapping Department



San Diego Geographic Information Source (SanGIS)

- The San Diego Geographic Information Source (SanGIS) is a Joint Powers Authority (JPA) of the City of San Diego and the County of San Diego responsible for maintaining a regional geographic information system (GIS) land base and data warehouse. Established in 1997.
- The JPA allows the City and the County to combine resources to meet common objectives to reduce duplication of efforts, maximize resources, provide for an efficient method of sharing information and provide timely updated data to the public.
- The SanGIS land base is comprised of Assessor land records and regional roads network.
 - <17 layers including lots, parcels, roads, addresses, and open space easements.
 - Established Governance & error reporting system for JPA members and the public.

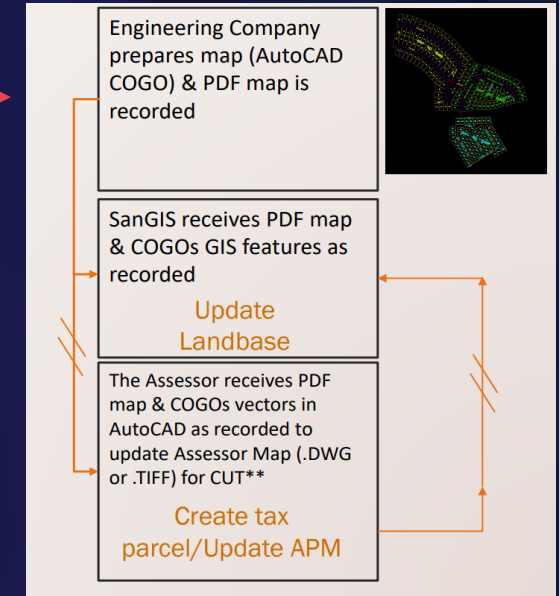


[SanGIS Website \(arcgis.com\)](https://arcgis.com)



GIS Implementation History (2014-2022)

- Historically, APMs were produced in Raster and AutoCAD by Mapping Dept. and digitized into GIS data by SanGIS.
 - Assessor is the authoritative source for APNs; SanGIS cannot assign APNs.
 - Assessor did not have GIS skilled staff; SanGIS had geospatial infrastructure and staff.
- In 2014, the County of SD adopts Geospatial Strategic Plan.
 - GIS Objectives were established for ALL county departments, including the Assessor's Office.
 - Take ownership and responsibility of updates of the SanGIS parcel layer.
 - Outlined efforts to convert ~30K Assessor Parcel Maps (APMs) to GIS.



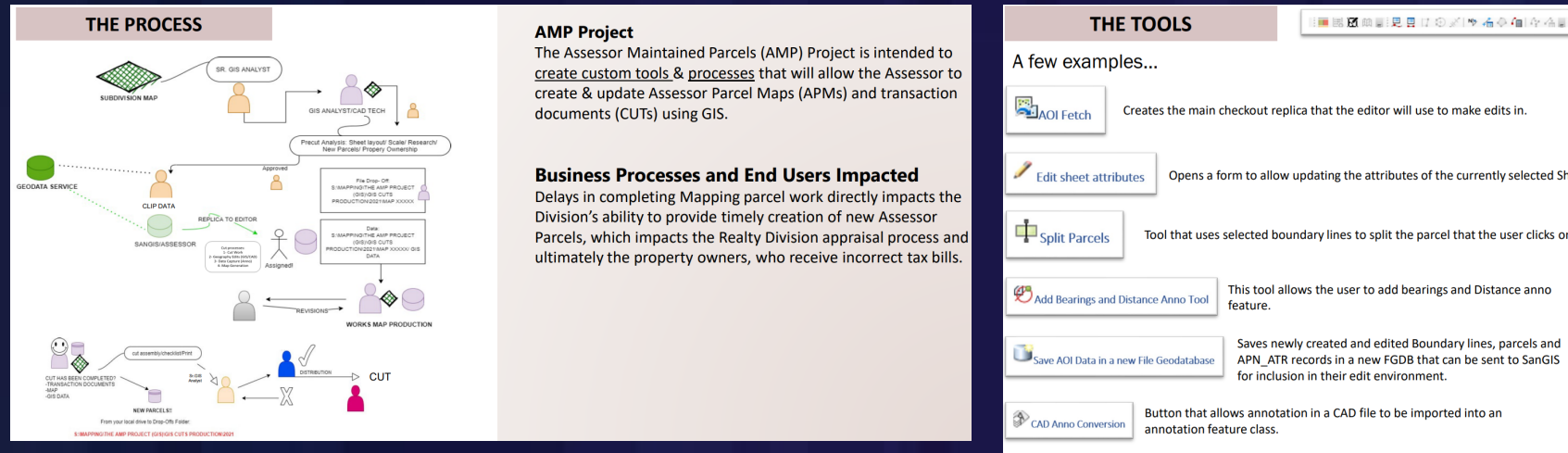
The Geospatial Strategic Plan (GeoSD) was adopted in 2014-2016 to outline specific milestones within SD County regarding the use of GIS to “optimize efficiency and effectiveness in the use, acquisition, and dissemination of GIS data and resources” .

Two main objectives/benefits specific to parcel map production were outlined:

Functional Threading Chart and Benefits			FG3	HHSA	SanGIS
Goals/Obj	2	3	LUEG	CGS	PSG
Objective ID	11		FUNCTIONALLY THREADED CREATION PROCESS	FUNCTIONALLY THREADED CREATION PROCESS	FUNCTIONALLY THREADED CREATION PROCESS
Description	Take ownership and the responsibility of day forward updates of the parcel layer (which currently resides with SanGIS) (Goal 2 and 6).		There are redundant efforts to maintain both a CAD based tax parcel map and a GIS based tax parcel map. By moving towards a GIS tax parcel map in the ARCC office, this effort will save money and improve the timeliness of the information that is in the land base and tax parcels.		
Goals/Obj	6	5	FUNCTIONALLY THREADED CREATION PROCESS	FUNCTIONALLY THREADED CREATION PROCESS	FUNCTIONALLY THREADED CREATION PROCESS
Objective ID	32		FUNCTIONALLY THREADED CREATION PROCESS	FUNCTIONALLY THREADED CREATION PROCESS	FUNCTIONALLY THREADED CREATION PROCESS
Description	Convert the Assessor's nearly 30,000 parcel maps from raster and AutoCAD maps to GIS maps. (Goal 6)		Objective will improve the ARCC cadastral tax map product by converting thousands of unique maps into a single parcel fabric that is GIS data. Overall ease of maintenance of the parcels books will be improved.		

GIS Implementation Project History

- 2014-2016: Strategic conversations with SanGIS outlined a path forward for map conversion leveraging SanGIS parcels layer with GIS.
- 2016-2018: Custom tools were developed to streamline map production and eliminate redundancies in the process.



- 2018-2022: Due to budget limitations and production pressures to meet the tax roll deadline, the AMP tools were deployed without addressing all the bugs in the code.
 - *The tools were good in theory but, in practice, they required a lot of “jailbreaking” and data manipulation to work.*
 - *Lack of documentation for training presented challenges, specially for staff not familiar with data maintenance.*
 - *GIS staff turnover also delayed the process. Until...*

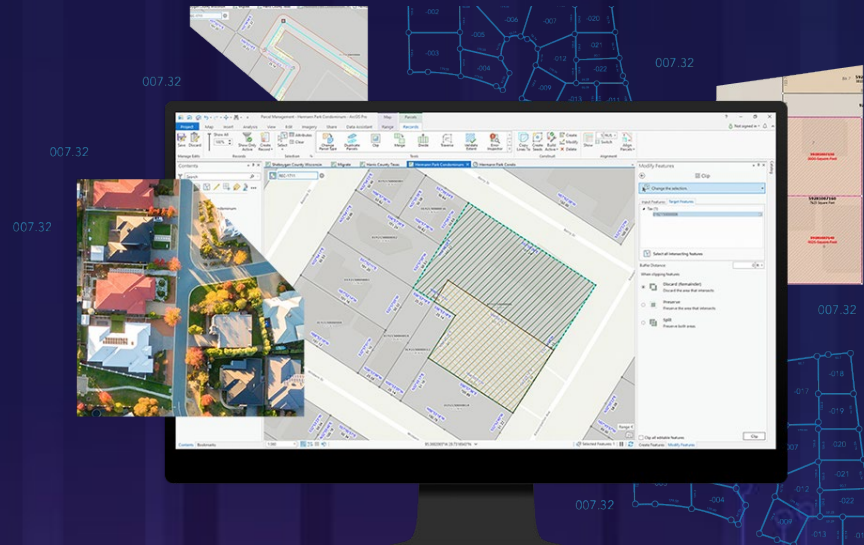
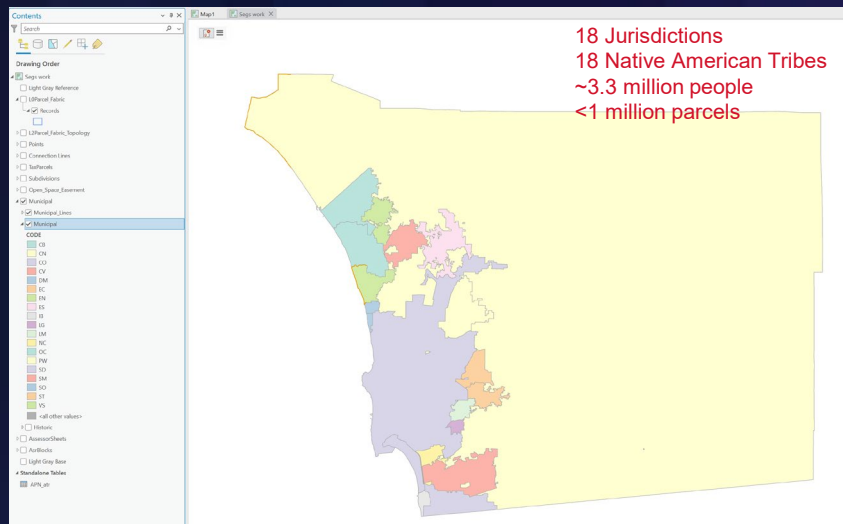
The Transition to ArcGIS Pro

- Demise of ArcMap in SD County – October 31, 2022 
 - ArcMap & custom tools were no longer available to Mapping Staff for Map Production.
 - This presented challenges editing maps published with GIS as we didn't have access to data or tools.
 - AutoCAD and Raster Design were still available for map production.
- ArcGIS Pro Deployed – November 2022
 - Sidwell hired to perform a Needs Assessment/Gap Analysis
 - Provided ArcGIS Pro training for all mapping staff, however not all mapping staff applies the use of GIS.
 - Sidwell assisted in evaluating our workflows and outlining a path forward.
 - Evaluated how we can leverage the SanGIS Parcel Fabric for collaboration and streamline integration of GIS workflows.



Parcel Fabric Implementation and Collaboration

- Strategic conversations with SanGIS demonstrated that collaboration of maintenance in the same Parcel Fabric environment would be mutually beneficial.
 - Collaboration would create a single true source repository of tax parcel data.
 - Mapping GIS staff (6) relocated to the SanGIS headquarters for streamlined collaboration and stability in land base access.
 - One-Stop-Shop: Constituents and stake holders are able access SanGIS and Mapping staff in one location for tax parcel related questions.



Parcel Fabric Implementation and Collaboration

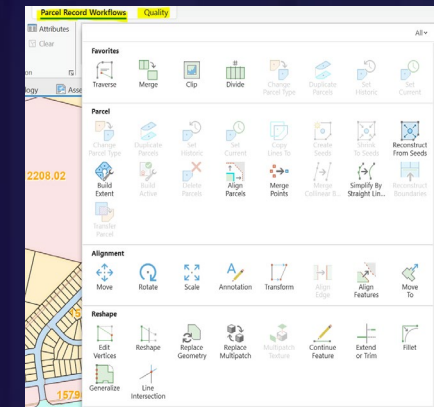
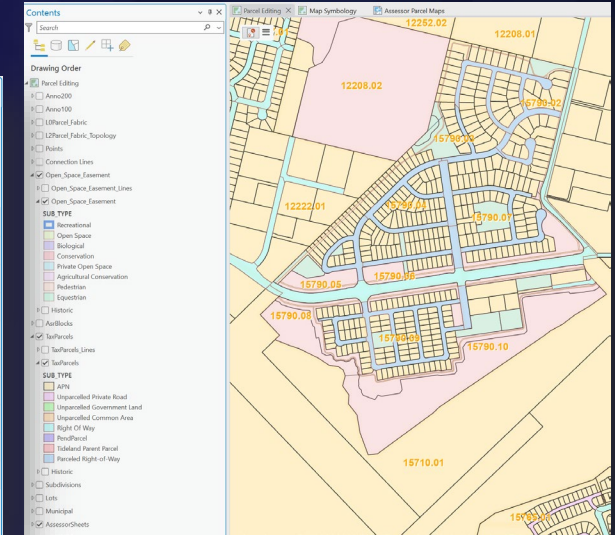
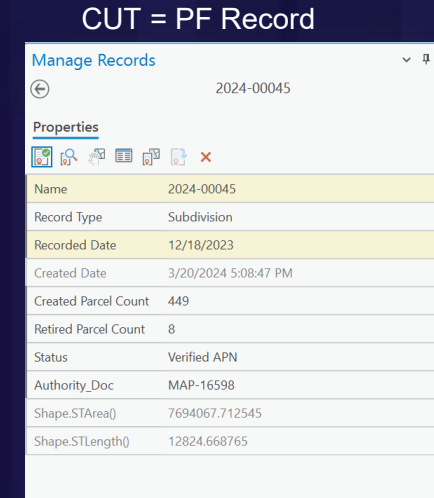
The Parcel Fabric went live at SanGIS in October 2023.

★ **GOAL ACHIEVED:** Assessor's GIS staff have acquired data maintenance responsibilities for all tax parcel changes in San Diego County (<1M parcels) in addition to their Mapping duties.

- SanGIS Parcel Fabric workflow design incorporates Assessor specific information (e.g., unique transaction ID and APM indexing layer) to leverage the historic parcel tracking.
- Integration helps us streamline constituent questions regarding their parcel data.

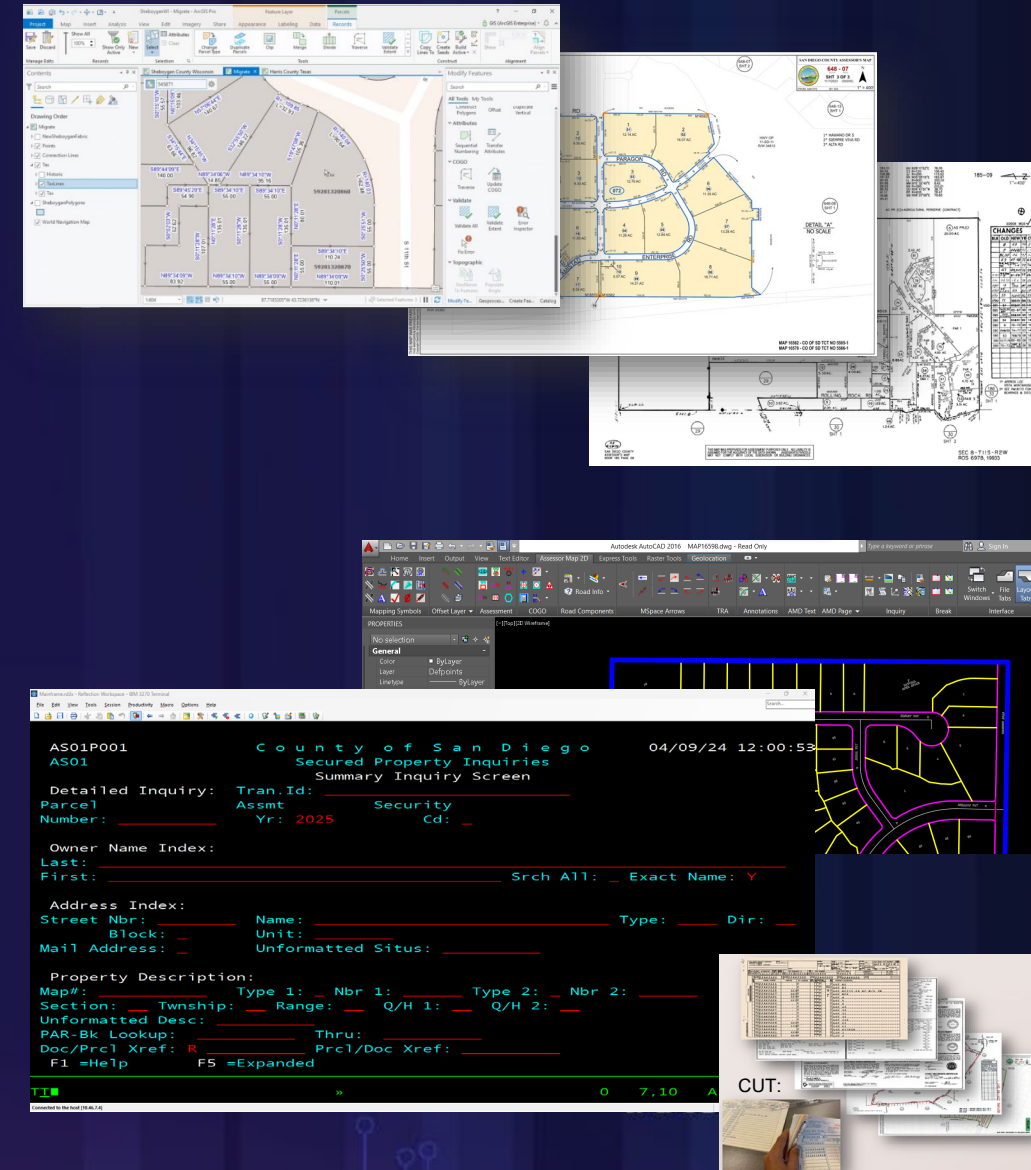
NEW CHALLENGES:

- Creating map standards and best practices for data maintenance in the parcel fabric; CA BOE- AH215 needs an update that is GIS compliant.
- Creating parcel fabric workflows for map production using *less* customizations to be more cost effective and flexible.
- RFPs, Contracts, and funding – complex to navigate.



The Future of GIS in the AO Mapping Department

- “ALL IN FOR GIS!” ... kind of...
 - Continued learning about the parcel fabric.
 - GIS tool development and template standardization are a work in progress.
 - Conversion of GIS maps focused on new subdivision projects & some segregations (for now).
 - Department restructuring is overdue.
 - Need more GIS staff and retention to meet our GIS goals.
 - Review the “Role vs Expectation” factor in hiring.
 - Need to prevent knowledge silos and loss of knowledge from retirements.
- “Paper workflows” are in place due to Assessor organizational structure (e.g., keypunch, request forms, maps printed/scanned, etc).
 - We can leverage GIS solutions in these areas.
 - Navigating resistance to change is key.



Final Thoughts

- Management Triangle
 - The closing the roll is priority.
 - The GIS transition is a priority.
- Majority of work is still produced AutoCAD.
 - While a certain number of staff is GIS skilled, everybody is AutoCAD skilled. We want to reverse that standard.
- Goals continued:
 - We aim for universal proficiency in GIS to meet our “ALL IN!” model.
 - Conversion of all the tax parcel data+ (we want web maps!).
 - Foster collaboration between different departments within the office to facilitate data sharing and promote cross-functional GIS projects.



Thank you for your time!

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References:

- San Diego County Assessor's Office Website. <https://www.sdarcc.gov/>
- SanGIS Website. <https://gis-sangis1.hub.arcgis.com/>
- GeoSD Strategic Plan. [Enterprise GIS Strategic Plan \(2009-10\) \(sdrgc.org\)](https://sdrgc.org/Enterprise%20GIS%20Strategic%20Plan%20(2009-10).pdf)
- San Diego Regional GIS Council. https://sdrgc.org/Documents/Docs/docs_20210819/20210819 AMP Index%20Map Presentation JenMB.pdf

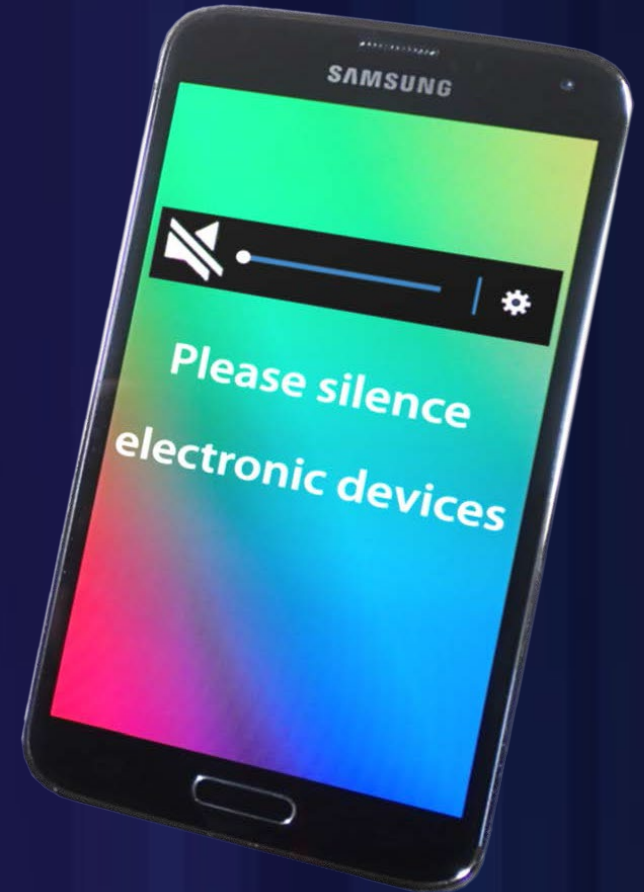


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