

The Library of Congress and GeoMAPP: A Geospatial Multistate Archive and Preservation

Partnership



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Congress**

**Cindy Clark, Utah Automated
Geographic Reference Center**

ASPRS Annual Conference | March 11, 2009 | Baltimore, MD

Library of Congress National Digital Information Infrastructure and Preservation Program (NDIIPP)



- National Digital Collection
- Partnerships: Government, Industry, Academia
- Technical Infrastructure
- Sustainability
- Public Policy

E-JOURNALS

- Scholarly electronic journals
- Small-circulation on-line journals

STATE LEGISLATION & AGENCIES

- Laws, bills, proceedings, committee reports
- Rule-making and regulatory documentation
- Judicial decision, opinions, reports, & rules

GEOSPATIAL

- At-risk state, regional, and local Gov't data (e.g., Infrastructure maps, Jurisdictional boundaries)
- Aerial and satellite imagery
- Atlantic and Pacific coastal imagery

WEB SITES & BLOGS

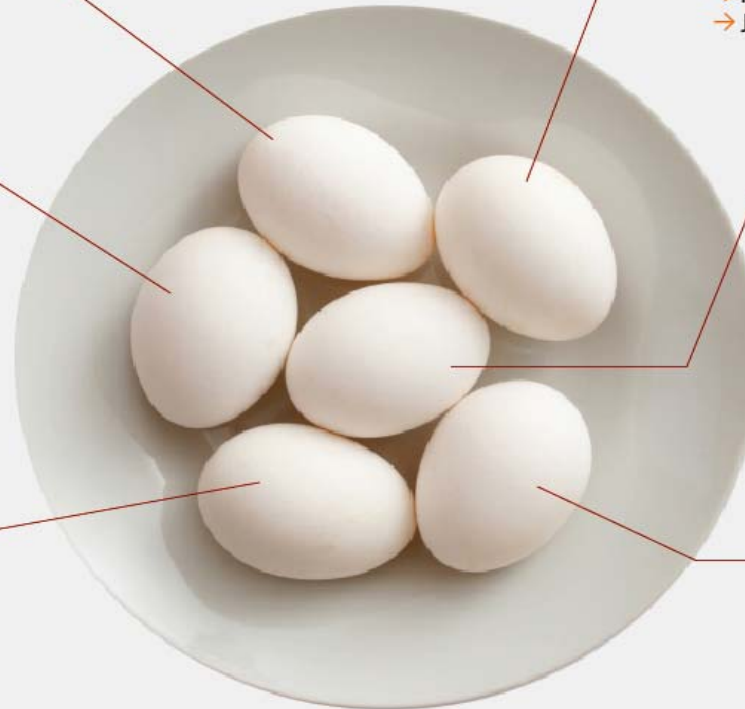
- International political movements
- Elections, Congressional Confirmations, Legal blogs
- Politics & social movements in the Western US
- Hurricane Katrina aftermath

SOCIAL SCIENCE DATASETS

- Regional and national polling data
- Social and economic surveys
- Outpout of government-funded research (e.g., NSF, NIH)
- Surveys of international opinion (e.g., USIA datasets 1952-1999)

VIDEO

- Foreign news programming (SCOLA)
- U.S. television news
- Public television (e.g., Frontline, Nature)



BORN DIGITAL CONTENT

North Carolina Geospatial Digital Archiving Project (NCGDAP): 2003

Lead Partner: North Carolina State University Libraries

Additional Partner: North Carolina Center for Geographic Information and Analysis

Objectives:

- Intrastate Partnerships
- Identify and acquire at-risk geospatial data



State-Level Preservation and Access Challenges



- Capability
- Authority
- Funding and Staffing

NDIIPP Work with State and Local Governments

- Workshops
- Reports
- Requests for Interest
- Funding



Preserving State Government Information Initiative: 2008

- AZ State Library, Archives and Public Records
 - FL, NY, SC, WI
- MN Historical Society
 - CA, IL, KS, MS, TN, VT
- NC Center for Geographic Information and Analysis/NC Office of Archives and History
 - KY, UT
- WA State Archives
 - AK, CA, CO, ID, IN, LA, MT, OR



States Initiative Desired Outcomes



- Acquire and provide access to digital content
- Model best practices
- Catalyze collaboration
- Demonstrate concrete results
- Share lessons learned

Geospatial Multistate Archive and Preservation Project (GeoMAPP)

Lead Partner: North Carolina Center for Geographic
Information and Analysis

States: NC, KY, UT

Objectives:

- Interstate Partnerships
- Implement a geographically dispersed content-exchange network
- Explore Data Replication Among Several States



GeoMAPP Digital Preservation and Enhanced Access Business Plan



Objectives:

- Make the business case to legislators and funders about the need to preserve digital geospatial information
- Prepare a plan to implement that business case
- Develop a template for use by other states
- Built on existing work, such as state strategic plans and the NSGIC Business Plan Templates

How Would You Describe Your Current Geospatial Archive?

Bob's hard drive

Last week's set of nightly tape backups

Several boxes of CD's and DVD's

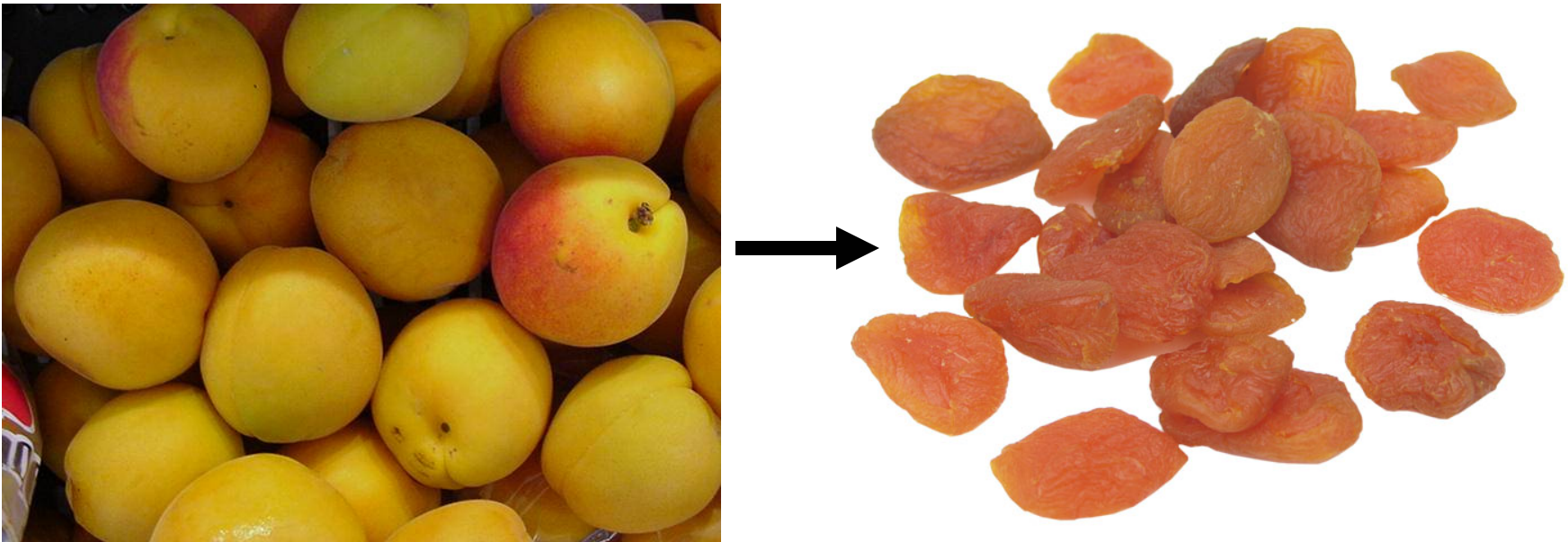
The data back-end for our internet mapping application

A collection of files in our "GIS Folder"

A stand-alone spatial database

An enterprise GIS

Preservation Approaches: Original Data vs. “Designated” Data



Complex data representations can be made more preservable (and less useful) through simplification

Changes in the Domain: Geospatial PDF

PDF and GeoPDF

General Maps - Microsoft Internet Explorer provided by NCSU Libraries

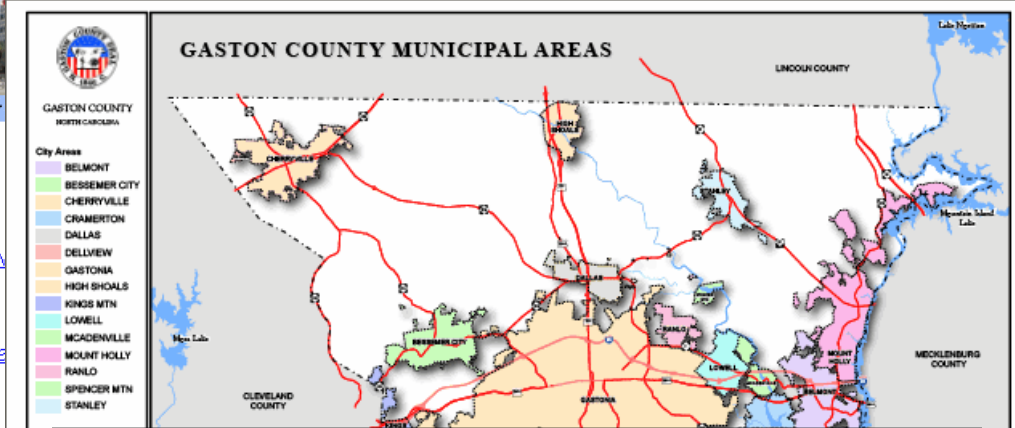
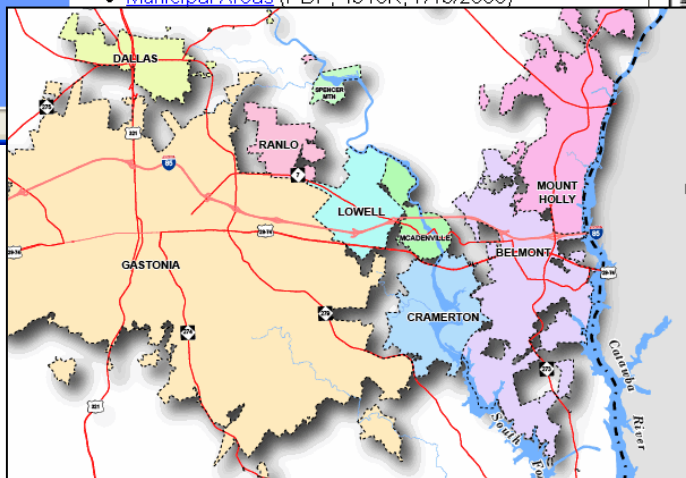
Address <http://www.co.gaston.nc.us/Planning/maps/GeneralMaps.htm>

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Planning & Development Services
General Maps

- [Census Tracts](#) (PDF, 677K, 6/29/2006)
- [Census Tract Boundary with Election Precinct Districts](#) (PDF, 890K, 7/25/2006)
- [Communication Tower Sites](#) (PDF, 808K, 7/3/2006)
- [Election Precincts](#) (PDF, 710K, 7/25/2006)
- [Election Precinct Districts with Township Boundary Overlap](#) (PDF, 7/25/2006)
- [Extra-Territorial Jurisdictions](#) (PDF, 1463K, 7/10/2006)
- [Fire Districts](#) (PDF, 1014K, 7/13/2006)
- [Health Department](#) (PDF, 618K, 7/21/2006)
- [Hydrography](#) (PDF, 2195K, 7/13/2006)
- [Municipal Areas](#) (PDF, 4316K, 7/13/2006)



Counterpart to analog map = datasets *plus* data models, symbolization, classification, annotation, etc.

More data intelligence survives in PDF documents than survives in most other “dissicated” formats

Problem: Temporal Data Unavailability

- Industry focus on “latest and greatest” data
- “Kill and fill” as a common approach to data management (past versions of vector data lost)
- Not just data loss, also: Loss of memory about data
- Some older inventories only available through Internet Archive

Value in Older Data: Solving Business Problems

Land use change analysis

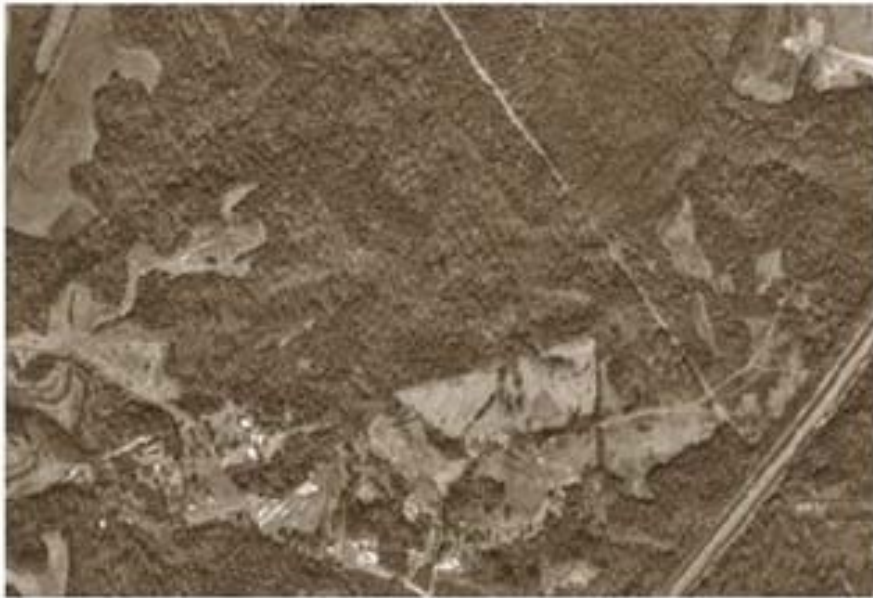
Site location analysis

Real estate trends analysis

Disaster response

Resolution of legal challenges

Impervious surface maps



Suburban Development 1993/2002

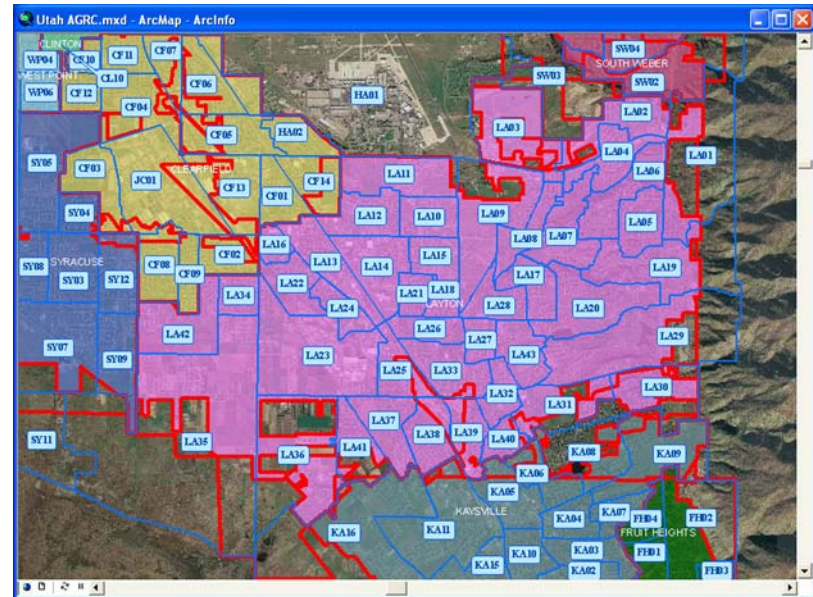
Near Mecklenburg County-Cabarrus County NC border

Technical Challenges with Geospatial Data

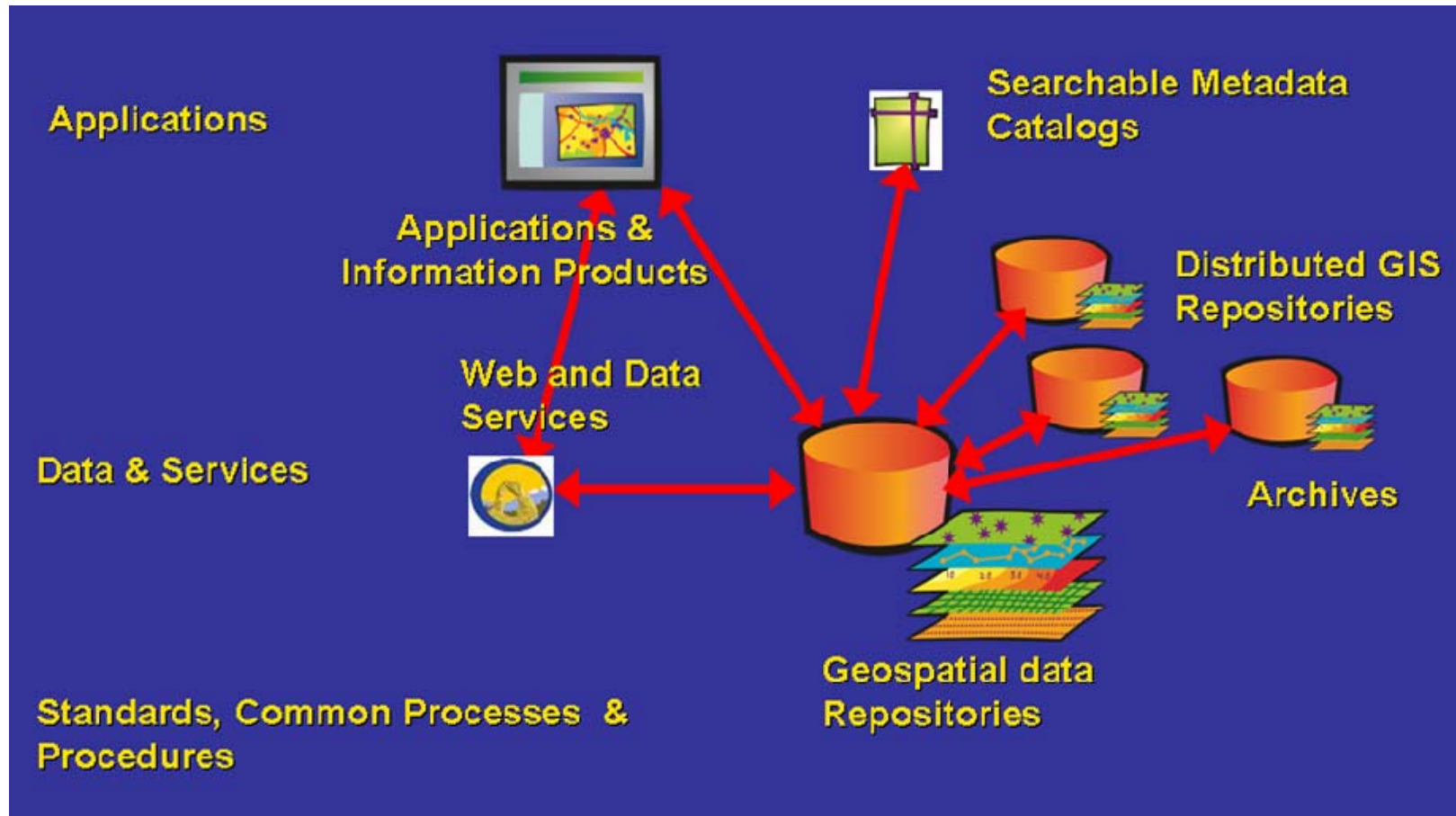
- Complex vector formats: multi-file, multi-format
 - No non-commercial, well-supported format
- Shift to web services-based access
 - Data ephemeral, how to record decisions?
- Often: Inadequate or nonexistent metadata
 - Impedes discovery and use
- Increasing use of spatial databases for data management
 - The whole is greater than the sum of the parts but the whole is very hard to preserve
- Content packaging
 - No geospatial industry standard

State of Utah

- ▶ Governance of the Utah Geospatial Infrastructure
 - ▶ Department of Technology Services / State CIO
 - ▶ Automated Geographic Reference Center
 - ▶ Utah GIS Advisory Committee
 - ▶ Supported by dozens of “responsible” partners
- ▶ State Geographic Information Database (SGID):
 - ▶ Centralized shared database (350 data themes)
 - ▶ Internet portal viewer (GIS.UTAH.GOV)
 - ▶ Web Services and applications (MAPSERV.UTAH.GOV)



State of Utah



Components of a State's Spatial Data Infrastructure (SDI)

Appraisal

- Making sense of Archivists
- What do we do? How do we do it?
- How does digital content alter what we do?
 - Digitized content
 - Born Digital
- Traditional work versus work in the digital age
 - Get it near the beginning. Get it now
- Do we keep everything?
 - House appraisals
 - Legal, fiscal, historical, evidential values

Speaking the same language

- GIS practitioners organize their own data—GeoOne Stop, National Inventory powered by Ramona, ISO
- Example: Trails
 - Tourism?
 - Parks and Recreation?
 - Natural Resources?
 - Transportation?
- Translating GIS speak to Archives speak
 - Determining layers
 - What to keep?

- **Archivist and GISers...**

Different Perspectives but not different

GIS....locomotive breath.....faster newer...etc

Archives.. Hey what about the stuff you're
throwing out?

WHAT

Ironically....GISists often talk about change
detection

Similar....in the response to questions about other's
data..

Inventory Process

- Deciding series boundaries: individual layers vs. layer groups
- Structuring retention schedules with growth in mind
- Relationships between state and local government retention schedules
- Naming conventions: ISO vs. local

Retention Schedules

SCHEDULE 1
AUTOMATED GEOGRAPHIC REFERENCE
Geospatial Data Sets

1-17.

UTILITIES AND COMMUNICATION RECORDS

These geospatial records pertain to utility routes and distribution facilities located in Utah. These include coal seams, mine locations, oil and gas well locations, oil, gas, and water pipelines, telephone service areas, water distribution facilities, electrical lines, and communication towers.

RETENTION:

Permanent. Retain by State Archives.

PRIMARY CLASSIFICATION

Public.

Creating Finding Aids

- Finding aids help end-users gain access to data
- Produced by database from retention schedule
- Repurposing metadata: details included in finding aid
- Searching issues (GOS, Ramona, other)

Geospatial Data Sets

Geo-Spatial Data Sets ? ✓ ✕

Series: 26771 - 1 **Created:** 01 / DD / 2000 - 02 / DD / 2007 **File Size:** 3.00 MB

Accessioned: MM / DD / CCYY **Published:** 07 / 01 / 2007 **File Type:** Shapefile

Provide resolution or scale, whichever is most accurate

Resolution: 1 inch = 1.50 Meters **Scale:** 1:24,000 **Accuracy:**

Projection: UTM, Zone 12, meters **Datum:** NAD83

Created by Agency: 1142 Utah Transit Authority

Created by Other:

GIS Title of Data Set: BusStops_UTA

Descriptive Title: Utah Transit Authority bus stops

Local Path to Data: \\A\CO2\Data\Users\Archives\GISData\2000\BusStops_UTA.zip

URL to Online Data: http://gis.utah.gov/index.php?option=com_dbquery&Itemid=87

URL to MetaData: ftp://ftp.agrc.state.ut.us/SGID_Vector/MetadataHTML/SGID_U024_BusStops_UTA.html

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Discussion/Questions

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