Digital Transformation at Universities around the World: Migrating to Modern GIS

Dr. Michael Gould

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Esri Inc.
Digital Transformation = Profound Change
Who Uses GIS?  www.esri.com/industries
Real-Time, Integrated Emergency Management Tools

Esri’s solution for emergency management operations

Responding to increasingly frequent and complex threats and hazards, the new normal requires emergency management professionals to become more agile and informed at all points during their response efforts.

Esri provides you with an integrated emergency management solution to support mission-critical decisions with a set of real-time tools designed to help you maintain situational and operational awareness; quickly analyze incident impact; assess damage; deploy needed resources; and educate, inform, and...
PUBLIC SAFETY

2014-2017 Boston Marathons
FedEx Custom Critical

- Servers, Mobile Apps
- Realtime Monitoring (Dashboard)
- Integration
The Port of Rotterdam

Erwin Rademaker explains what it takes to become a world-class port.

Jul 14th, 2014
Two Styles of GIS Education Needed

• Teaching **about** GIS: Creating GIS Experts

• Teaching **with** GIS: Creating technically capable scientists, engineers, decision-makers.
Universities are Reacting, and Providing ArcGIS in many Fields of Study

Example of University of Minnesota
Web GIS Is Driving Digital Transformation

Interconnected Information, Processes, and Workflows . . .

. . . All Happening at the Same Time
Field Operations | Empowering Mobile Workers

Integrated Apps for the Field

- Collector
- Survey123
- Tracker
- QuickCapture
- Data Capture
- Coordinating Work
- Navigation
- Mapping & Markup
- Location Tracking

Connected and Disconnected

Smart Forms

Dashboard

Plan & Monitor

Field Operations

Workforce

Navigator

Explorer

Digital Map Book
Field Data Collection App: Survey123

What is Survey123?
4 weeks ago | More

Survey123 is an app that lets you collect fieldwork data more quickly and accurately than with pencil and clipboard.

Leave the first comment:
StoryMaps: Publish your Results to the Rest of the World
Towson University Tree Tour

A tour of some of our campus trees.

Welcome to the Towson University Tree Tour!

The purpose of this short self-guided walking tour is to call attention to the trees of Towson and provide a brief respite from the demands of the day. This website provides a tree trail map, a brief description of each tree on the walk, a photograph of the tree, and a close-up photograph of the leaves. Once completed, it will also provide a downloadable version of the brochure currently being edited. We hope you enjoy the tour and its information, but remember to appreciate the trees in all seasons.

1. American Beach
2. Atlas Cedar
3. Black Locust
4. Sugar Maple
5. Red Maple
6. Northern Red Oak
7. Horse Chestnut
8. Japanese Flowering Crabapple
ArcGIS Enterprise
*with real-time capabilities*

- Apps
- Desktop
- APIs
- ArcGIS
- ArcGIS Enterprise
- ArcGIS GeoEvent Server
- spatiotemporal big data store
- analytics
- visualization
- ingestion
- actuation
- live & historic aggregates & features
- live features
- stream services
- storage
Integration with External Frameworks

ArcGIS

TensorFlow

IBM Watson

scikit learn
Now GIS lives across an Organisation & Community

Powered by the GIS Professionals... But in the Hands of Everyone

Using the Power of Geography to Understand... And Integrate Everything
ArcGIS Online Complete Mapping and Location Platform

New and Improved
- User Types
- Search
- Large Organization Administration
- Configurable Basemaps (Vector Feature Tiles)
- Smart Mapping Styles
- 3D
- New StoryMaps

Coming
- New Map Viewer
- Bulk User & Item Management
- Org-to-Org Collaboration
- Tracking
- Notebooks
- Hosted Imagery
- IoT Integration

Content

World's Largest Mapping and Data-Sharing Ecosystem
- 7+ Million Users
- Billions of Maps
- 25 Million Items
- 150k Open Datasets

2D / 3D
New Best Practices

- ArcMap > Pro (modern Desktop)
- Shapefiles > Geodatabases
- Geodatabases > Feature Services
- Build Apps that consume Feature Services
- Minimize Downloading of Data > Process Data where they Live
- Create Unique GeoData (results) and SHARE them > Arc GIS Online
Esri Resources to Help you Transform
Modern GIS, WebGIS.

Now Available in e-book format

Concepts and Practical Exercises
Learning Pro

Project-Based (Los Angeles River)
Learning ArcGIS: Esri Training Web Courses
Learning ArcGIS: MOOCs

- Going Places with Spatial Analysis
  - Course opens Sep 4, 2019
  - 6 Weeks
  - Free

- Do-It-Yourself Geo Apps
  - Course opens Oct 30, 2019
  - 4 Weeks
  - Free

- Cartography
  - 6 Weeks
  - Free

- Earth Imagery at Work
  - 6 Weeks
  - Free

- The Location Advantage
  - 6 Weeks
  - Free
Learning ArcGIS: Developer Labs

Get Started with the ArcGIS Tutorials

Use the ArcGIS Tutorials to learn how to build mapping apps with ArcGIS APIs and SDKs.

What is ArcGIS?
Explore key components of the ArcGIS Platform and learn how to leverage them in your apps.
Learn More

Graphics and Data
Learn how to display points, lines, and polygons, configure popups, and import and style your data in ArcGIS.
Start Tutorials

Search and Directions
Learn how to leverage premium ArcGIS services to search for places and addresses, find routes and get directions.
Start Tutorials
Living Atlas: Ready-to-Use Maps and Data

Compiled from the Best Available Sources

Basemaps | Imagery | Demographics | Landscape

Thousands of Maps & Layers
Tens of Thousands of Open Datasets

Millions of User Contributions . . . Billions of Views per Week
The Africa GeoPortal

Discover Africa using location intelligence

What is in the Africa GeoPortal?
The Africa GeoPortal is the best location for geospatial tools data and training, free for users working on Africa geospatial challenges.

Use your Facebook or Google login to create an Africa GeoPortal account.

Sign Up Now
Summary

- Digital Transformation is Real
- Industry Transforming, Governments Transforming
  - Therefore... GIS Industries are Transforming: WebGIS, Data Sharing.
- GIS Education is Transforming

- Esri is ready to help you. Seeking more Pioneers.
Thank You

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