

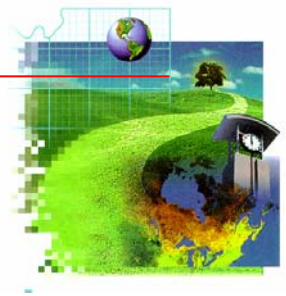
Integrating Document Management System with the RIDOT GIS: *Plan*GIS

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Transportation

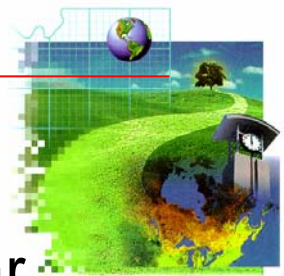
Development team: Heidi Hammel, Jin Qian

Overview



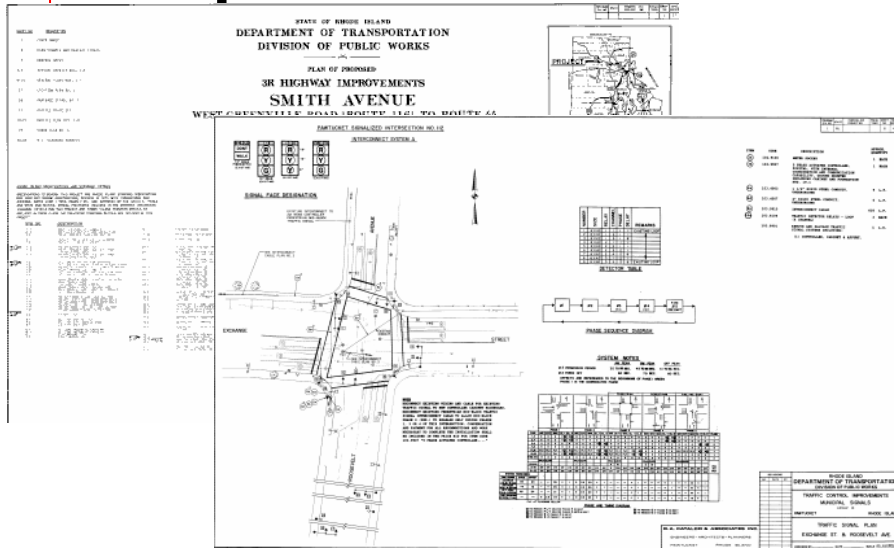
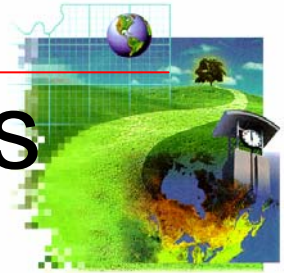
- Building the Specifications for the Plan Room Document Management System
- Scanning and Indexing Process
- *PlanGIS* Application Development - Demo
- Developing the New Workflow
- More Extensions to *PlanGIS*

Project Goals



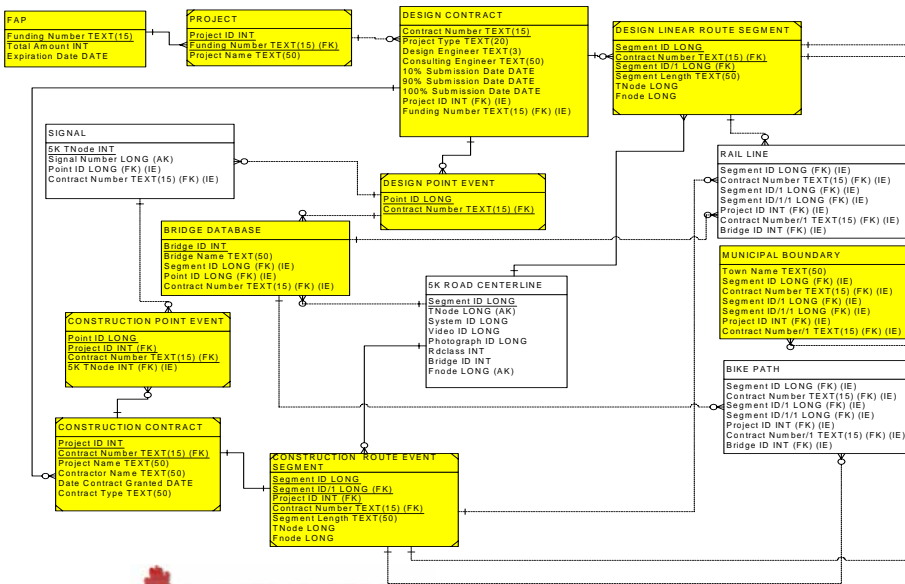
- Convert all paper/mylar construction plans and plats in the Plan Room to digital images
- Develop means of searching and displaying the digital images
- Develop a new workflow to continue storing plans and plats in digital image and database form in 'day forward basis'
- Train staff in using the new system

Requirements Definition Process

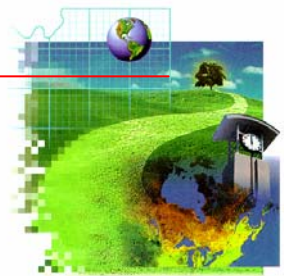


- Assessment of the plats and plans
- Review of the specific document mgt. software functionality

- Interview with key Department sections on their data access requirements
- Define data access requirements



Findings



Data Access

- Need fast access
- Attribute access:
 - Road names,
 - Asset number
 - Document numbers
- Map Navigation

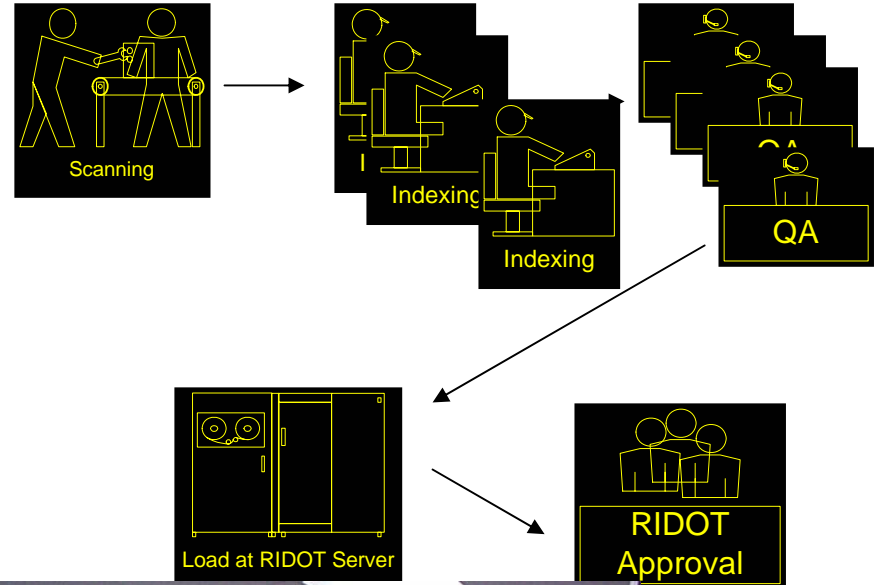
Enterprise Interface

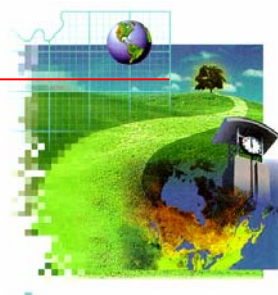
- Project Tracking
- Financial Tracking
- GIS
- Bridge Inspection and Reporting
- Incident Reporting

Operations to Build the Database

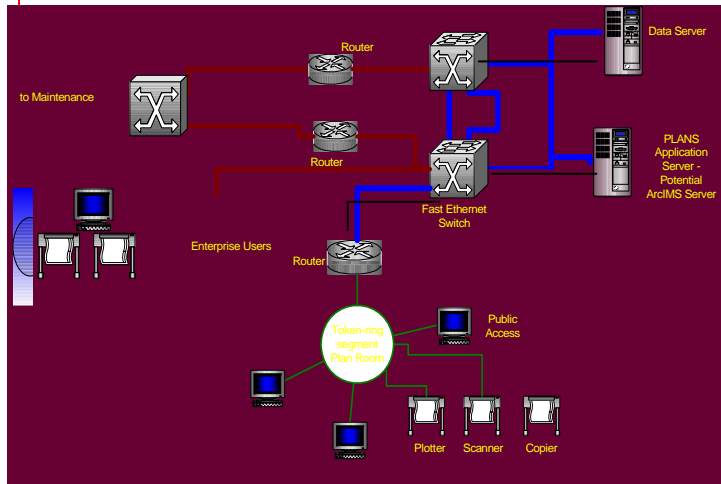


- Scanned all Plan Room Documents
- Indexed all Plan Room Documents
- Quality Assurance of images and index fields

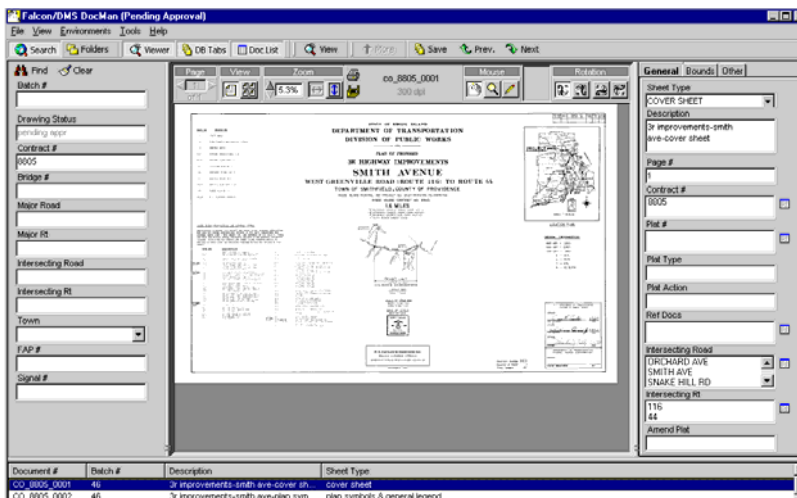


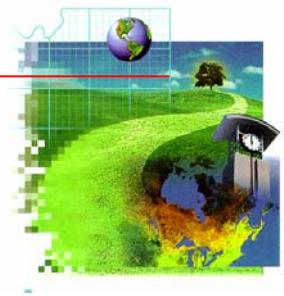


Operations to Build the System Interface



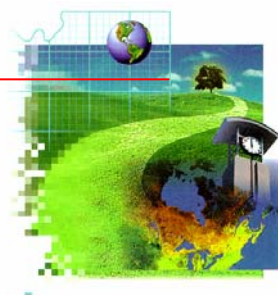
- Installed hardware and software at RIDOT
- Identified modifications required to the RIDOT selected Document management software
- Implemented client software at: Design, Plan Room, MIS, Maintenance, Real Estate, Bridge, Survey, and Maintenance





PlanGIS Application Description

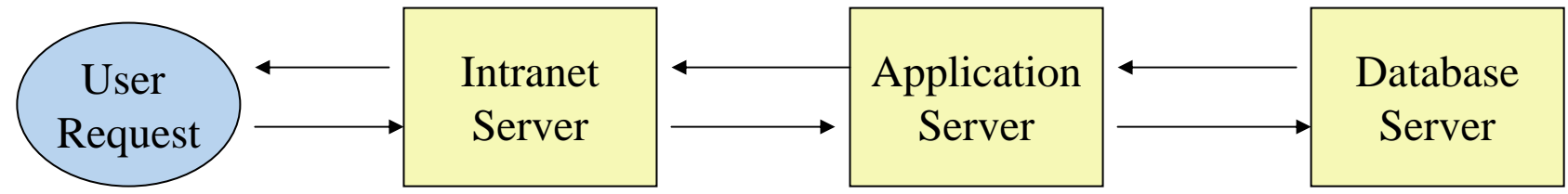
- ArcIMS application deployable over the Intranet/Internet
- Enable users to see DOT GIS data with a standard web browser
- Enable users to display sheets from the Plan Room by selecting a road or entering contract/plat information



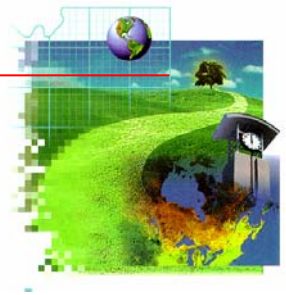
Application Specifications

- Browse available data
 - Identify attributes of features
 - Print standard layout
- Navigate by:
 - Road name
 - Town name
 - Zoom/pan tools

Architecture



System Requirements



● Intranet Server

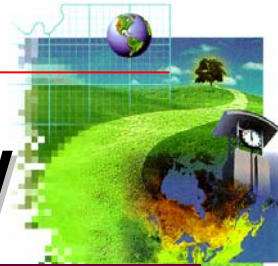
- Windows NT Server, sp6a
- Servlet Engine: ServletExec
- ArcIMS 4.0 components

● Application Server

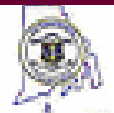
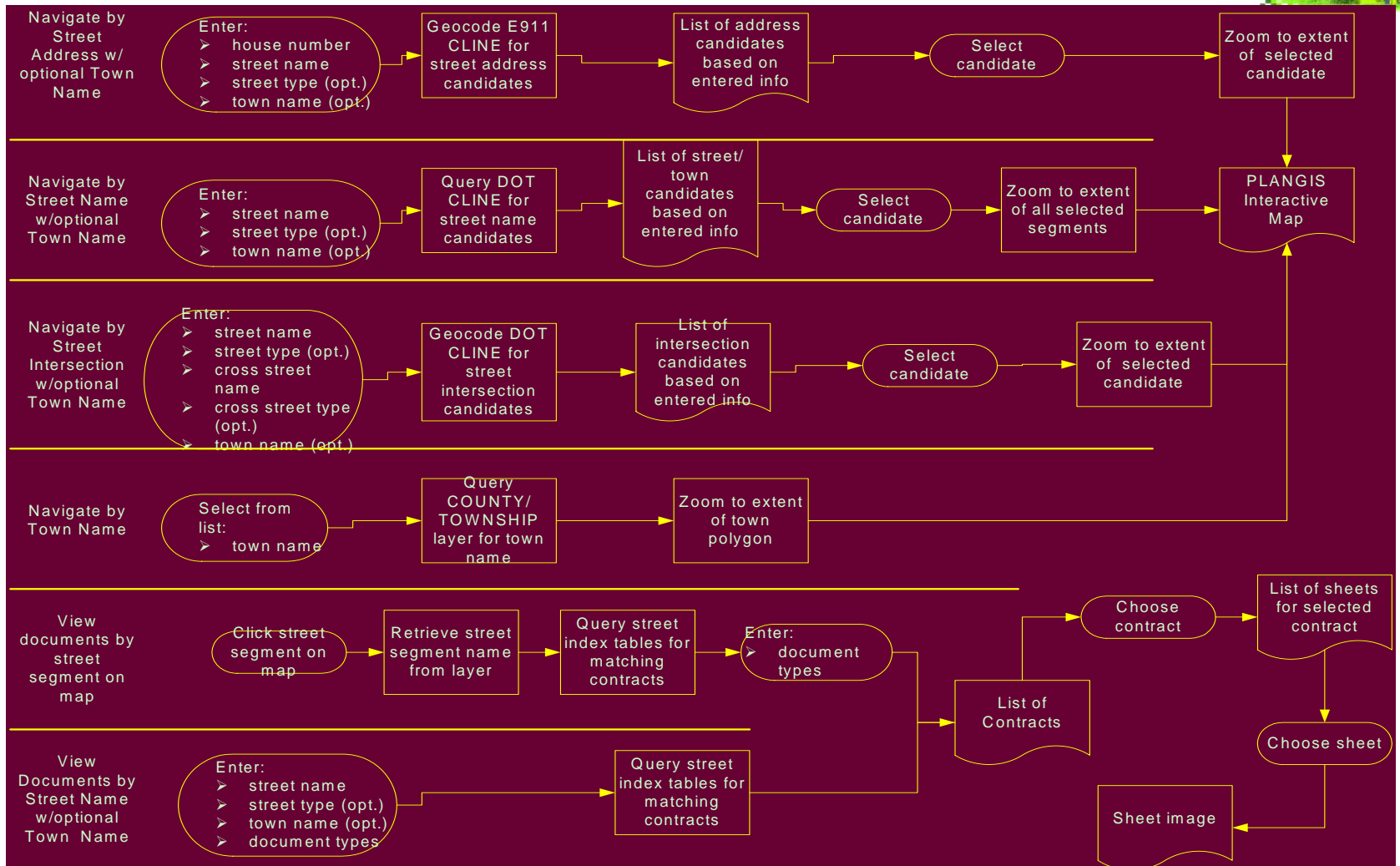
- Windows NT Server, sp6a
- ArcIMS 4.0

● Database Server

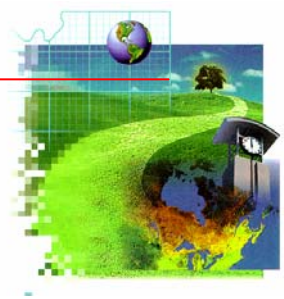
- Windows NT Server, sp6a
- Oracle 8.1.7
- ArcSDE 8.2



Integration Application Flow



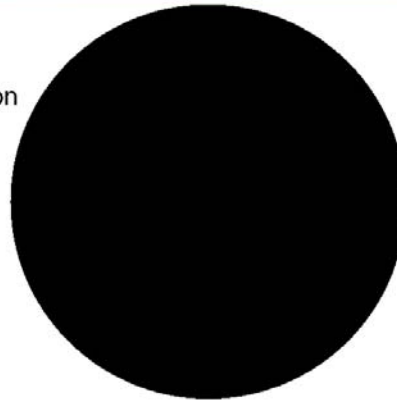
Demonstration



Rhode Island
Department of Transportation

PlanGIS

The *PlanGIS* application gives you the ability to access and view documents from the Plan Room and Bridge Inspection Reports by selecting from a variety of search criteria or

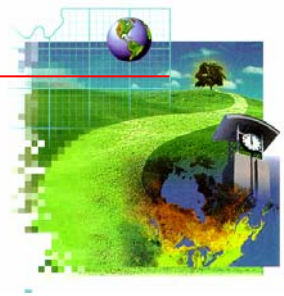


through an interactive mapping tool. In addition to the document access, this tool also gives you access to other RIDOT GIS datasets.

Training CD Version 1.0
Release November 2002

 PLANGRAPHICS, INC.®

Project Statistics

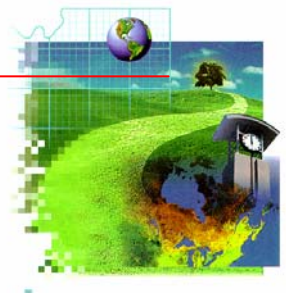


- Started Scanning in February 2001
- Started Indexing in March 2001
- Preliminary Delivery of System October 2001
- 10 – Document Mgt. Software Client Implementations February 2002

Changes to Date:

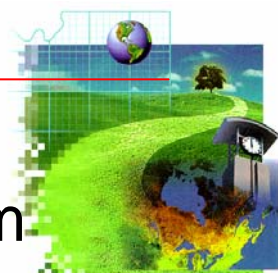
- Establish AutoCAD standards and implementation for the 'day forward' submissions to RIDOT
- Additional 38,000 sheets over and beyond the estimated 70,000

Issues Found During Project

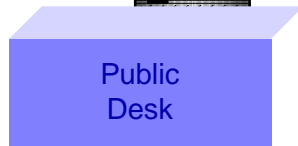


- Some of the sheets were unreadable as originals and as such the images are also unreadable
- Missing contract numbers required 'fake' numbering
- Integrating the 911 road names and maintaining the changes
- Plats with specific survey information could not be scanned because they were in the survey department

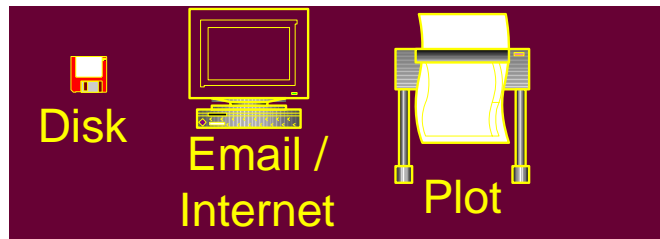
The New Work Flow



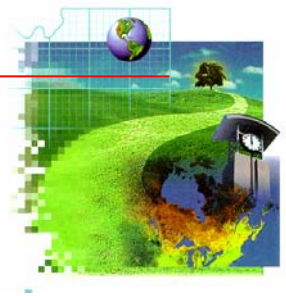
CD Submission of AutoCAD
and PDF files



Deliver Search Results via:



- Digital submissions from consultants – *Standards are currently being reviewed to be published in a DPM*
- Scanning and indexing of limited number of paper submission
- Public access terminals at the Plan Room counter
- Query, display and request information download through the Internet
- Provide digital and/or paper copies of Plats and plans – *Pending a review of cost recovery program*



What is next?

- Extending the TMC's current incident reporting application to integrate with the ArcIMS GIS : *TMC GIS*
- Prototyping electronic workflow and document management at the Chief Engineer's Office and Design Sections

