

TalkingTitrer

A web-based multi-media
land management system

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Overview

- What is TalkingTitrer?
- Where can TalkingTitrer assist?
- Supporting research
- Prototype requirements
- Prototype system design
- Screenshots
- Ongoing and future development

What is TalkingTitrer?

- The TalkingTitrer initiative is a set of concepts, software tools and guidelines for implementation
- Designed to support land administration by providing assistance in mediating conflict
- Uses multimedia evidence integrated into a land records system, including video records, oral recordings, written records, surveyors' measurements and diagrams
- Software is free to licensed users, subject to terms and conditions

Situations where TalkingTitrer may be useful

- Customary systems, and social systems where both customary and western influences prevail
- Conflicts, where people have been driven off their land by the State or powerful groups or where land has been grabbed by a neighbour
- Highly competitive situations such as urban informal settlements
- Natural disasters, such as a tsunami where much of the documentary and physical evidence of land occupation has been destroyed

Prior Research

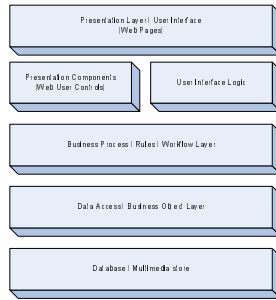
- Concepts have been researched and field tested since mid 1990's in South Africa by Dr Michael Barry
- Research showed that video, photographic and recorded interviews aided land administration and conflict resolution
 - Public process
 - Transparency
- Gaps in the law with regards to digital evidence
- Technology / mass storage has advanced to a stage where a prototype system is feasible

TalkingTitrer Prototype Requirements

- Web-based Application
 - Accessible for demonstration online
 - Multiple users
 - Able to be integrated with a GIS system
- Relational Database
 - Initially in MS Access
 - Must support complex relationships between entities
- Manage, store and retrieve digital multimedia
- Add, edit and search for objects/entities
- Allow for any relationships to be defined and visualised

TalkingTitrer System Architecture

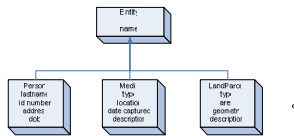
- Presentation layer constructed from reusable, purpose-built web controls, strung together with some logic
- Workflow logic defined in business rules layer
- Data access layer provides functionality to manage objects and all interaction with the data store
- Database contains actual data, while multimedia is stored in a structured manner on the server's file system



Entities and Relationships

- An entity is any physical “thing” that exists in the real world
 - Person, Land Parcel, Document, Tree, Backyard Shack
- A relationship is a binding between two entities
 - A person may be related to another person
 - A land parcel may have one or many media items
- Need to be able to facilitate any number of relationships between any objects.

Design for Simplicity and Flexibility



- All entities derive from common entity class
- Share common properties, and common logic
- Searching, relationships and reporting is made technically easier
- Relationships are defined similarly

TalkingTitrer Screenshots (1) - Finding Entities



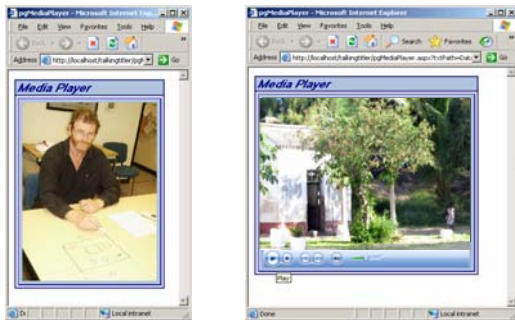
TalkingTitrer Screenshots (2) – Relationships



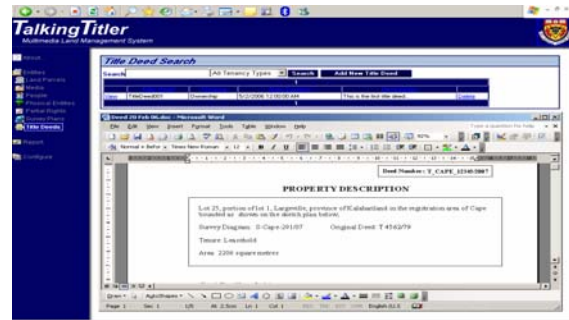
TalkingTitrer Screenshots (3) - Media



TalkingTitler Screenshots (4) – Generic Media Control



TalkingTitler Screenshots (5) - Documents



TalkingTitler Screenshots (6) – Uploading Multimedia and Documents



- Specific problems with uploading large files
 - Bandwidth and .Net upload limit
 - Server timeout and memory problems
- TalkingTitler uses a technique that breaks the upload into smaller, manageable chunks and streams uploaded data directly to disk

Current Status

- Prototype web application has been built and is currently being tested
- Looking for first “real” implementation situation
- Field testing continuing
- University of Calgary Final Year Geomatics Research Projects
 - Compression
 - Authentication and User Management
- On-going development

Looking to the Future

- Establishment of www.talkingtitler.org
- Migrate to .Net 2 Framework / Mono project
- Migrate to a more scalable database
 - MySQL
 - Oracle XE
 - SQL Server 2005 Express
- Mapping component
 - Open Standards (WMS, WFS, SVG)
 - Integrating with “Google Map”

Conclusions

- Research has shown that multimedia may support conflict resolution in land administration
- TalkingTitler prototype application provides the software tools to achieve this
- Still in the early stages of development, but have achieved promising results so far

Thank you

Questions?

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