Development of an Advanced Cadastral Management System at the Survey of Israel (SOI)

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1. Background

- The Survey of Israel (SOI) is a national agency for geodesy, cadastre and geographic information.

- The cadastre is based on Torrens registration principles.

- SOI is responsible for cadastral boundaries.

- Primary land settlement: almost completed.

Cadastral Procedure (following the primary land settlement)

1. Approved Overall Plan for State Development
2. Municipal Plan
3. Topographic Map
4. Mutation Plan

Cadastral Boundaries
“SHALOM” project was initiated in 2003 aiming:

- a better cadastral production and management practice

- the development of application fully integrated with improved working procedure and with existing cadastral GIS
2. Goals

- to accelerate land registration

- supporting SOI in supplying cadastral data and running quality control

- implementing an organizational change applying new standards and unified work methods

*The basic expectation:* Once these goals are achieved, work efficiency will grow, mutation plans will be examined and approved faster whilst keeping a high quality standard, contributing to a faster land registration.
3. System Design

- *Connecting* between SOI, private surveyors and governmental agencies.
- *Unifying standards* according to the cadastral principles and the survey regulations.
- *Reducing the time* required for examination and approval of mutation plans.
- *Reducing the updating time* of the cadastral data in SOI.
- *Improving the service* to the users.
- *Long term managing of supervision and approval*.
- *Enlarging the management options*.

4. System Structure

The system is composed of task-oriented sub-systems:

4.1. *Organizational sub-systems for new tasks:*

- Front desk
- Planning- and control module
- Project manager module
4.2. Work-flow standardization sub-systems
- stages, checklists and go/no go steps
- uniform quality assurance
- compliance with surveyors regulations
- timetable for each cadastral project
- documentation of all relevant components

4.3. Cadastral process sub-systems
- handling a group of mutation plans forming a project – by SOI supervisors / by supervising surveyors
- professional consulting and its documentation
- land settlement process management
- boundary documentation process management
5. Technology

- SHALOM system is based on an ECM (Enterprise Content Management) software by EMC² called “eRoom Documentum”.

- A GIS interface has been built as a GIS Portal. Spatial queries can be made by the use of ESRI's ArcIMS.
- A new GIS layer, called "Activity" shows a real time map of cadastral activity as polygons, linked to the corresponding eRoom, allowing users to view and coordinate.

6. Practical Introduction of the “SHALOM”

- The "Beta" version was implemented in the Northern Israel District Cadastre Office at Haifa.

- The Haifa office supervises and approves some 250 mutation plans per year (20% of the total yearly production).

- At Haifa, an in-house developed, sophisticated local management system has been used.

- The “Beta” version of SHALOM was rigorously tested and critically analyzed.
- Some bugs have been identified, changes / further improvements have been demanded by the users.

- Software developers are dealing with the realization of most of them.

- A considerable work of development, test, interactive analysis and further improvement has to be completed.

7. Summary

- The development of an all-embracing cadastral production management system is near its completion.

- It makes SOI capable to manage and to execute in a more effective manner.

- The cadastral workflow is modernized and essentially standardized.
- The system supports but also constrains the user to follow professional, legal and administrative rules and routines, while allowing a reasonable freedom for professional and management considerations.

- The next (critical) stage of the project is the comprehensive implementation of its improved version in the practical production.

- We (the enterprisers, system planners and developers) think that the system is clever, expedient and successful. But a really competent evaluation should be given by the users.
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