

FIG

FIG WORKING WEEK 2017

Helsinki Finland

29 May - 2 June 2017

Cadastral Records in Serbian Land Administration

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**University of Novi Sad, Faculty of
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From digitalisation to augmented reality

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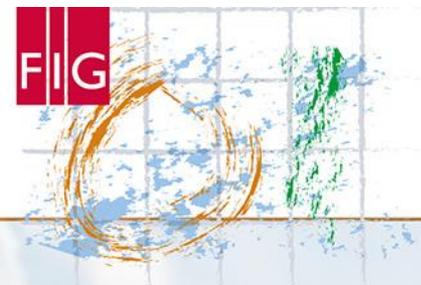


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Introduction

- What is the state of cadastral data in Serbia and the software and data models used?
- What are the user needs?
- What are the benefits of the new approach?



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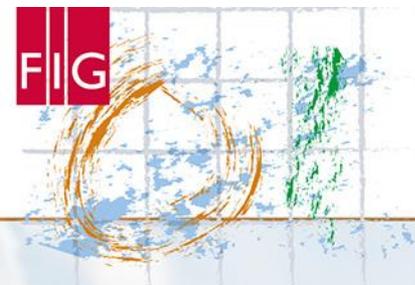


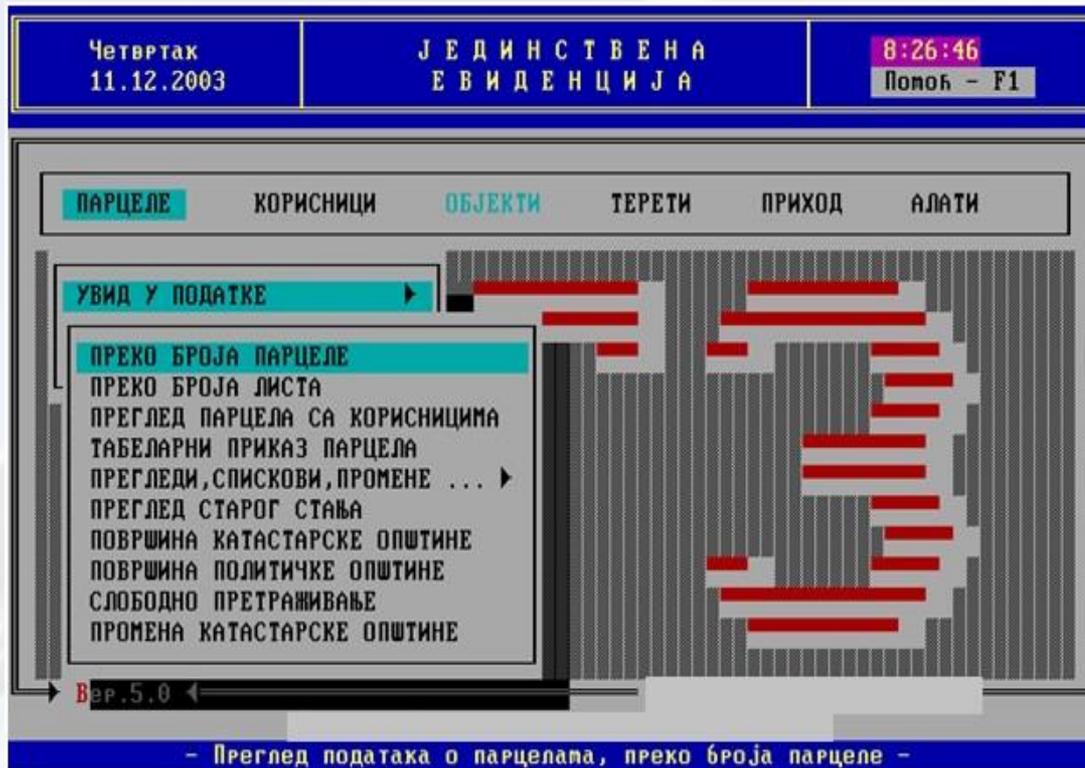
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Current software in Serbian cadastre



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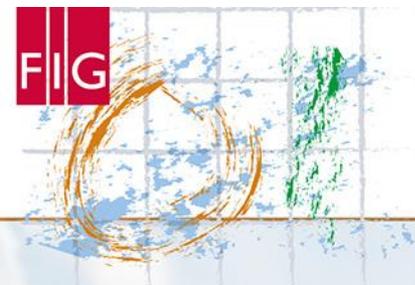


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Data model in Serbia



About 200 DBF files in each municipality



PREZIME	IMEOCA	IME	RODJENO	MESTO	ADRESA	IMENILAC	BROJILAC	PRIMEOBA	BRPR	GODPR	BRPROMENE1	GODPROMEN1	
MINISTARSTVO UNUTRA[WH POSLOVA REPUBLIKE SRBIJE					BEOGRAD	KNEZA MILO[A	000001	000001	(Memo)				
GRADSKA OP[ITINA VO@DOVAC					BEOGRAD	USTANI *KA	000001	000001	(Memo)				
GRADSKA OP[ITINA VO@DOVAC					BEOGRAD	USTANI *KA	000001	000001	(Memo)				
PAVLOVI]					MILIJ	SVETOLIK	000001	000001	(Memo)	00007	2013	00007	2013
PAVLOVI]					MILIJ	SVETOLIK	000001	000001	(Memo)	00007	2013	00007	2013
GRADSKA OP[ITINA VO@DOVAC					BEOGRAD	USTANI *KA	000001	000001	(Memo)				
MIJALLOVI]					MILAN		000001	000001	(Memo)	00209	2007	00209	2007
MIJALLOVI]					MILAN	PREDRAG	000003	000001	(Memo)	00011	2007	00011	2007
BA *I]					BORISLAV	ALEKSANDRA	000003	000001	(Memo)	00011	2007	00011	2007
MIJALLOVI]					MILAN	MICDRAG	000003	000001	(Memo)	00011	2007	00011	2007
BA *I]					BORISLAV	ALEKSANDRA	000003	000001	(Memo)	00011	2007	00011	2007
VURUNA MAL					ALEKSANDAR	JOVANA	000600	000050	(Memo)				
VURUNA MAL					ALEKSANDAR	NEMAWA	000600	000236	(Memo)				
STRI *EVI]					JOVAN	PREDRAG	000600	000150	(Memo)				
VURUNA					VITOMIR	QUBINKA	000600	000114	(Memo)				
MARINKOVI]					VOJISLAV	@IVOJIN	000004	000001	(Memo)				
MARINKOVI]					VOJISLAV	TANASIE	000004	000001	(Memo)				
MARINKOVI]					QUBISAV	RADIVOJE	000001	000001	(Memo)				
RADOVANOVI]					*EDOMIR	BORIVOJE	000002	000001	(Memo)				
RADOVANOVI]					*EDOMIR	MILVOJE	000002	000001	(Memo)				
PETROVI-GOLDNER					DUJAN	VURINA	000001	000001	(Memo)	00023	2005	00023	2005
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GRADSKA OP[ITINA VO@DOVAC					BEOGRAD	USTANI *KA	000001	000001	(Memo)	00116	2011	00116	2011

List of changes

BRPR	GODPR	BRPROMENE1	GODPROMEN1	IPROM	IGOD
01351	2012	01351	2012		
00407	2012	00407	2012		
01351	2012	01351	2012		
01351	2012	01351	2012		
01351	2012	01351	2012		
01351	2012	01351	2012		
01351	2012	01351	2012		
00407	2012	00407	2012		
01351	2012	01351	2012		
01351	2012	01351	2012		
01351	2012	01351	2012		



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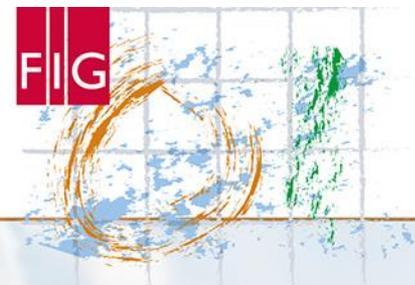


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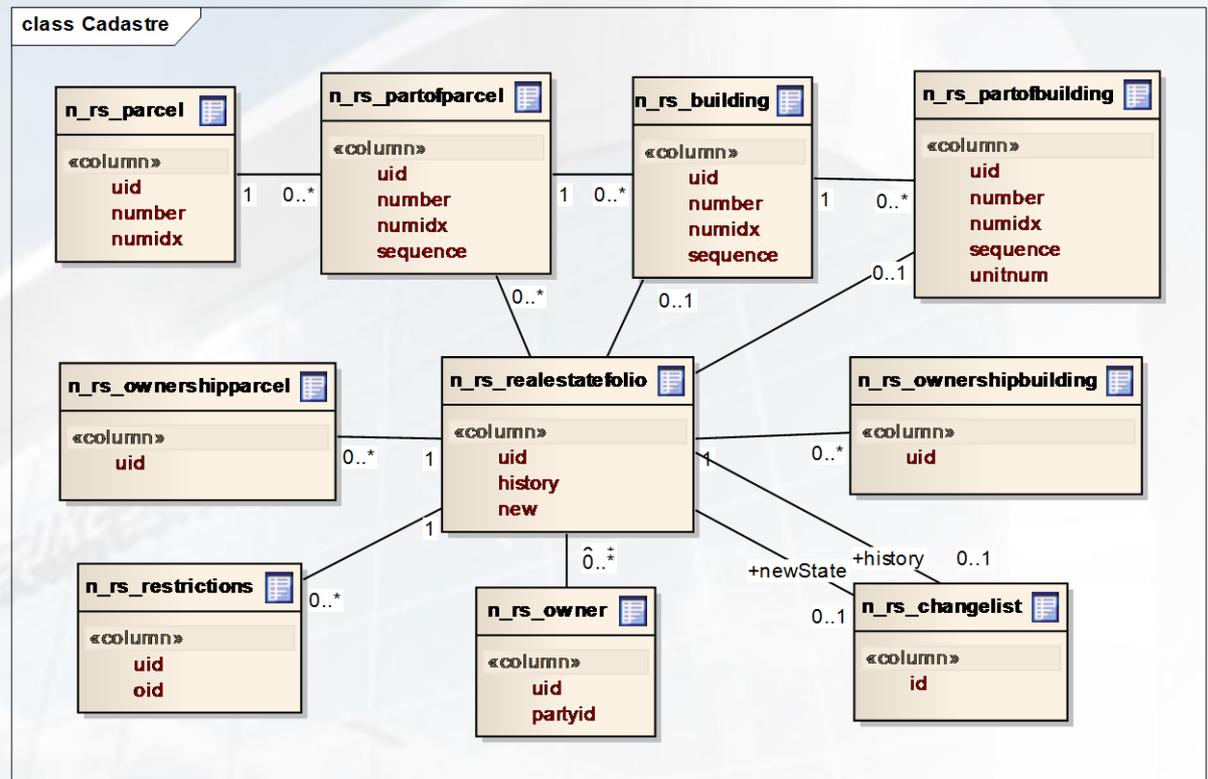
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Relational data model

The solution for translation from the existing data model into a new standard based data model

Developed



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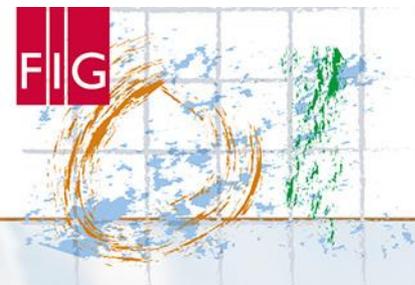


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Example: Processing real estate folio for the parcel

```
List<Parcel> parcels = getParcels(number, numidx, cadmun);
for(Parcel p : parcels) {
    try {
        log.info("PROCESSING REAL FOLIO FOR PARCEL " + p.getNumber() + "/" + p.getSubNumber());
        result = processRealFolio(p, cadmun);
        if(result) {
            Auth.getInstance().getConnection().commit();
        } else {
            Auth.getInstance().getConnection().rollback();
        }
        log.info("FINISHED PROCESSING REAL FOLIO FOR PARCEL " + p.getNumber() + "/" + p.
getSubNumber() + " "+ result);
    } catch (Throwable e) {
        e.printStackTrace();
        log.error("ERROR PROCESSING REAL FOLIO FOR PARCEL " + p.getNumber() + "/" +
p.getSubNumber(), e);
        try {
            Auth.getInstance().getConnection().rollback();
        } catch (Exception e1) {
            e1.printStackTrace();
        }
    }
}
```



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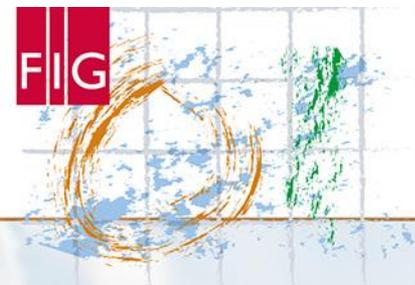


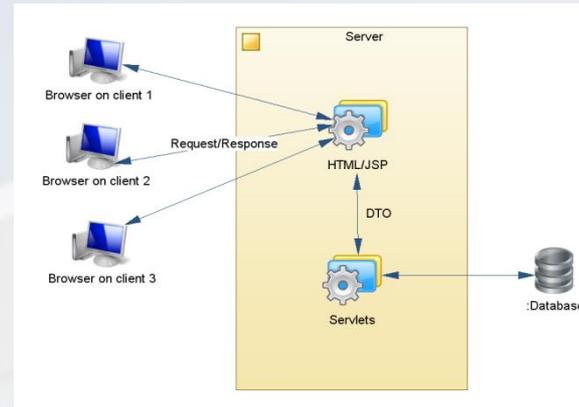
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The means of dissemination through dedicated Web portal or via Web services.



№ Делы	Время	Проект	Вид	Наименование	Содержание предмета	История владения	Площадь	Место	Примечания	История владения
2	31.05.09.2005	18.47	0	0	земельный участок	12345	100 кв.м	Рига	земельный участок	12345
3	31.05.09.2005	18.44	0	0	земельный участок	12345	100 кв.м	Рига	земельный участок	12345
4	31.05.09.2005	18.44	0	180	земельный участок	12345	100 кв.м	Рига	земельный участок	12345
5	31.05.09.2005	18.34	0	45	земельный участок	12345	100 кв.м	Рига	земельный участок	12345
6	31.05.09.2005	18.33	0	0	земельный участок	12345	100 кв.м	Рига	земельный участок	12345
7	31.05.09.2005	18.33	0	0	земельный участок	12345	100 кв.м	Рига	земельный участок	12345
8	31.05.09.2005	18.04	0	1208	земельный участок	12345	100 кв.м	Рига	земельный участок	12345
9	31.05.09.2005	18.04	0	0	земельный участок	12345	100 кв.м	Рига	земельный участок	12345
10	31.05.09.2005	18.04	0	0	земельный участок	12345	100 кв.м	Рига	земельный участок	12345

Республиканская служба геодезии и картографии

Информация о кадастровом объекте

Кадастровый номер: 18.05.09.2005.18.47.01

Площадь: 100 кв.м

Владелец: [Имя Фамилия Инициалы]

Адрес: [Адрес]

Содержание: [Содержание]



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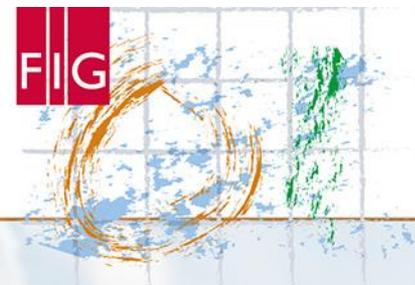


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Conclusion

- Centralized approach in cadastral data management
- Data integrity
 - as opposite of current situation where each municipality is responsible for its own data and errors are common
- Improvement in both accuracy and timeliness

Happier users



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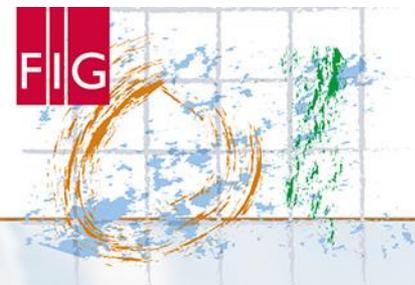


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Thank you for your attention!

Questions?

*"We cannot solve our problems with the
same thinking we used when we created them."*

— Albert Einstein



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