



Postgraduate Program on Geodetic Sciences
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Requirements Survey and Documentation of a Geo-Information System Applied to Land Value Capture Policies

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1st ICA European Symposium on Cartography
Vienna, 10-12 November 2015

What?

- Requirements Documentation for GIS

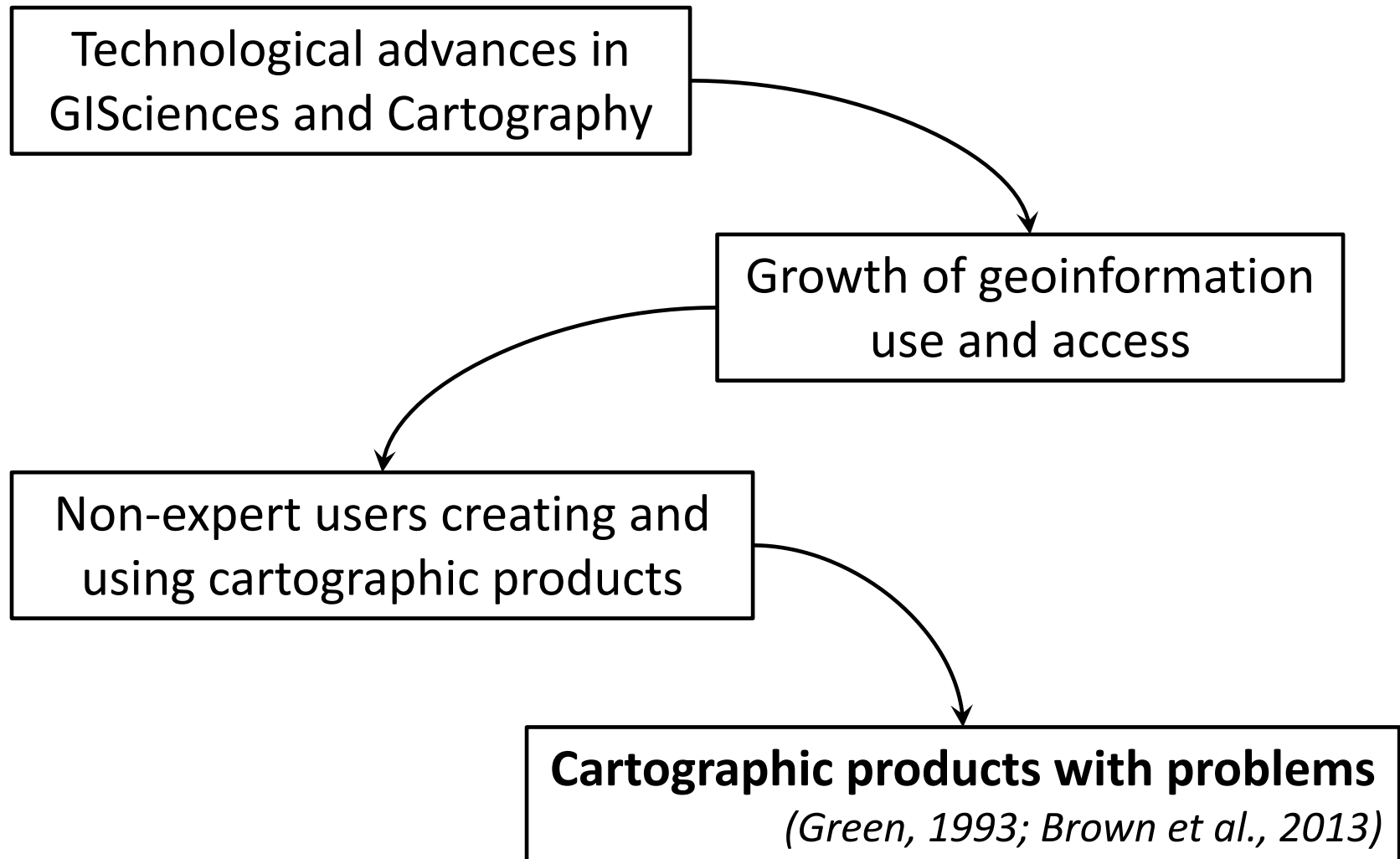


Geo-information
Characteristics



System Requirements
Documentation

Why?

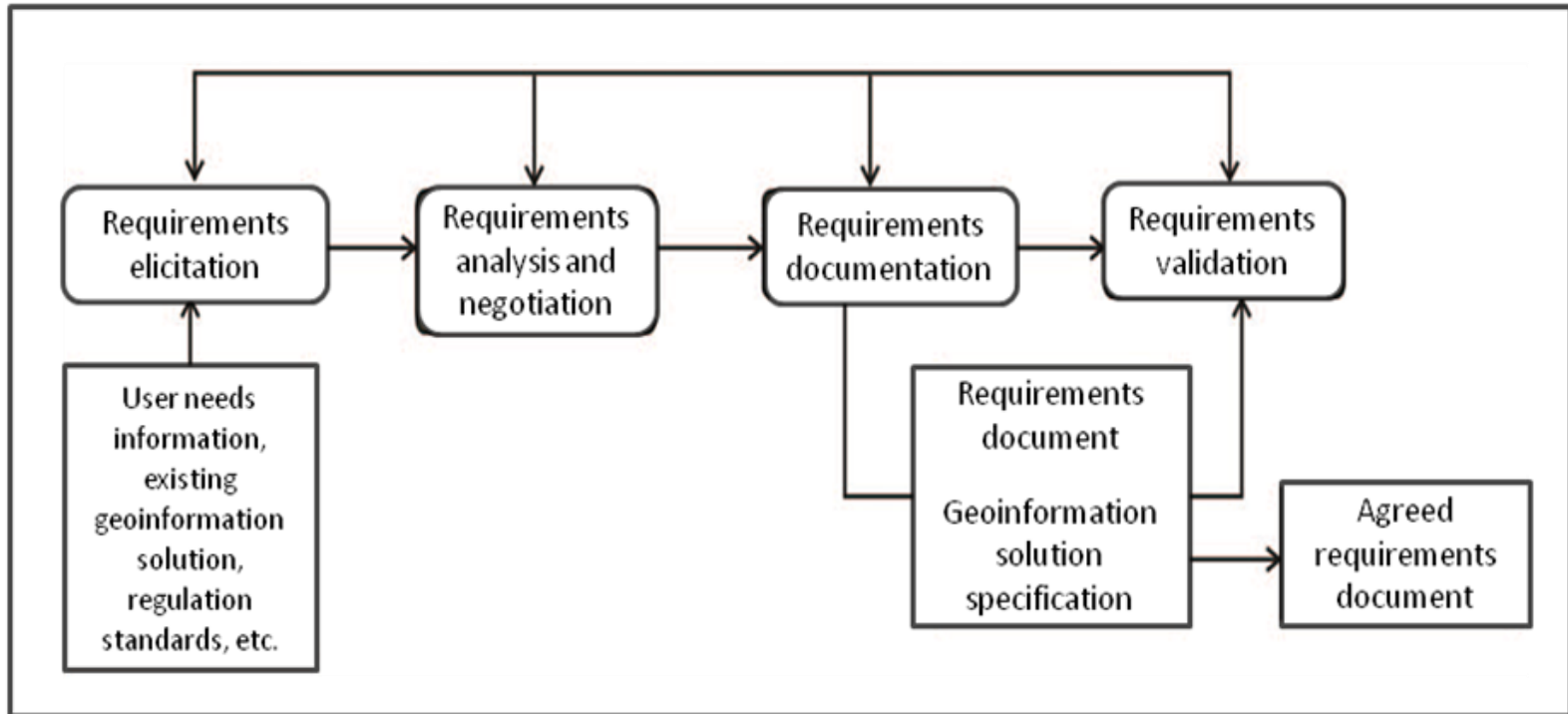


Brown M A; Sharples S; Harding J; Parker C J; Bearman N; Maguire M; Forest D; Haklay M; Jackson M (2013) Usability of geographic information: current challenges and future directions. *Applied Ergonomics*, v. 44 n. 6, p.855–865, doi:[10.1016/j.apergo.2012.10.013](https://doi.org/10.1016/j.apergo.2012.10.013).

Green D R (1993) Wherefore art thou cartographer? Your GIS needs you! In: *Proceedings of the 16th International Cartographic Conference*, p. 1011-1025, Cologne, Germany.

How?

- Requirements engineering steps (*Kotonya & Sommerville, 1998; Sluter et al., 2014*):



Kotonya, G.; Sommerville, I. (1998) Requirements Engineering: Process and Techniques. John Wiley and Sons Ltda. England.

Sluter, C. R.; van Elzakker, C.P.J.M.; Ivánová, I. (2014) Requirements elicitation for geo-information solutions. In: The Cartographic Journal, The British Cartographic Society.

• System Requirements Specification (SyRS)

1. Introduction

- 1.1 System purpose
- 1.2 System scope
- 1.3 System overview
 - 1.3.1 System context
 - 1.3.2 System functions
 - 1.3.3 User characteristics
- 1.4 Definitions

2. References

3. System requirements

- 3.1 Functional requirements
- 3.2 Usability requirements
- 3.3 Performance requirements
- 3.4 System interface
- 3.5 System operations
- 3.6 System modes and states
- 3.7 Physical characteristics
- 3.8 Environmental conditions
- 3.9 System security
- 3.10 Information management
- 3.11 Policies and regulations
- 3.12 System life cycle sustainment
- 3.13 Packaging, handling, shipping and transportation

4. Verification

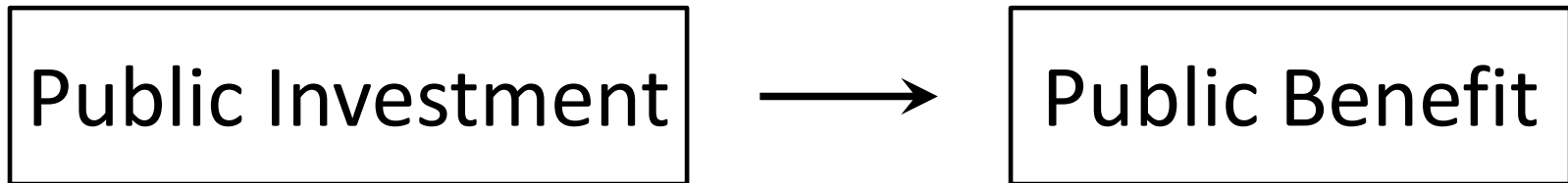
(parallel to subsections in Section 3)

5. Appendices

- Assumptions and dependencies
- Acronyms and abbreviations

Preliminary Results

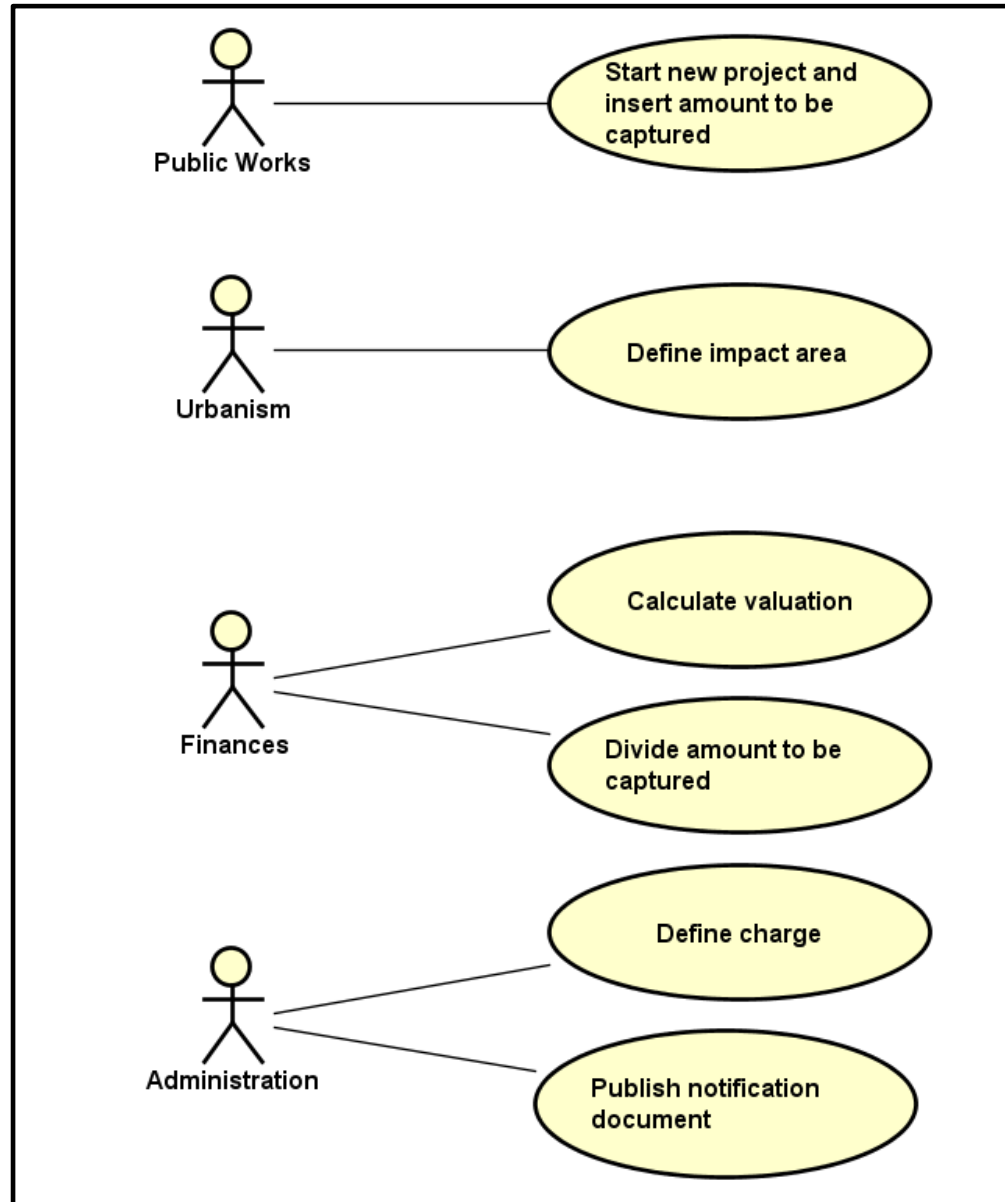
- Study case: Land valuation capture in Campo Grande/MS



- *Betterment tax – UK (special assessment – US; contribution sur les plus values – FR; contribución de mejoras – ES ; contribuição de melhorias - BR)*
- In Brazil (2000-2010): Betterment tax = 1% of all property taxes (*Pereira et al., 2013*)

• Main Functionalities

(Powered by Astah Community)



Summing up

- Requirements Engineering + Geo-information characteristics
- System Requirements Specification
- Land valuation capture



Next...

- Analyze functionalities (to be continued...)
- Write requirements
- Analyze geo-information requirements with SyRS



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Questions?

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