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**A REQUIREMENTS ENGINEERING FRAMEWORK FOR DEVELOPING
COTS GIS APPLICATIONS**

A thesis presented in partial fulfilment of the requirements for the degree of

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ABSTRACT

There has been an increase in recent years in the number of Geographic Information System (GIS) applications being developed for stakeholders using Commercial Off-The-Shelf (COTS) software. There are a lack of guidelines in both industry and the literature on how to acquire user requirements for the development of GIS applications in this COTS software environment.

This study investigates process activities in order to build a framework to address these inadequacies. The construction of the framework incorporates requirements engineering and COTS software evaluation and selection process activities from the Information Systems (IS) area. The framework is used to explore three issues related to developing GIS applications and used to determine whether: 1) a life cycle model is used to guide the gathering and analysing of requirements when developing GIS applications, 2) standard IS requirements processes can be used for developing GIS solutions, and 3) standard IS COTS software acquisition processes can be used for developing GIS solutions. Case studies were used to analyse current practices in the GIS industry and to validate the usefulness of these activities in the framework.

The results of this investigation suggest that RE practices associated with the COTS paradigm within the IS arena are suitable for developing GIS applications based on user requirements.

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PUBLICATIONS

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