

Educational demands for GIS Software companies

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Abstract

This paper is about the need of GIS knowledge in different application domains in a software company.

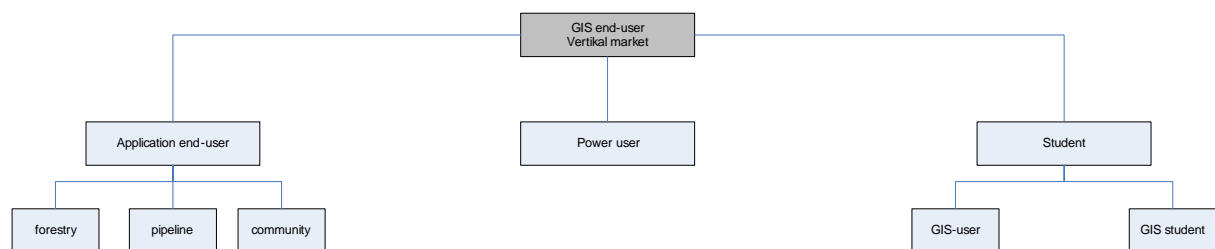
Introduction

For ProGIS, a Software company which produces GIS systems, three main user groups are relevant. The GIS end user, the GIS developer and the GIS sales man. These three groups have different needs and request to full fill their work.

Depending on the role in the company the knowledge we identified basic, intermediate and expert knowledge.

Educational specialists and their necessary skills

1. GIS end-users vertical markets



1.1 application end-user

- GIS basics
- Application domain expert knowledge
- Intermediate product knowledge

1.2 power user

- GIS application expert
- Knowledge of cartography and projections
- Basic Application Domain knowledge
- expert product knowledge

1.3 student

- 1.3.1 GIS user*

Intermediate Domain knowledge
Intermediate GIS knowledge
Basic GIS application knowledge

1.3.2 GIS student

GIS expert
Knowledge of cartography and projections
Basic development knowledge
Market and problem oriented knowledge

2. GIS developer



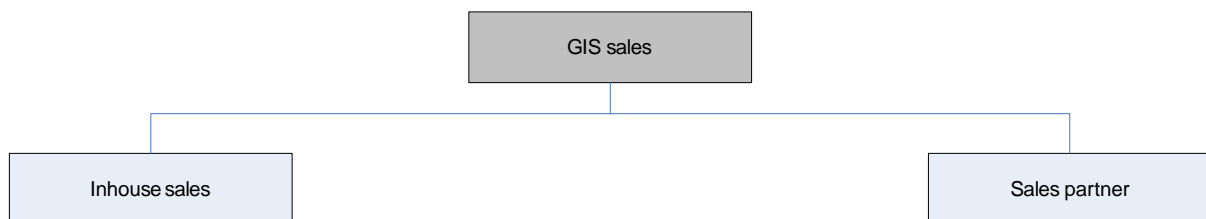
2.1 application customizer

Intermediate GIS knowledge
Expert development knowledge
Domain knowledge
Expert product knowledge

2.2 core developer

Expert knowledge on basic GIS data structures (grid, R-tree,...)
Expert development knowledge
Knowledge about spatial algorithms

3. sales



3.1 inhouse sales

Expert product knowledge
Intermediate GIS knowledge
Market knowledge
Knowledge about competitors

3.2 sales partner

Expert product knowledge
Intermediate GIS knowledge
Market knowledge

Skills matrix

Based on the previous analysis the following skill matrix can be created:

	GIS know.	Market know.	Domain know.	devel. Know.	product know.
GIS end user					
Application end user	basic		expert		interm.
power user	expert		basic		expert
Student GIS user	interm.		interm.		basic
GIS Student	expert	interm.	basic	Basic	interm.
GIS developer					
application developer	interm.		basic	Expert	expert
core developer	Expert			Expert	expert
GIS Sales					
inhouse sales	Basic	expert	interm.		expert
sales partner	Basic	expert	basic		expert

The specific knowledge needs like basic, intermediate and expert are shown in the following section.

Description of knowledge needs

Basic

Drawing of objects, change of objects, zoom, print, layout design, import
 Understand the concepts of Views and Layers
 Understand the concepts of the IDB (use of an existing IDB)

Intermediate

Basic +

Extended layer concepts (like generalization)
 Creation of a spatial database and data input
 Import data in the GIS and DB from complex files (like GPS log files)

Advanced

Intermediate +

Implementation of GIS custom solutions based on a COM Interface.

Spatial Analysis (Buffer, Generate Objects)
Add custom projections to the GIS System.

Conclusion

The teaching of GIS knowledge has many dimensions. Not in every job position is a high GIS knowledge needed.