

GI: a good career choice?

AGI'07 was the setting for a provocative debate on whether "GI is a bad career choice". Speaking for the motion were GISPro publisher Stephen Booth and AGI past chair Simon Doyle. Vigorously opposing were Gesche Schmid of Atkins and The Geoinformation Group's Dr Seppe Casattari.

The debate, which worryingly for the AGI was only marginally lost, sparked lively interest from the audience which included GISPro editorial board member Dr Muki Haklay. he provides some cautionary comments on career choices that once seemed reliable and argues that we're asking the wrong question.

as Dave Unwin noted in his 2006 AGI Educational Lecture. There are some issues that matter greatly to GI professionals but which the vast majority of users don't seem to care about. One example is the lack of metadata in applications like Google Earth, e.g. the ability to tell when the data was collected and the currency of each piece of information. Some users of these systems even think that they can log on and check if their car is still parked in front of their home!

Or consider the place of cartography. It seems that a large proportion of the new web mapping applications are ignoring many important cartographic principles – look at some of the current sites and you can spot the lack of legends, poor selection of colour for thematic mapping and other aspects of properly composed maps.

How can we ensure that GI is a good career choice?

IT SEEMS THAT there was never a better time than the present to be a GI professional – demand for skills is high, pay is good and prospects are rosy. It was a delight for many of us to read the famous article in Nature in 2004, announcing increased demands for people with knowledge and the ability to operate geospatial technologies. According to the US Department of Labor, GI is 'one of the three most important emerging and evolving fields, along with nanotechnology and biotechnology. Job opportunities are growing and diversifying. . . ' What could be better?

Veterans of GIS can attest to the dramatic increase in awareness and knowledge of geospatial technologies. If you have been working in GIS for more than five years, then you belong to the generation which, when trying to explain what your job involved, would launch into a convoluted explanation, only to end with "oh, well, it's complex". The advance of satnav, geobrowsers such as Google Earth and the ubiquity of web mapping sites such as Multimap and Google Maps, together with those "mash ups" that bring new applications on top of them, are making it much easier to explain what we do and the importance of maps and how the use of geographical information can help in daily routines and in business. So, you conclude, GI is an excellent career choice with a fantastic future.

Caution from our allies Is the picture quite so rosy? The rise of 'neogeography' is highlighting some risks, and there are certainly cautionary tales to be learned from our professional allies: land surveyors, photogrammetrists and cartographers.

A significant reason for concern is that in the era of "neogeography" many core geographical concepts are seen as unproblematic and not worth bothering about,

Yet, for many users and for too many applications, this problematic world in which geography is useful, but cartographical and geographical information science principles do not matter, is a very satisfying world and many are happy to live and use geography in this way. In such a world, what will prevent your future employer from saying: why do I need a person that costs me so much, when we can hack something easily with a web mapping API*?

Lessons learned Here is where we need to look at the lessons learnt by land surveyors, photogrammetrists and cartographers. Not so long ago, maybe 15 or 20 years ago – well within the span of a professional career – being a surveyor or a photogrammetrist seemed like an excellent career choice. For photogrammetrists, the increased use of digital aerial photography meant that there would be a need for their skills and for the surveyor the requirement of ever increasing complex civil engineering projects and the need to understand how to use GPS, meant that they, too, should have a secure future. But look at what has happened to those professions today. The entry salary for a photogrammetrist is very low (that is, if you manage to find a job) and the same is true for land surveyors. This is reflected in the demand for academic courses.

Importantly, it is not the case that automation has eaten away all these jobs, though to some extent it has. What happened is that more and more employers think that because of automation, GPS, total stations and satellite imagery, they do not need the highly paid skills of the professional photogrammetrist or the surveyor – they can just hire a technician and the machine will do all the calculations. . . Of course, many practising surveyors can provide tales of companies



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that have discovered midway through a project that they actually need the skills – but now they don't have them. This attitude has led to widespread errors – but the overall trend doesn't change.

A profession or a vocation? Arguably, what happened with these professions is that they failed to convey the importance of the skills and knowledge that they bring to the marketplace. This risk is true for GIS professionals too. The following is taken from "Prospect" – the UK graduate job site which describes the job prospects of cartographers: "With relatively low salary levels and small numbers of job vacancies, this role is often seen as more of a vocation for people with a strong interest in maps and geographical information." Will the GI profession follow the same pattern?

For too many employers, the justification in employing GIS professionals is that the software used to create maps is very complex, so having specialists who produce maps is justified. But if it is possible to create maps with a simple API instead of buying an expensive and difficult to maintain Internet mapping server software, or if it is enough to analyse the data by creating a point map on Google Earth – then why keep the expensive professional?

Spatial is special Therefore, we need to change the question from the passive 'Is GI a good career choice?'

to 'how can we ensure that GI is a good career choice?' There is a clear need to move away from the conception that GIS is all about making maps. It is actually about analysing geographical information, and in order to do this properly you need a GI analyst – a professional who understands the underlying data structures, the way in which the data can be manipulated and how to visualise the output of the analysis in a meaningful and effective way.

As for yourself, dear reader – it is worth considering how you structure your career so it does indeed become fulfilling, enjoyable and long. There aren't many jobs in the IT sector that offer a variety of tasks like GI. Develop your skills by ongoing training – and while you are at it, why not become a Chartered Geographer? Read books that help in understanding how rapidly the world around you is changing – Thomas Friedman's *The World Is Flat* (2007) is one of my favourites. Most importantly, start your own local campaign to explain to your employer, if you are working for an organisation that doesn't specialise in GIS, or to your clients, if you are working in a GI-centric organisation, how special is spatial? And in what ways the knowledge and skills that you've got are contributing to the operation of the organisation. By collaborating and promoting the wonders of GI we can ensure that GI is indeed an excellent career choice.

**Application Programming Interface*



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