8 Critical Skills You Need to be a Successful GIS Professional

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OKSCAUG 2016

Background

- You…
  - Are educated,
  - Have taken GIS training classes,
  - Logged countless hours creating shiny new maps,
  - May have even been promoted or changed jobs a time or two.

- That's been my path as well.

- I've come to realize that there are certain skills that can really make you successful in your GIS career.

8. Basic Programming Knowledge

- You've learned to use one basic software package or another.

- Even with their amazing capabilities, you may still need to:
  - Automate a process,
  - Perform complex analysis, or
  - Standardize work spread across multiple departments or people.

- This is when **some basic programming skills come in handy**!

8. Basic Programming Knowledge
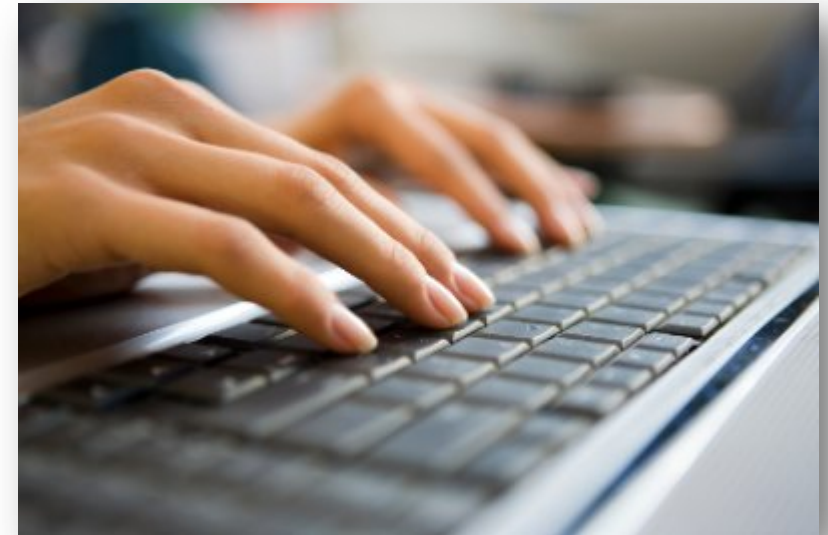
Which one?

• Doesn't matter! Basic **.NET & Python** might be enough to get started.

Best way to learn?

• Just do it! Start small & work on simple tasks.

Then what?

• Hire a pro or contract it out when you need to expand…or get better!

7. Involvement in Professional Organizations

- Professional organizations **bring together people** of
  - similar careers,
  - backgrounds,
  - objectives, and
  - professional challenges.

- These organizations **allow you to**
  - ask for help,
  - contribute back to your industry, and
  - stay abreast of new geospatial data and offerings.

7. Involvement in Professional Organizations

- There's an organization out there that's right for you. Are you…

  - Looking for a **professional GIS** organization? *URISA*
  - Need a **user support group**? *SCAUG*
  - A fresh face **under 35**? *URISA Vanguard Cabinet*
  - A hard-core **programmer**? *GitHub*
  - An **open source** devotees? *FOSS4G*
  - Learning about **project management** standards and best practices? *PMI*

- Plus all the software-specific and local/regional groups out there!

7. Involvement in Professional Organizations

…Like SCAUG!

Chuck Norris Approves
Chuck Norris

6. A Great Network

"It's not [just] what you know, but who you know."

- **Developing and appreciating your network** allows you to
  - Seek on those with more experience.
  - Find others in the same boat facing the same issues.
  - Commiserate and help each other out.

- *Two oars get your boat moving forward; one oar keeps you going in circles.*

- **Grow your network, foster & contribute to it, and most importantly keeping it alive.**

6. A Great Network

- An added benefit: your network is where you're **next job** may come from.
  - Know of **job openings** long before they get posted.
  - **Recruited directly**, but other benefits might be more indirect.
  - **The ones you reach out to** when you are moving on.
  - They'll be your best **advocates and sounding boards**.

Made the connection yet?

- Your network grows tremendously when you're involved in all those professional organizations!

Networking Intermission

1 minute to introduce yourself to a couple neighbors.

Stand up and shake hands.

Who/Where/What?

Follow up!!

5. Keep Learning

- **Go outside your comfort zone occasionally.**
  - Those new complex tools and widgets you see today will be simplified and ubiquitous in a year or two.
  - Exposure to today's new offerings allows you to stay current and to better adapt to tomorrow's changes.

- All those professional organizations are trying to make things better for you. **Take them up on their offerings!**
  - Webinars,
  - Conferences,
  - Training sessions,
  - Lightening talks

5. Keep Learning

- **It's your career and your skillset to manage. It's in your hands to push to make you better.**
  - Might have to budget a year ahead of time
  - Nothing wrong with a bit of begging & pleading.
  - But keep pushing!

- *Is your career worth $40 and a vacation day?*

4. Software-Specific Knowledge

"Wow, I would have thought knowing how to use

GIS software would have been #1 on the list!"

4. Software-Specific Knowledge

- Yes, you need to know how to use the GIS software, but **you need to know more than just how to push buttons** on one software.

- So many GIS and mapping applications options out there today.

- Branch out, try other software/tools, expand your knowledge base.

3. Analytical & Critical Thinking

- As a GIS professional, you will be faced with a wide variety of mapping requests and analytical issues.

- **Can you look at the problem and think logically on how what needs to get done and how to do it?**

3. Analytical & Critical Thinking

- Some of that know-how comes with **time and experience**.

- Something to be said for **sitting down and charting it out**
  - the steps you'll need to address,
  - the challenges along the way, and
  - the approach you're going to take.

- As you get involved in bigger projects, the workloads get more complicated and that **critical thinking earlier in the planning process really starts to pay dividends.**

2. Project Management

- The best part of what we do is the ability to be involv**ed in so many different types of projects.**

- And more often than not, many of those projects are **happening at the same time.**

- You will continually be
  - juggling projects,
  - managing stakeholder expectations, and
  - working against various time constraints.

2. Project Management

- Continually ask yourself several important questions, including:

  - *How long will this project take?*
  - *What is important or risky about this particular step in the process?*
  - *Do I need to pull in additional resources?*
  - *Who are the key stakeholders…and which ones are most critical to keep happy?*
  - *What are the deadlines for each project?*
  - *Can the work be rearranged to make it all fit?*
  - *Do I need to run something up the chain to get management support?*

- And above all, **communication and coordination are critical to the success of any project.**

Drum Roll…

And the number 1 skill needed to be

a successful GIS professional is…

1. Sales Skills

- **Half of a GIS professional's job is sales.**

- Ever had a client...
  - Requests a small project, but your gut tells you to dig for the real request?
  - Not even know what they want?
  - Need something completely different than what they asked for?
  - Not even know what is possible?

"You mean you can change the point's color based on their values??
WOAH!!"

1. Sales Skills

- **Your job is to talk to them and get to the root of their needs.**

- Talk to them, show them what is possible, walk through the options, maybe guide them towards appropriate solutions.

- Heck, pick up the phone and call them!

"Close your eyes and tell me what you'd ultimately love to see…"

Your Homework

- Learn a good sales pitch. *("~~GIS~~")*

- Follow up with your new friend!

- Grow your network. *(LinkedIn)*

- Think critically about your work and projects.

- Get involved.

- Explore and learn.

- Bang your head against some code.

- *Invest in yourself!*

Thank You!

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