



By Mark Barker and Tiffani Miller

Since its creation, NASA DEVELOP has trained countless bright individuals during their first steps of their careers as successful leaders. On January 15th, Mark Barker and Tiffani Miller, both with DEVELOP's communications team, sat down for a conversation with a group of DEVELOP alumni at Dito – a tech company based in Manassas, VA. The objective was to get these former DEVELOPers' opinions on the impact that the program has had on helping them achieve their goals, as well as let them share their advice for current, prospective and past participants.

Mark Barker: Hi everyone, it's nice to meet you all. As you all know, I would like to ask you a few questions today.

Nirav Patel: Do you want a little background on Dito?

Mark: Sure, go ahead.

Nirav: Dito has been a partner of Google since the early days of Google Enterprise, starting in 2008. The majority of Google's business coming through advertising in various formats, which pairs advertisers with web and mobile traffic. Over the past decade or so, they've also been experimenting with other businesses, like Google X, which is responsible for their driverless car and other "moonshot" projects.


Google for Work is their business unit with a focus on enabling enterprise businesses. Google started piloting the program back in 2008, and Dito was one of the first 30 partners in this new system. This was square-one for Dito, reselling and supporting companies adopting Google Apps. Over the next few years Dito continued to strengthen its relationship with Google for Work and its enterprise customers. Around April 2014, Dan McNelis, Dito's CEO and principal, hired me onto the team.

Mark: Great, thank you for the quick background, Nirav. Well, to start off, my first question to each of you has two parts; what do you do at your current company, and how did DEVELOP help you in preparing for it?

Nirav: Well, I was at DEVELOP in summer of 2013, and that's when I met Chris. We worked in the same room, and I was pitching population mapping and got him to integrate population data mapping into his project. So, you can tell that I am kind of a loud mouth (laughs). I am usually pretty extroverted

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and can network really well. This is what I did in DEVELOP with other teams and pushed population mapping analytics within the program. Chris could speak to this.

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Chris Ferraro: You made us aware of the tremendous work you were doing and how it would be advantageous to our projects as well.

Nirav: Networking is a really critical skill that you want to have in sales. I was able to hone that skill at DEVELOP. It gave me an opportunity with two projects involving the Republic of Rwanda to really interface with different agencies in order to get a dataset that is useful to an end user. After DEVELOP, I worked overseas for a little while. Then I came back to look for jobs, and on StackOverflow I saw a position at Dito for a GIS engineer. I didn’t realize at the

time that I would be heading up a new line of business. During the interview process, it became a clear expectation that I would be responsible for scaling up Dito’s geospatial and Google Maps practice, working with start-ups to large enterprises.

So the experience from DEVELOP was great. I wasn’t a team lead or anything like that, but in DEVELOP, it really depends on how much work you want to put into it for your value on your team. It’s just like any other team; you might not have some people doing as much or might not be adding as much value, but you can make the decision as to how much value you want to add. In this business, especially with the geospatial industry, it’s important. It’s very competitive. So, even though Google Maps is an advanced system, it still has its own challenges in the marketplace. On the sales side, you have to understand who the customer is and what problem they are trying to solve, then be able to effectively communicate how it provides the end solution they are after and the business value for it to make sense.

So there are a lot of things at DEVELOP that represented a base-level of understanding and helped with honing in your comfort level with your technical experience, because everybody comes to DEVELOP with some expertise. You might come with a lot of technical experience, or you might not. But, you’re going to keep honing that skill and using it in different cases. That’s an example of the kinds of situations that we have to deal with when selling a

product, and we are consistently applying those skills honed through DEVELOP.

Chris and I had no real web development experience coming into this job, but we are really well respected on a technical level because we understand the geospatial aspects of the product. All of the things that may be foreign concepts for web developers allow us an opportunity to get in there and parse through, based on our coding skills, and get into new situations to really study the efficiency.

Mark: Great answer.

Kent Sparrow: Well I am on the maps engineering team so I do anything with Google Maps, from sales to sales engineering or solution validation. I guess you could call me a GIS engineer, and I work with a lot of GIS, except the mapping I get to work with is Google Maps. As far as how DEVELOP helped me to prepare, I think that the best experience I got there was just learning new things. I was on a team that helped the agricultural industry make important decisions about irrigation. As it wasn’t my exact area of research or focus, I had to quickly learn things I wasn’t exactly used to, like Python programming, which was a really good experience. Also, dealing with customers and customer relations, which in DEVELOP’s case is really the end users. We are also starting to tap into other things from DEVELOP now, like imagery analysis.

Chris: Nirav started up the geospatial practice at Dito two years ago. For a while it was just the

two of us, and we worked as a team to do everything. Some of that was sales, which, quite frankly, involved going out and finding opportunities to work with customers interested in using Google Maps in whatever way possible. What really makes us unique as a Google partner, is that we are technically sound and technically competent, which directly aligns with how we like to build our teams. Because of the business that we are in, it is important to have people with sales and marketing experience, but we also wanted our focus to be more technical and have more of a sales engineering approach rather than a true “salesman” approach, as I guess we could call it.

So, in terms of how DEVELOP helped, I think I came into DEVELOP with a lot of technical skills, but it was working with the stakeholders and end users at DEVELOP that really stood out to me. In particular, when I was the Assistant Center Lead, I helped oversee a large number of projects and deal with a variety of stakeholders. They all had different ideas and different expectations for a project, and that constant

communication pipeline helped me manage all those different relationships.

Jelly Riedel: Hi I’m Jelly, and I’m also on the maps team here at Dito. I am in charge of deployments, which is, basically, whenever our customers sign up for a license. They now hold this product, and my job is to make sure that they are able to get started smoothly with it. So it is very much a customer support role - I am there to answer questions and redirect them to technical support if needed. I will also try to help sell our development services, so I guess it’s a little bit of sales too. Working at DEVELOP, kind of echoing what Chris and Kent said, really taught me how to work with customers. Mainly our experiences with end users, trying to understand their problems and derive solutions. That kind of situation was new to me, as I had previously never been challenged with that role. It was a fresh experience for me, and DEVELOP was a really great way to get started in that mindset.

Mark: Great! Thank you for sharing. So, I am just curious, how

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many terms did each of you do in DEVELOP?

Chris: I did two terms, summer 2013 as a team lead of the Myanmar Eco Forecasting and summer 2014 as Assistant Center Lead.

Kent: I did two terms as well, both as the team lead for the Coastal Mid-Atlantic Water Resources project. My two terms were fall 2014 and spring 2015.

Chris: Kent and I never actually worked together, but we were roommates.

Jelly: Kent and I worked together in the fall of 2014 on the second METRIC team, and I worked the following spring, in 2015, on harmful algal blooms as part of the North Carolina Water Resources project.



Summer 2013 DEVELOP Team: (From left to right) Vincent Mwumvaneza, Faith Mwiza, Merna Saad, Angela Unrein, Gaspard Twagirayezu, Nirav Patel

Chris: Actually, there is an interesting networking story here, now that I think about it. Nirav and I worked together in the summer of 2013, and then I came back in the summer of 2014. The Center Lead, Nathan Owen, knew Kent at the time, and when Kent signed up for DEVELOP in the fall, I moved out and we became friends and roommates. Then, Kent was a participant, met Jelly and brought her in. So it went down the line, I guess, term by term.

Mark: How important was networking, and was it more important with your fellow participants, with the science advisers, or with the partners?

Nirav: Well, I think it's all across the board, especially the people that you work with. As I have gone along in my career, I've noticed that no matter where you are working, the people you work with are what's going to make you successful, those human relationships that you might have. I think that with Chris I remember, at the end of the term, telling him, "If I go off to work somewhere, I am definitely reaching out to you." It needed to be a very technical type of position, since Chris was doing a lot of Random Forest [classification] and showing real skill with remote-sensing software. So, remembering our past conversation, when I got this job and met him at the Air and Space Museum in D.C., I just begged him to please come work with me. I was really dying right then, because it was just me doing everything.

Chris: Then you said, "Well, you know there may be real opportunity

a couple months from now." I was thinking about how people say this all the time. I was at the Air and Space Museum trying to enjoy myself, so I thought that if I just told him, "Oh yeah let me know when it comes along," then that'd at least get him to shut up (laughs), but long story short, he actually got back to me a couple months later. It turned into a real thing, and the rest of it is history.

Kent: Sounds like such a sweet story.

Chris: Yeah, we lived happily ever after. (laughs) Well, it's kind of funny because, like Nirav was

'til you make it. What Kent was saying earlier about learning things quickly, that's absolutely true. You run into a whole bunch of different situations. Google Maps can be used in unique ways that you might not know anything about, and it's up to you to quickly become the expert in that area, or at least know how to get the right answers until you can become the expert in that area. Just being in an environment like DEVELOP is a good test run for that.

Mark: Alright, next question. Do you think you think you guys could have gotten these positions without your experience with DEVELOP?



From right to left: Chris Ferraro and Nirav Patel.

saying earlier about not knowing about web development, I think that is kind of true for really any job that you are going to go into, that the fraction of what you know really well versus what you need to learn for that job generally leans more on the side of needing to learn a lot more. That was certainly true in many ways for this job, and I think what DEVELOP does, and I say this in a positive way, is that it teaches you how to fake it

Collective: No.

Kent: Well, I don't even know, honestly.

Chris: You need to know certain things to get into DEVELOP, and obviously everyone comes into DEVELOP with different skillsets, different levels of technical abilities and different backgrounds. Some people end up taking more of a technical side out of it, and you are always going to learn some

technical stuff, but again, it comes back to how well you can learn, and how well you communicate, but quite frankly having that NASA bumper sticker on your resume doesn't really hurt (laughs). You know, Nirav has talked about Dan (our CEO) a couple times, and when it comes to marketing Google Maps, he likes to refer to us as his former NASA team. It does kind of carry a certain weight with it, and gives people some confidence in our technical ability.

Nirav: Yeah, and to tag along with that, initially, when I was job searching, I was applying to a bunch of jobs in D.C. around

DEVELOP reference and be, like, "Wow they worked for a NASA program for 10-weeks and have created these deliverables. Look at all the amazing stuff they produced."

This is what initially attracts people, and then you can really explain what skills you may have had to learn when you came to DEVELOP, such as video editing or marketing. Those are things that I never really did before DEVELOP, and, as simple and not really related to science as they might be, it's important to business, because everybody looks at how well are you doing. When we go to our key

industry? What do you think are the pros and cons?" and posing questions to really try to make you think on your feet like, "What's a geospatial application created using Google Maps?"

It really comes down to that ability to think on your feet and communicate all the skills you have learned in a short period of time. It is almost more valuable to a business, so they know how much you are able to learn quickly. In business, especially with a team our size, we consistently have to learn new things. For example, on the imagery side of things with Google right now, we were having to learn more stuff about machine learning and object based classifications.

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Chris: How to work with high resolution imagery rather than moderate resolution is also a good example. I think the diversity that you get at DEVELOP is also really valuable. When you are going through the process for a new job, they are looking for certain examples, different types of experience, and that sort of thing. It gives you a great well of things to tap into when you are trying to come up with examples for how you would approach different situations. You can use things you've actually done. Just to give a quick example, sales is a component of my role, and going through the interview process with Dito and with Google, they asked about that. "What sales experience do you have and do you feel comfortable talking with people?" and even though DEVELOP has nothing to do with sales there is a lot of communication that takes place there. As an Assistant

January or February 2014. I would submit my resume, which is heavy in research, so I have a lot of publications, well maybe not a lot, but I might have, like, one or two publications on population mapping. It was primarily GIS focused research, with my DEVELOP stuff at the top, talking about the two projects that I was working on at the time, one on Rwanda and one on solar energy. When I got into the interview stages, like Chris mentioned, people are going to see the NASA

stakeholders at Google, they are looking at the innovative new use cases we are enabling. We might be working on the coolest project in the world, but one thing I have learned is that you have to solve for the economics to ensure the project is a good fit for everyone.

Even though my job is with Dito, I actually had to interview with several people at Google. Basically, this was my first time having a one on one conversation with a Googler and he asked, "What do you think of the future of the geospatial

Center Lead, I was managing a lot of projects and dealing with a lot of stakeholders and could tap into those different experiences and use them. It's more than an internship, really. You get real world experience in a wide variety of different areas besides just the obvious technical stuff.

Mark: I think you guys have, well you're already kind of touching on my next question, but do you feel DEVELOP adequately prepares people for future careers? Basically, going into the technology we use and the methods that DEVELOP uses.

Nirav: Oh yeah, for me personally, when I came on in summer of 2013, I was doing a World Bank assistantship along with DEVELOP. I noticed that DEVELOP felt like an intensive fellowship, in that you are hired into a role where deliverables must be met throughout the ten weeks. Analysis benchmarks are also required, allowing just a very short amount of time to get a lot of things accomplished. At least for myself, it made me a lot more organized in my workflow when going through a particular project. It's really relevant, because after that I was in Italy working under a professor for a few months, and I had a big study where I needed to have a paper draft with all my analysis done in three months. It was some very concentrated work. DEVELOP was that perfect stepping stone for me, at least on the academic side, because it forced me to have fixed goals that I needed to hit as I went along. Sticking to a timeline and using effective time management also tied in with this job at Dito,

with the focus on building projects up on a rapid timeline.

Chris: Yeah, I agree. Especially for scientists, you have a certain mindset and way of going about things when you are in school, both undergrad and graduate school. In the real world, it works a bit different. Unless you are going into a think tank, a research institute or something like that, there is a disconnect between the scientific research you do in academia and what you are expected to do for a private company, or probably even in the government as well. So, DEVELOP is a great stepping stone, a great in-between and transitional point where you can learn about what it means to be working as part of a team to a set of goals, working with a set of end users to have certain expectations, and maybe again working out of your comfort zone as well. I mean, when you start a job you don't get to pick exactly what you want to work on and how that would be perfectly aligned with everything you've done previously.

Kent: You get experience in so many things that your future employer and the people that are hiring you are going to want to see, mainly the strict deadlines and all the technical skills and really working with end users. It's excellent.

Jelly: I think that for me DEVELOP was a really great way to immediately apply everything I had just learned in school. When I first started with DEVELOP, I was wrapping up a GIS certificate program, and all the software we used was the same as we used in the program. So it was as though all the


things I had learned in school I got to actually do something with.

Mark: It puts your skills to work.

Jelly: Right, definitely a good stepping stone.

Mark: Alright, cool, so I guess we've had this overarching conversation about DEVELOP itself. So, my final question to kind of wrap up this session would be, "What advice would you give to current participants that are looking to move forward in their careers beyond DEVELOP?"

Chris: I think we will let Nirav take that one. Since he's a master networker over there, he probably would know the best of us.

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Nirav: (laughing) I don't know about that one, Chris. Basically, I think that the biggest thing with whatever you want to do in life is that you want to try to be able to communicate it effectively to your audience, cater to your audience. There are big differences when I

am communicating with a NASA official as opposed to my boss.

The take away from my boss is, “Okay, Nirav, Jelly, Kent and Chris have gone through a 10-week program with deliverables. They had ‘x’ amount of end users. What was the customer success?” These are the metrics that he cares about, and a boss, or an individual hiring for business purposes, if it’s a geospatial type industry, is looking at these different types of criteria as well. With the NASA official, when I pitch my research to him, I am more focused on, “Here is exactly what I did, here’s the novelty of the science behind what I did, and here’s how useful it is to NASA and Ames.” It’s really about how you are able to sell yourself and that research. You have to be conscious of your audience and be able to adjust based on that audience. Everybody has different desires, and once you are out of DEVELOP, it becomes about how well you can pitch that experience to your desired dream job. You need to ask, “Who are the people I need to talk with to make that decision happen?” You need to be talking to the right people. I don’t know if that makes sense. Chris, do you have anything to add there?

Chris: Yeah, that’s a tough question because I think it varies depending on the career goals of the person and their field. I think the most important thing is that you’re already there. You are already at NASA, and you can say that. That’s a great starting point in and of itself, and if you really want to make the most of it, I think you need to be networking.



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The personality type differences between salespeople and those working at DEVELOP are two totally separate groups of people. I fit more into the DEVELOP group of people, let’s put it like that. So, my natural tendency is to be an introvert, and networking is hard for me; it’s out of my comfort zone. My advice would be to put that aside. It’s understandable, and I relate to that, but take a deep breath and find your inner courage to put yourself out there a little bit and do some networking. Even if that doesn’t lead to a direct job as a result of anything you do there, at least you will have gained that skill through the process, you will have gone through the pain, and now have that inner toolkit.

Just try to experience as much as you can while you are there, because being able to tap into different experiences at DEVELOP is a real positive thing to have going into interviews or when trying to tell your life story. You are the one who is going to determine what type of experience you have while you are at DEVELOP. Are you going to have those things you’re able to fall back on, or do you walk out not really knowing what you

did with the last 10 weeks? That’s up each participant; they could cruise by in the ten weeks, or they could really make the most of it.

Nirav: I would agree with you on the networking. I would say to take full advantage of all the networking opportunities at DEVELOP. You definitely run into some good people who can help you out, give advice, and maybe even get you a job one day.

Jelly: My advice is to not be afraid, to really take some risks and to take a chance. Technical sales is a very intimidating field, and few would have thought that it was a possible career path for me or any of us here, especially because I am definitely not an extrovert (laughs). Just take some risks - say hello to the cubicle next door, even if you are not on that team.

Mark: Well, you all have given some fantastic advice today. I’ll let you guys get back to what you’re doing. I am sure you are working on a bunch of cool projects. It has been great talking with you all, and hopefully we will get a chance to talk again soon.

