Abstract: What, or whom, does it take to run a successful open source project? The Linux Foundation lives on the forefront of collaboration in software development, and nowhere is this more evident than in the Foundation's Collaborative Projects. Balancing the principles of open source with resources from the corporate world, each project has a unique set of needs, resources, and values. The lineup of roles in each project is similar, but how those responsibilities are met is a puzzle.

I have worked with community managers and other project leaders in many different spheres and seen the puzzle take shape, often with leaders emerging from unexpected places. This presentation describes the basic responsibilities needed for open source projects, the roles that normally fill them, and the "gap filling" roles that also appear that can help point toward those emerging leaders.
So the whole idea for this talk started when I was tasked with coming up with a job description for myself, for community management. Keep in mind that I had been a community manager for 6 years at two different companies, have worked in open source since 1992, and already held leadership roles in several open source communities, so this should be a no-brainer, right? Just write down what I do and what I'm responsible for, and make sure those two lists are equivalent.

Well. It's more complicated than that. If I tried to nail down what I do in a typical day or week, I quickly realize that at least as I have defined this role, there are no typical days or weeks. Maybe that's just my personal melodramatic style, and I'm prepared to accept that. But the exercise got me thinking about what are the roles and their associated responsibilities within the project as a whole, and more importantly, where do I fit in, what responsibilities am I taking on, and am I the right person to be doing those things? It's kind of a journey.

In this talk I'd like to spend some time defining exactly what the roles within projects are and then talk about identifying and culturing leaders from within. See, I did read the abstract.
Every project has its own methods, processes, and relationships. Talking specifically about open source projects here - projects that offer software (or hardware) with an open license, that encourage participation, follow the basic principles of open source (openness & inclusion, transparency, meritocracy, freedom/liberty, neutrality, community & communication, upstream first, release early & often...) to varying degrees. I believe that a project’s adherence to these principles is driven by how much the leaders of the project internalize them.

http://www.intelligenceinsoftware.com/feature/it_software_strategy/open_source/#.WKDpyPkrLmE
https://opensource.com/open-source-way
https://opensource.com/node/15018
So, who are these leaders we are talking about?

This is called 1% rule, and I'm going to tread carefully to avoid any political commentary during the course of this talk. No promises about later in the lounge.

The 1% rule came from a statistical analysis of wikis and collaborative websites, and in my experience it holds true for mailing lists, bug triage, and pretty much any other collaborative activity - we can just track it very well in technical projects. The numbers are definitely not exact - some people call it the 70-20-10 rule for example - and it is closely related to the Pareto principle, or the 80/20 rule. The concept is all the same.

The 100% encompassed here represents the ecosystem that exists related to the project.

In any case, this principle suggests that among participants in a project:

90% are along for the ride and participate passively - this is the user community
9% participate actively, submitting bugs, answering questions publicly - we call these "contributors"
1% help to guide or control the project, assign bugs, determine direction - these are "maintainers", or more simply, leaders

Thus the people who emerge as leaders, or who will eventually emerge as leaders, unless they are founders of the project, follow a logical progression from knowing nothing to being users in the 90%, to being experts and contributors in the 9%, and then hopefully leadership, belovedness, and world domination.

https://en.wikipedia.org/wiki/1%25_rule_(Internet_culture)
Now let’s talk about these roles. Let’s be clear that roles and people are not the same thing. In some projects every role is held by multiple people, while in others only a few people cover everything. This is a to-do list, not a who's who list.

I realize this is review for a lot of you. The purpose for going over these roles is to illuminate gaps that you may have in your project. Most are very similar to business roles in corporations.

technical leadership roles - half of 1%

governance leadership roles – the other half of the 1%

operational leadership roles – leaders of the 9%
We can start by talking about the technical leadership roles, the ones that are most familiar to technical people in open source.

https://commons.wikimedia.org/wiki/File:American_and_Allied_leaders_at_international_conferences_-_NARA--292626.jpg
Technical Director: In an open source software (or hardware) project, code is king, and the king of kings is the Benevolent Dictator, Chief Architect, Technical Steering Committee Chair... someone who goes by many names but we all know who it is - the person with whom the buck stops on technical terms. This person (or committee) is responsible for what goes into the project to meet the needs of users and to follow the guidance of the project governance, where this person or committee is always represented.

In any mature project, there is also a hierarchy underneath this person, as one person can't usually handle every bug that comes in. Certain roles also suggest process structures that may or may not exist (like bug triage). The list of maintainers is traditionally kept in a MAINTAINERS list in the project's source code repository.

https://www.wired.com/2015/10/margaret-hamilton-nasa-apollo/
Maintainers: this is not a single role, but a hierarchy under the Chief. Maintainers are hands-on responsible for code in terms of applying patches, identifying and routing bugs, and handling issues for specific portions or components of the overall project. They are often called "subsystem maintainers". Some projects, particularly large ones, have maintainers in a steep hierarchy with several levels. Smaller projects and those that are more egalitarian have a flatter structure.

Developers who submit patches to a project are called "Contributors", and they usually submit to a maintainer.

https://www.flickr.com/photos/smu_cul_digitalcollections/15670974773
Documentation: this is a special-case Maintainer. In some commercial organizations, documentation is part of support or even marketing, but for technical open source projects I would argue this role should always be part of the technical hierarchy. Anyone who submits patches to documentation is called "Godlike" and their praises are sung far and wide.

Ambassadors: these are the folks who create demos, answer questions, and otherwise serve as a link between the user community (90%) and the project. Note that when a Maintainer or other leader, or even someone outside the leadership organization, gives a technical talk at a conference, they are acting in this role. That's why it pays to notice who gives talks about your project at conferences! But we'll discuss leadership recognition a bit later. Sometimes ambassadors are identified in the greater user community and given that title as a form of recognition (https://wiki.ubuntu.com/ambassadors)

https://upload.wikimedia.org/wikipedia/commons/thumb/8/88/Hans_Holbein_the_Younger_-_The_Ambassadors_-_Google_Art_Project.jpg/1039px-Hans_Holbein_the_Younger_-_The_Ambassadors_-_Google_Art_Project.jpg
These are the general managers, executive directors, governing board members, the ones who officially make decisions for the project. The ways these decisions are made and communicated vary from project to project, but every project has these roles.

https://en.wikipedia.org/wiki/Crow_Nation
Technical Director: We already discussed the technical leadership of this role, but it usually also has a governance responsibility, and very often if there is a single person in this role, they sit in both technical and governance meetings. Here, they represent the technical leadership to both the governing body and to the board, as well as the technical steering committee, if there is one.

https://www.flickr.com/photos/ush/2942416101
General Manager/Executive Director: This is the Head Administrator, someone who fills a role similar to that of a CEO. Their primary role is to manage business aspects of the project. They function as the public face of the project. For projects with members, they are responsible for maintaining and growing membership. They also help direct strategy for the project and often function as the governing board chair.

https://commons.wikimedia.org/wiki/File:Groucho_Marx.jpg
Operations Manager: This is the one who gets all the things done - or more accurately, the one who oversees the day to day operations of the project. Sometimes the same person as GM. Think of this role as managing the operational leadership roles and representing them back to the project's governance.

https://commons.wikimedia.org/wiki/File:Ducks_army_marching.jpg
Governing Body Liaison: For projects with a governing body, such as a foundation, someone within the project is usually appointed to represent the project as a liaison. This role is often held by the GM or Ops Manager, but in fact it doesn't have to be limited to one person - for example, the finance lead probably talks directly to the foundation's finance department.

https://commons.wikimedia.org/wiki/File:Edouard_Dubufe_Congr%C3%A8s_de_Paris.jpg
Governing Board Chair: For projects with a governing board, there is usually a chair elected by the group or appointed by the overseeing foundation. This role manages and runs board meetings, arranges and adjudicates votes (or whatever decision making process exists), and resolves conflicts. Very often the same person as the GM.

Governance Leadership Roles – Governing Board Member Representatives

- Responsibilities:
  - Represent member organization to the project

- Tasks:
  - Vote on behalf of member org
  - Represent member to project & help manage technical participation

Governing Board Member Representatives: For projects that have a membership structure, each member usually has some sort of representation in the project's governance by sending a representative to meet with others in a governing board. Member representatives often vote to collectively make decisions.

https://commons.wikimedia.org/wiki/File:United_Nations_General_Assembly_Hall_(3).jpg
This is the enabling force behind the scenes - the functional roles that run the project's basic activities. These folks implement the bones of the project so that the technical leaders can provide the musculature.

https://vimeo.com/69335239
Project Manager: Someone who manages scheduling, runs functional and technical meetings, and identifies resources for the project, just like a PM in a company.

Infrastructure (IT): Someone who handles the infrastructure for the project - servers, routers, relationships with network providers, setting up mailing lists and maintaining passwords. Just like an IT lead in a company.

Finance: Someone who handles finances for the project, including financial liaison with the overseeing foundation if there is one. AP, AR, taxes, budgets.

https://commons.wikimedia.org/wiki/File:Janet_Yellen_(23712797651).jpg
HR: Someone who handles any issues related to employees or contractors who work directly for the project, as opposed to working for a company that donates their time to the project.

Legal: Someone who handles legal issues for the project. This is nearly always an outsourced role.

https://commons.wikimedia.org/wiki/File:Pieter_Brueghel_the_Younger_-_Village_Lawyer_-_WGA3633.jpg
Advocacy: This is the arm of the project that handles activities often referred to as marketing when they are done inside companies for products. In open source projects, we often call this "advocacy" in recognition that the product is open and free, and we advocate its use to those who need it. This role also handles public communications and PR, announcements, events, overall messaging, and public-facing assets like websites, so if you are doing any of those activities, you are acting in the role of Advocacy. There is usually enough to do that the responsibilities are divided among a team of representatives (volun-tolds) from member organizations, in which case this is a Lead role for a group. (Unless it is Tracey Erway, when it becomes a Goddess role.)

Community: I'm thinking now that maybe I'm not the best person to outline this job role, for the reasons mentioned at the beginning of this talk, and given what I actually do I sometimes wonder if this really is my job. Community Managers are responsible for understanding, communicating with, advocating for, listening to, and compiling metrics on "the community". Community is in quotes because it means ALL of the communities within the project: users, contributors, maintainers, even governance. Because Community Managers are tasked with understanding and relating to each of these distinct groups, they often find themselves in diplomatic roles as well as gap-filling roles, identifying responsibilities throughout this list of roles that are going unmet.

This role also overlaps significantly with Advocacy, as "communicating with communities" very often means going out and talking or running booths at conferences, writing blog posts, and doing other communications or outreach activities. The main difference we have identified is that advocacy is about influence & is generally a “speaking” role, while community is about understanding & generally is a “listening” role, but even then the roles overlap.

Ideally, community managers are jacks of all trades, though they need not be masters.

https://commons.wikimedia.org/wiki/File:PeteSeeger2.jpg
So one note about community managers. We aren't really all folk singers wanting the world to experience love all the time. We are closer to being this guy. No, not the one on the left –

THIS guy, the one who flies the plane when needed, and also gets coffee, makes announcements, files the paperwork, and figures out how to get where the pilot wants to go. Also, there’s a joke about pilots that is also true about community managers. How do you know when a pilot, or a community manager is at your party? anyone? they’ll tell you.

This extremely well organized table summarizes the outlined roles with responsibilities & tasks to meet them.
And this diagram somewhat awkwardly shows the relationships among all these roles.

We have gone over the various leadership roles in the project and how they don't directly correspond to individual people, and that in reality people fill various roles at different times.

But, in the immortal words of Arlo Guthrie in Alice's Restaurant, that's not what I came here to tell you about.

https://www.flickr.com/photos/kentbrew/3413693660/
I came here to talk about leadership, and how leaders emerge from this hierarchy of roles. From a statistical point of view it is similar to the way participation breaks down in any open source project.
I have a belief, backed up by considerable evidence, that those who end up in the 1% are the ones who end up filling in the gaps in the hierarchy of roles that we saw earlier. It is as simple as noticing that something needs to be done, and doing it - filing a bug, answering a question, offering to sit in the booth at a conference. But why do some people do this - statistically only 1% of them do - and how can we guide people into it, and perhaps most importantly, which ones should we guide?

They do it for two, possibly three reasons.
The first reason is recognition. People who do a bunch of stuff that goes unrecognized in any organization quickly lose the motivation to keep doing that stuff. This seems obvious, but recognition is not the normal way engineers tend to interact with each other. Sometimes it is quite the opposite - in some communities, someone can get chewed out thoroughly for submitting a patch they spent weeks on because it doesn't meet the submission criteria for the project. Some people see this as a gating factor for poor code, an appropriate barrier to entry. Personally I see it as squashing someone's motivation to participate, which is against the basic principles of open source. But in any case, the project reacts to someone's participation, recognizing it, but to be effective it has to be done in a way that that someone understands as recognition.

So the term is double edged. The project needs to recognize participation, and the participant needs to recognize the recognition. Both sides are responsible here.
This leads to the second reason, possibly just part of the first - people need to be encouraged in just the right way for them individually. Not everyone responds to encouragement in the same way. For some people t-shirts and stickers are all the encouragement they need, or a personal mention in a blog post, or being singled out at a conference (in a positive way). It is vitally important to recognize how people want to be encouraged, just as we need to learn how they want their participation to be recognized. As we learned earlier, that is part of the roles of the community manager and the technical leadership.

Now, it isn't always possible to spend the resources it would take to mentor every person in even a small community, so we make compromises. We offer encouragement en masse, with personal touches whenever possible. It seems logical to deduce, then, that those who respond will be the ones for whom that type of encouragement resonates - so choose your methods wisely - and it also matters that the participant needs to see these activities as encouragement. Again, both parties have a responsibility.

And just to be clear, I'm not saying that everyone associated with a project needs to be encouraged like a hothouse orchid. Meritocracy as a concept demands that we have to have some way of judging merit. But I will rant a little bit about communications tone, because everyone involved in these projects is a human being. If our recognition of someone's participation is negative or challenging, we may be leaving our best value on the table - we are recognizing negatively, and preventing the encouragement part rather than supplying it, effectively chasing people away. This is possibly the major reason why diversity and inclusion have to be part of the discussion.

I would argue that the methods we use to deliver the necessary judgment and levy merit determine the quality of the leaders who emerge. Leaders who emerge through competition will see competition as a positive aspect of the project. Leaders who emerge through cooperation will retain that as an internal principle and spread it through the project. Those who are already leaders set the tone for the entire project this way - it comes from the top.

I have been extremely lucky in the Yocto and Zephyr projects to have technical leaders who set a positive tone every day.
The third and arguably most important reason, as it can overpower the other two, is that people participate because doing so scratches an itch for them. They become leaders when an itch is so persistent that they feel the need to keep on scratching it - and sometimes go on scratching when the itch is satisfied. Either their job requires it, or their conscience requires it if for example they have submitted some crappy code and need to keep an eye on the people who trip over it, or maybe they just wake up at night wondering how this particular problem can be solved. In other words: they care.
What do we see in these two or three reasons why leaders emerge? Well, we can't manufacture in someone the internal resonance that means they care about a project, but the other two things are totally within our control, and how we approach them makes caring part of our influence. We also need to care enough to do these things right. Recognition and encouragement are vital components for any organization, and tactically those are tasks that are typically done by leaders. The more energy and caring that we put into recognizing and encouraging people throughout the project, the more likely we are to end up with leaders emerging from within, and it is a virtuous cycle - as we get more practice at recognition, we are better able to see the intangible leadership qualities people express every day.
It's that third item, caring, that tells us whom we should be aiming at with our recognition and encouragement. The ones who care about the project. You'll find a lot of rock stars hanging out in the 9%, happy to be visibly participating and soaking up recognition but not advancing into leadership. Why? Because they really care about themselves and their image more than the project, and I would argue that they don't need any further encouragement.

The people you want as leaders in any project are simply the ones who care the most about a project, and they really aren't that hard to find. Like the pilot at someone's party, they will tell you. You just have to be practiced enough at recognition to hear them. You also have to care.

Now, I don't want you to walk away from this thinking "what a load of kuumbaya malarkey". So in very practical, tactical terms, what can you do today to find the leaders of tomorrow emerging in an open source project? I'll leave you with three tasks you can do right after leaving this room.
First, understand the roles that your project needs to thrive, and how the responsibilities of those roles fit together to create the structure your project depends on.
Second - take a hard, objective look at the projects you participate in or lead, and look specifically for the processes in those projects that recognize and/or encourage users, or chase them away. Are you encouraging competition or cooperation, and how do you think that will play out as 1% of those participants grow into leaders someday? Do you want your project to be internally competitive or cooperative?
Third - share your thoughts. Talk with these insights with the other leaders in your project. Talk about the tone that is set throughout the project. It is natural to want someone else to take care of these "soft skill" tasks, but it is vitally important to your project that everyone agree on tone as a progenitor of community health and direction. Talk with other community leaders. Everyone at this conference either already is a leader or is interested in the topic, so go talk to them, find out what their Best Practices are. These are the 1%, around you and outside the door! Talk to them, and listen to them.

thank you
Thank you for listening!
Jeffrey “Jefro” Osier-Mixon, Intel Corporation

Richard Stallman!
Your viral open source licenses
have grown too powerful.

The GPL must be stripped.
At the source.

You.

Hah! Microsoft lackeys!
So it has come to this.

A night of blood I've long awaited.
But be this my death or yours.
Free software will carry on!
For a GNU dawn! For freedom!

...Hey, where are you going?

Man. You're right.
That never gets old.

Let's do Eric S. Raymond next.

Or Linus Torvalds. I hear he sleeps with nunchucks.