



Data Day Seattle 2016

IT'S THE BUSINESS, NOT THE SOFTWARE

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Introduction

A transformation in the technical community has taken place. [Data Day Seattle 2016](#), held on July 23, featured several technology tracks. One theme was constant regardless of the technical lenses. Business and technical leaders need to focus on the goals, processes and people involved in the business when choosing what technology to use.

Focus on the Corporate Mission and Business Goals

Completing a company's mission is the primary goal for Charity Majors, the plenary keynote speaker for the event. Majors, founder and Chief Technology Officer for [Honeycomb.io](#), spoke about best practices for making technical decisions. She said a business's mission is the focus in the technical decision-making process. Prior to 2014, technology leaders had to make a few important decisions about what platforms and software to use, said Majors, "but I felt there were quad [core] rails," or industry guides or limitations to keep leaders on track.

But in 2014 the technical landscape changed. Majors said it reached "a tipping point—a lot of academic things became viable." With this "Cambrian explosion of technical complexity," she said many technological offerings will soon die off. That is why recognizing technology as a means to a business end, not an end in itself, is critical.

[Qordoba](#) Director of Data Science Michelle Casbon emphasized that the questions and concrete business goals with value are the main points of any project. The natural language processing keynote speaker, Casbon used her week-long cycling journey with her company's San Francisco-based team as an analogy for success factors in completing machine learning projects. Like her team's trip over the Sierra Nevada mountain range into Las Vegas, Nevada, development processes are never perfect. "You won't have a perfect use case or model," she said. But focusing on the big picture instead of a myriad of minutia helped her team make progress. She advised against "go[ing] down too many rabbit holes." Based upon her experience, some progress was better than no progress at all.

Factor Team Happiness into the Decision-making Process

Creating a technical development process that maintains a happy team is another consideration for Majors. Resisting “software sprawl” and choosing instead to reuse code and optimize globally, not locally, keeps software components manageable. Limiting the scope of technology a company manages is critical. “Every piece of software adds fragility and points of failure,” she said. Majors recommended choosing “boring technology”--hardened software that had tools and support for debugging, a good user base and support community. “The best community around the software wins, not necessarily the best software,” said Majors.

“The best community around the software wins, not necessarily the best software.”—Charity Majors, Honeycomb.io

Adding friction and experimentation to a technology addendum process is another way to keep the technology environment manageable. For Majors, incorporating a gating component into the technology adoption process forces developers to assess the benefits from the proposed software and decide if adding a new component is worth the effort. This gating methodology helps them stay on the critical path. Advocating a trial and error approach, Casbon gave an example where experimenting with feature extraction in a machine learning development environment identified what worked for the team. Both tactics give teams the time to evaluate and plan before adopting changes.

“Happiness of the team is critical.”—Charity Majors, Honeycomb.io

Making decisions that reduce operational problems also result in more productive teams. “Happiness of the team is critical,” Majors said. With that and the team’s time in mind, she advocated replacing software when necessary and when it falls within a company’s risk tolerance. “Replacing” means completely substituting one application or language for another instead of keeping the pre-existing software as a sublayer or special component, thus complicating the technical framework. Majors recommended "celebrating" people who remove, deprecate or refactor code. Recognizing people who replace or restructure the code so the software "doesn't break in the middle of the night" creates a happy team. All of these steps result in better technical decisions, a better team and a better business environment.

Prioritize Leadership Skills

Keeping the team happy is another cornerstone of success for Casbon. The key is an enthusiastic, trustworthy leader. Just as the bicycling team’s leader “exude[d] happiness about

cycling out of every pore,” Casbon said, a machine learning team leader with experience brought out the best in everyone and encouraged trust and respect.

“Teamwork makes the dream work.”—Michelle Casbon, Qordoba

A strong team leader understands the risks involved, works to minimize them and develops back-up plans to create a safe environment where team members take risks. And that makes for a stronger team. “Teamwork makes the dream work,” she said.

Build a Strong Team

Constructing a strong team is a final business consideration. When selecting team players, Casbon focuses on key character traits, like enthusiasm, resilience and perseverance, the ability to learn fast and be flexible. A team member’s technical abilities are secondary. “Hire for traits, teach for skills,” she said. Instead of sticking to one software doctrine, Casbon advocated, “using the right tools for the job” and “covering rough requirements with software that makes [team members] happy.” Like Majors, Casbon recommended celebrating success.

“Hire for traits, teach for skills.” – Michelle Casbon, Qordoba

In the end, confidence is the critical cornerstone of success. Casbon said fabricating artificial barriers to success is a bad idea. “If you haven’t proven it, don’t tell yourself you can’t do it.” Constantly learning and stretching one’s abilities are signs of confident teams and team members. Throughout her team’s journey, Casbon said, they learned from their mistakes. But building muscle through adversity and challenge and taking risks made them a stronger team.

“If you haven’t proven it, don’t tell yourself you can’t do it.” – Michelle Casbon, Qordoba

Conclusion

In the past business leaders and development teams often made strategic and tactical decisions based upon the capabilities of the technology. Now, the focus is back where it was intended. The welfare of the business—its goals, processes and people--drive decisions about technology instead of technology being the primary driver of decisions about business.