Crowdsource the Enterprise—Everyone's a Developer

OHECC 2023

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Fusion teams

- Gartner says," a fusion team is a multidisciplinary team that blends technology or analytics and business domain expertise and shares accountability for business and technology outcomes."

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Turns out there's finally a term for how we've been working all this time; it's Fusion Teams. As long as we've been at this, I do wish I'd come up with the term myself, but in any case it's good we finally have a buzzword for it. We simply needed to work this way and did it.

Fusion teams for us at the level we're talking about today is much less formal; everybody involved contributes to the knowledge AND the production of the technology we use to solve the business process need. Through sharing the data and working as a team, we can improve the experience for those using the app or form from both ends of it.

Gartner, https://www.gartner.com/en/information-technology/glossary/fusion-team#:~:text=A%20fusion%20team%20is%20a,for%20business%20and%20technology%20outcomes.

How did we get to this point?

- Practical reality
- VOLUME
- SMEs already know the needs and the process

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Everyone's a student at a college or university. Not just in the sense where a lot of us take classes and get degrees; I'm talking about an everyday attitude where we learn new skills and new ways to communicate. Every interaction can be a learning opportunity, if you're looking for them.

While that's not why teaching everyone else how to do my job started, that's certainly where it wound up pretty quickly. At the beginning, it was a combination of practical reality and others' desire to learn. At my last university, our IT department was at 15 people. That's it, 15 people. In order to even get all the courses ready for a semester, training up faculty to build their own, teaching other employees how to manage their SharePoint sites – sharing the workload really was the only way to get enough done to function. And it turned out, people LIKED it. Whether it's a professor with a course or someone in finance who knows all the ins and outs of their business processes, I can guarantee they know far more about what should be done and the needed result than I ever will. For us, the logical answer is to use the expertise available to shorten both time frames and frustrations on both sides.

At Wright State, the further rise of low and no code solutions has coincided with the draw down of employees across the board for us, and it's been important to look for opportunities to engage our employees in learning opportunities where they're presented. Everywhere in the university, the best things we accomplish are with people. Spending their time assisting students and each other is by far a better use of our employees' valuable skills and time than dealing with paper forms and signature collection.

Redefining development

- A more inclusive definition of development includes low and no-code solutions

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Among the IT crowd when referring to development of apps, forms, just about anything really – the inference is there’s going to be programming involved. And that is often true; we’d get nowhere quickly without our programmers. But beginning with SharePoint designer, Infopath, and LMS systems, as we move forward through time into the rise of more low and no-code options in a wide variety of platforms it’s been possible to reserve tying up a programmer’s time for when they’re actually needed. There are so many internal processes and information collection options where anyone can build in something like Power Platform, Docusign, Qualtrics and other platforms. Non-programmer IT staff – and our co-developers across the university – can develop and manage anything from data collection to reporting. We view programmer time as a valuable commodity best used where needed rather than spread across every business process request.

Mission first

We empower all students to excel in their lives and chosen careers through integrated learning, research, innovation, and experience.

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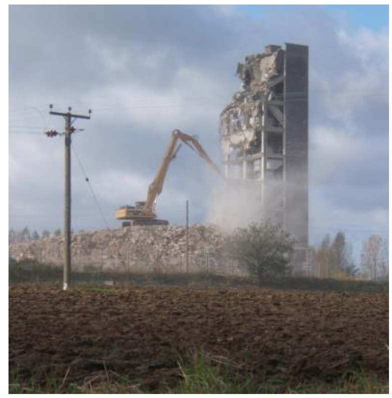
Everyone's a student at a college or university. Not just because so many of us take classes and get degrees; I'm talking about all day, everyday where we continually learn new skills and new ways to communicate. Every interaction could be a learning opportunity, if you're looking for them.

Defined goals

- Tear down the silos and share data
- Be more efficient
- Work as a university team



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Tear down the silos – We needed a shift in thinking, not just in facilities, but across the university. We needed to become more efficient with how we did things and more efficient with our data. Individuals sometimes needed to be reminded that it is not 'their' data but the universities data. We needed to do a better job sharing if we wanted to succeed.

Efficiency – Stop the duplication of data and effort, leverage the data we do have by sharing. Standardize the data across the university. (i.e. building names, building codes, names of outdoor spaces, etc.)

University team – Start by leveraging the existing talent we have at t eh university. Some co-developers just need to know how to use Msft Word. If they can do that they can make a form and update a SharePoint Home Page. Myke can help them with their workflows. Other co-developers can make their own workflows and PowerApps. NO matter what their level, the work the co-developers do helps alleviate work that Myke needs to do. By doing these things and supporting each other we truly have become a fusion team

We needed a platform where...

- We can set up for small failures

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There are some parameters we find necessary in any platform we use to teach DIY skills that we've found over time that can be important for the success of spreading the knowledge – and the work – around to lots of other individuals. If they can only fail in a small space, say one SharePoint list or site, one form, or even one Power Automate workflow, there's much less pressure on them as learners. I find explaining the parameters or limits placed on them can embolden new co-developers to try new features and actions. We can maintain an acceptable level of risk for the university, since any given failure will only going to affect one form or one site. I admit, SharePoint having a 90 day recycle bin and version control makes me much more laid back about errors and failures than I might otherwise be.

We needed a platform where...

- We are able to assign beginner, intermediate, or advanced level tasks

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Assigning tasks based on level of interest and investment is important; overwhelming someone with all the pieces at once is pretty likely to get them to back away from learning. For many of our forms for instance, we use a Microsoft Form, a Power Automate workflow to perform any requested automations and to copy the form submission data to a SharePoint list, and use the SharePoint list as the way for reviewers to view and track the submissions. It's been useful and easy to have nearly anyone add the questions to a form; most are familiar with our LMS for instance and it resembles building a quiz. From my side by assigning form building as "homework" to people, I'm not spending my time updating forms in a subject where I don't know the process and waiting on approvals. They can just let us know they're done and we can take it from there or we can show them how to perform the next steps in SharePoint or Power Automate as their comfort level and timeline allow. There's a key benefit when the stakeholders gain a sense of ownership in processes they've requested – we find they're more likely to actually use them when they're directly responsible for part of the building.

We needed a platform where...

- The licensing levels the playing field among users

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LEVEL PLAYING FIELD – we have no need to purchase extra, developer, or other types of licenses for the 365 platform unlike others we have available. Any general end users has the ability to go build nearly anything themselves with or without our knowledge or assistance. Some do and we find them by chance or when asked questions after the fact.

Reasons we develop co-developers

- Sustainability

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Sustainability - Turns out the people most likely to know when something needs updated or isn’t working are the ones actually using it to collect the information. Seems logical, but sustainability can be as simple as that.

Reasons we develop co-developers

- Professional development

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As for professional development, I do get asked whether or not teaching everyone how to do my job backfires. The answer to that is both yes and no, and which answer it is can depend on who you are. I have certainly run into plenty of staff who take their new skills elsewhere. So from their point of view, it's definitely not a backfire; it helped them take the next step in their careers, education, and life goals. From my point of view (and likely from the department they left) I'm back to square one with that department's forms, workflows, SharePoint sites, Docusign forms, Qualtrics surveys, etc. and starting again with the next person.

Reasons we develop co-developers

- Ownership

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Abandoned projects abound in Microsoft 365; unused forms, workflows that timed out from disuse, SharePoint sites last updated half a dozen years ago– a sense of ownership cuts into all these things. When someone owns the process in the sense of directly creating value for one of their users the abandonment drops off.

Why we agreed to be co-developers

- It was a natural fit for my technical skills
- Vision - I could see how it would help my department
- It increased my value as an employee

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Skills – throughout my career I have continued to expand and evolve my software knowledge and training. This seemed to me a natural progression.

Vision – Listening to Myke tell me about her other co-developers projects opened my mind to the potential SP projects that could be of benefit to Facilities.

Value - Myke could do the projects I need done but any academic projects will take priority. So my project will have to wait. However, If I learn how to do it myself, Myke can spend a half hour with me each week helping troubleshoot issues I currently have. I in turn can spend a few hours that week working on the project.

It took a little trial and error with Microsoft Forms, but we've found adding a form as a service account and then adding the user as a collaborator works well as a first homework assignment. For continuity we initiate forms as a service account or create them from a Microsoft Group or Team. For a first homework assignment for most people this is an easy win and leads to conversations about building a matching list in SharePoint. Assigning next steps keeps them on track and accountable.

How we develop co-developers

- Be a little pushy
- Be an optimist

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We send a lot of directions. How are directions pushy, you ask? Because our users had a norm where they either didn't have access or didn't have expertise and so we didn't share work with them. The old model of ask, IT does, they go use is the one where they had no buy in and IT ran out of people to do everything for everyone. When fielding emails or calls from users who are stuck on their homework assignment, they receive directions, pictures with notes drawn on them, links to how to documents – usually anything that stops short of doing it for them. It certainly pushes some people outside their comfort zone and it's important to recognize there are some circumstances where it's best if we step in; short timelines are a common reason for our intervention. But in the main, we spend time enabling rather than doing.

How we develop co-developers

- Be available
- Be an optimist

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Availability to answer the same Forms question for the third time that week or to sort out what's going wrong in a work flow you didn't write – they're all the same to the person who needs a question answered to keep learning. We spend a lot of time speaking to users and our co-developers on Teams as a consequence of this one. Is it faster to do it ourselves? Of course it is. Our goals are long term, not immediate.

We start with the premise that everyone's a professional and that they're willing to learn. With very few exceptions, that optimistic view is proven true.

Becoming a co-developer

- Learning ramps up while failing forward

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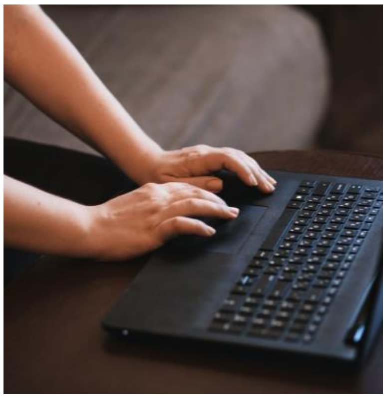
As a hands on learner I very much appreciate the approach that Myke took in the beginning with me. It started out with me being somewhat spoon fed things, but as I ramped up that spoon turned into a hose open full blast (somewhat, at my request. I requested the abuse. At times I had to keep a sheet next to me during meetings where I furiously wrote down key words and phrases that Myke would say that I would "look up later" on my own. There was a lot to learn and like other software packages, there always seemed to be about three to oh, a hundred ways to do a certain task.

As a learning user that is also striving to be productive it is comforting to know that if I "break" it I have a safety net. Be it Myke herself or that precious 90 day recycle bin in SharePoint I always felt empowered enough that I could try things out in my projects without the fear of destroying a workflow, taking down a functioning web page or crashing a server.

Becoming a co-developer



- Searching for specific solutions

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The empowerment that Myke provides me has helped me in gaining the confidence I needed to go out and search for various solutions before I would bug Myke with questions. I would report back to Myke with what I had discovered and learn how I can incorporate those discoveries in the projects I was working on. I would show up to our little Teams meetings and be like "Hey Myke, I found this lady on YouTube you are gonna love. Her name is Wonder Laura and she has all kinds of videos and.... oh, you've seen the videos? And you know of her. Oh, you met her once at a conference. that’s ah, yeah that's, that’s pretty cool." and we would just move on.

Becoming a co-developer

- Maintaining minimum standards

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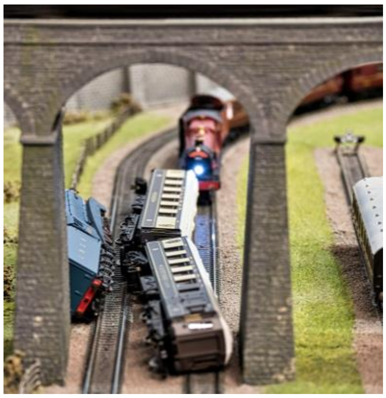
The university has standards of design that ensures that we as a university speak with one voice. Myke trained me to always think about accessibility readers and making sure we stick to the Wright State Brand. When I first started learning to develop forms and sites I would show them to Myke and she would point me to the university style guideline where I would learn more about accessibility web readers and how important it is to add alt text to my images, along with a ton of other things I had to keep in mind when developing for the campus community.

What are issues we find?



- Allowing people to manage permissions, access to protected data

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We've run into two occasions where I've needed to remove someone's access to something for reasons other than separation or position switch. In both cases the issues weren't actually data breaches; they were simply not following instructions.

Co-development is a partnership and it requires that we make adjustments in whatever piece we develop while they need to work within the way things are set up. The primary example I'd give here involved continually changing the data type in a SharePoint list, then putting in a complaint that the field no longer worked in the Power App that was set up to display and collect those fields. After about two years, we backed the user's permission down so they weren't able to change field data types any longer; instead they need to put in a ticket. The app in question was in active use all semester by up to twelve course sections, and continual breakage was not an option.

What are issues we find?

- No hand off between users in a position

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This particular issue hits nearly every area connected to a position that sits vacant for any length of time or when there's not overlap between the incoming and outgoing employee.

Sometimes there’s documentation or training passed between the person leaving and the person taking over, but more often than not there’s a gap in time between the knowledgeable employee’s departure and the arrival of the next person who will oversee things. The larger issue at times is when the department doesn’t know what resources they’ve been using without realizing.

What are issues we find?

- Not following processes to span user accounts

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We find once in a while a business process needs to be in place longer than a user's account might be. Users do not necessarily plan for the process, they solve an immediate need and do so in their own 365 accounts (and we run into this in other platforms as well). When users contact us we explain we use a service account, Groups, or some other method to share responsibility for ownership of Forms, etc. When we do that processes and access can be transferred to the next person overseeing it without issue. We've had several instances where someone left the university leaving orphaned forms that were actively being used by students to request action from the department.

What’s in it for the employee

- Co-developers can have more efficient process improvement conversations with their team because they understand the ability of the software
- Updates are completed by the co-developer on a timely basis

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Administrative overhead - Our people are fantastic at doing what they do with our students, our employees, and every other constituency directly; spending their time copying files and collecting signatures is something that takes them away from the ways their roles support student and employee retention.

When my facility team comes to me with an idea or process improvement I am able to discuss what the sites can and cannot do because I know the i

Updates – I am Facilities Operations focused. My projects deal directly with just that – Facilities. Myke has the entire university in her focus. If I want my job done in a timely manner than I need to get it done. Myke could do it, but I am at the mercy of her schedule and the mercy of an academic unit possibly having a "rush job" that would push my project down further on her priority list. If my team needs a change they can talk to me and explain what they want. Since I have a better grasp of our internal processes, I am able to make the changes to the site quicker than Myke would be able to.

What's in it for the department

- Professional development in manageable bites
- Process ownership
- Lowered administrative overhead

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Administrative overhead - Our people are fantastic at doing what they do with our students, our employees, and every other constituency directly; spending their time copying files and collecting signatures is something that takes them away from the ways their roles support student and employee retention.

Finding time and money for professional development is always challenging. Yet every time I work with a department, a program, or a committee, they teach me about their area of expertise. By teaching them some basic development and data management skills, we're both gaining from professional development level skill sharing.

What’s in it for the university

- Technical debt mitigation

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Technical debt – we all just got an image of servers and operating systems when I said that, didn't we. The thing is, technical debt is so much more than that; it's pervasive across every department and can easily be dismissed. Things like fillable PDFs and paper forms (I argue those are the same thing at this point), repetitive replies sent by an individual, onerous data gathering for reporting, traipsing around campus to collect signatures – they're all forms of technical debt. Learning skills they can reuse over and over in a readily available platform with millions of learning opportunities spreads the alleviation of technical debt across many more hands than IT could ever field for the task.

What’s in it for the university

- More invested employees

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There's a marked difference between simply submitting a ticket and poof, receiving a "thing" versus spending your own time and thought on a thing. It sounds silly but when I'm building whatever the item is for someone I hold an image of myself sliding puzzle pieces around and throwing switches. Sending the finished product looks like blowing dandelion seeds out of my hands out into the university's universe.

When users can feel a bit of that ownership or pride in what they're offering their users, they find all kinds of projects and processes where they can reuse their new skills. And frankly, the efficiency that comes from teaching a department ways to better serve their customers and themselves just can't be overstated.

What's in it for the university

- Presenting fewer barriers to students

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Barriers for students happen both visibly and invisibly – and at different points for different students. Providing consistent, modern, and accessible technology for interactions with the university smooths their path and reduces unnecessary frustration points. Frankly that applies to employee interactions with each other and with the university as well; in both cases those frustrations are avoidable contributors to retention failure.

Fusion Teams can help an understaffed development team to better focus on larger projects while assisting co-developers with their issues as they arise

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Trust your users. They'll rise to the need.