SHARING SOFTWARE THROUGHOUT THE UK

A Case Study of LocalGov Drupal

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ABOUT THIS DOCUMENT

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EXECUTIVE SUMMARY

Each of the United Kingdom's local governments ("councils") need a website to provide services to their residents. Councils' needs are broadly similar, but they each build or procure their own individual websites. An alumni of the United Kingdom's Government Digital Service, Will Callaghan, worked on improvements to a series of council websites and, as part of a larger team, identified an opportunity for councils to collaboratively build shared software. In 2019, they successfully replicated customizations made to one council's Drupal content management to another council's website, with the two councils agreeing to collaborate on future improvements, drawing from a shared, customized code base.

The project, then named LocalGov Drupal, grew further thanks to a grant from the United Kingdom's Ministry of Housing, Communities & Local Government. The ministry had recently created a grant program, the Local Digital Fund, to help councils collaboratively build high-quality, open source software centered on user needs. Using the first round of funding, they hired a small team to explore the needs of other councils. Further funding helped them to pay for software development work. LocalGov Drupal expanded to three councils, and then kept growing. Today, LocalGov Drupal counts 16 councils around the United Kingdom as members, and they're actively developing new functionality to expand their network.

Notable methods employed by LocalGov Drupal include employing Agile software development practices, outsourcing core development, working in the open, focusing on a single shared need, distributing decision making, and leveraging grant funding. Those looking to replicate the success of LocalGov Drupal should seek to kickstart their work with gated grant funding, focus on project governance, have a visionary project leader, and begin with just two co-op members.

Introduction

There is a rich landscape of organizations building and sharing custom software between government agencies, some dating back decades, and some mere months old. Among the younger organizations, one of the most interesting is the United Kingdom's LocalGov Drupal.

LocalGov Drupal went from an idea to a 16-member organization in less than three years, combining outsourced software development with contributions by member governments. Funded by a compelling national government initiative created for exactly this sort of work, they've worked in the open the whole time, iteratively shipping functioning software for their members' benefit. It all adds up to a good collection of best practices all present in a single project, with an openly available record of its creation.

This report provides an overview of LocalGov Drupal, recounts the history of the project, highlights the notable methods employed by the project team, and details lessons that other cooperatives and funders can draw from.

PROJECT OVERVIEW

The United Kingdom has 343 local governments (called "councils"), and each needs a website. Residents use the websites to pay local taxes, get building permits, sign up for a library card, find the bus schedule, apply for a job, or complete dozens of other basic tasks that are common to local governments around the world. Each website requires a content management system (CMS)—such as WordPress, Drupal, or Jadu—that allows council employees to manage and maintain the website. CMSes are general-purpose tools, so they don't include the specialized functionality for needs common to government.

One of the most popular content management systems is Drupal. Dating to 2001, Drupal is free, open source, written in the popular PHP programming language, and is community-maintained (as opposed to being the product of a single company). About 1.4% of all websites use Drupal as their CMS, which is a substantial number of websites. Drupal is particularly popular in government; in the United States, federal government websites using Drupal include the Internal Revenue Service, the House of Representatives, Customs and Border Protection, the Department of Education, the Department of Energy, and the Department of Labor, among many others. In the United Kingdom, around 60 local governments use Drupal in some form.

LocalGov Drupal began with the idea that each and every council should not have to build or buy identical functionality—that by teaming up, they could build atop Drupal to obtain the functionality that they all need, such as site hierarchies based on government services, page designs that emphasize rapid access to the most-needed services, rich subsites,
service directories, and page layouts inspired by the GOV.UK Design System. Drupal is designed to be modified in this way, and is already in use among many councils, making it a good basis for this work.

When LocalGov Drupal got started in 2019, it included just two councils, but with an eye toward adding more. Funding from the United Kingdom's Ministry of Housing, Communities & Local Government allowed LocalGov Drupal to hire a small team to explore the needs of other councils, and further funding helped them to pay for that software development work. They expanded to three councils, and then kept growing. Today, LocalGov Drupal counts 16 councils around the United Kingdom as members, and they're actively developing new functionality to expand their network.

INITIAL FINDINGS

At the outset of the project, the LocalGov Drupal team interviewed employees of 10 different councils around the United Kingdom to learn what might keep them from adopting LocalGov Drupal. Their initial findings included these 10 lessons:

- It's hard for councils to continually improve their websites.
- Common problems and needs make sharing attractive.
- Open source, and Drupal, can work well for councils.
- Code sharing can work for councils with different starting points and levels of capability.
- Councils expect a "piece of paper" to join, but not a weighty agreement.
- Councils expect a clear product direction and roadmap.
- Councils are concerned about receiving and providing support.
- None of the councils wanted to buy "LocalGov Drupal as a service."
- Teams need approvial from their senior leadership.
- Councils have website challenges that code sharing alone won't solve (for example, greater emphasis on content design and user research.

History

LocalGov Drupal's roots go back a decade, to the founding of the United Kingdom's Government Digital Service (GDS) in 2011. The GDS was the first national digital service, establishing the template for government technology departments that would be emulated in the United States by 18F and the U.S. Digital Service, in Canada by the Canadian Digital Service, in Australia by the Digital Transformation Agency, in France by Etalab, and in other countries in later years.

The GDS was charged with creating a common platform for government services, centering their work on iteratively addressing user needs through technology. They made significant progress in their early years, operating as a sort of a startup within government. Around 2015, a number of GDS employees started to move on, but continued working in digital transformation of government, including Will Callaghan.

Callaghan lives in Eastbourne, the Victorian resort town on the southeast coast of England. He spent years working in online publishing before moving into performing similar work within government, including for a trio of United Kingdom agencies. He was first involved with the GDS back when it was just an idea, and went on to hold several roles there from 2012–2015. Post-GDS, he worked for a series of councils—Adur & Worthing, Brighton & Hove, and Croydon—and it was at the latter two where LocalGov Drupal took root.

A TWO-MEMBER CO-OP

In 2015, south London's Croydon, a town of 200,000 people, needed a new website. A former GDS colleague brought Callaghan in to get the project started. Callaghan had just finished helping Brighton & Hove replace its Drupal CMS with a customized version of Drupal, and did not see the point of repeating the same laborious process in Croydon. (Brighton & Hove is governed as a single city, despite the double-barreled name, after a 1997 merger of the two neighboring towns.)

Toward the end of Callaghan's time at Brighton & Hove, he called for reuse of the work his team had done on the city's website, but the seeds for such reuse had been planted well before Callaghan's time there. The specter of collaboration was first raised back in 2013, when Brighton & Hove switched its CMS to Drupal, with standardization and possible collaboration in mind. Alick Mighall, a developer who worked on that transition, wrote recently that after working on the project, he found another council seeking to have something near-identical built for its website. As he wrote:

"Many years ago, I used to mow grass for East Sussex County Council (ESCC). Not on the council's patch though. We used to mow the grass of Hastings Borough Council, ESCC having won that work through a bidding process.

"It occurred to me that if one council could mow another's grass, then why couldn't one bid to help to build another's website, using shared code as a starting point, generating a bit of a return on the city's investment?"

In February 2018, Mighall emailed Callaghan and his manager to explore again the possibility of sharing software. That created the kernel of interest in Brighton & Hove to collaborate on code. It's striking that this happened between council workers, not by political leaders.

When Callaghan started at Croydon, he set about trying to reuse what he'd helped accomplish at Brighton & Hove—not by merely copying the work, but by having the two councils cooperate on a shared codebase. Croydon was convinced, and the task of working out a deal with Brighton & Hove fell to a team that led straight up the Croydon command chain from Callaghan: Tom Steel (product manager), Annie Heath (user-centred design lead), Dave Briggs (head of digital operations), and Neil Williams (chief digital officer, formerly head of GOV.UK). They were successful, with Brighton & Hove agreeing to share its code with Croydon, and Croydon agreeing to share back any improvements it made, so both councils would benefit from the reuse. If any moment could be said to have been the start of LocalGov Drupal, this was it.

So it was then, mere months after Callaghan started at Croydon, that Croydon replicated the Drupal setup Callaghan helped to build in Brighton & Hove, and over time it became a Drupal "distribution" and "installation profile"—methods built into Drupal to facilitate sharing customized Drupal profiles. This made it easy to add the customizations that had been created for Brighton & Hove—site hierarchies based on government services, page designs that emphasize rapid access to the most-needed services, rich subsites, service directories, and page designs based on the GOV.UK style guide—and did so in a way that would be easily replicable for additional councils.

FUNDING

Funding intergovernmental projects can be complicated, but LocalGov Drupal was able to find support from the United Kingdom's Ministry of Housing, Communities and Local Government's Local Digital Fund. The country's local government minister created this fund in 2018 to support implementation of the Local Digital Declaration, which calls for local governments to begin "working on a new scale" to collaboratively build and demand high-quality, open source software centered on user needs. The fund has provided more than £8 million ($11 million) in support to build such software, including £600,000 ($830,000) to LocalGov Drupal.

The Local Digital Fund awards funding in a series of phases: "discovery," "alpha," and "beta," each combining increased funding with more exacting expectations. LocalGov Drupal was awarded £75,000 for the discovery phase, £125,000 for the alpha phase, and £425,000 for the beta phase.

Nearly all of this funding has gone to procure the services of an Agile software development shop, Agile Collective, which was awarded contracts for all three of the phases, garnering all of the awarded funding in the discovery and alpha phases, and a £190,000 contract for the beta phase. Although it's possible that LocalGov Drupal members could have done all of the development, local governments rarely have that kind of capacity. Funding from the national government allowed initial development to proceed faster and more reliably than it otherwise would have. Agile Collective is playing the role of trusted development partner to the growing LocalGov Drupal community.

Methods

LocalGov Drupal's success is a result of many attributes and decisions, but a handful stand out, either because they are widely found in other successful cooperative projects, or because they are uncommon but have addressed problems commonly encountered by cooperatives.

EMPLOYING AGILE SOFTWARE DEVELOPMENT

The LocalGov Drupal team has focused relentlessly on the needs of end users, and incrementally delivered improvements to the software to serve those users' needs. That pair of traits are the basis of Agile software development, the methodology used by a supermajority of professional software developers, according to surveys by Stack Overflow and Hewlett Packard. LocalGov Drupal's software development vendor, Agile Collective, has a name that demonstrates their commitment to Agile.

Incrementally providing improvements to the software based on the needs of new members of the cooperative has allowed LocalGov Drupal to avoid getting trapped in months or years of fruitless planning about how to address the needs of hypothetical users of websites operated by hypothetical members.

OUTSOURCING CORE DEVELOPMENT

The bulk of the development of LocalGov Drupal has been performed by their vendor, Agile Collective, rather than by employees of the councils that are members of the cooperative. Few councils employ software developers with experience working in Drupal, and those that do are unlikely to have the spare capacity to contribute meaningfully to a major software development effort. Having a team of developers who are responsible for advancing the work has allowed the project to deliver value rapidly and professionally, free from the conflicting demands on time that are inherent to working in government. The vendor has also brought them skills that they did not know that they needed, such as Agile Collective's experience in distributed decision making.

To avoid becoming over-dependent on Agile Collective, LocalGov Drupal rebid the development work for each phase of the project. (In addition, it is the nature of Agile that it is easier to switch vendors than with traditional "waterfall" development.)

It is not clear whether LocalGov Drupal will eventually be able to rely on member contributions to advance development, or if the project will permanently require a dedicated development team. Co-ops have succeeded using either of those models.

WORKING IN THE OPEN

LocalGov Drupal has worked in the open since the project started, leaving a broad swath of documentation of its work, its plans, and its progress. In addition to a website and Twitter feed, LocalGov Drupal performs all software development on GitHub, Microsoft's social coding platform. The organization also holds a skills sessions series, allowing the team to collectively learn while also modeling the normalcy of learning new things, and all of those skills sessions are recorded and posted to YouTube. They maintain a project roadmap on Trello and a "theory of change" Miro board. One contributor even live-streams his coding on Twitch, archiving the videos on YouTube, arguing that public code should be developed in the open.

Intergovernmental software cooperatives exist across a range of openness; LocalGov Drupal is toward the extreme of the "open" end of that range.

FOCUSING ON A SINGLE, COMMON NEED

LocalGov Drupal is a highly focused organization that understands its audience, the need to be addressed, and how best to address it. That came from founder Will Callaghan's experience setting up content management systems for councils in the United Kingdom, and his experience with the Government Digital Service, but it was refined through user research, both up front and also on an ongoing basis. The organization didn't broaden its scope to include other content management systems, to include other types of governments, and or to include any other common problems experienced by councils. They picked one thing and did it well.

DISTRIBUTING DECISION MAKING

The cooperative aspect of a software cooperative can present significant governance challenges, particularly because diverse stakeholders can have requirements that are oppositional, either because of resource constraints or because their needs are simply counter to each other. There is too much going on for any one person to make all of the decisions. LocalGov Drupal practices a distributed method of decision making that travels under the names "dynamic governance" or "sociocracy." The underlying philosophy is that the project is broken up into teams, and each team is given the authority to make decisions with the scope of their mission, with the caveat that the team needs to come to a consensus on every decision that they make. LocalGov Drupal governs in this way across product, strategy, technical, and communications teams, and some of those have their own subteams. The project adopted this approach in May 2021, three years after LocalGov Drupal began, because only then did the organization have enough members to make it necessary or possible to distribute decision making.

LEVERAGING GRANT FUNDING

It can be difficult to get the momentum to start a project, moving from having an idea to action that delivers value to end users. LocalGov Drupal got over this hurdle due in part to grants from the Ministry of Housing, Communities and Local Government. This funding gave them the freedom to figure out collaboration and governance before having to figure out sustainability. That grant support is ongoing, and they're still exploring how to sustain the project absent continued funding; resources are likely to be easier to come by as more councils rely on LocalGov Drupal.

Lessons

Although LocalGov is young, as intergovernmental software cooperatives go, there are some important lessons to be drawn from its successes.

KICKSTART WORK WITH GATED GRANT FUNDING

It's important for governments to provide grants for the creation of software cooperatives. LocalGov Drupal only became a reality because of a grant from the United Kingdom's Local Digital Fund. Once a project has shown value and gains inertia, it's easier to get support from its members in the form of staff time and funding. A relatively small amount of funding can allow a project to reach the point of being self-sustaining. Gated funding—in which progressively larger amounts of money are provided as the project shows success—helps to ensure that funding isn't squandered, and provides an incentive to deliver value to end users rapidly. It may also be important to begin with a shared set of principles, as with the Local Digital Declaration that localities must sign to be eligible for grants from the Local Digital Fund.

In the United States, the General Services Administration's 10x incubator is an example of such a program, albeit one that casts its net much wider than software cooperatives. There is no United States equivalent of the United Kingdom's Local Digital Fund.

FOCUS ON GOVERNANCE

Cooperatives are premised on cooperation, the terms of which we call "governance." LocalGov Drupal didn't just set up governance once, but instead it has continually modified how members collaborate based on the changing needs of the expanding membership, optimizing for decisions that all members need not love, but merely accept. The methods under which members cooperate are not just check-box prerequisites, but instead the medium through which software will be produced. Time spent on governance is an investment in the viability, stability, and processes that will allow the organization and its software to thrive. Governance needs to evolve with the organization. Organizations will get the product that their governance will allow.

HAVE A LEADER HOLD THE VISION

A successful project needs to be led by an individual with a clear vision and the ability to bring it to fruition. For LocalGov Drupal, that person has been Will Callaghan, whose experience working for the Government Digital Service and for local governments gave him the knowledge, the drive, and a plan to improve councils' content management systems. While no one individual has all the answers, by putting one point of view and direction at the center of an effort, the organization can benefit from clearly delineated avenues to provide input and focus on carrying out the work.

START SMALL

Every new member of a co-op brings with them new challenges, particularly in terms of technology and governance. It's best to deal with those challenges one member at a time. Two members is the minimum size to start with and, based on research by the State Software Collaborative, it's also the best number of members to start with. LocalGov Drupal started with two members and has grown steadily from there, allowing them to provide each new member with the attention that they need to have their needs met, instead of trying to resolve the needs of a dozen local governments simultaneously. Core to Agile software development is performing work in small pieces, optimizing for now instead of some future state; growing a co-op incrementally facilitates Agile, instead of fighting it.

Conclusion

LocalGov Drupal is a young intergovernmental software cooperative that has been created under unusual circumstances. It's headed by a veteran of a national digital service who also has experience working with local governments, while the organization is able to rely on a funding program designed to support software cooperatives, and uses Agile methodologies to iteratively release software for its ever-increasing membership. This is an uncommon alignment of traits associated with successful government software projects and it bodes well for an intergovernmental software cooperative.

It remains for LocalGov Drupal to find a path to sustainability, which probably includes a formalized legal entity to house the project and a revenue stream. As participants in the Housing Ministry's Local Digital Fund, they're in good company; 47 other projects are also advancing through the ministry's gated funding process, and all of those that make it through the process will face the same challenge.

New software cooperatives would do well to model themselves on LocalGov Drupal. Their approach to funding, governance, growth, and user research encompasses the best of modern software development and the best of bureaucracy. And governments would do well to emulate the Local Digital Fund that has made LocalGov Drupal possible, providing gated funding to find the best government software and make it available broadly and inexpensively.