Knowledge reuse and InnerSource: paving the way to a communication culture

Introduction

Open-source software development has led to a great deal of technological innovation. Software developers know that by being open and generous with their code and their trouble-shooting tips, they'll be able to benefit from others' ideas and feedback in turn. That leads to better collaboration, faster software development cycles, and better reliability and security.

That's not always the case when it comes to closed-source, proprietary code within an organization, however.

All of the technical teams at your organization are driving innovation within their projects—but the knowledge they're unlocking for their own teams isn't always being shared throughout the organization. As a result, employees may spend a lot of time researching how to do things, or asking others for feedback and interrupting their work. And they may not benefit from the valuable insights of others outside of their direct teams, slowing down access to potential solutions.

In order to increase agility and promote better collaboration and a more innovative culture, enterprise organizations should move to an "InnerSource" model, which embraces all of the benefits of open-source software development within a closed organization. That makes it easy to reuse knowledge across the enterprise, helping each team build on one another's work to increase transparency, reduce waste, and save money.

What is knowledge reuse?

One of the largest benefits of InnerSourcing is that it leads to higher levels of knowledge reuse. Knowledge reuse refers to the practice of drawing from existing company knowledge, rather than asking new questions that need to be answered individually, and occurs as a natural outcome of using a knowledge sharing platform like Stack Overflow for Teams as a centralized hub for discussing technical questions and sharing code throughout the organization.

Using Stack Overflow for Teams, you can analyze your organization's knowledge reuse as a metric by tracking the number of people who visit the knowledge-sharing platform, but don't ask a new question. While your team members will likely ask and answer questions frequently in the first months of your knowledge sharing platform deployment, over time, you will likely see more viewers who are able to draw from existing content to solve their problems, using search tools and tags to identify relevant content to s upport their needs.

Knowledge reuse has several key benefits for your organization.

First, institutional knowledge is preserved. That means, even if a key subject-matter expert leaves your organization, their knowledge will remain with the company. They can use Stack Overflow for Teams to share and discuss technical documentation, and provide feedback in response to questions on their code. And as new employees are onboarded, they can jump into your knowledge sharing platform to read critical Q&As that will provide them with perspective on their roles.

Knowledge reuse also helps to protect your employees' time, and enhance productivity. If your employees rely on asking your SMEs questions every time they arise, that's a time suck for both parties: The employee with the question, who may need to conduct independent research and ask the same question of multiple people until they find someone with the answer; and the SME, who is being pulled away from their own work to respond to their colleague. These types of distractions can slow down development cycles—but by moving to an asynchronous knowledge-sharing platform where answers are shared transparently and everyone is invited to contribute, your team members will be able to learn from one another without bringing in new distractions.

Unlocking your organization's knowledge through InnerSourcing

InnerSourcing enables you to build a collaborative culture of learning, in which knowledge is freely shared and reused.

Some of the key benefits include:

One person asks a question, and everyone gets an answer

Instead of siloed conversations that take place over calls or via Slack or other messaging tools, technical questions are public and accessible to everyone throughout the organization. That means employees will learn to search for their answer on Stack Overflow for Teams first, before asking a new question—and if the answer is available, they'll be able to draw from the existing knowledge to solve their problem. Employees can also add their own perspective to the topic, and the community can vote up the best responses, so that the most relevant and timely content always appears first.

Software reuse is promoted across the enterprise

In some cases, it may make sense to reuse parts of your code base for different projects across the enterprise. Software reuse can help you to reduce duplicate development efforts, and increase transparency, reduce waste, and save money.

Team members can collaborate widely and make valuable contributions to the organization

Rather than collaborating only with their own teams, employees can share their knowledge widely throughout the enterprise, contributing their knowledge to projects for other teams and even in other departments. This enables employees to expand their skill sets by stretching outside of their comfort zones to apply their knowledge and skills to new areas of software development.

More comprehensive employee onboarding, accelerating time-to-value

As new employees join your organization, their managers can curate relevant Q&As in your knowledge sharing platform that will be relevant for their roles, in addition to Q&As that apply more generally to your workplace culture. This will lead to a better experience in the onboarding process, as new employees can immediately gain access to valuable institutional knowledge that will accelerate their time to being productive within the organization.

Increase the speed and quality of software development

More eyes on your code means there's more opportunity to spot errors and improve its quality faster than a standalone team could do. Developers learn to write unit tests for code coverage, static code analysis, and continuous integration (among other best practices) in order to detect and prevent defects early in the software development life cycle.
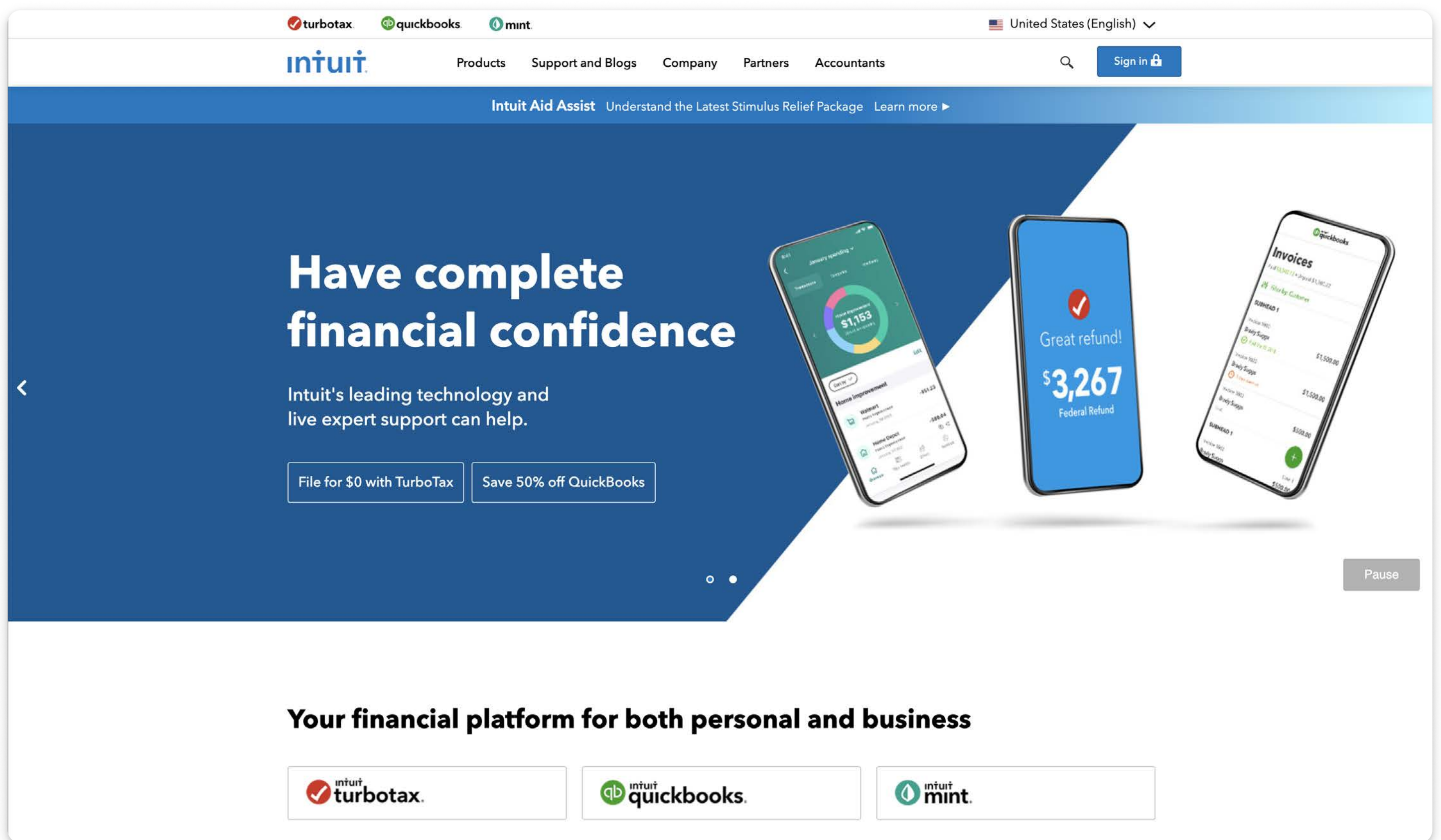
Intuit case study

Intuit embraced InnerSourcing in 2019, when the company began using Stack Overflow for Teams to organize and share their institutional knowledge, gradually rolling out the platform to their 5,000 engineers. Particularly since moving to a fully distributed model after the pandemic, the platform has been crucial in promoting a culture of transparency and collaboration throughout the organization.

Engineers can go to the platform to search for content by relevant keywords or tags to identify solutions to problems they are having, or can ask questions directly if their answer doesn't already exist. Quickly, the company saw fewer repeat questions, and saw a rise in productivity among engineers, who no longer needed to waste time searching for answers or answering the same questions multiple times.

To date, the community has contributed over 7,000 questions, and is adding over 100 questions and answers per month. Intuit is seeing Knowledge Reuse occur approximately 120 times a day.

All of that means that teams are able to be more efficient and productive, and can collaborate creatively between departments, enabling employees to use their skill sets to help others throughout the company.

How to build an InnerSourcing culture

Sharing code openly throughout the organization can lead to better efficiencies and a more collaborative culture. Your engineers will be able to draw from and build on one another's' experiences across the entire organization, resulting in faster troubleshooting and new innovations in product development.

In order to get started, you'll need to focus heavily on building a culture of knowledge sharing and knowledge reuse. This includes:

Populating your knowledge-sharing platform with valuable content

Make your knowledge-sharing platform a core part of your company's culture. As you introduce the solution, enlist a core group of advocates to begin asking and answering questions there to populate it with content. When someone shares something valuable on your messaging platform, ask them to set it up as a Q&A on Stack Overflow for Teams so that it can be shared widely beyond your team. Incentivize your team members to contribute to the platform regularly, with public acknowledgment for those who are the most valuable contributors (both in terms of frequency and answers that their colleagues recommend the most).

Establishing knowledge reuse as a best practice

Rather than encouraging your employees to ask their team members questions, encourage them to start seeking the answers to their questions by searching on your knowledge-sharing platform. If they can't locate relevant answers, encourage them to ask the question there and then tag teams or employees who are likely to know the answer.

Encouraging cross-departmental knowledge sharing

Help your team members break out of their silos and share knowledge and resources with engineers on other teams and in other departments. By answering questions outside of their domain, they can gain exposure to new technologies and perspectives, helping them to upskill more quickly.

Conclusion

InnerSourcing can enable your organization to optimize efficiencies and productivity throughout the organization, while creating a more open and collaborative community culture. Employees are encouraged to work together across teams and departments, and can both share their expertise and level up their skills while working together to troubleshoot code and solve problems.

Knowledge reuse plays a big role in your InnerSourcing movement. By making the most of existing knowledge, you can enable the reuse of existing solutions to build on, speeding up the development cycle and ensuring better quality and fewer mistakes. It also helps you to make the most of all of the talent in your workplace, ensuring that even if developers leave your company, their knowledge will remain accessible as an ongoing resource.

InnerSourcing and knowledge reuse can also help reduce the friction between teams. This way, everyone knows what everyone else is working on, and can easily explore potential solutions to problems or get access to detailed insights on the context behind why a particular decision was made. It's easy to make contributions to projects outside of your own team, and to gain valuable perspectives from people with other skill sets.

By moving to a culture of InnerSourcing, your organization can enhance transparency and build better communication throughout the company, resulting in higher productivity, greater levels of cross-departmental collaboration, and a more efficient onboarding process. Taking a transparent and open approach to sharing knowledge and building on what others have done empowers your employees to educate themselves widely and help others solve problems, leading to higher job satisfaction.

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