field of bioinformatics. up with a lot of very hard to use software in the really a design phase. That's why I think we end I'm gonna publish the software. So there's not end up with some software. Then they say: Hey, dive into solving a particular problem. Then they often overlooked in this field, like folks kind of to the development of chain [...] I think that [it] is Design is something that has been really central

you make it open?" can be answered. people engage with it? How do you publish it? How do duestions such as "How is research applied? How do into the process of research but also its output so that element of thoughtfulness and design does not just go mentioned, helps fulfill the purpose of research. An through design", as one UX/UI designer participant prowse, and present their data to the general public researchers to use technology to handle, discover, outcomes and the goal for which it's built. "Enabling All functions of software development should help the

ot research. Design helps empower and helps fulfill the purpose

MHY DESIGN & USABILITY?

and respect and value their work. and maintainers who want to collaborate with them ueed to secure support and buy-in from developers cast their design into code themselves and thus they allocate resources for design work. Designers can't existing conventions, they also try to advocate to Despite designers' approach to be non threatening to

peing perceived as threatening or opposing existing making design its own recognized activity while not relevant in practice. Designers need to balance both design would remain an activity that is not seen to be before a design process. Without educational work, collaboration on code, are often established well a late addition to projects. Other practices, like This is particularly expected because design is usually

for it to get buy-in. to justify design and educate others about the need Designers in Scientific & Research OSS often need

Late Addition

The Usable Software Ecosystem Research (USER) project was initiated by Superbloom Design and funded by the Sloan Foundation. It explores how design opportunities in their projects.

Through a variety of research methods such as literature reviews, semi-structured interviews, surveys, and ecosystem mapping, the research aims to obtain a better understanding of:

- How norms in academic, science, and/or open-source working environments affect the choices teams make around their users and different kinds of design interventions.
- How team dynamics and trust affects those
- able to prioritize usability and design in their work.

design and usability is perceived in the Scientific &

with different skills than their own. software is understood and it it can be used by people methods that allow creator to check how well their This is where Usability can make a difference: Bringing in

penchmark though they will represent the upper range of the creators will use their own experiences as a quirks in that OSS that others will not understand. Often,

team. Even if they document their work well, there will be Research OSS is often built by a single person or small fairly common even for experienced people. Scientific & We found that getting stuck when working with software is

OSSRS.

user best described as 'myself' by developers of users or people to become these kinds of users - The proficiency. Most OSS build and maintain for these most OSS tools, have an 'ideal' user type and level of

Tool Makers SIƏSN

Scientific & Research open-source software teams understand, consider, and undertake usability and

- What teams would need to be interested in or

In this zine, we'll share with you an overview of how Research open-source software ecosystem.

that dedicated Usability efforts could improve their Scientific & Research OSS software tool teams, like Science and Research OSS misses out on the ways

A LACK OF UNDERSTANDING

improving the usability of the software.

that these users' struggles could be better solved by

of our time to actually work on developing [...]." They

On the other hand, larger project teams often find

customer support-informed usability improvements.

and to make usability improvements - they are doing

emails. This also helps them to learn about problems

low user numbers often enjoy answering user support

realize that these problems are connected to

Developers and maintainers of early-stage projects with

tools. They know about the problems, yet they don't

easier to use for people, that would kind of free up more

support requests time-consuming: "If software would be

documentation or improving it — Here, they are

often try to solve these problems by adding

sense to them and their training, yet not fully knowing

bertorming usability improvements in a way that makes

Usability

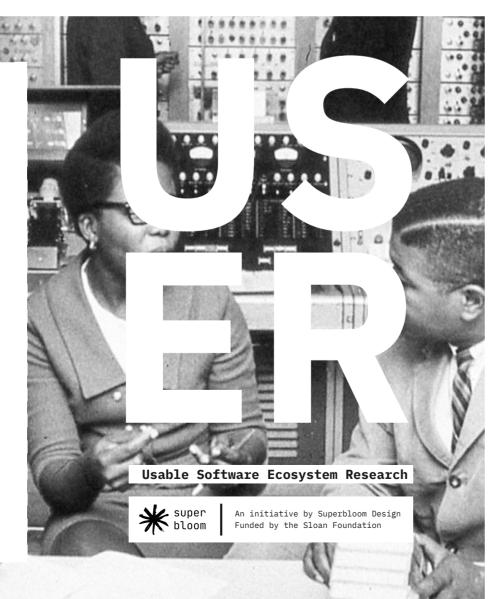
Usability.

>> as defined in Scientific & Research open-source software <<

From December 2022 to February 2023, we spoke to 24 research participants who are maintainers, developers, designers, scientists, researchers, funders, Open Source Program Offices and stakeholders – all involved with creating and maintaining Scientific & Research OSS.

One of the questions we asked was "What does design mean to you in the context of software projects?" — Here is what we've learned:

According to our research participants, the terms "design" and "usability" mean a variety of different things: from designing code, form, and functionality, to software architecture, planning, and documentation. There is a common association between the need for design and usability and the need to obtain an understanding of how the project team, clients, and end-users are using and interacting with the software and to make sure it works for everyone.



The zine you're holding is a part of USER - a research initiative that concerns how 'design' and 'usability' are broadly thought about and practiced within Scientific & Research open-source software projects and teams. Learn more about the project:



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