minimizing downtime. A multitude of people, be it in communications, support, or management can benefit from accessing data on how services are performing, when a failure is affecting products, and by extension also affecting customers. We argue that there is potential in further exploring the concept of how to convey monitoring data to non-developers and thereby also lowering the thresholds to data which otherwise could be kept within a developer circle; enabling transparency and data democratization within an organization.

Additionally, our initial literature study found textbooks [7, 20] on dashboard design, but as mentioned by Yigitbasioglu and Velcu, Alhamadi and Sarikaya et al. the scientific literature on dashboards is scarce and general guidelines are hard to come by. We would like to echo the sentiments expressed by Yigitbasioglu and Velcu and Sarikaya et al., as by continuing to examine case studies and surveys on dashboard implementations, it is possible to gain insights into flaws in dashboard design which prevent their success.

CONCLUSION

We aimed to determine the prevalent design lessons for building a dashboard that supports operators with limited domain knowledge of software development and microservice architecture in their task of monitoring online media applications. Using a participatory design approach, a prototype was designed together with developers, operators and stakeholders. The dashboard prototype was evaluated through a think-aloud protocol which became subject to a thematic analysis. The thematic analysis rendered three themes: language differences between developers and operators, consistency across views and states, and lastly, context switches, system integration and automation. In addition to the think-aloud protocol, participants were asked to perform a system usability scale survey (SUS). The resulting SUS score for the prototype is placed between "good" and "excellent" on the adjective ratings by Bangor, Kortum, and Miller [2]. Our design exercise has explored how microservice monitoring data can be presented to operators in a dashboard and we see a potential in further exploring how data of this nature can be conveyed to a non-developer audience, to enable transparency and data democratization within an organization.

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