### **Appendix**

Youmei Fan Nara Institute of Science and Technology, Japan fan.youmei.fs2@is.naist.jp Tao Xiao Nara Institute of Science and Technology, Japan tao.xiao.ts2@is.naist.jp Hideaki Hata Shinshu University Japan hata@shinshu-u.ac.jp

Christoph Treude
University of Melbourne
Australia
christoph.treude@unimelb.edu.au

#### **ACM Reference Format:**

Youmei Fan, Tao Xiao, Hideaki Hata, Christoph Treude, and Kenichi Matsumoto. 2023. Appendix. In *Proceedings of 46th International Conference on Software Engineering (ICSE 2024)*. ACM, New York, NY, USA, 2 pages. https://doi.org/3597503.3639127

## 1 EXAMPLES FOR THE CODES FOR RQ1.2 WHO MENTIONS GITHUB SPONSORS PROFILES ON TWITTER?

**same**. The author of this tweet is the same as the GitHub account that is shown on the GitHub Sponsors profile linked in the tweet, or the content of the tweet implies that they are the same developer or the author belongs to the GitHub organizational account on that GitHub Sponsors profile.

user. The tweet explicitly indicates that the author of this tweet is a user of an open-source project that belongs to the GitHub account on the GitHub Sponsors profile, e.g., "I'm sponsoring [username] because... [product] is brilliant and I use it daily and want to support continuing development".

**non-specific.** There is not sufficient information to determine the relationship between the tweet author and the GitHub account.

# 2 THE EXAMPLES OF CODING SCHEMA FOR RQ1.3 WHAT IS THE CONTEXT OF GITHUB SPONSORS PROFILE MENTIONS ON TWITTER?

generic advertisement. This tweet advertises the tweet author's own GitHub Sponsors profile (use this code if the tweet does not fit the other advertisement categories), e.g., "Sponsor [username] on GitHub!".

donation appreciation. This tweet explicitly expresses appreciation of a donation, e.g., "Thank you so much @[username] for sponsoring [product]!".

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for components of this work owned by others than ACM must be honored. Abstracting with credit is permitted. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee. Request permissions from permissions@acm.org.

ICSE 2024, April 2024, Lisbon, Portugal
© 2023 Association for Computing Machinery.
ACM ISBN 978-x-xxxx-xxxx-x/YY/MM...\$15.00
https://doi.org/3597503.3639127

Kenichi Matsumoto Nara Institute of Science and Technology, Japan matumoto@is.naist.jp

generic template. This tweet contains GitHub's template for advertising one's own GitHub Sponsors profile: "My GitHub Sponsors profile is live! You can sponsor me to support my open source work" with no or minor changes.

advertisement of developer. This tweet advertises the GitHub Sponsors profile of another personal GitHub account, e.g., " He is my muse at all. I love his work. Thanks for Inspiring me [username]!".

advertisement with new functionality. This tweet explicitly advertises the author's own GitHub Sponsors profile while mentioning new functionality of an open-source project, e.g., "I'm really happy with [product]! Please consider supporting us on GitHub Sponsors to enable the awesome v2 work."

advertisement with new information. This tweet explicitly advertises the author's own GitHub Sponsors profile with an update, e.g., "Really good news ans already updated my #Github profile #Sponsor".

sustainability. This tweet explicitly indicates an appreciation or need for a donation for the sustainability of an open-source project, often associated with terms such as "sustainable", e.g., "I'm starting a GitHub Sponsorship to keep my work on [product] sustainable: ... Your generosity will help me take [product] further. Thank you ...".

advertisement with early access. This tweet explicitly advertises the author's own GitHub Sponsors profile with early access to features (usually accompanied by a phrase such as "early access" and "insider"), e.g., "Want to get early access to [product] and [product]? Check out [product]'s GitHub Sponsor opportunities!".

income. This tweet explicitly indicates the need for income to support one's daily life, e.g., "Taking a 32% payout and moving to a 4 day working week while COVID-19 shakes the Australian economy. If anyone fancies supporting my open source work that would be really helpful.".

advertisement with event. This tweet explicitly advertises a GitHub Sponsors profile with an event, e.g., "Another sneak peek coming to the [username] #sponsors and #backers through @discord this weekend?".

set example / peer pressure. This tweet explicitly motivates others in either a positive or negative way, e.g., "I'm sponsoring @[username] because everyday I use the software he's made. I

hope to inspire others to think about sponsoring your favorite #oss developer/project too! A little goes a long way! #githubsponsor" or "It's amazing, thousands of companies, consultants and developers use [product] and modules by free! And only 46 people is sponsoring! Sorry to say, but if you use and work in [product] and you don't support it, you are not cool!".

donation to developer announcement. This tweet explicitly indicates that the author of this tweet donated to the personal GitHub account in the GitHub Sponsors profile, e.g., "I'm sponsoring [username] because of his 75 part [product] tutorial that I just finished on YouTube".

donation to organization announcement. This tweet explicitly indicates that the author of this tweet donated to the organizational GitHub account in the GitHub Sponsors profile, e.g., "I'm sponsoring [username] because... [product] is brilliant and I use it daily and want to support continuing development."

**donation to developer template**. This tweet contains GitHub's template that indicates donation to a personal GitHub account: ""I'm sponsoring [username] because..." with no or minor changes.

donation to organization template. This tweet contains GitHub's template that indicates donation to an organizational GitHub account: " sponsoring [username] because..." with no or minor changes.

### 3 EXAMPLES FOR THE CODES FOR RQ1.4 WHEN ARE GITHUB SPONSORS PROFILES MENTIONED ON TWITTER?

**start**. This tweet was posted when the GitHub Sponsors profile is activated (usually accompanied by a phrase like "profile is live"), e.g., "My GitHub Sponsors profile is live! You can sponsor a @[username] license for example to support my open source work  $\heartsuit$ ".

*no specific timing*. This tweet was posted with no particular timing.

donation. This tweet was posted when the author of the tweet received a donation, e.g., "Thank you so much to [username] of @[username] for sponsoring my #opensource work on GitHub!".

update. This tweet was posted when there was an update to a GitHub project or GitHub Sponsors profile, e.g., "I've just updated my creator's sponsorship page. You can access to our private repos with insider tier now. Consider to be a sponsor for [username]. I'll keep up working on it to release v1.0.".

reach goal. This tweet was posted in relation to reaching a goal, e.g., "Reached the goal of 10 monthly sponsors and 2 one-time sponsors on GitHub: Time to celebrate pandemic style and order some spicy vegan Asian food! Thank you to all sponsors!".

release. This tweet explicitly indicates that a release of the software project has been delivered, e.g., "Fairly even split between "Yes" and "Sounds interesting" so I'll go ahead, wrap up the project, wait for the sponsor goal to be hit and release Hourcount to the world.

event. This tweet was posted when an event has been announced, e.g., "Another sneak peek coming to [product] #sponsors and #backers through @discord this weekend! Make sure you are there!".

resignation / paycut. This tweet was posted during a change in the author's work professional situation, e.g., "I have resigned from my job at [company], an will be looking to grow my crowdfunding to continue work on open source FPGA & ASIC tools and also try to find some fun freelance PCB/FPGA/software projects. Any help is welcome<3".

benefit. This tweet explicitly mentions a particular benefit, e.g., "I'm sponsoring [username] because... [product] is brilliant and I use it daily and want to support continuing development".

activity spike. This tweet was posted to indicate the GitHub developer was particularly active and explicitly mentions the activity spike, e.g., "I'm sponsoring @[username] because he is on fire lately and contributed a lot in dev-tooling space".

### 4 EXAMPLES FOR THE CODES FOR RQ2.2 HOW ARE GITHUB SPONSORS PROFILE MENTIONS DISCUSSED ON TWITTER?

support. The response to this tweet demonstrates endorsement or encouragement for the author, often extending beyond appreciation and indicating a willingness to assist or advocate for the author's cause, e.g., "@[username] and I really want to help him become a full-time OpenSource developer".

appreciation of work. The respondent acknowledges and values the author's open-source contributions and their impact, without necessarily conveying explicit support or a commitment to assist in further efforts, e.g., "@[username] thank you for the amazing work you're doing for the #opensource / #[product] / #DevOps (and many more) communities!".

appreciation of donation. The respondent to this tweet appreciates the donation, e.g., "@[username] Thank you very much for your support!".

*emoji only*. The response to this tweet only contains emoji., e.g., "*@[username]* ♥".

*other*. The response to this tweet does not fit into the categories above, or there is no response to this tweet.