

# Interview Protocol

**Step 1: Opening and introduction.** We started each interview by briefly explaining our research topic and the general purpose of our study. We asked whether the participants consent to the audio recording.

**Step 2: Understand the background knowledge of the developer.** As we would like to compare the difference before and after the social coding platform appears, we first asked participants to briefly describe their experience of participating in the open-source community. For example, we ask "How long have you participated in open source communities? When did you start on OSS? What is the path of involving in OSS? On what platform? In what roles?", and the expected answer would be owner of a fork, maintainer of a project, or user of a project.

Next, we asked "Were you involved in open source projects before the emergence of GitHub? How often do you contribute to the OSS?". If the participant is a maintainer of a community, we would ask "what were the major responsibilities of your most recent project/community?" Based on their answers about the years of experiences in open-source projects, we would adjust our questions later about whether to ask the participant about describing the differences or not.

**Step 3A: For hard fork owner, we ask questions about the fork.** In order to help us to gain domain knowledge for a better conversation, we first asked participants to briefly describe the project. Subsequently, we ask the reason why the developer forked the project, whether they still keep synchronizing with the upstream project, if yes, how often.

Next, we look for fork owners' perception of forking by asking "Do you consider your fork as an independent project comparing to the upstream project? Have you considered renaming it? When did you make a decision to continue on your own as a separate project?" If the hard fork already has many forks of itself, we ask more about the trade-off of synchronizing with the upstream projects. For example, "Have you predicted the maintenance effort once you create your own fork and have your own community? How much time does it take to maintain the project? Do you see the trade-off of synchronizing with upstream frequently or less frequently? What is the limitation of synchronizing with upstream frequently? how much effort does it need? For hardfork that aiming to eventually integrate back, how clean it has to be? will the upstream be reluctant to integrate gigantic changes?"

**Step 3B: for upstream maintainer, we ask their opinions about emerging forks and management of the community.** First, we ask if the maintainer aware of emerging forks, and whether they follow their activities. Next, we would like to know if they aware of hard forks by asking "Is it possible that forks become independent projects? How often does that happen? How do you identify when that happens? How would you identify whether a fork turns into an independent project? Would you be interested in following its activity?" And we present the hard fork we detected, and ask if they agree that the fork is (becoming) an independent project and in what sense.

Further, we ask general questions about their opinions of hard forks. For example, "Why do you think they do this? Do you think the fork is competing with the upstream project? Do you think the emergence of the fork splits the original community into two? Whether they change management practices to avoid hard forks? Do you concern about hard forks?"

**Step 4: whether the paradoxical phenomenon still exists in social forking.** In this step, we would like to know if there is any value judgment associated with forking, either positive or negative. Also, we ask if there is any challenge the participants perceive from forking. Finally we ask their opinions about the ``drawbacks of forking 20 years ago".

**Step 5: Open discussion and closing.** We concluded each session with general and open-ended questions about further suggestions for more hard forking examples if any.