

Recording 8 (March 18)

Name:

Degree: BSc, CS

Year of Study: 4

Gender: [REDACTED]

Occupation (If working): Student

Me: First I will start with some generic questions on github then we will go to some specific work related questions and in the end we will be talking about questions related to stack overflow and such forums

Me: **Have you taken any courses previously where you created projects or assignments that involve programming?**

P: Yes, definitely

Me: **Can you tell me a bit about your most recent course that you were a part of and when was it?**

P: Almost all my undergrad had projects. I did computer engineering which involved programming courses going on and I had to manage them.

Me: **What language did you use mostly?**

P: That time, it used to be C# right now it is very scattered

Me: **Have you been involved in paid projects outside school assignments, for example during an internship or a job that involved programming?**

P: I was a programmer at a video conferencing site and I was a client side programmer.

Me: **At the moment are you taking any courses that involve programming?**

P: Yes I am, I'm taking deep learning

Me: Are you involved in programming projects or applications which are not a part of a paid job or assignments?

P: I'm a linux operating system user, so I use open source projects almost daily.

Me: Are you participating in the development of any of these projects like Jenkins, Ansible or Ruby on rails or anything on github or gitlab. Anything on github or gitlab?

P: Not participating if I am not involved in them. So there have been times when I wanted to connect a physical device or hardware, so I was kind of dependent on that device. So I tried to change some part of the source code so that the device works as I want it to, then I've submitted my changes using github, but if I'm not the user of the repository, this is not gonna happen.

Me: So if you want to develop a tool, you find a similar project on github and you're using the code and you come across some improvement or changes. That's when you basically participate? When you're making changes?

P: Yes

Me: What kind of projects do you usually participate in, when you do not have any benefits associated with it (For example open competitions or open source projects aside from the assignments)?

P: Except for my course projects, If I'm using a software and I want to modify it for myself, and there is a benefit for me, then I would start going through the source code and that's the time when I use it. Especially when there is hardware involved or there is a kind of software need I have and I notice that the specific item is not made but most of it is available open source, I would probably go not to invent the wheel again.

Me: Can you give me an example of a repository that you recently used from open source and contributed back to it?

P: Recently I bought a wifi dongle, I found a very old laptop and I couldn't connect the wifi to it, so I got a new wifi dongle and I noticed that under linux, it requires a driver. When I found that the website was a little bit outdated and was not compatible with my device. So I went through the internet, I found the repository I wanted, there were multiple people working on the same sort of chipset and I tried to work and it was not working. I noticed that I will have to write the code inside the source code. So I found where I should put it, I added the item and I created a

Pull Request for the maintainer of the repository to tell them ‘I have this device that uses the chipset that you’re using and I’ve added this code. Do you wanna keep it?’

Me: That’s nice, it is a good practice to do. **Can you please explain in detail about your area of interest, in terms of project development?**

P: I am interested in AI, For example one of the hobbies I have is to work on a chess engine. If there is another system that involves databases and all, then I’m not interested in them.

Me: **If you’re given an opportunity to develop an opensource project, do you prefer to work alone on these projects or do you like to collaborate with other people?**

P: Open source project is called open because there are other people involved, maybe there are not face to face contact with those people, but eventually you’ll see other people giving feedback to you and you fork the project, modify it and make changes of their own. So there is kind of an interaction. It is inevitable.

Me: **I mean you’re okay with working in teams of people or you prefer working alone?**

P: Both of them are fine for me. I’ve already worked with different people and have worked alone. I do not have a preference as such.

Me: **Do you publish your work online to let others view what you’re working on or do you like to keep the projects to yourself?** In the case where you’re working on an open project.

P: It depends on the type of project, there have been times when I feel like others might come up with the same project or same problem and I feel like I can help them, but there are times when I do not feel like doing this project to help people, and that is specifically for myself. As I said it depends on the project. For example, in case of the chess engine, if I want to publish it on the app store or google play, there is a high chance that I would start close source and eventually I would like to document it all and turn it into open source. It is still something I am not very strict on.

Me: **How do you like to save your project’s source code? Do you save different versions of your code, how do you do that?**

P: Maybe 5 years ago I used to overwrite it all in one area and I was using dropbox, but there have been times when I was working with multiple devices, so changing one file here and the

other file on another computer causes conflict so it was frustrating for me. Then I learnt git, I was very satisfied with it, so now I put all my projects on it.

Me: Has it ever happened to you that you're working on your code and you have to seek collaborations for it outside your known people?

Suppose you want to publish your code on the github of a project you're working on, you do not have naturally people coming there to see your code. So do you go on platforms like Twitter or any other platforms to seek collaborations?

P: Well, there was a time when multiple people forked from my code, that was a time when I reported a video about the kind of virus simulation piece of a project, I recorded it and uploaded the source on youtube. That was a time when I saw that there was some kind of attention. Not much of change was involved in code but most of the people I noticed were forking the source code so that they could read it or something like that. It never got very famous but I saw people going through it.

Me: How do you find time for development activities that involve contributing to the projects? Do you take time out of your leisure time or free time to do it? The motive behind this question is to see whether people are actively participating, is it their hobby or are they doing it for other reasons?

P: Okay, let's say it this way. One of the major differences between open source and closed source is that you try to look at it as a piece of art. Like here is the piece of code I wrote.. Take a look at it, be inspired by it.. Change it if you like but it is all about showing other people in order to grow as a whole, in order to keep everyone educated about code. But in closed source areas you try to achieve some kind of money so you do not spread it around. You try to keep it for yourself, catch up with some competitors. If it is not the kind of course work then I do think of open source as art.

Me: What all activities which involve school and work commitments do you participate in throughout the week?

P: I am a TA and I have assignments going on so most of the assignments are code based.

Me: Do you have any hobbies outside Computer programming?

(Don't tell me your hobbies if you're not comfortable as it is a yes or no question)

P: Well I like biking specially in [REDACTED], other than that I like watching movies and other sort of hobbies are classical music. When I want to change my mood, I do try to do these activities.

Me: Do you get a chance to pursue your hobbies outside computer science?

P: I try to because even if I'm super busy I want to have some rest for example every time before going to sleep I watch one episode, I free up my mind and then I go to sleep.

Me: If you are on a vacation from work or school, would you participate in development of projects for yourself or collaborate with others?

P: If I want to go for vacation, I do not want to use my laptop.

Me: How do you store the work that you created as a part of the Assignment project?

P: For course projects in order to avoid plagiarism, I created a private repository and I actually put it there. I use gitlab for it. I prefer gitlab because It is not paid.

Me: Can you explain a use case of the system you used to store an assignment?

P: We had an assignment, first of all there was a kind of an assignment structure. The instructor gave us a piece of source code and asked us to complete it based on the requirements mentioned. I usually put the initial project requirement on the git repository and I would commit the rest of the stuff that I actually do on top of it. So that I can go inside the history and look at the initial code so that I could actually track the changes that were made thereon. After the assignment was made and the solution was released I also created another branch telling that this is the things that were different compared to what I submitted.

Me: Do you have a Github account? If not, then do you have any other social coding account?

P: Github, gitlab, bitbucket

Me: How long have you been using the version control system you mentioned before?

P: I think less than 5 years.

Me: Have you taken any course at school which involves using git in projects?

P: There hasn't been much involvement I can say.

Me: Are you aware of the process of generating pull requests for projects, and have you generated a pull request in an existing project? If you go on the bigger projects like Jenkins and Ansible then you have to follow some set of rules before generating pull requests. Are you always comfortable with following the steps and creating a pull request?

P: yes I am

Me: As you mentioned that you created a pull request for a linux driver, so are you **comfortable in interacting with repository owners you don't even know. If you have problems and want to collaborate with them?**

P: there have been times when I created issues. There are issue lists where you can write about your problems and there is usually a kind of collaboration asking for more information and collaboration. I use them to resolve the issues for my source code.

Me: **What did you contribute to the project? (For example: edited the code, added documentation, fixed a bug, suggested an improvement?)**

P: I think it is a mixture of all, first thing that I do is that I clone them and I try to build the projects as they're mostly source codes and they're not usable without building and there are times when I struggled for building the source code because the linux distro I was using was different from the one that was mentioned in the documents. If that is the case then I usually write the pre requirements for building that particular bistro and edit the readme file, I usually make a pull request. If I am not successful then I go to the issues to tell them that I am facing this kind of issue.

Me: **Does your pull request get accepted easily? What is the ratio?**

P: Actually I don't know about the ratio, maybe it is 50 or 60 percent.

Me: **Do you use the command line?**

P: I use both UI and command line. There are situations where UI is useful for example when you want to check the history, UI is useful in that case. If you want to just call push and pull then CLI is good. It basically depends on the activity I am doing.

Me: **On what level of expertise do you rate yourself on github?**

P: 9

Me: Has your pull request ever been rejected? What was the reason given to you?

P: yes, they were saying that it was not the whole purpose of the project or sometimes they would say, it is a duplicate of this pull request. Sometimes they would say that these hard coded items are not needed in the code. These are some of the examples.

Me: So I can say that when you're browsing a project on github for your personal use, and you come across a bug or issue, you have the tendency to raise issues and try to resolve them.

P: Yes

Me: How did you come to the conclusion that there is a reportable issue existing in the repository?

P: I usually read the readme file to understand how it works, what the documents are and what is expected from the repository. When I see that it is not working then I go to the issues to see how it is working and then if there is nothing like that and I have enough energy then I would work on it. If I do not have enough energy then I would go to another repository.

Me: I can say that there is a 50% chance that your pull request gets merged with the main code?

P: yes

Me: So suppose it is a private repository and one of your friends is working on it and he adds you as a collaborator, would you be more easy going and casual while reporting bugs vs when it is open source or it doesn't make a difference to you?

P: If I know the person, I would prefer to call them directly vs going through the process of creating issues and pull requests. There have been times when we're working on similar repositories but I knew them so I felt I could communicate with that person on the phone much better or even in person.

Me: Have you ever resolved an issue on any repository?

P: No I have not. But I resolved my own issues.

Me: If it was not an open project, but was privately owned with limited audience, would you still not share your solution?

P: if there are collaborators there and I know them then we would just talk in some other location

Me: No I mean you don't know them and it is a very small sized project, say 3 people and they just add you up?

P: I haven't had such experience.

Me: **Do you own a public repository on github for which you're seeking collaboration at the moment?**

P: I do but there've been multiple forks and not much of a collaboration.

Me: **How do you feel when you see a lot of forks on your work?**

P: I feel excited and pretty useful, others have been reusing what I previously made. It feels good that I created a tool and others are just using it.

Me: **How do you feel about resolving issues for your repositories?**

P: I do take responsibility for the code I write, if there is an issue mentioned by someone I try to help them.

Me: **What benefits have you experienced while working on Open Source projects?**

P: One of the major things/benefits is that you feel like this is completely open and nothing is hidden in it. It gives me a sense of control over the project I am working on. So if anything nasty happens we figure that out much faster. This is one of the benefits. The other benefit is that people read each other's code and one of the benefits is that you can actually learn how to code by reading code. Open Source projects bring kind of an opportunity to read multiple codes from different people with different techniques and then learn from them. There've been times when I've tried to mimic other people's style of coding for my own project so that was the benefit. The main reason I started using git is the history management. There've been times when I wanted to revert to the previous version and I couldn't do it on dropbox. Using git I could do it.

Me: **Do you mention your successful open project participation on your resume?**

P: Success, no. I usually put the link to the source code inside my resume. But about my collaboration, I usually report via stack overflow reputation as a part of my resume but not the project repository.

Me: **Have you ever participated in companies' opensource projects?**

P: No I haven't started yet, maybe later

Me: **What is your go-to website when you need help with your code?**

P: Stack overflow

Me: **Do you go directly to the stack overflow with your code problem or do you type your problem in the search engine and then pick stack overflow to view the answers ?**

P: I usually write it in google and whenever I see there is a stack overflow item I definitely go inside that one as I know how that works.

Me: **What kind of problems do you usually encounter in the code that you search for help online? (Checking for syntax, fixing errors, improving solutions...)?**

P: What I usually do is I would actually search for signatures or method signatures, let's say it this way.. I am programming in different languages and I do not memorize instructions so for example I want to do a specific item like a specific math problem like $\sin x + \cos x$, and I do not know how it works so I google it and use it in my project. But that is simple one, there are more sophisticated items that I wanted to go to for example I remember the first days I tried OOP in python I was a little bit confused as to how it works and why my code is not working there've been times where I have to write the piece of code that I have and then I ask others that why doesn't it work and what is the difference? And then they could actually look at my code and they could give me responses.

Me: **Which computer programming forums do you have an account on?**

P: Stack overflow, also unity project forums.

Me: **In the Past 3 months, why did you visit stack overflow? (Example: exploring some code, and potential improvements out of curiosity, stuck with an error, and wanted to know the solution, I was looking for a specific piece of code for logic)**

P: Looking for some bitwise operation of C++ because C++ is a middle or low level language. I was expecting that there were some operations more lower level than c# and java. So that was the kind of thing I went to the stack overflow asking people if there were direct operations specific to C++ or not?

Me: So you raised a question?

P: No, the question has been asked before so I tried to go in. The last time I asked a question was around 4 years ago I'm guessing and that was a time when my question was very case sensitive. For example I was trying to record my desktop while a video conference was going on, but I was receiving black screen and I couldn't find anywhere, so I raised the question, here are the things I'm using and I'm receiving black screen what do you suggest?

Me: **Do you usually get a good answer when you are looking for it by searching on stack overflow?**

P: Not always, in the beginning when I was asking questions on stack overflow I noticed that there was a kind of standard way of asking questions and if you do not ask questions that way then you get downvoted very fast, there've been times when my questions got closed because of not being appropriate. Over time I realized that asking a question is not enough, you also need to say what you've already tried and you need to give references for example a part of the source code and different links to different locations, for example you tried various stuff, it shows people you tried specifically.

Me: **If you do not find the exact question then, do you post one question yourself? If no then why not?**

P: yes

Me: In the past 3 months did you participate in any way with stack overflow? (Eg: upvoted / downvoted an answer, uploaded a question, answered, was just there looking)

P: all of them

Me: **Do you feel that you are a part of the stack overflow community?**

P: I do really feel that I am, there was a time when I was going to gain reputation, maybe that was 5 years ago, but I increased it on purpose. That's when I became more collaborative.

Me: Which of these activities that were being mentioned before would make you feel more included in the community?

P: answering question

Me: You feel that looking around is not participation, when you're there just looking and not doing anything?

P: no, you're just a reader wandering around, actually it also depends on your preference, if you feel like yes this is my purpose, you usually do whatever it takes.

Me: Have you ever reused a code snippet from stack overflow, or modified it to use it for yourself and came up with a better answer?

P: yes, I try to post an answer next to other answers telling them that well, other answers are correct as well but I came up with this one maybe you wanna take a look at this. It might receive upvotes that increases my reputation.

Me: If you see a lot of classmates posting on the slack overflow, how would that make a difference for you?

P: I usually encourage people to go to stack overflow, I asked my friend to join it as I told her that going through stack overflow makes your programming much better. I encouraged her to increase her participation. I am curious not affected by peer parity.