Analysis and advise.

# Interview with the developers to Analyze the problems they are facing.

## Abstract

The following document is a research analysis on the problem that the developers face and with the GitHub, GitHub repositories and while using common dependencies between their multiple projects.

I will be interviewing multiple software developers from different places and locations, in order to understand the problems that they are facing, and how would they like it to be solved.

I will also take a dive into their choice of User interface of the solution that they prefer.

After making multiple interviews with the many developers, I will make my advice on how the final solution should look like and share it with the developers for the feedback. During this process I will have to make my own choices and might have to turn down some suggestions while accepting others. However, the reason for making certain choices will also be provided with the prototype.

In the following document I will be sharing the multiple interviews I had. I will also share the link where the interviews can be found. The document will talk about the essence of the interview and things that stood out form the interview as what the developer wants to fix and what is his preference on the GUI.

## Interview One: Ignas Apsega, to be graduate Fontys Student in Semester 8.

[https://photos.app.goo.gl/5XRXZVuut ezD4AHo9](https://photos.app.goo.gl/5XRXZVuut%09ezD4AHo9)

He uses GitHub and uses dependencies.  
He also use common dependencies in multiple GitHub repositories.

He does not update the dependencies so it is possible that his projects will not work if the dependencies are not updated or are not suitable together.

**Problem he faces**: He gets email from GitHub that his dependencies should be updated and or are vulnerable.

**What he wants**: Double click on icon, application launches, and he then enter the username, the application then creates a graph of common dependencies between GitHub repositories and see the vulnerable ones in different color.

**Preference on UI**: He prefers the icon and the application to launch as User Interface.

He does not prefer the CLI.

## Interview Two: Wouter Pennings, semester 6, Developer and a teacher

<https://photos.app.goo.gl/XnKiHsYGEkDRSzpw9>

He likes to decrease the use of dependencies between his projects.

**Problems he sees:**  Malicious code in the dependencies can put the whole project in the jeopardy.

Dependencies can go very deep and can have threats in them in case you use the nonstandard dependencies.

**What he wants:**  How fast can you find a vulnerability?

How fast can this information be visualized and how fast can user be notified? Maybe help user to show where it is and how could it be fixed?

He believes that the problem generally lies in the sub-sub-sub-sub dependencies.

**Preference on UI:** He prefers a CLI tool. But he does not want to run this tool every day.

He wants a notification only.

Maybe as an extension that sends notification automatically if there is a problem.

So, he does not prefer having a UI for the tool.

But when he gets a notification, he prefers a notification with the picture showing the trouble in vulnerabilities.

## Interview Three: Wels Pieter P., Coach at Open Learning

<https://photos.app.goo.gl/wN4PbApzMNY8uutu9>

He is a designer. Not exactly a software developer.

**Problem he sees:** Bad handled code, malware etc. in a dependency.

**What he wants:** To be able to visualize problem in dependency.

**Preference on UI:**  He would like to see vulnerabilities in color coded based on how hardcode the threat is.

Also give feedback when everything is correct. Like as score.

## Interview four: Mohit (Product Owner, Signify, Eindhoven)

<https://stichtingfontys-my.sharepoint.com/personal/394616_student_fontys_nl/Documents/Opnamen/Meeting%20with%20the%20Sinify%20Developer-20230217_160919-Meeting%20Recording.mp4?web=1>

Product owner and lead developer. Uses multiple languages like C, C++ and python.

Team of mix developers and new developers come in.

Difficult to visualize how different modules are interacting with each other.

Hard to give this information to new employee.

This is done manually and is never correct. The diagram changes everyday when someone add new module or new dependency is added or something else.

Hence it is hard to visualize the dependency between module in system and keep it up to date.

They do not have the tool.

**Problem to solve:** They want to have a tool that shows the updated view of modules and dependencies used there. They do not monitor their dependencies.

**What he wants:** They want to have a tool that shows modules and dependencies and stays updated.

**Preference on UI:** They do not care about GUI. They do not care about GitHub as well.

They do not care if the tool is script or a batch file.

They do not want a GUI since they are bad to be automated.

They prefer a CLI.

They want to see the dependencies on Demand using the CLI. And look at it when needed.

They do not want browser extension as they use machines that do not even use the browsers.

## Interview Five: Lichtenbelt,Bastiaan B.O.

<https://stichtingfontys-my.sharepoint.com/:v:/g/personal/394616_student_fontys_nl/ETu-bYu74FNKvh4AxRc4aPEBzzWE_Cd4igFGrLf-KDsLkw?email=b.lichtenbelt%40student.fontys.nl>

User faces the problem of having same dependencies with different code inside them which can create problem. Different dependencies with same name.

UI preference: A script

## Conclusion

After conducting interview with multiple users and developers I come to conclusion that it is important to have a tool which could be just a CLI tool or bash file since this tool will mostly be used by the developers only, so the aesthetics do not matter here.

The tool should run every certain period and create the diagram of the dependencies between various modules or GitHub repository in our case. And if there is a vulnerability the user must be notified by email or color coded.

The vulnerabilities can also be color coded to give the feedback to the user.