BACKWARD COMPATIBILITY OF SOFTWARE INTERFACES

BACKGROUND INFORMATION
The software executed on ASML lithoscanners consists of more than 40 million lines of code in packages that interact through interfaces. In order to be able to work concurrently on this software with more than 700 people with minimal interference, good interface designs are required. Interfaces should preferably change only in a backward compatible way. Software integration is done for multiple changes in parallel at source code level. Therefore, only source compatibility and functional compatibility are relevant. Although source compatibility can be checked easily by integrating all the parallel developments and then building the software, this is considered too costly and difficult to roll back.

YOUR ASSIGNMENT
Develop a tool to predict the source backward compatibility of an interface (based on the observed changes in the interface, specified with the ASML interface specification language). Investigate functional compatibility and extend the tool to report on functional compatibility issues also, as far as possible. The ASML interface specification language contains more functional information (formally specified) than a normal C or C++ header file does.

YOUR PROFILE:
You are in your final year and ready for the final assignment of a Master degree Computer Science or equivalent (University).
Preferably, knowledge and experience in:
- Eclipse modelling framework (emf)
- C, C++ programming languages
- Linux, Windows

WHAT ASML OFFERS
Your internship will be in a qualified Internal Audit team within one of the leading Dutch corporations, gaining valuable business and internal control experience in a highly dynamic environment. We will offer you an environment where you can apply your theoretical knowledge into practice. You’ll get expert guidance and the chance to be part of a dynamic and innovative Internal Audit team. You will receive a monthly internship allowance of 500 euro maximum (depending on educational level), plus a possible travel allowance.

ASML: BE PART OF PROGRESS
We make machines that make chips – the hearts of the devices that keep us informed, entertained and safe; that improve our quality of life and help to tackle the world’s toughest problems.

We build some of the most amazing machines that you will ever see, and the software to run them. Never satisfied, we measure our performance in units that begin with pico or nano.

We believe we can always do better. We believe the winning idea can from anyone. We love what they do – not because it’s easy, but because it’s hard.

STUDENTS: GETTING READY FOR REAL-WORLD R&D
Pushing technology further is teamwork, and our R&D team is more than 5,500 people strong, with major sites on three continents. Dozens of diverse, interdisciplinary teams work in parallel to meet a challenging development schedule.

In such an environment, your colleagues may be sitting next door, or they could be thousands of kilometers away in a different country, or even working for a different company.

An internship at ASML is your opportunity to get to know this world of industrial-strength R&D and get a feel for that excites you most. Will you design a part of the machine, or make sure it gets built to the tightest possible specifications? Will you write software that drives the system to its best performance, or work side-by-side with the engineers of our customers in a fab, optimizing a system to the requirements of the customer?

How will you be part of progress?

FIELD:
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