★ As Director of Cybersoft, **Dr Semih Cetin** is an industrial partner with the ReDSeeDS project, and is involved in the new software development tool for widespread industrial use. Its purpose – to make life easier for developers of business systems who want to re-use software requirements

Re-invention with ReDSeeDs

Projects: Could we just start by getting an understanding of the project's aims and objectives?

Semih Cetin: The aim of the ReDSeeDS project is to provide a model-driven system oriented to re-use. Or main goal is to develop a methodology and software process in general to develop large-scale applications in industrial cases.

The main target is to re-use software requirements. Those requirements cover almost all parts of software development based on system requirements, right up to technical requirements and architectural requirements.

So this covers almost all aspects of the requirements in software engineering.

The most explicit goal is improving the re-use of previous cases in software engineering.

So the main direction is leveraging the re-use as much as possible, and there have been many other approaches in the history of software engineering to leverage, increase or improve the software use. But this one is mainly related to software slices. What is a software slice? A software slice is a sort of requirement, design, architecture and code. So if you can just have an abstraction on top of these certain requirements, design and code, then you can re-apply all those things in your future prospects.

Take the log-in scheme. Log-in, single sign-up in the general case, has certain requirements, certain architectural aspects, certain design constellations and certain recording schemes.

If you can just abstract this slide from the rest then you can quite easily apply it in future projects – this was the main point.

Projects: Are you developing a method of software development, or software itself?

SC: In fact both. In the first part of the project the research partners have introduced a new paradigm – a sort of methodology for the re-use of the requirements. Afterwards we have used this methodology and we have applied it to our real-life cases, those from our industrial partners.

Projects: What prompted the original development of the project? Did it develop in direct response to commercial needs, or was it driven more by scientific curiosity?

SC: It started from the practical needs of the industrial cases – we have defined the industrial partners and we have defined all our expectations. This is not specific to just our company and our own development, but it also covers the requirements of modern software engineering. So our partners identify issues which are then addressed by the academic partners. They apply the research page, they have provided the methodology and we have validated two major points, and we have now started applying the methodology in our real-life applications.

Projects: How is your role in the project different from Michael Smialek's?

SC: Michael is not only leading the project, but also giving directions to the methodology. It was inspired by his own ideas of case-based reasoning for software requirements, and this approach is used for model-driven environments.

He is mainly involved in the research lead position, but in our position – as an industrial partner – we are providing the practical cases, validating the approach and using it in real-life projects.

Projects: What are the main technical challenges in this area?

SC: First of all it's a question of separating the commonalities from the variables. You have to define which parts of the software solution should be common, and which other parts should vary. The parameterisation of those varying parts is quite challenging.

There are a lot of options regarding how we approach that, ranging from software product lines to object orientation. But ReDSeeDS is approaching from a different position so as to cover almost all aspects. ★

Dr Semih Cetin
Director of Cybersoft