



Learning to Localize in Limerick

Maintaining Europe's Leading Edge in Localization—The Graduate Diploma/MSc in Software Localization at the University of Limerick

By Reinhard Schäler

Ireland is the European center of the multinational IT industry. Over the past 15 years, this small country on Europe's western periphery has attracted more multinational software and hardware manufacturers than any of its European neighbors.



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Most of the US computer giants have their European headquarters here: they like the Irish attitude in doing business, they had no problems finding suitably qualified graduates and, above all, they welcomed the generous tax incentives offered by the Irish government.

Microsoft, Lotus/IBM and Oracle ship their software from Ireland to the rest of Europe and beyond; Dell, Gateway and

the US. Seven out of ten of the world's largest independent software companies are based in Ireland. More than 40% of packaged PC software and 60% of business application software originate from there.

Localization Expertise

Because of the presence of these large multinational companies, Ireland very early developed an expertise and know-how in one of the fastest growing areas of the IT sector: localization—the cultural and linguistic adaptation of digital products to new markets. It was the localization industry which in 2000 made Ireland the biggest exporter of software in the world—overtaking even the USA.

Softrans International (now Berlitz GlobalNet) was the first company to exploit the growing demand for localization services created by the large multinational software publishing houses. Today, nowhere else will you find more highly skilled and experienced localization experts per square mile (or square kilometer?) than in Ireland. Leading names such as SDL International, Lionbridge, Bowne Global Solutions and Simultrans are competing for the best.

Preparing for the Job

Success is not only sweet—it also often brings its own problems and challenges. Although Ireland produces more computer graduates than Germany (which has

a population roughly twenty times that of Ireland), the market for skilled and experienced localization experts became increasingly tight—demand outstripped supply, the cost of employment rose dramatically, and employee retention became a real challenge.

To make matters worse, for many years education and training for localization did not figure on the agenda of either industrial or academic institutions. The industry was too busy dealing with phenomenal growth rates, while comfortably digging into a large supply of (over-qualified) computer graduates. On the other hand, for academia localization was—at first sight—not a serious enough issue to deal with, which is why, unfortunately, they did not even bother to have a second, closer look at the enormous potential offered by the localization industry for the results of their research—especially in areas such as software engineering, human language technologies, quality assurance, human computer interface, digital media, and project management.

One of the first universities to recognize the potential of localization for research and education was the University of Limerick (UL) in Ireland. Together with the Localisation Resources Center (LRC), then based at University College Dublin, the head of UL's Computer Science Department (then Richard Sutcliffe) and lecturer Annette McElligott (now course director) in 1996 established a working

Leading software companies based in Ireland

IBM/Lotus	Computer Associates
Novell	Microsoft
Symantec	Sun Microsystems
Oracle	SAP
Informix	

Apple manufacture in Ireland their hardware for the large IT markets outside of

group to develop probably the world's first postgraduate program in software localization.

The Graduate Diploma/MSc in Software Localization was offered by the university's Department of Computer Science and Information Systems for the first time in 1997 and immediately attracted a large number of students. Over the past four years, an average of 50-70 students from all over the world attended this program. Students from countries such as Russia, India, Greece, Spain, and France work together with Irish students on localization projects. They program applications for the global market and localize products, covering all aspects of the localization process from assuming the roles of project manager, tester, translator, to localization engineer.

They have access to and work with many different translation and localization tools, among them the TRADOS suite, Alchemy Catalyst and Passolo, and Segue Silk. Additional resources are available to students in the tools library of the Localisation Research Center (LRC). Europe's only dedicated localization research center was established at the University of Limerick when the LRC moved in early 1999 from Dublin to Limerick and merged with its Center for Language Engineering.

The Graduate Diploma/MSc in Software Localization

Since its establishment, the *Graduate Diploma/MSc in Software Localization* has been continuously adapted to the changing demands and developing technologies of the localization industry by the program's course director, Annette McEligott, and the team of lecturers and researchers supporting it. The *Graduate Diploma* course is a full-time course and runs over one year. Suitably qualified students are then offered the opportunity to study for a *Master of Science* degree by conducting research into an area of their interest. Most students will produce their master thesis within 12 months. The *Graduate Diploma* has a total of eight modules

which run over one year, divided in two semesters.

In the first semester, students are introduced to the most relevant concepts of computing and software localization. As

localization. This includes an analysis of the industry, its main players and the organizations supporting it, and an introduction to the technology used. Localization workflows and processes are first discussed and

then applied in a number of individual and group projects when students localize Web sites and PC-based applications. The most important aspects of *Language Engineering* in the context of localization are dealt with in another module running over the two semesters. Following an introduction and some practical work in multilingual document production, students familiarize themselves with different tools and technologies used to

produce and translate technical documentation, printed and online. In *Programming Global Applications* students learn how to program and internationalize applications using languages such as Visual Basic and Java. On completion of these modules, students have acquired the skills necessary to produce applications for the PC and the Web with the global market in mind.

Quality and Localization is offered in the second semester. It provides an introduction to the most important concepts of quality in software development and applies these to software localization. Through assignments, students show that they have learned how to work with test plans, how to write test scripts and how to design and implement a basic software performance report database.

Additional Initiatives

Faculties at the University of Limerick are active in a number of areas relevant to localization-related research and education. The Localisation Research Center (LRC) offers since 1997 its annual *LRC Best Thesis Award*, sponsored by Symantec Ireland, for the best academic work in the area of localization. This award is worth 1,000 Irish pounds and two products from Symantec's range of software. Microsoft offers an annual grant of 1,000 Irish pounds to students of the *Graduate*

The Graduate Diploma in Software Localization

First Semester

Localization Engineering Fundamentals

Localization Process I

Language Engineering I

Programming Global Applications I

Second Semester

Quality and Localization

Localization Process II

Language Engineering II

Programming Global Applications II

students of this course will not have a background in computing, the module *Localization Engineering Fundamentals* has been designed to equip them with the skills necessary to work with the general computing tools used in localization. This includes tools to work effectively with



networks, different operating systems, and hardware configurations.

Three modules which start in the first semester are continued in the second semester: *Localization Process*, *Language Engineering* and *Programming Global Applications*. In *Localization Process*, students learn about the basic concepts of software



Diploma course who wish to continue to study for an MSc in Software Localization.

The LRC plans the introduction of an *annual LRC grant* for students of the MSc in Software Localization which will be coordinated with the center's own research projects. Based on the results of a major European Union funded project, the LRC has initiated the establishment of an industry led working group to set up a certification program for localization professionals.

Evaluation

Both the *Graduate Diploma/MSc in Software Localization* and the work and the initiatives of the *Localisation Research Center (LRC)* have attracted interest and attention from students, universities, and industry in Ireland, Europe, Asia/Pacific, and North America. Few postgraduate programs attract as many students, few research centers have the support of such a large number of high-profile industry representatives. The 14 member strong *Industrial Advisory Board* of the LRC has representatives at VP and director level from companies such as Microsoft, Oracle, Berlitz GlobalNet, and Bowne Global Solutions.

The main reasons for the success of the programs and initiatives offered by the University of Limerick are:

- The postgraduate course in localization introduces students already holding a primary degree (but without a background in computing) to the main concepts of computing and localization. Within a year they have acquired the skills and the knowledge to work successfully in different roles in the

localization industry—an industry which so far has been lacking a structured educational program.

- The Localisation Research Center (LRC) offers an umbrella for researchers coming from different academic disciplines. It offers the results of their leading edge research to an industry which is constantly on the lookout for new technologies but has so far been lacking a dedicated research center. The LRC has participated in a number of European Union research projects with industry co-operation; it acts, through its tools library, as a showcase for new tools and technologies; it disseminates and makes available new approaches to localization through regular seminars, through its summer school and through the annual conference.

Outlook

The latest changes in the industry, mainly driven by the phenomenal growth of the Internet and the World Wide Web have also brought radical changes for the localization industry. The new digital industry around eContent, education, eCommerce and entertainment requires a new approach to localization. eLocalization is not just a buzzword—it is a very real challenge that will require new research initiatives and a constant review of the educational programs on offer.

In a global market, localization is not an option anymore—it is imperative. There will be a growing demand for localizers and a growing demand for third level

courses preparing people for a job in the localization industry. Following the establishment of the localization program at the University of Limerick, and more recently, that at the University of Washington, other universities in Europe, the USA and Canada are planning the introduction of a similar program.

Now is the time to establish a network of third-level educational institutions offering postgraduate courses in localization to facilitate coordination and program development. Who knows—this might even be the beginning of a global certification system for localization professionals!

Further information: The *Graduate Diploma in Software Localization* course starts annually towards the end of September and finishes in May of the following year. Students interesting in register for this program should enquire with the University of Limerick in spring about registration requirements, deadlines and fees. Completed registration forms must be with the university in June.

Registration forms can be obtained from the following address:

Admissions Office
University of Limerick
Limerick
Ireland
Tel. +353-61-333644
Fax +353-61-334859

Information about the work of the *Localisation Research Center* (including *Best Thesis Award*) is available from:

Localisation Research Center
Department of Computer Science and Information Systems
University of Limerick
Limerick
Ireland
Web <http://lrc.csis.ul.ie>
Email LRC@ul.ie

Reinhard Schäler founded the LRC at University College Dublin (UCD) in December 1995. He is the director of the LRC and a lecturer in the Department of Computer Science. He has been working in the localization industry since 1987 as translator, QA engineer, software engineer, project manager, researcher and consultant. He has managed and coordinated international projects, published on different aspects of localization, and is a regular speaker at international conferences on this topic.