

A Framework for Localisation

Position Paper

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1 Abstract

This position paper is a first attempt to propose and develop a framework for localisation different from the one currently in use. This framework is aimed at helping to cross what has been described as the digital divide. So far, localisation efforts have mainly been driven by commercial considerations. Only recently, a number of initiatives have demonstrated that there are other, non-commercial roads to an open, inclusive and multilingual information society. The organisations and networks working on these initiatives have shown that it is possible to turn around the tide, to open up the “traditional” one-way-street localisation where English is the only source language and bring more indigenous digital content in more languages into the digital world – which could only become more interesting and diverse and more accessible to more people.

The paper reviews and examines the **foundations** of what has become known as the localisation industry: its origins, its current characteristics and the reason for its existence. It describes the motivation behind both commercial and non-commercial localisation projects. The examples provided prove that, while the purely commercial approach has brought enormous economic benefits to large multinational corporations, a different approach to localisation addressing different needs is possible and necessary.

It then describes the **world of localisation**: the players, the facilitators and the standards organisations. The aim here is to identify those organisations that could help making a different approach to localisation a reality.

Finally, it presents an **outlook and topics for discussion**. It considers action for collaboration (commercial and non-commercial) between Asian and European partners around technology transfer and the exchange of information and knowledge. These actions could support the creation of a new framework for localisation, in addition to (not replacing) the one exclusively driven by commercial interests.

2 The foundations

The following paragraphs look at the origins of the localisation industry and its rationale. It looks at its current status and the reasons to localise, both commercial and non-commercial. Examples illustrate the commercial success of highly sophisticated localisation operations as well as the operational feasibility of non-commercial approaches.

2.1 Origins

The localisation industry as we know it today emerged in the mid 1980s. Ireland quickly became one of the world centres of localisation, because of the advantage of having English as the dominant language, a highly educated but poorly paid labour force and exceptional government grants and tax incentives for an industry sector working under the label *international product development*.

The localisation industry in Ireland was so successful in the nineties that the country became the world's number one exporter of software, outperforming even the United States of America – because seven out of the world's ten largest independent software developers had located their headquarters for Europe, the Middle East and Africa (EMEA) in Ireland, amongst them Microsoft, IBM, Oracle, Novell, Symantec, Apple/Claris and Corel.

Between them, they covered a large proportion of the world-wide market for translation, software and web localisation which has been projected to grow from US\$11 billion in 1999 to US\$20 billion in 2004¹.

An interesting but often overlooked fact is that approximately 95% of all localised products still originate in the USA where the overwhelming majority of digital publishers now make more money from the sales of their localised products than they make from the sales of the original product.

Microsoft, for example, has made more than 60% of revenues from its international business for years, with the revenue from localised products exceeding US\$5 billion. In Ireland alone, Microsoft carries out more than 1,000 localisation projects (product/language) per year bringing in revenues of US\$1.9 billion from its international sales in 2001.²

2.2 What is localisation today?

There are as many definitions of localisation as there are localisation service providers and that is, according to the Globalisation and Localisation Association (GALA), five thousand: the *three big ones* (Bowne Global Solutions, SDL International and Lionbridge), probably less than a dozen medium-sized enterprises and almost five thousand small, owner-managed single language vendors.

For the purpose of this paper, we will define localisation as *the provision of services and technologies for the management of multilinguality across the digital global information flow*. This definition goes far beyond and is, at the same time, considerably more succinct than the more “traditional” definitions, referring to localisation as the *linguistic and cultural adaptation of products to the requirements of a foreign market*.

We believe that our definition encapsulates a number of characteristics of localisation otherwise not covered. Localisation as we interpret it is slightly different.

- It covers services (translation, engineering, management etc.) **and** technologies (computer assisted translation, process automation, localisation automation);
- It is always and exclusively applied to **digital** matter which implies, amongst other points, that it is relatively speaking low-cost, multimodal and instantaneous;
- It is aimed at global information, which is accessible **anytime, anywhere** and by **anybody**.
- The subject matter of localisation is digital content – whether this is primarily an application (with embedded content) or primarily content (with an embedded application). The distinction between “application” and “content” disappears in the digital world and both become digital content, digital information.

It is worth noting here, that localisation does not always and necessarily imply the localisation of a complete service or product. To the contrary, products are often localised only partially and to a point where the effort involved in localisation can be well balanced off against the potential income from a particular market.

2.3 Reasons to localise

Broadly speaking, there are two distinct types of objectives driving localisation efforts. They are:

- Commercial
- Non-commercial

We will briefly examine some aspects of each.

2.3.1 Commercial localisation efforts

Commercially driven localisation efforts centre on the increase of the return on investment (ROI) in the development of an original product or service.

An already developed product is (often just superficially) adapted to the requirements of foreign markets with a minimum of additional investment and then sold in these new markets for the same or a similar price as the original product.

¹ Source: Allied Business Intelligence

² Steve Balmer (2002)

This approach implies that it does not always and necessarily make sense to localise a product. If the target market will most likely not yield the returns necessary to justify the localisation effort (and this has to be interpreted in the widest sense)³ then localisation makes no sense.

In order to keep costs down to a minimum, original products are developed aiming for the *lowest common denominator (LCD)* using globally acceptable content; localisation is done re-using as much previously localised material as possible.

Using globally acceptable content (LCD / I18N)

Developers are instructed to develop products and services using content covering the lowest common denominator (LCD): the out-of-the-box product should not offend anyone and work for all *locales* without the need for further adaptation. In other words, services and products should be *enabled* and *internationalised (I18N)*. Colours, symbols, sound and signs should be recognisable and understood by as many potential users as possible, independently of their linguistic or cultural background. The less adaptation has to be done, the higher the potential earnings from the sales of the localised product will be. The aim is to reduce the localisation effort to translation. Aiming for the lowest common denominator is good for short-term revenues. However, the information and entertainment value of the product and/or service suffers and, subsequently, its long-term market value.

Re-use (leverage) as much as possible

Translation has to be automated as much as possible. Changes to the original product have to be limited to an absolute minimum, because each modification of the original will have to be implemented in each of the localised versions (x20, 30 or 40). Translations of previously translated, unchanged sources can automatically be inserted into the corresponding target languages of the updated version. This can be up to 80% of the total word count and offers potential savings of millions of dollars/euro.

Example: Oracle e-business suite⁴

e-business Suite Applications: CRM, Financials, HR, Marketing, Supply Chain Management, Contracts, Supplier, Planning, Fulfillment, Projects, Procurement, Public Sector.

On-demand patch sets: Automated patch process initiated by customer support ticket; Web based patch distribution.

Constraints

- 4M wordcount software strings
- 30 language simultaneous releases
- 13K localizable files
- Localisation group in Dublin
- 5,000 world-wide distributed development team

Objectives

- 24 – 7, 100% automated process – no exceptions
- Translation in parallel with development
- Translation begins at code check-in
- Translation “on-demand” – no more “big project” model

Translation Factory Metrics

- Current through-put
 - 100,000 language checkins per month
 - 2 million files per month
 - 98% of words leverage
 - Average time to process a file: 45 seconds
 - Fully scalable “add a box model”
- Business Benefits
 - Sim ship of all 30 languages
 - International version testing before US release
 - Reduced support costs

³ When calculating the return on investment (ROI) in localisation, it is not sufficient to subtract the relatively well-defined costs of localisation proper from the projected return, it is also necessary to take into account other costs such as those for market entry or product support as we will discuss in more detail later on.

⁴ Source: Tony Jewtushenko: XLIFF at Oracle (LRC '03, Dublin 2003), www.localisation.ie

- Number of release engineers reduced from 20 to 2 resulting in \$ 1 million saving per year
 - ROI positive within 1 year
-

2.3.2 Non-commercial

While commercially driven localisation efforts are easily understood and widely discussed, non-commercial motivations for localising content and services hardly figure in the literature. As discussion topics at conferences and meetings, they are non-existent.

On one hand, this is not surprising as localisation businesses have to focus on what they call 'the bottom line'. On the other hand, it is astounding to see the lack of reaction to statements like *languages without a presence in the digital world will not survive* coming from industry experts such as David Brooks (Microsoft).

There are clear political and social motivations for localisation. However, there is still an enormous awareness and attention deficit inside and outside the localisation community in relation to this issue.

As any localisation effort requires an investment, it is either governments, organisations such as the European Union, or voluntary groups that must fund non-commercial localisation projects.

We will now attempt to summarize briefly some of the non-commercial reasons to localise and provide some practical examples for non-commercial localisation projects.

Political

Helping lesser-used languages survive in the digital world

Access to the digital world is widely seen as a fundamental requisite for the survival of lesser-used languages and their associated cultural and political spaces.

This is why the Catalan and the Basque governments in Spain subsidised the localisation of the Microsoft Windows operating system (soon also to be localised into *Valenciano*); this is why the decision of the Irish government *not* to subsidise the localisation of the same operating system into Irish caused quite a stir in the Irish press.

Voluntary projects such as that of the Swedish National Agency for School Improvement also aim to include languages, i.e. minority languages from northern Sweden, that otherwise would not have a presence in the digital world.

One of the basic requirements for a presence of a language in the digital world is that its character set is encoded. According to experts at a 2003 Unicode conference, at the current rate it will take 700 years to encode the world's remaining scripts in Unicode, a standard that is widely seen as the one allowing for the encoding of characters of virtually every script. Yet, the estimated cost for this effort is only in the region of US\$2-3 million.⁵ There are initiatives to assist researchers in developing countries to apply for the inclusion of the characters of their language in Unicode, e.g. the script encoding initiative. However, these initiatives have to be accelerated dramatically to gain significant momentum.

Supporting local languages by facilitating their entry into the digital world and thereby dramatically enhancing their chances of survival is a political issue, recognised by bodies such as the European Union who are providing support for commercially not viable projects.

Providing access to information originating in non-dominant cultures

The development of digital content in local languages or the conversion of existing content in more traditional, non-digital formats is widely seen as a fundamental pre-requisite for the preservation of cultural diversity. Facilitating access to native digital content through localisation undoubtedly contributes to the democratisation of the global information flow and to the opening of information channels otherwise not available to us.

⁵ Deborah Anderson (Researcher, Dept. Ling., UC Berkeley, USA): The digital divide and the script encoding initiative (Unicode 24, Atlanta, 3-5 September 2003) and private communications.

Information emerging from local sources and initially just offered in the local language (not English), is also localised to facilitate access to this information to speakers of other languages. Information provided in local languages on political, social, cultural and financial developments in non-English speaking regions contributes to the democratisation of information and news channels which are otherwise dominated by large multinational networks.

As most projects in this area are not financially viable and only few are supported by government or government related organisations, they have to be set up and run by volunteers, charities, NGOs and political activists.

Social

Inclusion – geographical dimension

Access to the digital world is a matter of inclusion. Digital information has to be presented in a language users understand. If most of the information on the web is available only in a relatively small number of languages spoken only by a relatively small number of people then the majority of people will be excluded from the digital world.

Inclusion – social dimension

The issue of inclusion is not just one determined by geographical or political boundaries but also by social ones. Abel Ugba of Trinity College Dublin reported in *The Irish Times* (05 Dec. 03, Business this week, p. 7) that, despite the high internet penetration rate in the United States, the disabled, aged, single mothers and ethnic and cultural minorities have found access problems. He quotes a report by the National Telecommunications and Information Administration which found that the difference between internet access rates for black households and the national average rate was 18 percentage points in August 2000 while that between Hispanic households and the national average rate was 17.9 percentage points.

Although this issue has been widely discussed by organisations and individual researchers addressing the growing digital divide, surprisingly localisation has not emerged (yet) as one of the central issues in this debate.

Example: Translation without Borders

The following paragraphs are quoted from an article recently published in the LRC's journal *Localisation Focus*.⁶

Behind the frontlines of the bloody conflict in Liberia, a doctor writes in his journal, "She calmly shared with me the details of her attack as the tears ran down her face". Half a world away, this journal, translated into French by Translators Without Borders volunteer Anne Le Bot, appears in *Le Monde*, galvanising a French response. Translators Without Borders, an initiative supported by members of the translation and localisation industry, was created to give voice to the voiceless. At the service of humanitarian organisations, Translators Without Borders speaks for victims everywhere, providing pro bono translations that help alert the world to populations in danger.

That's a tall order for a non-profit association with less than 100 volunteers, mostly professional translators along with a few translation and localisation companies. Too tall, as it turns out: working for a handful of globally active NGOs, Translators Without Borders is only able to satisfy a fraction of what humanitarian organisations need in order to get on with their job of helping people.

Translators Without Borders, in the ten years since it was founded, has united translators, educational institutions and localisation companies around the globe in their desire to do good by doing what they do best. Many thousands of pages translated by dedicated volunteer translators have been called into service in innumerable humanitarian interventions, from the war in Afghanistan to an epidemic of sleeping sickness in Burundi to AIDS prevention in the townships of South Africa.

In July and August of this year alone, Traducteurs sans frontières (or TSF), as they are known in France, provided over 200,000 words of humanitarian translations, not only to Doctors Without Borders, but to other

⁶ Lori Thicke: Translation without Borders – Doing good by doing what you do best, in: *Localisation Focus*, December 2003, Localisation Research Centre (LRC).

organisations such as Handicap International, Surgeons for Africa and Reporters Without Borders. Sadly, 200,000 words are a mere drop in the ocean.

Example: www.modersmal.net

Another example of non-commercial localisation is the project, which has just received the 2003 ELECT LRC Best Global Web Site Award, sponsored by Euro RSCG, Europe's largest interactive marketing agency. www.modersmal.net is developed by the Swedish National Agency for School Improvement. The site provides a resource for those working in child care and school education. It concentrates on "mother tongue" education, and contains a variety of different "mother tongue rooms" with each room containing information and tools for communicating in different languages. The judging panel commented that *"The winning site is a prime example of how to carry out cross-cultural online communication. The content has been carefully targeted to meet the needs of the target users and is fully customised for them. The images and the content are relevant to each locale... and the colours have been carefully crafted to satisfy the local appeal of each group."*

3 The world of localisation

The world of localisation is made up of the main commercial players, organisations facilitating information exchange and networking, and standards organisations.

Suitable partners for the development of a new framework for localisation must be identified among these. The brief case studies and examples illustrate that even commercial developers have already started to address markets formally not seen as being profitable. It is also worth noting that localisation operations, while representing a step up from manufacturing, have to move up the value chain towards R&D to develop strategic significance at corporate, academic and government levels.

3.1 The Players

The world of localisation has so far been dominated by commercial interests. The main players are:

- Clients requiring localisation services
- Vendors offering localisation services
- Developers offering tools and technologies to automate localisation processes and tasks

Many traditional publishing industries are converging in the digital world and should – if they decide to go global – almost naturally become clients of the localisation providers. While this development has been initiated, the client side of the localisation industry is still dominated by the big traditional software publishers (many of them moving away from pure product development to digital content publishing).

While there are a large number of vendors offering localisation services, the vendor community is dominated by one single company, Bowne Global Solutions, worth around US\$100.

The company's two nearest competitors combined, Lionbridge and SDL International, with around US\$50 million each together just about reach its size. Their nearest competitors are, in turn, just a handful of companies with a turnover of around US\$10 million.

Most of the estimated five thousand localisation service providers, however, are director-owned, small enterprises.

Example: Microsoft's LIP Service

Microsoft has adopted a highly innovative strategy to provide language versions of its Windows operating system for countries with an expected low ROI and for emerging markets: the *Language Interface Packs (LIPs)*⁷.

⁷ Details of this approach were given by Russ Rolfe, Program Manager, Microsoft, at Unicode 24, Atlanta (3-5 September 2003).

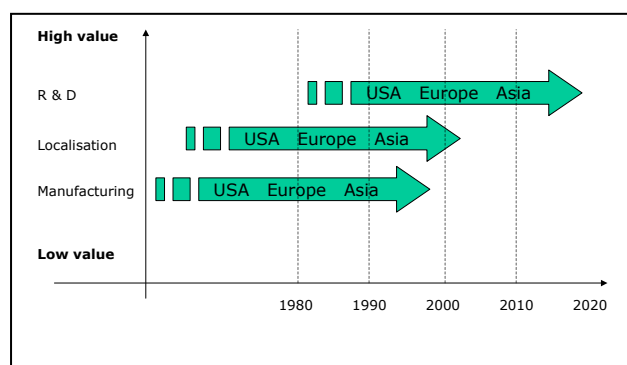
The following is an overview of the international support currently available in Windows XP, including LIPs. There are:

- 25 fully localised versions of the operating system
- 33+ Multilingual User Interfaces (MUIs) – language specific resource files which can be added to the English version of Windows
- 9 Language Interface Packs (LIPs) – they create a language skin to localise the 20% of the UI that is used 80% of the time
 - Costs less than \$100k (not 100s of k)
 - Takes 5-6 weeks (not 5-6 months)
 - Less disk space: 3.5-4 Mb (not 40-80 Mb)

Example: The IBM experience: moving up the value chain from service provision to Research & Development

The following graph illustrates the development of the localisation business divisions of one of the world's largest digital content publishers, IBM (now integrating LOTUS).

It shows how different regions moved up the value chain between the early 1980s and the early 21st century. While Europe is still central to IBM's localisation effort, there is a clear move towards Asia for its localisation business. While this creates a threat to established localisation divisions it also creates the opportunity for Europe-based divisions to take on new tasks and develop their R&D capabilities.



3.2 The facilitators

In the following paragraphs, we will provide an overview of organisations⁸, which facilitate much of the activities not directly related to the task of localisation. These organisations provide meeting places, web sites, industry representation, professional representation, and education and training. We have divided them into commercial and non-commercial organisations.

3.2.1 For-profit

Localization Institute

The Localization Institute is an organization providing quality resources, training, seminars, and conferences on localization, internationalization, and international business development. It is not affiliated with any localization service or tool provider. Its mission is to enable companies to succeed in international markets by providing focused training for professionals and by promoting the sharing of experience and information among them. It organizes training course, conferences and consulting services.

No membership offered.

www.localizationinstitute.com

⁸ Basic information on these organisations was obtained from their respective web sites.

Multilingual Computing

MultiLingual Computing & Technology is the leading industry magazine for Web site globalization, translation, international software development and language technology. Published eight times a year plus an [index/resource directory](#), it is read by more than 20,000 people in 52 countries who have technology-based multilingual needs. Information and current news are also provided by www.multilingual.com and the electronic newsletter, [MultiLingual News](#). No membership offered.
www.multilingual.com

Client Side News

CSN is a client-focused organization that leverages intelligence to drive Globalization, Internationalization and Localization (GIL) industry solutions. As a champion for client issues, CSN creates a common forum for sharing solutions and unifying goals, through events, publications, education, reports, mentoring, and technology divisions. There is a complex membership fee structure in place offering student membership (\$100), client individual membership (\$225), government, corporate and sponsor membership (\$500, \$1,500 and \$2,500 respectively).
www.clientsideneeds.com

3.2.2 Not-for-profit

Localisation Research Centre (LRC)

The LRC was established at University College Dublin (UCD) in 1995 with financial support from the Irish Government. In 1999, it moved from UCD to the University of Limerick (UL). The LRC is a research centre of UL and fully owned by the university. The LRC's mission is to provide the localisation community with a focus point and a research and educational centre.

The LRC

- participates in international research projects, among them
 - ELECT – The European Localisation Exchange Centre
 - Transrouter – Automated project analysis tool
 - WebIT – IT Terminology Online
- organizes an annual conference
- holds an annual International Localisation Summer School
- runs regular professional development courses
- assists in the running of UL's Graduate Diploma/MSc in Software Localisation
- publishes Localisation Focus, the International Journal for Localisation
- runs annual awards for the best localisation thesis (sponsored by Symantec), the best localisation scholar (sponsored by IBM) and the best global web site (sponsored by Euro RSCG)
- coordinates the Localisation Teaching, Training and Research Network (LttN) of third-level colleges.

The LRC is the only research centre of its kind in the world. It has established the world's only Localisation Technology Research Laboratory and Showcase (LOTS) and has developed the world's only online localisation community information resource www.electonline.org. No membership offered. Course reductions, free subscription to Localisation Focus offered to TILP members.
www.localisation.ie.

Globalisation and Localization Association (GALA)

GALA is a fully representative, non-profit, international industry association for the translation, internationalization, localization, and globalization industry. The association gives members a common forum to discuss issues, create innovative solutions, promote the industry, and offer its clients unique, collaborative value.

GALA is the only localisation trade association in the world. Membership is limited to companies and costs \$350 per annum.
www.gala-global.com

The Institute of Localisation Professionals (TILP)

TILP was established in July 2002 as a not-for-profit organization by internationally respected members of the localisation community. It is the primary goal of TILP to develop professional practices in localisation globally.

TILP aims to

- provide professional certification;
- be the representative body of the localisation professionals;
- be the reference point at global level for the localisation industry and those requiring information about it;
- promote the industry through a variety of publications and activities;
- provide the infrastructure for a range of activities supporting the development of the industry;
- maintain direct and regular contact with localisation companies, government departments and agencies, researchers and students, and the media and international consultancy firms.

TILP is the only organisation in the world representing individual professionals. Membership is limited to individuals with an interest in localisation (associate membership) and industry professionals (professional membership, strict entry requirements).

Associate Membership \$50, Professional Membership \$100.

www.tilponline.org

Localisation Standards Association (LISA)

Founded in 1990, LISA is the premier organization for the GILT (Globalization, Internationalization, Localization, and Translation) business community. Over 400 leading IT manufacturers and services providers, along with industry professionals representing corporations with an international business focus, have helped establish LISA's best practice guidelines and language-technology standards for enterprise globalization.

LISA has a long and successful history of organising quarterly meetings in different parts of the world. They are seen by many as the ultimate networking event. Membership is open to companies and individuals. GA membership ranges from \$3,200 (single member) to \$15,000 (sponsor). Universities and similar organisations can join for \$500, individuals for \$495.

3.2.3 Standards

UNICODE

The Unicode Consortium is responsible for defining the behavior and relationships between Unicode characters, and providing technical information to implementers. The Consortium cooperates with ISO in refining the specification and expanding the character set. It has liaison status "C" with ISO/IEC/JTC 1/SC2/WG2, which is responsible for ISO/IEC 10646.

Unicode is the most important standards organisation in the world regulating the admission of characters and scripts into most standard software and digital content.

Full membership is \$12,000, associate 1,200 to 2,000, specialist \$600 and individual \$120.

www.unicode.org

World Wide Web Consortium (W3C)

The World Wide Web Consortium (W3C) develops interoperable technologies (specifications, guidelines, software, and tools) to lead the Web to its full potential. W3C is a forum for information, commerce, communication, and collective understanding. They offer [W3C news](#), links to [W3C technologies](#) and ways to [get involved](#).

Membership in W3C is open to all types of organizations including commercial, educational and governmental entities. Any organization or company which can sign the Membership Agreement can become a Member. Members may be either for-profit or not-for-profit organizations. Most Members invest significant resources into Web technologies. They may be developing Web-based products, using Web technologies as an enabling medium, conducting research on the Web, or developing specifications based on W3C work.

Initial membership fee for three years: full \$ 172,500;; affiliate \$17,250.

www.w3c.org

OASIS

OASIS is a not-for-profit, global consortium that drives the development, convergence and adoption of e-business standards. Members themselves set the OASIS technical agenda, using a lightweight, open process expressly designed to promote industry consensus and unite disparate efforts. OASIS produces worldwide standards for security, Web services, XML conformance, business transactions, electronic publishing, topic maps and interoperability within and between marketplaces.

OASIS is the world's most important organisation for the development of XML standards. OASIS Technical Committees are working, amongst others, on the XML-based Localisation File Format (XLIFF) and the Translation Web Services (Trans-WS) standards.

Membership: Sponsor \$13,500, contributor \$1,000 to \$5,750.

www.oasis-open.org

4 Outlook and topics for discussion

So far, localisation projects are without exception based on real or expected ROI, what business people call “a solid business case”. What is problematic with this approach is that it contributes to the growth of the digital divide between the people and countries taking part in the digital world and those who are excluded from it.

If access to the web is a distinct advantage in business and education, then those who have no access to it (the vast majority of the world’s population today) are distinctly disadvantaged.

The following issues could be discussed during the conference and actions around them agreed with the aim to establish a new framework for localisation, to share technologies and knowledge *to meet human needs*. Generally, efforts should centre around (1) the promotion of non-commercial localisation efforts, (2) the facilitation of access to and learning about tools and technologies, and (3) the development of an organisational framework to support the development of an alternative to the current localisation framework.

4.1 Knowledge and information exchange

The development and the promotion of non-commercial (or not exclusively commercial) efforts should centre around:

- The division of an awareness growing exercise around the implications of the current model and the need to develop an alternative
- The provision of platforms for discussion among stakeholders
- The development of networking opportunities at conferences and meetings

4.1.1 Publications

- Create a list of publications (Localisation Focus?)
- (Select the most important ones)
- Submit articles on localisation activities in the regions and issues of specific interest

4.1.2 Web sites

- Create a list of useful links on localisation activities
- Interest in using www.electonline.org as a central contact for information exchange? – If so, how can it be promoted?
- Interest to contribute content to xml.org (Localisation Focus Area) and localisation.ie?

4.1.3 Conferences and workshops

- Agree list of relevant conferences and regular workshops

4.2 Technology and knowledge transfer

The facilitation of access to and learning about tools and technologies should explore:

- The establishment of physical and virtual localisation tools and technology libraries based on current models
- The organisation of regular training events and workshops for both teachers and students
- The development of joint research projects at global level

4.2.1 LOTS exchange and satellites

- Visit The Localisation Technology Laboratory and Showcase (LOTS): http://lrc.csis.ul.ie/research/projects/Elect_Project_Web/LOTS.htm; online and physical space
- Interest in the establishment of LOTS satellites?
- Can the LOTS approach be ported? Are there similar projects in Asia?

4.2.2 Summer School and other courses

LRC activities: <http://www.localisation.ie/learning/index.htm>

- Interest in organising Summer Schools in Asia?
- Interest in coordinating a world-wide Summer School (like “Transatlantic” Summer School in 2003)
- Interest in participating in the LRC Summer School?

4.2.3 Localisation Teaching, Training and Research Network

- Join LTTN: <http://www.localisation.ie/LttNWeb/index.htm>
- Free Localisation Reader: <http://www.localisation.ie/publications/reader/index.htm>

4.2.4 Shared UNICODE projects

- Interest to co-operate in the submission of character sets to UNICODE?

4.3 Cooperation with TILP and LRC

The development of an organisational framework to support the development of an alternative to the current localisation framework could build in cooperation with The Institute of Localisation Professionals (TILP) and the Localisation Research Centre (LRC).

4.3.1 TILP Regional Chapters

- Regional chapters of TILP? TILP Council and committees?

4.3.2 LRC activities

- Coordinate activities with the LRC, participate in LRC activities, adapt and port the LRC approach?

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