How Can *YOU* Benefit from SPIRE?

By Joc Sanders

Regular readers of the CSE Newsletter will have seen progress reports on this EU-funded project, which will have officially ended by the time you read this article. CSE took part to enable us to better meet our mission of *helping Irish software developers improve standards of quality and productivity*. This raises the question of how you can benefit from the SPIRE results.

At the start of the project, we identified two major barriers preventing software development organisations, particularly small ones, from reaping the benefits of systematic process improvement:

- Low awareness and a shortage of convincing case studies demonstrating the business benefits in smaller organisations.

- Lack of process improvement know-how among those already convinced of the business case.

To raise awareness of the benefits, SPIRE funded nearly 60 organisations across Europe (13 in the island of Ireland) to carry out small demonstration projects, guided by experienced mentors. We have made their experience accessible to all by publishing attractive 4 page **SPIRE Case Studies,** which should both:

- convince you that your business can benefit from process improvement (if you doubt it), and

- give you and your people ideas and models to emulate.

Contact CSE for free paper copies, or you can download them from the SPIRE web site
http://www.cse.dcu.ie/spire/

To make know-how readily available, we have developed a distinctive *SPIRE Approach* to process improvement documented in the **SPIRE Handbook**. The key features are:

- A philosophy of continuous improvement through frequent, small projects, focused on areas prioritised by business needs, each project taking a few weeks or months rather than years.

- A disciplined step-by-step approach to managing improvement, with steps to analyse business needs; objectively assess the current process; prioritise improvement opportunities; plan and execute improvement projects; and review results and start a new cycle of improvement.

- Use of the emerging international standard ISI TR 15504 (SPICE) as a framework for practical advice to three audiences. Firstly business managers, whose informed commitment is critical for success. Secondly 'champions' – those who will lead and manage improvement projects. And thirdly software engineers, giving guidance on best practice in the form of 'dos and don'ts'.

It has been very well received – in a recent international survey more than 90% said they would recommend it, and 60% would do so strongly. If you have not already had your free copy, we still have a few available, but hurry to contact us as the initial print run is almost exhausted! We plan to arrange commercial publishing later this year so that no one need miss out longer term.

The SPIRE Handbook can be used by itself to make improvement happen in your company, particularly if you have some in-house improvement experience available to you. But many firms will probably find that it is cost-effective to have some additional training and experienced mentoring when first starting improvement. To help them, CSE plans to launch a **SPIRE Coaching Programme** during the 2nd quarter of 1999, combining group training and mentoring over a 6 month period for a cluster of companies starting their first improvement cycle. For more details, and to put your name down on the waiting list, contact:

Jill Pritchet
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SPIRE

Planning R&D?

**By
Michael O'Duffy**

A key factor in the success of many companies is the level and the quality of research and development carried out. This is especially true of software organisations.

The results of research identify what opportunities are available for innovation, and which of those opportunities provide the greatest benefits in the short term and long term. Subsequent development activity generates the products or processes that are available for exploitation as a new or enhanced business opportunity.

Smaller companies, especially, experience many difficulties in initiating and implementing an R&D programme. There are so many imponderables. R&D may be the way to success but, if not adequately directed, financed and controlled, it can cause ruin.

Larger companies may experience many difficulties, but these are frequently of a different nature to smaller companies.

The demands of an R&D project are considerable and in some respects are unique to this form of work.

While companies that normally work on customer related projects have some experiences to offer, many additional skills are called for in R&D projects. Special methods and techniques are employed. Special management practices are used. The life cycle is not just that of development and testing: it also requires research activities to arrive at a strong business case; and it requires a plan for exploitation of the results.

The CSE is geared to addressing the concerns of companies in R&D projects in a number of ways. A training programme is provided to managers of R&D. Consulting services are provided in relation to R&D management, and in the core technical and business skills required in projects. These services are grant aided to selected companies. You may be:

- embarking on your first R&D project, or

- addressing new challenges in your next project, or

- aiming for a greater level of success with your projects.

If so, we suggest that you call the CSE – or other external resource with experience and knowledge – to boost your R&D capability. You will maximise the potential of your R&D and achieve greater business benefits.

Business Strategies

**By Michael O'Duffy
Email michael@cse.dcu.ie**

As we are increasingly operating in a global economy we need to raise our understanding and application of strategic thinking in the management of our organisations.

To think strategically, we need to consider what is our existing mission! How effectively does it match our current operation! What was our original mission! Was it a visionary mission! In what way has it changed!

The initial phase of a company is frequently geared towards a short term mission, to reach an initial level of income, to get an initial product to market or to get an initial customer or customer base. Its achievement may provide a stepping stone towards switching to the 'real mission'. This initial phase may last from 1 to 5 years.

The next phase, if reached, may break the mould and bring the company into its real reason for existence. The transition to this next phase can be quite difficult. It may seem that one or more key factors must go through a transformation before this ambition can be realised.

The CSE seeks to address this area by providing training for the directors of a company to help them gear up for this next phase in their company's development. This training considers the key factors in achieving success in a company and the 'winning strategies' that may be employed to ease this transition. Strategy and strategic planning are defined and positioned. In the context of this strategic view, the management of products, marketing, and finance are addressed. Strategies for the infusion of innovative practices and technologies across the company are considered. The organisational structure in its many forms is explored and positioned for transition to the next phases of operation.

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We would encourage you to contact us to discuss issues arising from articles in this newsletter or with any other queries you might have, all CSE emails follow the same pattern, *<firstname>*@cse.dcu.ie.

Want to know about the CMM?

By Jackie Berkery
Email jackie@cse.dcu.ie

Many of our clients have expressed an interest in using the Capability Maturity Model (CMM) as a vehicle for Software Process Improvement within their organisation.

The five maturity levels describe successive stages for continuous process improvement starting from the initial level where software is developed in an ad-hoc manner, by introducing:

- basic management control

- the definition of an organisational wide software development process

- process measurement to obtain statistical data about the existing process, and

- by the application of this statistical data to continually improve and control the process.

An advantage of the maturity levels is that they provide clear priorities of what improvement activities will provide the most effective short-term benefits.

A key feature of the CMM Model is its capability for continuous improvement, where an organisation using CMM will continually strive to improve and refine the process by which they develop software. To meet the growing demands for CMM training, a two-day Introduction to CMM Course will take place at the Centre for Software Engineering on 29-30th April and again on 23-24th June '99.

The objective of this course is to provide delegates with an overview of the CMM Model, and an understanding of the concept of continuous improvement. The course will be targeted primarily at level 1 organisations that wish to find out more about how to use the CMM Model to introduce best practice into their organisation. It will also be suitable for organisations who already have effective procedures in place (e.g. an ISO9001 accredited quality system), but wish to learn about how to use the CMM Model for continuous improvement.

During the course open discussion on all relevant issues will be encouraged. The concepts explained throughout the course will be further developed through the use of relevant exercises and case studies. In addition, delegates will be encouraged to relate the contents of the course to their own business needs.

Congratulations to Measuresoft from CSE!

Measuresoft Development Limited has recently been certified to the ISO9001/TickIt standard. Measuresoft is a small software development company specialising in Windows real-time process monitoring and control product and applications development. The certification covers design, development and maintenance of real-time SCADA software.

Measuresoft implemented its Quality Management System through a 12-month cluster programme provided by *CSE*. The cluster provided a step by step framework to achieving ISO9001. Key steps included the documentation and application of procedures covering the development lifecycle, project management, configuration management, auditing and customer support. Every member of staff made a contribution to the development and implementation of the QMS. Measuresoft decided to use an online system and selected Microsoft Visual Sourcesafe as both a document control and configuration management tool. SGS Yarsley performed the successful assessment.

ISO 9001 was achieved within a 13-month time frame and critical factors for success included:
- Strong commitment from management and staff
- Cluster step by step framework
- Staff incentive scheme
- Small team with clear lines of communication.
- Stable systems environment
- Process approach to procedures
- Advice and backup from an experienced consultant.

Measuresoft wish to thank:

Jill Pritchet of CSE, Martin Byrne of MGB and Associates and all other cluster participants for their help and encouragement throughout the programme.

ESPINODE Ireland

Irish Directory of SPI Resources

ESPINODE – Ireland has set up an **"Irish Directory of SPI Resources"**. The aim of the directory is to provide the software industry on the island of Ireland, North and South, with a source of useful information on Software Process Improvement and related areas. Although the directory is primarily web-based, hard copies are available on specific information to those who do not have access to the Internet.

The directory is made up of the following main elements:

- References to relevant literature, including books, case studies, and SPI repositories. Sources from where these references can be obtained are also included.

- The principal SPI methods that are available to allow organisations to perform an assessment or an evaluation.

- Listings of service providers, such as training organisations, consultants and professional groups in Ireland, the UK and elsewhere.

- Events taking place in the near future, including seminars and conferences.

Where applicable, brief descriptions are supplied which give further details on a particular resource.

The Irish Directory of SPI Resources is accessible through the CSE web server at:

http://www.cse.dcu.ie/espinode/

The directory will be updated at regular intervals in the coming months. If you have any comments or suggestions for the directory you can contact me at ian@cse.dcu.ie.

Book Review by Jim Rook, CSE

Dynamic Systems Development Method - The Method in Practice
Jennifer Stapleton, Addison-Wesley, 1997, ISBN 0-201-17889-3

This is an excellent and much needed book. If you consider the plethora of new books coming out on various methods and associated notations such as the UML, it is surprising that this is the only 'practical' book (that I know of) on the subject of DSDM. This book is not however the only DSDM publication. DSDM has been developed and is controlled by individuals and organisations through the non-profit DSDM Consortium [1]. The DSDM Manual [2] published for the DSDM Consortium provides the detail for the method. 'The Method in Practice' is designed not to replace the Manual, but to complement it, by providing practical guidance and case studies for DSDM.

The book is a short, concise, practical and a well-structured introduction to DSDM. It is a very well written and easy to read book. The author has endeavoured to take a practical viewpoint wherever possible, with many references to accounts of project successes and associated problems. I should also point out that the author is an authoritative figure on the subject of DSDM, as she has been a lead figure in the development of DSDM since its inception and chairs the DSDM Consortium Technical Work Group. She even suggests an alternative definition of RAD - Responsive Application Delivery, which I also believe, is more appropriate than the original definition of Rapid Application Development.

There are three main parts to the structure of the book. The first part contains information about the DSDM method as described in detail in The Manual. Each of the chapters in part one describe issues relating to aspects of DSDM and end with a short summary of the salient points. Anecdotes and examples from real projects are used widely to good effect in these chapters. The second part delves into eight practical case studies of DSDM projects. These case studies highlight the practical issues and some of the problems that can be encountered when running a DSDM project. As well as seven project success stories, one case study describes a project failure. The last case study is interesting in that it takes a step back to a pre-DSDM project and shows that many aspects of DSDM have been around in past RAD approaches. It does however conclude that the project in question would have run a lot better if DSDM had been available. The final part directs the reader to further sources of useful information and assistance.

Any person involved (or soon to be involved) with a DSDM project would find this book to be a useful companion. This would include junior and senior staff who might be involved as DSDM team members. For the change agents among you, who have tried to implement a RAD way of working and have failed, this book may highlight where you went wrong.

In summary, the philosophy of DSDM is a 'do enough and no more' one and this book highlights how this might be achieved in a practical manner. As well as DSDM as a whole, individual aspects of DSDM will become more widely used in my opinion. This opinion is reflected in a motto from BT which is quoted in the book as, "You can use all of DSDM some of the time and some of DSDM all of the time".

References

[1] Details for the DSDM Consortium can be found on their web page at www.dsdm.org

[2] Dynamic Systems Development Method - Version 3. Published for the DSDM Consortium by Tesseract Publishing, 1997, available from the DSDM Consortium

An extended version of this review is due to be published in The Computer Journal, Vol 41, and appears by permission.