

News from the Centre

ISO 9001:2000

With the imminent adoption of the new version of the standard CSE will be keeping you updated on how the changes will affect you. We also offer specific training and consultancy in this area, for more details contact: jill@cse.dcu.ie

SPIRE Handbook

The SPIRE Handbook proved to be very popular and demand far exceeded supply. The Handbook has now been reprinted and costs 25 Euro per copy. To get your copy, download an order form from the spire website at www.cse.dcu.ie/spire or send payment directly to us. For multiple copies or more information contact: info@cse.dcu.ie.

Graduate Training Programme

July saw the successful completion of the first year of our Graduate Training Programme.

This programme is aimed at recent graduates with, ideally, 1-2 years of experience working in industry and is designed to round off undergraduate skills already gained. The programme emphasises 'real-world' issues, and material not generally covered, or appropriate, within normal undergraduate courses, but which is essential for effective good practice in employment as a software developer.

Those who have completed Year 1 will be starting the Year 2 sessions in September, Year 1 sessions will start in October. If you are interested in this programme more details are available on our website or contact: julie@cse.dcu.ie.

Mark this date in your diary!

Following on from last year's success CSE will again be running a software engineering conference in November.

Software Productivity in a Changing World

**14th November 2000
Great Southern Hotel
Dublin Airport**

Topics:
eXtreme Programming
Component-Based Development
Productivity Measurement
The Human Factor

(Programme and date are provisional and are subject to change, check our website for latest details)

CSE Spreading the Word

As part of our continuing aim to spread the word about the benefits of adopting best practice, CSE has teamed up with CBI and IBEC to develop a North-South Software

Quality Network covering companies in the border counties. More information about this network is available by contacting: ian@cse.dcu.ie. We hope to establish similar working relationships with other regional organisations.

CSE Online

<http://www.cse.dcu.ie>

Many of our publications, including this Newsletter are available in pdf format from our website, under Resources. If you want to find out when new material is available then subscribe to `csenews`. You will also be kept up to date with courses and other events at CSE.

To subscribe send an email to:

`maiser@cse.dcu.ie`

The contents should be as follows:

```
subscribe csenews  
exit
```

A message will be emailed to you as confirmation of subscription.

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`.

Process Improvement, A Success Story



Bill Culleton, of Silicon & Software Systems, talks about their recent SPI initiative

Silicon & Software Systems (S3) provides silicon, software and hardware design services to a diverse customer base including many major multinationals. The application areas include digital consumer, communication infrastructure and wireless systems.

There are two very important factors that affect how customers perceive S3, the *time to market* and the *quality of the product*. In 1997 S3 embarked on a software process improvement initiative, using these factors as basic business goals. Implementation of a lasting solution to the problems that impact on these factors was identified as the main process improvement goal.

The Capability Maturity Model (CMM)¹ was selected as the improvement model. This provides a roadmap for improvement by advancing through the CMM levels. Assessment at Level 2 was defined as a secondary goal, attaining this was expected to follow on from achieving the main goal, identified above. S3 had a very positive culture toward process improvement having already attained ISO9001.

"As a starting point", says Bill Culleton, Quality Manager at S3, "we performed an *Interim Maturity Evaluation*, based on the CMM. This involved software staff ranging from development engineers up to senior management. It provided a measure of capability as well as highlighting the main areas of strength and weakness in the company. These measurements helped us to identify which areas

¹ A Technical Briefing giving an overview of the CMM can be found on the CSE website: <http://www.cse.dcu.ie>, under Resources

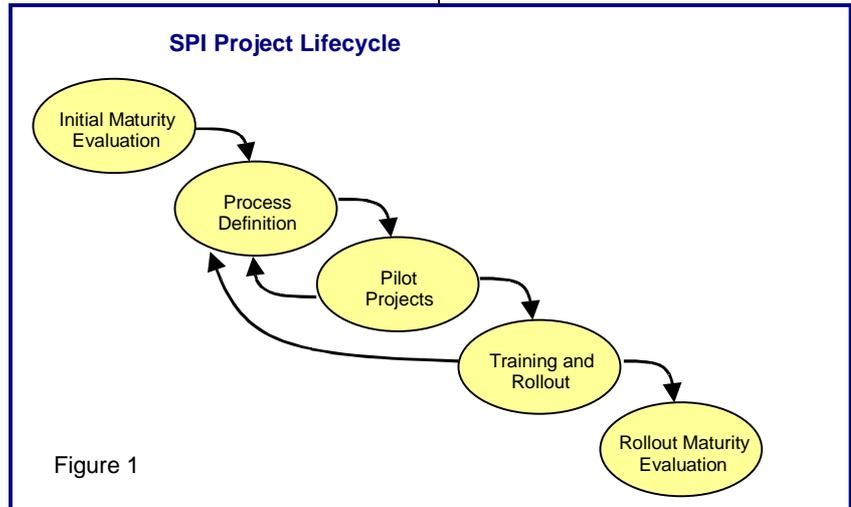


Figure 1

needed improvement, either by spreading good practice already available or by introducing new practices."

The lifecycle in Figure 1 was followed which used workshops, forums and mentoring to provide training and communicate improvement ideas. These have now been adopted as standard practice in S3.

During the project regular evaluations were run. When finally the results showed sustained improvement it was decided to request an official CMM assessment. "We requested an official Level 2/3 assessment from CSE. Compita, a Scottish company, provided this in conjunction with CSE. The main goal of this assessment was to identify further opportunities for improvement, which could be used in ongoing initiatives," explains Culleton.

In December 1999 the assessment was held. S3 achieved Level 2 and only narrowly missed getting Level 3. "The measurements defined and implemented during and after the project have improved our ability to quantify our time to market capability and quality of our products allowing us to track future improvements", says Culleton.

"Currently we are addressing issues arising out of the 1999 assessment. This has resulted in the formation of 5 formal improvement teams as

well as a number of informal teams consisting of engineers from across the company. We have also maintained the policy of addressing problems first and CMM Levels second."

"The improvements achieved during the CMM Level 2 project have encouraged us to improve further. The infrastructure which was created provides the opportunity to do this and the results prove that it is worth the effort."

Some statistics reflecting the commitment S3 had to their process improvement initiative:

Effort to end Dec 1999 (excluding project leader):

- 180 person days on redefinition
- 200 person days on training
- 50 person days on assessments

Number of new procedures, 2, e.g.

- Requirements Management

Number of revised procedures, 6, e.g.

- Project Planning Documenting Guidelines

Number of changes to previous documents

- Up to test phase, 23
- During Training, 11

More information about this project can be found in *'IEEE Computer 1999, Process Improvement for Small Organisations, by Declan P. Kelly and Bill Culleton'*

Consultancy Services

Our aim is not to do things for you but to help you do them for yourself. In this way you gain and retain valuable knowledge that will help your company both now and in the future.

We offer a range of consultancy services which can be carried out as individual assignments or which can be packaged together with in-house training (from our portfolio of public courses, or specifically tailored for you needs). While providing a service to all size of companies, we are particularly conscious of the issues which are specific to SME's (small and medium sized enterprises).

Services we provide include:

- mentoring for companies to help them implement a Quality System including preparation and pre-assessment for ISO 9001:2000
- informal and formal CMM[®] assessments
- process improvement strategy and implementation of an improvement programme suitable for your organisation
- advice and assistance on product strategy
- product evaluations in terms of the feasibility of product development and also end product quality
- advice and assistance on business strategy
- advice and assistance on implementing cultural change
- advice and assistance on introducing new technologies
- advice and assistance on IPR issues
- a mediation and arbitration service

These are just some of the ways in which we can help you. Our services are flexible and are very much tailored to your needs, so whatever your problem give us a call and let us help.

If you would like more information about any of our services please contact us:

admin@cse.dcu.ie, Tel 01 700 5750

Training Calendar for September - December 2000

| Event | Days | Sep | Oct | Nov | Dec |
|--|------|------------------------|-------|-------|-----|
| Quality and Software Process Improvement | | | | | |
| ➤ SPI Approaches | 1 | | | 28 | |
| ➤ Introduction to Quality Systems and the ISO9001:2000 Standard | 2 | | | | 5-6 |
| ➤ How to Update Your Quality System to meet the ISO 9001:2000 Standard | 1 | | | 29 | |
| ➤ Introduction to Capability Maturity Model | 2 | | | | 7-8 |
| ➤ Practical Quality for Software Projects | 1 | 18 | | 21 | |
| ➤ Internal Auditing | 1 | | 6 | | |
| ➤ Software Inspections | 1 | 25 | | 24 | |
| ➤ Tmap - A Structured Approach To Software Testing | 2 | | 23-24 | | |
| • SPI Forum | 0.5 | | | ① | |
| • CMM Forum | 0.5 | | | | ① |
| Object Orientation & Component Based Development | | | | | |
| ➤ Overview of the UML Notation | 1 | 20 | | 23 | |
| ➤ Object Oriented Analysis and Design using UML | 3 | | | 8-10 | |
| ➤ Component Based Development Overview | 1 | | 10 | | |
| ➤ Component Based Development Essentials | 2 | | 10-11 | | |
| ➤ Effective Business Modelling | 1 | | | 2 | |
| ➤ OO Development Processes: an evaluation | 1 | | | 27 | |
| ➤ Java, C++, VB or C? - Making the Right Choice for Projects! | 1 | Available on-site only | | | |
| • OO/CBD Forum | 0.5 | 12 | | | |
| RAD - Dynamic Systems Development Method | | | | | |
| ➤ Overview of DSDM | 1 | | 27 | | 4 |
| ➤ DSDM Practitioner | 3 | | | 15-17 | |
| • DSDM Interest Group | 0.5 | 26 | | | |
| Requirements Engineering | | | | | |
| ➤ Requirements Capture - Gathering User Requirements | 2 | 13-14 | | | |
| ➤ Requirements Management - Managing Requirements from Capture to Design | 2 | | 12-13 | | |
| Project Management | | | | | |
| ➤ Project Management Fundamentals | 3 | | 18-20 | | |
| ➤ Overview of Configuration Management | 1 | | ① | | |
| ➤ Configuration Management Practitioner | 2 | | | ① | |
| • PM Forum | 0.5 | | 3 | | |
| • CM Forum | 0.5 | ① | | | |
| Business Strategy | | | | | |
| ➤ Winning Strategies - Introduction | 1 | | 25 | | |
| ➤ Winning Strategies for Young Software Companies | 3 | | ① | | |
| ➤ R&D Management | 3 | | | 29-1 | |
| People Issues | | | | | |
| ➤ Facilitation Skills | 2 | Available on-site only | | | |

Dates shown are subject to change.

Events marked with a, •, are awareness events and are usually free of charge to Associate members.

Events marked with a, ➤, are training courses and are usually discounted to Associate members.

For more information and booking details please contact our admin department:

Phone: +353 (0)1 700 5750, Fax: +353 (0)1 700 5605, Email: events@cse.dcu.ie

Details of CSE events and registration forms are also available on our web site at: <http://www.cse.dcu.ie/training.html>