

southernSCOPE Developer Training, Course Outline

As at: July 2002

BACKGROUND

In 1996 the Government of the State of Victoria in Australia developed and trialled a method for acquiring custom-built software as an alternative to the traditional methods of fixed price costing or paying on the basis of 'time and materials' used. This method (known as southernSCOPE) allowed business units to acquire their software on the basis of paying a pre-agreed set price for each unit of software actually delivered. The unit used in this method was the software functional sizing measure known as 'function points'. As the concept of function points and the southernSCOPE method was unknown to most suppliers, these suppliers had difficulty in understanding the southernSCOPE method and calculating their \$ per function point price structures. This is resulting in a reluctance on their part to support the government's use of the southernSCOPE method, and in the submission of unrealistic \$ per FP prices.

The Victorian government believes that the southernSCOPE method has the potential to transform the way that business acquires its custom-built software and substantially improve the dismal failure rate of the traditional approaches. This course has been developed to educate the business and suppliers of the southernSCOPE method and how it can best be applied.

COURSE OBJECTIVES

This course is intended to be an alternative information source to the *southernSCOPE Reference Manual* and the online help *Learn the southernSCOPE Method*.

The objectives of this 3.5-hour training course are:

- Participants can describe how the southernSCOPE method works, and how it impacts the performance of a project.
- Participants can describe how to calculate \$ per function point prices.
- Participants have resolved their specific questions and issues with the southernSCOPE method.

It would best run from 9:00a to 12:30a, as this will reduce 'no shows'. The limit in the number of participants is 15, as this allows some interaction with participants.

INTENDED PARTICIPANTS

The course will be aimed at people within software companies who are responsible for preparing the prices in proposals and tenders. The term ‘software companies’ covers companies that produce custom software in response to an individual client’s specific requirements, or that customise software packages for specific clients.

People preparing prices in proposals and tenders will generally be experienced software project managers, or managers of software development groups/teams. Typically such people have some understanding of the software development process, of software project management, and of the typical procedures used to prepare estimates for software projects. They would be expected to understand the process used within their own company to estimate projects.

PARTICIPANT HANDOUT MATERIAL

Participants need to receive the following material:

- Copies of the slides. They should receive either the slides and notes, or 3 slides per page with lines for writing notes.
- Example simple Requirements Specification, 3-pages with the title ‘Project Time Recording, Requirements Specification’.
- Two case study projects, each on a 2-page document, for use in interactive exercises with the participants.

COURSE STRUCTURE

To make the most effective use of 3.5 hours (210 minutes), we will assume that participants in the seminar have read either the southernSCOPE Reference Manual or the on-line training. The primary objectives of the seminar are to provide additional information on the practical experiences with southernSCOPE, and to allow people to explore specific questions and issues that they have with southernSCOPE. Because some people prefer to learn information in an interactive process, the seminar will cover much of the core material in the documentation.

INTRODUCTION

(5 min) Briefly go through the planned content for the morning, mentioning the break. Apologies for not having the participants introduce themselves.

OVERVIEW OF SOUTHERNSCOPE

(10 min, 15 min through) Using as a base the existing southernSCOPE presentation for managers, briefly go over what southernSCOPE is.

WHY USE THE SOUTHERNSCOPE METHOD

(10 min, 25 min through) Within the context of why software projects typically fail, state what are the benefits of using southernSCOPE.

INTRODUCTION TO FUNCTION POINT MEASUREMENT

(25 min, 50 min through) Brief introduction to what function point measure, and an overview of how they measure it. Also cover some techniques for measuring function points approximately. Note the typical need for 2-day training course, or the generally preferred option of commissioning a specialist FP counter.

PROJECT INITIATION

(10 min, 60 min through) Cover the project initiation activities of commissioning a scope manager, performing some preliminary analysis to identify an approximate project scope, calculating preliminary estimates and preparing the Project Requirements document.

INTRODUCING THE CASE STUDIES

(5 min, 65 min through) Introduce two case studies to show how the southernSCOPE method was applied. These need to be from recent projects, with at least one web-based project included. The case studies become the basis for examples through the course, and for interactive exercises between the training presenter and the participants. These case studies will be drawn from Sage's experience and the review of SCUD, rather than only the published case studies.

CONTENT FOR THE PROJECT REQUIREMENTS DOCUMENT

(25 min, 90 min through) Cover the necessary content for the Project Requirements document, particularly the need to specify those factors which influence the \$ per FP price.

- Development language/tools.
- Project process.
- Approximate scope of project in FPs and desired schedule, which influences team size.
- Organisational style of the client/project business context. (This is what the impact of development platform on PDR, and thus \$ per FP, is really showing us. The technology of the development tools available for different development platforms is actually very similar; what varies is the type and context of organisations that need to operate a software application on a specific platform. Ie. Organisations that need an application that runs on a mainframe will be large, with many different stakeholders, users etc; and organisation that can run an application on a PC will be small, with few individuals involved.)
- Software architecture.
- Number of interface supported, particularly to other systems and machines.
- Need for public web user interface.

Explain the domains of values for each of these attributes, and how they need to be defined as part of the project planning that occurs when preparing the tender. The government client should define some of these factors.

OUTLINE A PROJECT REQUIREMENTS DOCUMENT

(10 min, 100 min through) With the facilitation of the presenter, the participants decide the key factors for the Project Requirements document for the two case studies, with discussion on the impact of the factors on the \$ per FP price and on the long-term life of the software system.

MORNING TEA BREAK

(15 min, 115 min through)

CUSTOMISING SOFTWARE PACKAGES

(10 min, 135 min through) Using examples, show how the price for installing and customising a software package can be calculated in terms of \$ per function point. Discuss the benefits and risks to the customer, and to the supplier.

MULTIPLE \$/FP PRICES FOR HIGH-RISK PROJECTS

(10 min, 125 min through) Specifically examine the risks of using \$/FP pricing and what issues threaten the validity of the \$ per FP price. Consider how can they be handled using multiple \$/FP prices.

INVITE PROPOSALS AND ENGAGE A DEVELOPER

(15 min, 150 min through) Discuss the process of issuing proposals and engaging a developer. Focus on the impact of southernSCOPE on the relationship between client and developer. Discuss the setting of payment points.

A METHOD FOR SETTING A \$ PER FUNCTION POINT PRICE

(5 min, 155 min through) Introduce a method for a developer to estimate \$ per function point prices. This method involves the following steps:

1. Identify 1 – 3 projects in the company's experience that are most comparable to the project being estimated. The criteria for comparison are the factors that are known to influence \$ per function point values, and other factors that anecdotally appear to have some impact.
2. Gather the effort and other cost data for each of the identified projects.
3. Obtain a function point measurement for each of the identified projects. This can be done by either commissioning a function point count for all or some of the projects, or using some approximation technique such as data entity or use case counts.
4. Calculate the \$ per function point price for each project. If covering 2 – 3 projects, examine the spread in the prices and possible causes for it.

5. Decide a \$ per function point price for the new project.

This method is valid, even though the sample is small, because the performance of a development/customisation team on a new project is highly likely to be similar to its performance on appropriately comparable past projects. This is a reasonable assertion because development teams are ‘creatures’ of habit. They tend to follow the same process, to about the same level of performance, for each project. I have used this approach to estimate many projects successfully, and this principle is the basis for a widely used estimating technique called ‘analogy’ estimating.

WHAT IS A COMPARABLE PROJECT?

(5 min, 160 min through) Cover the major project attributes known to influence \$ per function point price, which are those covered in the section on the Project Requirements document.

Explain how the values for the above attributes that were defined for the Project Requirements document become criteria for the selection of projects from the project history.

OBTAINING EFFORT, COST AND FP DATA TO CALCULATE THE PRICE

(10 min, 170 min through) Briefly cover techniques that can be used to obtain total effort or cost data for the project. Also need to consider the calculation of average \$ per hour rates because of the different labour rates of different roles involved with the project. Discuss the options for obtaining FP counts for the selected projects.

WORKING IN PARALLEL WITH EXISTING ESTIMATING TECHNIQUES

(5 min, 175 min through) Introduce with a 5-minute summary of the estimating techniques typically used, and consider how they can fit with the \$ per FP price. In most cases, they cannot fit because they typically rely on high-quality specifications, and the southernSCOPE methodology specifically allows the setting of a price before such specifications exist. Finish with an open discussion of how participants may fit the \$ per FP pricing within their project estimating methods.

REQUIREMENTS SPECIFICATION AND THE BASELINE FUNCTION POINT COUNT

(15 min, 190 min through) Discuss the requirements gathering process, particularly pricing this process and the need to manage scope. Discuss the baseline FP count and how it sets the project budget. Also cover the benefits of \$ per FP pricing on the relationship between the developer and customer.

CHANGE CONTROL AND IMPLEMENTATION

(15 min, 205 min through) Cover how southernSCOPE impacts the change control and price variation process. Discuss the role of the scope manager in this process. To round off the session, briefly cover implementation, particularly in terms of payment.

SUMMARY

(5 min, 210 min through)

Summarise the content of the day, drawing attention to key points.