
Overview

This sub-discipline covers the competencies required by an information technology and/or telecoms organisation to ensure that appropriate software development processes are being applied in any assignments.

A software process improvement ethos expects individuals proactively to identify opportunities to improve the efficiency and effectiveness of the methods and practices for software development in use. Equally, it involves the IT/technology organisation as a whole embracing a culture of continuous improvement (CI) in its software development processes. This is sometimes referred to as a *software improvement process* (SIP) approach.

Procom does not advocate any particular software development methodology. These choices are for individual organisations to make. However, it is accepted that there are a range of methodologies available, that not all may be suitable for every particular assignment and that the characteristics of these methodologies vary, in some cases considerably, from each other. In order to approach software improvement sensibly, it is important to understand the relative merits and potential risks associated with the various methods so that appropriate improvement approaches can be adopted so as to suit the needs of the organisation.

Software process improvement approaches also vary considerably across cultures and organisations. Some organisations prefer to adopt a wide ranging, structured programme of improvement across the enterprise, linked to benchmarks, industry frameworks and received wisdom. Others may prefer to adopt a more informal approach, wherein each individual seeks to find and adopt improvements in their local working arrangements.

Performance criteria

You must be able to:

Direct and lead software improvement programmes

- P1 Design, implement and maintain effective strategy, policies, plans and standards relating to software development improvement activities and their deliverables
- P2 Critically review recommendations made by others to improve software development activities and their deliverables within areas of the IT/technology organisation
- P3 Make decisions on the priorities and plans for software process improvement programmes across the IT/technology organisation, applying relevant knowledge, experience, information and data as appropriate
- P4 Authorise appropriate plans for all aspects of software process improvement activities and their deliverables within the IT/technology organisation
- P5 Authorise the use of selected approaches to software process improvement that may be trialled/used within the IT/technology organisation
- P6 Design education and training for individuals and teams in software process improvement processes, procedures, methods, tools and techniques
- P7 Direct and lead software process improvement programmes across the IT/technology organisation, monitoring and reporting progress to superiors

Manage and direct communications relating to software improvement programmes

You must be able to:

- P8 Proactively engage the support of sponsors and stakeholders within the wider business for software process improvement activities
- P9 Clearly communicate the strategy and vision, plans, standards, targets for software development activities within the IT/technology organisation to a wide range of sponsors, stakeholders and other internal/external individuals and bodies
- P10 Provide proactive advice and guidance to sponsors, stakeholders, individuals teams and other bodies on all aspects of software process improvement activities and programmes
- P11 Report regularly on the progress and business impact of software process improvement activities and programmes to a wide range of sponsors, stakeholders and other internal/external individuals and bodies
- P12 Communicate the outcomes of software process improvement activities and programmes and their relevance to the targets and standards for software development processes within the IT/technology organisation to a wide range of sponsors, stakeholders and other internal/external individuals and bodies

Knowledge and understanding

You need to know and understand:

Direct and lead software improvement programmes

- K1 The importance of aligning software process improvement activities and deliverables with the IT/technology strategy and the ethos and values of the IT/technology organisation
- K2 The expectations and needs of the business in respect of software development processes
- K3 The importance of identifying where current software development activities are not supporting the business needs
- K4 The importance of applying change management principles and approaches to any software process improvement programme
- K5 Who are the sponsors, stakeholders for software process improvement activities
- K6 Best practice in software improvement activities
- K7 What are the lessons learned from prior software process improvement activities
- K8 How to implement and maintain the processes, procedures, methods, tools and techniques relating to software improvement activities and their deliverables
- K9 How to design, implement and maintain software process improvement programmes across the IT/technology organisation
- K10 How to benchmark the IT/technology organisation’s software maturity against external/industry standards
- K11 How to apply lessons learned from prior software process improvement activities
How to proactively identify where current software development activities are not supporting the business needs

Manage and direct communications relating to software improvement programmes

You need to know and understand:

- K12 The importance of communicating the standards and targets that have been established for software development processes within the IT/technology organisation
- K13 The importance of clearly acknowledging and communicating where software development processes do not meet business needs
- K14 Change management principles and approaches
- K15 The business requirements from software process improvement programmes
- K16 How to clearly communicate the range of software process improvement activities underway within the IT/technology organisation, reporting on their impact and effectiveness
- K17 How to clearly articulate the lessons learned from software process improvement activities to a wide range of sponsors, stakeholders and other individuals and teams

ESKITP5066

Software Development Process Improvement Level 6 Role

Developed by e-skills UK

Version number 1

Date approved September 2009

Indicative review date March 2014

Validity Current

Status Original

Originating organisation e-skills UK

Original URN 5066

Relevant occupations Information and Communication Technology; Software Development

Suite IT and Telecoms

Key words Programming; Coding; Application development; Web development; Games development