ESKITP5014v2
Contribute to IT and Telecoms systems development

Overview

The System Development sub-discipline covers the competencies required to develop/enhance, acquire, reuse and/or commission a range of systems elements, such as software, hardware and networking elements and interface them to produce a holistic, 'end to end' working IT or Telecom enabled or system that meets a specific business need.

Software elements may be developed/enhanced, acquired, reused or commissioned, according to the approach that best meets the business needs.

Hardware and networking elements that need to be included in the system configuration may range from large-scale storage, processing and connectivity devices housed in data centres, to hand-held devices, using wireless connectivity to present information contained in the system to the end user or consumer. Some of these devices may need to be designed produced or assembled specifically to work as part of individual IT enabled or Telecom systems.

System elements may be developed/enhanced or commissioned to meet a specific need for an organisation (bespoke) or may be acquired package products that provide generic capabilities designed to address the needs of many organisations or may be existing operational assets that can be reused.

Systems development necessitates a 'end to end' perspective from those individuals involved in it, ensuring that all of the system elements, assets and services required to meet the business need are available and interfaced in a way which produces an outcome which best supports the business needs.

Systems development contexts can include, but are not limited to:

- Desktop, mainframe, process control, web and mobile applications
- Cloud computing software and data resources that are delivered as a service over the Internet. This includes: software as a service (SaaS), storage as a service (STaaS) and desktop as a service (DaaS)).
- Implementation and exploitation of digital and social Media in systems development
- Real world web/Internet
- Big data, difficult data and data warehousing (data searching and data mining)
- Green IT including both the impact on the environment of the increased use of IT & Telecoms systems and also the benefits that IT & Telecoms can have in reducing the environmental impact of other sectors

Working in the professional role involves:

- Performing systems development activities; and
- Contributing to the management of systems development

Performance criteria

Perform systems development activities

You must be able to:

P1 follow organisational standards for the systems development lifecycle

P2 correctly select and apply systems development procedures, tools and techniques following organisational standards

P3 operate with reference to systems architecture, design and service level requirements and the environment in which an IT enabled system will operate

P4 collate, interpret and document relevant information relating to architecture models and existing system elements in order to inform systems development activities

P5 collate, interpret and document relevant information from design deliverables, service level requirements and operational environments to inform systems development activities

Contribute to the management of systems development

You must be able to:

P6 assist with identifying, collating and documenting requirements for co-ordinating systems development with testing activities and the results of any testing carried out as part of systems development activities

P7 document and provide information from systems development activities in accordance with organisational standards

P8 accurately gather and document information on existing or potential external providers of systems development activities according to organisational standards

P9 assist with the co-ordination of systems development activities with other solution development and implementation activities

P10 accurately document how the system and all its elements has been developed and functions

Knowledge and understanding

Perform systems development activities

You need to know and understand:

K1 the fact that systems development involves the enhancement, commissioning, reuse or acquisition of system elements, such as software, hardware and network communications, that may be combined to produce an holistic, 'end to end' working IT enabled system to meet a business need

K2 the stages of activity that constitute systems development

K3 the importance and relevance of systems development activities to the full life cycle of information within an organisation

K4 the importance and relevance of systems architecture to systems development work

K5 the importance of systems development activities being informed and directed by the deliverables from systems design

K6 what is involved in translating systems designs into working IT enabled systems

K7 the importance of ensuring that any systems development uses all relevant inputs to it and provides all necessary outputs from it

K8 the fact that new systems may need to be developed or existing systems enhanced, adapted or decommissioned to take account of changing business needs

K9 the fact that IT enabled solutions frequently need to be able to operate on a wide range of hardware platforms and across a range of network communication infrastructures, as appropriate to the business needs

K10 the information that needs to be referenced and used during systems development activities

K11 the importance of verifying the accuracy, currency, completeness and relevance of information used during systems development activities

K12 what are the potential implications of systems development deliverables being incorrect, incomplete, inadequate and/or

inappropriate

K13 the fact that all system elements must work coherently and efficiently together to provide an effective and 'fit for purpose' IT enabled system

K14 collate, interpret and document information in order to inform systems development activities:

K14.1 relating to architecture models

K14.2 from design deliverables

K14.3 on existing system elements that may be reused, enhanced or may need to be commissioned/decommissioned

K14.4 the service levels and operational environment

K15 use and apply:

K15.1 organisational standards for systems development activities

K15.2 organisational standards for the use of external providers of systems development services and/or 'off the shelf' packages and services

K15.3 the procedures, tools and techniques for systems development activities

K16 operate with reference to systems architecture, design and service level requirements and the environment in which an IT enabled system will operate

Contribute to the management of systems development

You need to know and understand:

K17 the importance and relevance of systems development activities to systems testing, integration and implementation activities associated with production of an 'end to end' IT enabled system

K18 the relationship between systems development activities and service management activities

K19 the value and role of 'off the shelf' packaged systems and services in

meeting business needs

K20 the importance of managing changes to business requirements through change control mechanisms during systems development activities

K21 the importance of ensuring co-ordination between systems development, systems testing, systems integration, installation and implementation activities

K22 the importance of securing sign off of systems development deliverables

K23 who needs to be involved in, and informed of systems development activities

K24 identify any requirements for co-ordinating systems development with testing activates

K25 collate, interpret and document information:

K25.1 required for co-ordinating systems development and testing activities

K25.2 on the capabilities of existing or potential external providers of products and systems development activities

K26 use and apply organisational standards for the use of external providers of systems development services and/or 'off the shelf' packages and services

K27 document:

K27.1 how the system and all its elements has been developed and functions

K27.2 systems development deliverables accurately and clearly to allow further development, amendments and updates to be made to IT enabled systems

K27.3 decisions made during systems development activities

K27.4 changes authorised and actioned during systems development activities

K27.5 lessons learned to inform future systems development

assignments

K27.6 the results of any testing that has been carried out during development work

K28 provide updated information, as appropriate, for use in:

K28.1 systems architecture and design deliverables as a result of systems development activities

K28.2 operational and service management documentation as a result of systems development activities

K29 provide deliverables from systems development activities to testing and integration activities

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