
Overview

This sub-discipline is concerned with the competencies involved with the design of processes and information technology systems so that they are adopted and used correctly by humans. In order for information technology systems to be successful and allow the maximisation of their potential benefits, user interaction and the interfaces enabling it must be attractive to all users of the systems.

Human interaction and interface (HCI) design may be undertaken as part of a wider systems design or may be undertaken as the result of a need to improve particular processes and procedures within an information technology system.

Designing for human needs requires particular competencies, both technical and personal and the transferable competencies associated with communication should be a precursor to acquiring competencies in this sub-discipline.

The outcomes of human interaction and interface (HCI) design are used to inform the overall systems design of information technology systems and their implementation.

Performance criteria

Plan human interaction and interface (HCI) design activities

You must be able to:

- P1 Correctly select all relevant standards relating to human interaction and interface (HCI) design activities
- P2 Design effective plans and standards for undertaking human interaction and interface (HCI) design
- P3 Correctly identify and appropriately apply all relevant service level and operational environment and infrastructure requirements within human interaction and interface (HCI) design activities
- P4 Correctly identify when and how to optimise human interaction and interface (HCI) analysis deliverables based on feedback from sample target users

Manage human interaction and interface (HCI) design activities

You must be able to:

- P5 Design, implement and maintain effective processes, tools and techniques for undertaking and monitoring human interaction and interface (HCI) design activities
- P6 Correctly apply all relevant data integrity, privacy and security requirements within any HCI design and clearly document how they have been met, under guidance
- P7 Apply appropriate and timely expertise from internal and external individuals and organisations, as appropriate, on ergonomics and other factors such as the prevailing culture of the target audience/users of any IT/technology system, in order to inform human interaction and interface (HCI) design activities

You must be able to:

Monitor and maintain effective human interaction and interface (HCI) designs

- P8 Regularly monitor and clearly report the alignment of human interaction and interface (HCI) design deliverables with other relevant factors
- P9 Routinely monitor and effectively manage changes to business requirements through change control mechanisms during human interaction and interface (HCI) design activities
- P10 Critically evaluate and prioritise options in order to produce recommendations for human interaction and interface (HCI) designs
- P11 Effectively manage all actions required in the event of the deliverables and outcomes of human interaction and interface (HCI) design being incorrect, incomplete or inadequate
- P12 Be fully accountable for the all HCI design deliverables produced within own area of accountability

Knowledge and understanding

You need to know and understand:

Plan human interaction and interface (HCI) design activities

- K1 Identify and select
 - K1.1 strategies, policies, plans and standards relating to human interaction and interface (HCI) design
 - K1.2 the human interaction and interface (HCI) design requirements to support the IT/technology literacy levels and skills of the target users
 - K1.3 any relevant legislation, regulations and external standards in human interaction and interface (HCI) design activities and their deliverables
 - K1.4 internal and external factors on human interaction and interface (HCI) design activities and their deliverables
 - K1.5 internal and external sponsors of and stakeholders for human interaction and interface (HCI) design activities
 - K1.6 design options to meet the human needs as identified in the deliverables from human needs analysis
 - K1.7 strategy and policies to ensure the compliance of human interaction and interface (HCI) design and its outcomes with any relevant legislation, regulations and external standards
 - K1.8 the processes, tools and techniques to monitor the quality and effectiveness of human interaction and interface (HCI) design activities
 - K1.9 any particular individual's or groups of individuals influence on human interaction and interface (HCI) design assignments
 - K1.10 lessons learned from previous human interaction and interface (HCI) design assignments and/or from other contexts
 - K1.11 where there is a need for integrity, security and privacy/confidentiality of data and information in human interaction and interface (HCI) design
 - K1.12 when and how to optimise HCI analysis deliverables based on feedback from sample target users
 - K1.13 service level and operational environment and infrastructure requirements during
 - K1.14 human interaction and interface (HCI) design activities
- K2 Design
 - K2.1 plans and standards relating to human interaction and interface (HCI) design
 - K2.2 the processes, tools and techniques for undertaking human interaction and interface (HCI) design
 - K2.3 the processes, tools and techniques to monitor human interaction and interface (HCI) design activities and their deliverables with all relevant legislation, regulations and external standards
 - K2.4 the processes, tools and techniques to monitor the accuracy, currency, completeness and appropriateness of any HCI design deliverables
 - K2.5 the processes, tools and techniques to monitor the alignment of HCI

- design deliverables with the business requirements
- K2.6 the processes, tools and techniques to monitor that the (HCI) design requirements support the IT/technology literacy levels and skills of the target users
- K2.7 the processes, tools and techniques to monitor the alignment of human interaction and interface (HCI) design work with other related analysis and design activities and their deliverables
- K3 Analyse
- K3.1 how effectively the human interaction and interface (HCI) design supports the IT/technology literacy levels and skills of the target users
- K4 Liaise
- K4.1 with internal and external sponsors and stakeholders on all aspects of human interaction and interface (HCI) design assignments and their outcomes
- K4.2 with external suppliers of human interaction and interface (HCI) design services
- K5 The influence that particular individuals, or groups thereof, can have on human interaction and interface (HCI) design
- K6 What legislation, regulations and external standards are relevant to human interaction and interface (HCI) design and its outcomes
- K6.1 What are the strategy, policies, plans and standards relating to HCI design activities and their deliverables
- K6.2 range of issues associated with undertaking human interaction and interface (HCI) design
- K6.3 processes, tools and techniques to measure the effectiveness and quality of human interaction and interface (HCI) design
- K6.4 techniques that can be used to avoid conflict when verifying human interaction and interface (HCI) designs
- K6.5 implications of internal and external factors on all stages of human interaction and interface (HCI) design activities and their deliverables
- K6.6 implications of any legislation, regulations and external standards as they relate to human interaction and interface (HCI) design and its outcomes and how to comply with them
- K6.7 target social, operational and environmental conditions in which any IT/technology system will be used
- K6.8 The fact that service level and operational requirements must be considered within human interaction and interface (HCI) design activities
- K6.9 the target operational delivery capabilities, such as bandwidth, screen size/resolution, input devices size/type and other factors need to be considered in any HCI design activities
- K6.10 in certain, specific scenarios, which typically support specialised business functions, there are controlled and standardised HCIs and devices that are used

- K6.11 in many scenarios, the HCI design needs to cater for a wide range of user input/output devices and IT/technology platforms
- K6.12 the impact of any relevant legislation, regulations and external standards needs to be reflected in human interaction and interface (HCI) design activities and their deliverables
- K6.13 the deliverables of human interaction and interface (HCI) design activities must be accurately represented in the 'end to end' systems design deliverables
- K6.14 external providers of human interaction and interface (HCI) design services exist and there are disadvantages and benefits of using these services
- K7 who are the sponsors of and stakeholders for any human interaction and interface (HCI) design activities

Manage human interaction and interface (HCI) design activities

You need to know and understand:

- K8 Gather recommendations as a result of the verification of human interaction and interface (HCI) design in order to inform system design activities
- K9 Design
 - K9.1 the processes, tools and techniques to monitor the quality and effectiveness of human interaction and interface (HCI) design activities
 - K9.2 the processes, tools and techniques to monitor the alignment of human interaction and interface (HCI) design deliverables with ergonomics and other factors such prevailing behavioural 'norms' of the target audience/users
 - K9.3 the processes, tools and techniques to monitor the alignment of human interaction and interface (HCI) design deliverables with the target social, operational and environmental conditions in which the system will be used
- K10 Apply
 - K10.1 service level and operational environment and infrastructure requirements within human interaction and interface (HCI) design activities
 - K10.2 integrity, security and privacy/confidentiality requirements for human interaction and interface (HCI) design
 - K10.3 existing information contained within IT/technology architectures and analysis deliverables
 - K10.4 strategy and policies to ensure the compliance of human interaction and interface (HCI) design and its outcomes with any relevant legislation, regulations and external standards
 - K10.5 the processes, tools and techniques to monitor the quality and

- effectiveness of human interaction and interface (HCI) design activities
- K10.6 lessons learned from previous human interaction and interface (HCI) design assignments and/or from other contexts
- K10.7 expertise from internal and external individuals and organisations, as appropriate, on ergonomics and other factors such as the prevailing culture of the target
- K10.8 audience/users of any IT/technology system, in order to inform human interaction and interface (HCI) design activities
- K10.9 the human interaction and interface (HCI) requirements that will support the target social, operational and environmental conditions in which the system will be used
- K10.10 the human interaction and interface (HCI) design requirements to support the prevailing behavioural 'norms' of the target audience/users
- K10.11 best practice in human interaction and interface (HCI) design
- K11 Verify
 - K11.1 that existing/available infrastructure can support the proposed designs for HCI interfaces/interaction
 - K11.2 human interaction and interface (HCI) designs with internal and external individuals and organisations, as appropriate, on ergonomics and other factors such as the prevailing culture of the target audience/users of any IT/technology
- K12 Take action
 - K12.1 to take account of the range of issues associated with human interaction and interface (HCI) design and its deliverables
 - K12.2 to integrate human interaction and interface (HCI) design activities into projects and programmes, as appropriate
 - K12.3 to take account of internal and external factors in human interaction and interface (HCI) design activities and their deliverables
 - K12.4 to optimise human interaction and interface (HCI) designs based on feedback from sample target users
 - K12.5 to take account of organisational culture and the prevailing culture of the target audience/users in human interaction and interface (HCI) design activities
 - K12.6 to evaluate and prioritise options in order to produce recommendations for human interaction and interface (HCI) designs
- K13 Document
 - K13.1 standards relating to human interaction and interface (HCI) design
 - K13.2 actions taken in the event of the deliverables and outcomes of human interaction and interface (HCI) design being incorrect, incomplete or inadequate
 - K13.3 the quality and effectiveness of external providers of HCI design services
 - K13.4 how the data integrity, privacy and security considerations have been met within any HCI design

- K14 Implement and maintain
 - K14.1 the processes, tools and techniques to monitor the quality and effectiveness of human interaction and interface (HCI) design activities
 - K14.2 the processes, tools and techniques to monitor the alignment of human interaction and interface (HCI) design activities and their deliverables with all relevant legislation, regulations and external standards
 - K14.3 the processes, tools and techniques to monitor the accuracy, currency, completeness and appropriateness of any HCI design deliverables
 - K14.4 the processes, tools and techniques to monitor the alignment of HCI design deliverables with the business requirements
 - K14.5 the processes, tools and techniques for undertaking human interaction and interface (HCI) design
 - K14.6 the processes, tools and techniques to monitor the alignment of human interaction and interface (HCI) design activities and their deliverables with all relevant legislation, regulations and external standards
 - K14.7 the processes, tools and techniques to monitor the alignment of human interaction and interface (HCI) design work with other related analysis and design activities and their deliverables
 - K14.8 the processes, tools and techniques to monitor the quality and effectiveness of human interaction and interface (HCI) design activities
 - K14.9 the processes, tools and techniques to monitor the quality and effectiveness of human interaction and interface (HCI) design activities
- K15 Why
 - K15.1 target operational delivery capabilities, such as bandwidth, screen size/resolution, input devices size/type and other factors need to be considered in any HCI design activities
 - K15.2 the alignment of human interaction and interface (HCI) design activities and their deliverables with all relevant legislation, regulations and external standards needs to be monitored
 - K15.3 the alignment of human interaction and interface (HCI) design work with other related analysis activities and their deliverables needs to be monitored
 - K15.4 the alignment of human interaction and interface (HCI) design work with other related design activities and their deliverables needs to be monitored
- K16 The importance of
 - K16.1 human interaction and interface (HCI) design deliverables aligning with IT/technology architectures
 - K16.2 considering the IT/technology operational environments and infrastructure relevant to the target system/solution/service when undertaking human interaction and interface (HCI) design activities
 - K16.3 tact and diplomacy when verifying human interaction and interface (HCI) designs
 - K16.4 applying a range of interpersonal communications skills during human interaction and interface (HCI) design activities
 - K16.5 optimising any human interaction and interface (HCI) design based on

- feedback from sample target users of the system/solution/service
- K16.6 ensuring that operational performance and service needs are considered during HCI design activities
- K16.7 considering any relevant legislation, regulations and external standards in HCI design activities and their deliverables
- K16.8 integrating human interaction and interface (HCI) design activities into projects and programmes, as appropriate
- K16.9 managing relationships with sponsors, stakeholders and external bodies on matters relating to human interaction and interface (HCI) design
- K16.10 using appropriately skilled individuals, groups and bodies in any HCI design activities

Monitor and maintain effective human interaction and interface (HCI) designs

You need to know and understand:

- K17 Monitor
 - K17.1 the progress of any HCI design assignment
 - K17.2 human interaction and interface (HCI) design activities and their deliverables with all relevant legislation, regulations and external standards
 - K17.3 the accuracy, currency, completeness and appropriateness of any HCI design deliverables
 - K17.4 the alignment of HCI design deliverables with the business requirements
 - K17.5 that the (HCI) design requirements support the IT/technology literacy levels and skills of the target users
 - K17.6 the alignment of human interaction and interface (HCI) design activities and their deliverables with all relevant legislation, regulations and external standards
 - K17.7 the alignment of human interaction and interface (HCI) design work with other related analysis and design activities and their deliverables
 - K17.8 changes to business requirements through change control mechanisms during HCI design activities
 - K17.9 the quality and effectiveness of human interaction and interface (HCI) design activities
- K18 Report
 - K18.1 any discrepancies in the alignment of human interaction and interface (HCI) design work with all relevant legislation, regulations and external standards
 - K18.2 the alignment of human interaction and interface (HCI) design deliverables with other relevant factors
- K19 Manage
 - K19.1 changes to business requirements through change control

- mechanisms during human interaction and interface (HCI) design activities
- K19.2 relationships with sponsors, stakeholders and external bodies on matters relating to human interaction and interface (HCI) design
- K19.3 the relationships with external providers of human interaction and interface (HCI) design services
- K19.4 actions required in the event of in the event of the deliverables and outcomes of human interaction and interface (HCI) design being incorrect, incomplete or inadequate
- K20 Present and review
 - K20.1 the progress of HCI design assignments against plans
 - K20.2 recommendations as a result of human interaction and interface (HCI) design in order to inform system/solution/service design activities
 - K20.3 and summarise recommendations relating to human interaction and interface (HCI) design to sponsors and other internal and external stakeholders
 - K20.4 the results from monitoring the alignment of HCI design activities
 - K20.5 the quality and effectiveness of external providers of human interaction and interface (HCI) design activities
- K21 Be accountable for designs produced within own area of accountability
- K22 The need for monitoring
 - K22.1 the quality and effectiveness of external providers of human interaction and interface (HCI) design services
 - K22.2 integrity, privacy and security considerations being met within any human interaction and interface (HCI) design
 - K22.3 the alignment of human interaction and interface (HCI) design deliverables with IT/technology architectures for an organisation
- K23 The processes, tools and techniques that can be used to
 - K23.1 monitor the quality and effectiveness of external providers of HCI design services
 - K23.2 monitor that data integrity, privacy and security considerations have been met within any human interaction and interface (HCI) design
 - K23.3 the alignment of human interaction and interface (HCI) design deliverables with IT/technology architectures for an organisation

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