
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

You must be able to:

Prepare for human interaction and interface (HCI) design activities

- P1 Correctly follow all standards for undertaking human interaction and interface (HCI) design activities, under direction
- P2 Accurately document all of the processes, tools and techniques for undertaking and monitoring human interaction and interface (HCI) design activities
- P3 Correctly select all of the relevant information contained within HCI analysis deliverables in order to inform human interaction and interface (HCI) design activities, under direction
- P4 Critically analyse all the deliverables from human needs analysis and ensure that these guide the human interaction and interface (HCI) design assignment, under direction
- P5 Develop effective design options for individual HCI design assignments and document them clearly and provide to sponsors, stakeholders and other individuals for review

Implement, under supervision, human interaction and interface (HCI) design activities

You must be able to:

- P6 Verify the acceptability and appropriateness of all human interaction and interface (HCI) designs using a range of techniques such as prototype designs and sample user feedback
- P7 Accurately identify all of the IT/technology infrastructure that is to be used to support the IT/technology system, service and/or asset as it applies to HCI design
- P8 Effectively manage the progress of HCI design assignments against plans and present findings clearly and in a timely manner to sponsors, stakeholders and superiors, under direction

Manage the needs of different users of HCI design activities

You must be able to:

- P9 Take account of all the needs of different users, including employees, customers, partners and suppliers, who have different requirements from an IT/ technology system, in HCI design activities
- P10 Effectively manage the relationships with any sample target users, negotiating with them on elements of any proposed design and changes required to it, under the direction of superiors
- P11 Correctly identify and accurately document the most appropriate interaction and interfaces for different users, including employees, customers, partners and suppliers, who have different requirements from an IT/ technology system, service and/or asset
- P12 Apply all of the human interaction and interface (HCI) design requirements appropriately to support the IT/technology literacy levels

and skills of the target users

Knowledge and understanding

You need to know and understand:

Prepare for human interaction and interface (HCI) design activities

- K1 Identify/select
 - K1.1 the deliverables from human needs analysis and ensure that these guide the human interaction and interface (HCI) design assignment
 - K1.2 information contained within HCI analysis deliverables in order to inform human interaction and interface (HCI) design activities
 - K1.3 naming conventions and standards, where relevant, for human interaction and interface (HCI) design activities
 - K1.4 appropriate interaction and interfaces for different users, including employees, customers, partners and suppliers, who have different requirements from an IT/ technology system, service and/or asset
 - K1.5 the processes, tools and techniques for undertaking human interaction and interface (HCI) design
 - K1.6 information contained within IT/technology architecture deliverables
- K2 Source/gather/collate
 - K2.1 information from a range of individuals and other internal and external sources as appropriate, in order to verify human interaction and interface (HCI) designs
- K3 Analyse/interpret
 - K3.1 existing information and data contained within IT/technology architectures and analysis deliverables in order to inform human interaction and interface (HCI) design activities
 - K3.2 the deliverables from human needs analysis and ensure that these guide the human interaction and interface (HCI) design assignment
- K4 Document/complete/store
 - K4.1 prototype human interaction and interface (HCI) designs where appropriate
 - K4.2 design options for individual HCI design assignments
 - K4.3 decisions made during human interaction and interface (HCI) design activities
 - K4.4 the processes, tools and techniques to monitor the accuracy, currency, completeness and appropriateness of any HCI design deliverables
 - K4.5 the processes, tools and techniques to monitor the alignment of HCI design deliverables with the business requirements
 - K4.6 the processes, tools and techniques for undertaking human interaction and interface (HCI) design
 - K4.7 the human interaction and interface (HCI) design requirements to support the IT/technology literacy levels and skills of the target users
 - K4.8 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

- K4.9 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
- K4.10 changes to business requirements through change control mechanisms during HCI design activities
- K4.11 best practice in human interaction and interface (HCI) design
- K4.12 lessons learned from previous human interaction and interface (HCI) design assignments and/or from other contexts
- K4.13 the processes, tools and techniques to monitor the quality and effectiveness of human interaction and interface (HCI) design activities
- K5 Develop
 - K5.1 prototype human interaction and interface (HCI) designs where appropriate
 - K5.2 design options for individual human interaction and interface (HCI) design assignments
- K6 The role of political awareness, 'people' and negotiation skills in effective human interaction and interface design
- K7 What
 - K7.1 is the range of typical/most commonly used interfaces that can be used in human interaction and interface (HCI) design and their appropriateness in a range of business contexts
 - K7.2 is the relationship between human interaction and interface (HCI) design and systems/solution/service design activities
 - K7.3 is the relevance of human interaction and interface (HCI) design activities and their deliverables to systems development activities associated with the production of an IT/technology system/solutions/service
 - K7.4 is the relevance and role of ergonomics in HCI design considerations
- K8 What are the
 - K8.1 processes, tools and techniques that can be used to undertake human interaction and interface (HCI) design
 - K8.2 inputs to any human interaction and interface (HCI) design activities and the expected deliverables from them
 - K8.3 range of methods, tools and techniques that can be used to undertake human interaction and interface (HCI) designs
 - K8.4 advantages and disadvantages of differing types of interfaces that may be used on any IT/technology system, service and/or asset
 - K8.5 potential implications of HCI design deliverables being incorrectly or inadequately specified
 - K8.6 potential implications of failings of integrity, confidentiality and information security during HCI design activities
 - K8.7 professional and ethical standards relating HCI design work within an organisation

- K9 The fact that
 - K9.1 human interaction and interface (HCI) design deliverables need to align with any relevant existing IT/technology designs, where appropriate
 - K9.2 the effectiveness of any IT/technology system depends on the human interaction and interface (HCI) designs incorporating features that will secure the adoption of the system by users
 - K9.3 ergonomics are a critical consideration in any human interaction and interface (HCI) design activities
 - K9.4 sometimes it may be necessary or desirable to provide interaction and interface designs that can be personalised for the needs and/or preferences of individual users
 - K9.5 specialised HCI design deliverables are frequently required to meet the needs of the disabled
 - K9.6 the ease of use of any IT/technology system, service and/or asset can have a direct impact on the cost of its operation
- K10 Why
 - K10.1 integrity, security and privacy of data need to be considered in human interaction and interface (HCI) design
 - K10.2 standards and naming conventions, where relevant, are used in human interaction and interface (HCI) design work
 - K10.3 the target social, operational and environmental conditions in which any IT/technology system will be used needs to be considered during HCI design activities
- K11 Who
 - K11.1 needs to validate any HCI design
 - K11.2 needs to approve/sign off any HCI design
- K12 The importance of
 - K12.1 being able to interpret existing information contained within IT/technology architectures in order to inform human interaction and interface (HCI) design activities
 - K12.2 human interaction and interface (HCI) design deliverables being used to update IT/technology architectures as appropriate during human interaction and interface (HCI) design activities
 - K12.3 The undertaking human interaction and interface (HCI) design
 - K12.4 integrating the human interaction and interface (HCI) design within all relevant analysis and design activities
 - K12.5 securing sign off to the HCI design from appropriately authorised individuals
 - K12.6 designing effective and efficient user interfaces that will encourage the adoption and use of IT/technology systems, services and/or assets
 - K12.7 producing HCI designs which can be maintained and operated using existing skills and expertise

- K12.8 managing changes to business requirements through change control mechanisms during human interaction and interface (HCI) design activities
- K12.9 using the deliverables from human needs analysis to inform human interaction and interface (HCI) design activities
- K1.1 considering the integrity security, privacy of data in human interaction and interface (HCI) design
- K1.2 applying lessons learned from previous HCI design assignments
- K1.3 taking account of internal and external factors during HCI design activities and their deliverables
- K1.4 maintaining the integrity and confidentiality of information during data design activities
- K1.5 ensuring that sensitive information is not disclosed inappropriately during HCI design activities
- K1.6 accurately and completely representing the business requirements for the user experience in the HCI design

Implement, under supervision, human interaction and interface (HCI) design activities

You need to know and understand:

- K2 Verify the acceptability of human interaction and interface (HCI) designs using a range of techniques such as prototype designs and sample user feedback
- K3 Identify the IT/technology infrastructure that is to be used to support the IT/technology system, service and/or asset as it applies to HCI design
- K4 Implement and maintain plans and standards relating to human interaction and interface (HCI) design assignments
- K5 Present the progress of HCI design assignments against plans
- K6 Report
 - K6.1 the progress of any HCI design assignment
 - K6.2 any issues arising as a result of any HCI design assignment
- K7 Manage
 - K7.1 the progress of HCI design assignments against plans
 - K7.2 relationships with any sample target users providing feedback on human interaction and interface (HCI) designs
- K1.1 any issues arising in HCI design assignments as a result of internal or external factors
- K2 The need for monitoring
 - K2.1 the alignment of human interaction and interface (HCI) design activities and their deliverables with all relevant legislation, regulations and external standards
 - K2.2 the alignment of human interaction and interface (HCI) design work with other related analysis activities and their deliverables

- K2.3 the alignment of human interaction and interface (HCI) design work with other related design activities and their deliverables
- K2.4 the quality and effectiveness of HCI design activities and their deliverables
- K2.5 changes to business requirements through change control mechanisms during HCI design activities
- K3 The processes, tools and techniques that can be used to monitor
- K3.1 the alignment of human interaction and interface (HCI) design activities and their deliverables with all relevant legislation, regulations and external standards
- K3.2 the alignment of human interaction and interface (HCI) design work with other related analysis and design activities and their deliverables
- K3.3 the quality and effectiveness of HCI design activities and their deliverables
- K3.4 changes to business requirements through change control mechanisms during HCI design activities

Manage the needs of different users of HCI design activities

You need to know and understand:

- K4 take action to take account of
- K4.1 any particular individuals or groups of individuals influence on human interaction and interface (HCI) design assignments
- K4.2 all the needs of different users, including employees, customers, partners and suppliers, who have different requirements from an IT/technology system, in HCI design activities
- K5 Communicate with
- K5.1 internal and external individuals and groups concerned with the development of HCI designs into target systems, services and assets
- K5.2 sample target users
- K6 Provide design options for any HCI design assignment
- K7 Apply
- K7.1 the human interaction and interface (HCI) design requirements to support the IT/technology literacy levels and skills of the target users
- K7.2 feedback from sample target users on any human interaction and interface (HCI) design
- K7.3 information gathered as a result of the verification of human interaction and interface (HCI) designs
- K7.4 standards relating to human interaction and interface (HCI) design
- K7.5 the IT/technology infrastructure that is to be used to support the IT/technology system, service and/or asset as it applies to HCI design
- K8 Negotiate with sample target users regarding elements of any proposed design and changes required to it

- K9 The fact that there is a need to design appropriate interaction and interfaces for different users, including employees, customers, partners and suppliers, who have different requirements from an IT/ technology system
- K10 The importance of considering the IT/technology literacy levels and skills of the target users when undertaking human interaction and interface (HCI) design activities

Additional Information

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