

# ISO 9241-210:2019-07 (E)

## Ergonomics of human-system interaction - Part 210: Human-centred design for interactive systems

---

<b>Contents</b>		<b>Page</b>
Foreword .....		v
Introduction .....		vi
1	Scope .....	1
2	Normative references .....	1
3	Terms and definitions .....	1
4	Rationale for adopting human-centred design .....	4
5	Principles of human-centred design .....	6
5.1	General .....	6
5.2	The design is based upon an explicit understanding of users, tasks and environments .....	6
5.3	Users are involved throughout design and development .....	6
5.4	The design is driven and refined by user-centred evaluation .....	7
5.5	The process is iterative .....	7
5.6	The design addresses the whole user experience .....	7
5.7	The design team includes multidisciplinary skills and perspectives .....	8
6	Planning human-centred design .....	9
6.1	General .....	9
6.2	Responsibility .....	9
6.3	Content of plan .....	9
6.4	Integration with project plan .....	10
6.5	Timing and resources .....	10
7	Human-centred design activities .....	10
7.1	General .....	10
7.2	Understanding and specifying the context of use .....	12
7.2.1	General .....	12
7.2.2	Context-of-use description .....	13
7.2.3	Sufficient detail to support design .....	13
7.2.4	Context of use specified for design .....	13
7.3	Specifying the user requirements .....	13
7.3.1	General .....	13
7.3.2	Identifying user and other stakeholder needs .....	14
7.3.3	Deriving user requirements .....	14
7.3.4	Resolving trade-offs between user requirements .....	14
7.3.5	Ensuring the quality of user requirements specifications .....	14
7.4	Producing design solutions .....	15
7.4.1	General .....	15
7.4.2	Designing user tasks, user-system interaction and user interface to meet user requirements, taking into consideration the whole user experience .....	15
7.4.3	Making design solutions more concrete .....	16
7.4.4	Altering the design solutions based on user-centred evaluation and feedback .....	17
7.4.5	Communicating the design solution to those responsible for implementation .....	17
7.5	Evaluating the design .....	17
7.5.1	General .....	17
7.5.2	Conducting user-centred evaluation .....	18

<b>7.5.3</b>	<b>User-centred evaluation methods .....</b>	<b>18</b>
<b>7.5.4</b>	<b>User-based testing .....</b>	<b>18</b>
<b>7.5.5</b>	<b>Inspection-based evaluation .....</b>	<b>19</b>
<b>7.5.6</b>	<b>Long-term monitoring .....</b>	<b>19</b>
<b>8</b>	<b>Sustainability and human-centred design .....</b>	<b>20</b>
<b>9</b>	<b>Conformance .....</b>	<b>20</b>
	<b>Annex B (informative) Sample procedure for assessing applicability and conformance .....</b>	<b>23</b>
	<b>Bibliography .....</b>	<b>33</b>