

# ISO/TR 19669:2017-10 (E)

## Health informatics - Re-usable component strategy for use case development

---

| <b>Contents</b>    |   | <b>Page</b> |
|--------------------|---|-------------|
| Foreword .....     |   | v           |
| Introduction ..... |   | vi          |
| 1                  | Scope .....   | 1           |
| 2                  | Normative references .....                            | 1           |
| 3                  | Terms and definitions .....                           | 1           |
| 4                  | Symbols and abbreviated terms .....                   | 3           |
| 5                  | Objectives for the re-usable component strategy ..... | 4           |
| 6                  | Use case basics .....                                 | 4           |
| 6.1                | General .....   | 4           |
| 6.2                | Use case scenarios, events and actions .....          | 4           |
| 6.3                | Use case actors .....                                 | 4           |
| 7                  | Use case component candidates .....                   | 4           |
| 7.1                | General .....   | 4           |
| 7.2                | Identify-ability .....                                | 5           |
| 7.3                | Catalogue-ability .....                               | 5           |
| 7.4                | Commonality .....                                     | 5           |
| 7.5                | Computability .....                                   | 5           |
| 8                  | Use case components .....                             | 5           |
| 8.1                | General .....   | 5           |
| 8.2                | Requirements .....                                    | 5           |
| 8.3                | Actors and roles .....                                | 6           |
| 8.4                | Scenarios, events and actions .....                   | 6           |
| 8.5                | Data objects and elements .....                       | 6           |
| 9                  | Use case scenarios .....                              | 7           |
| 9.1                | General .....   | 7           |
| 9.2                | Events and event steps .....                          | 7           |
| 9.3                | Actors and roles .....                                | 7           |
| 9.4                | Actions taken .....                                   | 7           |
| 9.5                | Inputs and outputs .....                              | 7           |
| 10                 | Use case requirements template .....                  | 7           |
| 10.1               | Preface and introduction .....                        | 7           |
| 10.2               | Initiative overview .....                             | 8           |
| 10.2.1             | General .....   | 8           |
| 10.2.2             | Initiative challenge statement .....                  | 8           |
| 10.3               | Use case scope .....                                  | 8           |
| 10.3.1             | General .....   | 8           |
| 10.3.2             | Background .....                                      | 8           |
| 10.3.3             | In scope .....  | 8           |
| 10.3.4             | Out of scope .....                                    | 8           |
| 10.3.5             | Stakeholders .....                                    | 8           |
| 10.4               | Value statement .....                                 | 9           |

|         |  |    |
|---------|--|----|
| 10.5    | Use case assumptions .....   | 9  |
| 10.6    | Pre-conditions .....   | 9  |
| 10.7    | Post-conditions .....  | 9  |
| 10.8    | Actors and roles .....   | 9  |
| 10.9    | Use case diagram .....   | 10 |
| 10.10   | Use case scenario(s) .....   | 10 |
| 10.11   | User story .....   | 11 |
| 10.12   | Activity diagram .....   | 11 |
| 10.13   | Flow .....   | 11 |
| 10.13.1 | Base flow .....  | 11 |
| 10.13.2 | Alternate flow .....   | 12 |
| 10.13.3 | Functional requirements .....  | 12 |
| 10.13.4 | Information interchange requirements .....                                     | 13 |
| 10.13.5 | System requirements .....  | 13 |
| 10.13.6 | Sequence diagram .....   | 13 |
| 10.14   | Risks, issues and obstacles .....  | 13 |
| 10.15   | Dataset requirements .....   | 13 |
| 11      | Methodology for component capture, cataloguing and re-use .....                | 14 |
| 11.1    | General .....  | 14 |
| 11.2    | Component -- Requirements .....  | 14 |
| 11.3    | Derivation of common requirements from existing use case template .....        | 14 |
| 11.3.1  | General .....  | 14 |
| 11.3.2  | Re-use of common requirements in new use case scenario .....                   | 14 |
| 11.4    | Component - Actors/roles .....   | 17 |
| 11.4.1  | General .....  | 17 |
| 11.4.2  | Derivation of common actors/roles from existing use case template .....        | 17 |
| 11.4.3  | Re-use of common actors/roles in new use case scenario .....                   | 17 |
| 11.5    | Component -- Scenarios .....   | 17 |
| 11.5.1  | General .....  | 17 |
| 11.5.2  | Derivation of scenarios from existing use case template .....                  | 18 |
| 11.5.3  | Re-use of common scenarios in new use case .....                               | 18 |
| 11.6    | Component -- Events .....  | 18 |
| 11.6.1  | General .....  | 18 |
| 11.6.2  | Derivation of events from existing use case template .....                     | 18 |
| 11.6.3  | Re-use of common events in new use case scenario .....                         | 18 |
| 11.7    | Component -- Actions .....   | 20 |
| 11.7.1  | General .....  | 20 |
| 11.7.2  | Derivation of actions from existing use case template .....                    | 20 |
| 11.7.3  | Re-use of common actions in new use case scenario event steps .....            | 20 |
| 11.8    | Component -- Data objects/elements .....                                       | 21 |
| 11.8.1  | General .....  | 21 |
| 11.8.2  | Derivation of data objects/elements from existing use case template .....      | 21 |
| 11.8.3  | Re-use of common data objects/elements in new use case data requirements ..... | 21 |
| 12      | Progression -- Use case development to implementation .....                    | 23 |
| 12.1    | General .....  | 23 |
| 12.2    | Use case requirements phase .....  | 23 |
| 12.2.1  | General .....  | 23 |
| 12.2.2  | Subject matter experts .....   | 24 |
| 12.2.3  | Use case analysts .....  | 24 |
| 12.2.4  | Initial sketch of the clinical/business case .....                             | 24 |
| 12.2.5  | Comprehensive statement of the clinical/business case .....                    | 24 |
| 12.2.6  | Components of the clinical/business case .....                                 | 24 |
| 12.2.7  | Finalization of clinical/business case requirements .....                      | 24 |
| 12.3    | Anchor for traceability .....  | 24 |
| 12.4    | Fulfilment of clinical/business case requirements .....                        | 25 |
|         | Bibliography .....   | 26 |