



**eSolutions**

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**ICT Volume 3 : Application Standards**

**ICT 3.4-2016 Software Selection Standards**

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**Abstract**

This document defines standards for software selection

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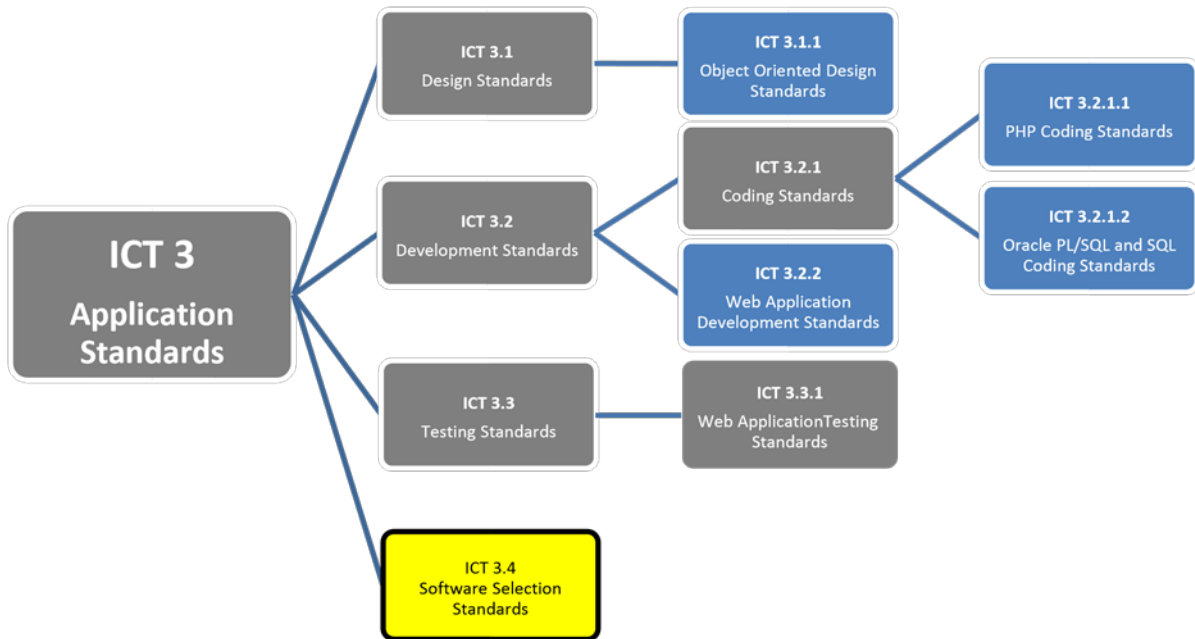
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## ICT Volume 3 : Application standards



## **Standards brief**

This document defines standards for software selection.

## **Document classification and access**

This document is for public circulation.

## **Policy**

These standards must be used in conjunction with all other referenced standards, and when considered in isolation from the referenced standards may not constitute adequate conformance.

## **Conflict of information or clarification**

Whenever a conflict of information occurs or clarification of instruction is required all queries shall be made to the Deakin University eSolutions (DeS).

# 1 Strategic alignment

## 1.1 Software should align with University and FIOA strategic objectives

Any software selection should take into account relevant strategic objectives, including that of the University and Faculty, Division or Other applicable area.

## 1.2 Business requirements must align with strategic or operational goals

Changes shall have a defined reason for existing, be outcome focused, and traceable to a strategic or operational goal of one or more business areas of the University

# 2 Business requirements

## 2.1 Business requirements gathering and analysis shall be undertaken

Gathering of business requirements from key stakeholders of the proposed system, as well as analysis of these requirements, shall be undertaken prior to the preparation of any requirements specification.

## 2.2 Business requirements shall be well stated

The business requirements of a proposed software acquisition shall be well stated, in advance of any software selection undertaking.

Where the business requirements cannot be clearly stated, a Business Analyst should be engaged in order to satisfactorily articulate the requirements of the business.

## 2.3 Business requirements shall not bear consideration to implementation detail

Business requirements must state the requirements from a business perspective. These requirements shall be independent of any potential implementation method, technology, product, vendor, or system, unless there is a clear business case for doing so.

Where there is a clear business case for a business requirement to be technology-focused, the reasoning should be qualified. For example: "The software must be capable of executing under a Windows 7 operating system environment as computer labs are required to have this software installed".

## 2.4 Performance requirements shall be stated as tangible objectives

Where it is necessary to specify performance requirements, these shall be qualified as tangible objectives that can be measured. For example, it is not satisfactory to state "The system shall perform well", or "The system shall be responsive".

## **3 Due diligence**

### **3.1 Software shall be fit for purpose**

Any selected software product shall be fit for purpose, meeting all of:

- Business requirements (refer section 2)
- Strategic requirements (refer section 1)
- Technology constraints

### **3.2 Software shall conform to Deakin Technical Domain standards**

Any candidate software product shall be assessed as to its conformance to the requirements prescribed for Deakin Technical Domains.

Adherence to the Technical Domains includes (but is not only limited to) database, development languages, web browser compatibility, directory services, server operating systems, and application services.

### **3.3 The software vendor shall have the ability to deliver on requirements into the future**

The software vendor shall have the ability to deliver on business requirements and prove the ability to do so into the future. The vendor shall maintain a technology roadmap and demonstrate a commitment to ongoing product development. Additionally, the vendor should make available necessary resources such as product specifications, support portals, product and user manuals (including admin and end-user), and document repositories such as Wikis.

### **3.4 Vendor support shall meet the requirements of the business**

Provision of a formal support service by the vendor shall meet the requirements of the business. The vendor shall provide adequate representation (i.e. considerations such as contact methods, response times, time zone differences, geographical constraints)

### **3.5 Administrator training shall be available**

The vendor (or nominated third party) shall have the ability to provide training to system administrators. Locally offered training is preferred.

### **3.6 Software must be easy to use**

Any underlying technology should be transparent to users so they can concentrate on their business objectives rather than the technology.

### **3.7 Software pilots shall have a defined end date**

Pilot or trials of software must have a defined start and end date. At the conclusion of the pilot the solution should be decommissioned if there is no subsequent initiative to formalise the implementation of the solution.

### **3.8 Internet research shall be conducted**

Internet research shall be undertaken, using authoritative and unbiased source of technical software data/information (eg: Gartner, Forrester, etc.), to ensure there is overwhelming positive commentary about the proposed software solution.

### **3.9 Site visits shall be undertaken prior to a significant software acquisition**

For software that is significant in terms of cost, user base, and / or business process implication, due diligence must include on-site visits to equivalent businesses/institutions that have the software installed.

## **4 Functionality and technical requirements**

### **4.1 Solutions shall comply with applicable legislation**

All solutions shall comply with University policy as well as any applicable legislation including, but not limited to, Federal and State laws.

### **4.2 Solutions should aspire to common use**

Solutions should be implemented for use across the organisation, in preference to individual business units

### **4.3 Existing services and resources should be re-used where practical**

Solutions and services should leverage Deakin's existing intellectual and technological resources wherever possible. If re-use is not an option, a suitable external/commercial solution should be investigated to reduce the overhead of custom development. Lastly, if no suitable commercial solutions exist, the solution may need to be built in-house

### **4.4 Solutions should utilise preferred technologies where practical**

Solutions should utilise technology that is classified as "preferred" within ICT Technical Domain standards. Where this is not possible, justification should be given for not using a preferred technology. Technologies classified as "prohibited" will not be considered.

### **4.5 Authentication mechanisms**

Software must leverage enterprise identity management systems (refer to Deakin IT Architecture standards) and must not maintain its own directory of users.



#### **4.6 Technological diversity shall be minimised**

Technological diversity shall be controlled to minimise the non-trivial cost of maintaining expertise in and connectivity between multiple processing environments.

#### **4.7 Solutions should be configured, but not customised, where practical.**

Solution customisation and configuration must take into consideration of ongoing operational and maintenance resourcing requirements and strive not to impose (excessive) burden and cost. This may require business processes to change to adapt to a new solution.

#### **4.8 Single source of truth**

There should be only one solution/application identified as the owner for a specific data element. This should be the only solution allowed to update this information. Other solutions may have access to the data via interfaces and be able to update the data within this solution, but should not replicate or duplicate this data.

#### **4.9 Software shall accommodate for future integration**

Future integration points should be considered during all solution implementations / developments.

#### **4.10 Software shall be scalable**

Solutions should be designed or selected with the consideration that they will be expanded at a later point. Where it is specifically stated that solutions should be provided “as-is” with no future enhancements expected this principle can be bypassed.

Software should provide adequate Application Programming Interfaces (APIs) to facilitate integrations with existing systems or data sources.

#### **4.11 Solutions should demonstrate a high degree of stability and resilience**

Software solutions shall exhibit minimal unexpected downtime, and a consistent performance pattern observed in practice.

#### **4.12 Consideration shall be given to data lifecycle**

Solutions should be designed with an understanding of the lifecycle of information (such as a student record) within the solution. Where possible, strategies for information lifecycle management should be introduced when a solution is implemented. For example, if research data is required to be held for seven years a strategy for managing this data throughout its lifecycle should exist in any solution that handles the data. The responsibility for data lifecycle should lie with the Data Steward, nominated by the business owner.

#### **4.13 Software should have a modern and engaging User Interface (UI)**

Software should rate highly in the selection process if it has a modern and engaging UI.

#### **4.14 Software should support multiple platforms and devices, especially mobile**

Software should rate highly in the selection process where it has native support for mobile-style devices. Software should exhibit cross platform support. In the case of web-based software, cross browser support should be inherent.

#### **4.15 Vendor contracts shall be reviewed by the relevant University authority**

Any contract entered into through the purchase of a software solution shall be reviewed and approved by the relevant University authority.

## **5 Security requirements**

### **5.1 Solutions shall comply and integrate with any Deakin security standards**

The solution shall comply with security standards that are relevant to the specifics of the solution, as prescribed by the organisation's security area.

### **5.2 Solutions should ensure data is protected from unauthorised use and disclosure**

Solutions should ensure data is protected from unauthorised use and disclosure by integrating with centralised/federated identity and policy services over secure channels.

## **6 Accessibility requirements**

### **6.1 Suppliers must provide solutions that are accessible to the widest user audience, including people with disabilities**

Products and services that are procured by Deakin must meet a reasonable/acceptable level of compliance with the following accessibility criteria:

- For all websites, applications, and online systems: Web Content Accessibility Guidelines (WCAG) 2.0 Level AA
- Content Management Systems or other tools for adding or modifying content: Authoring Tool Accessibility Guidelines (ATAG) 2.0. ATAG has 2 parts:
  - Part A: requirements for ensuring that the authoring tool itself is accessible
  - Part B: requirements for ensuring that the tool supports the production of accessible content
- Other – In some cases, there may be additional accessibility requirements that the purchaser will specify (e.g. specific to a type of technology such as digital signage, or a use case)