

Title	Apply knowledge and concepts of web design and scripting to plan, create and test an interactive user interface		
Level	4	Credits	10

Purpose	<p>People credited with this unit standard are able to: plan and design an interactive user interface using web design for a stakeholder; develop a prototype interactive user interface using web design and scripting for the stakeholder; create and test an interactive user interface using web design and scripting for the stakeholder.</p> <p>This unit standard has been developed primarily for assessment within programmes leading to the New Zealand Certificate in Information Technology Essentials (Level 4) [Ref: 2594].</p>
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Classification	Computing > Generic Computing
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Available grade	Achieved
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Guidance Information

- 1 Recommended skills and knowledge:
Unit 29788, *Develop, test and evaluate an interactive website for organisational use*, or demonstrate equivalent knowledge and skills.
- 2 Assessment, where applicable, will be conducted in and for the context of real or realistic situations and/or settings, and be relevant to current and/or emerging practice. For the purposes of assessment the stakeholder must be authentic and may include the learner's assessor, real clients, family members, or other learners. The assessor may gather evidence over time from a range of scenarios rather than using one assessment where the learner has to demonstrate all of the required skills. The assessment context for this unit standard must be suitable to meet the criteria for level 4 in the NZQF Level Descriptors, which are available by searching for "level descriptors" at www.nzqa.govt.nz.
- 3 A *brief* is a clear description of both the desirable outcomes sought and the constraints to be met by the solution. It contains design specifications against which the success or otherwise of the user interface can be evaluated. The brief can be either created as part of the learner's employment (in the case of workplace assessment) or in response to the needs of a stakeholder. A *plan* outlines how the requirements of the brief will be realised. For this unit standard, the plan is produced in conjunction with the conceptual design.

- 4 The prototype user interface created in outcome 2 does not need to be fully functioning but will be a semi-working prototype, and must be representative of the layout and design proposed within the brief and conceptual design.
- 5 **Definitions**
Accessibility means the user interface of web pages are able to be opened and viewed on a variety of browsers and configured to be viewed by people with disabilities such as visual impairment.
Breadcrumbs, or breadcrumb trail refer to a website navigation technique, that reveals the user's location in a website and offers users a way to trace the path back to their original landing point.
Client-side scripting refers to computer programs on the web that are executed by running scripts on the user's web browser.
Conceptual design is a representation clearly indicative of the final product.
Content Management System (CMS) refers to a computer application that supports the creation, modification and publication of digital content using a common user interface, usually supporting multiple users working in a collaborative environment.
Data validation means data that is input by the user is checked for errors and an error message posted when errors are found. Validation may include but is not limited to – interactive or post-input validation. Errors may be processed as field-by-field (interactive) or batch errors (post).
Good practice in this context includes selecting and using the appropriate feature or function to enable correct use of the user interface design tool(s) for the chosen digital platforms, and applying design principles of page layout and information presentation to the user interface and end-user documentation. Good practice for the end-user documentation refers to consistent font and layout, being legible, avoiding the use of undefined jargon and acronyms, and/or providing a glossary.
An interactive user interface is one which responds to user input in different ways, depending on the nature of the input. This may include responses such as completing and submitting an online form, accessing a menu, using a shopping cart.
A model refers to what is developed from the conceptual design using stakeholder feedback and is reflective of relevant codes of practice, and may be a prototype. A prototype may be a completed outcome ready for use or a functional model of the outcome.
Server-side scripting is a web server technology in which a user's request is fulfilled by running a script directly on the web server to generate dynamic HTML pages. It is usually used to provide interactive web sites that interface to databases or other data stores.
User experience (UX) refers to the overall experience of a person using a particular product, system or service such as a website or computer application, especially in terms of how easy or pleasing it is to use.
- 6 Legislation relevant to this unit standard may include but is not limited to the:
Copyright Act 1994;
Copyright (New Technologies) Amendment Act 2008;
Harmful Digital Communications Act 2015
Health and Safety at Work Act 2015
Privacy Act 1993;
Unsolicited Electronic Messages Act 2007;
and any subsequent amendments.
Current legislation and regulations can be accessed at <http://legislation.govt.nz>.

7 References

ACC5637 Guidelines for Using Computers - Preventing and managing discomfort, pain and injury. Accident Compensation Corporation - Department of Labour, 2010; available from Worksafe New Zealand, at

<http://www.business.govt.nz/worksafe/information-guidance/all-guidance-items/guidelines-for-using-computers>.

A reference source for web development *W3Schools.com* is available at <http://www.w3schools.com/default.asp>.

Outcomes and performance criteria

Outcome 1

Plan and design an interactive user interface using web design for a stakeholder.

Range includes but is not limited to – multimedia (graphics, sound, video, text), interactivity, server side or client side scripting and/or database content management system (CMS), techniques and tools in media design, consideration of user experience (UX), documentation and accessibility.

Performance criteria

1.1 A brief is formulated that describes the stakeholder's requirements for the user interface in terms of purpose and target users.

1.2 The brief defines the design specifications to be met by the user interface in order to provide a solution.

Range includes but is not limited to – scripting language, enhancements, placement of media, interactivity, accessibility, navigation, data validation, data constraints.

1.3 A plan for the development of the user interface is produced and modified (if needed) at each project milestone.

Range includes – project milestones, resources requirements, stakeholder consultation, testing procedures, sitemap, directory structure, pre-task documented components; plan may be written and/or graphic.

1.4 A conceptual design of each page of the interactive user interface is produced and modified (if needed) at each project milestone.

1.5 Development and maintenance of relationship with stakeholder contributes to the user interface design planning and implementation.

Outcome 2

Develop a prototype interactive user interface using web design and scripting for the stakeholder.

Range scripting may be client-side or server-side.

Performance criteria

- 2.1 Model user interface pages are produced in accordance with the design specifications.
- 2.2 User interface prototype is signed off by stakeholder in accordance with the project milestones.

Outcome 3

Create and test an interactive user interface using web design and scripting for the stakeholder.

Range includes but is not limited to – multimedia (graphics, sound, video, text), interactivity, server side or client side scripting and/or database content management system (CMS), techniques and tools in media design, consideration of user experience (UX), documentation and accessibility.

Performance criteria

- 3.1 User interface pages are produced in accordance with the design specifications and coding standards.
- 3.2 Documents and supporting data are entered, edited, and formatted in accordance with the design specifications.
- Range includes but is not limited to – elements, attributes, event handlers.
- 3.3 Elements that allow data to be entered by users are added to the user interface and are consistent with the design specifications.
- Range elements may include but are not limited to – form, input, control, button;
a minimum of two elements is required.
- 3.4 A customised response to data input is generated according to the design specifications.
- 3.5 User interface navigation is consistent with the requirements of the design specifications.
- Range may include but is not limited to – navigation bar, breadcrumbs, table, search engine.
- 3.6 An end-user document is created to facilitate use of the user interface.
- Range includes – purpose; instructions on how to access and navigate the user interface; accessible format.

3.7 Testing verifies that the user interface realises the design specifications, and any needed improvements are made.

Range testing includes – following documented procedure contained in the plan; documenting all changes; functionality; accessibility; readability; legibility; presentation; links and sequence; accuracy.

Replacement information	This unit standard replaced unit standards 26229, 26230 and 26746.
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This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	19 January 2017	31 December 2024
Review	2	28 April 2022	31 December 2024

Consent and Moderation Requirements (CMR) reference	0113
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.