

# Unit Outline

## Web Development I

### James Woods Regional High School Information Technology Systems

Unit Outline: **Web Development I**

Context: **Web Design**

Time: **6 wks**

#### Dimensions & Objectives

##### **Knowledge & Communication**

The dimension *Knowledge and Communication* refers to comprehending, understanding and communicating the terms, concepts, principles and design processes associated with website development.

This dimension involves demonstrating IT knowledge through defining, explaining and using terms, concepts and principles relating to web design and development. Explaining involves communicating a meaning with clarity, precision and completeness and is enhanced by the use of examples.

Website design and development terms, concepts, principles and processes are communicated and documented using appropriate modes, genres and language conventions. Mode refers to a system of communication chosen as the way to transmit a message (e.g. written, spoken/signed, visual or auditory). Genre refers to accepted categories of texts. Genres have features and patterns that relate to context, purpose and audience. Language conventions refers to accepted language practices developed over time and generally used and understood, for example use of spelling, punctuation and grammar. 

By the conclusion of this unit of study, students should:

- define, explain and use web design and development terms,  concepts and principles
- communicate web design and development concepts, principles and processes using mode, genre and language conventions.

##### **Design & Development**

The dimension *Design and Development* involves determining the intended purpose, the needs of the client and proposing and testing possible web development solutions. It requires research, analysis, synthesis and ongoing testing related to the process of design and development and the associated documentation.

Analysis refers to dissecting client needs and scenarios to ascertain and examine constituent parts and/or their relationships.

Synthesis refers to assembling the results of the analysis into a coherent, unique and/or complex system or solution.

Solutions to the web design challenge are enhanced by progressive creation and testing of components through the development process to refine solutions.

By the conclusion of this unit of study, students should:

- analyse client needs, purpose and scenarios to inform the design plan
- synthesise information to design solutions
- develop and test components to refine solutions.

##### **Implementation & Evaluation**

The dimension *Implementation and Evaluation* focuses on the quality of the solution. The quality and effectiveness of the solution is to be evaluated against the client needs and the defined criteria formulated during the design and development phase.

This dimension examines the use and refinement of the developer's skills throughout the design and development phase to present a website design and development solution.

It involves reflection on actions taken, design and development contexts, inputs, processes and products applied through all stages of planning and development.

Evaluation refers to assigning merit according to criteria.

By the conclusion of this unit of study, students should:

- use technical skills and resources to present a solution
- evaluate the solution against the defined criteria using the contexts, inputs, processes and products (CIPP) model of evaluation.

## Subject Matter

### **Theory and techniques**

- advanced features and functions of image creation and editing software (Adobe Illustrator, Adobe Photoshop) 
- features and functions of website development software (Adobe Dreamweaver)
-  current trends and future possibilities relating to web-based technologies
- project development documentation
- application of HTML and external CSS files in the creation of effective websites
- including usability and accessibility considerations in website design principles and development processes
- choosing appropriate file types and file naming conventions
- file management techniques and backup strategies
- application of the Design Develop Evaluate cycle to web design and development (establishment of client brief, Gantt charting, sketching draft page designs, sitemaps, mood boards, greyboxes, comprehensive artworks, CSS and HTML files, CIPP evaluation).

### **Problem-solving process**

- selecting topic through brain-storming activity
- problem identification through refining of client brief
-  specifying solution through development of
  - simple Gantt chart outlining project milestones 
  - sitemap (page hierarchy chart) 
  - moodboards (images, colour palette, font options)
  - draft page layout sketches (apply “rule of three”)
  - greyboxes (wireframes) describing page layout 
  - comprehensive artworks (page mock-ups) 
- process documentation
- application of CARP to improve aesthetics and represent information
- designing the web interface and navigation system
- developing a website as a working prototype 
- seeking and analysing feedback on designs
- measuring projects against CIPP evaluation.

### **Project management**

- reviewing and adjusting Gantt chart to record project progress
- management of project timelines.

### **Social and ethical issues**

- copyright
- intellectual property
- design and development to address accessibility issues
- historical and current trends in web design and development
- reviewing intellectual property case studies.

## Learning Experiences

- Analysing, designing, implementing and reviewing a website in meeting the needs of a fictional client
- Investigating and using software including image editing packages (Illustrator, Fireworks, Photoshop) a web development environment (Dreamweaver) project planning tools (Gantt Project, Excel, Inspiration, Webspiration) and documentation utilities (Word, Acrobat Pro)
- Developing practice and understanding relating to file types (gif, jpg, bmp, png, html, css), file sizes and file management
- Sourcing and referencing images from the internet and stock images from magazines to use in development of moodboard
- Comparing and contrasting raster and vector images to identify their differences and expected usage.
- Using support resources including online help, manuals and training booklets to solve problems
- Evaluating structures and design techniques used in existing websites
- Developing web page content within HTML pages and controlling all presentation through an external CSS file identifying, analysing and practising HTML and CSS coding with limited reference to design tools
- Using troubleshooting techniques to resolve coding errors
  - Creating a file backup strategy
- Developing a website that communicates logically, coherently and aesthetically
  - Formatting and editing text to increase web readability and user accessibility
  - Documenting project phases within specified deadlines
- Creating a client brief, a Gantt chart, a sitemap, some "rule of three" sketches, a moodboard, some greyboxes and a "comp" to plan a website layout
- Developing quality assurance routines
- Participating in peer evaluation and provision of feedback
  - Developing a basic understanding of copyright and intellectual property issues in relation to the development and ownership of digital products
  - Analysing case studies that review actual practice regarding rights management

## Assessment

**AT03** Product: project

- formative
- 4 weeks, individual
- documentation: 800-1000 words
- some teacher assistance

Use scripting knowledge and web design processes to create a small business website, incorporating the flash featurette (AT02) produced in the previous unit. Use mindmaps, a client brief, a sitemap, a moodboard, greyboxes and comprehensive artworks to communicate the design process through written and visual language. Evaluate using the Context, Inputs, Process and Product (CIPP) model.

Assumed knowledge: Basic HTML / CSS, Flash animation, project documentation requirements			
Week	Lesson 1	Lesson 2	Lesson 3
1	ADDIE cycle / CARP principles	Moodboards	Greyboxes
2	Comprehensive artworks	Sitemaps and sketching	Testing / CIPP evaluation
3	Begin assignment		
4			Draft due
5			
6			Assignment due



# James Woods Regional High School

<b>Year 11 ITS Product (Minor Project)</b>	Student name:	
	Teacher:	
	Start Date:	
	Draft Due:	
	Due Date:	

<p><b>Task:</b> Use scripting knowledge, and web design processes to create a medium size website, incorporating the flash feature you created in the previous assessment item (from AT02).</p>
<p><b>Purpose:</b> During this term, you are going to complete an individual web site development project. You will be required to design and develop a small but high quality business website for a fictional confectionery company. This assessment task involves the inclusion of an animated slide feature within a web site home page.</p>
<p><b>Assessment Category:</b> Practical Task; Individual; Formative</p>
<p><b>Conditions:</b> This is an individual assessment task. You will receive 4 weeks of class time.</p>
<p><b>Audience:</b> The completed animation will focus the attention of those viewing the business website on a core element of the company product range. The audience for the animated feature and the web site will be the expected consumers of the fictional confectionery product range. This is your choice but the target audience should be a clearly identifiable group (e.g. children, teenagers, young females, etc.).</p>

<p><b>Key Words:</b> time management design, develop, evaluate wireframes comprehensive artwork aesthetics client requirements</p>	<p><b>Some useful language when considering design and evaluation</b> The website is targeted at ... ; This feature will be placed in the ..... section of the home page because ... ; The clients want the website to look .... and feel .... ; To complete this task, I need to find ... and develop skills in ... ;</p>
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## Task Details

This task builds on the process that was started in your previous assessment item (AT02). It is essential that each task is fully complete before beginning work on the next, much like a real job, you will be expected to check with your supervisor (in this case your teacher) before moving onto a new stage. In preparing each of these steps for your final project submission, you need to clearly label them using the steps from the Project Development Model as indicated in italics.

### Stage 1 – Preparation

Before you begin, check you have immediate access to:

1. *Problem Identification* - A hardcopy of the completed 'Client Brief' for your fictional confectionery (sweets, chocolate, drinks, ice-cream, etc.). This will be based on the template provided in the Project Documents folder. 
2. An electronic copy of your completed animation (AT02). 

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### Stage 2 – Layout Design

3. *Solution Specification* - Use Webspiration or Inspiration to create a sitemap identifying the pages required by the client. 
4. *Solution Specification* – create hand drawn pencil sketches of your index and secondary pages, based on a 3x3 grid. Your sketches should be drawn accurately enough to consider layout aesthetics. Detailed pictures and colours should not be considered at this stage. Font choices may be made at this stage.
5. *Design Methodology* - Convert your pencil sketches into accurate greybox diagrams using Adobe Photoshop or Illustrator. Detailed pictures, fonts, and colours should still not be considered at this stage. 

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### Stage 3 – Design

6. *Design Methodology* - Create an A3 size mood board for your client. Your mood board should include: colour strips, a selection of fonts and sizes, and a selection of images. 
7. *Design Methodology* - Convert the greybox diagrams into comprehensive artworks.

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#### Stage 4 – Coding

8. *Implementation & Testing* - Printout copies of your comps to assist in planning the structure of the website. Ensure your printout is printed large with ample borders. You are not coding your website at this stage, you should focus on how you will divide up the major sections of your website (<div>, <h1>, <span>, ids, etc..). When you are finished create a final master copy. 
9. *Implementation & Testing* - Work out what images (pictures, logos, buttons, corners) are required for your website. Calculate the dimensions exactly, and create the pictures. Store your images in an appropriate folder inside your root folder, it is also good idea to store the original files in an 'errata' folder inside your root folder. 
10. *Implementation & Testing* - Begin working on your HTML/CSS. Stick closely to the structure marked on your printouts. Major design changes (i.e. colour scheme overhauls, changes to page layout) must be approved before beginning. 

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#### Stage 5 – Review

11. *Implementation & Testing* - Allow ample time to review your website prior to submission. Lookout for errors, as well as any major design flaws you may have made. Be careful about making any major changes to the website. Major changes should be subject to the same rigour as the website has been through, this includes planning, comprehensive artworks, etc. 
12. *Evaluation* – Use the Contexts, Inputs, Processes, Products (CIPP) model to conduct a formal evaluation of your project. A template and an exemplar will be provided to assist you with this. 

draft submission	
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	Standard A	Standard B	Standard C	Standard D	Standard E
<i>Knowledge and communication</i>	<p>The student work has the following characteristics:</p> <ul style="list-style-type: none"> <li>accurate and comprehensive definitions, explanations and use of IT terms, concepts and principles</li> <li>coherent and clear communication of concepts, principles and design processes using mode, genre and language conventions discerningly.</li> </ul>	<p>The student work has the following characteristics:</p> <ul style="list-style-type: none"> <li>accurate and detailed definitions, explanations and use of IT terms, concepts and principles</li> <li>clear communication of concepts, principles and design processes using mode, genre and language conventions effectively.</li> </ul>	<p>The student work has the following characteristics:</p> <ul style="list-style-type: none"> <li>definitions, explanations and use of IT terms, concepts and principles</li> <li>communication of concepts, principles and design processes using mode, genre and language conventions appropriately.</li> </ul>	<p>The student work has the following characteristics:</p> <ul style="list-style-type: none"> <li>simple definitions, explanations and use of some IT terms, concepts and principles</li> <li>simple communication of concepts, principles and design processes using basic mode, genre and language conventions.</li> </ul>	<p>The student work has the following characteristics:</p> <ul style="list-style-type: none"> <li>superficial definitions or explanations, and inconsistent use of IT terms, concepts or principles</li> <li>some communication of concepts, principles or design processes.</li> </ul>
<i>Design and development</i>	<p>The student work has the following characteristics:</p> <ul style="list-style-type: none"> <li>comprehensive and discerning analysis of client needs, purpose and scenarios to inform the design plan</li> <li>thorough and systematic synthesis of information to design solutions</li> <li>comprehensive development and thorough testing of components to refine solutions.</li> </ul>	<p>The student work has the following characteristics:</p> <ul style="list-style-type: none"> <li>detailed analysis of client needs, purpose and scenarios to inform the design plan</li> <li>effective synthesis of information to design solutions</li> <li>logical development and reliable testing of components to refine solutions.</li> </ul>	<p>The student work has the following characteristics:</p> <ul style="list-style-type: none"> <li>analysis of client needs, purpose and scenarios to inform the design plan</li> <li>synthesis of information to design solutions</li> <li>development and testing of components to refine solutions.</li> </ul>	<p>The student work has the following characteristics:</p> <ul style="list-style-type: none"> <li>simple analysis of client needs, purpose or scenarios to inform aspects of the design plan</li> <li>superficial synthesis of information to design solutions</li> <li>guided development and partial testing of components to refine solutions.</li> </ul>	<p>The student work has the following characteristics:</p> <ul style="list-style-type: none"> <li>superficial analysis of isolated aspects of client needs, purpose or scenarios</li> <li>statement of information or obvious solutions</li> <li>guided development of isolated components to produce partial solutions.</li> </ul>
<i>Implementation and evaluation</i>	<p>The student work has the following characteristics:</p> <ul style="list-style-type: none"> <li>use of a variety of complex technical skills and resources to present an efficient and effective solution</li> <li>discerning and thorough evaluation of solution against the defined criteria, using CIPP.</li> </ul>	<p>The student work has the following characteristics:</p> <ul style="list-style-type: none"> <li>use of a variety of technical skills and resources to present an efficient solution</li> <li>effective evaluation of solution against the defined criteria, using CIPP.</li> </ul>	<p>The student work has the following characteristics:</p> <ul style="list-style-type: none"> <li>use of technical skills and resources to present a solution</li> <li>evaluation of solution against the defined criteria, using CIPP.</li> </ul>	<p>The student work has the following characteristics:</p> <ul style="list-style-type: none"> <li>use of basic technical skills and resources to present a partial solution</li> <li>simple evaluation of solution against aspects of the defined criteria.</li> </ul>	<p>The student work has the following characteristics:</p> <ul style="list-style-type: none"> <li>use of isolated technical skills to produce an output</li> <li>statement of opinion about aspects of the defined criteria.</li> </ul>