**Faculty of Science and Engineering**

**School of Computing, Mathematics & Digital Technology**

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| **UNIT CODE:**  6G4Z2101 | **UNIT TITLE:**  INTRODUCTION TO WEB DESIGN AND DEVELOPMENT | |
| **Assignment set by** | **Dr Peter McKenna** | |
| **Verified by** | **Dr Matthew Crossley** | |
| **ASSESSMENT ID:**  2CWK25 | **ASSESSMENT DESCRIPTION**:  HTML5 video: event-driven scripting and JavaScript APIs | **WEIGHTING:**  25% |
| **Type** | Individual | |
| **Deadline** | As indicated on Moodle | |
| **Assessment Criteria:** | Summarised in the attached MarkSheet. Further detail in the Assessment Notes document (Style Guide) document and weekly Lab Worksheets. | |
| **Formative Feedback** | In your timetabled lab class during Checkpoint week (week commencing 3 December 2018) | |
| **Submission** | Zip files and upload to Moodle, demonstrate during timetabled lab class | |
| **Summative Feedback format:** | Feedback on the criteria in the Marksheet as contained within this document will be made available 3 working weeks after the deadline. | |

**Learning Outcomes Assessed:**

LO1: Recognise and select basic client side technologies for particular purposes

LO2: Write efficient and readable client-side code that is event- and object-driven, and runs on multiple browsers and platforms

LO3: Apply web design usability principles in the creation of web content based on the business requirements of a given scenario, paying due cognizance to professional, legal and ethical issues

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It is your responsibility to ensure that your work is complete and available for assessment by the date given on Moodle. If submitting via Moodle, you are advised to check your work both before and after upload; and that all content is fully accessible to tutors. You should make at least one full backup copy of your work.

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Penalties for late hand-in: see Regulations for Undergraduate Programmes of Study: <https://www.mmu.ac.uk/academic/casqe/regulations/assessment/docs/ug-regs.pdf>. The timeliness of submissions is strictly monitored and enforced.

Exceptional Factors affecting your performance: see Regulations for Undergraduate Programmes of Study: see <https://www2.mmu.ac.uk/student-case-management/guidance-for-students/exceptional-factors/>

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**Summary of Assessed Elements:**

*The JavaScript Assessment 2CWK25 is embedded in the four Worksheets. This summary* ***cannot*** *substitute in any way for working through the four Worksheets, which are your primary point of reference! Attempts to do the Assessment that bypass the Worksheets and/or the Style Guide, will NOT receive marks.*

The seven elements of JavaScript functionality that will be formally assessed are summarised below, along with the marks allocated to each. It is essential that you complete these in the context of having completed and understood Worksheets for Weeks 6, 8, 9 and 10, plus a thorough reading of the Style Guide: assessment criteria prioritise understanding and specific techniques taught in those Worksheets and lectures. **Work that ignores the Style Guide and the Worksheets will not receive any marks.** The seven assessed elements must be integrated with the other controls that are taught in the Worksheets, an understanding of which forms the basis on which you will be able to complete the assessed elements.

While you will receive assistance with the similar Transfer-of-Understanding tasks in the Worksheets, you must complete these seven assessed elements **without assistance**, based on your understanding of the Worksheets and your study on the unit. This is a summary only, indicating mark allocations: the tasks are fully specified and contextualised in the weekly Worksheets. You can only complete them successfully in the context of your lab work, lectures, and directed independent study: they **cannot be attempted directly**, **without completing the Worksheets**. Further details on each assessed task, including hints and tips, are integrated into the instructions in Worksheets 9 and 10.

1. **volume slider** [functionality marks: 10]
   1. video soundtrack is silent when dragged to far left, loudest possible value when dragged to far right;
   2. defaults/starts up on a middle value.
   3. Small container element next to it indicates volume level on scale from 0 to 10.
   4. Slider moves to far left when the mute button is used to mute the audio; and back to the middle value when it is unmuted.
   5. Caption of the mute button changes accordingly.
2. Current **playback time field** [functionality marks: 6]
   1. field contains the current playback time, expressed in minutes and second (e.g. 01:08).
   2. Reflects changes made via the scrub slider.

*May be separate from, or together with, the field displaying the duration.*

1. >> **forward-step button**: [functionality marks: 2]   
   Forward 30 seconds on click [changes reflected in current playback time field]
2. << **back-step button**: [functionality marks: 8]
   1. Skip back 10 seconds on click; rewind completely on double-click.
   2. changes reflected in current playback time field
3. **speed changer**: [functionality marks: 6]   
   drop-down containing speeds as specified in Worksheet; should start off at normal speed (x1). Code should be the most concise solution.
4. **video paused on tab switch** [functionality marks: 8]
   1. video pauses when user switchesto another tab, or minimises the window.
   2. video resumes playback when user switches back.
   3. If the video is already paused and the user switches tab, the video should remain paused when they return to the video.
   4. Button captions should be adjusted as needed.
5. Create **keyboard shortcuts** as follows [functionality marks: 10]:
   1. up arrow key pressed: volume increases by 10%
   2. down arrow key pressed: volume decreases by 10%
   3. left arrow key pressed: playback steps back 10 seconds
   4. right arrow key pressed: playback steps forward 30 seconds
   5. ‘m’ key pressed: mutes video
   6. spacebar pressed: plays/pauses video

*Note:*

* *The remaining 50% of marks are allocated to the* ***readability*** *of your code and adherence to the Style Guide. For each of the seven assessed tasks the number of marks for readability is the same as that for functionality.*
* *Code* ***must*** *be written in accordance with the Style Guide provided for the unit, and on the basis of understanding the principles and techniques taught in the Worksheets.*
* *Code that is produced without first having worked through the Worksheets, on the basis of third-party sources, will either fail or, if substantially copied from those sources, be referred for plagiarism.*
* *ALL other controls covered in the Worksheets MUST be included and be working.*

**Formative CheckPoint**: your timetabled laboratory session in the week commencing 3 December 2018.

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| **2CWK25 Marksheet** | | | Student name: |  | | | | |  | |  | |
| Functionality |  |  | 10 | 8 | 6 | 4 | | 2 | 0 | | Readability  of code\* | |
| A. Volume Slider |  | */10* | video soundtrack is silent when dragged to far left, loudest possible value when dragged to far right; defaults/starts up on a middle value; small container element next to it indicates volume level on scale from 0 to 10; slider moves to far left when the mute buttonis used to mute the audio; and back to the middle value when it is unmuted; caption of the mute button changes accordingly | video soundtrack is silent when dragged to far left, loudest possible value when dragged to far right; defaults/starts up on a middle value; small container element next to it indicates volume level on scale from 0 to 10; **slider moves to far left when the mute button is used to mute the audio; and back to the middle value when it is unmuted.** | video soundtrack is silent when dragged to far left, loudest possible value when dragged to far right; defaults/starts up on a middle value; s**mall container element next to it indicates volume level on scale from 0 to 10.** | video soundtrack is silent when dragged to far left, loudest possible value when dragged to far right; **defaults/starts up on a middle value** | | video soundtrack is silent when dragged to far left, loudest possible value when dragged to far right; | Not working | |  | 10 |
| B. Current playback time |  | */6* |  |  | Field contains the current playback time, expressed in minutes and second (e.g. 01:08). Initialised at 00:00. reflects changes made via the scrub slider. | field contains the current playback time, expressed in minutes and second (e.g. 01:08). Initialised at 00:00. | | field contains the current playback time expressed in minutes and second (e.g. 01:08). | Not working | |  | 6 |
| C. >>forward-step button |  | */2* |  |  |  |  | | Playback jumps forward 30 seconds on click, changes reflected in the current time field. | Not working | |  | 2 |
| D. << back-step button |  | /8 |  | Playback jumps back 10 seconds on click; and rewinds completely on double-click; video stops and displays poster image; play button caption is changed for this and the play button itself by a single function outside of the event handlers that responds to the video state. | Playback jumps back 10 seconds on click; and rewinds completely on double-click; video stops and displays poster image. | Playback jumps back 10 seconds on click; and rewinds completely on double-click | | Playback jumps back 10 seconds on click; changes reflected in current time field | Not working | |  | 8 |
| E. Speed changer |  | /6 |  |  | Dropdown with all speeds as specified, all working; starts off at normal speed; short solution, without conditions | Dropdown with all speeds as specified, all working; starts off at normal speed | | Dropdown with all speeds as specified, all working |  | |  | 6 |
| F. Switching tabs |  | /8 |  | video paused when user switches to another tab, or window minimized; video resumes playback when user switches back; if video already paused, remains paused when user returns to video after switching tab; button captions adjusted as needed. | video paused when user switches to another tab, or window minimized; video resumes playback when user switches back. | video paused when user switches to another tab, or window minimized. | |  | Not working | |  | 8 |
| G. Create keyboard shortcuts |  | /10 | All shortcuts work, volume slider and field indicating volume level both update; playback time updates; most up-to-date events used. | All shortcuts work, volume slider and field indicating volume level both update. | All shortcuts work, and volume slider updates for volume shortcuts | All six keyboard shortcuts work | | Some keyboard shortcuts work |  | |  | 10 |
| Functionality  Mark | 0 | 50 | Readability  Mark | | | | | | | | **0** | 50 |
| Feedback |  | | | | | | | | | | | |
|  | | | | | | | TOTAL % | | | **0** | | |

If an element of functionality is present out of sequence, the value of the step (typically, 2 marks) will be awarded.

See Style Guide for full Readability criteria. **All** code must be in separate .js file and use DOM Level 2 listeners only.

Initiative taken on using helper functions, and making code more coherent, will be rewarded.

**Graduate Outcomes assessed**

Many of the specific criteria in your MarkSheet map onto the following Graduate Outcomes and accompanying Standard Descriptors. Graduate Outcome 3 and its grade descriptors reflect in-code comments and identifiers that communicate clearly, effectively, and accurately to other coders what is happening in the code; Graduate Outcome 6 your ability to apply understanding based on learning and reference material.

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| Graduate  Outcome  Grade  Grade range | 3 | 6 |
| Express ideas effectively and communicate information appropriately and accurately using a range of media including ICT | Find, evaluate, synthesise and use information from a variety of sources |
| 86%-100% | Ideas are presented creatively to an audience of peers using a defined range of strategies and media. | Information from primary and secondary sources is carefully collected, analysed, interpreted and applied to new problems under supervision, bringing insight to the analysis. |
| 70%-85% | Ideas are presented fluently to an audience of peers using a defined range of strategies and media. | Information from primary and secondary sources is meticulously collected, analysed, interpreted and applied to specific problems under supervision, bringing insight to the analysis. |
| 60%-69% | Ideas are presented convincingly to an audience of peers using a defined range of strategies and media. | Information from primary and secondary sources is thoroughly collected, analysed, interpreted and applied to specific problems under supervision. |
| 50%-59% | Ideas are presented confidently to an audience of peers using a defined range of strategies and media. | Information from primary and secondary sources is carefully collected, analysed, interpreted and applied to specific problems under supervision. |
| 40%-49% | Ideas are presented adequately to an audience of peers using a defined range of strategies and media. | Information from primary and secondary sources is collected, analysed, interpreted and applied to specific problems under supervision. |
| 35%-39% | Unclear or confused ideas are presented to an audience of peers using a defined range of strategies and media. | Insufficient information from primary and secondary sources is collected, analysed, interpreted and applied to specific problems under supervision, or the analysis of such information is inadequate or incomplete. |
| 20%-34% | Unclear and confused ideas are presented to an audience of peers using a defined range of strategies and media. | Errors are made when information from primary and secondary sources is collected, analysed, interpreted and applied to specific problems under supervision, and the analysis of such information is inadequate and incomplete. |
| 0%-19% | Unstructured or wrong ideas are presented to an audience of peers using a defined range of strategies and media. | Extremely limited or no information from primary and secondary sources is collected, analysed, interpreted and applied to specific problems under supervision. |