|  |  |
| --- | --- |
| Multimedia Revision – Use the table provided to create notes | |
| Development process for multimedia applications | |
| Description of the software development process as it applies to the development of multimedia applications |  |
| Description of methodologies used in the creation or definition of a multimedia application, including: |  |
| * WYSIWYG editors and text editors to create web pages |  |
| * authoring software to create multimedia applications |  |
| * presentation software to create presentations |  |
| Description of the methodologies and requirements for the display of a multimedia application, including streaming of multimedia data and embedded files |  |
| Explanation and exemplification of the terms ‘codec’ and ‘container’ file |  |
|  |  |
| Bit-mapped graphic data | |
| Description of the hardware used to capture still graphic data, including: |  |
| * digital camera |  |
| * + array CCD |  |
| * + memory card storage medium |  |
| * scanner |  |
| * linear CCD |  |
| * role of ADC |  |
| Description of the storage of graphic data in compressed and uncompressed file formats, |  |
| Simple description of the techniques used within each file for compression and data storage, including: |  |
| * bitmap (indexed colour or CLUT) |  |
| * 24-bit bitmap and compressed bitmap (RLE) |  |
| * GIF (animation, (non)-interlaced, LZW) |  |
| * JPEG (description of factors involved) |  |
| * PNG (CLUT or RGB, transparency, compressed) |  |
| Description of RGB colour codes and their effect on the overall colour produced |  |
| Calculations using the relationship: |  |
| * File Size = pixels x colour depth (bits) |  |
| Calculation of number of pixels from height, width and resolution |  |
| Explanation of the following image related terms: |  |
| * dithering |  |
| * anti-aliasing |  |
| * increase resolution (re-sampling) |  |
| Description of features of graphics cards involved in displaying 2D graphics, including: |  |
| * role of DAC |  |
| * role of GPU/DSP (to allow effects to be applied by hardware) |  |
|  |  |
| Digitised sound data | |
| Description of sound card in its use to capture sound data including role of ADC |  |
| Description of the storage of sound data in compressed and uncompressed file formats, |  |
| Simple description of the techniques used within each file for compression and data storage, including: |  |
| * RAW (PCM) |  |
| * RIFF (ADPCM) (including WAV) |  |
| * MP3 (description of factors involved) |  |
| Description of the following terms in relation to audio files: |  |
| * bit-rate to describe data throughput for a sound file |  |
| * normalising sound files |  |
| Calculations using the relationship: |  |
| * File Size (bytes) = Sampling Frequency (Hz) x Sound Time (s) x Sampling Depth (bytes) x Channels |  |
| Explanation of the following sound related terms: |  |
| * clipping |  |
| * stereo, |  |
| * surround sound |  |
| * fade |  |
| Description of features of sound cards, including: |  |
| * role of DAC |  |
| * role of DSP (to allow hardware decoding of sound files) |  |
|  |  |
| Video Data | |
| Technical description of hardware required to capture digital and analogue video: |  |
| * digital video camera (array CCD) |  |
| * web cam (array CCD) |  |
| * video capture card (role of ADC and role of DSP to allow hardware encoding of data stream including into MPEG format) |  |
| Description of the storage of video data in compressed and uncompressed file formats |  |
| Simple description of the techniques used within each file for compression and data storage and the inclusion of sound within the file, including: |  |
| * uncompressed AVI |  |
| * MPEG (description of factors involved) |  |
| Description of term bit-rate to describe data throughput for a video file |  |
| Calculations using the relationship: |  |
| * File Size (bytes) = pixels per frame x Colour Depth (bytes) x Video Time (s) x Frame Rate (fps) |  |
| Description of the main features and applications of video editing software with multiple clips, including: |  |
| * timeline |  |
| * transition |  |
| * sequencing |  |
| Description of features of graphics cards for output of video, including: |  |
| * role of DAC |  |
| * role of DSP (to allow hardware decoding of data stream including MPEG files) |  |
|  |  |
| Vector Graphics Data | |
| Description of features of vector formats: |  |
| * object oriented data storage |  |
| * more storage efficient than bitmap storage |  |
| * output quality matches hardware capability |  |
| * conversion to bitmap formats |  |
| Description of common attributes of vector graphic objects: |  |
| * drawing (shape, position, size, rotation, line, fill) |  |
| * 3D image (shape, position, size, rotation, texture) |  |
| Description of basic features and structures of vector graphic file types, including methods used to implement common attributes listed above for these file types: |  |
| * SVG |  |
| * VRML/WRL |  |
|  |  |
| Synthesised sound data | |
| Description of common attributes of notes stored as MIDI data |  |
| * instrument |  |
| * pitch |  |
| * volume |  |
| * duration |  |
| * tempo |  |
| Description of advantages and disadvantages of storing sound as MIDI data |  |
|  |  |
| Implications of the use of multimedia technology | |
| Description of trends and changes in contemporary technologies that facilitate the convergence of technologies in relation of multimedia capabilities, including: |  |
| communications |  |
| * buses |  |
| * wireless standards |  |
| * increasing bandwidth |  |
| * including USB |  |
| * Firewire |  |
| * WiFi |  |
| * Bluetooth |  |
| storage technologies |  |
| * decreasing size and price |  |
| * increasing capacity |  |
| * including optical |  |
| * magnetic |  |
| * holographic |  |
| * processor |  |
| * increasing power |  |
| display technologies |  |
| * including real and virtual 3D displays |  |
| * flat displays |  |