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| 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
 |  |