CS5820: GPU-HW-SW Assessment

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Software section

What is a vblank   1 point

- [ ] A display event which occurs after every scanline is processed
- [ ] All of the above
- [ ] A user configurable event indicating that buffer is flipped
- [x] A Display event when full frame is processed

Which of the following is true with regards to the difference between refresh rate and frame rate?   1 point

- [x] Refresh rate can be higher than frame rate, in terms of screens of information displayed per second, when considered for any given video output.
- [ ] The frame rate of a monitor is adjustable, while the refresh rate is fixed.
- [ ] Content is recorded at a specific refresh rate, and output on a monitor at a specific frame rate.
- [ ] Monitors are rated only in refresh rate or frame rate, but never both.

Which of these should ideally be inside igt_fixture?   1 point

- [ ] igt_require(num_planes < 0);

☑ igt_require(num_displays > 1), for a dual display test.

☑ igt_require(num_planes > 0); for a plane related test.

☐ None of the above.

Logical Ring Context consists of   1 point

☑ GPU address space seperation

☐ List of BB

☑ Hardware state save/restore

☑ Timeline of execution

Which function initializes igt_display_t structure.   1 point

☐ igt_display_fini().

☐ Igt_display_reset().

☐ igt_display_require_output().

☑ igt_display_require()

Which of the below functions waits for 1 vertical blank interval?   1 point

☐ igt_wait_for_vblank_count(int drm_fd, int crtc_offset, int count), with count > 1.

☐ kmstest_get_vbl_flag(int crtc_offset).

☐ None of the above.

☑ kms_has_vblank(int fd).

Which of the following display connectors is designed for an analog signal?   1 point

☐ HDMI

☑ DVI

☑ VGA

☑ Display Port

How Display Atomic Framework in DRM ensures atomicity   1 point

☑ Having the update divide in 2 parts, check and commit

☐ By having one single driver interface for all the display updates

☐ By maintaining display configuration as states

☐ By creating display attributes as properties

Which of the following determines the pixel clock needed for a mode   1 point

☐ Aspect Ratio

☑ Frame rate

☑ Hactive

☑ Refresh rate

We are flip at a rate of 24fps, but refresh rate is 60. Which of the below will happen   1 point

☐ Driver will reject the configuration

☐ a and b

☑ We will get display artifacts on screen

☑ Same frame will be shown multiple times on screen

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ret = 2; igt_require(ret > 1); What will be the result here?   1 point

☐ sub-test skips

☑ Execution continues to the next statement.

☐ sub-test fails

☐ None of the above.

Which is the first IOCTL to start getting display hardware capabilities in userspace   1 point

☐ DRM_MODE_GETCRTC

☑ DRM_MODE_GETRESOURCES

☐ DRM_MODE_GET_ENCODER

☐ DRM_MODE_GETCONNECTOR

Why updating display configuration atomically is important   1 point

☑ We will see tearing otherwise

☑ We will see flickers

☑ System can get stuck

☐ Changes will be discarded by hardware

BO is well described as   1 point

☑ Is a 32 bit handle

☑ Can be shared amongst the processes

☑ Content is data and instructions

☐ Chunk of memory in the flash

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