

Alfredo Romero

SNHU

CS-350 Emerging Sys Arch & Tech

### 3-2 Milestone Two Submission

#### **1. How does the macro `UART\_DATA\_BINARY` impact the UART?**

The macro `UART\_DATA\_BINARY` configures the UART to handle data as raw binary bytes. This means the UART will transmit and receive data exactly as it is without interpreting it as text. For example, it will not convert newline characters or perform any special processing on the data. It's like sending a sealed package without opening it to check its contents.

#### **2. How does the macro `UART\_RETURN\_FULL` impact the UART?**

The macro `UART\_RETURN\_FULL` ensures that the UART read function only returns data when the full amount requested has been received. For instance, if you request a box containing exactly 10 items, `UART\_RETURN\_FULL` ensures you get the box only when all 10 items are inside, not before.

#### **3. What driver call would you use to write 10 characters out of the UART?**

To send 10 characters through the UART, you use the `UART2_write` function. Here's an example:

```
char data[10] = "ABCDEFGHJI"; // The 10 characters we want to send

size_t bytesWritten;

UART2_write(uart, data, 10, &bytesWritten);
```

In this example:

- `data` is an array containing the characters "ABCDEFGHJI".
- `uart` is the UART handle used for communication.
- `10` is the number of characters to send.
- `bytesWritten` will indicate how many characters were actually sent.

#### **4. What is the driver call to turn off LED 0?**

To turn off LED 0, you use the `GPIO_write` function as shown below:

```
GPIO_write(CONFIG_GPIO_LED_0, CONFIG_GPIO_LED_OFF);
```

In this example:

- `CONFIG_GPIO_LED_0` refers to LED 0 in the code.

- `CONFIG\_GPIO\_LED\_OFF` is the command to turn off the LED.

## 5. What is the UART baud rate?

The UART baud rate is the speed at which data is transmitted over the UART. In the provided code, it is set to 115200 bits per second. This common communication speed is configured as follows:

```
UART2_Params uartParams;  
  
UART2_Params_init(&uartParams);  
  
uartParams.baudRate = 115200;
```

Thus, the UART will send data at 115200 bits per second.