TiVA Client- Sensor integration

Heartbeat Status
shared memory

Heartbeat Thread
Increment_HB_count()
HB_timeout_alert()

Main Thread
init_threads()
Exit_functions()
Initialize_queues()
Initialize_RTC() (data timestamp)
Initialize_timers()

Data and Command Interpretation / Handling
IPC_queue_string_formatting()
IPC_message_distribution()
Manage_user_input()
Manage_socket_communication()

Error Handling
Thread_timeout_handler()
Sensor_tmout_handler()
Input_err_handler()
Comm_err_handler()

UART Rx Queue | **UART Rx Notify**

User interface (UART) ISR Rx/Tx

Remote Request Socket Thread
Init_socket_client()
Send_msg()
Receive_msg()

Socket Queue

Inter-thread message queue

GPIO Task Notify

GPIO Control Thread
Led_status()

RFID Queue | **Camera Queue**

RFID Thread
Initialize_sensors()
Read_sensor_id()
Read_sensor_data()
Write_sensor_config()

Camera Control Thread
Initialize_sensors()
Read_sensor_id()
Read_sensor_data()
Write_sensor_config()

BBG Server – Logging and UI

UART Rx Queue | **UART Rx Queue**

User interface (UART) ISR Rx/Tx

Remote Request Socket Thread
Init_socket_server()
Send_msg()
Receive_msg()

Socket Queue

Main Thread
init_threads()
Exit_functions()
Initialize_queues()
Initialize_RTC() (server timestamp)
Initialize_timers()

Data and Command Interpretation / Handling
IPC_queue_string_formatting()
Ipc_message_distribution()
Manage_user_input()
Manage_socket_communication()
Display_sensor_events()
Display_sensor_data()
Display_client_status()
Display_server_status()

Error Handling
Thread_timeout_handler()
Input_err_handler()
Comm_err_handler()

Inter-thread message queue

GPIO Task Notify

GPIO Control Thread
Led_status()

Heartbeat Status
shared memory

Heartbeat Thread
Increment_HB_count()
HB_timeout_alert()

Log Queue

Logger Thread
Read_from_mqueue()
Log_string_formatting()
Log_exit()
Open_logfile()
Close_logfile()
Write_log_str()

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