- **Main thread** MainWindow
  - **Initialize the main thread** MainWindow
    - **Set interface** setupUi
    - **Initialize the weight sensor thread** hx711_thread
    - **Initialize the detect thread** Detect_pet_thread
  - **Main thread destructor** ~MainWindow
  - **Click the camera button**
    - **Turn on the camera** m_Camera_precess.openCamera
    - **Timer preview** open_camera_preview_time
      - **Capture preview image** frame=m_Camera_precess.previewCamera();
      - **Copy the image to the detect thread** mDetect_pet_thread->setMainThreadImage(frame);
    - **Get the value of hx711** mhx711_thread->getHx711Value()
    - **Update UI**
      - **Display images in real time**
      - **Display progress bar value**
      - **Display weight sensor value**
      - **Display the times pets drink water**
  - **Click the exit button** on_bt_stop_clicked
  - **Click the detect button** on_start_detect_clicked
    - **Start the weight sensor thread** mhx711_thread->start()
    - **Start the detect thread** mDetect_pet_thread->start()

- **Detect thread** Detect_pet_thread
  - **Model initialization** InterpreterBuilder
  - **Initialize the water pump pins** Motor_control::initPin()
  - **Thread execution function** run
    - **Detect the dog** detect_from_video
    - **Output detect time** (ends-starts)
    - **The water volume is less than the setting and the dog is found, and the motor callback is executed** callbackPet(Motor_control::motor_run);

- **hx711 thread** hx711_thread
  - **initialize port** hx711_thread
  - **Set feeding amount from progress bar** setHx711ValueFromUi
  - **Thread execution function** run
    - **Detect weight** m_weight_value=(int)hx.weight(10)
    - **Output detect time**
    - **The detected weight is less than the set feeding amount, and the global variable is set** m_globalwrapper_MM=1