

Stalker

Heartbeat-messaging process manager for TouchDesigner088 projects.

Overview

Most process watchers around work on `.exe` files. This is a problem for TouchDesigner since project files are `.toe` files. This small app was designed to be as lightweight as possible and works by creating a minimal amount of communication needed between TouchDesigner and *Stalker* to determine if your project is alive or dead. If it's dead, *Stalker* takes full screen screenshots, logs error times and system resource stats, sends an email notification to you with the log attached, and then proceeds to terminate and relaunch the TouchDesigner project.

Features

- Specifically built to monitor TouchDesigner088 projects
- Uses messaging heartbeats to determine project state
- Receives framerate and process resource usage from TouchDesigner088 process
- Continually forces focus and ensures your TouchDesigner088 project is the top-most window
- Logs error times and system stats
- Takes a full screen screenshot of the crashed system
- Sends an email notification when TouchDesigner crashes and when system is rebooted
- Terminates stalled processes and relaunches them if needed
- Reboots the whole system after repeated process crashes/stalls

Pre-requisites

Stalker requires Microsoft Visual Studios Redistributables 2015 x86. The installation for this can be found in the root folder as `vc_redist.x86.msi`.

Setup

Stalker is self-managing after you set it up. Do *NOT* run `Stalker.exe` before finishing all of these setup instructions.

First, we need to define all the settings. *Stalker* reads all of its settings from a JSON file located inside of the `data` folder named `settings.json`. Here is an example settings file and explanation of the values below.

```
{
  "project_details":{
    "path":"C:\\Some_folder\\use\\double\\backslash\\some.toe",
    "name":"Name of your project"
  },
  "email_credentials" : {
```

```

    "username" : "YOUR.USERNAME@gmail.com",
    "app_password": "yourGeneratedAppPassword"
  },
  "error_email_settings":{
    "to_email":"RECEIVER@poorSoul.com",
    "subject_line":"The project just died",
    "body":"A friendly note that the project here has died, thanks!"
  },
  "screen_setup":{
    "resolution_x":1920,
    "resolution_y":1080
  },
  "launch_wait_timer_in_seconds" : 30,
  "TCP_port" : 11999,
  "time_till_termination_in_seconds": 60,
  "reboot_flag":true,
  "number_of_crashes_before_reboot":2
}

```

Project details

In the `project_details` dictionary, `path` should be the path to your TouchDesigner project file. Be sure to use double-back slashes in the path. The `name` key is what you call the project and this name will be used in the email notifications.

Email credentials

In the `email_credentials` dictionary, `username` is your Gmail username. I suggest making a new Gmail account for each installation to avoid Google shutting off your account, as Google doesn't like bot mailing. You will need to enable 2-factor authentication in the Gmail account, and then generate a new App Password to use here (not your login password). Here are the instructions to do that:

- 1) [Go to this link](#) and follow the instructions to setup 2-Step Verification on the new Google account. This will require confirmation via SMS.
- 2) [Go to this link](#) and in the `Select an app` dropdown, choose `Other` and enter `Stalker`
- 3) In the `Select a device` dropdown, choose `Other` and enter the name of your installation.
- 4) You will be shown the app password, which looks like 4 blocks of 4 characters. Copy and paste this app password into the `app_password` field. *NOTE:* It looks like there is a space between each of the 4 blocks, but there isn't. The password should look like `chsnirjfoskrhenf`.

Email settings

In the `error_email_settings` dictionary you can outline the email notification you will receive. The `to_email` should be the email address that should receive the email. The `subject_line` and `body` are respectively the email subject and the body.

Screen setup

In the `screen_setup` dictionary you should specify the full Windows resolution as the `resolution_x` and `resolution_y` keys. The full Windows resolution should be all your displays, not just the size of your TouchDesigner window.

Misc settings

The `launch_wait_timer_in_seconds` is the amount of time *Stalker* will sleep for after it launches your process (either on initial boot or on crash. This should be a conservative amount of time. I recommend timing how long your project takes to open, and then doubling that.

The `TCP_port` is the TCP/IP port that *Stalker* uses to communicate with the `Stalker.tox` companion component. In general you shouldn't need to change it, but it is available if for some reason you do need to change it. Be sure to also update the TCP/IP port inside the `Stalker.tox`.

The `time_till_termination_in_seconds` is the amount of time *Stalker* will wait after the last received update from TouchDesigner before deciding it is crashed, terminating it, and then reopening it. Again, this should be a conservative amount, some like a minute or two minutes.

The `reboot_flag` is a bool (`true` or `false`) on whether you would like *Stalker* to reboot the system after a certain number of crashes to the TouchDesigner process.

The `number_of_crashes_before_reboot` is the amount of process restarts *Stalker* will attempt before rebooting if the `reboot_flag` is set to `true`.

Usage

After you have finished setting up *Stalker*, follow these steps:

- 1) Start your TouchDesigner project file.
- 2) Add `Stalker.tox` anywhere in your project
- 3) Save and close your project
- 4) Run `Stalker.exe`

Stalker is a process watcher and manager, which means that you should never start the project file yourself. *Stalker* will always take care of running the project, even when you first want to launch the project, you should launch *Stalker* and it will launch the project for you.

For permanent installations you should create a `.bat` file or startup action that will run `Stalker.exe` on boot. *Stalker* will take care of the rest and boot your project and monitor it going forward.

If you need to close your project or stop process monitoring, close *Stalker* first, then proceed to close your project.

JSON validity

Stalker will check the validity of the `settings.json` file. If there is an issue with it, *Stalker* will display a JSON error. Use a tool like this [JSON Formatter](#) to confirm that your JSON file is valid. Also confirm that the path to the project is correct.

Logs

Log files are saved in `data\logs`. It creates a new log file each day to minimize file size. When the system crashes you will receive the log file for that day.

Screenshots

Screenshots of the system are saved in `data\captures`. In most cases full size screenshots may be quite large png files, so you will have to retrieve them manually when you access the system. The format of the name is:

`screenshot_YEAR_MONTH_DAY_HOUR_MIN_SECONDS`

Limitations

- Currently only works with a single TouchDesigner088 process running on the system

Attribution

- [Boxcutter](#)
- [ofxJsonSettings](#)
- [ofxSMTP](#)
- [ofxSSLManager](#)