The ITU Gaze Tracker is an open-source eye tracker that aims to provide a low-cost alternative to commercial gaze tracking systems and to make this technology more accessible. It is developed by the Gaze Group at the IT University of Copenhagen and other contributors from the community, with the support of the Communication by Gaze Interaction Association (COGAIN).

The eye tracking software is video-based, and any camera equipped with infrared nightvision can be used, such as a videocamera or a webcam. The cameras that have been tested with the system can be found in our forum . We encourage users and developers to test our software with their cameras and provide feedback so we can continue development.

Download

The ITU Gaze Tracker is hosted in SourceForge . You can download the binaries or check out the code in the given link.

In order to run the software, uncompress the zip file and double click on GazeTrackerUI.exe. No installation is necessary.

Manual and Screencast

The user's guide to run and configure the ITU Gaze Tracker can be downloaded from here (PDF document)

You can also follow this screencast on youtube to help you in the setup process.

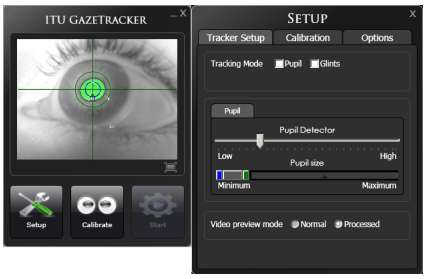
If you have questions regarding your specific configuration, or would like some new features implemented in the software, please visit our forum .

System requirements

The requirements to run the ITU Gaze Tracker are:

- Windows XP with Service Pack 2
- .NET Framework 3.5 SP1
- A webcam or videocamera with **nightvision and infrared illumination** (check supported hardware)
- A fairly decent computer

Screenshots



Reference

If you use the ITU Gaze Tracker in any of your research, please provide a link to this page and a reference to one of the following articles

San Agustin, J., Skovsgaard, H., Mollenbach, E., Barret, M., Tall, M., Hansen, D. W., and Hansen, J. P. 2010. Evaluation of a low-cost open-source gaze tracker. In *Proceedings of the 2010 Symposium on Eye-Tracking Research & Applications* (Austin, Texas, March 22 - 24, 2010). ETRA '10. ACM, New York, NY, 77-80. DOI= http://doi.acm.org/10.1145/1743666.1743685

San Agustin, J., Skovsgaard, H., Hansen, J. P., and Hansen, D. W. 2009. Low-cost gaze interaction: ready to deliver the promises. In Proceedings of the 27th international Conference Extended Abstracts on Human Factors in Computing Systems (Boston, MA, USA, April 04 - 09, 2009). CHI EA '09. ACM, New York, NY, 4453-4458. DOI= http://doi.acm.org/10.1145/1520340.1520682

Contribute

We welcome and encourage contributions by community members. If you find any bugs, have better methods to extract eye features or estimate gaze, or use the gaze tracker in any interesting project, please contact us in our forum .

If you wish to donate to the project, please see our SourceForge donation page . Donations are used to buy new hardware components, like cameras and light sources.

API documentation

The software is equipped with a platform independent network/client API. It streams gaze data via the UDP protocol and accepts commands via TCP/IP. Default ports are UDP 5555, TCP/IP 6666 running on localhost. The number of commands that can be issued via the API expands for each version. Version 1.0 offered gaze data coordinates only. In 1.5 we introduced the option to start calibration from a third party application. In 2.0 we included more options, for example to activate smoothing or starting mouse driver. Full API specifications has yet to be released, see the forum for most up to date information. The source code trunk at gazetrackinglib contains sample implementations on how to use the .Net client in C#.

License

The ITU Gaze Tracker is released under a dual license to satisfy two different purposes: open-source and commercial development.

Open source license

If you want to use the open source license of the ITU Gaze Tracker, you must release your derived code as open source with a license compatible with GPLv3 . We encourage everyone to derive open source products and to contribute to improve the gaze tracker by using our forum
.

To support the development of gaze trackers and gaze-based applications, please consider do

nating
to our project or becoming a member of the Communication by Gaze Interaction Association at cogain.org
.

Commercial license

If you want to derive a commercial product and not release your code, you must purchase a commercial license. This will grant you the right to keep your code closed. If you wish to purchase a commercial license, please contact Martin (infoATmartintall.com)