AnnoStar

Features:

- Manual Behavior Annotation System
- Annotation based on keyboard key presses
- Multiple types of key strokes are possible to detect different types of events such as instantaneous, fixed-range, and variable-range events
- Real-time or offline scoring
- Full Integratable with our Clever Sys products that allows both Automated AND Manual scoring to be performed simultaneously
- Continuous lengthy recordings and analysis possible
- Easy plug-n-play functionality
- Detailed statistics about the manual annotated events that occurred during the experiment
- Automated Binned Data Output
- Automatic Graphing and Charting included!
- Result review, Visualization of Acquired Experiments
- Extensive Experiment Database Management included!

Capabilities of AnnoStar:

- Key Stroke based Annotation
- Instantaneous Events
- Fixed-range events
- Variable-range events
- Manual events are handled just like automated events allowing full statistical analysis.

AnnoStar is an extremely user-friendly, rapid behavior annotation software. It allows the user to view the video of animals on the screen and manually annotate their behaviors along side, with ease. The software contains convenient key controls for rapidly annotating behaviors. The user can also easily modify earlier annotations, split/merge annotations, delete annotations, etc.

The software contains the following convenient features:

- Using keyboard strokes as a mechanism for registering events.
- Easy modification of earlier annotations including ability to add, modify or delete annotations, etc.
- Ability to control the speed of playback, from super-slow (1 frame per second), to super-fast (as fast as possible for the computer, typically 150 frames per second or more).
- With the variable speed playback, the user can slow down where the user needs fine annotations, or can speed up for those areas where a coarse annotation is sufficient.
- Ability to export annotations to statistics software for further analysis, or for use in comparison with automated results generated from other PhenoScan Suite modules. These comparison results can be used to evaluate the performance of the automated modules and design custom improvements for them.
- Capability for deleting and inserting customized behaviors. That makes this tool universally applicable. It can even be used for monitoring behaviors of vehicles.
- Ability to save images to disk. Any of the images in the video file being annotated can be saved separately for use in other documents or as samples.
- Ability to review all the annotations by easy mouse clicks and be able to refine those annotations, if the user needs to.

AnnoStar
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Applications:

- **Group Animal Behavior**
- **Fruit Fly/Drosophila monitoring**
- **Zebra Fish monitoring**
- **Group of bees, birds, etc.**
- **Group of mice, rats, or even larger animals**

Results:

- **Statistics of Manually Annotated Events**
- **Automatic Export to Excel**
- **Complete Experiment Database Management**
- **Summary of All Occurred Events, Times of occurrence, Durations, Latency to occurrence**
- **Binned data at user-defined bin intervals**

Product Options:

- **Realtime Option (R Option)**

Requirements:

- **Windows-based PC**
- **Intel High-speed Processor**
- **Special Videocard for realtime analysis**
- **Large HDD space for storage**
- **IR-switchable camera or red-light for night**
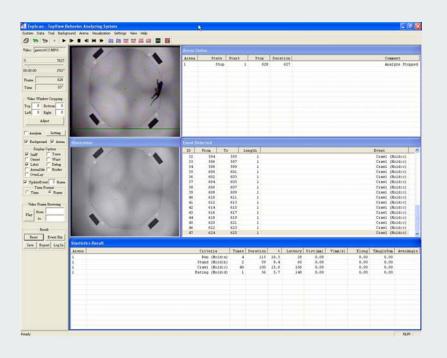- **Video-multiplexer for multi-camera feed**

AnnoStar is fully Integratable with our other products, implying manual annotation can be performed simultaneously as automated analysis is being performed on the video. This full integration essentially makes manual events equal to automated events, i.e., both are treated the same during statistical analysis and result export.

Here is an example. Say, you are performing a complicated social-interaction test where you want to determine if one animal is biting the other. Our SocialScan software can provide interaction information such as time-spent in contact, average distance between the animal, direction of approach, etc. But, it cannot detect biting. If you have SocialScan and AnnoStar installed, you can perform automated Social Interaction analysis while simultaneously watching the video to manually score biting events.

AnnoStar can work in realtime as well as offline. During realtime analysis, the video speed cannot be varied as the speed is dependent on the live feed. During offline analysis however, the speed of the playback can be varied. During parts of video requiring close observation, the video can be slowed down. During parts of the video where the nothing of import is occurring, the video can be sped up.

The Realtime Option is necessary to perform realtime manual annotation where the live video feed into the computer is compressed, encoded, saved to the hard drive while simultaneously the manual annotation of the video is performed.

Complete Turn-key systems including all necessary Hardware and Software are available. Custom design of your environment to facilitate analysis, including lighting condition setup, IR/red light setup, cage enclosures, video integration, and video-feed to computer is also available.

Unique Capabilities:

- **Complete Hardware and Software Solution**
- **Records video 640x480 at 30 frames per sec**
- **Manual annotation based on keyboard key presses**
- **Manual annotation in parallel with automated analysis**
- **Works in any application field**
- **Records video into storage during analysis**

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