

VisionMouse

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Projectmouse (Running) - Microsoft Visual Studio

File Edit View Project Build Debug Team Tools Test Analyze Window Help Mark Gradecki

Process: [5726] Projectmouse.exe Thread: [4348] Main Thread

Source.cpp tracker

Projectmouse

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Autos

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Autos Locals Watch 1

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Tracking - OpenCV

- Camera sends a frame to the tracking algorithm
- Frame is a large matrix of values
- Tracking algorithm compares the frame to a known set of values
- Tracks the portion of the frame that matches closest to the known set

Haar Cascade

- Uses a very large file that contains a series of classifiers
- A classifier is made up of a set of trained features that the tracker searches for
- A 24 X 24 image will have over 160,000 features to check
- Our project uses 500 X 500 frames

Tracked Region

- Takes an initial frame and selects a region of interest
- This is a matrix of simple values
- The algorithm then compares this matrix to the frame from camera
- The region that matches closest will then become the new region of interest

Voice Recognition

- Done with CMUsphinx
- Used to active the mouse button using command words
- “left click” and “right click”