



Secure Livestock Show Solution



Characteristics of an “Ideal” ID System

- Be based on a robust identifier.
- Be humane and non -invasive.
- Resist fraud and include information on location as well as identity.
- Allow rapid, cost - effective, and accurate acquisition of data
- Enable data to be easily and rapidly transmitted, stored and retrieved.

Company Information

Founding

- 1998
- Colorado State University
- Secure Identification

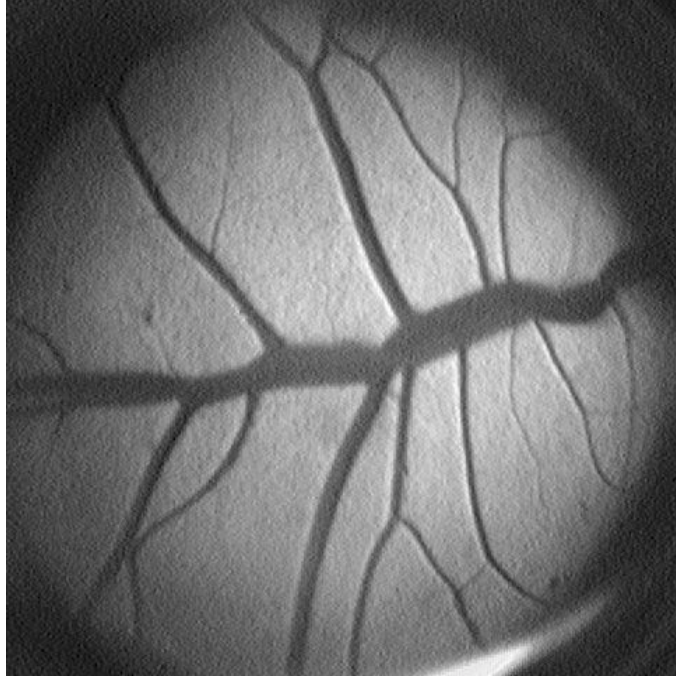
Currently

- Fort Collins, Colorado
- Global Positioning System
- Retinal Vascular Pattern
 - Ruminant- Commercial
 - Companion Animal- Development
- Universal Data Collection



The Retinal Vascular Pattern

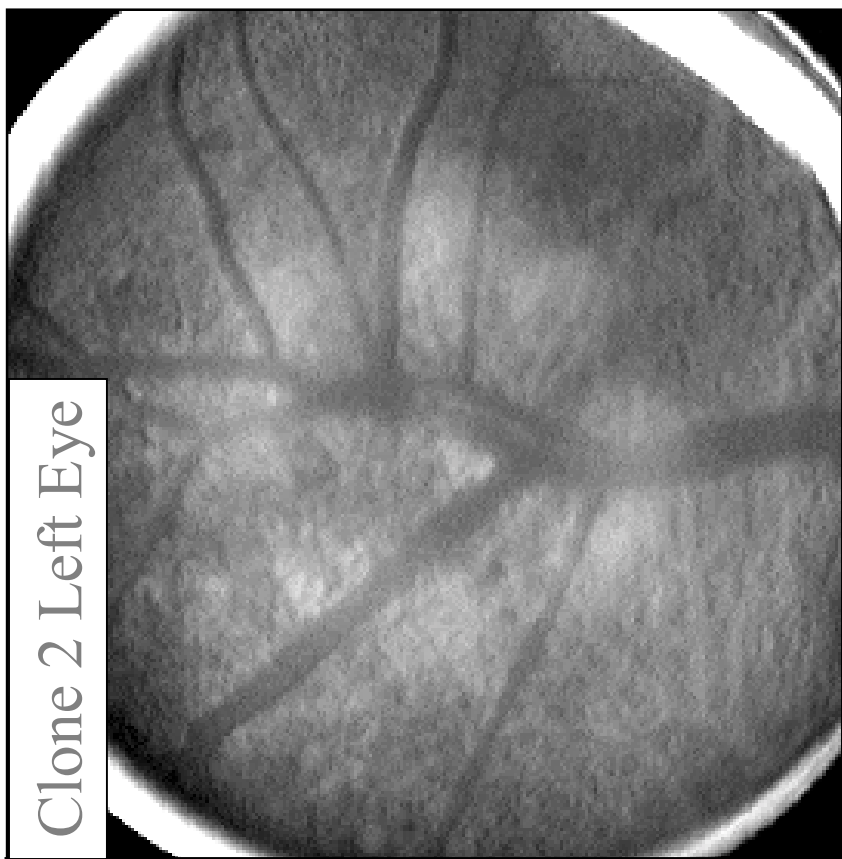
- Unique to every animal
- Each eye is different
- Does not change from birth to hours after death
- Can not be altered, lost or changed
- Link to GPS time, date & location data to provide secure traceability



Cloned Livestock Retinal Patterns Are Unique

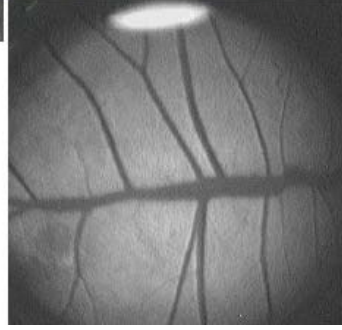


Clone 1 Left Eye



Clone 2 Left Eye

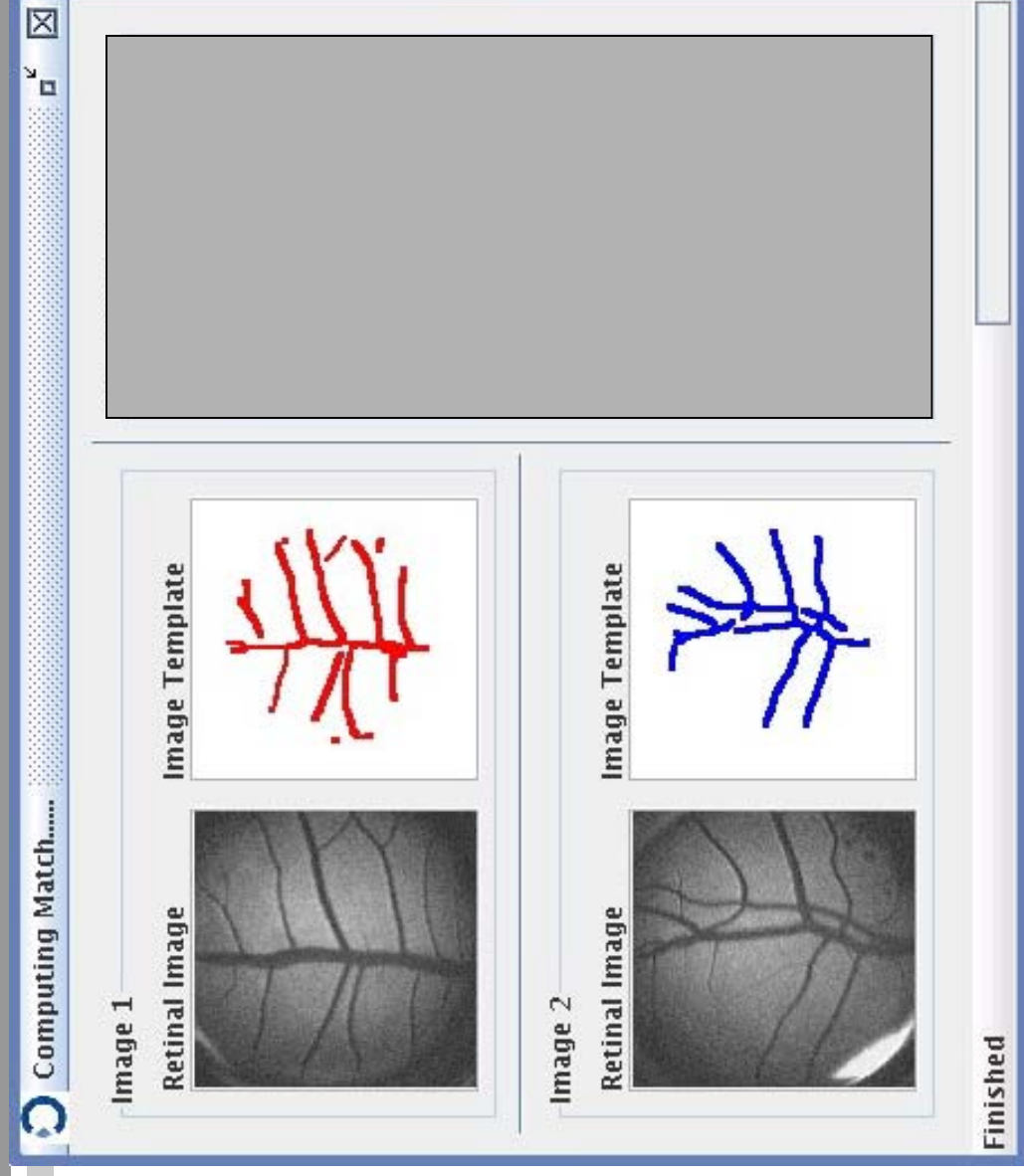
Retinal Image Verification- Visual



Retinal Image Verification- Visual



Retinal Image Verification- Software



Retinal Image Verification- Software

Computing Match.....

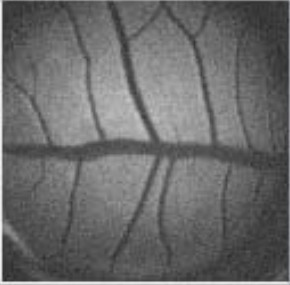
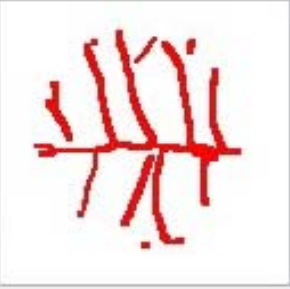
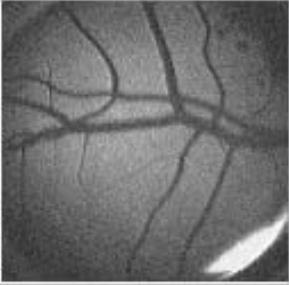
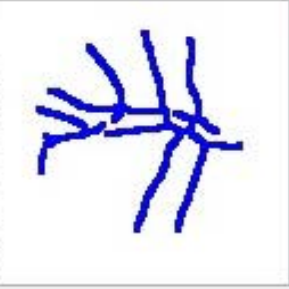
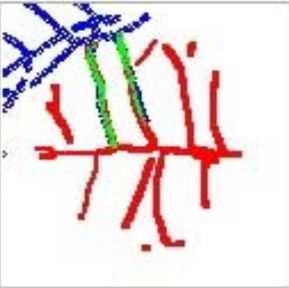
Image 1
Retinal Image  Image Template 

Image 2
Retinal Image  Image Template 

Match Output
Overlay Image 

Overall Score: 48.68

Cancel Match

Show Report

Close

Finished

Retinal Image Verification- Software

Computing Match.....

Image 1

Retinal Image

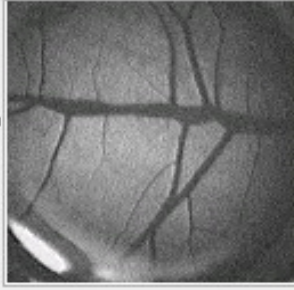


Image Template




Image 2

Retinal Image

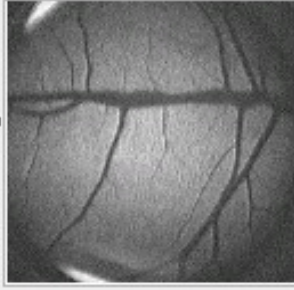



Image Template



Finished

The software interface shows a 'Computing Match' progress bar at the top. Below it, two image pairs are displayed. 'Image 1' shows a grayscale retinal image on the left and a red image template on the right. 'Image 2' shows a grayscale retinal image on the left and a blue image template on the right. A large gray rectangular area is visible on the right side of the interface, likely representing the match result or a comparison area. The status 'Finished' is shown at the bottom right.

Retinal Image Verification- Software

Computing Match.....

Image 1


Retinal Image 


Image Template 

Image 2

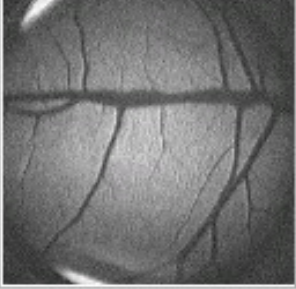

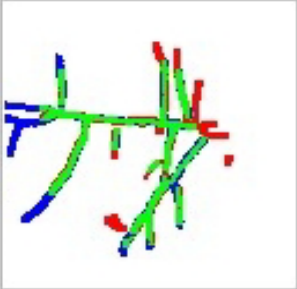
Retinal Image 

Image Template 

Match Output

Overlay Image 

Overall Score: 100.00

Cancel Match

Show Report

Close

Finished

Create Certificates With Optibrand's Software

Jr. Market Steer

Owner's Name: azaa clark
Animal Tag #: r553

Eye One

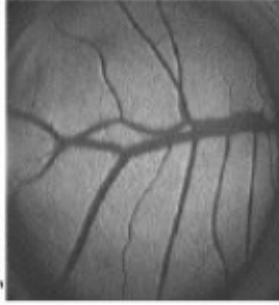


Photo One



Species: Bovine
Breed: n/a

Eye Two

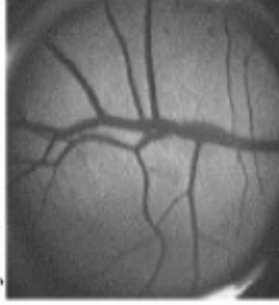


Photo Two

Enrollment Date: 2005-11-23 14:32:40.0
Device ID: f04c04e0450
County: Gold County, CO
Latitude: 40.782328
Longitude: -105.045738
Verification: _____

Notes:
Animal ID will be verified at County Fair
Information Collected By:
Chad Smith
Gold County Extension

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