



Mid-Term Presentation - Beehive Traffic

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Which are our next steps?

GoPro support

- to have the same view each time

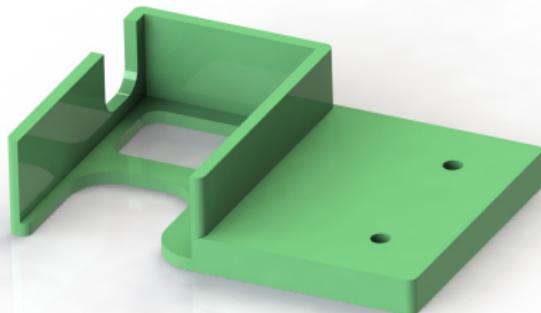


Figure: Support of the GoPro in our hive

Example of the view with this support



Figure: View from the support

Calibration



Figure: Left : frame from the gopro, right : frame after calibration

Background subtraction

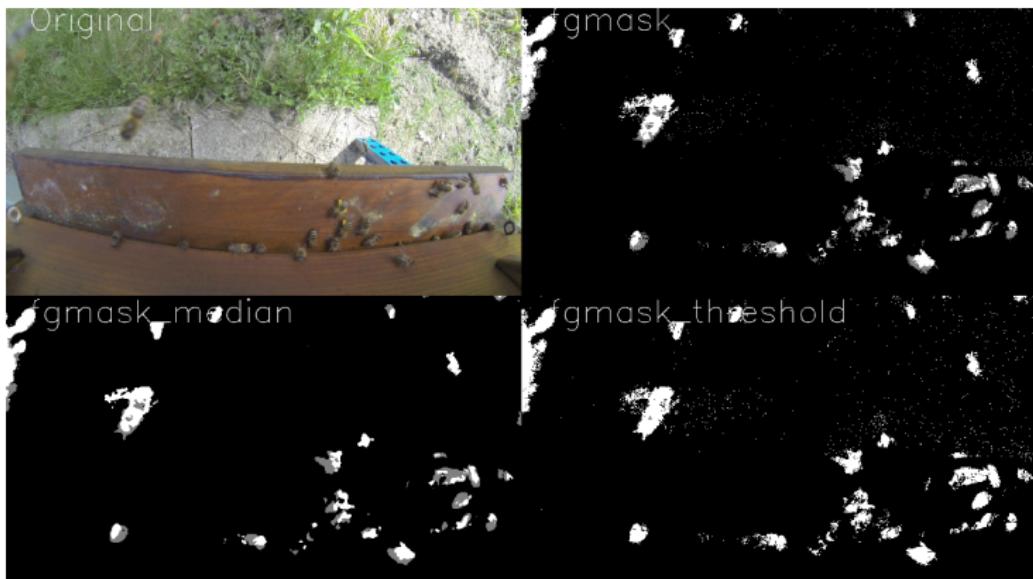


Figure: Original picture, background subtraction, median mask, threshold mask

Bee recognition

<https://www.youtube.com/watch?v=ReSonvV2y0M&feature=youtu.be>

Timetable

Work packages and timeline

Task	Group Member	Time period
Literature research, get familiar with Python, OpenCV	Everyone	Weeks 3 to 5
Taking several video recordings (test installation, different camera positions, uniformization of background)	Jonathan	Week 4
Frame to frame association and background subtraction	Julie, Philipp	Weeks 5 to 6
Prepare presentation	Everyone	Week 7
Midterm presentation	Everyone	16.04.
Implement segmentation and ellipse fitting	Jasmin, Philipp	Weeks 8 to 10
Determine trajectories using OpenCV	Jonathan	Weeks 10 to 11
Determine a logic to count incoming and outgoing bees	Julie	Week 12
Reflect on further improvement, possible enhancement of method and/or measurement	Everyone	Weeks 12 to 13
Prepare final presentation	Everyone	Week 14
Final presentation	Everyone	28.05.
Write the final report	Everyone	Weeks 15 to 16
Final written report	Everyone	15.06.

Which are our next steps?

- Enhancement through color histograms, SIFT, grabcut
- Tracking the bees
- Count incoming and outgoing bees