Image analysis
In interactive sandbox

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INTERACTIVE SANDBOX
PURPOSE

Games in sandbox

Game content
- Pretend Play;
- Games on the education of thinking;
- Speech therapy games;
- Correction and educational games.

Monitoring the education of the child

Games for table
IMAGE ANALYSIS

- Calibration and settings
- Processing data from the depth sensor
- Recognition
- Touch Screen

Tools used:
- OpenCV
- Own implementation of algorithms
AUTOMATIC CALIBRATION

- Sandbox photo
- Brightness processing
- Circles search
- Screen area determination
- Determination of scaling factors and offsets
IMAGE PROCESSING

- Depth values correction
- Eliminating the spread of values in neighboring pixels
- Noise elimination
PATTERN RECOGNITION

- Depth imaging
- OpenCV possibilities used:
  - Depth image processing
  - Contour analysis
  - Template matching through comparison of moments
TOUCH SCREEN

- Search contour points
- Determination of the point of tangency of hands
- Determination of the touch moment
Thank you for your attention!

Questions?