Legolab - meeting minutes

This document is about technical details and project meetings on the legolab products within Tactus-scientific cluster. See also Sensorica general [product design philosophy.](#)

Project facilitators:

Yasir Siddiqui
Francois Bergeron
Ivan Pavlov

Content rules:

Please conserve the following order:
- Summary of the project and the work at the top
- Meeting minutes in the reverse chronological order
- Each meeting minutes must have a summary at the top
(For more information on content rules, discuss with one of the project managers)

Summary

Legolab technical meetings
- We are currently in the process of agreeing on standards (for baseboard and other pieces) - See the table below

	Motorized	Manual	Low Range	High Range	Low Precision	High Precision
XY Positioning		see [Meeting 3](#)				
Z positioning		see [Meeting 4](#)				
XY movement						
Z movement						
Rotation						

Gimbal						

Meeting minutes in reverse chronological order

Meeting #4 - Wed, Mar 12th (next)

Summary

Objective
Discuss z-positioning standard

Details

Meeting duration

Attendees

Previous items

New items

Items discussed

Action items (for next meeting)

Tasks and responsibilities

Next meeting

Notes

Meeting #3 - Wed, Mar 5th

Summary
- Revised the baseboard standard and created a plan for discussions around standards (see the table in the notes)

Objective
Discuss base board standards and explore smart base boards

Details

Meeting duration
1 hour

Attendees
Yasir Siddiqui
Francois Bergeron
Ivan Pavlov
Jonathan Olesik
Antonio Bacichetti

Previous items
- Ivan designed a prototype standard (see Elementary rectangular unit)

New items
- Mantis
- Meeting with Margaret (from Mcgill)
- Working from experimental setups
- Baseboard and standards

Items discussed
- Mantis
- How to go about designing standards?

Action items (for next meeting)
- Research on standard for z-positioning (Ivan)

Tasks and responsibilities
- Research on standard for z-positioning (Ivan)

Next meeting
Fri, Mar 7th, 2014
Objective: Discuss standard for z-positioning

Notes

Mantis 2 design can't follow 100% the Legolabs requirements.
- In particular the central hole in the translation stage.
- We need a plate under the translation stage to hold the translation stage on a breadboard = a plate with ears (or legs)

Ivan's proposition: microindentation device.

The mechanical design standards are more clear but we didn't work on the electronics standards.

Automation - moving parts:
- motorized/manual
- low/high range
- high/low precision

Smart/automation

XY positioning
Z positioning
XY movement
Z movement
rotation/gimbal

Smart boards:
Smart boards support:
- automation in setup and experimentation
- alignment in configuration
- awareness in terms of active equipment mounted

Business perspective:
Once we have standards, we could create a community to develop pieces. More on this later.

Meeting #2 - Wed, Feb 26th

Summary
- Discussions on base board standards
- Created a folder for legolab and tactus-scientific

Details

Meeting duration
30 minutes

Attendees
Yasir Siddiqui
Francois Bergeron
Ivan Pavlov
Jonathan Olesik
Antonio Bacichetti

Previous items
- Research on standards (Antonio, Ivan, Jonathan and Francois)

- Transfer information to VAS (Francois and Yasir)

- Think of "popular" experimental setups (Francois and Ivan)

Items discussed

- Baseboard standards

- Transfer information to VAS - delayed

- Think of "popular" experimental setups (Francois and Ivan) - separated from legolab meetings (contact Yasir or Francois for more information) -- forwarded to marketing and will merge back later

Action items (for next meeting)

- Research on standards (Antonio, Ivan, Jonathan and Francois) - to be continued

Tasks and responsibilities
Research on standards (Antonio, Ivan, Jonathan and Francois)

Next meeting
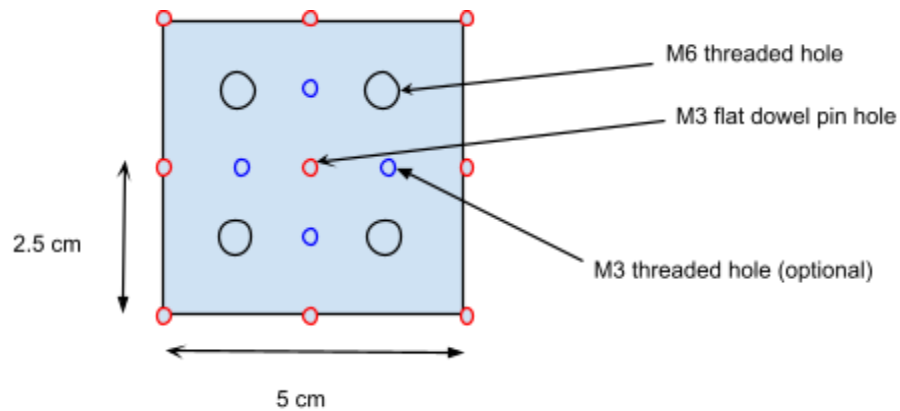Fri, Feb 28th
on
Research on standards
        - XYZ axis
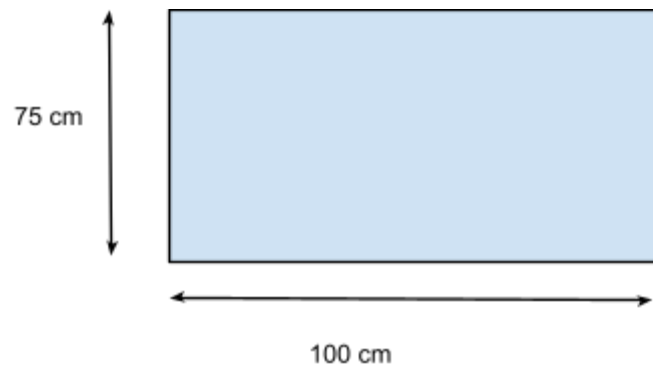   - Smart boards

Notes
- Thorlabs two standards
- Initial surface discussions

see ref Antonio: a base unit of 4 x 4 cm. All is based on that. To be compatible with Thorlabs we follow the 5 x 5 rule.
A bigger plate must be proportional to the 5 x5 plate, for example:
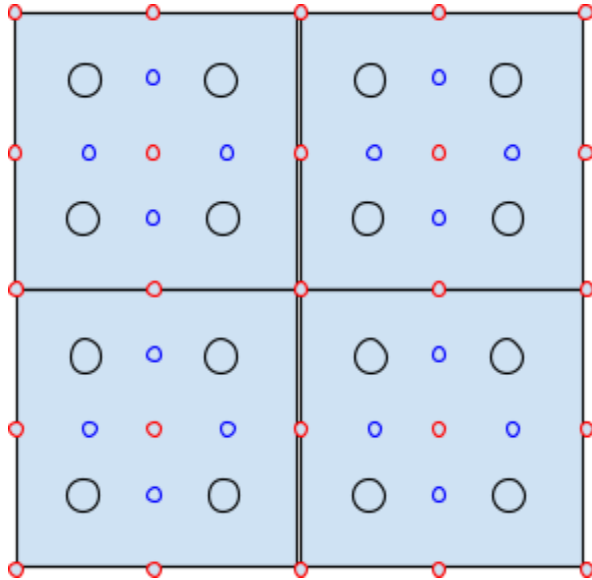

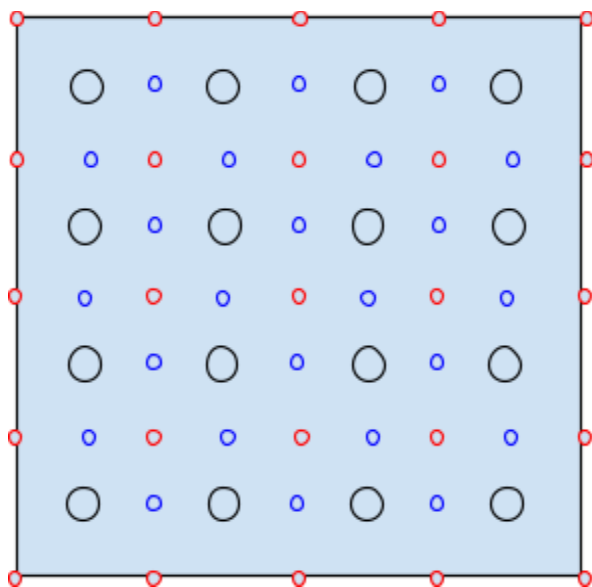Elementary square unit.

For the height, we follow the same rule.

the holes are: M6 threaded, M3 flat for dowel pins, and M3 threaded - optional

This is what you'll get if you put four elementary square units together.

(and circle: inner or outside circle)

This is how the bigger breadboard of this size will look. Note: more M3 threaded holes can be drilled, compared to four elementary units placed together.

Magnets or not magnets:
- doesn't work with aluminium parts
- becomes messy because people place the parts everywhere.

Meeting #1 - Fri, Feb 21st

Summary
- Project got kick started and we need to find or create standards before start designing modules; moreover, we need a communication and documentation channel

Details

Meeting duration: 1 hr

Attendees:
Yasir Siddiqui
Francois Bergeron
Ivan Pavlov
Jonathan Olesik
Daniel Brastaviceanu
Antonio Bacichetti

Previous items:
None

New items:
Idea: modules and kits

Dumb pieces vs smart pieces

- Research mechanical and electronic standards
    - Which standards and standard bodies exist? (analysis and differences)
    - Which standards goods (pros and cons)
    - What are industry and competitor standards?

- Need adapters
    - A set of universal adapters

       - Between specific standards (others to ours and ours to others)
       - Customized (others to others)

- Work backward from experimental setups
       - Need "popular" or customer requested experimental setups
       - Need to create a list of basic modules and kits (Starting point)

 - Marketing
       - Allow people to name their designed pieces or modules
       - Sponsored kits
       - Standard for name length and logo (on each module)

- Need to modify Mosquito and Mantis to follow the standards chosen

Items discussed
- Initial meeting and agreement on work process

Action items (for next meeting)
- Research on standards (Antonio, Ivan, Jonathan and Francois)

- Transfer information to VAS (Francois and Yasir)

- Think of "popular" experimental setups (Francois and Ivan)

Tasks and responsibilities

- Research on standards (Antonio, Ivan, Jonathan and Francois) by Feb 26th, 2014

- Transfer information into VAS (TBD)

Next meeting
Wed, Feb 26th, 2014 at 1:30 pm.

Notes/Details
See picture

Meeting template - number and Date

Summary
- Meeting summary

Objective

Details

Meeting duration

Attendees

Previous items

New items

Items discussed

(at a high level, add details in the notes section)

Action items (for next meeting)

Tasks and responsibilities

Next meeting:

Date and objective

Notes/Details

Free flow (can be organized per item if preferred)