# Minutes from the meeting held on 2017/05/20, 10 A.M. Italian Hr.

Minutes of Meeting:

1. Feasibility of components is very important. (15 to 20 days for shipment and delivery of components).
2. Get inspiration from Festo’s Airic Hand. It should not be a copy of it. Aim of project is to replicate the human upper limb physiology.
3. Study about muscles spindles in human physiology and human mechanoreceptors.
4. Seen a project having a robotic finger actuated by sensor with polymeric skin on it. It is neuromorphic engineering project.
5. Dragon skin material can be used and integrated with tactile sensors.
6. Selection of DOF of arm should be done after considering the capability and controllability.
7. McKibbens actuators are preferable.

Goal for next week:

1. Selection of components with product details and distributor details.
2. Selection of controllers and actuators.
3. **Specific List of Components** with all details from seller to price.
4. Design of kinematic and cad model of arm.

Next Meeting Scheduled:

24th May 2017 at 10.0 h Italian time.

# Minutes from the meeting held on 2017/05/15, 10 A.M. Italian Hr.

Minutes of Meeting:

1. Literature search about combining graphene with PLA, ABS or similar materials to achieve super strength. (Ref: Recent Advances on Carbon Nanotubes and Graphene Reinforced Ceramics Nanocomposites). (Blackmagic 3d graphene filament).
2. Ideas for the design of arm. Tendon mechanism preferred. (Ref: [www.openbionics.com](http://www.openbionics.com) & [www.openhandprojects.org](http://www.openhandprojects.org)). (Check designs of projects available on web of prosthetic arms).
3. Selection of actuators: DC motors/Stepper motors/McKibbin motors
4. Selection of controller: LabView + SbRio / Arduino
5. Study the reference papers about the sensors (FBG).
6. Study anatomy of human upper limb and apply this study to propose the design of arm.

Goal for the next week:

Prepare a power point presentation on the following topics:

1. Arm designs
2. Material used in 3d printing of arm (blend of graphene + plastic material)
3. Selection of actuators
4. Selection of control environment (software + hardware).
5. Study of sensors

Next Meeting Scheduled:

20th May, 2017 at 10.0h Italian time.

# Minutes from the meeting held on 2017/05/11

Agenda of Meet:

Introducing 3d printer technology

Minutes of Meeting:

1. Combining graphene and plastic (strong material) in 3d printing.
2. Use of dropbox to track documents.

Next Meeting Scheduled:

15th May, 2017 at 10.00h Italian time.

# Minutes from the meeting held on 2017/05/10

Agenda of Meet:

Assignment of designing Solidworks based hardware.

Minutes of Meeting:

1. To learn and design the kind of arm system. Ex. Ecce-robot
2. Compliant system not like traditional motors based system.
3. Use of springs
4. Consider skin and tactile sensor in design.
5. New 3d printed capable of graphene + plastic filament.
6. Plastic + graphene structural stability.

Important Links:

<http://eccerobot.org/>

<https://www.sharebot.it/index.php/sharebot-next-generation/?lang=en>

Next Meeting Scheduled:

11th May, 2017. 11 A.M. Italian Time