

DeMaMech Exchange Program 2005-2006

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Period

March 2006 – September 2006

Research topic

Compliant Robotic Hand

Student life

Lab-life, Japanese Food, Drinking Parties, etc.



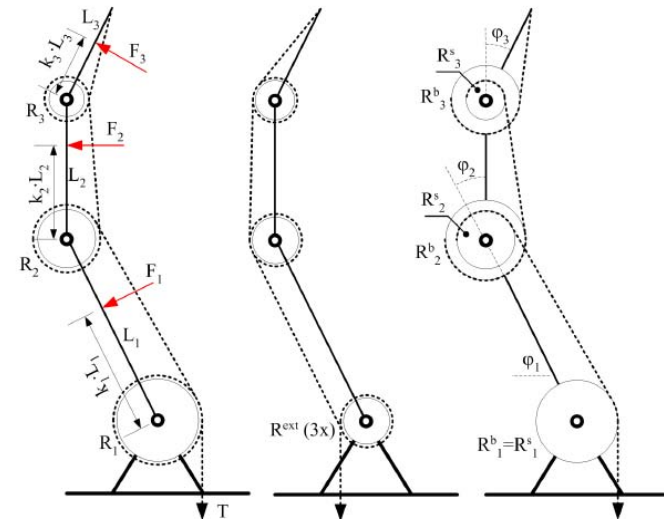
Research

Design and fabrication of robotic Hand

Properties Lightweight
Five fingered
Compliant
Human proportions
High grasping speed

=> Underactuation

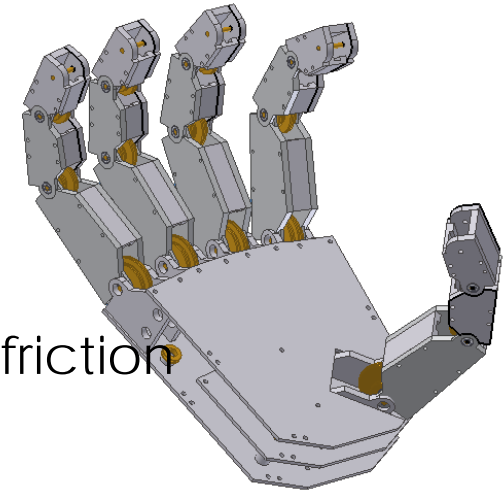
Method Cable Driven (Hirose & Umetani)
Dimensions Optimized phalange length ratio and pulley dimensions (Schuurmans)



Research

Prototype

- **Size Large human hand**
- **Weight 450 gram (without actuator)**
- Fabricated, but not tested => too much friction

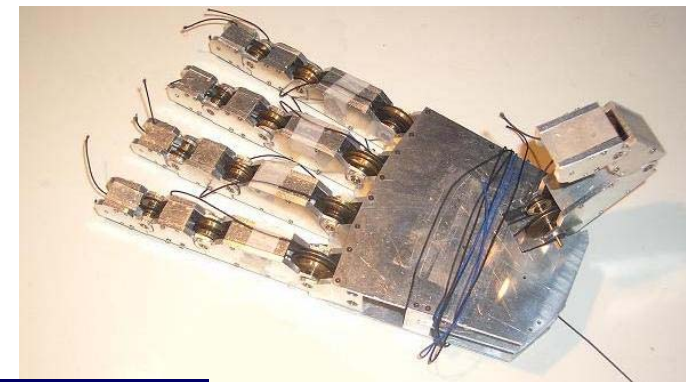


Conclusion

Approach led to much feeling and experience in robot hand designing and building, but friction reducing adjustments should be made to enable testing

Future work

- Increase robustness
- Decrease weight
- Reconsider finger positioning



Student life

