STRIKE FORCE MEASUREMENT GLOVE

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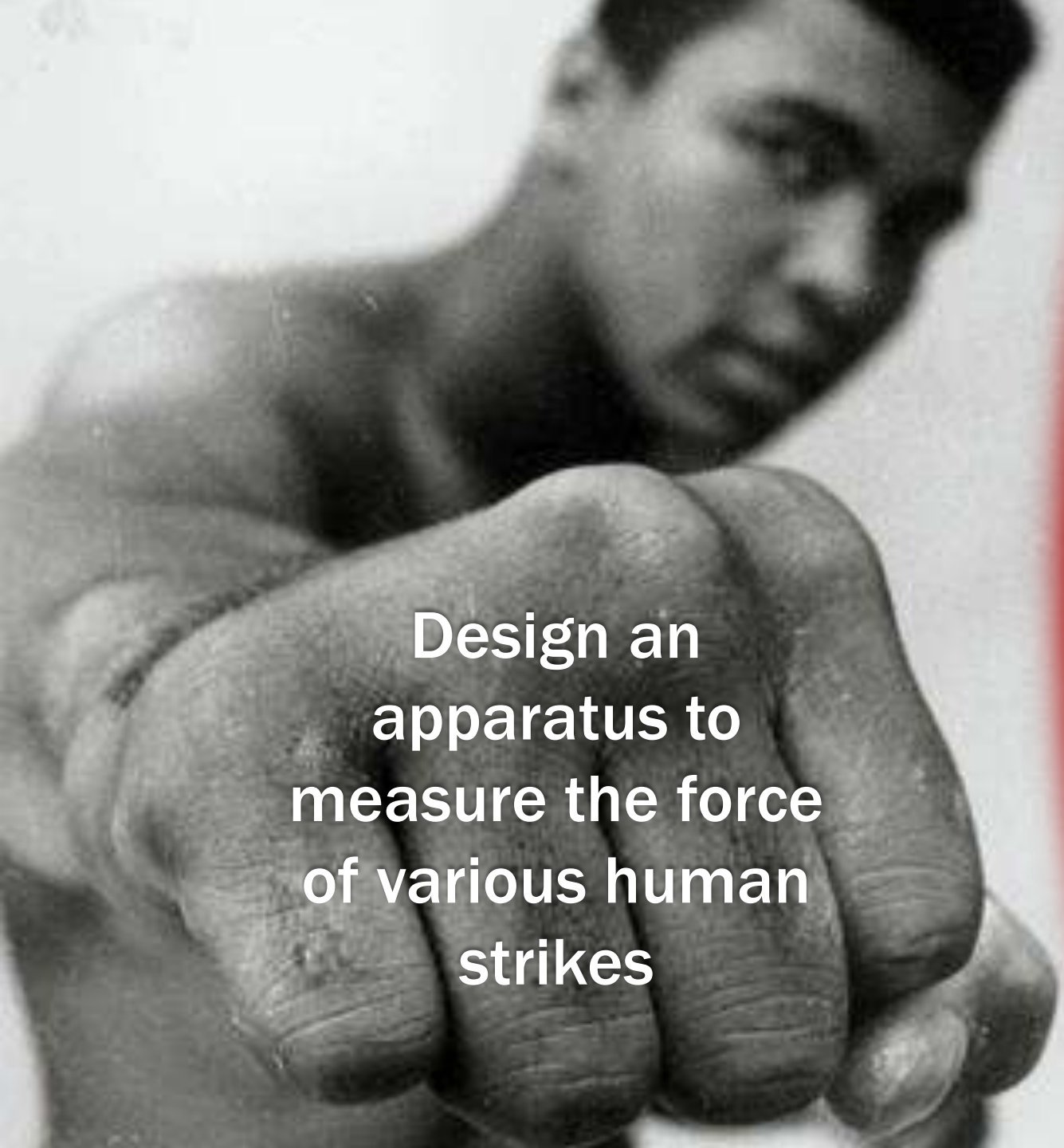
http://pacificwavejiujitsu.com/blog/wp-content/uploads/2012/03/how-to-keep-boxing-gloves-fresh-and-clean.jpg

NEEDS ASSESSMENT

- Force of a strike
- Safety of equipment

http://boxing-lesson.tumblr.com/post/11648137375

PROBLEM FORMULATION



Design an apparatus to measure the force of various human strikes

FUNCTIONS & GOAL

- Measure the force of a strike
- Incorporate a strike force measurement apparatus into existing equipment for multiple use

DESIGN SPECIFICATIONS

- Criteria
  - Lightweight
  - Affordable
  - Durable
  - Accurate
  - Ergonomic
- Constraints
  - Less than 4oz in weight
  - Less than $200 in cost

ORDER OF MAGNITUDE

- Upper threshold punch
  - 4741.8 N
- Upper Threshold Kick
  - 6400 N

www.jssm.org/combat/3/3/T1.htm
www.connectsavannah.com/news/article/102548

FEASIBILITY

- Punch - Over 1” diameter
  - 7 349.8 kPa
- Kick – Over 8 square inches
  - 1 240.0 kPa

ABSTRACTION & SYNTHESIS

http://i.livescience.com/images/i/5139/original/fight-punch-100129-02.jpg?1296083995

POSSIBLE DESIGNS

Capacitive Rubber Pad

Tekscan I-Scan Sensor

Piezoelectric Sensor

http://www.gadgetmac.com/storage/product-images/studio_neat_cosmonaut_ipad_stylus.jpg?__SQUARESPACE_CACHEVERSION=1337884734343
http://www.tekscan.com/sites/default/files/high-speed-iscan.jpg
https://dl-web.dropbox.com/get/4A/ME481-DesignProject/TD1000_%284.12%29.1.pdf?w=f30f8fbc

QUESTIONS?