Project Thoughts

(There’s another document somewhere….FIND THAT TOO!)

* Motor precision
  + Initial resistance
  + Caster resistance
* Power requirements
* Initial GUI idea
  + Not required – project is essentially prototype on cheaper hardware for more expensive implementation
    - Making use of pre-existing more powerful hardware of desktop computer
    - Explored idea of implementing interface and functionality with JavaScript
      * No existing OpenCV port
      * Not really required because of reason for project
        + Interoperability is achieved through python but ultimately would be self-contained in robot hardware
* Algorithms
  + Appropriate:
    - Boosted Classifiers
      * Limited use:
        + Viola (2001)
        + Liao (2007)
        + SIFT
      * OpenTLD
      * CMT
    - Strengths and weaknesses and suitability of both
  + Other
* Issues
  + Identifying from multiple perspectives
    - Phased detecting
      * E.g. for USB
        + USB on its side
        + USB flat
  + Identifying rotations
    - Rotate image to detect?
  + How to stop
    - Distance – ultrasonic sensor
    - Size of object in image (i.e. if x of object > x of image/90 OR y of object > y of image/90 >
* Likely Improvements
  + Identification in busy environments
  + More efficient search patterns
  + Ability to self-learn/easy way to allow non-technical user to train
  + Improve image stabilisation (hardware/software)
  + Improved hardware
    - More powerful motors
      * With encoders
      * Will require different controller board and power source
    - Tank tracks for better movement (less likely to slip)
    - More powerful processor