feb 2007

1 a) 1) one can find relations between function,
        and find critical functions and control loops.
        (monitoring interfaces).
     2) it is easy to find 'nodal points' which are
        good to subdivide function groups.

  b) 1) deployment of solar panels
      2) activate solar panels / power retrieval
      3) powering payload.
      4) establish comm link.
      5) download data
      6) altitude determination
      7) process data. (base).
      8) send data.
      9) thermal control
      10) protection from radiation.

  c) diagonal = functions.
      off-diagonal = interactions between functions.

          dpt
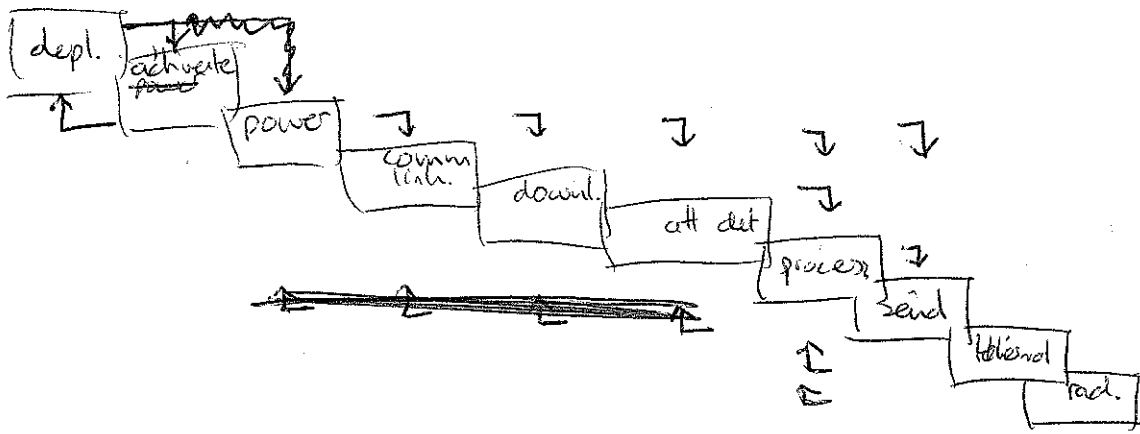
in parallel → see which functions one can
design without interference; eg thermal, rad. prot.

2   a)   functionality: getting medium & heavy payload into
multiple (polar, SSync, ISS) orbits.

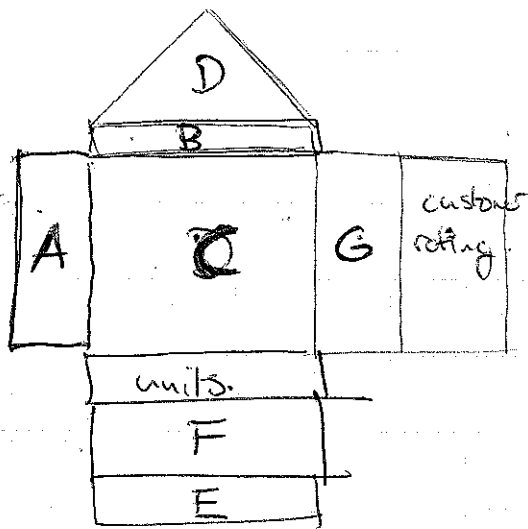technology: using P&W engines, etc
(list all technical bull.).

b)   1) geographical;
2) corporate/governmental   } general
3) commercial/scientific/military

1) payload weight.   } Delta C4.
specific orbit.

c)

d)   rockets: 1) ~~launch into orbit~~ ~~solid~~ two stage solid.
2) ~~bomb a county~~ cruise missiles

sats   1) comm satt
2) eolo sat

3 a)

b) noted down in the entry benchmark are the values of the competitors.
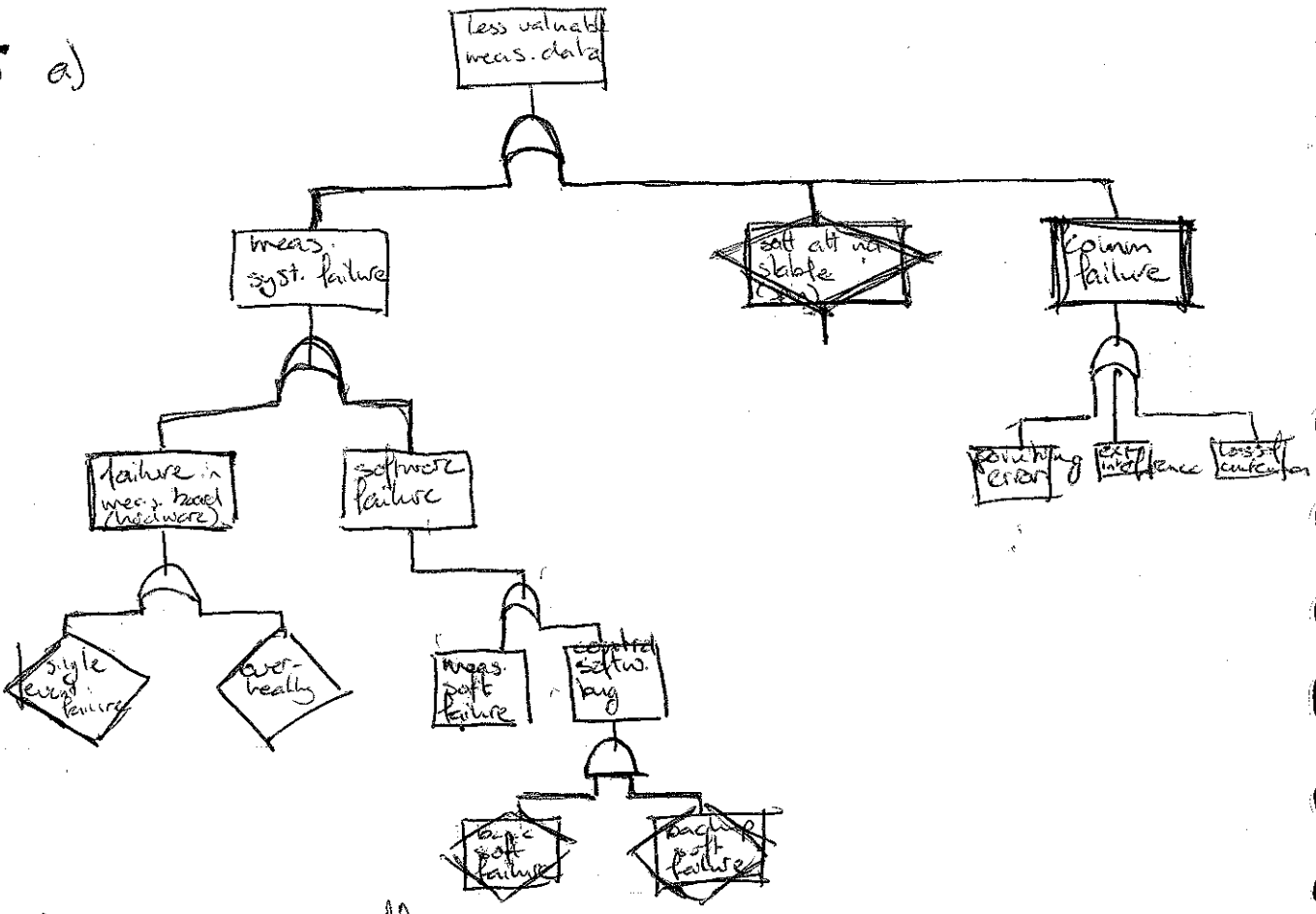
c) relationships:
◎	− 9 → strong
○	− 3 → medium
△	− 1 → weak

correlations :
◎	→ strong
○	→ positive
X	→ negative
XX	→ strong negative

d) blank — Row = ~~missing feature~~ re req is not met.
  — Column = redundant feature.

5 a)

b) explain the difference between AND / OR gate.

c)

6 a)