Outline

- What to read?
- What to implement?
- What to stub?
- What should instructor provide?

Background reading

- Read pp. 1-17

  Particularly, make sure you understand:
  - Rotation of History Variables (p. 15)
    - In general, you are required to keep copies of previous values of several variables just in case
    - Anytime you compute a new value, throw away the oldest one
  - Exception Handling (p. 16)
A Little FORTRAN

- REAL*8 means double
- Look in .h files to see all C++ equivalents
- If an exception occurs the spec says to print:
  - What the exception is (see spec)
  - The name of the module,
  - The name of the function within that module
  - The current value of frame counter
- The FORTRAN statement
  FORMAT( i, a6, x, a32, x, i4)
  means to print an ASCII string (module name), another
  ASCII string (function name) and an integer (frame
  counter)

Driver?

- Calls other modules
- What’s tricky?
  - Calling order (page 43)
  - Termination
  - What about GCS_SIM_RENDEZVOUS?
    - Stubbed

AECLP (p. 47)

- 5 pages
- Controls big engines (axial)
- Similar to RECLP
- Has some “messy” math
  - Integration
  - Solve differential equation for te_limit
ARSP (p. 53)
- 2 pages
- Use radar to find height
- Math:
  - Need to fit third-order polynomial to existing data
  - Some prior knowledge

ASP (p. 55)
- 4 pages
- Measure acceleration (in all 3 directions)
- Math:
  - Matrix multiply
  - Error handling

CP (p. 59)
- 4 pages
- Prepare data packet for transmission
- Coding
  - Packing different data types on byte boundaries
  - A little prior knowledge
CRCP (p. 63)

- 1 page
- Release parachute

GP (p. 65)

- 7 pages
- Fly the space craft
- Math
  - Integration
  - Matrix multiplies
- Complex!

GSP (pg. 74)

- 2 pages
- Measure rotation rates using gyroscopes
RECLP (p. 75)
- 2 pages
- Control roll engines

TDLRSP (p. 77)
- 5 pages
- Measure velocity with 4 radar beams
- Issues
  - Error handling?

TDSP (p. 83)
- 1 page
TSP (p. 85)

- 3 pages
- Math
  - Find equations of quadratic

Assume 4 member groups

- Which modules to implement
- What can be stubbed?
- What routines should be provided?
  - Due to lack of math prerequisites for class

Required modules

- Driver
- Stubbed routines for any not written
  - E.g. GP, GCS-sim-rendezvous
- Modules:
  - ARSP
  - ASP
  - CP
  - GSP
- Extra credit for extra modules
  - How much depends on difficulty of module; please inquire
Simplified Task Planning Template (p. 82)

- Rows: include only:
  - Launch & strategy
  - Plan-tasks and schedule
  - System test plan
  - Only one line per module (but see next slide)
  - Postmortem
  - Totals
- Columns: include only:
  - Task Name
  - Planned Value
  - Cumulative PV
  - Plan hours by person
  - Total team hours
  - Cumulative hours
  - Size
  - Actual hours
  - Cumulative hours
  - Planned Week
  - Actual Week

Task Plan/Report per Module

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Another omission

- Given the limited time:
  - Log where errors are **found** only
  - Omit noting where errors are inserted
  - You must report errors found for each task
  - Some tasks may be unlikely to discover errors, but also include them in your error report.
Minutes due by Sunday!

- For this meeting, do **not** use week form
  - Will be used after this week
- Include:
  - Team Name
  - Chosen regular team meeting time
  - Tentative decision on who will implement what
  - Team questions