

# Questions and Answers

## Vol. 3

*or*

“The End is Nigh!”

Paul Pounds

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University of Queensland

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# But first...

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Some house keeping

# Calendar at a glance

Week	Dates	Lecture	Reviews	Demos	Assessment submissions
1	25/2 – 1/3	Introduction			
2	4/3 – 8/3	Principles of Mechatronic Systems design			
3	11/3 – 15/3	Principles of Sailing			Design brief
4	18/3 – 22/3	Sensor Fusion and Filtering	Progress review 1		
5	25/3 – 29/3	Your Soldering is Terrible			
<b>Break</b>	1/4 – 5/4				
6	8/4 – 12/4	3D printing	Progress seminar		
7	15/4 – 19/4	Image Processing on Microcontrollers		25% demo	
8	22/4 – 26/4	Fluid Mechanics			
9	29/4 – 3/5	Q&A	Progress review	50% demo	
10	6/5 – 10/5				
11	13/5 – 17/5	Q&A		75% demo	Preliminary report
12	20/5 – 24/5	Q&A		50% demo	
13	27/5 – 31/5	Closing lecture		Final testing	Final report and addendum

You are here →



Dun dun dunnn!

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# Lab matters

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- There are outsiders amongst us!
  - They look just like us
  - They are secretly toasters
  - They ~~have a plan~~ play Starcraft?
    - NO!
- The lab is not for games
  - Politely ask the interlopers to leave
  - If they don't leave, ask me

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# Lab matters

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- Gentle reminders:
  - Keep the lab clean and (kinda) hygienic
  - No eating in the lab
  - Clean up wire clippings, plastic scrap, random debris, etc. off the floor – put it in the bin
  - If someone passes out in the lab, please move them gently out of the way of foot traffic.

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# FAQ Roundup

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- **Will the dragon really stay around the place marked on the map?**
  - Yes. He won't go any further south than the lower island, and will stay in the middle third of the tank.
- **How many fans will be used in each run?**
  - All of them, in quasi-random (but subtly deterministic) arrangements.
- **Will they be in the same position for each run?**
  - I reserve the right to move them between runs, but... meh, probably, unless you really want me to move them for some reason.
- **If our boat reaches the shoreline but cannot go any further due to the keel hitting the bottom of the tank, is this counted as a landing?**
  - I will also offer 5 cm of "Swim for it!" grace, if you run aground close to shore. If there is uncertainty as to what scoring region you would reach, I will be the sole arbiter.

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# FAQ Roundup

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- **What are we supposed to do with the final report addendum?**
  - It's just an extra page to add in all the extra stuff you've done since the preliminary report was due. Bulk out your existing material with more awesome analysis, incorporate additional introductory description, or simply tack on an extra appendix or ten – it's up to you.
- **Is the addendum supposed to be a personal reflection?**
  - Not specifically, but you can use it that way if you like. You may also include a personal reflection in an appendix if you feel there are important things to be said about your approach to the project, your team work or whatever.
- **Are the boats due Monday 27<sup>th</sup>?**
  - **No.** The boats are due during your selected final demo slot. Bring a box to keep your boat in after testing, along with code, engineering drawings, diagrams, and material as appropriate.

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# FAQ Roundup

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- **“Will you take marks off if I ...”**
  - This is, by far, **the most common question** of the whole semester.

This is wrongheaded way of thinking about it. In the real world, you are awarded for achievement first and foremost. I will reward you for what you show me, not pettily penalise you for somehow failing to mind-read exactly what I'm expecting.

I have been pretty clear about what I am looking for:  
A disciplined, well-reasoned, analytical engineering approach



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# Incremental demo 3½

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- By popular demand, a final demo round!
- Last-last chance to secure safety-net marks
  - Earned marks will be capped at 50% of total
- Full scenario, as usual

By appointment only

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# The final demo

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- This is it – the real deal
  - Your chance to win the treasure of Axolotlzuma!
  - Wednesday 29<sup>th</sup> and Thursday 30<sup>th</sup> next week!
- Sign up on the doodle poll for a slot
  - Sign-ups are open *right now!* (closes Sunday)
- Also looking for volunteer groups for a special exhibition session on Friday 31<sup>st</sup>
  - Interested? Email me!

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# Final report

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- Due on Friday 31st
  - *Real soon now!*
- Your report must have:
  - Max 6 pages of explanation/writing
  - Bibliography/math/sims/figures/budgets/etc in the appendices
  - Analytics.

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# Final report

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- The report is individual assessment
  - One report per student, **not** one report per team
- Focus on your contributions and efforts
  - But explain how they fit into the team's design
- Your 6 pages are precious
  - Make sure any content essential to understanding your design is in the main body
  - Use the appendices wisely

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# Final report

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But you already know what to do...

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# Feedback from preliminary reports

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Lots of comments from the preliminary

You can pick yours up here, afterwards!

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# Feedback from preliminary reports

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- Focus more on *why* you made each decision
- If you can't say why you made a design choice, then *why did you make it??*
- You probably need more analysis
  - Ideally, real numbers that show your design or approach will work!
  - If numbers aren't appropriate, show what your logical method was (consider a decision-table)

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# Feedback from preliminary reports

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- Do not exceed 6 pages written content
  - Go nuts with appendices for bibliography/math/sims/figures/budgets/etc
  - Don't try to sneak written content in – *seriously*
  - There is no such thing as too many pictures
- Also, just 2 pages and a picture won't cut it
  - 2 pages *without* a picture won't cut it either!

~You know who you are~



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# Feedback from preliminary reports

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- Don't try to talk your own work up
  - Let your analysis and results argue for you
- Don't abuse intensifiers and adjectives:
  - eg. “Very”, “many”, “essential”
  - “Omit unnecessary words.” – William Strunk, Jr.
- I know this is a challenging project
  - No need to convince me how hard you worked!

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# Feedback from preliminary reports

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- The best words:
  - “Because”, “therefore”
  - “Based on our analysis ... in the appendix.”
- The worst words:
  - “We did some research...”
  - “The decision was made...”
  - “<other team member> did...”

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# Feedback from preliminary reports

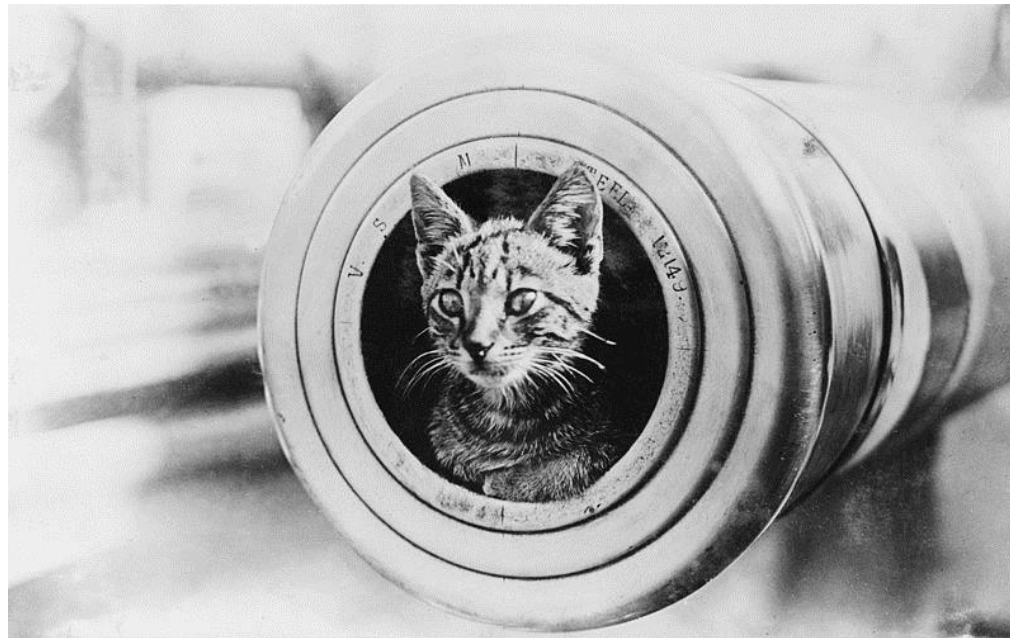
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- I found out late last night that one of the tutors gave relatively little feedback
  - Frustratingly, the whole purpose of this exercise was feedback!
- If you feel like you don't have many comments and want more, please just ask
  - I will try to give you feedback right away!

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# Questions?

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“I can haz cannonball?”

Ship’s cat, HMAS *Encounter*, 1919

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# Tune-in next time for...

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## The Closing Lecture

*or*

“Seadogs and SECaTs Ahoy!”

Fun fact: Seadog was slang for a sailor (or an actual dog at sea). Sea Dog is an American Microbrewery. Sea dog is mariner term for fog bow, and a name for a shark or seal. SeaCat is a Scottish ferry operator. Seacat is a name for the Atlantic wolffish. A Sea Cat is a British short-range point-defence missile. A ship’s cat helped eradicate sea-borne vermin.