Enterprise Computing:  
Software Development

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1. Reflection on the hackathon

2. Suggestions for next time

3. Innovative Learning Week
I have had a quick look at the submissions for the hackathon.

Every submission for the hackathon contains wonderful work.

You should be thoroughly proud of yourselves.
Why did we have a hackathon?

- Software development work would be much, much easier than it is if it were not for the ever-present need to complete your work to a tight deadline (such as a release date).
- Never in human history has a client said “No rush. Take as much time as you need.” It’s always “I need this yesterday.”
- There is a financial imperative as well. Time-to-market is a significant factor in a successful product. It’s good if you get your app to market first. Six months late? You’re toast.
- For these reasons, we did our hackathon in 45 minutes, rather than 45 hours. It was a sprint, rather than a marathon.
  - The 45 minutes kind: “I found it slightly daunting, but it was ultimately enjoyable and useful.” — Lucy, Team Transporter.
  - The 45 hours kind: “This is boring. I’m cold. When is the pizza guy going to get here?” — Random sad developer.
Why did you play that video?

- In a perfect world, you would be able to do all of your work in *optimal working conditions*, with perfectly-controlled light, comfort, heat, and sound.

- Regrettably, it seems that this is not a perfect world.

- Sometimes, while you are concentrating, and you are trying to get something done to a very tight deadline, your working conditions will be very sub-optimal, with noise, or some other discomfort, breaking your concentration. ("Dude, what the Hell? You have to start drilling now?")

- The programmer and author Joel Spolsky, the author of *Joel on Software* (http://www.joelonsoftware.com/), recommends a quiet working environment, supportive of thoughtful, careful, creative thought. Hence, *Library mode*.
Why did you play *that* video?

- The video features a team of five talented young people who are smiling, and confident, and having fun.
- It looks very much like they are friends who are supporting each other and making sure that they all succeed together.
- They have a meeting with a more senior group and talk to them confidently while seated around a table.
- They compete against another team of five talented people.
- A fat older man with a beard conducts an examination.
- Although one team wins, the losing team is still smiling at the end, and they have a playful comic punch-up.
- Plus, it’s an awesome rock song with terrific, positive lyrics such as “*When we was young, oh man, did we have fun!*”
- [https://www.youtube.com/watch?v=knU9gRUWCno](https://www.youtube.com/watch?v=knU9gRUWCno)
Our next hackathon

- We are going to have a second hackathon, in the second part of the course, after Innovative Learning Week.
- It is very rare indeed, when playing a game, to play your absolutely best ever game the very first time you play it.
- The second time that you play a game you are at least more familiar with the rules, and more aware what to look out for.
- Plus, it looks better on your CV if you write “While at the University of Edinburgh I participated in two lightning hackathons.”
- The second hackathon will be very similar to the first, producing a responsive design website from text and photographs as before, but it will also involve music files.
- You should reflect on what you would do differently next time.
The problem of incomplete information

- In enterprise computing, when developing software for other people, most of whom have little or no technical knowledge about computing, you will always face the problem of *incomplete information*. You should be aware of it.

- The client has an enormous amount of *domain knowledge* in their head about their enterprise (building, medicine, charitable work, classical music, . . .).

- You don’t share it any more than they share yours.

- You often have to *infer* what the client wants. They will rarely explicitly state it fully. Things like non-functional requirements emerge over time, and some things go unsaid.

- You might say “*Oh no, how unfair!*” and “*Why don’t people just say clearly exactly their priorities and what they want?*”

- Hello. Have you met humans?
Three common reasonable priorities

1. Most clients want the work which they have requested delivered on time. That’s reasonable: people don’t like waiting for things.

2. Most clients want their email and face-to-face interactions with you to be pleasant and polite. That’s reasonable: people don’t value rudeness. Short emails come across as rude.

3. Most clients want you to make technical decisions on their behalf. That’s reasonable: they’re not technically proficient enough to prioritise in a meaningful way.

- Hopefully, these do not come as a shocking surprise.
- But what would these three common, reasonable priorities mean in practice, in the context of our hackathon?
1. Delivering the work on time

- In the context of our hackathon, *on time* means 09:50.
- We were working in *lightning time* at the timescale of minutes so, technically, 09:51 is late.
- There were some subtle indications that time was important in the context of the hackathon. Did you pick up on any of them?
Pro tip about deadlines

- It can be useful to subtract a small amount from the deadline for any project.
- If you plan to finish early and you encounter delays you can still finish on-time.
- If you plan to finish on-time and you encounter delays you will likely finish late.
- You always encounter delays.
2. Pleasant and polite interactions

- Unfortunately, when you are working under severe time pressure, as you were, it is tempting to cut back on the pleasantries.
- When people say “email me that” it is nice to add a few words in the email, to give the context.
- It’s good to get into the habit of being polite via email, so that you still remember to do it when you are very short of time.
- You will be very short of time.

Some people are already very good at this

“We thought this was a great idea!” — Rikki, Team Chekov
And the winner is . . .

- Only one team delivered their website on time, and added some nice words of context around the message.
Winning with style

Email received at 09:50

Dear Prof. Gilmore,

I have attached the Team Phaser hackathon website.

Kind Regards,
Mantas.

- Congratulations, Team Phaser! You have earned the title of *Enterprise Computing Best Lightning Hack Team*. Please call on me for a reference any time, if it is any value to you.

- No-one lost the hackathon, but you won it harder than everyone else.
3. Making technical decisions on behalf of the client

- Often the client will give you content, such as a photograph, and say *“Put this on the website.”*
- You look at it and think *“There’s no way this pixelated piece of junk is going on the website!”*
- I recommend that you stall until the client forgets about it.
- There is no requirement to use all of the content that you are given: use your technical knowledge, aesthetic skill and judgement to try to decide which content to use, and how, and where.

Some people are already very good at this

“The only nice bit of this picture is *this bit.*” — Ayrton, Team Sulu
Pleas for our next hackathon

- Some teams continued to work on the website for quite a long time after the deadline. Thank you for doing this.
  - I understand why you did it, and no work is ever wasted, but please next time just take your hands off the keyboard after 45 minutes is up.

- Some teams weren’t represented fully. Please encourage your teammates to attend the next hackathon. Big up the first one.
  - We had 44 people at the first hackathon. Let’s see how near we can get to 64 people participating in the next hackathon.

- Smash it even harder next time. You’ve got it in you.
Innovative Learning Week

Yet again, my Innovative Learning Week course proposal *Practical algorithms for making soup*, has been turned down as being “too innovative.” Apparently, you must just be “slightly innovative.”

Nonetheless, I am not discouraged, and I have suggestions for other activities for you to do in Innovative Learning Week. I would like you to complete a *team bonding* exercise.

At present, because they are the only team to have completed any team bonding exercise at all, Team Sulu are going to take *Best Team* by default.

They may actually be the best team, but team pride means that you should make them prove it, rather than just hand it to them. Plus, it won’t be a real victory for them if you don’t challenge them.
Insurance policy

Perhaps you are worried that you will get in trouble if you do something a bit naughty like eat a takeaway pizza in an illicit location in the university's estate. If so, this is your insurance policy (below).

This is what you say

“Our professor made us do this! He’s always asking us to do bizarre things that are nothing to do with computing. He’s clearly going through some sort of mid-life crisis.”
An *innovative* team bonding exercise (1/2)

- Sometimes, in order to promote a software product, you may need to create a short promotional video to advertise your product.
- You might think that in such a circumstance your organisation would hire a professional video company to create the video but such work is expensive.
- Few organisations have a lot of money that they don’t know what to do with. (Charities don’t, hospitals don’t, start-ups don’t, SMEs don’t, . . .)
- It can be useful to know how to download existing video content, film video content, edit content, add a music soundtrack, and upload the result to YouTube.
- It’s good to have a *second instrument* that you can play.
An *innovative* team bonding exercise (2/2)

- If you complete this task, I will accept it as an *innovative* team bonding exercise.
- It is *innovative* in the sense that it is a team bonding exercise which could actually be completed by only a single member of the team. However, it does help the whole team.
- Your team will then be eligible to win *Best Team* (subject to scoring highest in the assessed Part 2 of the coursework).
- I will play your YouTube video in the first lecture after Innovative Learning Week.
- Furthermore, I will *fist-bump* you in the lecture theatre while your video plays, in order to celebrate your artistry and innovation. *Remember to explode it.*
Specification of the video footage

- Your video should contain clip content from the classic original 1960s *Star Trek* television series. You should not include any *Star Trek* content from more recent movies.

- The video clips should be appropriate to your team name, featuring that Star Trek icon prominently.

- The video clips should be intercut with original video of the university’s Central Area, the Appleton Tower, and the Informatics Forum. Phone camera footage is fine.

- Optionally, you may, if you wish to, include footage of your team members smiling and looking happy and confident. (Like *The Strokes.*)
Your video soundtrack should contain no spoken words.

We should not be able to hear you talking, or hear the folks from *Star Trek* talking.

Your video soundtrack should be, in its entirety, the incredible song *Get it on my mind* by the musical genius DJ Zebra.

This song has been created by taking the songs *Let’s get it on* by Marvin Gaye and *Where is my mind?* by the Pixies, and putting them through the audio equivalent of a stick blender for soup.

It’s unbelievable. That’s your soundtrack.
Twin-team team bonding

- This team bonding exercise is for pairs of teams, as long as each team contains at least one female team member, and neither team has already completed a team bonding exercise.
- In this exercise you are to simulate a *pleasant interaction with people whom you do not know very well*.
- This is an important transferrable social skill which you will need to call on in a number of professional contexts.
- A typical scenario: you work for a start-up and have a lunch appointment with a big potential customer to meet the CEO.
- Unexpectedly, the CEO is late. (The CEO is always late.)
- You can’t start the meeting without the CEO so you need to fill the time with light, pleasant conversation.
- Trust me, you aren’t naturally good at this. You need practice.
The rules of conversation

- You are to engage in pleasant light conversation about nothing in particular. Try to keep the conversation flowing naturally throughout lunch.
- Don’t monopolise the conversation, but don’t sit mute either.
- You are not to approach subjects such as religion or politics.
- Try to say things which might make other people smile, but not laugh uproariously. You are not going to make people at other tables complain about you.
- You must not say anything that could be interpreted as flirtatious. This is not a date.
- Don’t say anything that could be interpreted as offensive.
- Listen to what other people are saying and look at them when they are speaking.
Choose your words and conduct yourself as though your mother and father were standing behind your chair.

Be pleasant, courteous, and kind. Listen supportively. Smile.

Sit up straight in your chair and eat your lunch with your feet on the floor and your knees under your plate.

Wait until everyone has received their food before starting eating.

Put your napkin on your lap and eat using your cutlery, not your hands.

Close your mouth when you chew.
The venue

- You are to enjoy your lunch at Nawroz, a local independent restaurant located at 30 Potterrow, across the street from the Informatics Forum.
- There isn’t much need to book. They are usually not full and will be glad to receive a walk-in party of eight or ten.
- They serve delicious food. A two-course lunch is £7.
The rules of food and drink

- Order whatever you want from the menu, according to taste.
- I highly recommend the lentil soup, but then I would.
- You will not drink any alcohol at all. (You’re not actually The Strokes.)
- You will not drink any soft drinks, only water.
The photographic evidence

- When the main course arrives, ask the waiter to take a photograph of you before you start to eat.
- Say “Would you mind taking a photograph? It’s my birthday.”
- Email me a photograph of ten (or eight) happy young people just about to eat a delicious meal.
- On receipt of this, both teams depicted will be judged to have completed a team bonding exercise and will then be eligible to win best team.
The rules of payment

- At the end of the meal, the men split the bill roughly equally.
- Women do not pay. They don’t even offer to pay.
- This is done as a token apology for failing to achieve equal pay for women despite passing laws which were intended to ensure this.
Photographs from the hackathon

Photographs from the hackathon are available on the web at

http://www.inf.ed.ac.uk/teaching/courses/ec/hack/\[\text{redacted}\]/photos/

where the redacted part is the obvious string of three letters and two digits.

Look through these to find the best photograph of yourself.

Email that photograph to your mother with the text “We had a test in class on Monday and at the end the professor had us all line up for a photograph”. (No email? Grab a print.)

This sentence, and the photograph, will please your mother because she will see that you finished a test with a big smile on your face, and that you are in a good place, surrounded by good people. (It’s not complicated: your mother loves you.)

See you on the other side of Innovative Learning Week.