

# REAL LIFE ETHICAL DILEMMAS

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## BCS member verbatims

*A report from the British Computer Society (BCS)*

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Established in 1957, the British Computer Society (BCS) is the leading body for those working in IT. With a worldwide membership now of more than 68,000 members in over 100 countries, BCS is the qualifying body for Chartered IT Professionals (CITP).

BCS was incorporated by Royal Charter in 1984. Its objectives are to promote the study and practice of computing and to advance knowledge of, and education in, IT for the benefit of the public. BCS is also a registered charity.

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## FOREWORD

We asked members in late 2018, anonymously, if they would be willing to share ethical dilemmas they or their organisation had faced. The quotations from this survey reveal the sheer breadth of the ethical dilemmas out there and what they say about the changes facing the industry.

These comments are presented verbatim, lightly edited for spelling and grammar. We have grouped them under general headings for navigation purposes. No doubt as a whole document this would make hard going to read in its entirety, however as a thought-provoker to dip in and out of it's a great primer on the issues facing IT and broader society.

There is a lot here – as one of our members said, “I wouldn't know where to start”. Let's start here.

## 1 GEOGRAPHICAL (INCLUDING OFFSHORING)

"a) Choosing whether to do business in certain countries, where our services will have a positive impact on clients, but that extra functionality is fairly likely to be put to a nefarious use. b) choosing whether to serve client in certain industries, such as tobacco manufacture c) post-GDPR, looking at what is a reasonable amount of data to hold about our client."

"If a company offshores parts of its operations and IT systems so that taxable events technically occur in a lower tax jurisdiction while the majority of staff remain in the UK, is this evasion or avoidance? What duties do employees have, to the employer and to the state? How do we value our own lives against the demands of ethics when an adversary is incredibly wealthy, possess a large legal team, and (sad to think this is a factor in this country, but...) is politically well-connected?"

"Offshoring at a corporate level to an organisation with poorly paid and poor-quality staff, with an almost entirely male workforce and where good female staff are taken off projects if they challenge poor decisions by their male colleagues."

"Yes, there is a scam going on involving IT workers from India. They are supposed to be paid a minimum salary. The agency or consultancy that facilitates their visas pay £1,000 a month to the worker and bill the client just over the minimum salary to validate the visa to work in the UK. They use the terms of intercompany transfer. In this way the indigenous UK workforce is undermined, the education of the UK student is disincentivised. Why would a UK professional try to compete with someone being paid 1/10 of their salary? UK IT workers were outnumbered in my last job by over 10:1 by Indian people who were not being paid the minimum qualifying salary by the consultancy that placed them in the firm I worked for. They are permanent employees of the Indian consultancies. For everyone in the UK there are many more back in India working for less. The families of the Indian staff are also here. It is false economy to suggest that there is a dire shortage of knowledge workers and software engineers in the UK when the so-called cure is to import workers from abroad who are systematically cheating the system, facilitated by organised visa crime. My boss said we can get three of them for one of you, win-win. And no; they did not renew my contract after 13 months. So, I am out of work due to everyone turning a blind eye and making hundreds of millions out scamming the system. If you cannot recruit enough software staff in the UK train more here and protect them from unfair competition. I write specifications for a living. By the time I write a specification for a developer from abroad who has zero domain knowledge I could have been the analyst programmer that cut the code. I have been in projects where offshore staff were hired by the dozen to script regression testing. We (UK staff) wrote test driven specifications. Last I saw, staff were supposed to be paid over about £23,000 if less than 5 years' experience or over £43,000 if greater than 5 years' experience. I was sitting opposite a guy from India for 13 months who was paid less than £23,000 and had way over 5 years' experience. There were four Europeans and 22 Indians on the team. I don't mind diversity, but I do object in the strongest possible terms to being out work because they can get three of them for one of me. That is an ethical issue."

"I had a query raised with me about an application my employer uses, and whilst investigating the resolution I discovered that the application vendor was based in Israel; the problem being that patient demographics were being sent/received via their servers. To open a can of worms or not? I opened it."

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"Cloud mainly, offshoring of personal data, confidentiality, 80/20 access to critical service etc."

"Hosting websites from embargoed countries within a US-based datacentre. Trying to make management aware of the legalities of this action without appearing to be 'not a team player'. Ignorance of the law is no defence."

"As the workforce is more international, international colleagues working in the UK are unaware (or deliberately reject) UK ethical standards resulting in copying and reselling software, talking in their native tongue to exclude co-workers, not fully testing software, and telling client that features are included which are not included (and then denying they said it)."

"Offshoring IT support by management leading to lost jobs, lost continuity, reduced service levels. Outsourcing of project control to consultancy - leading to huge consultancy costs, unwisely short project timescales, higher risk of failure due to side-lining of own knowledgeable staff."

## 2 THE CROSSOVER WITH PERSONAL ETHICS

"I only work for ethical organisations, however, there have been occasions where the standards have not reached my expectations and that would be a strong motivator to seek alternative employment."

"A recent dilemma was related to my client refusing to purchase Microsoft licences due to austerity, I could not turn the services off and could also not force the customer to pay."

"I have heard senior managers pressurise their staff to massage service level support figures in order to hide bad performance."

"IT contractors exaggerating their experience."

"Need to follow supervisor's instructions instead of best practices."

"Some years ago working in Holland I needed to be able to run a program to save time and money on my project, unfortunately we did not possess the license, I obtained a cracked copy and ran that, my superiors were well aware of this but only interested in the outcome, the program was deleted immediately after it ran and the results were obtained."

"Asked to agree to personal data being sold to a US-based data analysis company."

"I discovered a situation where a client organisation's data was not being properly handled and senior management seriously considered covering it up and not telling the client."

"When working for a prestigious software house I was tasked with replacing a previous project manager and had to take on his staff's PCs, one of which was allocated to me. The previous user (then on another project) had misused the equipment for viewing inappropriate material. Do I clean it out and let the culprit off-the-hook OR do I bring it to the attention of senior management? Ethically, I did the latter."

"CNI-type projects being rushed in without proper planning, technical oversight, design, implementation, etc. Just rushed into a budget, which is bad considering this is UK-regulated business."

"My experiences mainly include the use of customer data without their knowledge or consent. There are of course people who are less concerned about privacy matters, but the nature of software means they can protect themselves from scrutiny because no one will find out."

"18 years ago, I started a new job in the USA running a small IT department. Staff attitudes towards software licencing were very lax. I discussed this with the CEO to determine his view of the situation and his response was to 'do the right thing'. I had already decided that I would resign and return to the UK if his response was negative and I based this decision on my BCS membership including previous BCS membership interviews that I had participated in where similar situations had been discussed."

"The last organisation to employ me (a major company) refused to allow us to circulate BCS material to the staff. Also, at least one senior individual was liaising with an outsourcing Israeli contractor without permission."

"Knowing that a colleague has lied about their experience with computer language to get a job."

"Dilemmas over disclosure. I handle legal information."

"Confronting managers over their breaches of the Data Protection Act."

"This was many years ago, but I was once instructed verbally to take illegal copies of some PC software. I asked for the instruction to be put in writing and signed by my manager which he declined to do. We did not see eye-to-eye before this and it did not improve the situation, but this is why I think targeting organisations is more important than targeting individuals."

"In terms of past organisations assignments, I can only inform via my personal experience of having to tell very unpalatable news to the client board that their previous budget for a transformation programme, which had been arbitrarily derived, was out by a multiple of 10 and knowing that meant our relationship was at severe risk of breaking down. Being a FBCS and Chartered gave me the confidence and the platform to do the right thing and also convince my parent organisation accordingly of what to do - simply tell the truth. As a result, we maintained our long-term relationship with the client, and I was able to continue with my parent organisation."

"In academia whether to speak out or conform on controversial issues in order to protect or risk career progression."

"There is no planet B! But worse, this year the entire annual resource of planet A, Gaia is already gone, so our children are in debt to tomorrow. Either all humankind works together within the near perfect thermodynamic harmony of this blue planet that sustains all Life, which we now must restore or the thermodynamic disequilibrium of the planet that is already clearly in progress over the whole Earth will all too soon be unstoppable! Is our heaven soon to be our children's hell?! The choice is ours."

"1. Social media in general, hence I do not have an account of that sort. 2. Google Chrome - they ask if they can save your password; they should not have the way or facility to do so."

"I found my business partner was lying to a client. I reported this to HQ and subsequently dissolved the partnership."

"Should apparent unethical behaviour be investigated? Difficult situations should not be swept under the carpet, action should be proactive not reactive."

"I once had to assess a membership application from someone who in no way met the required admission criteria but whose application had been fully supported by her BCS-member husband. I reluctantly advised against accepting the application but encouraged the lady concerned to seek training to allow her to qualify by another route. It led to my being accused of sexual bias and being the subject of a disciplinary enquiry. Fortunately, I was cleared but the incident left a nasty after-taste. Partners/relatives should NOT be allowed to endorse applications."

"Customer dispute between the two directors. Both insisting on access to the other's email. Both were 50% shareholders, so both were as senior as the other. Both insisting their instruction was followed and the others denied, account locked out etc. Followed by two sets of solicitors issuing the same instructions."

"Should researchers at my university accept funding for research that can (or will) be used in the weapons industry? The conclusion was that as long as the research did not involve weapons development it was OK. What the research later used was used for was of no concern to us as a university. This view was not shared by all..."



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"I have been asked to break the computer misuse act by abusing valid credentials to get the company data, I have also been asked to break GDPR numerous times."

"A new member of staff came with a suitcase full of a rival companies' programs, management did not initially recognise this as theft."

"During my time at [a major international computer company] (12 years), I became aware that the company was selling computers to the South African government, which were being used further their policy of apartheid. If I had 'blown the whistle' not only would I have lost my job, but many of my colleagues may have lost their livelihood as well. I chose to do nothing and have had to live with this decision since that time. Again, I became aware that an insidious organisation known as the Freemasons had an undue influence on recruitment and promotion, but failed to raise the alarm, because of a lack of trust in management."

"Should we use data from customers to improve the service, although permission was not explicitly given (it was also not explicitly declined)."

"Software asset managers face ethical dilemmas all the time as we mediate between organisations and their software suppliers, while trying to protect externally owned intellectual property."

"Favouring certain suppliers and avoiding organisations' financial controls by splitting large orders into multiple smaller orders."

"Organisations promoting themselves as agile when they are nothing of the sort. Gives agile a bad name."

"Providing services to foreign governments who may not meet standards recognised as ethical within the wider international community."

"We have top management telling us to do stuff that is not ethical and it's very difficult to whistle blow without the risk of us losing our jobs."

"At a previous employer I was asked to take information from a web page, copy it word for word and pass it off as our own work to a client (who was paying for this work). I refused to do so and suffered discrimination and bullying in the workplace as a result."

"I was requested to mask known failures of a company's product for the purposes of getting through PCI DSS, including bad practices with the company's software code, testing, documentation and working environment. I refused to do as they requested."

"Organisations impose ethical and moral dilemmas on people, the question assumes companies to represent the interests of people, they don't, they represent the interests of productivity and profit. My personal experience of ethical difficulties stem from persistent requests from management to lie to clients about costs, timelines, the causes of errors and the candidate responsible."

"A customer/supplier partnership was formed. The supplier when entering the following financial year was determined to dump goods and services in order to rid itself of the in-kind commitment it had made."

"Retrieving pornography from customers' laptops when I have under-aged staff (apprentices) working there. Also setting and keeping records of customer passwords. Should we? They seem to want us to."

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"Selection of software vendors based on personal relationships in direct conflict with RFP procurement process."

"The selection of software to implement for a solution based not on technical merit or solid commercial reasons but rather based on personal bias or influence internal to the supplier organisation, and the end client not being made fully aware of that decision process, resulting in a sub-optimal solution."

"Being asked by a manager to install substandard equipment to increase the service requirements and ensure ongoing work. I left the company that day."

"Again and again I see people who lack the courage to tell senior management the truth about the state of a project. The philosophy that it's easier to ask for forgiveness than permission is rooted in a fundamental dishonesty."

"Any issues will be swept below the carpet and hidden. This means that if there are any, few people know what they are!"

"As a manager of tech support - a somewhat common issue - my boss wanted me to build a case to fire a good employee. I did not do it."

### 3 THE COMPLEXITIES OF THE TECH

"At one software company - senior management selling software that didn't exist and demanding that the development team support this (e.g. by creating 'mock-ups' to support the sales process) At a financial services company – senior management endorsing false project accounting to protect the COO."

"Removing unique identifiers from MR surveys due to GDPR which results in a zero-error policy when launching studies."

"Machine learning – rules and beneficiaries - is it society or for control/profit; doing things right / doing the right thing?"

"On several projects I have been expected to provide IT solutions for problems in domains for which I was not an expert and, in many instances, the immediate client staff were also not experts. This was particularly with health-related systems. At what point do you say no?"

"Pressure from senior executives to meet 'go live' software delivery dates despite not having completed sufficient testing and / or not having completed the required training and support documents."

"Biggest issue I think is when IT set their own agenda, instead of working for the business they work for themselves."

"One faces ethical challenges regularly whether they are dilemmas is another matter. For example: if I research viruses, should I publish my findings so that everyone can benefit from the knowledge gained to fight cybercrime or do I retain it for commercial advantage? We chose to publish."

"If headcount can be reduced (people lose jobs) as a result of a new IT system, is it an ethical dilemma or a feature?"

"At the moment my company is rolling out software to all employees' laptops that spies on the user by capturing everything that the user accesses and scans all files on disk."

"Marketing driving need? To collect more data whilst knowing this is personal data e.g. facial recognition and other genetic information, without understanding the risk to privacy and potential government (home and foreign) usage."

"A major challenge is IT companies informing organisations about the appropriate IT solutions, demonstrating the full functionality but only delivering the core functionality and charging the business for what was demonstrated. The business raises an investment requirement only to find that they cannot deliver because the full solution costs have not been given to the organisation."

## 4 SEXISM/HARRASSMENT/BIGOTRY

"A female reported problems of physical touching by a man, on many occasions - but there was no evidence or witnesses and no action could be taken unless she was prepared to make a formal complaint - it was reported second-hand to the senior person, but unless the complaint was made, he could do nothing, not even send round a general notice reminding to be careful, with the 'me-too' publicity, that might have stopped the problem."

"Equal opportunities are not being practiced well and racism is quite high."

"We recently discovered that our gender pay gap is below average."

"Racial sensitivity in the workplace. Bullying in the workplace. Adequate professional development opportunities. Partnership with unethical firms. Equal representation of genders. Utilising internal resources for personal gain."

"I was faced with a very racist higher management team in the 90s. If I had spoken out at that time, I would have lost my job, and nothing would have been achieved. Our client base also contained such people. I expect that they noticed that I wasn't laughing along with them but let it be because I did not directly challenge them. Nowadays, it would be different, I believe."

"Cultural issues when bringing in foreign workers, notably from India. We had the situation where we hired an Indian middle manager, and over the following few years we employed him, every single person he hired was also Indian (usually native Indian) with the exception of the last employee. He lied to his managers pretending everything was ok in his organisation when there were serious problems. Eventually senior management realised what was going on, that his was an Indian empire where no one underneath him would dare challenge him or speak out against him. The end result was that all his Indian recruits were made redundant when an opportunity arose, with the company claiming poor performance. The manager himself lost his managerial responsibility where he was responsible for over 40 staff, down to 2, if I recall correctly, and then down to zero. Somehow, he survived, bizarrely."

"Too many workplaces are filled with managers and supervisors who use their position and power to mistreat or disrespect others."

"I encountered sexism during an IT recruitment and selection process. I was an interview panel member and heard derogatory conversations by the male panel members about female candidates."

"Acknowledging and taking action on the gender pay gap."

"Ethical dilemmas regarding diversity - a lack of diversity meaning a lack of diverse thinking resulting in technology that does not serve everyone as it should, a lack of diversity meaning many in the workforce experience dreadful behaviour, and many more thinking there is nothing wrong with that dreadful behaviour."

"The mistreatment and exploitation of staff for the furthering of a manager's career. Specifically, unnecessary hiring and mis-selling of roles. As well as explicitly allocating work to hinder that employee's future potential."

"The BCS themselves have introduced a new member group committee role (diversity) without any consultation. The rules state this must be offered to the members for consultation."

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"The organisation I work for will tend to terminate employment of staff just prior to them reaching the two-year minimum required for employment claims, i.e. unfair dismissal, typically without express cause confirmed to the individual or to other staff. It relies on a technicality to prevent staff from making use of their employment rights and typically such dismissals occur outside of a defined disciplinary process."

"People from different ethnic and/or cultural backgrounds have widely different views of what professionalism competence and standards mean. This has had in the past affected the quality of their work and the amount of responsibility they are prepared to take for the outcomes of their work. The dilemma is therefore how to set expectations and ensure quality and consistency of delivery."

"From a team perspective I have encountered mental, physical and emotional abuse of staff by senior management and imposition of long work hours, with no means of redress from the employer. From a company perspective I have encountered illegal practices and immoral practices, such as training staff in how to answer correctly to get external company accreditation rather than actually changing internal practices and processes. Another example is knowingly submitting impossibly short timescales or low costs for projects out for tender."

"Bullying of junior IT staff by technically naive senior management when acting as an external consultant. Completely unacceptable behaviour and complete lack of professionalism from a person in a position of authority."

"Age discrimination. I had campaigned for this in the past and tried to encourage the BCS to support this aspect of the government and industrial drive for more economic work force. I campaigned in the UK with support from over 30 top MPs and even went to campaign in parliament and in the national media, and in the EU where I won changes to the employment practices and the UK government advised accordingly. I did get articles published in the BCS journal on the subject, but little support from the organisation and spoke to many including senior BCS management. However, I initially received not hundred but thousands of emails of support and agreement with hundreds from overseas and Europe and a HIGH proportional of BCS members, and even today keep receiving emails from IT professionals and the like."

"My employer thinks it is ok for female employees to have their working pattern adjusted to accommodate childcare, however males at my work are frowned upon when doing this."

"Being a young female who has got quite high already, I find a lot of stereotyping (I don't mind it, but when it comes to imposing decisions made at a higher level, it can be difficult if undermined). I also find many data breaches occur in workflows and people just not thinking."

## 5 SOFT SKILLS

"Too much pressure on delivery at the individual or team level – amounts to bullying."

"There are still people who push the 'just do it' approach regardless of impact on people and the quality of the delivery."

"I discovered circumstances in which the design of a weapon system could lead to catastrophic failure, albeit with very low probability. The client was so impressed with this that they decided not to renew my contract."

"Code quality and best practice are restricted because of the management behaviour of 'if the client hasn't paid for it, then we are not giving it away for free'."

"1) Supplier influence over internal budget holders 2) Poor decisions based on opinion rather than fact 3) promoting people into roles who do not have the necessary knowledge / experience, over others who do, purely due to nepotism."

"Prayer places for those who need to observe their faith during working hours."

"Our company is in 'transformation'. This effectively means that for three years there are job cuts - but the roles are not redundant, they are moved from the UK/Ireland/USA to India - this is not ethically correct for a global organisation to do and then claim they are socially and corporately responsible."

"Delivering reports to clients that demonstrate poor levels of security and being unable to influence improvements in client organisations."

"I believe it is common for customers to set objectives in a way which appears to reward those who provide extremely optimistic progress reports."

## 6 SOCIETAL IMPACT

"Artificial intelligence which is far superior to that of humans is a distinct possibility in the not too distant future. It is probably not ethical for us humans to develop such a capability, because such artificial intelligence may end up controlling the human race, probably to the detriment of the human race."

"Promoting and employing people based on merit rather than societal selection or following of out-of-date organisational norms."

"Facial recognition being pushed out with no ethical or legal consideration."

"We discussed the morality of supplying services and software to the arms industry, but they paid too well..."

"1. Being under pressure to charge time to a customer project when the time was spent on indirect, 'infrastructural' work. 2. Being asked to bid for work which was against my own moral principles (nuclear weapons)."

"Putting data protection officer guidance second to meeting business demands."

"We design and manufacture fire alarm detection systems. A lot of work has been done in software to guard against unwanted false alarms. A consequence of this is that a genuine alarm may take longer to be recognised, during which time an evacuation of a building could have been started."

"Should we (legally) share details of immigrants accessing health care with the Home Office?"

"The question, most recently, is to do with data protection. How do we balance the rights and freedoms of our data subjects, with the needs of the business?"

"Whether to work for defence organisations helping to develop anti-personnel weapons. Outcome: refuse all defence contracts."

"Needing the skills of a potential employee versus rejecting that same person because of a 'deficient ethical CV / profile'."

"Unfiltered web access poses a significant risk for vulnerable young people, but once they are adults, we are advised to treat them as such. This conflict between the duty-of-care and enabling freedom of expression always cause great discourse within the health and social care organisations I work with."

"Considering that most of our large corporates, and definitely our government, are fundamentally corrupt, then, at a senior level, ethical dilemmas can be faced almost every day. Delinking the UK from the North American business models and practices would go a long way to helping but would make the BCS very unpopular."

"Use of computer systems to monitor and influence people's physical and mental states."

"As an open source business, advising customers when they cross the boundary of acceptable open source behaviour (for example deliberate breaching of open source licenses)."

"One ethical dilemma I have faced is when an organisation close to your heart violate GDPR guidelines and shares my email address with third parties to conduct surveys - should you

report it, which is ethical, or should you ignore it since its close to your heart ? I do not have an answer, probably would ignore it."

"Supply chain of hardware and the requirements for modern slavery / materials etc."

"The company that I work for plough on in implementing a third-party cloud-based system that stores personal information, and more, on some very highly skilled, defence-vetted personnel. The tech support is directed to India, where employees can discuss their IT issues with non-UK personnel. We might as well publish a list of defence cleared personnel, where they work, live, job role etc and post it to every rogue nation to save them the bother of hacking into these systems and getting the data for themselves. Here lies the problem, an organisation whose exec is run for profit and is constantly going for the cheapest option with total disregard for national security issues and other ethical issues. The 'due diligence' argument given from HR isn't enough when it comes to national security of defence personnel data."

"I advised a charity client that they were not complying with the relevant laws and they replied - 'when everyone else complies we will'. I was disappointed that the then BCS Code of Conduct defined my professional responsibility as limited to giving this advice and so I had no support should I have wanted to raise this with, for example, the Board of Trustees [this being outside my contracted role]. As my contract was, fortunately for me, coming to an end, I did issue several emails to relevant senior staff repeating this advice so that, if ever investigated, they couldn't deny awareness of the breaches. Not long after that the ICO issued a statement advising the industry in general that this exact practice was in breach of the laws and regulations. I still feel the BCS should be willing to support and stand by members in taking a stand when we have evidence of unlawful actions or intended actions."

"'Creative' reporting of data (observed in three different companies) to internal and external customers."

"I work in New Zealand. Professional standards and overall capability maturity are widely very low. And there is a lot of nepotism in practice. Who you know is often much more important than what you know."

"Knowing where to draw the line between monitoring for safeguarding, and personal space."

"The use of more self-help devices in the banking sector is marginalising the vulnerable in our society who don't have the where with-all or the faculties to utilise the technology. A major problem that is only going to get worse is the lack of cybersecurity awareness that the average user has, and yet the convenience of digital solutions is leading us down a road where the unaware can be taken advantage of, via hacking or phishing. Most regular users I know rarely patch their hardware and assume it is all being done automatically. All members of the IT industry are guilty of failing to protect the user well enough."

"I work with an organisation that uses Facebook. Facebook is a criminal corporation (witness evidence to DCMS Committee printed in Hansard on 17th April 2018). Others 'convicted' of 'mass and indiscriminate surveillance' include Microsoft, Apple, You Tube, Yahoo, AOL and 2 others. I have tried to do something about this but a High Court invitation to the police to investigate has been refused."

"Lots of sheer shoddiness of offshore companies with very little interest in actually doing a good job but giving jobs to unqualified staff. E.G. companies like TCS, HCL, Cognizant, Wipro... yes,



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many have good resources but 98% are inexperienced and just bodies on seats. Not ethical being paid knowing that service provided is bad."

"Requests to work on contracts for foreign governments with unacceptable ethics and conduct."

"Company went through an ethical shake up about 15 years ago, lost contracts and reputation and has now brought in ethical training to help let the work force understand that good working practices should align to good ethical practices."

"Personal – whether to work on (entirely legal) weapons development, especially when the weapons are intended for export."

"Being in education, the subject of ethics and morals are always high on the agenda - we do encounter severe hardship and seclusion - race and faith being prime example."

"Consider for example the control systems managing the radiation beam in conformal radiotherapy. In a sense the practices surrounding safety-critical systems design address the 'do no harm' ethic comprehensively. Many ethical issues will be a function of personal political view e.g. Is it ethical to work on the unified benefits system or the design of aggressive drone systems?"

"Selling cybersecurity software to Middle Eastern governments - ostensibly for their protection but knowing that it could also be used to monitor citizen's activity."

"Age discrimination when applying for roles that I can walk through blindfolded - last two months 450 applications made and only three replies."

"The two biggest ethical challenges facing the industry are security and privacy. GDPR is a reflection of previous bad practice across industry. My own view is that the IT profession is not a coherent one, if it was then BCS membership would be higher. It is this coherence through standards that can drive ethical behaviour."

"I work at a hospital, there doctors face life and death decisions of patients. IT is different, but livelihoods of many may also at stake in decisions too."

"Yes, politics on the job and pro-extremists (pros that believe that exhausting practices are good)."

"As an external member of a University Research Ethics Committee I have had to battle to get recognition that anonymised personal data is potentially identifiable data, and that informed consent from research participants as to who may see their information is essential. Political research in many countries can put participants (and sometimes researchers) at real physical risk."

"In my youth work the collection and use of highly sensitive information is an ever-present challenge. Young people now are insufficiently aware of the long-term impact of data in the public domain or that held by professionals helping them. The use now and in the future of such only marginally anonymised data by health, insurance and other industries is a key aspect of where BCS can and should show the 'higher ground' of morality and fairness and in some instances the absolute right for such information to be forgotten."

## 7 BUSINESS PRACTICES

"Balance between generation of revenue and wellbeing of customers."

"Copyright and intellectual property issues in software development."

"Employer ignoring its own values in order to please senior managers."

"I once worked for an IT services and consulting company, widely respected for the independence of its views. The company entered into a contract with a hardware supplier. The consulting company was paid each time a customer bought hardware on the basis of the consultants' recommendations. This practice only stopped when a regulator in the USA stopped hardware suppliers from operating such schemes."

"How much user data to gather (with consent) to improve the user's experience. Several employees cared deeply about privacy and we erred towards their opinion rather than the employer's preference (to gather as much as they could get away with)."

"When to pull the plug on a failing project is a common problem. Does one continue on, hoping to eventually find a solution, but incurring additional costs, or stop and lose the 'sunk' costs? One should act in the best interest of the customer, but there is always an inevitable blame game."

"There was a cyber-attack once and we had to stay quiet about it for some time just to save the brand image."

"On a software development project that I had taken part in we, the developers, determined that the system design specifications that we were given by the client would not work when scaled to high levels of production activity. It would require a complete redesign of the architecture for successful scaling. However, if that was presented to the client, it would have probably resulted in the project being cancelled and us losing the contract. In the end, our management decided to go ahead with the original client design, delivered the system, passed all client tests, got paid and walked away. The last I heard was that the system eventually ground to a halt due to activity overloading and it was abandoned."

"I currently work for a company which takes the ethical dimension seriously. It has cost them a great deal of money and customer trust in a high-profile case in the past. This industry is notorious for start-ups and entrepreneurialism, where I rather suspect the ethical dimension, for understandable reasons, is not high on the agenda."

"I was asked to 'restate' an email in which I pointed out that a course of action would put us in breach of a business contract with our credit-card processor. I refused, despite senior management pressure, on the grounds that unless they can suggest to me an interpretation of the PCI standard that allowed this particular course of action, it was my honestly held belief we would not be compliant and therefore in breach of our contract. They actually agreed we would be in breach of contract, but sadly made it clear they were only changing their plan because I had committed to writing my concerns! I would have hoped to have been treated well for having professional integrity."

"Choosing between what is right for all the stake holders involved, employer, clients, other employees and clients of the client. Replacing computers when you are told everything is over

## REAL LIFE ETHICAL DILEMMAS

five years old to find that half are under two and in good spec. Getting proof of people owning a device to help unlock it."

"There is a huge gap between business entities and IT in general, businesses still consider IT as a supporting department."

"I tell clients what they need/don't need regardless of whether I can deliver it - after all, it's their needs that count."

"Sometimes, for company political reasons, professionals in the IT department are asked to behave unethically. Other Chartered Engineering professions must also suffer from this, and it would be interesting to find out how they solve it."

"Data that means we've mis-sold credit cards and can't ask customers to pay off the balance - that took some fixing. Discouraging management from [misleading] customers for an extra £10/month. Innumerable data protection issues, many of which needed escalation and educating board members of legal obligations to get resolved. Nepotism/cronyism abound. Casual sexism in hiring practices (against men). Utter disregarding for the EU working time directive. Callous disregard for customer impact of system issues, if it means delivering on time. Inability to fund projects to assure no customer detriment. A range of FSA (as was) and FCA (as is) regulatory breaches, usually eventually resolved but never easily. Offshoring to avoid UK employment law. Relocating offices from California to Texas to take advantage of employment law differences. Hiring foreign staff based on their CV instead of training local junior team members. Explicit conversations about the cost of fines versus the cost of complying with the law. I've forgotten much of the rest. It piles up so high..."

"Appointing people with very basic technical IT background to leadership positions in ICT and saying that in-depth technical knowledge is not necessary for such positions. How can we expect them to understand sufficiently the ethical dilemmas associated with the use of technologies? E.G. when selecting the types of technologies or technical approaches for big data, security or surveillance without understanding how such technologies can be misused by a techie."

"I work in disputes and see incompetence more than ethical issues, but they are present."

"Managers wanting access to employees' corporate email, including personal/medical items, and also wanting access to their browsing habits."

"Presenting untruthful professional history and/or qualifications in order to gain professional status and/or certification, even in order to obtain the MBCS."

"My organisation encourages professional development, raising personal eminence and participation in professional bodies.... only if it does not have an adverse impact on billable utilisation, which takes precedence above everything else and hence means that involvement with BCS in particular and professional development in general is seen as a hobby and distraction."

"Working freelance for a large financial organisation where a system I had a key part in developing which successfully traced and displayed the flow & use of data through a tangled plethora of old IT systems was deliberately undermined by some senior management to such an extent it was eventually abandoned. This, despite its increasing effectiveness at highlighting the use of poor & erroneous data, and even at times exposing inappropriate manual

## REAL LIFE ETHICAL DILEMMAS

manipulation of data. In the end [they] chose to terminate my contract early rather than comply with the decision to assist in shutting down the work on this system."

"Having gone through a software and services selection process I selected company X. As soon as we started on the implementation phase of the project company X caused me a number of concerns (cost, service, liability issue). We quickly withdrew the offer and choose company Y. However, my professional services company had another set of contracts with company X and felt that abandoning X would endanger those contracts. I came under extreme business pressure to retain X and not move on to Y. However, I stuck to my principles, carefully explained my reasoning and stuck with Y. I won the day and Y is still in place today."

"When customers start researching their own services (e.g. SSL certification), we have found that they have had ethical issues with certain providers."

"A safety critical system failed and recovered after re-booting. My employer, the intermediary supplier, wanted to ignore the issue and continue development and roll out without doing anything to identify the root cause of the problem. I raised it with the client's chief engineer and ensured he was aware of what had and had not, happened. The issue was then fully investigated. The reason this happened was because the program manager had no knowledge of safety critical IT systems."

"I am under NDAs which prevent me from disclosing - and this is one of the means used by the industry to limit ethical reporting which needs to be addressed."

"Is it ethical for a charity organisation such as BCS to have so much money in reserve and not spending it to make IT good for its own members and society?"

"A high ranked officer wanted to access the email account of a dead [member of] staff. The officer made a request to reset the email password."

"Is it ok to send company information to your personal email so you can work at home? Is it ok to post a selfie or other social media update that identifies the company you work for (and so may seem like an opinion of an officer of the firm)? What is the environmental impact of an upgrade of our IT systems (indeed is there any thought given to how much electricity our datacentres use and how we can source more renewable forms to limit impact to the environment)? Is it ok that I've used my company email address to conduct personal business (e.g. receiving mortgage papers from solicitors, booking theatre or flight tickets etc)? Face to face communication seems to be dying - could the way I have presented my email or chat be taken with offence? A new IT project means employment for me and my team, but could it mean that elements of the business will now be automated, so those operational staff become redundant?"

"Informal platforms allowing disclosing of private details within small employment companies, lack of qualified staff and vagueness of standards required for pay levels."

"Failure to provide onboarding to technical staff, and simply not talking to customers. The IT industry reeks of arrogance."

"Dilemmas, good question: Contractual agreements not defined with the service delivery running at production, like service level tasks; and SLA times not well defined for change management."

"The security team is not sufficiently resourced to ensure legal, regulatory and policy requirements are achieved, due to high volume of new systems, changes and demands. There is a backlog of security work, many projects can only get 'light touch' security impact checks and some projects just launch new systems without waiting for security approval because the approval takes too long due to lack of resource. How does the security team deal with this? If the security practitioners take a logical approach by saying they can't keep up with this high demand and that the organisation either needs to accept more risk by lowering policy standards, or keep the same standards but accept the increasing security risks due to lack of resource for achieving them, or provide more resources, then the managers of the security team look that they are not in control of the situation, so risk getting a bad performance review and not getting much of an annual bonus. If the managers of the security team say everything is under control (hoping things will improve soon) then the team doesn't get more resources and the security risks increase, but as long as there isn't a security breach then only the individual security practitioners know that the risks are higher, and these practitioners eventually have to lower their professional standards (lose integrity) or just leave the team causing higher churn in security staff."

"Around information governance and analytics where it can cross over to social engineering."

"Stakeholder requests for invasive monitoring of employee comms and behaviour."

"Should we use low cost tools such as Google, Office365 that clearly demand sharing of data that appears to be outside GDPR?"

"The US parent company was claiming compliance with a standard. The company procedures complied with the standard, but the company were ignoring the fact that employees were routinely ignoring the company procedures, and therefore failing to comply with the standard, i.e. what the company said and what they did were two different things."

"Having worked for twenty or so organisations, personal data of customers can be better protected. Treatment of technology staff by HR and technology management is poor."

"Awarding contracts to internally recommended contractors rather than best ones to fulfil the requirements and best cost."

"Exploitation of data to disproportionately and non-transparently further commercial gains. Corrupt or inappropriately influenced tendering processes. Using technology as a crux to drive a personal agenda, exploiting weaknesses in the technical skills of colleagues/organisations."

"More a quality issue, but everywhere we rush to deliver, so do what is asked, but not doing it right first time, so it is safe and truly fit for purpose. This dilemma is not about skills but attitude - competitive (career selfish) rather than collaborative. From an organisational point of view, buying in skilled staff instead of investing in existing staff puts the cost of training back on to the individual, even more so in a highly contractual based job market."

"Migration of data from one platform to new platform, missing a vital piece of information 50,000 customers paying more interest. Impossible to restore data. No communication sent out deal with when client realises it."

"How do you work with a client to correct a project which is misconceived, especially if you are carrying out the project after a successful bid? That is, it seems to me, a perennial problem and one that no-one has addressed to any satisfaction."

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"Sorry but the word ethical can span a very wide net and if you are not careful you could wind up in a world of misunderstanding and or tolerances that are not acceptable. Ethical can be driven by religion, law and business practices and are always up for heated to discussion as to what is considered acceptable and what is not. I myself feel that ethically it is wrong to push to training of minorities so they can fit higher positions to ensure an organisation is trying to show equality where people who have worked hard on their own efforts - minority or not - to get promotions. it leaves a sour taste in the mouths of those who feel they are being forgotten just to ensure someone somewhere improves the minority integration process for industrial and political measures."

"The company I currently work for wish for us to deliver transformation of three separate companies into a single managed service as quickly as possible. When challenged on timescale vs resource vs complexity, they stated they wanted 'big bang' now at a low standard and things like best practises, PSN / PCI / and other compliances could be resolved next year. None of the team(s) wish to be held accountable for not delivering / implementing solutions as per industry standards, manufacturer recommendations or current best practises, however are at the mercy of our employer. Having worked for several large managed service providers, this attitude isn't unusual or 'the exception'. I did however hope to have left that mindset by moving to local government."

"Awareness of weaknesses in systems and networks not being adequately addressed."

"My interest is the future ethical dilemmas when AI, quantum chips, big data etc start to become pervasive. Look at the job implications, data privacy, security implications."

"Sharing of logons and loose entry onto a system. Not following software recommendations about source code changes, thereby undermining system audit integrity & maintainability."

"To what extent is a network provider responsible for the content pushed to users' smart phones?"

"I have seen with many clients an approach by enterprise architects to promote the latest technical buzz before the previous technical initiative has been properly implemented and the business transformation completed. Without properly evaluating the previous solutions, it allows architects to go unchallenged if their previous designs were not suitable for the client. This is perpetuated by continuing on to the next great technical nirvana whilst ignoring legacy issues in previous deployments, eventually this will cause significant extra and unplanned cost to the client."

"I was once hired as a contractor to support a company-wide system implementation. Part of the remit was to find out what spreadsheets users had, to gather the requirements they fulfilled, and to tell people that any functionality which was considered important by the project would be replicated in big system. They wouldn't be allowed to carry on using any spreadsheets after implementation. When they said, 'but what are we supposed to do for all the bits they don't implement', I had to say 'sorry, I don't know'. It was awful - exactly the opposite of what I felt inside that IT should be doing for people, i.e. making their lives easier, rather than harder. In the end, I resigned."

"Software asset management – was it a genuine error or cost avoidance (many times over)?"

"Tension between revenue opportunity and manipulation/inspection of customer activity."

## REAL LIFE ETHICAL DILEMMAS

"How much ground to give on best practices where they're at odds with wider business needs and opposed by other stakeholders where there's an ethical aspect at stake (e.g. personal data protection)?"

"When the IT department was tasked to dig up chat messages between employees which may or may not affect their continued employment - we have ended up scrapping logging of work chat tools as part of GDPR implementation."

"I regularly come across companies who have a lax attitude toward software licensing."

"Matters of personal privacy vs company opinion in matters such as email or web usage in secure areas. Matters of juggling information security requirements over other company product development or demands by sales for 'the latest tech trend'."

"Mis-use/inappropriate use of free dev product licenses for use in a training environment by a training organisation, brought on site to carry out end user training."

"In a contract bidding situation, a company failed to follow the bidding process and as a result ruled themselves ineligible. However, this company was the most capable in terms of service delivery and infrastructure to be able to deliver what was required. The dilemma was to give this company a second chance at the bid which would have given it an unfair advantage over its competitors or to accept a potentially inferior service from a compliant bidder."

"Just a general observation having worked both buy side and sell side: there's a lot of unsubstantiated fluff that is peddled for sales reasons that dilutes or obscures the actual value of IT, or indeed a vendor's proposition i.e. the arms race of hyperbole masks the reality."

"People have been appointed to roles they are not neither qualified nor competent enough to do. When mistakes are then made by these people they are covered up. This leads to two major issues. 1) lessons are not learnt. 2) Nobody is penalised for these errors which in some cases are gross misconduct at the least."

"Personally, I don't think ethics comes into IT a lot. Not in my experience at least. Why are your questions so focused on this one topic? What matters both strategically (long-term) and operationally (day-to-day) is competence and professionalism."

## 8 HEALTH, PUBLIC SECTOR, EDUCATION

"I have seen patient records misused. I actually raised the concerns and was dismissed from work after been told I was not allowed to discuss the event."

"Provision of bespoke data-processing solutions within defence contracts."

"I was an expert witness in nine court cases. In each case the system vendor claimed performance that they did not deliver. Each of them, in one way or another, said 'we are working on it', but had not delivered. In each case an essential part of the settlement was a non-disclosure or an Official Secrets Act clause."

"Procurement in local government. Systems are often in place to provide the impression that all tenders are treated impartially, but I have encountered situations where decisions are made prior to the 'decision-making' process."

"Cancelling and rerunning a public call-for-tenders. I believe the rules are now stricter than when this happened."

"Yes. I worked for central government and I knew that the information being presented to a very senior board was false and highly misleading. I raised it to a very senior level (inc Cabinet Secretary) but I was told it was irrelevant - this was clearly not the case as subsequent decisions were made based on these false claims. I have no issue in HMG making decisions that are tough and difficult, but they should be based on truth and not fiction. Too many excellent, skilled and dedicated IT staff have had their careers damaged by senior non-technical HMG staff blaming IT for their own policy or leadership failures."

"In the past we (in the public sector) have been encouraged by senior leaders to continue to collect identifiable data on members of the public in ways that have not met fair processing standards and could be (arguably) determined as illegal."

"I've seen government clients pour money down the drain on projects over and over again, with little internal competence – to fulfil a brief handed down by someone with no real-world experience, just to avoid using highly skilled external practitioners. As a company then providing the correct solution, there were huge issues at play."

"The only ethical dilemma I face is people impersonating capability to perform a role. In the search for better business-IT relationships, businesses have failed their industries and shareholders by allowing untrained business staff to masquerade as analysts and PMs without any formal training or understanding. This has weakened IT's ability to deliver on pretty much every front and is worst in the public sector."

"A public sector organisation forming too close a relationship with a consultancy firm who subsequently promote overly expensive solutions - and we pay them to help us implement them! As a taxpayer this feels very wrong."

"I am responsible for managing a portfolio of projects in the Public Sector and witness unethical behaviour around tendering frequently."

"I think ethics around software systems are not as easy as people think. I try to avoid public sector engagements where possible. Every time I've been involved, I've faced ethical dilemmas. Many people now feel that the public sector is always ethically superior but from a technical and professional perspective, developing gambling software in the private feels a lot more honest



and professional than any public sector engagement I've experienced. This directly goes against prevailing 'ethical' standards people talk about. I'm much more relaxed about Google (for example) which is only a company than (for example) 1. When asked to report on independent technical evidence for the public, my boss faced with rewriting my conclusions before he'd be paid. My statistically analysis was correct, and I have a couple of maths degrees (1st and Distinction) and was top of my class in machine learning in my second masters. But my analysis did not support the opinions of the commissioning officials even though they lacked the technical background in statistical learning to contest my numbers. This 'independent evidence' was used to bypass the proper policy-making process. Public sector decision-makers are being misled by this unethical and potentially corrupt commissioning process. Now I see so many implementation failures which are due to biased evidence. I wish that the BCS would lobby for a proper technical evidence gathering solution, and with clear and open commissioning mediated by an independent procurement process. 2. Back in the 90s, I helped to develop a software solution for Africa funded by the UN and governments. It became clear that this UN anti-corruption programme was riddled with corruption and violence at every level and was an entirely unsuitable solution for one of the poorest countries in the world facing a HIV pandemic with world-leading death rates amongst rural civil servants. We delivered a cost-effective and professional software solution but totally inappropriate. This is the problems with technology ethics. The fault here lay in the corrupt officials who commissioned this failed solution not in the technology developed. It is unclear to me that it's reasonable to expect technologists to be able to act against this sort of thing. The BCS might be able to provide some sort of anonymous whistleblowing."

"I worked for years in the public sector after 20+ years in the private. I was amazed at the public sector's lack of respect for ethical behaviour - their greatest motivator seemed to be avoidance of embarrassment! I saw more ethical behaviour in the private sector in companies where reputation was paramount."

"I am an NHS whistle-blower. I raised concerns in 2012 about some dodgy practice. I consulted the BCS legal team at the time who advised me not to get involved. Despite doing the right thing according to the Chair of the Health Select Committee I was made redundant in 2015. I have not worked since. It has ruined my life as for many in the NHS that have raised concerns about bad practice."

"I was an external examiner for an MSc computer science course for three years. Each year, one of the exercises was the design of a traffic light controller. I didn't see one candidate that recognised that there is a safety requirement for traffic lights (not green in both directions at once) - irrespective of any other requirements. I commented on this to the lecturing staff each year, but apparently to no avail. I'd hope professional programmers were being taught the necessity of considering safety and security issue, in addition to the customer's brief."

"The challenges around the use of confidential patient information for the wider benefit of society."

"With pressure on budgets in the public sector, it is proving harder to provide safe and secure systems and complete all other mandatory requirements."

"Providing IT to support patient care processes is full of dilemmas. Ultimately, the level of funding provided to support effective and 'as safe as we would like' provision of IT services in health is too low. Provision of skilled workforce, ongoing training, hardware and software

replenishment, the enablement of an effective assurance regime (etc. etc.) is all being done with limited resources. However, we need to release the potential saving (through the provision of IT-enabled transformation) within health, that will then enable the reinvestment. This is a balancing act."

"Consider a legacy database, programming and operating environment product over 40 years old, still used by over 100 end customers and so far kept current with features and interoperability. This, with customers' own applications, practically runs the whole business. The product, however, desperately needed succession planning that was considered too hard and expensive. The executive decision taken was to continue to use profits to help other new unrelated products with a longer life and to not disclose issues already arising to the legacy product customers. The time, effort and money involved for customers to migrate away, including database and programs was not considered by the new company executives. This led to several early retirements, resignations and then forced redundancies for very dubious reasons..."

"Whether a parent is allowed to remove their child's name from the NHS register because they are afraid it will be traced by their ex-partner who is a doctor."

"Maintaining patient confidentiality while giving access to health professionals."

"One of my first IT employers asked for a solution to a linear Diophantine equation to justify a client's bill. I have worked on healthcare systems that conflated sex and gender field values to the point we were no longer sure what data was being used where. I have seen mis-selling of products, over budgeting, license breaches, breaches of employment law in the implementation of HR and time keeping systems. Healthcare general revolves around a 'don't get caught screwing up', rather than a 'don't screw up' ethos – learning from previous failures doesn't happen. I am pretty sure I have witnessed patient deaths as a direct result of IT failures. I've seen data fabricated or salted for official reports. The scariest part of these things is that the majority of colleagues didn't see these as ethical dilemmas - it was treated as BAU problems."

"At a very large PLC health care provider, I was asked to alter the software used to lift the prices each year. Some management slime had an idea that, although an announcement had to be made to the Stock Exchange to say, for example, 'We will be increasing our fees by 4% in March', we didn't actually say whether it was the 1st of March or the 31st of March and were free to do it at any time, as long as it was in March... So of course, the 'brilliant' idea was to uplift the rates for the customer on the 1st and uplift the rates for the nurses on the 31st. Nurses paid monthly would be completely unaffected, but nurses who were paid weekly (the lowest-paid and poorest) would have 4% salary effectively siphoned off for three weeks. Management ran a few calculations and decided that it was worth about £1M because there was quite a sizeable cohort of people paid weekly (by the way, I didn't get a bonus for doing this). The legal opinion, which was shown to me, was this had never been tested in court, and it was technically legal, and so it could be defended, but we wouldn't want to have to do that if it could be avoided. Accordingly, I was advised 'don't tell anyone'. Later that year I joined the BCS and became a professional with standards; if I was a member of the BCS at the time I would probably have refused to do it -- citing the professional and ethical standards I agreed to uphold as a condition of membership."

"Much of the ethical issues I observe and are affected by are within government. Prejudice and personal interests far too often overtake sensible and ethical decision making. For example;

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maintaining a vibrant ecosystem of suppliers, but those suppliers are personally connected (this happens a lot in central government standards departments) and pursuing disastrous courses of action on large programmes to meet a personal goal or to adhere to a blatantly unethical model. I'm now seeing major critical national infrastructure put at risk through disastrous replacement programmes when evolution of that infrastructure is the only safe (and is by far the cheapest) route."

"Vendors' successful historic brainwashing of senior, lay, board level management in attempts to sell over-optimistic computer dreams IT dreams whilst at the same time attempting to discredit in-house (BCS) qualified computer specialists. Who knows the realities? Billions have been wasted and government departments are still falling for it."

"I am very concerned regarding the lack of standards of healthcare software."

## 9 PROFIT VS. QUALITY

"I think a significant issue is of large corporations publicly espousing the highest ethical standards while behaving as unethically as they can get away with! Ethical talk is cheap, but ethical behaviour can be expensive, and that reduces profits and executive pay, so which wins?"

"Having worked for a major international IT organisation in an outsourced environment all too often the profit needs of the organisation took priority over IT best practice for the client."

"Yes, poor data handling and very little regard for getting and keeping data to required standards. Poor risk understanding and suppliers not producing products that have security by design or that rely on obsolete technology."

"Selling software maintenance on a product which is not being maintained."

"Employer misrepresenting the skills of staff, claiming non-existent competency then expecting staff to get up to speed and deliver. Customer at CXO level lying to board and expecting you as a PN to back them."

"Charging the customer in projects to fix problems created by us by failing to do BAU work correctly. A major one is BAU support staff not keeping the CMDB up to date, so any project that relies on data from the CMDB has to spend time validating the data."

"I am concerned about standards at the basic level – system build. I feel there is too much emphasis on doing the least that one can get away with while still hoovering up the cash from client organisations."

"Being asked to undertake work for which I have not been adequately trained being charged to a customer at a rate above my current pay grade."

"Lack of transparency by consultancy firms who have commercial relationships with both suppliers and customers. Concealed technical dependencies that create commercial dependencies."

"Often IT projects are forced to cut-corners to meet business demand, especially when running late and/or over-budget – this can have ethical concerns."

"In my opinion the standard by organisations set today does not support ethical decision making. For example, privacy used to be paramount and nowadays there are organisations making billions of profits by invading privacy."

"Becoming aware of a policy of withholding payments due to suppliers even when they are fully entitled and due to be paid. Being asked to support this policy with technology would be ethically and morally wrong."

"I worked briefly for a FAST-affiliated [Federation Against Software Theft] organisation that ranked on-time job completion as more important than obtaining the necessary software licences."

"The balance between actions to promote profitability of a business and the health of a customer organisation (e.g. software security or supplier bidding not being the best option but wanting the business for its own survival) is always a balancing act when so much is outsourced to suppliers."

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"As a consultant I have been pressured to support a proposal which was far from best practice in project management and could potentially have led to a significant waste of public money. Having declined to support the proposal, I was not subsequently re-engaged, but of course I can't prove a causal connection."

"In the past I have known situations where a company (my client) is pursuing business approaches which I (& also my direct employer) would consider unethical e.g. tax evasion but have felt duty bound (& NDA in place) to support the approach (& stick to the technical aspects)."

"I have been involved in developing a system in which the specification was challenged, at a meeting at which I was not present, on the grounds that it might breach rules set by a regulatory body. I am told the discussion went along the lines of: 'Implementing this is expected to bring in £X million increased revenue. What happens if we are found to be in breach?' 'We get a fine.' 'How much is that likely to be?' '£Y.' 'Peanuts (X being greater than Y by orders of magnitude) – we go ahead.'"

## 10 REPORTING

"When your organisation promotes honest and open communication with customers then effectively covers up a breach in their network. Just because no damage is done doesn't mean the client shouldn't be told."

"Someone (no longer with the company) claimed to have 3 ISACA qualifications for a sensitive senior very well-paid role and I found out they did not, from ISACA."

"The problem of different definitions of ethics and ethical practice between disciplines. When I work with social scientists, for example, there is almost no overlap in how we talk about ethics, what we take the words to mean, and how ethical standards should be defined, evaluated and implemented. We desperately need a cross-discipline, cross-industry consideration of ethics, rather than leaving it up to 'silos' such as the computing profession."

"My clients have typically wanted to pull and store personal data so they can mailshot. GDPR has been a wakeup call and a means of shoring up the real ethical issues with regard to my clients' customer data."

"Some information of a commercially sensitive nature came into my possession; this was from a customer and could impact how my former employer moved forwards. I raised this through internal procedures and stated my preference for the deletion/destruction of the info. The ethics committee partly resolved it by taking so long to respond that the information lost some its value; eventually they decided that they would not use it; nonetheless I was pressured by some in middle management to reveal it. I didn't - it seemed the right thing by my standards (and those of the ethics committee) but did lead to some friction from those immediately above me."

"More than once I have seen managers actively make choices that will give them good a CV or interview stories after an inevitable failure leads to organisational disaster, thus failing in their fiduciary duty to shareholders etc. That's not even a dilemma, but it's too common, and is easiest to do in IT given the lack of certainty in software engineering as practised today."

"The organisation I am working for, adheres strictly to ethical standards but that did not appear to have prevented abuse by senior managers in one of its subsidiaries."

"The removal / reduction of staff meaning that, in full knowledge, we cannot deliver the projects we are signing."

"Whilst working for one of the oldest blue-chip IT companies in the world, I was instructed by my 'people manager' to report fake hours worked on a project, to boost charges to the customer. I refused to do it on ethical grounds and the manager backed down in my case - but continued to instruct others to do so."

"Asked to by a CFO to delete archived data belonging a predecessor."

"Personal experience of CEO/CAO and other senior leadership being willing to fund vanity projects that deliver no customer benefit or shareholder value while making inflated claims in the press about the maturity of the technology and its adoption within the organisation."

"1. Short delivery of a managed service, where senior managers were warned of the situation but chose not to remediate. When the inevitable consequences emerged, junior staff were blamed for the shortfall. Two tribunals and seven constructive dismissal cases followed. The principal ethical issue was the managed service provider allowing the customer to believe the

service was being delivered in full, when this was not the case. 2. I'm seeing staff at all levels asserting strong support for robust security (i.e. the combined measures protecting services and infrastructure). At the same time, it's clearly apparent to many staff at all levels that the calibre of engineer assigned to maintain this protection is random and, in many cases, recklessly poor, and this exposes the business to risk. The ethical issue is tolerance of the double standards and willingness to 'look the other way'."

"Personally, considered blowing the whistle on a big outsourcing contract due to inherent flaws in the tendering organisation's ability to outsource effectively. Decided against it and quit instead. Contract was later terminated due to security concerns which was also at the core of my argument. However, in my opinion the security concerns were not in themselves the issue, the issue was lack of governance on all IT-related issues, including security."

"Having to work with client representatives who want changes made to the software in order to hide defects (correctly detected at the hardware level) and defective practices in industrial process control systems 'in order to get the amount of alarms down'."

"BCS must follow the similar standards as the General Medical Council (GMC) for medical doctors and must focus on the aptitude and professionalism of their members."

"Ethics in IT is not an IT issue; it is an organisational issue and always proliferates from the top down."

"Having to raise concerns entirely off-record so that the company could claim ignorance if it chose not to address them."

"I have had to execute surveillance warrants (so I was told) without management being willing to show the actual warrant - placing the surveillance subject at risk of unauthorised interception were the warrant to be invalid, forged etc. I have been encouraged to breach licensing of copyright materials. On the one occasion I was asked to develop a system for a safety-related function (warning about incidents of violence) - I explained that I did not endorse the design proposed by management, that there were no clear objectives, and that as a BCS member I was obliged to highlight that I had insufficient experience in ensuring such systems were effective."

"As a consultant discovering possible money laundering... what to do?"

"I informed the Home Office of serious financial fraud by an IT supplier as a consultant. The permanent employees were civil servants and whilst they accompanied me to London to the HQ they would not come into the room and speak to the senior civil servant. The transactions had been authorised by them, but I believe that they were totally ill-prepared for their roles. I do not think they were at fault but had received no professional training for their roles which had access to notable sums of money. There were also suppliers who took advantage of this by padding out tenders with totally unnecessary hardware requirements, duplicating resources that were already available and greatly underused."

"The previous IT manager has hacked and monitored another staff member's email. But the said member was not willing to come forward or confront the manager."

"Should an administrator be allowed to turn off the click-through warning screen that internet access was being monitored?"

## REAL LIFE ETHICAL DILEMMAS

"The client request to omit the audit trail = 'the double cross-checking mechanism'. Our action taken was that of refusing the client's request and walking away from the project on ethical grounds."

"I was asked by my organisation to engage with a customer and ask him to help us develop a pilot product that we knew he would lose access to for technical reasons within a short time period. The customer was being asked to invest considerable time and effort. I raised this to our highest management as an ethical issue that would have to be resolved before I was prepared to engage the customer."

"A person without an IT degree practising as IT manager for years."

"I have recently done some work on a 'green ICT' initiative that wasn't actually supported to challenge and change behaviour but rather was reporting on changes made for other reasons, highlighting their sustainability credentials. While the changes did deliver 'green' benefits that was not why we did them nor at any point was the question asked, 'how could we do this more sustainably' so reporting on them from this angle was 'green wash'."

"Whether to continue using data on a public website that had a note attached that it was not for commercial use. We decided that the ethical response was to cease using the data."

"I've witnessed conflicts of interest on many occasions I've also witnessed on many occasions people without qualification or experience override people who are qualified and experienced and follow practices that are reckless, unethical and contrary to best practice. Until that changes it's hard to see us progressing as a profession."

"1. Requirement to print off personal data and keep in an insecure location. This has been stated as a contractual obligation - as in a direct instruction from senior management. I have not done it - but I haven't said I haven't done it. I repeatedly make the point that it is illegal. 2. Improper processes when purchasing goods and services - especially IT – where a requirements specification is not produced, contracts are not put out to tender, staff with technical expertise are not consulted and users are not consulted. This contract was awarded to a family member of senior management. I would make FOI request if I could do so without being identified."

"Security best practice is compromised because of budgetary limitation. E.g. not upgrading old equipment, not allowing time to redevelop old applications."

"Our company top levels don't know IT job roles and their scope. This must be updated in Sri Lanka."

"From my previous work history, numerous companies ignore licensing terms and conditions. Also hiding information from customers, i.e. no patching on servers for five years or until the customer asks for a patching report – the company then makes one up for them. I always ensure I email my direct manager and BCC a personal email address if something like this occurs, that way it covers me in case of future issues."

"When the work we do to improve automation and the efficiency of people will lead to job cuts. We try to reinvent job positions into other areas but there often is a skill-will gap."

"I have resigned from companies where I have discovered plagiarism of established works being sold to clients as intellectual property. I have also worked in organisations which have



## REAL LIFE ETHICAL DILEMMAS

been contractually exploited by large consultancies in order to prolong the engagement beyond the project or programme end date. In other words, not having the clients' interests at heart."

"In at least one company raising safety issues was a promotion stopper."

"Whistleblowing on discovering clients are acting in breach of licence agreements, DPA etc. I have no problem doing it, but an industry wide 'we will do it' level playing field would be good."

"Lack of full disclosure of the problems ahead for selecting a particular solution."

"As a consultant the main daily dilemma is balancing the legitimate interests of my direct employer with those of the clients I work for."

"Downgrading of security features to meet deadlines and budgets. Premature release of products. Insufficient training for support staff."

"Awareness of third parties' conformance or non-conformance to GDPR."

"Asked to change results of a large client study to what the client wanted, which was contrary to the study findings."

"Vendors releasing insecure products - not maintaining them - imposing cloud sign-up to run their proprietary stacks IoT devices and data capture from private premises. Vendors infringing right to repair / modify by users (which makes fixing their problems and spyware harder). Using IPR laws unethically to destroy alternative products, services and companies."

"Conflicts of interest where senior department members select suppliers - they have pre-existing relationships."

"I am currently assigned by my organisation as a finance advisor to a local government entity in my country to assist them overcome/combat the issue of corruption and corporate indiscipline. Staff members of the local government entity see no problem in asking for or receiving gifts, tips or offers from their clients for services they are paid to perform. Sometimes, staff even make it a pre-condition for providing said services. Our approach to assisting them is to strengthen the existing polices, flag these issues to senior management and introduce computer-based systems wherein most processes would be automated to minimise human interfaces between clients and staff. Our challenge is that management has been less inclined to act on recommendations made and, in some instances, funding is not available to implement the recommended IT structures. However, we continue to remain engaged."

"Being asked by senior executives to access private files and photographs stored on a work computer, email account, or smartphone."

"When working at a previous employer, it was clear there were problems with the billing and invoicing systems which, if found, would lead to substantial fines (and possibly more) from HMRC. No one would support the case to make the developers introduce the required fix."

"I am a user of Surface Pro with Windows 10, this device is using a security protocol with a serious issue (the user gets logged out in an endless loop PIN, face recognition, password), the company is aware of it but transfers responsibility to a support company. The ethical dilemma is how much we transfer software testing to our users and how do we inform them about the current bugs with clear indications and solutions (this means no fooling around from support team to support team). What does transparency mean in software failures for a user, company

and subcontracted support? How much can a company make a user spend hours and hours solving software issues because a known bug is not documented on time?"

"An organisation in Hong Kong issued a tender for IT equipment renewal to incumbent and multiple others. This was because their own procurement dept required both a competitive tender AND a RESPONSE from multiple number of vendors. (4-5 as I recall). The incumbent network provider (a British firm) responded but no other bidder bothered to. The deal was stuck despite being of relatively tiny value. The bidding company's local sales rep then foolishly, and contrary to his training, persuaded some of his friends in other recipients of the RFP to submit offers at a price higher than the single bidders offer price. This was purely so the rep could close his deal since otherwise the organisation's bid rules had created gridlock. He was wrong and so were the friends who went along with his scheme to help him out. The client procurement dept got wind of it and referred the case to the HK anti-corruption department who took the bidder to court where, to my knowledge the case remains having already consumed millions in legal fees. It's a ridiculous case because, for the tiny amount involved, the only person who knew or gave a damn was the sales rep. The bidders exec management would have had zero knowledge before the fact and notably they have extremely high ethical standards and mandatory training. But they've been taken to court anyway to make a point. This sales rep just wanted to close a small deal, help towards his sales target and move on. But he was caught between the demands of his job to make his targets or potentially lose his job, and the need to remain ethical. He took the wrong path and lost his position and the only winners are the lawyers. No-one else wins. Even more ridiculous is that the system of deal registrations employed by almost every IT vendor worldwide, is itself often anti-competitive and can be arbitrary - meaning that if you don't get a registration you won't get the best price, so can't win the deal, so wouldn't bother bidding. Yet no government does anything. This is a classic example of how ethics, rules, regulation, company standard practices for sales reps and discounting can work at odds with each other for no-one's real benefit. It's a real challenge but the one thing you can be sure of is that if you break the rules and get caught, you will regret it."

## 11 PUBLIC INTEREST

"Use of data, prior to the introduction of GDPR. Specific use case was counter-fraud & associated risk management, but not directly in relation to law enforcement."

"The gathering of intelligence from the dark web."

"Constant issues in the forensic world - investigator's desires for proof of guilt vs. scientists' responsibility to be truthful."

"Being sold software that failed to live up to expectations and promises."

"Sometimes asked to compromise best advice to achieve sales. Sometimes deliver inadequate service due to resource limitations without making this clear to customer."

"Whilst contracted to an IT systems company and bidding for government contracts I realised that in the past compliance with legislation and certain functional requirements had been incorrectly claimed through a naive misinterpretation. My dilemma was whether to follow precedent and continue to claim compliance or to flag this up as an issue. I raised it as an issue with management and corrective action was taken to ensure compliance."

"Overcollection of information. Senior management unwilling to change behaviours as a result of changes in law (GDPR obviously here.) Contractors obviously unable to properly staff projects and abusing junior / unqualified staff."

"IT technology adoption and decision-making processes."

## 12 RECRUITMENT

"Candidates for programming and analytic jobs are hard to evaluate for their competences, even if they have the correct qualifications. Developing a set of tests for use during the recruitment process would be very useful. Creating such tests are time consuming and require on going commitments. I think the BCS could be a huge help to give employers objective tests that demonstrate competences during the interview process."

"There has been a lot of debate about how one can vet new employees especially in areas where there is potentially very sensitive data, without becoming overbearingly bureaucratic. People who are determined to wreak havoc are very likely to do so and there must be safeguards in place to minimise, if not prevent, any potential issues."

"In my organisation I was instructed to hire a woman regardless of whether she was the best candidate."

"Being forced to give negative appraisals to staff by more senior management."

"Being asked to provide services beyond existing qualifications and experience."