

**1.1:** *Which of the various pressures identified by Berenbach and Broy at the start of this section contributed to the outcome of this case?*

- Mission Impossible - Accepting an impossible deadline with the knowledge that there was no way to complete the project within the agreed upon timeframe.
  - The pressure to deliver a product with no ability to pushback the deadline -- being told by the team leader that the team's jobs are reliant on an on-time product.
- Mea Culpa - In the scenario they talk about the team responsible for system software for taking shortcuts and intentionally hiding system errors.
- Rush Jobs - The delivered product in this case was clearly subpar quality and indeed did not even meet the functionality that was contracted. This was clearly due to a rushed schedule on account that the sales manager disregarded the development team who told him that was an infeasible timeframe for the project.
- Red Lies - When the job was done, it was presented with full functionality. Also, when they met at the halfway point, the client was told that everything was going according to plan and that they were on schedule, this was a red lie because they were not on schedule.
- Fictionware - The sales manager created a contract promising functionality that he was told was impossible.
- Nondiligence - A fair portion of fault in this scenario falls on the sales manager who accepted this contract and the higher-ups for not having checks in place to prevent such unreasonable contracts from being made. Some fault also falls on team leader for not checking the contract in detail as soon as receiving it and then appealing to higher ups.

**1.2:** *Who were the various stakeholders whose interests were ethically significant here? What were the interests of each stakeholder? Whose interests should have taken precedence in the minds of the relevant actors, and why?*

- Sales Manager: The sales manager was hoping to gain positive renown by securing this contract. While this would be in the interest of the company it is only truly to their benefit if the contract is reasonable and the result would reflect positively on the company.
- Design Team Leader: The design team leader had a variety of conflicting interests from the company's reputation, to the team member's jobs, to the quality of the software which would impact lives. Unfortunately in this case, the last interest, which should have been the primary concern lost to other factors.
- Design Team: The design team was faced with an ethical dilemma between keeping their jobs and risking lives with poor quality software.
- Quality Assurance Team: The interest of the QA team is to ensure that a product is good in quality and to sustain their jobs. Their interests in both delivering a quality product and keeping their jobs were in contention. In their heads, the interests of the consumer using the product should have taken absolute preference overall.

- Therapists: These are the users directing their patients to use the software. They would pass along any information to their patients, information which would be false and directly harmed their patients. Their interest is in providing their patients with the best available treatment.
- Patients: These stakeholders are the ones directly feeling the effects of the software and receiving treatment. Their interest is focused on their own health, which is reliant on proper care and treatment as directed by their therapist.

In regards to healthcare software, the patients' interests should always have precedence for all stakeholders especially considering lives were at stake in this case. In fact, one would hope whenever lives were on the line, this would be the primary concern.

**1:3:** *Who at LifeDesign had the power to prevent this outcome? The sales manager? The design team manager? The manager of the software group? The individual members of that group? The quality-assurance team? The CEO? Go through the list and discuss what each person, at each level, could have done to effectively prevent this outcome.*

- Sales Manager: Could have listened to the team at the very start and told the client that what they were asking was not possible to form a reasonable contract.
- Design Team Manager: Could have refused the project in its current state and detailed to the sales manager a reasonable timeframe. Could have looked at the due date and scheduled around it better as well as clarifying that a guaranteed fail-safe would be impossible.
- Software Group Manager: Could have refused to accept sloppy code, shortcuts and hidden errors regardless of the upcoming deadlines. Could have looked at the due date sooner and scheduled around it better.
- Team Members: Bringing attention to the CEO of the bad practices occurring or report them to the ethics board. You could also look into quitting and refusing to be part of a team that cuts so many corners on code.
- Quality Assurance Team: Seeing that the quality was imperfect and there were many flaws, the QA team should have refused to give the go-ahead for this product, especially seeing as how they weren't even able to coordinate the proper tests needed to check the product for safety and functionality.
- CEO: The CEO could have heard about the project and delayed it at risk of violating contract to ensure that a quality project is delivered. The problems could be easily solved by a more reasonable scope and a larger time-frame for delivery.

**1:4:** *Put yourselves in the shoes of the software engineers employed on this project. Discuss together how the outcome of this case would affect you, personally and professionally. How would you feel about your friends, family, neighbors and mentors learning that you were involved in the scandal, and that your work was implicated in the suffering and deaths of many*

*innocent people? What would you say to them to explain yourself? Would any explanation be adequate?*

After discussion it seems we were all on the same page about how we might feel in the aftermath of being involved in this project. We all agreed that we would feel an incredible amount of shame and guilt for trading money for lives in this way. Some of us said we would try to justify ourselves in that we were doing what we were told by our boss while others said they wouldn't even try to justify themselves, but we all agreed that there would be no true justification for our contribution in this preventable tragedy and any attempts at justification would be empty. There was also a consensus that any participant in this project should have tried to change the direction it was heading, potentially by appealing to the higher-ups or an ethics board, and if this failed then we would have been better off quitting than continuing to work at that company on that project. In the end, everyone's sentiments boiled down to the fact that a project like this, which trades lives for profit, is horrible and participating in such a project would result in guilt and other repercussions that would drastically change the lives of those involved for the worse and continuing on the project to keep the job would not be worth it in the end.