UNIVERSIDADE DA BEIRA INTERIOR
Faculdade de Engenharia | Departamento de Informática

Engenharia de Software - 2024/25

Lab#1 – Introduction to Software Engineering

1. Explain why professional software is not just the programs that are developed for a customer.

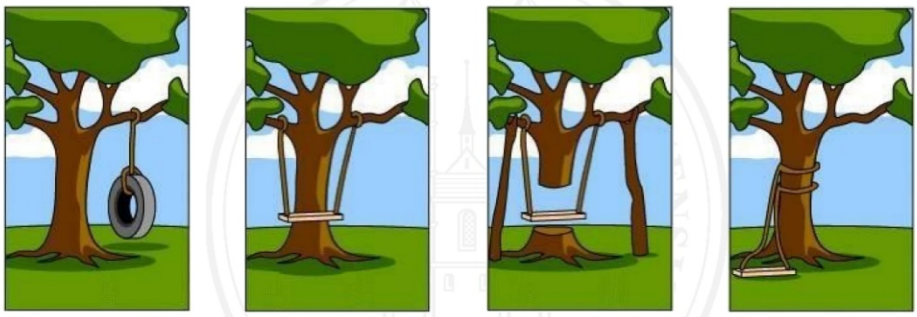
2. What is the most important difference between generic software product development and custom software development? What might this mean in practice for users of generic software products? Provide examples of generic and custom software.

3. What are most important attributes that all professional software should have? Suggest additional attributes that may sometimes be significant.

4. Explain why there are fundamental ideas of software engineering that apply to all types of software systems.

5. To help counter terrorism, many countries are planning or have developed computer systems that track large numbers of their citizens and their actions. Clearly this has privacy implications. Discuss the ethics of working on the development of this type of system.

6. In the context of software engineering, comment the image below.



7. Explain why change is inevitable in complex systems and give examples (apart from prototyping and incremental delivery) of software process activities that help predict changes and make the software being developed more resilient to change.

8. Historically, the introduction of technology has caused profound changes in the labour market and, temporarily at least, displaced people from jobs. Discuss whether the introduction of extensive process automation is likely to have the same consequences for software engineers. If you don't think it will, explain why not. If you think that it will reduce job opportunities, is it ethical for the engineers affected to passively or actively resist the introduction of this technology?