WIA2002 Software Modelling

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Tutorial 1

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1. Professional software is made for special purpose instead of being generic. Software developer develops software to solve particular problem, such as control system.

2. In generic software product development, the specification is determined by the software developer, the customer has no control over the specification and update of product. In customized product, the specification is based on the requirement of customer upon negotiation; this might cause contract issue if not taken well concern. For user of generic product, user is not able to control the development of software, it means that whenever the software is updated, user has to be concern about the dependency issue and read documentation to adapt to the update. It might cause problem if the software design does not suit the user need.

3.

   a) PUBLIC — Software engineers shall act consistently with the public interest.
      - Social media should not expose negative posts to public for social experiment.
      - YouTube should ban videos that are inappropriate.
      - Positive messages that match the software policy should be exposed to users.

   b) CLIENT AND EMPLOYER — Software engineers shall act in a manner that is in the best interests of their client and employer consistent with the public interest.

   -      We should not review the bugs or security issues of a company that we work under.

   -      We should design the software carefully to avoid possible mistakes that can cause loss of a company.

   -      We should not introduce virus in system of company that we work under.

   c) PRODUCT — Software engineers shall ensure that their products and related modifications meet the highest professional standards possible.

   -      The software design should be scalable.

   -       The software design should be maintainable.

   -      Database design should be possess fast access ability.

d) JUDGMENT — Software engineers shall maintain integrity and independence in their professional judgment.

- We need to have the skills and ability to build the software up.

-- As a programmer, we should be able to utilise good practices in codes.

- As a programmer, we should not be over-dependent of someone else's codes.

e) MANAGEMENT — Software engineering managers and leaders shall subscribe to and promote an ethical approach to the management of software development and maintenance.

- Manager has to ensure the software is built for ethical purpose.

- Manager has to maintain the software in a way that it follows all the guidelines in ethical issues.

- Customer data should be store confidentially.

f) PROFESSION — Software engineers shall advance the integrity and reputation of the profession consistent with the public interest.

- Engineer should show their skills positively.

- Engineer should show integrity.

- Engineer should show reliability of his software.

g) COLLEAGUES — Software engineers shall be fair to and supportive of their colleagues.

- Everyone in team has to be responsible for the software.

- Mistakes of colleagues need not to be heavily pointed, but have to be solved as soon as possible.

- Everyone in team has to have certain skill level to cover each other.

h) SELF — Software engineers shall participate in lifelong learning regarding the practice of their profession and shall promote an ethical approach to the practice of the profession.

- We should always learn better algorithm to solve problem better.

- We should always learn to improve coding skills.

- We should always expose ourselves to better tools that aid in software development.

4. Yes, it has violated the "MANAGEMENT" principle in which the customer data is not confidentially stored, but used for own purpose without users' knowledge. An excellent software engineer should not assist in the work as harming customer privacy is illegal and not ethical no matter the data is used for government or other parties.