WIA2002 Software Modelling

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Tutorial 2

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1. A system to control anti-lock braking in a car
   Waterfall model. The safety-critical system ensures that the system runs with no error upon implementation.

   A virtual reality system to support software maintenance
   Incremental development, the software must be updated and maintained regularly to ensure the version is adequate and meet the demand of the customer.

   A university accounting system that replaces an existing system
   Waterfall model. The requirement must be stable because it is replacing an existing system.

   An interactive travel planning system that helps users plan journeys with the lowest environmental impact
   Incremental model. The system requirements change as real user experience with the system gained.

2. By developing the software incrementally, the cost is cheaper and easier to make changes to the software as it is being developed as business software often is complex. This model is less appropriate for real time system engineering as it involves many hardware components and usually is safety critical.

3. Ina reuse based process, you need two requirements engineering activities because it is essential to adapt the system requirements according to the capabilities of the system/components to be reused. These activities are: 1. An initial activity where you understand the function of the system and set out broad requirements for what the system should do. These should be expressed in sufficient detail that you can use them as a basis for deciding of a system/component satisfies some of the requirements and so can be reused. 2. Once systems/components have been selected, you need a more detailed requirements engineering activity to check that the features of the reused software meet the business needs and to identify changes and additions that are required.

4. The advantage in presenting dynamic and static views is that phases of the development process are not associated with specific workflows. All of the RUP workflows may be active at all stages of the process. In the early phases of the process, most effort will probably be spent on workflows such as business modelling and requirements and in the later phases, in testing and deployment.

5. I think that the introduction of technology can reduce the job opportunity of software engineer, but not in short term. So, we need to follow the trend of improvement, and adapt to the current market changes to be able to cope up with the technology advances.