

The setting. You're working for a company that received an order to develop a particular system. Your colleagues have opted for a specific software development model, but you believe this choice is suboptimal.

The goal. Write an email (in a form of essay, <1 A4 page max) to your colleagues aimed to convince them to use a more appropriate software development process model:

1. Propose a specific alternative model to use.
2. Enumerate a series of arguments (try to come up with at least 5-7) either attacking the choice of your colleagues or promoting your model.

Keep in mind that a specific process model is more like a rule of thumb, not a law that one would follow verbatim. The specific model is less important than the arguments in its favor.

Hints: Try examining the problem in terms of its novelty to the world (e.g., try to understand whether this is a well-known problem or a completely new one) and to your company, analyze the availability of information on user needs and the likelihood of them changing; evaluate your experience in the area, maturity of the technology, the need for incremental deployment, expectations from customer management, overall project scale and complexity, number of involved stakeholders, and other expected project risks.

Hints on evaluation: Your reply will be evaluated by your peers -- like it would be in the real world. Try to be as convincing as possible and include as many arguments as you're able to. Peers may or may not agree with your argumentation.

Variant 1. A large organisation has a software product for processing medical prior authorisations¹. The product has been in use for a number of years but is now outdated and cannot satisfy customers. Your potential team knows the technology very well but learning some new technology for system upgrade will be needed, too. The system indented for replacement is a complex product where migration might take up to 2 years. As in many healthcare systems, lots of stakeholders may be affected. Customer management would prefer a solid rollout schedule with strict milestones.

Your colleagues have opted for the V-model, arguing that its emphasis on testability should help ensure customer satisfaction.

¹ Under medical and prescription drug plans, certain medications may need approval from your health insurance carrier, before they're covered -- this is to avoid certain drugs being unsafe when combined with other medications, and to fight fraud such as prescribing higher-cost medications when cheaper but equally effective alternatives are available.

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Variation 2. A big retailer company wants to create an online presence (an online store). The management is not sure about what features they might need (delivery? self-pickup? promotions?). Nevertheless, the customer would like to go live as soon as possible, with bare functionality. This endeavour is entirely new for their organisation and the stakeholders are fully committed for a launch and can actively participate in the development.

Your colleagues have opted for the Spiral model, arguing that it is the only way for the customer to avoid risks of going bankrupt doing the project.

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Variant 3. You are working for an IT company specializing in building automated robotic solutions for heavy industry. A large mining company has hired you to develop a self-driving truck vehicle for use within the mining industry. The project has not been attempted before, and the solution is largely unknown. The management is not confident about their needs (in fact, only a limited functionality might be expected of the vehicle) and requests the need to cancel the project if the concept fails to be promising enough.

Your colleagues have opted enthusiastically for an Agile model, arguing that only an immediate demonstration of a real vehicle would convince the customer to continue with the project.

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Variant 4. You are working for a company developing CAD modelling solutions for aerospace engineering and were contracted by the Russian Space Agency to design a replacement for defective bolts used in their spacecraft. The customer requires strict adherence to the schedule and would like to commission a variety of designs.

Your colleagues suggest using a Unified Process, as this helps deliver a working bolt prototype within schedule requirements.