

1. • A system to control anti-lock braking in a car

V-model: since we can't really make the maintenance of the system to every car sold, so we basically need build the system and let it work. The V-model is the model that do the job in one cycle and make it work with a lot of test to ensure it work well, since the break-lock system in car can't allow many accidents happen.

• A virtual reality system to support software maintenance

Prototyping: since it is a support and maintenance, user will have new problems or requirements often; so we need the update fast enough to catch up new requirements, so prototyping will fit best.

• A university accounting system that replaces an existing system

Incremental process models: so when we replacing the old system, we will have at least 1st increment of new system that basically work to replace it, the accounting system will not suddenly shut down, as new increment come out, better future will also come along with new system.

• An interactive travel planning system that helps users plan journeys with the lowest environmental impact.

Concurrent models: basically the plan changes while the environment of journey changes, this model fit for constantly changing environment.

2. (10 points) Provide three examples of software projects that would be amenable to the waterfall model. Be specific.

Offline games: once made and released, it is finished. (games now often have DLC after the game sold, but as game itself, doesn't get much update yet.)

Update version of some software: like make a MSWord 2016 base on MSWord 2013, we already know what to do in the new software, just add or take away few new features, it is a update but still a new software.

Calculator: small and old functional software, it is simple, everyone know what kind of function it will have, usually nothing need to change or add after it done.

3. (10 points) Provide three examples of software projects that would be amenable to the prototyping model. Be specific.

Social network apps in phone: tons of users -> tons of suggestion, complain, -> tons of changes needed, and needed fast.

Competitive online games: since it is a competitive game, it need be very fair, which is really hard to balance the fairness, since it is online game, need keep update to keep player to play, that need even more effort to balance the game. Example: LOL, DOTA2, new updates every month.

AI: need keep update base on new algorithms, commands.

4. (10 points) Spiral model and incremental model are two software process models. Explain how these two models are different and related.

Incremental is make each new working version(large version) of software work and improvement base of each new version. But the version is one by one, and steps are still sequential, so the feedback react is slow. It can only start until last thing end.

While spiral model is a risk driven model, it does not finish the software with large version change by each version, it more analysis the software and feedback while doing each small version.