**Part 1**

**Theory**

**Plan driven versus agile development**

Plan driven development is a process where all the project activities are planned and determined in advance. We have encountered several Plan driven models before, such as the Waterfall model, Iterative and incremental model, V-model and Spiral model.

In the sequential Waterfall model all the requirements are determined and documented before the start of the development process. The phases are as followed: making of software and system design, the implementation and unit testing, the integration or verification and system testing, and finally maintenence of the fully functioning system. However, some researches show that this approach has the highest estimate of failing in developing software, therefore the iterative methods proved having higer productivity and progress percentages.

Iterative and incremental development such as Unified process and eXtreme programming implements project development from smaller parts, meaning that we break down the system in several iterations, and with each iteration completed system grows (expands). The system's information, features and requirements are determined in the Inception phase, when the interview with the customer is conducted. In the Elaboration phase the architecture and the complete detailed design of the system is drafted. In the Construction phase, integration, implementation, testing and re-designing is performed through several iterations. Transition phase is for deployment of completed software to the customer, but before that extra testing must be performed. If everything is satisfactory documentation is finalised and the software is handed over to the client. All of the phases could potentially have more than one iteration, especially in the construction phase where most of the implementation is performed.

The V-model is also very dependent on the fundamental documentation created in the starting phase just like the Waterfall model. The uniqueness of this model is that the tests are

On the other hand, in agile development planning is executed in increments, therefore it is easier to perform the necessary changes.

Larman – Applying UML and Patterns 3rd edition

<https://airbrake.io/blog/sdlc/v-model>