1.2 I can assess the suitability of development environments for given projects

When assessing the suitability of development environments for your given project it is important to consider the pros and cons of each methodology in relation to the aim of your project. For example, when developing new software you will be aware that you need a project methodology that is flexible, identifies issues early in the development process and provides tangible value to the customer throughout the development process.

The Waterfall method is a project methodology that is typically used for large projects such as the building of a hospital. Project requirements are set from a very early stage and the plan for the project is then comprised of sequential steps (with dependencies) designed to achieve this goal. Resources are then allocated against this baseline. This method is best used for projects that have strict, pre-defined requirements and that require a high level of documentation to aid quality control. The end product is not delivered until the end of the project and the product owner is not able to change their requirements during the development stage. For these reasons the Waterfall method is not suitable as a development method for software development due to its lack of flexibility, its inability to identify issues at the early stages, the costs involved when issues are found at a late stage in the project and the time it takes to see tangible results.

SCRUM is based on Agile Principles and is the most popular form of project management for the development of software as it is designed to be flexible and deliver fast results. Project requirements do not need to be as clearly defined in comparison to the Waterfall method. Instead the Product Owner can give continuous input throughout the development process, changing requirements when necessary.

**SCRUM roles;**

* Product Owner – responsible for defining requirements of the project, ensuring they are delivering value to the customer, work effectively with stakeholders and to prioritise the product backlog (work tasks that make up the project)
* Scrum Master – also referred to as a ‘servant leader’, working closely with the Product Owner to help meet objectives as well as work with the Scrum team, organising, facilitating and leading sprint meetings and reviews
* Development Team – comprised of developers and designers who complete the work tasks that make up the product backlog

The development process takes place over a number of ‘sprints’ which typically take place over a two week period. During the sprint, developers will work to complete a product backlog which will then deliver a tangible result on completion for the Product Owner. Kanban boards are used to visualise the product backlog and the status of tasks and quick, daily SCRUM meetings take place to assess progress and identify any blocks. At the end of the sprint a review and retrospective takes place. The SCRUM process is flexible and fast and helps to identify issues early in the development process cutting down on potential costs and delays. It is also focuses on continuous improvement to deliver the best result possible.