**Analysis**

**Project management definitions**

Every project has a beginning and an end to them, this is a vital piece of information as most projects will be desperate to complete the project within a set timescale. Project management is quite simply the process of organising and planning project activities in order to be successful within certain areas such as, money, time, and restraints. A project must follow 5 of the life cycle requirements, these are dependent on the project management methodology. They include: Initiating, Planning, Execution, Monitoring and Closing.

**Initiation** - This is the first phase of any project management, it needs to have justification for the project and then requirements.

**Planning** - The planning stage needs to provide information upon the carrying out of the project and how it will be monitored and looked after.

**Execution** - This phase is where the implementation begins to happen and time, cost and quality become important factors.

**Monitoring** - This is the stage where the monitoring needs to match with the planning documentation in order to provide that progress is being made.

**Closing** - The project will need to be closed once everything is complete, however, it is vital that live testing is completed in order to close the project as a success. **LAA.P2**

**Project management roles**

**Project manager -** The project manager will be the main person who is designing the project plans, managing stakeholders, managing communication throughout the team. Managing the risks, managing the schedules, managing the budget, managing delivery.

**Systems architect -** The systems architect, including design and implementation of hardware and infrastructure and meeting the requirements of the system.

**Electronics engineer -** The electronic engineer designs the electronic components, circuits, systems, interfaces for software and development of firmware.

**Product owner -** This is the key stakeholder, the product owner has the vision for the project and is the main supplier of the budget and ideas.

**Lead developer -** The lead developer holds the responsibility for the architecture, has a medium position in the team and supplies as a mentor to the junior development team.

**Developer -** The developer writes the software code and applies developer designed tests.

**QA tester -** The Quality Assurance tester needs to test all functional and nonfunctional requirements as well as acting as a mentor to the junior QA testers

**IT support -** IT support takes responsibility for logging and resolving issues that users may be having as well as faults in the delivery of IT services to meet the needs of the organisation and clients.

**User -** The user is the person who will be using the product when it has been deployed, they produce requirements that are about usability. They feed back to the stakeholders. **LAA.P2**

**Project management methodologies**

**Waterfall**

**1. Brief analysis**

The brief analysis is a document that states the organisation and what they do, it explains what they would like to be done for the project and what they would like from you. The brief contains information which will be important to how the project is carried out, such as: time, organisation information, requirements, audience and project idea. It is important that the brief is examined thoroughly so that no small details are missed in order to provide as much as possible from the project to the specific organisation.

**2. Planning**

The planning stage is important since it means that the time given for the project needs to be segmented and partitioned in correct and appropriate matters. In order for this to be achieved, several other areas need to be overlooked. First, a risk assessment; the risk assessment will assess how many risks there are to completing the project on time, it will include as many details as possible, such as, availability, experience and estimated time to complete particular phases within a project.

**3. Research**

The research phase throughout the project requires to be done thoroughly since this is everything that will need to be concluded throughout the project. The requirements will need to be decided through the brief and research, the risks will need to be assembled via research and the time management and planning will need to be arranged accordingly depending on the research found.

**4. Design + Review/Improve**

The design stage of the project is where planned designs are created. The designs are often put into a questionnaire so that a minority of people can be asked these questions to review the designs. The reviews are taken into account and the designs are improved to provide a final design before implementation begins.

**5. Implementation**

Implementation is the process of turning the final design and research into a product. This will be the longest stage of the process so far since it will require in-depth work and attention to detail to make sure that the product is carefully created, following the requirements and the time management.

**6. Testing/Evaluation**

The testing and evaluation stage of the project are important to the project management since without the testing the product may be non-functional and therefore may not work as it should, with that in mind, testing will also help the developer and producer of the projects understand what is wrong with the procedure and then be able to discover alternative solutions or solutions for any issues. Testing will also help with any new ideas that have been summoned during the implementation stage. The evaluation is a summary of how well the project has gone and how well the time planning and management has succeeded. **LAA.P2**

**7. Maintain**

Maintaining the product result will mean that the product needs to be updated and changed on a regular basis to make sure that it is correct and follows any new laws that have been created. The product needs to also need to be improved. To do this, consistent research needs to be carried out as well as consistent testing to make sure every function on the page still works as well as page images. **LAA.P2**

**RAD**

1. **Requirements planning**

During this stage, the developers will need to communicate with the users of the software to determine the targets for the project as well as problems and issues that would need to be identified and analysed during the build. **LAA.P2**

1. **User design**

Once everything has been planned out, the project goes straight into development. Turning the designs into a final design and reviewing and creating the real designs. During this phase, the developers need to communicate with clients in order to ensure their requirements are being consistently met in the design process. Generally, the clients will be able to test each of the designs as they are completed in order to provide a beneficial review. All the bugs problems are solved during this process. This method gives developers and designers the chance to amend the prototype designs until they reach an agreement design.**LAA.P2**

1. **Construction**

This stage takes the problems and changes that had been addressed in the design phase, developers can construct the final working model more quickly since they have better reviews because they were tested as they were made meaning that every design would be better. This phase is very important because the client still has the ability to give input throughout the stage. They may suggest amendments or new ideas if they deem it necessary and worthy.**LAA.P2**

1. **Cutover**

This is the final stage of this project management style. It is the point in which all of the designs are finally implemented and published so that they can be viewed live. Any amendments after will be done through the same process of project management it has already.**LAA.P2**

**Prince2**

### **1. Start Up the Project**

This is the phase whether the project is considered as a possibility. After this has been discussed and interpreted, the project management team will want to review it. This means there’ll be a brief which contains [the](https://www.projectmanager.com/blog/project-management/how-to-write-a-business-case) objectives, the best way to carry out the project and the persons assigned to the case. **LAA.P2**

### **2. Initiate the Project**

This stage requires several questions needing to be identified: The work that needs to be done throughout the project? Why is there a project, what are the risks and what are the benefits? and how they’ll be identified and resolved? Progress reviews should be held every so often so that it becomes easier to keep track of the project and who needs to know what they need to do and when to do it by. This stage also includes constructing risk assessments, planning methods and communication strategies. Finally, the project needs to be consistently documented so that it can be reflected upon. **LAA.P2**

### **3. Direct the Project**

This process is to help the project board be accountable to the project through their decision-making. They have authority on initiating the project, delivering its product and closing the project. They also offer direction and control during the project. Additionally, they work with the corporate entities or program management and review post-project benefits. Activities related to this process include authorizing the initiation, the project itself and the stages of the project. Other directions are offered as needed until project closure is authorized.**LAA.P2**

### **4. Control Stages**

### This stage is important as it begins the assignment of roles. Each part of the project needs to be undertaken by a team member in order to get the most out of the stages. This stage also requires the management team to consistently review and monitor progress so that they’ll be able to plan when certain issues occur. **LAA.P2**

### **5. Manage Product Delivery**

This phase manages product delivery, it requires the manager to control the work between the team.**LAA.P2**

### **6. Manage Stage Boundary**

This phase comes in two parts. First, the manager needs to provide the project team with an performance overview, updates on the project plan and creating a plan for the next stage. Second, the intel provided by the manager will be useful to help the team do reviews on the current phase. **LAA.P2**

**7. Close the Project**

This phase is entirely about making sure that the project is going to achieve the targets that are set for it by the deadline. This phase includes handing the product over, evaluating and analysing the project and recognising future improvements to be made during its maintenance to the project board to officially finish the project.**LAA.P2**

**Waterfall - WSFC**

WSFC held meetings with the heads of department and any other member of staff that was interested in having an input into the college website.

Before anything had begun, the group was led by Michael KitKat (who was the previous principal) and other senior members of staff. These people in the group are stakeholders and could be thought of as the project board members. **LAA.P1**

Purposes of the project (to attract and keep)

* Current students
* Mature students
* Prospective students
* Parents of Students.

The requirements meeting needed to get information from the stakeholders knowing what they wanted as part of the project. They were informed of what was needed from them in order to complete the project. They needed a photographer. They needed a content writer.

For the competitor analysis, the group took a week to look at all the different competitors websites in the local area. They looked at local competitors to see what they were doing incorrectly, what they were doing right and how they could improve upon it. They had also looked at national competitors to see if there are any particular websites that were good so that they could emulate and bring whatever it was that worked well into their own design. **LAA.P1**

They looked at the Joseph Chamberlain website and thought that the design that they saw was the favourite moving forward. The problem they discovered with the Joseph Chamberlain website was that they only had a limited number of courses in their portfolio so the content grid that was on that website was appropriate for them.

In their information architecture meeting they had noted all of the pages they were going to create and put all the pages in an organised structure to help them understand the specific layout of the navigation.

However, their team did occur one failure through this project. The senior management team had decided not to include Heads of the years in the discussion. Because of this, all of the support content wasn't mentioned in their original navigation structure meeting. After 3 weeks, the senior management realised that this occurred and there was still all this stuff that had to go on the website. Because of this failure, the project had been delayed by 2 months and because of the methodology of project management used, they had to go back to the design phase and all the navigation had to be redesigned.**LAA.D1**

**RAD - Confused**

Confused.com interviewed stakeholders and held sessions with various teams to gather business functional requirements and ideas for the design.

That gave them lots of design ideas and features in which they quickly turned into 6 design mockups. They stated that there were 3 mockups for the results page and 3 mockups for the form quote process.

They carried out testing on their mockup designs, as well as the existing Confused.com website, seeing how users were interacting with the first of the designs in real time.

They reviewed the issues and created a collaborative 2-day workshop.

The designers then went on to build 4 mockup designs, all optimised for mobile and desktops. Each mockup had a different approach to the journey for the user and unique visual styles, so we could test things like grid layouts, ways of displaying information and how best to filter results.

Finally, we carried out a comprehensive round of user testing on the 4 options and then selected the best concepts and features based on the findings. We built a final prototype to hand over to Confused.com, ready for one final round of user testing.

**Impact & results**

Their final design after the mockups completely overhauled the user journey of their website. They claim it’s delightful-to-use from the forms to the results pages. They also claim it has massively increased their user efficiency. Their design has reduced the number of clicks thanks to their new quotes processing function. It has halved the average clicks for an average user. **LAA.M1**

**Prince2 - Axelos**

Axelos needed to find a partner who was willing to collaborate on this project that they had in mind. In order to find the best partner, they had to consider culture and of course their technology skill and experience. They also needed to make sure that the partner was able to work with the methodology that they wanted to use as well as Axelos having the technology in order to commence on the collaborations.

The CIO at Axelos had a project that he and the business wanted to complete and provide. Their project was a web platform that allowed them to showcase all of their products and make researching into their portfolio much easier for their clients. They needed to progress the project around a timescale that involved cost time and scope for the project as well as providing in a quick timescale.. In order to do this they chose to use an agile methodology as their project management scheme, in this case, they chose to combine the Prince2 framework with an agile approach to the software. The CIO states that the challenges that overcame when undergoing this project was the change in culture of the organisation since they needed to take new people on board to partner with them for the development of the project. They also needed to get used to the new culture of the new methodology that they were going to use since they were so used to using traditional methodologies. He also states that Axelos needed to understand that there isn’t a very defined scope and that the requirements would not be coming from up front. They had to know that they wouldn’t be given a specific fixed time and a fixed cost for the project and that it would vary. They considered the ability to have the feedback while making the designs to be a leap of faith since they hadn’t previously used this methodology and they certainly weren’t used to this culture of project management.

Their Lead architect states that they chose to use an agile methodology as their project management scheme, in this case, they chose to combine the Prince2 framework with an agile approach to the software because it allowed them governance and a rapid approach to the development on their project. He claims that their main problems were the speed of development that had occurred since it meant that they had to come up with the requirements themselves. It also included actually developing the product. The Agile methodology was quite frustrating and challenging, however the Prince2 framework around it had allowed for the challenges to become less of challenges and much easier.

Their consultant project manager states that they wanted to get the results as quickly as possible and in order to do that they needed to choose an agile approach to the way that they worked as well as enclose it within a Prince2 methodology. The consultant claims that he is happy for Prince2 framework because he is already trained in Prince2 and is knowledgeable about it. He found that working on Prince2 in an agile way was a learning difficulty since it requires a difference of approach to a project.**LAA.P2**

**Benefits**

The CIO believes that using this new methodology allowed for them to deliver a high quality web platform with a really intuitive user experience regardless of the very short space of time. He believes it was achieved due to having an iterative approach where testing was done at the end of each stage. Doing this meant that the final test would only be a minor one rather than having a very large test at the end of the project. **LAA.M1**

The lead developer believes that the benefits of using this methodology was that it allowed for them to observe the risks and issues as well as highlight them to the rest of the company and to the executive team.

**Comparisons**

**Waterfall to RAD**

Waterfall is made up of seven different stages, whereas RAD is only made up of four. Rad seems to be a type of project management that is much quicker than waterfall. This is shown throughout the steps of the methodologies; Waterfall requires more time and stages whereas, RAD is designed for quick project management. The first step for Waterfall is the brief, this means that the waterfall methodology requires the project team to make notes about the brief understanding of what was more important and what was least important. Mainly it required interpreting all of the functional and nonfunctional requirements, however, RAD methodology requires for the project team to begin planning straight away, skipping out the analysis from the brief that is provided by the product owner. The second step the waterfall is planning, this was step 1 in RAD but the planning begins. The planning phase will be rather symmetrical besides for the fact that the brief analysis stage of the Waterfall methodology allows this method to gain better progress and a better lead since lots of the functional and nonfunctional requirements have been provided already. For phase two of the RAD stage, it is the designing of the user interface. Doing this after the planning allows for a head start to completing the project, but it also avoids the extra planning that would have been done in phase two for waterfall. Phase three of Waterfall is the research stage, this being the third stage allows it to have a strong possession over the RAD methodology since it will have a much bigger lead and much more information that will help meet all of the requirements. Phase 3 is the construction stage for the RAD methodology. Having it third will mean that it has a strong speed advantage over waterfall as waterfall will have only just begun its research phase. However, the research that can be done whilst the blind construction is happening will mean that the waterfall process will allow for a much better quality product. Phase 4 is the final stage of RAD, meaning that the cutoff is happening while the design stage for waterfall has just begun, the design for the waterfall methodology will be much better thanks to the previous stages taking place while in the RAD methodology, the final product could be very vague in terms of meeting the functional and non functional requirements.**LAA.D1/M1**

**RAD to Prince2**

The differences between RAD and Prince2 is very symmetrical to the differences between Waterfall and RAD. Prince2 is made up of seven different stages, whereas RAD is only made up of four. Rad is a much quicker type of methodology than Prince2. This is shown throughout the steps of the methodologies; Prince2 Requires more time and stages whereas, even though Prince2 is for rapid project management, RAD is designed for an even quicker project management. The first step for Prince2 is starting up the project, this means that the Prince2 methodology requires the project team to make decisions about whether the project is worth starting and whether its completion will be a possibility. RAD methodology requires the project team to begin planning straight away. The second step the Prince2 is initiating the project. This means that there are several questions about the project that need to be asked (Why is it a project, risks, benefits, identification of risks and resolutions). For phase two of the RAD stage, it is the designing of the user interface. Doing this after the planning allows for a head start to completing the project, but it also puts it further ahead that Prince2 because of the fact that Prince2 doesn't have much planning revolving the brief or any research. Phase three of Prince2 is directing the project, this being the third stage means it has a weaker possession over the RAD methodology since it doesn't have a string lead or much information that will help meet all of the requirements. Phase 3 is the construction stage for the RAD methodology. Having it third will mean that it has a strong speed advantage over Prince2 as this methodology will have only just begun its directing phase. Phase 4 is the final stage of RAD, meaning that the cutoff is happening while the control stages for Prince2 has just begun, the control stages for the Prince2 methodology will be important since it begins the assignment of each of the roles for the project team.**LAA.D1/M1**

**Waterfall to Prince2**

Waterfall to Prince2 is very similar. Waterfall is made up of seven different stages as well as Prince2. Prince2 seems to be a type of project management that is much quicker than waterfall, but not as quick as RAD. This is shown throughout the steps of the methodologies; Waterfall requires more time and stages whereas, Prince2 is designed for quick project management and much more control. The first step for Waterfall is the brief, this means that the waterfall methodology requires the project team to make notes about the brief understanding of what was more important and what was least important. Mainly it required interpreting all of the functional and nonfunctional requirements, however, the first step for Prince2 is starting up the project, this means that the Prince2 methodology requires the project team to make decisions about whether the project is worth starting and whether its completion will be a possibility. The second step to waterfall is planning, this has not begun in Prince2 in nearly as much detail. The planning phase will be rather biased towards Waterfall since the fact that the brief analysis stage of the Waterfall methodology allows this method to gain better progress and a better lead since lots of the functional and nonfunctional requirements have been provided already. The second step the Prince2 is initiating the project. This means that there are several questions about the project that need to be asked (Why is it a project, risks, benefits, identification of risks and resolutions). Phase three of Waterfall is the research stage, this being the third stage allows it to have a strong possession over the Prince2 methodology since it will have a much bigger lead and much more information that will help meet all of the requirements. Phase 4 is the design stage for waterfall. The design for the waterfall methodology will be much better than Prince2 since control stages for Prince2 has just begun, however, the control stages for the Prince2 methodology will be important since it begins the assignment of each of the roles for the project team. Phase 5 for Prince2 is managing product delivery, this means that the manager will be controlling the work between the team in order to provide an effective speed to creating the project, yet Waterfall has begun the implementation phase and the strong research will provide a much more effective result for this methodology. Phase 6 for both Waterfall and Prince2 are very similar, they are not reviewing progress stages, however, the manager for the project will be reviewing the progress for prince2 and for waterfall, the project team will be reviewing their own progress in documentation and in their progress reviews. The final phase for both methodologies is the maintenance and cutoff phase. Both methodology’s projects will be ended. **LAA.D1/M1**

**Conclusion**

In conclusion, I believe the best methodology to use is simply Waterfall. It allows for the project team to get as much as they can done within each phase to prevent any missing pieces when moving onto the next phase, for example, when analysing the brief, the project team will be gathering information from that phase and will not move on to the next phase until the project team has agreed they are ready. Whilst RAD seems like the quickest method to get a project completed, I do not believe RAD is a good methodology for a medium to large scale project since it misses vital steps that allow for the project to be the most successful that it can be.The vitak steps that it misses are the fact that it is lacking very important information that would allow for it to be a much more high quality methodology It also creates holes in the project since RAD has many less steps in it leaving areas of coverage out. Prince2 is a quicker version of waterfall, but it is much sloppier and less organised meaning that waterfall covers more areas that would be lost with Prince2. Prince 2 is designed as a way to complete big projects in small amounts of time and i believe waterfall is the best option, for all size projects. **LAA.D1**