

Fundamentals of Project Management

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Developing a games software project from its initial concept to its completion as a playable and deliverable game involves applying a range of skills and tools , to a broad collection of activities in order to meet the requirements of a particular project. The process of directing this type of project, from start to finish is known as project management

To facilitate the smooth running of the whole process, there are ways the tasks required, can be broken down into manageable size units of work, and split up among the various departments and people.

This will enable the progress to continue at all times, and will enable the flexibility to adapt to problems, changes and issues as they arise, without completely bringing the project to a halt.

The concept I will look at for doing this is known as 'the Agile' method. This is a method that focuses being adaptive to changes, and planning future tasks, as others are completed, and adapting to other types of changes, such as loss of staff, funding or random external factors, rather than, for example the predictive methods which try and predict each task all the way to completion.

With the 'Agile' system in mind, a project manager can sub-divide the whole project, into manageable section.

From a macro point of view the project can be broken into the following sections

Concept and Initiation

This is where an idea is developed and assessed for viability. For my 'Moonsweeper' project, I knew that the Jetpac game could be developed into a 3D first person shooter and that with the help of other students, we would have the cross section of skills required.

Definition and Planning

Based on the game brief for our course requirements we were able to tailor our initial concept to our level design , and with cost and budget not being an issue, we were able to plan with the aim of completion on time for the submission date.

Launch / Execution

With the level design completed , I was able to finalise team members with the relevant skills, such as programming and 3d design , and split up initial tasks and begin work.

Performance and Control

As tasks begin to become completed, I was able with the aid of the Trello software , add tasks that needed to be done, and compare them with the overall time frame for completion, while assessing what work is being done by each member of the team. This also enables me to make decisions on how changes to what tasks to be prioritise.

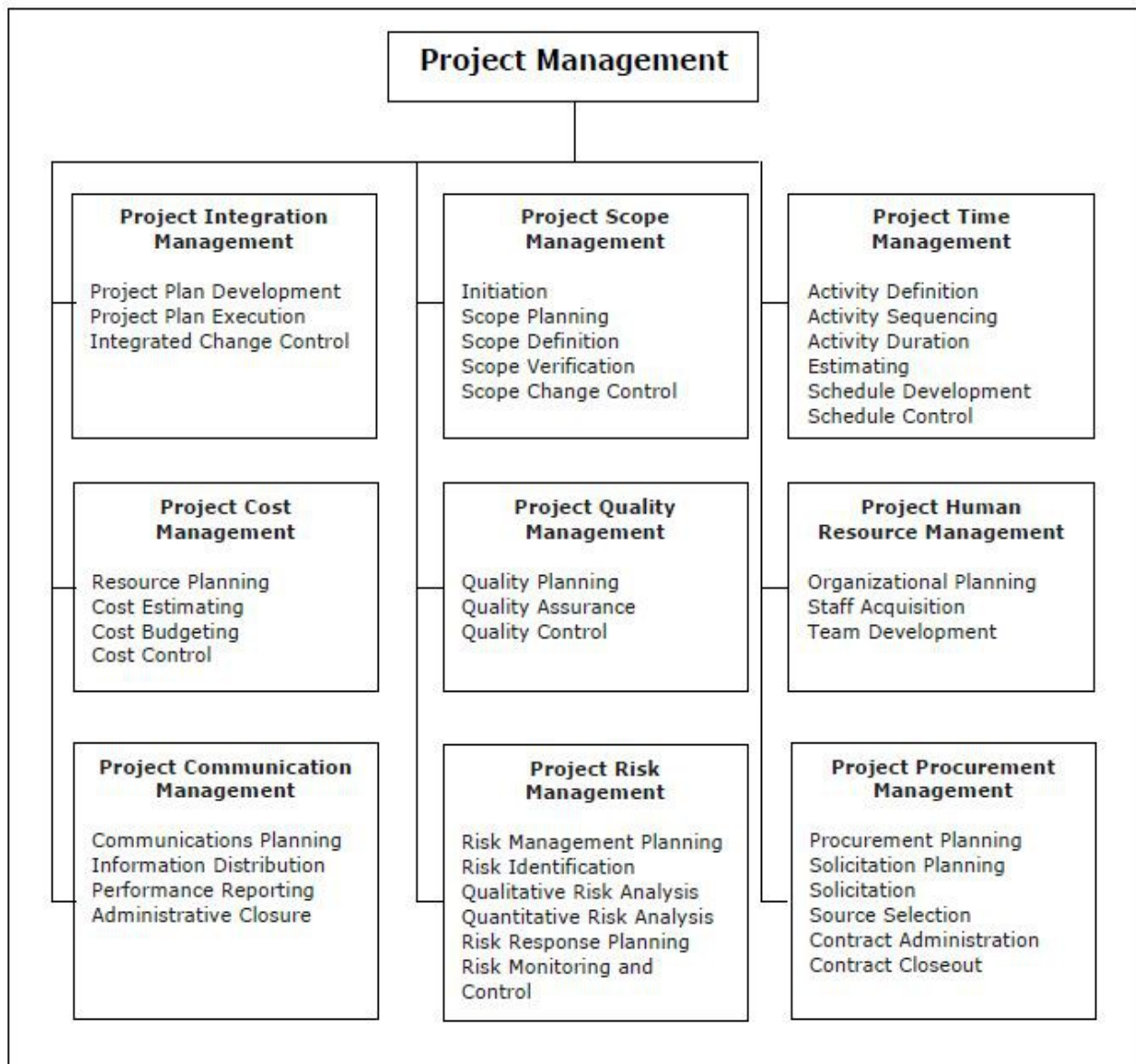
Project Close

At this point, with the deadline in mind, I can decide on how to finish the basic requirements, while adding value and features, depending on the time permitted.

We can also look at all the project from a micro point of view, and assess all the tasks each person or team has to do.

With this in mind, we can also develop things such as our success criteria , risk assessment and contingency plans, that enable us to keep focused on main goal, while still coping with all sorts of problems and changes, both internal and external.

With this in mind we can develop our project under the following headings, which can be applied to all tasks , big and small, throughout the lifespan of the project.



Project Integration Management

This is at the early stages where, concepts, ideas and budgets , are co-ordinated with the selected staff, and developed

Tasks are broken up to the different departments, and deadlines and milestones are set.

Individuals are given ownership of their particular tasks.

There is also a system set up to cope with changes that would affect the delivery of the product, such as loss or change of staff, and what skills would be lost, and how this would affect the project.

The success criteria for the project should be considered at this point, and for our project, this is a playable level meeting the deliverables set out in the project brief, delivered on time.

Project Scope Management

Working with team members, specific features, functions, results or products are defined, and how and when these can be accomplished, are agreed.

For our team, having a 'jetpac' effect for the first person controller, to fly around in a 'greenhouse' type environment, while being attacked by large insects , are some of the main specifics to be achieved.

Project Time Management

As we are using the agile scrum system, time management is not fixed in linear way, but weekly sprints are set, as tasks are broken up, based on time estimates, and as these are completed or not, the sprints are adjusted to reflect this.

Issues and changes are discussed at weekly meetings, and problems are mentioned daily at stand up meetings, so the teams is aware of issues, and can help each other. This is done with overall deadlines and schedules in mind.

For our team, it is the first time for all team members working on a project of this nature, and inexperience with new software, and additional course requirements, constantly mean time estimates are inaccurate, but progress is being made nonetheless.

Project Cost Management

Estimates are worked out around fixed budgets at the start of the project, based on all the relevant costs, such as salaries, rent, office and software management, etc , but must be monitored closely throughout the life of the project, and be able to cope with changes, like the addition or loss of staff, extraordinary or exceptional costs or payments that need to be made from time to time. As a student project, with no real budges, all costs are only estimates, but we could still mock up, standard variables , that can quickly show how costs can add up.

	A	B	C	D	E	F	G
1	Hourly Rate		Hours per Day	Man hours per week	weeks work	Total Hours	Total Cost
2							
3							
4	Hourly Rate	18					
5	Staff	6	6	180	12	2160	38880
6							
7	Software Licences						5000
8							
9							
10	Office						18000
11							
12	Running Costs						3000
13							
14							
15							
16							
17	Overall Total						64880
18							
19							
20							
21							
22							

Project Quality Management

Quality management is an essential part of a project managers duties, that requires and excellent understanding of each of the tasks delivered by each of the departments.

For each section, such as 3d modelling, programming, and for example the integration of the art work and 3d modelling, known as texturing, the project manager must be able to assess that the product delivered it absolutely up to industry standards, and suitable for delivery to market.

They must also be able to recognise that elements delivered at the start of the project will integrated will elements delivered at a later stage, and will be visually and aesthetically co-ordinated as part of a universal project.

Issues that we faced on our project, were the amount of time required to make seemingly simple changes to textures, as changes need to be made in 3d Max stage and brought through the process again, to be usable in Unity.

Project Human Resources Management

Though all elements are equally important in a project, human resource management and team development are areas that will have an immediate and dramatic effect on a project if issues arise.

Loss of one or more team members, could bring a project to an absolute standstill, and have hidden knock on unforeseen effects.

While on the other hand, team development, such as training courses or up-skilling , can motivate teams, and increase productivity and the quality of delivery, on a project.

For my part, perhaps being unclear in requesting tasks , or the importance of a task, has been issue, but on the other hand , certain team members ignoring requests, and having no real leverage to ensure fellow 'students' complete a task is also an issue.

Project Communication Management

Communication management, has many aspects to it, beginning at face to face meetings to database updates. Managing this can include keeping emails list up to date for the whole team, and particular groups, and planning systems at the outset that will facilitate this. It may include reporting back to the team, how well they are doing, and motivating team members.

But it will also include the reporting of progress not only back to the team, but also to the stakeholders and project funders, so that everyone is aware how the team is performing.

Often there may be sensitive issues that stakeholders and management are aware of , that may not be suitable to distribute to the other team members , so planning proper distribution methods is essential to good communication.

For our team, not having an office , and not necessarily seeing each other every day, means that most communication needs to be done by email, and inexperience using the Trello scrum board, mean that I am constantly asking for tasks that should be done, to be done, which I feel, especially with an inexperienced team, could be largely be avoided , if we were all in one place working together on dedicated computers.

Project Risk Management

Risk identification and management is essential to any project, in can occur across all aspects for the project , from funding and human resources, to software and hardware failures.

At the initial stage of any project, any aspect that could affect productivity should be assessed for risk for both qualitative and quantitative aspects.

Typically you are trying to eliminate unforeseen issues that have know on effects on time and cost management.

However due to the nature of '*unforeseen*', this can be very difficult, and there is no substitute for years of experience, but

taking the time to assess the whole project for problems that might arise, and how and who will deal with these problems , can minimise problems related to risk.

An example of this on our game, is the assembly of all the assets in the Unity game engine, where elements created on different computers , all have different 'scale' settings , and so all need to be reworked or redone so they all match and work together.

The risk in this case being the failure of communication at the initial stage, to ensure all staff are using the same scale parameters, and so a lot of time is being lost adjusting everything to work together.

Project Procurement Management

This relates to products and services required from external sources, that will have an effect on the budget. It may include hiring a specialists or consultants that have expertise in specific areas, that are not available in the team, but are only required for a short period. So to manage who completes organising these external services , and how and when , needs to be decided and costs and administration managed.

Conclusion

So while each part of the project can be broken down , and assessed individually , for risk , cost, time estimates, etc, and people can be hired to do specific tasks, it could still be the case that even if each part of the team work correctly and tasks are completed, that a project will still fail.

While there could be many reasons for this, not least , that project itself was just not good enough, the best way for a project manager to operate , is not just to assess each aspect individually and manage each aspect section by section, they still need to have an overall all view of the project , to make sure that not only is each part working correctly , but also that the whole thing works all together.