Managing the Hydra: Successfully Running Multiple Projects in a Videogame Studio

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This talk examines some of the different options available in forming a multiple project studio and discusses the pros and cons of the various approaches. The authors' experience in growing BioWare to a 170-person multi-project studio is drawn upon in the many examples provided in the talk.

Overview

Two years after forming BioWare in 1995, we made the decision to run multiple simultaneous projects. Aside from the obvious hurdle of making great games, a more subtle challenge we faced was setting up the systems and structures that would eventually allow BioWare to grow to its current size of 170 employees working on multiple concurrent projects of various shapes and sizes. In most cases the decisions we made as BioWare grew were generated on the fly rather than strategically planned. In retrospect, we could describe our methods as being developed as part of a carefully designed framework, but in reality, all of our methods were grounded in pure common sense, as we choose whatever best suited the situations we were facing. Our growth was aided by the infusion of both highly-experienced personnel, and the accumulation of new knowledge as we both undertook MBAs. Even with this great addition of new knowledge we continue to use common sense as our primary guide, both in creating solutions to the company's ongoing challenges and as a foundation for BioWare's approach to management. In this presentation, we'll detail BioWare's common sense approach to developing multiple simultaneous projects in a dynamic and challenging environment. We'll discuss the methods BioWare has used in creating an environment capable of generating multiple simultaneous AAA games while managing to stay completely independent.

Start-up

Prior to beginning development on any products in your new studio, you have a few decisions to make. This applies to both a brand-new studio, and an existing studio contemplating a shift to multiple projects.

Imagine being able to create whatever you like! Starting with a blank page is both daunting and exciting; if you had a chance to build (or rebuild) a studio from the ground up, what would you do? Would it be an easy or a difficult task? Choose wisely, as your company will often be forced to live long-term with any decisions you make. Most of us don't have the luxury of starting again from scratch, but often new ideas will occur to you if you consider the optimal solution,

one that isn't blocked by existing systems. The following ideas will be equally applicable to both start-ups as well as existing single-project studios seeking growth.

Goals and Values

Deciding if goals drive values or vice-versa is an academic debate – the key is you need to figure out what you want to do, and you also need to determine how to get there (it probably makes sense to develop these two things in parallel). Do you want your company to make a small number of only AAA games, or do you want to create a massive organization that will pump out dozens of titles per year? Do you want an organization that is extremely competitive between internal teams, or do you want people to share their knowledge? There are a lot of questions you should try to answer before getting started.

We chose to create a small number of extremely high quality games while building our twin company values of quality in our workplace, and quality in our products. This approach has served us well over the years, but there are certainly other successful combinations which work well for other company cultures. Don't forget to ask other studio members about their vision for the company – it is helpful if everyone in the studio shares a common vision. If you're not attentive to the various personalities in your studio, growth plans will be less likely to succeed as the company changes over time.

Culture

Once you've got goals and values you'll start building structures and systems that - hopefully - fit the people at the studio. It is this combination of people, systems and structures that build a company culture. If everything fits together well, you'll have a strong culture, but if the pieces seem mismatched you're likely going to experience some conflict. For example, if you announce that your company is going to work exclusively on AAA games that are "done when they are done," and yet you keep getting your staff to cut corners to get your games done on a very tight schedule or low budget, you are going to have a very confused (if not angry) group of employees.

Aligning culture and goals is an ideal way to help your people make decisions; almost all of BioWare's decisions are made by referring back to our company values (quality in our products, and quality in our workplace). Because BioWare's culture is aligned with its values, people automatically know how to act — which helps as the company grows and gets more complex. From the very beginning, we worked to establish a culture that would be congruent with building multiple projects. Everyone that joined BioWare became aware that we were either working on — or planning shortly to work on — multiple games simultaneously. As a company, it was much easier to start working on multiple projects, than to convert from a long-term, single-game studio to building multiple games. However, we believe, based on discussions with other developers working on

multiple projects, that the transition from a single-project development studio can occur successfully. One of the keys to growing a multiple-project studio is setting the correct expectations collaboratively with all studio-members, such as aligning the compensation and reward systems within the goal of working on multiple projects.

When considering your company culture you need to be aware of the external environment as it exerts an influence on your culture. You need to consider many of your decisions in the context of what is going on around you – to be successful you need to make the decisions that suit the environment and perhaps even take advantage of it.

Structure

There a number of structural decisions that you need to make as you grow into a multi-project studio. It is also possible (perhaps even necessary) to change the company structure mid-stream; at BioWare we've changed company structure at least three times. We started out as a team-based studio with one team, then added a second team. This transitioned to a mixed team and departmental structure as we worked on two concurrent projects, then we merged the departments with the teams into a formalized matrix structure as we reached three concurrent projects (BioWare has refined its matrix since that time and added a marketing department and quality assurance department, as well as other specialized groups).

At least four different ways exist to structure your studio: a project-oriented structure, where projects are clearly distinct from one another other; a departmental structure, where people are pulled from pools of expertise (with groups of artists, programmers, and designers) and only marginally assigned to projects; a matrix structure, which is a combination of departments and teams; and an unstructured approach. Each distinct method has its pros and cons, and each one is better suited for specific cultures and goals.

TEAM-BASED APPROACH: No overlap between projects; each team is separate and shares neither personnel nor technology.
Pro: No problems with team resource management conflicts.
Con: Little intra-company spirit, and little sharing of learning, ideas, or technology between teams.

DEPARTMENTAL APPROACH: Most development duties overlap and are assigned to specialized groups that take care of their one task.
Pro: Easier scheduling and solutions to personnel management.
Con: May not promote team spirit.

MATRIX: Effectively a hybrid of the team and departmental approaches, drawing on the strengths and weaknesses of both.
• Everyone is on both a team and a department.

• Often have competing goals from the team and department, hence this structure needs strong leadership, strong corporate values and goals to ensure that the leadership is oriented in the same direction on both axes, and extremely clear communication to be effective.
• Can be challenging to manage, yet powerful if effective.
• Based inherently on the conflict between the team and the department and between teams.

LOOSE OR UNSTRUCTURED APPROACH: Multidisciplinary teams form and dissolve on the basis of the needs of a project. This is more chaotic than the preceding approaches.
Pro: Much less management or structure is required than with preceding approaches.
Con: The success of the team and project is much more directly related to the personal qualities of the team members. Without the correct team personalities/work ethic, with an unbalanced team, or with poor senior management, this unstructured approach could be more likely to fail than the other approaches above.

BioWare operates as a matrix structure – we pursue a path of shared tools and technology where fluid personnel resources can be shifted depending on the needs of the projects. The matrix structure also supports our overall company culture, where BioWare is the team, and everyone though out the company is always willing to help each other whether they are on the same project or not. One of the specific challenges related to a matrix structure is the need for close communication between projects and departments to allow resources and staff to move between them without disrupting the completion of specific projects.

Begin

Once you've created, or rebuilt, a solid foundation to continue to build upon, you can start development. Something to consider during development, because of the inevitable conflict for scare resources, are the "rules of engagement." Most conflicts arise in one of two scenarios: projects are competing for resources, or resources don't neatly fit into departments. The "rules of engagement" predict the problems and establish proactive processes to work out the inevitable disagreements that occur when competing for a limited amount of resources.

Systems

At BioWare, we've established what we call synchronization meetings for each development discipline (art, audio, programming, QA, and design), in which we discuss the usage of current resources and plan for upcoming resource requirements. These approximately quarterly meetings (sometimes more frequent, as required) are essential in making sure that the people needed to do the job are working on the most appropriate projects. We strive to include all the stakeholders in these meetings, so the people in attendance include the

discipline leads and department director (art, design, programming, or QA, depending on the type of sync meeting), the producers on the projects, the co–executive producers (us), and our HR manager. The goal of the synchronization meetings is simple: to work out all resource issues in detail so all projects have the resources they need to do their job. As it seems we're perennially stretched to the limit with regard to supply and demand for staff, this is a tall order. But thanks to careful shuffling and a lot of hard work on the part of the employees at BioWare, we always manage to keep things working at a high-quality level.

Expect conflicts to emerge (and hopefully be resolved) during these resource allocation meetings. At BioWare, two of the ways we reduce these potential conflicts are to have a lot of communication between project leads and department managers before the formal synchronization meetings, and to clearly assign priorities to our projects based on clearly stated objectives. These objectives might include: next project in the pipe, next full project (versus smaller projects like expansion packs), or potential profitability forecasted for the various projects. In addition, these synchronization meetings give us a clear indication of our hiring needs for the short-, mid-, and long-term, as well as direction on where we should focus training and growth endeavors. We try to avoid changing priorities mid-stream unless the factors that we used to assign the priorities (next in the queue, profitability, scope, and the like) have changed, or one or more of the projects are experiencing unanticipated problems with scheduling.

It's important to point out that not all work is organized during our synchronization meetings. We have created an environment where individuals are often motivated to make the effort to help out other projects informally — either by helping to show people some of the methods used on other projects, or by doing odd tasks on other games. Everyone at the company is always busy, but people aren't too busy to help their coworkers.

Communication (an important system)

In the ongoing management of a multi-project, matrix-structure studio, communication is one of the most important elements to consider. We strive to make sure there is continuous communication between projects occurring at multiple levels, such as producer meetings, full team meetings, team leads meetings, and inter-project departmental leads meetings. For example, at producer meetings our project leads discuss issues facing their projects as well as general company topics. Often informal and designed to allow everyone to talk to each other, producer meetings also serve as a learning opportunity for less experienced production staff.

As BioWare has grown, we've instituted a number of different company-based meetings and gatherings in order to discuss company information. These include full-company monthly meetings, and what we call "yearly" meetings, where everyone hired in a particular year meets with us on a monthly or bimonthly basis to ask questions about the company. A quick and visible response to problems

identified during these meetings is essential in dealing with issues that come up. If you don't take care of things quickly and definitively, other problems result.

Reconfigure as Necessary!

Not everything you think of in your first pass of creating the ideal studio will be correct – in fact, much of what we've all done the first time around isn't as good as it could be - thus the need to remain flexible and be able to redirect your efforts. It is very difficult to change fundamental company goals and values (though if your logic is sound and reasonable, people will usually accept the change). It's also important to carefully consider the impact of making sudden changes to structures, systems or people on company culture; while it may seem simple at first to change systems/company processes, organizational structures or even to hire/fire people in a company, the danger is that making changes in any of these areas can have a profound effect on company culture so they all need to be carefully considered first. However, if one of the elements is out of alignment (i.e., in conflict with the perceived company culture) people will often breathe a sigh of relief when a change for the better is made. Don't be afraid to tinker, just be certain you're making things better, not worse.

Conclusion

In this article we've undertaken a high-level view of running multiple game projects — the real test will be in the execution of both the games and in building your company as a sustainable business.

The key factor for success in achieving both of these goals is smart, creative, and passionate employees. At BioWare, we've been incredibly fortunate over the past decade to get consistently exceptional, hard-working, smart, creative employees to work alongside with us to achieve our company goals.