

PREPRODUCTION, a need for TOOLS

Most of the problems met during Video Game Production could have been defined and addressed during PreProduction¹ phase.

SolidGame shows that PreProduction has become the most important phase of the development cycle, but strangely lacks of efficient tools to support the small teams in charge during that crucial period.

Answering that need, SolidGame is developing an innovative toolset dedicated to Game Development PreProduction which allows for greater game success.

whitepaper ***By solidgame***

Video Game Development

Well organized companies develop video games around the world.

Today, the most successful ones have 20 year experience in creating, developing and delivering games. This requires creativity management, discipline and quality planning.

The main creation and development phases are :

- PreProduction: Defining the game and preparing the production
- Production: Producing and integration of Assets² and Code
- Post-Production: Tuning, debugging and GamePlay quality control.

The Production phase is the longest of all three, and starting it is a heavy financial commitment. This cannot be a light-hearted decision and hence is part of the life cycle of a video game development.

Depending on the structure and profile of the company, we identify three different cycles:

Profile	Companies managing development and publishing	Companies being contractor	Companies developing games and finding publishers
Life Cycle	<ul style="list-style-type: none"> - Develop concept³ - PreProduction - Internal decision - Production - Post Production 	<ul style="list-style-type: none"> - Receive concept - PreProduction - External validation - Production - Post Production 	<ul style="list-style-type: none"> - Develop concept - PreProduction - Convince a publisher - Production - Post Production

For all these profiles, the decision to start Production is made right after PreProduction.

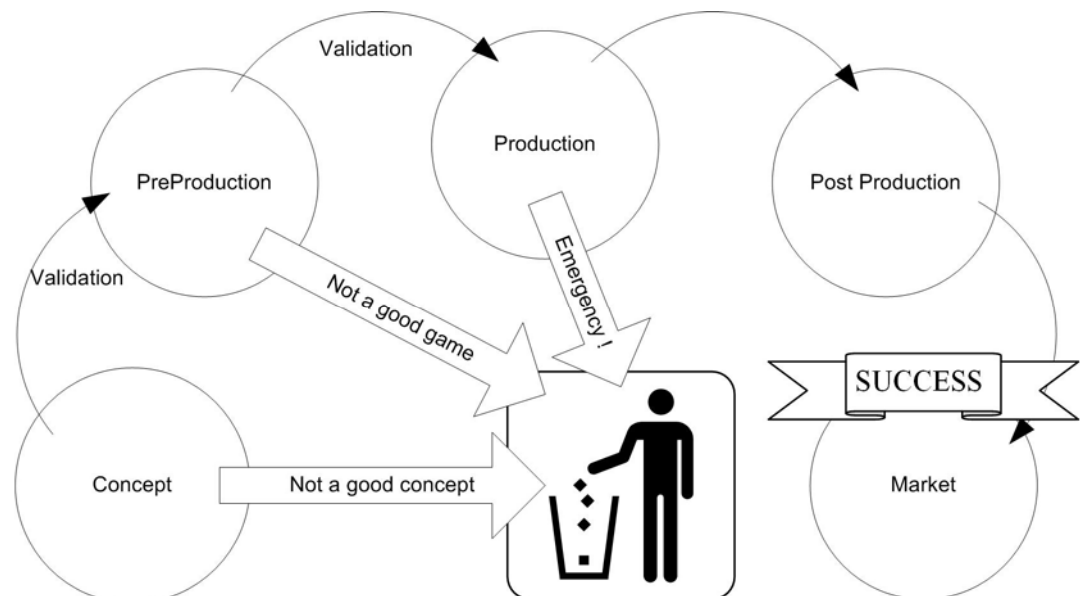
- ➔ The decision to enter in Production relies on the work done in PreProduction.

Selection during the Life Cycle

Obviously, more games reach the concept level than the post production one, and few concepts achieve Post Production status

During PreProduction or between PreProduction and Production, lots of games are voluntary stopped, don't cop with the console manufacturer requirements or don't find a publisher.

The below diagram illustrates the "natural selection" performed during validation stages.

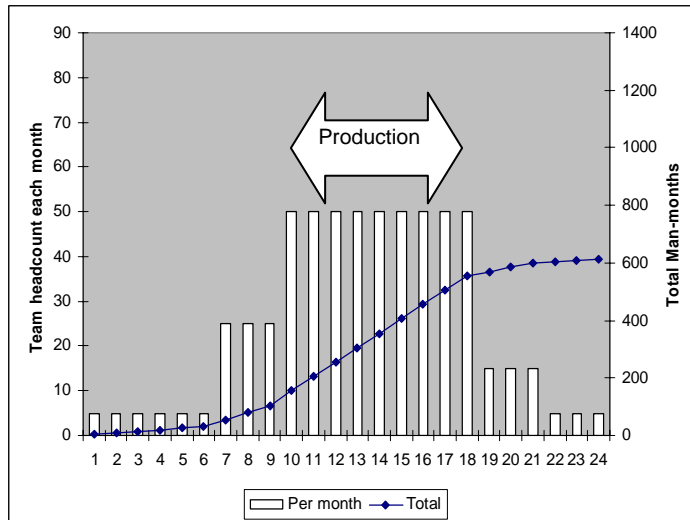


- ➔ All the validations, including concept approvals⁴, are performed before Production

- ➔ Some games are stopped during Production, but in most cases, they should never have reached this stage in the first place.

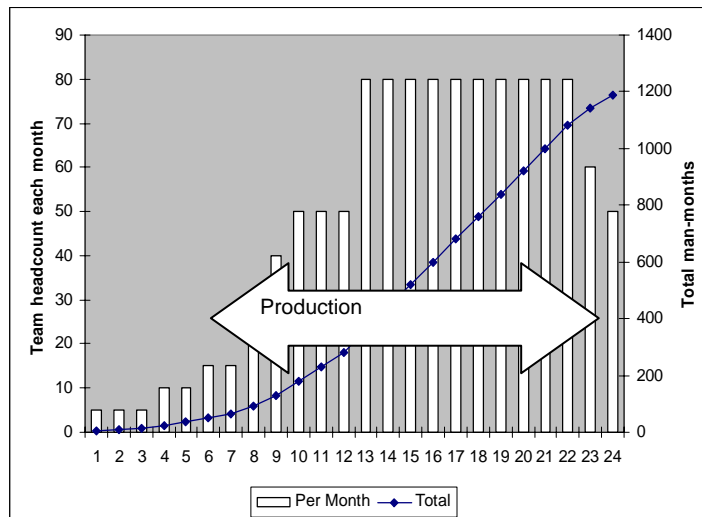
If Required, When is it Best Time to Stop?

Ideal Cost / Time chart, as planned day one:



This chart shows the man-month forecast (per month and cumulative) of a team developing a video game over a two-year cycle. Before Production, team size is small, as the costs are. During Production, more people are on board to create and integrate assets and code. If required, discontinuing a game during PreProduction phase (before Production) is acceptable from a cost point of view.

What SolidGame observes in reality, when Production was not properly prepared:



When badly prepared, Production often goes wrong: As shown on this chart, costs (as well as quality and schedule) don't follow the tracks. After a certain level of investment, the call for a stop is more and more difficult and costs reach the sky, with few control or visibility. When a game is stopped too late, additional effects arise, like team de-motivation. Stopping at the right time is crucial from a cost and team moral point of view.

→ If a game development must be stopped, best time is before Production.

Why Stop a Game in Production?

Some games enter the Production phase when they should have not, and eventually fail during this costly development period.

Danger Signals

When we analyse what has happened just before a game is stopped during Production, we identify various visible signs like:

- Large amounts of assets were reworked or binned
- Design was worked on the fly
- Team had lost focus and became out of control, hiding real status and costs
- The team structure changed, its size increased and heads rolled
- Milestones⁵ were continuously rescheduled

Sometimes, the team tries to return to PreProduction phase:

- Then team size is dramatically reduced and game design is reworked

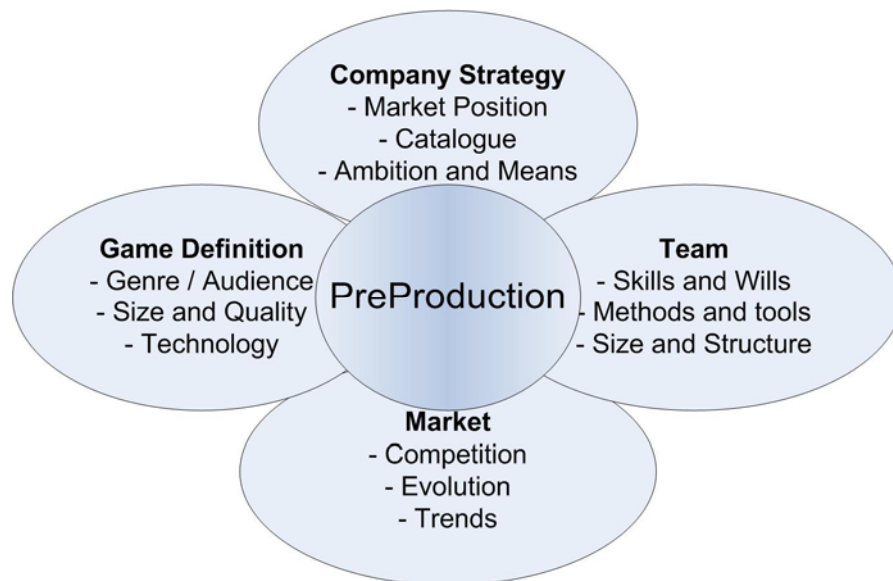
The reasons for most of the Production failures

Most of the problems met during Production should have been defined and addressed during PreProduction. Some examples :

- The content was not clearly or completely defined (size, quality...)
- The game doesn't fit the publisher catalogue (target, genre...)
- The team can't cop with the development (lack of experience or management skills, structure, size...)
- The game was designed to compete with yesterday's competition.

Why PreProduction is critical to Success of the Game Development?

PreProduction is at the centre of all the parameters influencing Production:



Solid PreProduction are needed to Production success

- Identify and manage the risks
- Check (estimate) if the game fits requirements and expectations
- Prepare the team work for Production (technology, process and flows, methodology...)

Anything poorly planned or not assessed properly during PreProduction dramatically affects Production.

➔ **A Solid PreProduction phase is key to the Production and Title success.**

Production and PreProduction Means Comparison

Strong Support to the Teams during Production

The environment is rich for the Production teams:

- Tools: To manage the data, create the assets, develop the game code...
- Methods: To track progression scheduling and cost, measure productivity...
- Pace and focus: Team milestones, personal achievements...
- Internal services and external companies: MiddleWare⁶, contractors, QA⁷ ...
- Financial support: Huge amounts of money are spent during Production.
- Attention to people: Hiring, team structure, MBO...

Example of tools being dedicated to Production

Various tools exist to support the teams during Production, for example :

- NXN's alienbrain: Asset, data and flow management⁸ tools with version control.
 - Criterion's RenderWare: Tools and runtime middleware Technologies for console development
- ➔ Production Teams are well supported during Production phases

Lack of Support to the Teams during PreProduction

Many challenges await Teams in PreProduction

On the top of creating a great game, feasible in the said time and budget, fitting in the said catalogue line, the PreProduction team faces many other issues like:

- Unfriendly reviews where development people face publishing and management.
 - Unclear definition of the company goals and expectations.
 - Un-productive team feeling, resulting of the desire to rush into Production.
 - The perceived risk for individuals to lose their position if the game is not produced.
- ➔ PreProduction people need support and guidance, but face challenges.

Lack of dedicated means to support PreProduction

Most of the teams in PreProduction have to do with "what is in the room":

- PreProduction micro teams are mainly made of available production people, hangover from the previous cycle, hanging around in a "creative" environment with an erratic schedule and hopefully some guidelines.
 - The few tools that are dedicated to PreProduction are for prototyping. Prototyping is actually producing⁹ and only prepares for a small part of the Production phase, as it does not help to manage the risk or quantify the assets required to build the game.
- ➔ The only dedicated tools available during PreProduction are for prototyping

Lack of Consideration for PreProduction phase

- Companies are reluctant to invest money in PreProduction if nothing eye candy is produced. Ground work is not sexy enough to invest money and this is why PreProductions are most of the time focused on a sexy demo (Prototype).
- Temptation is strong to skip over the PreProduction phase quickly, so the entire team can be gathered and productive again, but this rush can be very detrimental and jeopardizes Production.

Communication handicap

- During PreProduction, micro-teams have to convince and seduce non-(or former) Production people (Marketing and upper Management). Neither ends are comfortable with this "against the food chain" communication flow.
 - Despite internal processes and guidelines, approval meetings rely on presentation skills of a few people, versus inner qualities and solidity of the assessed game. Articulate Project leaders can enter Production phase with a hazardous game when high potential games and teams can fail to continue because of PowerPoint misuses.
- ➔ PreProductions are made by Production People with Production tools for non Production people, in a non-friendly environment and communication handicaps.

Are Production and PreProduction Phases Different?

Let's compare Production and PreProduction values and keywords.

Progression

Production follows the Microsoft project Gant chart¹⁰ conceived during PreProduction; PreProduction has no linear schedule but must achieve a result by a fixed deadline. The best ideas often come close to the end of this phase and must be incorporated to the big picture.

Pace

Production milestones are scheduled stages where results are compared to plans; PreProduction reviews are subjective judgements of game ideas and presentation skills.

Purpose

The purpose of a game Production phase is clear: Gold Master ready for distribution; PreProduction is about validating (ROI, game concept viability, risks assessment, budget and resources requirements, etc) or not the start of a game Production, and to prepare it. An excellent PreProduction can end by a "no go", as it is part of its objectives (and not a failure). This is why PreProduction phase is critical.

Output

The outputs of PreProductions are not games nor prototypes, but a package¹¹ that defines the game and the way it's produced: Task list, quality roadmap, technology, character design...

Frame

During PreProduction, all the main choices are made. Fixing and following limits are not the same tasks. Setting the objectives, and defining the means to reach them, is the PreProduction job.

Keywords

When describing both Production and PreProduction phases, the wording is different.

Production: Complete, finish, productivity, quality...

PreProduction: Start, initiate, creativity, market, design, plan, assess, test...

Team

Production is made by well structured 50+ teams; PreProductions require small effective teams with dedicated resources and links with external groups. Structure is much lighter and flexible, roles are wider...

Summary

All the listed points, and more, are different.

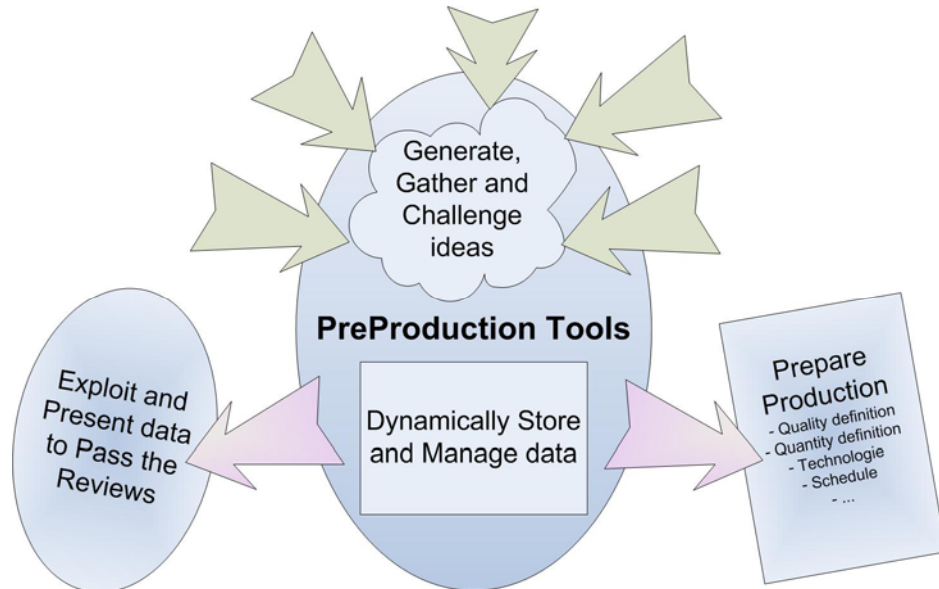
	Production	PreProduction
Progression	Iterative and linear	Converging spiral
Pace	Milestones	Reviews
Purpose	Produce a Game	Pass a validation and prepare Production
Output	Game	A "Package" to develop the game
Frame	Reach (quality, quantity)	Set (quality, quantity)
Keywords	Productivity, ...	Experimentation, ...
Team	Structured	Kernel

→ PreProduction is dramatically different from Production!

→ On the top of the usual Prototypes, PreProduction deserves SPECIFIC tools

How could a toolset support PreProduction?

To support PreProduction, a toolset must integrate the listed PreProduction specificities. **Instead of being articulated around the team structure, the data flow or such Production values, a PreProduction tool must follow the PreProduction structure!**



Being used by both Production and PreProduction profile people, this toolset would actively support the creative process as it does not require any specific training or installation.

This toolset will drive the micro team towards two complementing goals :

Pass approval reviews¹²

- Validate all the parameters so the game can be produced
- Convince decision makers that the game should be produced

Prepare the Production

- Precisely define the game in term of quantity and quality
- Prepare the ground so the Production team can kick off efficiently

➔ **Such dedicated PreProduction toolset can make the difference.**

Summary

This WhitePaper shows that:

- PreProductions are Key to successful Productions.
 - PreProductions are dramatically different from Productions but lack of dedicated tools.
 - PreProductions are currently using Production tools, not fulfilling the PreProduction needs.
- ➔ **PreProduction deserves dedicated tools with an innovative structure!**

SolidGame will provide Tools for PreProductions

Following the presented PreProduction toolset structure and to complement prototyping tools, SolidGame is developing an innovative toolset dedicated to PreProduction.

More info under NDA by contacting PreProduction@SolidGame.com

Notes

As the reader may not be fluent with the game industry jargon, or as some expressions differ from a company to another, we added a little lexicon.

Lexicon

¹ PreProduction: Preparative work done by a core team to prepare the production of a video game. In this document, we consider the Mark Cerny FPP (First Playable Publishable) as being a first stage of approved production. Therefore, our PreProduction definition is to initiate the FPP development.

² Game Assets: Sum of the resources used by the game including 3D models, background art, music and sounds, on screen display text and fonts...

³ Concept: More than just a game idea (a car race in a city), the game concept describes basic interactions, player reward, game structure.... Game concepts also include references to other games, by specifying its unique selling points for example

⁴ Concept approval: Validation of a game concept by the hardware (console) manufacturer (quality control and censorship to maintain the hardware image).

⁵ Milestones: Planned step in the game development process where the game reach a defined stage. For example, "First playable" is an important milestone, as for the first time the game can be evaluated directly by playing it.

⁶ MiddleWare: MiddleWare tools and technology provide an interface between the hardware (the game console) and the game developer (say the programmer). The game developer saves time by not learning a specific hardware while accessing easily the deepest power of the game console.

⁷ QA: Internal or external service in charge of Quality Assurance. They check the game during its development.

⁸ Data and flow management: Before being visible in the final game, each game asset follows a certain track. For example, a 3D model is designed; its 3D shape is modelled and textured (painted). Then animation is applied and the end result is reworked or tweaked. During this "data flow", approval stages are possible, for example the approval of the 3D model by the Art Director before the texturing.

⁹ Prototyping: To reduce an identified development risk, a certain aspect of the game can be developed during preproduction, for example an innovative interactive control method. It's not easy to develop the needed prototypes; on one hand, it is tempting for production people to develop loads of funny prototypes instead of leveraging the risks. On the other hand, real risk oriented prototypes are not quickly developed and not necessary flashy.

¹⁰ Gant Chart: Linear schedule representation, very suitable to track well established planning and report. For short projects, especially when schedule reporting is not crucial, teams don't use any project tracking tool. By doing it mentally, they miss so much. More appropriate tools and methods exist but are not used either.

¹¹ Package: The package is prepared during preproduction to prepare production. Even if the production team has not been involved during preproduction, this package could provide all the information needed to produce the said game. This includes the game design, task list, delivery milestones, team profile, technology choices, risk management...

¹² Approval reviews: Games can cost 10+ millions. Before committing for this kind of money, game companies organize decision meetings where games are presented and decisions are made.