10-1-2006

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Recommended Citation

Pruett, C. (2006). Snap, Crackle, Crunch Time. Interface: The Journal of Education, Community and Values 6(5). Available http://bcis.pacificu.edu/journal/2006/05/crunch.php

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Snap, Crackle, Crunch Time

Posted on **November 1, 2006** by **Editor**

By **Chris Pruett** <pruett@vvisions.com>

Talk to any veteran of the video game industry and you are likely to find that they have experienced "crunch time" at least once in their career. Crunch time is a period in a game's development when employees must put in extra hours in order to meet aggressive deadlines. While a team might be in "crunch mode" for as little as a week or two on a well-managed project, some games have been known to require months on end of continuous crunch. Crunching usually involves working 12 to 16 hour days, working weekends, and generally spending every moment of your waking life working on the project. Game developers naturally detest crunch with a deep passion, but it is so common in the industry that projects that require no extra effort are almost unheard of.

While crunching can get a troubled project back on schedule, the drawbacks are numerous: in addition to burning out employees and souring the moral of the team, work done under crunch is almost always of low quality. Crunch can even perpetuate itself, as problems created by low quality work during a crunch may themselves require crunching to fix. Crunch time is often sited as the reason that some developers exit the game industry once they reach a certain age.

Most chalk crunch time up to bad project management. The theory goes that well-managed projects maintain realistic schedules, thereby decreasing the need for crippling overtime. The fact that some level of crunch is still required to ship most games seems to suggest a general lack of experience in the game industry's management; after all, other industries that have aggressive deadlines do not seem to lose their employees when they turn 30. Even the best managers may find themselves in a situation where there seems to be no solution to the schedule other than to ask their team for extra hours.

I believe that crunch is a symptom of three basic problems with the video game industry: scheduling for fun is difficult, changes to the project scope are not well regulated, and that thinning profit margins require every project to be tuned for maximum profitability.

By scheduling for fun, I mean that many game companies find it hard to anticipate how many

iterations of development particular mechanics of a game will require before they reach the magical (and highly subjective) benchmark of "being fun." A game designer's job is to produce rules and mechanics that the player finds enjoyable to interact with, and these mechanics should, ideally, be fun without requiring any support from visuals or plot line.

In third-person games such as *Super Mario Bros.* or *Tomb Raider*, the core mechanics that describe the principle interface between the player and the game involve moving the player's avatar around on the screen. These core mechanics are often easy to describe (Mario can jump, run, go down pipes, and shoot fireballs), but making them enjoyable for the player can be extremely challenging. How high should Mario jump? How fast should he run? Which set of parameters will yield the best experience for the player? How many enemies can the average player deal with before the game becomes too difficult? Answering these sorts of questions is usually a highly iterative experience: game designers will often simply tweak and tune variables until the mechanics seems to click.

The problem is that defining this type of iterative development in terms of a concrete schedule can be close to impossible. Usually design iteration will result in more work that needs to be produced by the rest of the team, which can cause a ripple effect in the entire team's schedule. Game developers seem to consistently underestimate the amount of time that will be required to make the experience absolutely enjoyable, which can easily lead to crunch time toward the end of the project.

Game projects invariably mutate as development progresses. In addition to the regular implementation of game mechanics and fleshing out of design ideas, it is quite common for more work to be added to the schedule during production. Such additions are often based on marketing decisions: if marketing research suggests that games with certain features are more likely to sell, they will often request that similar features be added to a project that already has a full schedule. Game teams themselves are also a common source for new work, as new design directions often become apparent as the game begins to take shape.

However, many game companies have trouble rejecting change requests, or modifying the schedule by cutting other features in order to make time for the new work. An extremely common theme in the game development postmortems of *Game Developer* magazine is that new work often ends up pushing the schedule out so far that crunch is the only way to finish the game on time.

I have had this experience myself. Towards the end of a project I worked on several years ago, we received feedback from our publisher that certain elements of the game's user interface were not acceptable to them. Though we had discussed possible features for the interface early on, it was clear that some miscommunication had occured. The project manager felt that we had no choice but to accept the changes, even though it meant several weeks of rework. Since we were still contractually obligated to provide a finished game by a specific date, the team crunched for a few weeks to get the new requests in.

In my case, the project was completed on time without any of the team members suffering from burnout. However, many less fortunate companies have grappled with crunch periods that extend for months on end, often because company management was unable or unwilling to adjust the schedule or cut features out to reduce the work load.

I believe that the reason that some companies react this way to unrealistic or changing schedules is that there is a push to make every game a blockbuster. In the competitive market of video games, quality is often measured in business circles by the number of features that a game provides. Gauging fun is a difficult and subjective problem, but defining quality by feature count provides an easy metric for business people to use when they run numbers. While it is true that many of the best games sport a wide variety of features, the idea that features equate to quality is fallacious. Nevertheless, the push to have more features than the competitor product often causes video game schedules to become bloated with tasks. At its worst, this approach can cause a dramatic decrease in the overall quality of the game.

Game development costs have skyrocketed in the last six years (partially, I believe, to this feature arms race), and costs are now so high that profit margins have thinned for all but the very best selling titles. Thus it is very difficult for a prudent game company to cut features from its schedule, as many believe that to make a profit you must have a wider breadth of features than your competitor (marketing calls this "added value"). The result, almost invariably, is crunch time for the development team.

Regardless of the causes, crunch time is one of the largest drawbacks to working in the game industry. The video game industry is filled with people passionate about the work they do (similar technical jobs in other fields almost always pay better), and it is possible that this level of passion causes game developers to accept working conditions that would be unacceptable in other fields. Whatever the reason may be, crunch continues to plague almost every professional game project produced in the US and Europe.

There are, however, a few studios who are actively trying to reduce crunch. A few first party and self-funded studios (such as Valve Software) have the luxury of setting their own due dates, and consequently have much more power over their own schedule. Some companies, such as High Moon Studios in Carlsbad, California, are experimenting with scheduling systems designed to keep projects on track even if the schedule changes dramatically. Software processes such as the Team Software Process [1], Agile Development [2], and Extreme Programming [3] are beginning to take hold in the industry. These approaches are based on the idea that perfect schedule prediction is impossible, and therefore it is better to use a model based around reaction to change. The common goal of these systems is to produce better, more reliable schedules and prevent overtime-induced employee burnout.

The introduction of formal development processes indicates that the video game industry is beginning to become more mature. More studios are realizing that the benefits of crunch are far outweighed by its detriments, and a few are actively trying to find solutions to the crunch

problem. However, there is still a long way to go before the industry is mature enough to make crunch an exception rather than the rule. In the mean time, the employees in the trenches of game development have little choice but to put in extra time and effort to get an increasingly difficult job done on time.

References

[1] The Team Software process is a method by which schedules are continually updated by team members who aggressively track their own work time and attempt to improve it.
http://www.sei.cmu.edu/tsp/

[2] Agile development is a framework by which a development schedule can be broken up into a series of small chunks in order to maximize the team's ability to react to changing requirements.
http://en.wikipedia.org/wiki/Agile_software_development

[3] Extreme Programming is a popular form of Agile Development.
http://en.wikipedia.org/wiki/Extreme_programming

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27 THOUGHTS ON "SNAP, CRACKLE, CRUNCH TIME"

money exchange nj
on **January 29, 2014 at 10:23 PM** said:

I must thank you for the efforts you have put in
penning this site. I'm hoping to view the same high-grade blog
posts by you later on as well. In truth,
your creative writing abilities has encouraged me to get
my own site now 🙂

email marketing kissmetrics
on **January 30, 2014 at 3:38 AM** said:

This piece of writing will assist the internet viewers
for creating new blog or even a blog from start to end.

tips on Mlm success
on **January 30, 2014 at 10:27 AM** said:

Generally I do not read article on blogs, but
I would like to say that this write-up very pressured
me to try and do so! Your writing taste has been amazed me.
Thank you, quite nice article.

eod trading signals review
on **January 31, 2014 at 1:21 AM** said:

Highly energetic blog, I enjoyed that bit. Will there be a part 2?

signals free shipping code
on **January 31, 2014 at 3:40 AM** said:

I really like looking through an article that can make men and women think.
Also, thank you for allowing for me to comment!

Mervin
on **January 31, 2014 at 3:36 PM** said:

Wonderful, what a webpage it is! This web site gives helpful facts to us, keep it up.

michael j fox dol peace out sty landscaping ideas itv udec knock out ã‚¸ãƒ§ã‚¤ãƒ•ãƒ« party boy i 9 form kassandra toons the general car insurance low interest home equity loans federal labor law poster rates mortgage debt management prog
on **January 31, 2014 at 10:43 PM** said:

What a information of un-ambiguity and preserveness of valuable experience regarding unpredicted emotions.

Malorie
on **January 31, 2014 at 10:44 PM** said:

This is really interesting, You're a very skilled blogger.
I've joined your rss feed and look forward to seeking more of
your wonderful post. Also, I've shared your website in my social networks!

Cameron
on **February 1, 2014 at 3:41 AM** said:

My brother recommended I might like this blog. He was entirely right.
This post truly made my day. You cann't imagine simply how much time I had spent
for this info! Thanks!

weight-management strategies
on **February 1, 2014 at 6:29 AM** said:

That is a very good tip especially to those fresh to the blogosphere.
Brief but very accurate information… Appreciate your sharing this
one. A must read post!

Javier
on **February 1, 2014 at 7:26 AM** said:

Do you mind if I quote a few of your posts as long as I provide credit and sources back
to your
website? My blog is in the exact same area of interest as yours and my visitors would
definitely

benefit from some of the information you provide here.

Please let me know if this ok with you. Cheers!

Luke
on **February 1, 2014 at 8:27 AM** said:

We're a group of volunteers and opening a brand new scheme in our community.
Your website provided us with valuable information to work on.
You have performed an impressive job and our whole community will
probably be thankful to you.

online jobs list
on **February 1, 2014 at 8:44 AM** said:

I am regular reader, how are you everybody? This
post posted at this site is really pleasant.

Saundra
on **February 1, 2014 at 2:49 PM** said:

Does your website have a contact page? I'm having a tough time locating it but, I'd like
to shoot you an e-mail. I've got some suggestions for your
blog you might be interested in hearing. Either way, great website and I look forward to
seeing it improve over time.

Sherrill
on **February 1, 2014 at 8:54 PM** said:

Good article. I'm experiencing a few of these issues as
well..

Make Money High School
on **February 2, 2014 at 2:13 AM** said:

Great blog! Do you have any hints for aspiring writers?
I'm planning to start my own site soon but I'm a little lost on
everything. Would you advise starting with a free platform like WordPress or go for a paid
option? There are so many choices out there that I'm completely overwhelmed ..
Any recommendations? Appreciate it!

Susana
on **February 2, 2014 at 12:02 PM** said:

Just want to say your article is as amazing. The clearness in your
post is simply nice and i can assume you are an expert on this subject.
Well with your permission let me to grab your feed to
keep up to date with forthcoming post. Thanks a million and
please keep up the gratifying work.

Jetta
on **February 2, 2014 at 7:02 PM** said:

Hmm is anyone else having problems with the images
on this blog loading? I'm trying to figure out if
its a problem on my end or if it's the blog.
Any responses would be greatly appreciated.

cash call
on **February 3, 2014 at 12:18 AM** said:

Hello there, just became aware of your blog through Google, and found that
it is really informative. I am gonna watch out for brussels.

I will be grateful if you continue this
in future. A lot of people will be benefited
from your writing. Cheers!

Nathaniel
on **February 3, 2014 at 4:04 AM** said:

It's genuinely very difficult in this active life to listen
news on Television, so I just use web for that reason, and get the most up-to-date
news.

internet marketing directory
on **February 3, 2014 at 7:58 AM** said:

It's very simple to find out any matter on net as compared to books, as I found this
paragraph
at this web site.

Leanne
on **February 3, 2014 at 1:49 PM** said:

I like the helpful info you provide in your articles.
I will bookmark your weblog and check again here frequently.
I'm quite certain I will learn plenty of new stuff right here!
Good luck for the next!

residual income
on **February 3, 2014 at 6:01 PM** said:

You need to be a part of a contest for one of the highest quality blogs on the web.

I most certainly will highly recommend this site!

Wilbert
on **February 4, 2014 at 11:35 AM** said:

Hi! Do you know if they make any plugins to safeguard against hackers?
I'm kinda paranoid about losing everything I've worked hard on.
Any recommendations?

buy facebook fans
on **February 4, 2014 at 1:12 PM** said:

I am regular reader, how are you everybody?
This piece of writing posted at this website
is genuinely good.

Lois
on **February 4, 2014 at 1:21 PM** said:

Aw, this was an incredibly nice post. Spending some time and actual effort to create a
great article… but what can I say… I hesitate a lot and never manage to get
nearly anything done.

Gay
on **February 5, 2014 at 4:26 PM** said:

I enjoy what you guys are usually up too. This kind of clever work and coverage!

Keep up the excellent works guys I've incorporated you
guys to my blogroll.