



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

BA COMPUTER GAMES DESIGN

GAME THEORY & DESIGN

Crunch Time



Crunch Time

- What is crunch time?
- Why does it happen?
- “Solving” crunch time
- Development without crunch time
- Solutions to timeline problems and worst-case scenarios
- Discussion



'Crunch' time What is 'crunch' time?





What is crunch time?

Crunch time is what happens when a deadline (milestone, ship date, etc) is coming up, and the **development team works hours above and beyond** what is normal for the company.

For example, studios that normally work 8-10 hour days may find that teams have to increase their work time to 12-16 hour days, etc.





What is crunch time?

Unfortunately, crunch happens on **almost every game development project** at some point and can cause strain to developers and their families.





‘Crunch’ time **Why does it happen?**





Why does it happen?

There are two main reasons:

- Lack of team/project flexibility
- Deadlines





Why does it happen?

- Lack of team/project flexibility

If a project isn't scheduled with enough flexibility in the timing, **it only takes one key feature to take longer than expected to implement** and suddenly the team has a cascading series of dependencies which are now delayed.

Over time, this can **lead to significant delays** in completing the project and the only solution is for the team to work long hours to catch up.



Why does it happen?

- Deadlines

Particularly on titles involving **major publishers**, shelf deadlines are set in stone.

Every day that a game slips beyond its ship date is time that the publisher is paying for shelf space on every retail outlet in the country.



Why does it happen?

- Deadlines

Publishers do their best to **make sure their own titles don't compete**, as well as making sure that a title doesn't go up against a major competitor in the same time slot (which ends up usually being really bad for one of the titles, or just mediocre sales for both).

This means that developers are frequently given less time to develop a title than they actually require.



‘Crunch’ time “Solving” crunch time





“Solving” crunch time

There are also two main theories on handling crunch:

- Better management of tasks/production planning
- Acceptance of crunch as part of the process

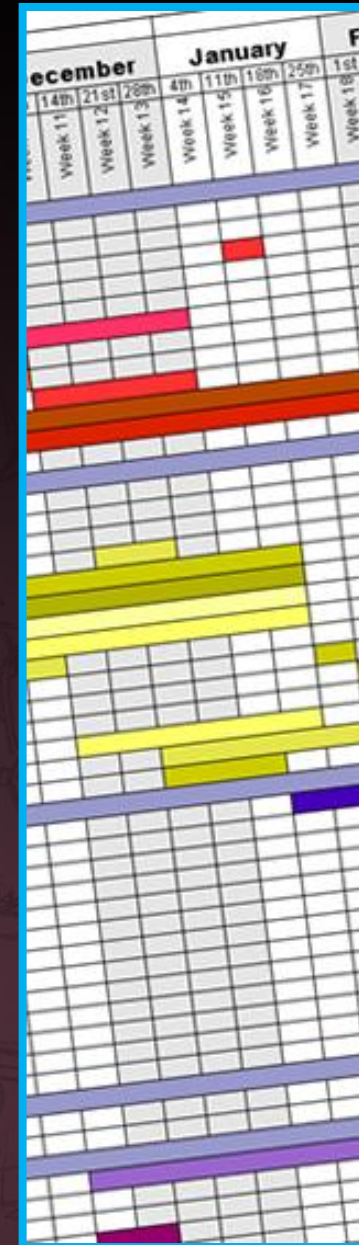


“Solving” crunch time

Better management of tasks/production planning

For the first scenario, where insufficient buffer time is put into the schedule for missed feature deadlines, the answer is generally to teach producers and developers the following:

- How to better estimate the required time for features
- Breaking the tasks down into more manageable pieces so that it will be obvious very quickly if a feature is going to cause a delay.



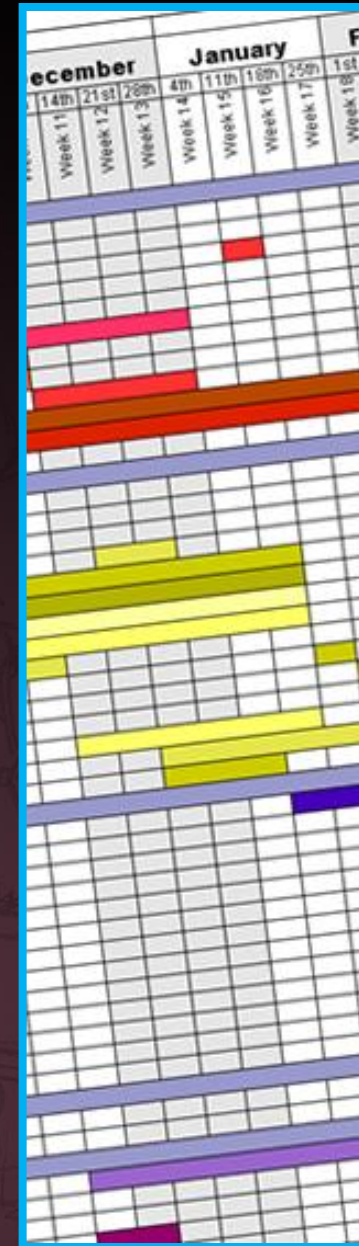


“Solving” crunch time

Better management of tasks/production planning

It is not foolproof, and there is **almost always at least one major case** of a feature causing a slip, or a major bug causing a major rewrite of a component later in development.

It is the unfortunate nature of software development that this can happen. Little can be done to completely prevent this from happening.





“Solving” crunch time

Acceptance of crunch as part of the process

Arguments have been made that for developers who are passionate about their craft, that crunch time is just part of the job.

However, the **EA Spouse** incident brought to light practices at companies with less interest in maintaining employee happiness.

'EA Spouse' W Issues On Gam Quality Of Life

Creative Commons-licensed [LiveJournal](#) post from someone describing themselves as an 'EA spouse' has raised a number of questions regarding continuing 'quality of life' problems in the game development industry. In the post, the author specifically targets giant publisher Electronic Arts, and the anonymous writer documents what she considers an unacceptably escalating work schedule for her partner on a currently in production EA game, explaining:

In weeks production had accelerated, the next news came it was not about a new game, but 9am to 10pm... The current mandate...

'EA spouse' goes on to argue that this 'crunch'...

Crunch also differs from crunch time in that it is a project from failure. Every step of the process accelerated this nor slowed it down.

It's unclear whether these allegations continue to be a major discussion point in the industry.

Similar, an International Game Developers Association survey found that developer spouses are extremely likely to leave the industry or that "You are always stressed" in the industry within 5 years, and 51.2% of respondents at the time of the survey: "While the work conditions are often taxing, it's not developers to leave the industry."

11/12 10:40 AM PST: According to a source, Reed LLP has started legal proceedings against EA for allegedly harassing employees unhappy with lack of payment for overtime.



The EA Spouse incident, 2004

A LiveJournal blog post from someone describing themselves as 'ea_spouse' in 2004 raised a number of questions regarding continuing 'quality of life' problems within the game development industry.

In the blog post the anonymous writer documents what she considers to be an unacceptably escalating work schedule for her partner, who worked for EA on a game in production at the time.

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'ea_spouse' goes on to argue that this 'crunch' also differs from crunch time in other industries...

...project from failure. Every step of the way, it accelerated this nor slowed it down...

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...lar, an International Game Developers Association survey found that developer spouses are extremely likely to leave the industry within 5 years, and 51.2% did at the time of the survey: "While the work conditions are often taxing, it's not developers to leave the industry..."

11/12 10:40 AM PST: According to Reed LLP has started legal proceedings against EA for harassment and discrimination.



The EA Spouse incident, 2004

EA Spouse explains in the blog:

"Within weeks production had accelerated into a 'mild' crunch: eight hours six days a week... When the next news came it was not about a reprieve; it was another acceleration: twelve hours six days a week, 9am to 10pm... The current mandatory hours are 9am to 10pm, seven days a week."

- Cited in Carless (2004), Gamasutra

'EA Spouse' W
Issues On Gam
Quality Of Life

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Similar, an International Game Developers Association survey found that developer spouses are extremely likely to be stressed or that "You are always stressed" in the game development industry within 5 years, and 51.2% of respondents at the time of the survey: "While the work conditions are often taxing, I don't see any reason for developers to leave the industry."

11/12 10:40 AM PST: According to a source, Reed LLP has started legal proceedings against EA for allegedly harassing employees unhappy with lack of payment for overtime.



'EA Spouse' W Issues On Gam Quality Of Life

Creative Commons-licensed [LiveJournal](#) post from someone describing themselves as an 'EA spouse' has raised a number of questions regarding continuing 'quality of life' problems in the game development industry. In the document, the writer specifically targets giant publisher Electronic Arts and discusses what she considers an unacceptably escalating work schedule for her partner on a currently in production EA game, explaining:

In weeks production had accelerated, the next news came it was not about a 9am to 10pm... The current mandate

'EA spouse' goes on to argue that this 'crunch'

also differs from crunch time in that it was not an emergency effort to save a project from failure. Every step of the way, the project remained on schedule. Crunching neither accelerated this nor slowed it down.

It's unclear whether these allegations continue to be a major discussion point in the industry.

Similar, an International Game Developers Association survey found that developer spouses are extremely likely to leave the industry within 5 years, and 51.2% did at the time of the survey. "While work conditions are often taxing, it's not always clear why developers leave the industry."

11/12 10:40 AM PST: According to Reed LLP has started legal proceedings against EA for unpaid wages and benefits.

The EA Spouse incident, 2004

The blog entry also argues that this 'calculated' crunch was **not necessarily a last-ditch effort.**

"This crunch also differs from crunch time in a smaller studio in that it was not an emergency effort to save a project from failure. Every step of the way, the project remained on schedule. Crunching neither accelerated this nor slowed it down; its effect on the actual product was not measurable."

- Cited in Carless (2004), Gamasutra



Quality of life as a developer in the current climate

An International Game Developers Association Quality Of Life survey found at the time of the EA Spouse incident that game developer spouses are extremely likely to respond to their partners in the following ways:

"You work too much" (61.5% of those surveyed)

"You are always stressed out" (43.5%)



Quality of life as a developer in the current climate

“The love of my life comes home late at night complaining of a headache that will not go away and a chronically upset stomach, and my happy supportive smile is running out.”

- EA Spouse, 2004



Quality of life as a developer in the current climate

In addition, the survey found that **34.3%** of developers expect to leave the industry within 5 years and **51.2%** within 10 years.

“While game development is a stimulating and rewarding career, the work conditions are often taxing, making it hard to sustain a balanced lifestyle and leading many senior developers to leave the industry before they've done their best work.”

- Jason Della Rocca, IGDA



“Solving” crunch time

Acceptance of crunch as part of the process

Fixing this second scenario is harder than it might seem. Developers of AAA titles with hard shelf dates cannot just hire any programmer looking for work to boost their productivity.

Many programmer positions at major studios require months to fill, because the qualification bar is set so very high.





“Solving” crunch time

Acceptance of crunch as part of the process

Also, increasingly high demands for improved visuals require more and more artists to be on staff, and likewise, require a high level of skill.

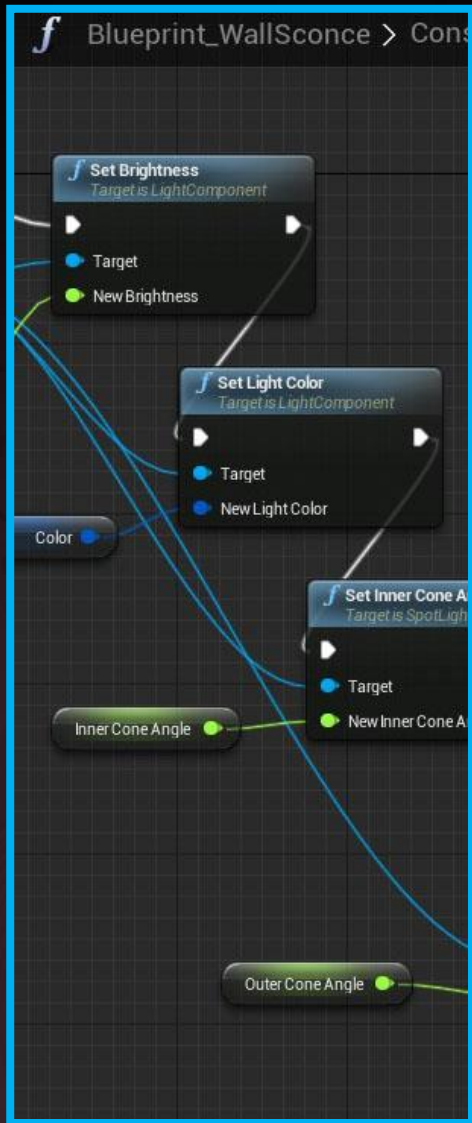
When a publisher says that you get X million dollars for shipping by next Thanksgiving, but you *have to ship by that date*, there generally isn't a lot of room for discussion.





‘Crunch’ time **Development without** **‘crunch’ time**



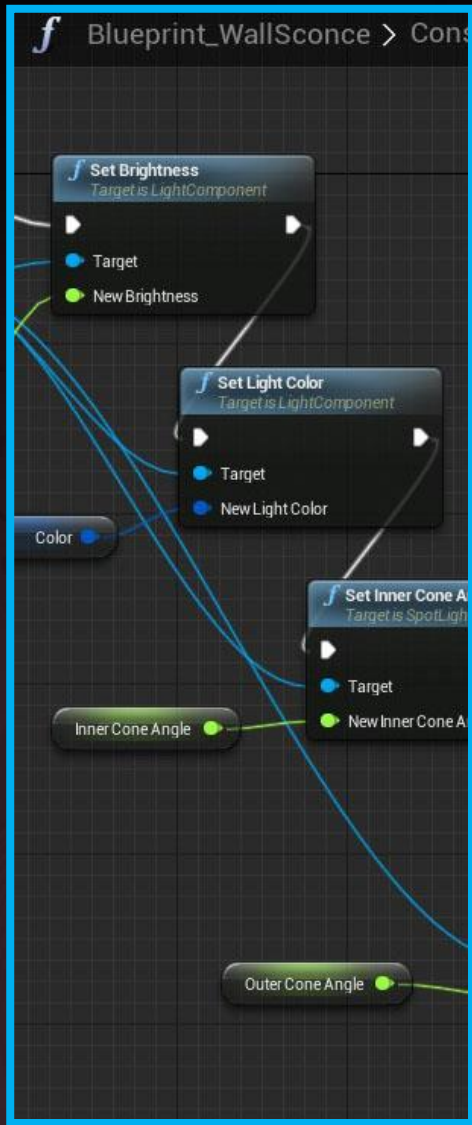


Development without crunch time

What can be done to prevent crunch time scenarios in the future?

Education of staff can help – though this is only part of the solution.

More and more effort is being made to simplify development for programmers and art staff alike.



Development without crunch time

What can be done to prevent crunch time scenarios in the future?

Tools to simplify debugging and testing of code, reduce repetitive art tasks, and distribute computing load across multiple computers to cut wait time for level designers are all examples of how to use development time more efficiently.

AI / Machine Learning tools may be applied to more menial or time-consuming processes as the technology develops.



Development without crunch time

What can be done to prevent crunch time scenarios in the future?

Schultz believes these measures are not enough to prevent crunch time entirely but they are a good start.

As the training at game development schools / Universities improves there will be an increase in available labour for the market.

Until that time there will be high demand for those who are able to turn out top quality products in a short timeframe.



‘Crunch’ time

Solutions to timeline problems and worst-case scenarios



Solutions to timeline problems and worst-case scenarios

Some solutions suggested by Iuppa and Borst (2010) to address timeline problems include the following:

- Turn linear activities into parallel activities
- Staffing and overtime
- Focus on critical tasks
- Gaining consensus with the team



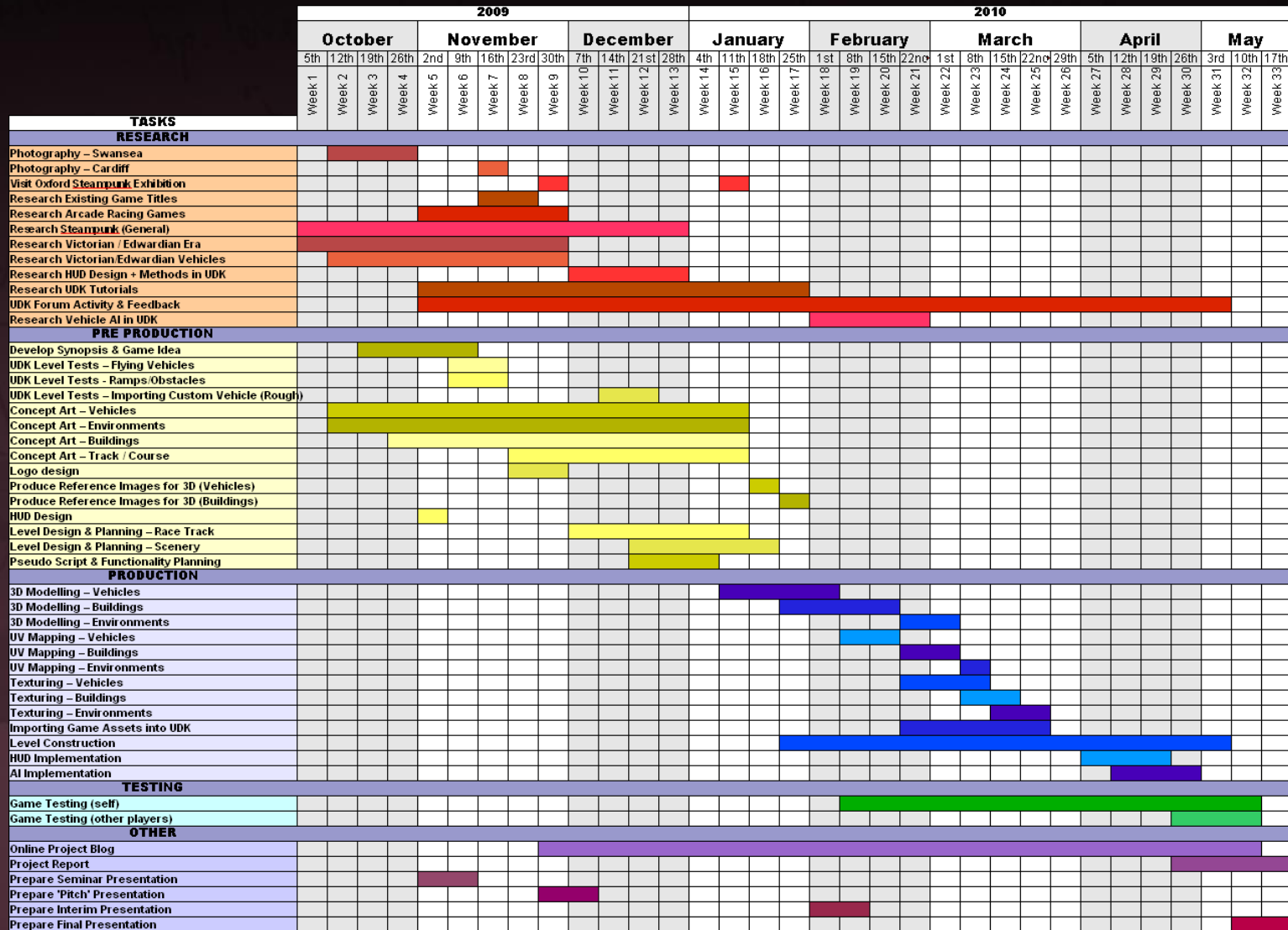
Turn linear activities into parallel activities

This should be done while constructing the initial timeline, though production planning can be refined as the job progresses.

Look creatively at the tasks that need to be performed and if any can be set up in parallel to other tasks, then this should be arranged.

Any parallel activities you set up in your production will save time for you and the rest of the team!

- Iuppa & Borst (2010) *End-to-End Game Development*





GAME THEORY & DESIGN

Crunch Time

Turn linear activities into parallel activities: Example

TASKS	5th	12th	15th
Week 1			
Week 2			
Week 3			
Week 4			
Week 5			
Week 6			
Week 7			
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TASKS
RESEARCH
Photography – Swansea
Photography – Cardiff
Visit Oxford Steampunk Exhibition
Research Existing Game Titles
Research Arcade Racing Games
Research Steampunk (General)
Research Victorian / Edwardian Era
Research Victorian/Edwardian Vehicles
Research HUD Design + Methods in UDK
Research UDK Tutorials
UDK Forum Activity & Feedback
Research Vehicle AI in UDK

PRE PRODUCTION
Develop Synopsis & Game Idea
UDK Level Tests – Flying Vehicles
UDK Level Tests - Ramps/Obstacles
UDK Level Tests – Importing Custom Vehicle (Rough)
Concept Art – Vehicles
Concept Art – Environments
Concept Art – Buildings
Concept Art – Track / Course
Logo design
Produce Reference Images for 3D (Vehicles)
Produce Reference Images for 3D (Buildings)
HUD Design
Level Design & Planning – Race Track
Level Design & Planning – Scenery
Pseudo Script & Functionality Planning



Staffing and overtime - Anticipating the need to expand

Adding staff to a project where required is a solution, though this may not be practical in a financial sense (no additional money to employ temporary staff) or as part of the project timeline (suitable candidates need to be located, interviewed and trained, which takes time and resources).

Anticipating the need to recruit additional staff (e.g. product testing) requires **contingency plans for time and budgeting** when planning a project.

- Iuppa & Borst (2010) *End-to-End Game Development*



Staffing and overtime – Work longer hours

This solution is commonly practiced in the industry and is both **the most effective** and **most destructive** approach.

This is **the very definition of crunch time** – where more work is squeezed into a tight deadline, **upsetting a work/life balance** due to the need to finish a project on time, no matter the cost.

- Iuppa & Borst (2010) *End-to-End Game Development*



Staffing and overtime – Work longer hours

If staff are working long hours, **the manager had better be too** - if a rebellion is to be avoided!



- Iuppa & Borst (2010) *End-to-End Game Development*



Focus on critical tasks

Some tasks may be **critical to the progress** or success of the entire project development.

Identifying **dependencies / critical paths** early on will show where the team will need to focus if crunch time needs to be avoided.

By focusing the energies of the team on some of the **critical tasks** that have been identified, some timeline problems that arise during development can be avoided.

- Iuppa & Borst (2010) *End-to-End Game Development*



Gaining consensus with the team

The development team should build the project timeline as a group to ensure that the roles and time allocation are **achievable and fair**.

The people in this discussion/meeting **are the ones who will have to perform these tasks** and work long hours to get them done. The more they can say about the process, the better they will feel about the project.

- Iuppa & Borst (2010) *End-to-End Game Development*





Gaining consensus with the team

Morale and motivation is important to achieve the objectives you set in a project – failure is guaranteed if nobody wants to do the job expected of them!

This meeting is also a good opportunity to look for creative solutions to problems that may be encountered or identified in the initial planning phase.

- Iuppa & Borst (2010) *End-to-End Game Development*





Discussion

- Do you think it is ethically right for companies to expect employees to deal with crunch time? Give reasons why you agree or disagree.
- How would you handle a team who are expected to work crunch time? What factors do you think are important?
- What are the effects of crunch time on the project?
- What are the effects of crunch time on the team?



Bibliography

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Schultz, W. (n.d.) *Crunch Time* [online]

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