

It's Not Rocket Surgery

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What do you do?

- Grease the skids for the team
- Find the right compromise
- Deliver the good and bad news
- A heck of a lot of communication in all directions

What do they think you do?

- Just overhead
- Always delivering bad news
- You're making people crunch
- Publisher's/Exec's man on-site
- Just slowing them down
- Sand in the gears
- Derailing their work
- Making more work
- Scheduling meetings all the damn time

Give Up Now!

You can't win!

The End

Q & A

What They Don't See

- You're fixing issues before they happen
- Discovering dependencies & working them out
- Making tricky compromises for schedule
- Sheltering the team from randomization
- Trying hard to make things better for everyone
- Making sure the project isn't canned

The Best Outcome

If you're doing your job right, your team won't even think about it – or know you're doing it. You keep everything running smoothly so that they can focus on with their tasks.

When this works, it's like *magic*.

How Do You Win at This?

- Communication
- Lose the Ego
- Planning
- Respect & Trust
- Friendship
- Psychology!

Can you hear me now?

- Communication is 90% nonverbal/nonwritten
 - Build rapport (mirror bodylanguage)
 - Match styles
- Keep it “crisp” in email
- Be transparent
 - Explain decisions, don’t just dictate them
- Don’t be mysterious or enigmatic!

Planning & Scheduling

- Schedules are living documents – not stone tablets!
 - Cut early, cut often!
- People are amazingly consistent
 - SCRUM can hide this
 - Keep notes on estimates vs. actual result
 - Don't tell them you're doing this – it breaks it

Planning & Scheduling

- Find hidden dependencies & account for them
- No-one ever makes it through Cert alive
- Fix problems while they're small

Naivety and Losing Egos

- There's no such thing as a stupid question
- Always ask for help if you're stuck
- Everyone's an expert (or why hire them?)

Respect & Trust

- Do what you say, say what you mean
 - Consistency goes a LONG way
- Don't lie to people – they can smell it
 - Even a little bit

No, seriously, we're smart like that and some of us watch Lie To Me and think it's an accredited University Graduate Course.

*... unless you **have** to.*

Respect & Trust (II)

- Trust, but verify
- Keep confidences confident
- Give second chances
- Credit where it's due

Perception is Not King

- Details matter! (Assumptions make an...)
- Your expectations may be wrong
 - Work is rarely visible work out – especially for Programmers
- Rumors & resentment are evil – all based on false perceptions
 - That Guy Never Crunches...

Friendship

- Many managers will tell you that you can't be friends with your subordinates
- They **didn't** share their toys as children

Sure, it's harder... but it's worth it. Be friends with your team.

Don't require that they be friends back!

Psychology

- We're All Just ~~Monkeys~~ Primates
- Reptilian under pressure
- We like our cliques
- We fear strangers
 - And *love* scapegoats / **blaming** people who aren't in the room/our group
- We've got old, buggy, weird firmware

small teams

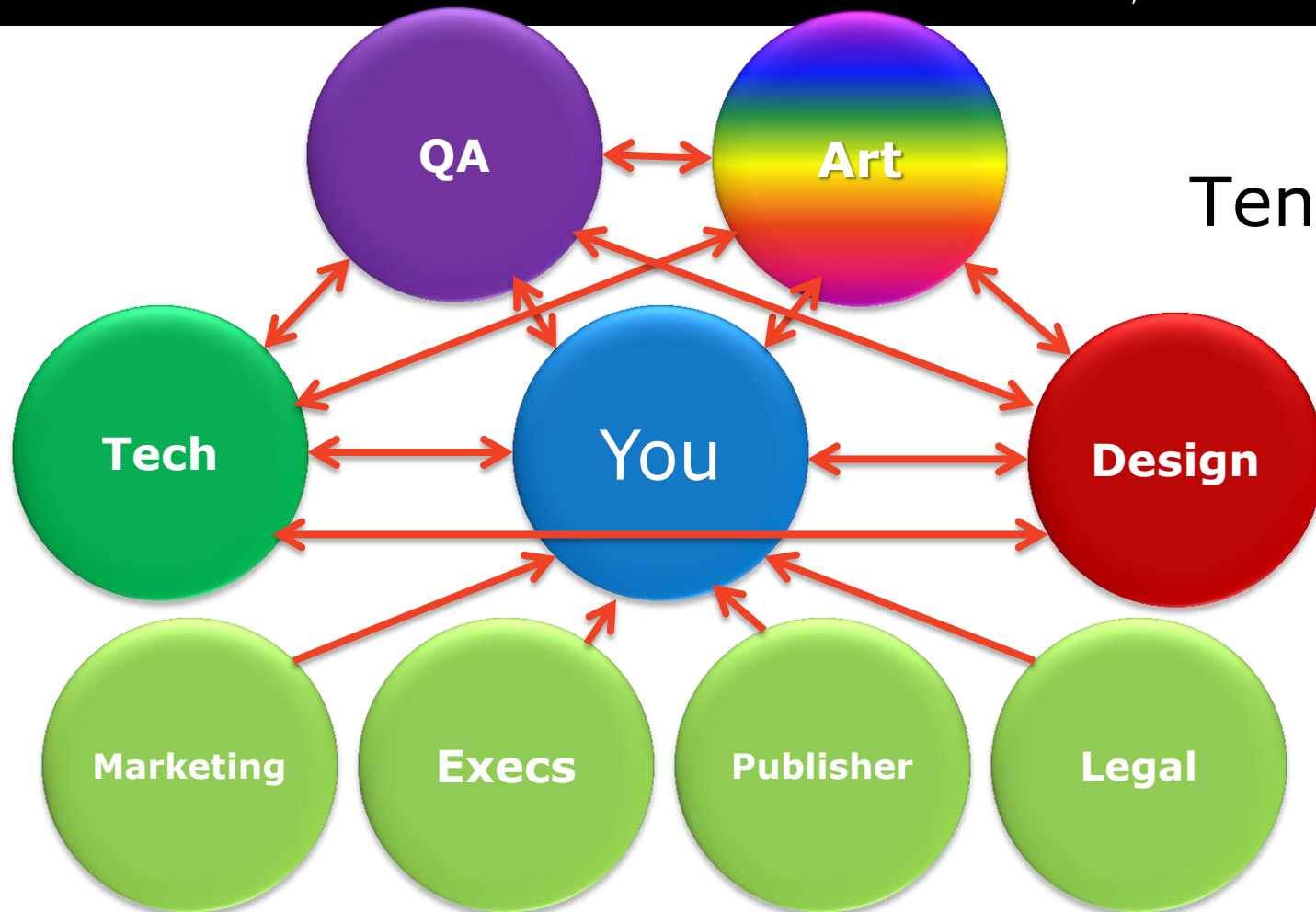


Tensions!



External Forces

- Business folks can ship a 65% complete business plan
- They also don't have imaginations...
(They're paid not to have them, and they're surgically removed at Harvard during graduation)
- No-one knows what makes a good game
- Marketing – often seen as evil



Tensions!

Internal Forces

- Programming says No a lot
- Design wants to iterate... but what *on*?
- Art gets bad feedback, and everyone thinks they can do it
- QA is universally loathed
- They all create work for one another!
 - This is a communication problem...

BIG TEAMS

Dunbar's Number

- 150 people in pop science/culture
- Really <80 people per context
- Fundamental brain design feature in primates!

What does it mean?

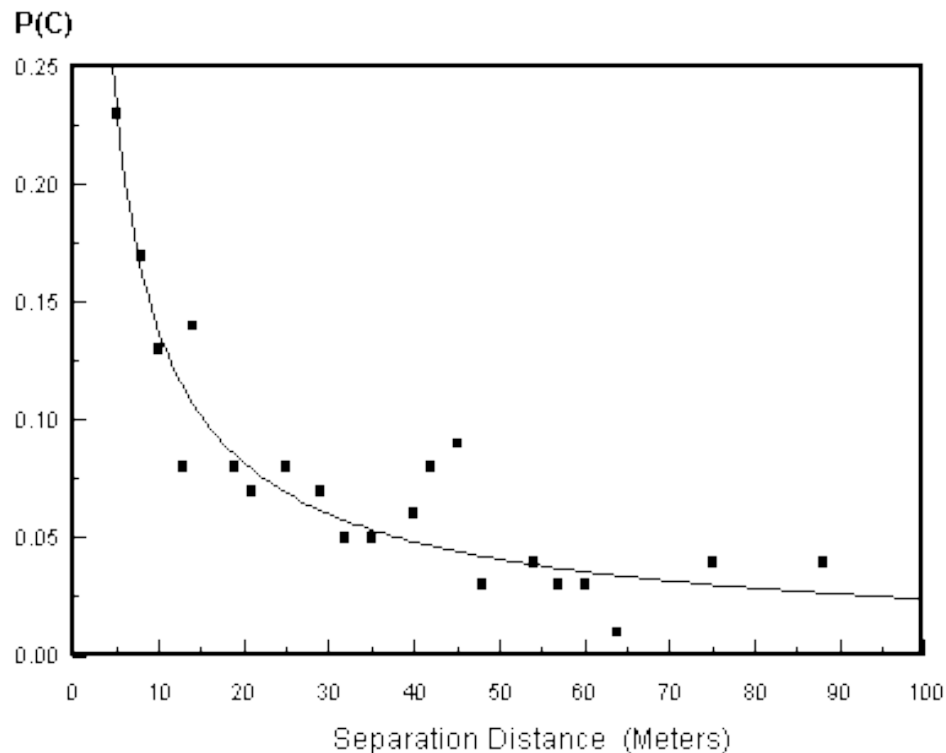
As you start hitting it:

- Poor team cohesion
- Cliques
- Poor communication
- This one might **not** be solvable

Other Team Size Numbers

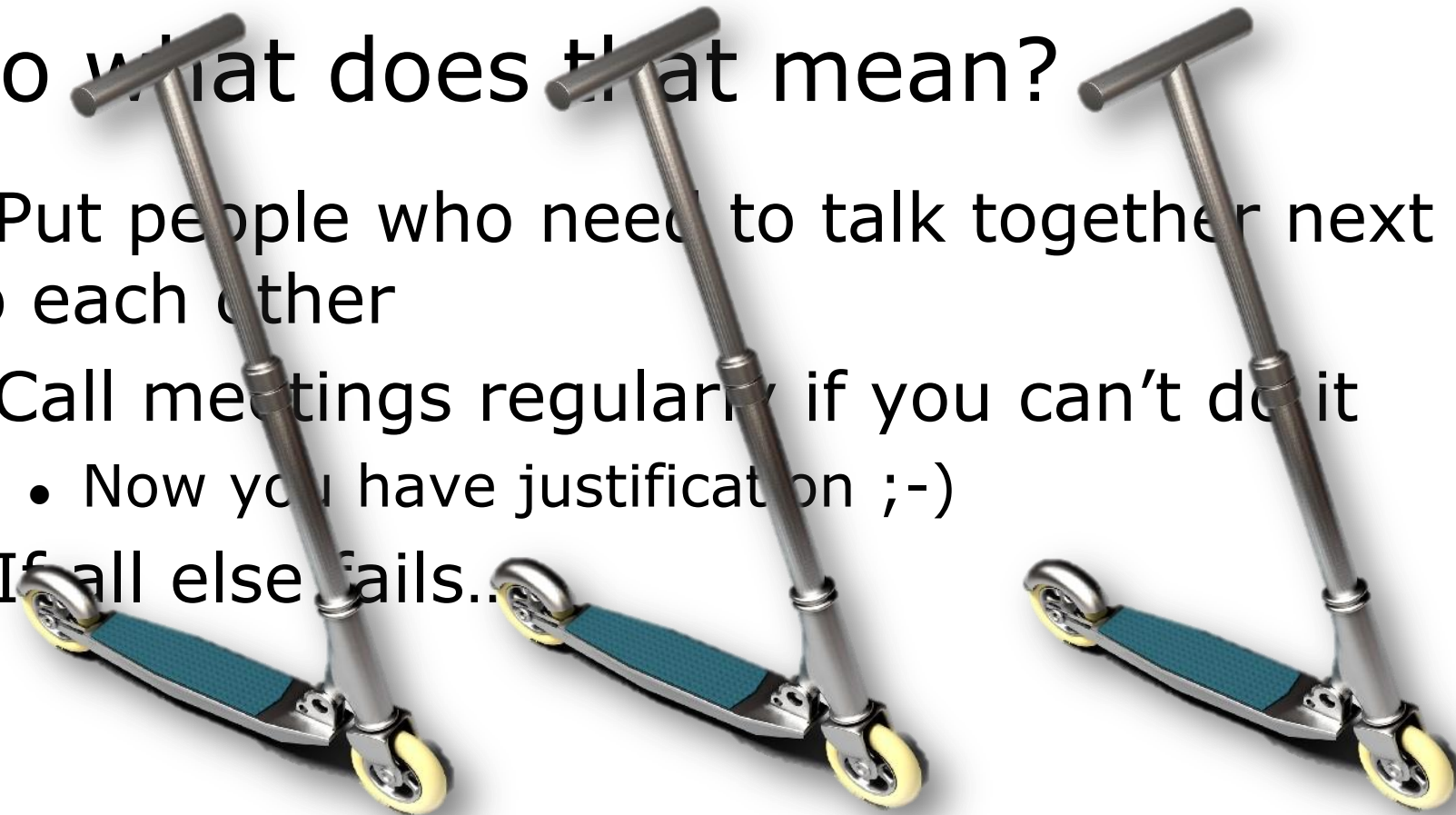
- Optimal team size (5-10, with drop off after 10)
- The Number of Death (14)

The Allen Curve



So what does that mean?

- Put people who need to talk together next to each other
- Call meetings regularly if you can't do it
 - Now you have justification ;-)
- If all else fails...

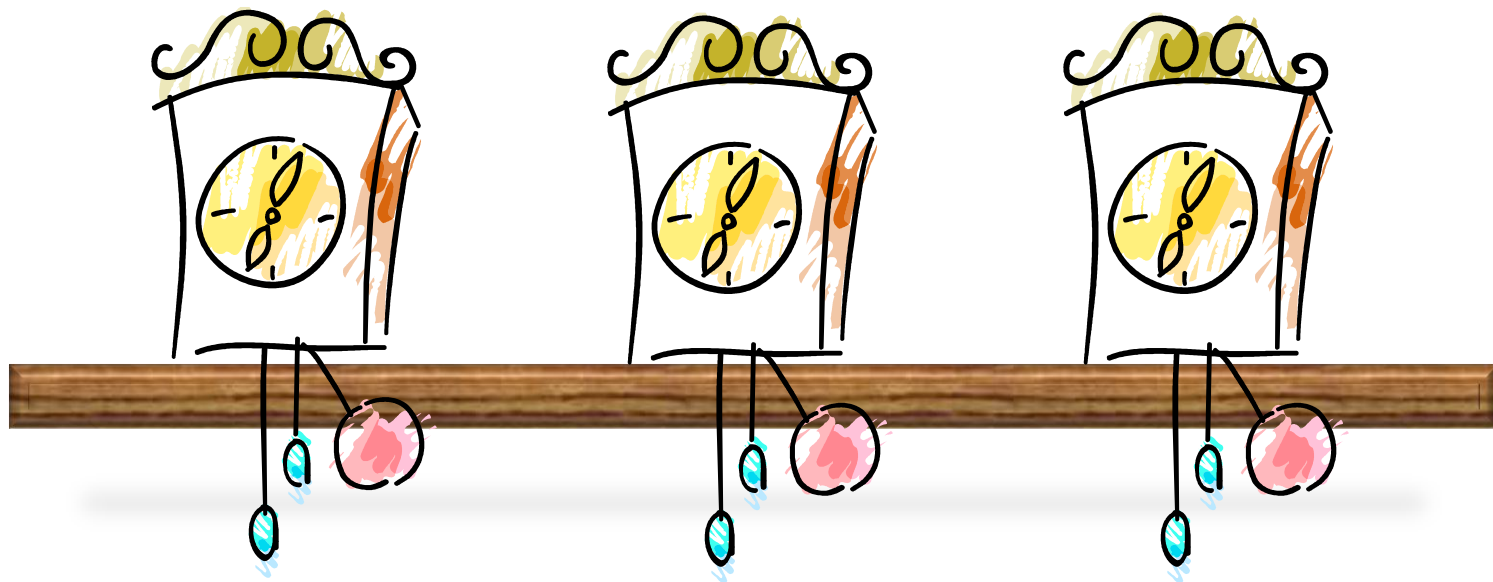


REALLY BIG TEAMS

Geographically Disparate Teams

- Meetings & communication become essential
 - Or else *They're the bad guys! They suck!*
- Arrange face-to-faces regularly
 - You might call them Tech/Art/QA Summits, but *almost* as important is the partying after
 - Half-life is about 2-3 months

Clocks on a Shelf



Resonance/Synchronicity

Kill it by:

- Building in firebreaks (grab & run)
- Take stable drops only
- Decouple dependencies
- Productize the source team's work
- Keep a team on your staff dedicated to handling the integration/fixes – and ***plan*** for this

The **End** Game...

(you know what this means...)

Things You May Notice Happening

- General smell of panic in air
- Blame-throwing
- Low morale
- People sleeping under desks
- People with hair literally on fire
- Cascading mistakes

Crunch is a BAD IDEA!

- Henry Ford figured this out in 1926
- From 60 hours a week to 40 (with x2 salary) = reduced production cost, increased productivity = better results
- Crunch > a few days = ***way worse*** than not crunching at all
- Brains ***melt!***
- Everyone *needs* time to strategize

```
// the radius of the sphere then it must intersect.
intersection = XMVectorOrInt(intersection, XMVectorLessOrEqual(distEdge20, radiusSq));

XMVECTOR pointOnPlaneDist = XMVector3LengthSq(center - pointOnPlane);
XMVECTOR contactPointDist = XMVectorSet FLT_MAX, FLT_MAX, FLT_MAX, FLT_MAX);
XMVECTOR contactPoint = pointOnPlane;
XMVECTOR isEdge = XMVectorFalseInt();
// if intersects plane, start with point on plane distance
contactPointDist = XMVectorSelect(contactPointDist, pointOnPlaneDist, isOnPlaneInsideTriangle);

XMVECTOR select = XMVectorLessOrEqual(distEdge01, contactPointDist);
contactPointDist = XMVectorSelect(contactPointDist, distEdge01, select);
contactPoint = XMVectorSelect(contactPoint, pointEdge01, select);
isEdge = XMVectorOrInt(isEdge, select);

select = XMVectorLessOrEqual(distEdge12, contactPointDist);
contactPointDist = XMVectorSelect(contactPointDist, distEdge12, select);
contactPoint = XMVectorSelect(contactPoint, pointEdge12, select);
isEdge = XMVectorOrInt(isEdge, select);

select = XMVectorLessOrEqual(distEdge20, contactPointDist);
contactPointDist = XMVectorSelect(contactPointDist, distEdge20, select);
contactPoint = XMVectorSelect(contactPoint, pointEdge20, select);
isEdge = XMVectorOrInt(isEdge, select);

contactPointDist = XMVectorSqrt(contactPointDist);
```

```
//(Get the contact point and the contact normal)
```

Melting Brains

- Programmers have to read, understand and work with this stuff (ЖЎΑΣΘΨΩ¥ə)
- Scary, huh?
- You'd have to be superhuman to do it for 14 hours straight
- No-one is... and it's not just programmers

Ways To Avoid Crunch

- Cut early, Cut often
- Identify problems when they're small
- Sierra's Carrot: Finish Early, Go Home
 - ... but only if everyone is finished
 - We shipped 100's of SKUs this way, and it works

That said...

... sometimes you're between a rock and a thousand screaming people with knives and Uzis' and their hair on fire.

Panic Equals Blame

- Everyone does it (a little) (ok, some a lot)
- Doesn't mean they're a bad person
- Doesn't mean the person they're blaming is bad either
- Number 1 side-effect of pressure

Your QA Folks May Receive Death Threats...

- They're here to make you look good
 - REMIND PEOPLE OF THAT!!!
- There's no such thing as a "no repro" bug
Seriously, there isn't
No, really. Trust me. I'm a programmer.

What can you do to take the edge off?

Appreciation During

- Food helps, and is awesome
 - Feed everyone – including Contractors
 - Encourage people to eat together, not at their desks

ICE CREAM APOCALYPSE!!!



Appreciation During

- Booze helps, but is counterproductive
 - *(for programmers especially)*
 - But appreciated! And during crunch, you may need it to survive...

Appreciation After The Fact

- Give gifts after to team-members
- I do this... *Out of my own pocket*
 - Amazon gift cards, expensive tequila...
- You should have a morale budget – if not, make one, yesterday

Appreciation After The Fact...

- Give Time Off AFTER Crunch!
 - Commensurate with time spent crunching
- **BEWARE:** Nothing bites more than being called back in to work in this situation

My Secret Weapon During Crunch

- Amazing information gathering tool
- Defuses interpersonal issues
- Builds group cohesion
- Increases morale
- Practiced at several games companies
 - My legacy, ahhhhh!

The Friday Goof Off - Recipe

For a successful goof-off, you will need:







Okay, so I get the beer part...

- Requires active listening by meeting holder
- Take notes on everything
- Encourage discussion of issues people see coming up, right now
- Encourage discussion of issues across disciplines

You can do this without people noticing what you're doing, by carefully steering conversation

The Most Important Rules

- Must be out of earshot of everyone else
 - Build a safe space for unguarded discussion
- Focus has to be on communication
- Take copious notes
- Defuse problems as you hear them – if you can

... and after shipping?



Takeaways

- Everything boils down to communication
 - You can solve every problem with it
 - It's the cause of and solution to every problem
- Fix small problems while they're still small
 - Communication, Team Dynamics, Schedule... you name it! – fix it early! Be on the ball!
- Pay attention to the details – they matter!
 - If you don't, no one will. Everyone else is knee deep in their own problems.

Q&A

- Questions? Ask Me Anything!
 - Rule 1: No egos. Even if it feels obvious.

Appendix

- The Allen Curve: Managing The Flow of Technology (Thomas J. Allen, 1984, MIT Press)
- Ford's Time & Motion Studies;
<http://www.worklessparty.org/timework/ford.htm>
- How to Build Team Cohesion & Morale by Goofing Off:
<http://accidentalscientist.com/2008/05/how-to-build-team-morale-and-cohesion-by-goofing-off.html>
- The Visible Progress of Broadly Scoped Tasks
<http://accidentalscientist.com/2007/10/the-visible-progress-of-broadly-scoped-tasks.html>
- Why crunch mode doesn't work – 6 lessons (Evan Robinson)
<http://www.igda.org/why-crunch-modes-doesnt-work-six-lessons>

Appendix

- Dunbar's Number:
http://en.wikipedia.org/wiki/Dunbar's_number
- The Dunbar Number as a Limit to Group Sizes
http://www.lifewithalacrity.com/2004/03/the_dunbar_numb.html
- The Mythical Man-Month
http://en.wikipedia.org/wiki/The_Mythical_Man-Month
- Parkinson's Law Quantified: Three Investigations on Bureaucratic Inefficiency; Peter Klimek, Rudolf Hanel, Stefan Thurner -
<http://www.santafe.edu/media/workingpapers/08-12-055.pdf>