He Who Ships, Wins: Producing Gears 2

Rod Fergusson
Executive Producer
Epic Games, Inc.
About Epic Games

• 19th year of business
• 110 employees in NC and still hiring
• Creators of Unreal Engine 3
• Shipped Gears of War 2
• Shipped Unreal Tournament 3
  – Xbox 360, PC and PS3
• External studios in Poland, Shanghai, and Utah
About Me

• 10 Years with Microsoft
  – Started with Microsoft Consulting Services teaching Microsoft Solutions Framework
  – Transferred to Redmond to produce the next version of the development courseware
  – Microsoft Train Simulator
  – Blood Wake
  – Counter-Strike Xbox

• 4 Years with Epic
  – Gears of War
  – Gears of War 2
About Gears of War 2

• 93% Metacritic rating
• Over 4 million copies sold
• 117 award wins and nominations
• Shipped in two years by Gears 1 team
Shipping in Two Years

Gears 1 = Risk
- New team
- New platform
- New engine
- New type of game

Gears 2 = Maturity
- Mature team
- Mature platform
- Mature engine
- Sequel to a GOTY

Maturity + Process = Bigger Game in Less Time!
He Who Ships, Wins

• There comes a point of diminishing returns
• Need to plan for windows of opportunity
• Timely shipping allows you to react to
  – Player feedback
  – Industry trends
  – Competitive landscape
• Franchises are grown
  – very difficult to start at GTA4 or MGS4

Gears 2 > Gears 1 + 2 years
The Iron Triangle

Scope

Schedule

Resources
Fixed Ship Date Mindset

• The belief that the ship date is both realistic and unchangeable
  — Date can change but must be justified
  — Date not actually fixed till very confident
• Provides a clear goal for the team
• Forces prioritization and creativity
• Provides a decision making constraint
MANAGING SCOPE
Gears 2 Design Process?

CTRL+ALT+DEL BY TIM BUCKLEY

GEARS OF WAR 2 DEVELOPMENT MEETING

ALRIGHT, IN TODAY’S MEETING WE’RE GOING TO TALK ABOUT HOW WE CAN MAKE GEAR S2 BIGGER AND BETTER THAN THE FIRST.

Bitch, get a hold of yourself! We’ll think of something! I’ve got ideas!

Don’t you understand, Cliff? We put a chainsaw on a machine gun! That’s it! It doesn’t get more awesome than that! We’ve peaked, man! We’ve peaked!

[“Traingun” comic strip © 2008 Tim Buckley and Ctrl+Alt+Del Productions]
Not Really...

A FEW MONTHS LATER...

AWW YEAH, IT'S TIME TO BRING SOME RUCKUS TO THOSE LOCUST ASSHOLES.

LET'S SEE THEM F**K WITH ME NOW THAT I'VE GOT A GUN WITH A TRAIN ON IT!
Well Actually...
New, Better, More Process

• Canvassed the team for ideas
• Looked across 16 different project areas
• Met with area stakeholders to determine a top 5 for each
• Leads then voted on all of those possible features
• Features were then stack ranked to determine priorities
• Made sure we were working on the most important things first
### Example NBM Results

<table>
<thead>
<tr>
<th>Category</th>
<th>Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>MORE</td>
<td>Living Battlefield Moments</td>
</tr>
<tr>
<td>NEW</td>
<td>MP Bots</td>
</tr>
<tr>
<td>BETTER</td>
<td>Hit Reactions</td>
</tr>
<tr>
<td>MORE</td>
<td>Destructibles</td>
</tr>
<tr>
<td>NEW</td>
<td>Huge Scale Creatures</td>
</tr>
<tr>
<td>MORE</td>
<td>Locust Variations</td>
</tr>
<tr>
<td>NEW</td>
<td>Meat Shield</td>
</tr>
<tr>
<td>BETTER</td>
<td>Cover Controls</td>
</tr>
<tr>
<td>NEW</td>
<td>Party System</td>
</tr>
<tr>
<td>NEW</td>
<td>Combat Trials Mode (Horde)</td>
</tr>
</tbody>
</table>
Establish Your Pillars

- “New, Better, More” may not give you these
- May be an aggregate set of features
- May be their own overall design goal
- Empowers scoping decisions
- Usually serves as great talking points for press
- Candidates for back of box features
Gears 2 Pillar Examples

- Grander scale
  - Environment size and settings, giant creatures, large vehicles, heavy weapons, crowd system
- Yet more intimate
  - More character driven story, more executions, meatshield, Jack bot screen for Anya
- Accessibility
  - Casual difficulty, independent co-op difficulties, content filters, alternate control scheme, multiplayer training, offline bot play
Cabal Design Process

• High level design process driven by cabal of five leads
  – Lead Designer, Gameplay Designer, Lead Level Designer, Lead Programmer and Producer
• After Gears 1 there was a lot of trust
• Created efficiency in design with different disciplines represented
• Also created efficiency in communication
Rapid Prototyping FTW

- Designers utilized visual scripting language (Kismet) in Unreal Engine 3
- Very little programmer involvement
- Provided a working set of requirements
  - Programming team
  - Art team
- Solidified designs faster
- Achieved buy-in faster
Prototype Example
Cut Early, Cut Often

• Due to unknowns, teams tend to underestimate effort
• Every feature takes polish time away from the other features
• Avoid the sunk cost fallacy by looking at opportunity cost
• Always keep test burden in mind
• Test decisions against your pillars
• Possible sequel design ideas
MANAGING RESOURCES
Outsourcing

• One of the easiest ways to grow the Resource side of the triangle
• From Gears 1 to Gears 2 we added an Art Production Manager for outsourcing
• Leveraged Epic Games China heavily, sole supplier for outsourced models
• Allow ramp up time for external companies to be able to work at your pace and your quality bar
Managing Crunch

- I believe that crunch is necessary in a creative medium
- Crunch should be driven by the ambition of the team and not the inaccuracy of the schedule
- Gather feedback from the team on how they want to crunch
- Crunch a little each milestone to avoid bigger crunch at the end
It’s a Marathon, Not a Sprint

- Decision to crunch made by Leads team
- Fixed ship date mindset provides a light at the end of the tunnel
- Working later than 2 AM is a net loss
- Catered dinners provided
  - Greater team communication
  - Greater overall efficiency
- Early crunches are team wide
- Late crunch is as small a team as possible
MANAGING SCHEDULE
Demos – The Necessary Evil

- Demos force you to polish up areas of your game earlier
- Serves as a pride-based forcing function for all disciplines and highlights dependencies
- Increases predictability for the rest of the schedule
- Greatest level of efficiency in Gears 1
- Recreated process as “Swarms”
Level Swarms

- Take levels from show-able to demo-able
- Roughly three weeks of focused attention
- Four review meetings attended by representatives of all disciplines
- Always created more work
- Used effort-weighted punchlists to prioritize
- Ended with Exec review
- Reaped huge benefits
Rolling Voiceover Sessions

• Level development happened in waves so script finalization happened in waves
• Recorded one set of scripts, then a month later, recorded second set plus pickups
• Used combat chatter and efforts to maximize our sessions
• Professional actors will
  – Increase your quality
  – Increase your credibility
  – Save you time
Don’t Shake The Jell-O™

• Concept first introduced to me by Jim McCarthy, former Director of C++ Group
• Every change has the potential to create even more unwanted change
  — i.e. every fix is risking more bugs
• To mitigate risk, triage must escalate over time
• Mature team knows when to say “Yes” to changes
Leave It All on the Jell-O™ Field
In Conclusion

• Gears 2 benefited greatly from being a “mature” project
• We utilized a “New, Better, More” process and project pillars to help define our scope
• Based on our resources and desired scope, we set a realistic ship date goal
• We treated that date as if it were fixed, even though it wasn’t
• We managed our scope, resources and processes accordingly to maintain our goal schedule
• We shipped a AAA game, bigger than the first, on time in two years
Questions?
p.s. Epic is hiring in North Carolina, Utah & Warsaw :-)!

jobs@epicgames.com

- Great collaborative environment
- Ultra successful games
- Leading the way with game engine tech and next-generation gaming