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Fixed-Price Contracting

A Tough, but Solvable, Problem



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Abstract of Talk


- One of the most pervasive myths about agility is that it isn't good for fixed-price, fixed-scope projects. Nothing could be further from the truth! If you think you can work towards a budget, amongst all the craziness of a typical project, without being agile, I think you need to think again... The real questions are: "where is your agility?", "did you bid enough to make it possible?", "what do you track and measure?", and so on.
- Dan Rawsthorne will discuss these issues in this talk. Dan discusses organizational issues, how to estimate a bid, what the project (release) plan could look like, and give examples of what to track and measure. Words and phrases like "function points", "80/20", "80/50", "Earned Value", "Earned Business Value", "s-shaped curve", "buffer management", "integrated self-organizing teams", "separation of Command and Control", and "Product Owner Teams" will be liberally tossed about.



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Summary of Problem

- In order to successfully conduct a fixed-price contract, we must:
 - Given a date and scope, be able to produce a contract and price that will allow us to succeed
 - Have a way to compare actuals to baselines that provides useful truth, so that we'll know what has to change
 - Have a way to adapt and change quickly – Large Scale Agility
- These are the topics that are covered in this talk
 - This is quick, I only have 30 minutes
 - Talk to me offline for more information



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Agenda

- Large Scale Agility
 - Planning Artifacts
 - Combining Client and Contractor
 - Levels of Agility
- Developing the Contract
 - Vision/Roadmap
 - Required Capacity and Price
 - Release Plan
- Monitoring the Release
 - BurnUps and BurnDowns
 - Earned Value Metrics
 - Earned Business Value
 - Tracking SirJeff's Release
- Summary




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Large Scale Agility

Planning Artifacts
Combining Client and Contractor
Levels of Agility




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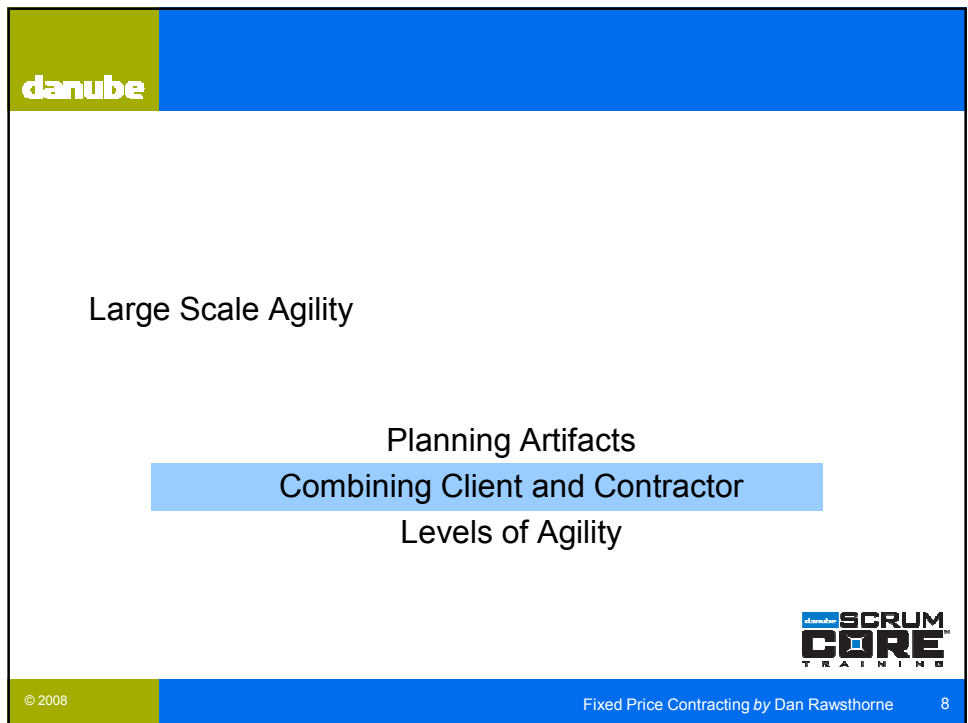
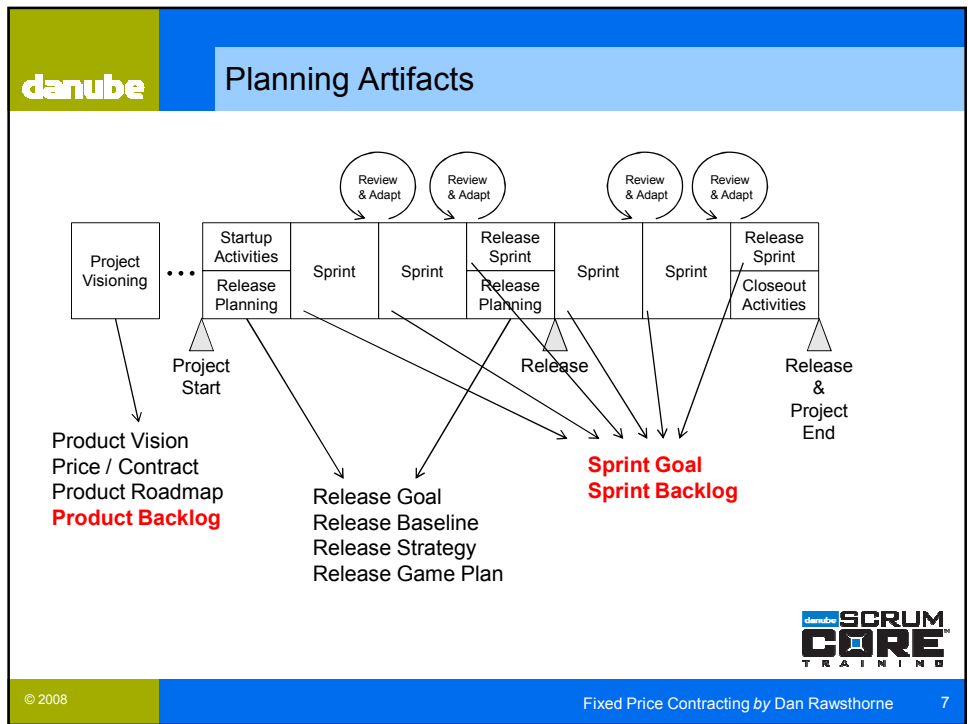
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Large Scale Agility

Planning Artifacts
Combining Client and Contractor
Levels of Agility



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"Typical" Project Organization

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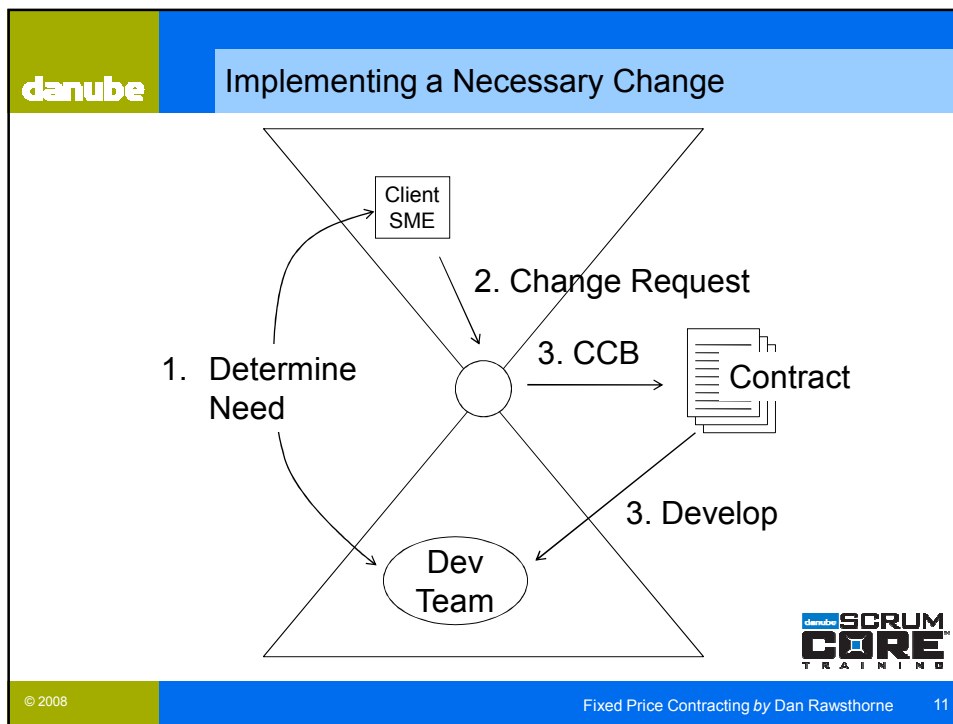
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Basic Structure of Contract...

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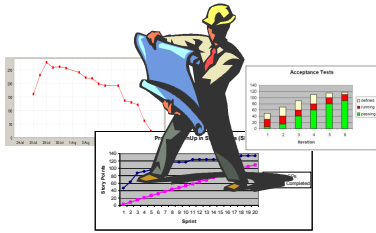
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- danube** Issues with Standard Method
- Slow
 - Need to update Contract without knowing *exactly* what is needed
 - Try to limit cost of negotiation between Dev Team and Client SME
 - Negotiation between Client SME and Dev Team is at the “What do I need?” level
 - Seen as “overhead” task
 - Change Control Board is often about “Control”
 - Can enter endless change loop
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“Agile” Project Organization

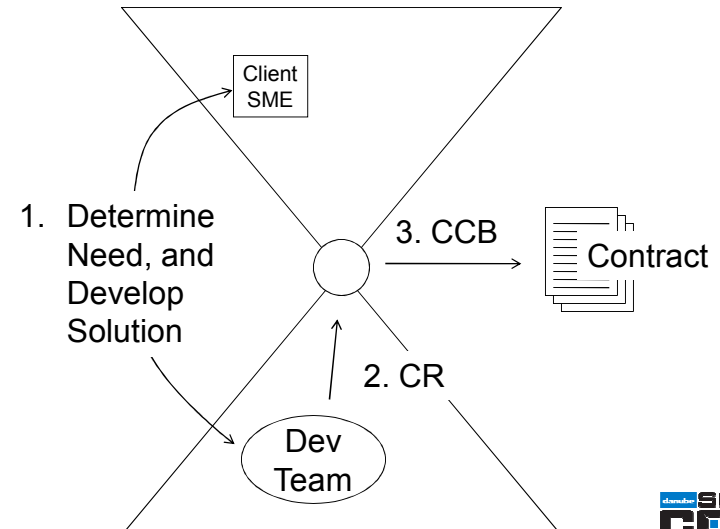


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Implementing a Necessary Change



1. Determine Need, and Develop Solution

2. CR

3. CCB

Client SME

Dev Team

Contract

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danube Issues with Agile Method

- Quick
- Update Contract based on what has actually been done
 - Negotiation between Client SME and Dev Team is at the “What do I need?” and “How do we build it?” levels
 - Can actually see what we get, so can see if we needed it
 - Change Control Board is about “Change”
- Needs to be Managed
 - Can lead to scope creep, looks pretty scary...
 - But, if developed, was most important thing to do, according to SME...

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danube Make a Combined Team

The diagram illustrates the interaction between a PMO and a Scrum Team. The Scrum Team consists of a Client SME and a Dev Team. The process follows three steps: 1. Determine Need, and Develop Solution; 2. CR (Change Request) flows from the Scrum Team to the PMO; 3. CCB (Change Control Board) flows from the PMO to the Contract.


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Large Scale Agility

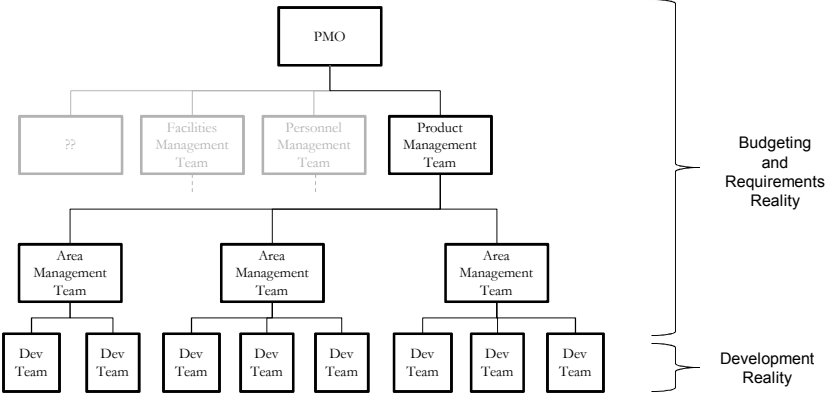
Planning Artifacts
Combining Client and Contractor
Levels of Agility



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Project Hierarchy and Agility




```
graph TD; PMO[PMO] --- P1[?]; PMO --- P2[Facilities Management Team]; PMO --- P3[Personnel Management Team]; PMO --- P4[Product Management Team]; P1 -.-> A1[Area Management Team]; P2 -.-> A2[Area Management Team]; P3 -.-> A3[Area Management Team]; P4 -.-> A4[Area Management Team]; A1 --- D1[Dev Team]; A1 --- D2[Dev Team]; A2 --- D3[Dev Team]; A2 --- D4[Dev Team]; A2 --- D5[Dev Team]; A3 --- D6[Dev Team]; A3 --- D7[Dev Team]; A4 --- D8[Dev Team]; A4 --- D9[Dev Team];
```

Budgeting and Requirements Reality

Development Reality

- The organization must balance the realities here
- The tool to use is agility



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- There are lots of thing to manage here
- And there are lots of agile teams to manage them

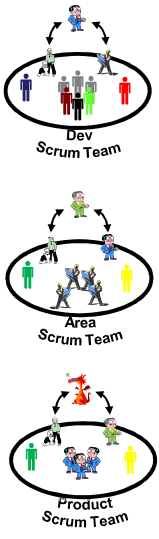
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danube Multiple Integrated Self-Organizing Scrum Teams

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danube Different Levels of Agility – Lowest to Highest

- Dev Scrum Team
 - Tactical Agility
 - “What” provided by PO (Dev Lead)
 - Detailed “what” provided by Team, SME
 - “How” is agile, done by Team
 - PO Adjust Sprint Backlogs for own Team
- Area Scrum Team
 - Maintain Release Goals at Area Level
 - Modify Release Goals at Dev Team Level
 - Help Adjust Sprint Backlogs across Dev Teams
- Product Scrum Team
 - Maintain Product Vision
 - Modify Product Roadmap
 - Adapt Release Goals at Area Level
 - Even Adapt Areas from Release to Release
 - Work with Program Manager to Renegotiate Contract





The diagrams show three levels of Scrum teams. The top diagram, 'Dev Scrum Team', shows a group of people in a circle with arrows indicating interaction. The middle diagram, 'Area Scrum Team', shows a group of people in a circle with arrows indicating interaction between different teams. The bottom diagram, 'Product Scrum Team', shows a group of people in a circle with arrows indicating interaction between different areas.

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Any Questions?



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Developing the Contract

Vision/Roadmap
Required Capacity and Price
Release Plan

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danube Simplifying Assumption

- In order to do this talk in 30 minutes I will assume that this Project has only one Release for the actual calculations
- I will also assume it only has one Team
- These simplifying assumptions allow me to show you what planning looks like
- And we'll use these assumptions later when showing the metrics, too

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Developing the Contract

Vision/Roadmap
 Required Capacity and Price
 Release Plan

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danube Royal Catalina Airlines (RCA)

- Royal Catalina Airlines is owned by Sir Geoffrey Smithers (SirJeff) who made a fortune writing software in the Silicon Valley before buying a plane and ferrying tourists up and down the California Coast
- He is now buying 4 more planes, hiring pilots, crews, etc, and wants a web site, RoyalCatalinaAir.com
- When he started the business he wrote his own database to manage his schedule, passenger list, and so on. He called it CUTLASS

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 SirJeff's Vision


- Business Vision: I, SirJeff, want to get lots of new customers for my new airline, Royal Catalina Air (so that I can make a lot of money...)
- Product Vision: In order to get lots of new customers for my airline, I want a website, RoyalCatalinaAir.com, that will be as good as that of "real" airlines



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 "Informal" Product Roadmap

- As a byproduct, we get SirJeff's vision of a Product Roadmap:
 1. First, I need to be able to sell tickets and review status of flights
 2. Then, I want to be able to manage Pilot Timesheets on line
 3. After that, I want to cross-sell hotels and rental cars for some of our partners
 4. Finally, I'd like to have a "good customer" plan
- Now, we haven't promised anything
 - This is what SirJeff is "dreaming about"
 - It's important for us to know and understand this
 - But to realize, and make it well-known, that this is not fixed and will probably change
 - In fact, we expect it to change...



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danube "Formal" Product Roadmap

- This is an optional thing
- Includes Releases with their Goals
 - Could include budgets for each Release (FPs and/or Hours)
- Could include known Milestones or Events
- Example (for a military Helicopter I built once)
 - Release Goals
 - Year 1 – Make it Fly
 - Year 2 – Make it Shoot
 - Year 3 – Make it Operational
 - Milestones/Events
 - Pentagon Reviews in July
 - Scheduled at Flight Range Jan 14, 2003

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Developing the Contract

Vision/Roadmap
Required Capacity and Price
Release Plan

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How Do We Measure Capacity (Size of Stories, etc)?

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Functional Size Measurement


- Just for fun, let's discuss Functional Measurement...
- A General Concept
 - Function Points
 - Use Case Points
 - Feature Points
 - COSMIC Function Points
- All attempt to measure "moving parts" of software
 - Most of the calculations are difficult
 - And require a design
- What can we learn to use with Story Points?

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COSMIC Function Points

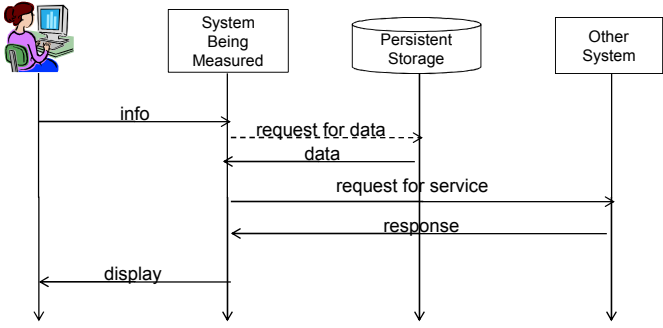
- The Common Software Measurement International Consortium, <http://www.cosmicon.com/>
 - International Standard, ISO/IEC 19761:2002
 - Relatively new, latest version is 2007
- Easy to Calculate
 - If we wanted to measure CFP production as we move along
 - Part of our Sprint Review “we produced 35 CFPs this Sprint”
- Easy to Estimate (very important for us)
- Only measures moving parts
 - Entry – sending information to the system
 - Exit – receiving information from the system
 - Read – reading information from persistent storage
 - Write – writing information to persistent storage
- See picture next page...



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Counting COSMIC Function Points

- This is how FPs are counted using COSMIC
- Here is a typical system



```

sequenceDiagram
    actor User
    participant System as System Being Measured
    participant Storage as Persistent Storage
    participant Other as Other System


    User->>System: info
    System->>Storage: request for data
    Storage-->>System: data
    System->>Other: request for service
    Other-->>System: response
    System-->>User: display
            
```

For a given scenario, all we do is count the number of times information moves, and the total is our CFP

But requests for data don't count

Yes, it is that simple...

Yes, it is that much of a pain...



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danube Example: Add Traveler to Itinerary

```

sequenceDiagram
    actor User
    participant CatAir as CatAir WebSite
    participant CatAirDB as CatAir DB
    User->>CatAir: Traveler info
    CatAir->>CatAirDB: Add to Itinerary
    
```

- This is as simple as it gets
- A Small Story, with CFP = 2

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danube Example: Get List of Flights from CUTLASS

```

sequenceDiagram
    actor User
    participant CatAir as CatAir WebSite
    participant CUTLASS
    User->>CatAir: Where and When
    CatAir->>CUTLASS: Request for Flights
    CUTLASS->>CatAir: List of Flights
    CatAir->>User: Display List
    
```

- This is typical Medium-Sized Story, CFP = 4

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danube Example: Pick One and Pay with VISA™

```

sequenceDiagram
    actor User
    participant CatAir as CatAir WebSite
    participant CatAirDB as CatAir DB
    participant VISA as VISA™ Widget

    User->>CatAir: Chosen Flight
    CatAir-->>User: Payment Window
    User->>CatAir: VISA™ Info
    CatAir->>VISA: Cost and VISA™ info
    VISA-->>CatAir: Payment accepted
    CatAir->>CatAirDB: update itinerary
    CatAirDB-->>CatAir: updated itinerary
    CatAir-->>User: confirmation
    
```

- This is a large one, CFP = 8

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danube Summary of Story Size (Relative) Estimation

- Pick a “typical” M-Sized Story – possibly “a simple secondary scenario for an existing use case” with CFP = 4
- For Functional Stories, compare the story to the “basic M-Sized” Story
 - Use Estimation game with question: “How big is this one, in terms of moving parts, compared to our ‘typical M-Sized one’, given that the codebase is the same, the same people work on it, and so on”
 - Double (?) the points if it is “architecturally significant”
- For non-Functional stories with well-defined definitions of “done” compare the story to the “basic M-Sized” Story
 - Use Estimation game with question: “How hard is this one, in terms of effort, compared to our ‘typical M-Sized one’, given that ...”
- For Stories with ill-defined definitions of “done”, timebox them
 - “Do 8 hours of Exploratory testing on page ABC”
 - “Do a Small Story’s worth of work cleaning up the code in module XYZ”

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Calculating Required Capacity

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Types of Release Planning

- When Can we Release?
 - Known scope, existing team
- What Can we Release?
 - Known time, existing team
- How much will it cost?
 - Known time, known scope, new team
 - This is the tough one...
- All based on calculation

Time x Capacity = Scope
- Let's do an Example of the "hard" case
- Then finish the talk with one of the easy cases
 - Because I have the data for it ☺


Time (# of Sprints)	Scope (Total SPs)	Capacity (SPs/Sprint)
??	XX	XX
XX	??	XX
XX	XX	??

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Example of “Hard Case”

- Have a client, Royal Catalina Airlines (RCA)
 - Royal Catalina Airlines is owned by Sir Geoffrey Smithers (SirJeff) who made a fortune writing software in the Silicon Valley before buying a plane and ferrying tourists up and down the California Coast
 - He is now buying 4 more planes, hiring pilots, crews, etc, and wants a web site, RoyalCatalinaAir.com. We’re writing it for him...
- In six months he wants:
 - The customer can “Buy an e-ticket”
 - The customer can “Check Status of Flights”
 - The customer can “Get a Hotel at his destination”
 - The customer can “Get a rental car at his destination”
 - The Pilots can “Manage Pilot Timesheets”
 - The Customer can “Manage the Good Customer Plan”
- How Much will this Cost?




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Baselines for Capabilities

- We think that’s impossible, but agree to do a Rough Order of Magnitude (ROM) Release Plan to “check it out”
- By working with Stakeholders and Developers, the team arrives at the following FP baseline sizes for the wanted capabilities:

Capability	FPs
Buy an e-Ticket	150
Check Status of Flights	50
Get Hotel at Destination	100
Get Rental Car at Destination	100
Pilot Timesheets (epic, risky)	250
Good Customer Plan (epic, risky)	250
<i>Total</i>	<i>900</i>




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Now, Calculate Required Velocity

- **Method 1: FP Estimation**
 - Need 900 FPs, use standard 20Hrs/FP, get
 - 18,000 Hrs = 18 people for six months
- **Method 2: SP Velocity Method**
 - So, we know that we want to produce 900 FPs
 - We want to release in 6 months = 13 2-week sprints
 - So we need to produce 900 FPs in 12 sprints (no additional FPs in last sprint – reserved for Release)
 - Which is a velocity of $900/12 = 75$ FP/sprint
- Continued on Next Page




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And derive the Team Size (cost)

- Our experience is that a single development team (5-7 people) has a baseline velocity of 50 SPs/sprint, ~50% of which will be FPs (across a release of 6 sprints)
 - 1/6 of SPs provide no BV (release sprint)
 - 70% of SPs are BV-Producing in other sprints
 - 1/3 of BV SPs are Arch-sig, so half FPs
 - Total of $(5/6) \cdot (.7)(5/6) = 48\%$
- We need 75 FPs/sprint, so we need 3 development teams
- With 3 development teams, we'll need an integration team, so we have a total of 3 development teams and one management team, for a total of $3 \times 5 + 3 = 18$ people minimum, $3 \times 7 + 3 = 24$ people maximum




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Counter-offer

- We go back to SirJeff and tell him that we need a 20-person project team on day one, and we don't have that
 - We'd be glad to come up with a ramp-up plan for him
 - Or, we could figure out what we can actually give him with the people we have available, which is one team that is moving off of another project
- SirJeff says: "ok, tell me what this one team can give me in the next three months"
- So, we do another release plan, of type "What can I get?"




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What's Going On Now

- Have a team
 - Transitioning from SouvSite development
 - Half the team for the first 2 sprints
 - Whole team from then on
- SirJeff wants initial release in 3 months (7 sprints)
 - Needs to be useful to consumers
 - What he can tell his marketing and sales folks will be there?
 - This is a classic "Release Planning"-type question
- Remember, SirJeff's priorities are:
 1. Buy an e-Ticket
 2. Check Status of Flights
 3. Pilot Timesheets
 4. The rest...



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Capacity Calculations

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Historical Information for Team

- 8 Members of Team
- Currently on SouvSite project
 - Velocity as below
- “Plannable” hours per 2-week sprint as at right

Plannable Hours/Person	Hrs
Total Hours	80
Minus Planning Day	72
Minus Grooming Mtg	68
Minus Lost Time	60

- Lost Time is vacation, sick, management time, etc
- Meetings aren't plannable, as they are fixed time already spoken for

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Baseline Total Capacity Calculations

- We have half the team for the first two sprints
- We have a Transition sprint, as we bring the rest of team over
- And then we have four "full" sprints
 - Joe's on a Honeymoon sprints 5-6
- This is a total of 335 SPs as our baseline SP budget
- And we "spend" 2820 hours to do it
 - 60 hours/person/sprint

Sprint	1	2	3	4	5	6	7	Total
Hours	240	240	480	480	468	432	480	2820
SPs	30	30	45	60	58	52	60	335

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Adjusting the Count

- What we want, though, is how many SPs we can dedicate to SirJeff's stuff...
- So, we make adjustments to the count

Step	What's Going On	Avail SPs
1	Calculate Total Capacity (what we just did)	335 SPs
2	Need a Release Sprint, so lose last Sprint's worth	275 SPs
3	SPs to Maintain SouvSite after Sprint 2 (10%, or 21 SPs)	254 SPs
4	SPs for Chores (30%, or 76 SPs)	178 SPs

- So, we have 178 SPs to dedicate to SirJeff's stuff in this release...
- Let's figure out how to use them

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SP Budgets for Epics

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- Rely on the “wisdom of the crowds” again
 - Talk to team
 - Talk to Stakeholders
 - Innovation Games (Luke Hohmann)
- Do S/M/L estimation game at the Use Case level
 - Maybe budget 75/150/250 or 100/150/200 to the different sizes
- Maybe do some initial analysis and extrapolate using S-shaped curve
- Goal is to get a budget, and use agility to deliver within this budget
 - The low-level strategic agility the PO “owns”
 - Don’t want to cut yourselves short here – want to have a chance to succeed

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S-Shaped curve analysis for use cases...

- If we know SPs for “backbone”, can just multiply by 3
- If we know “all the stuff we want”, then just multiply by 3 (because we know the must-haves)
- Otherwise, make a guess based on size of Use Case (how many moving parts)

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What the Team Thinks

- “Buy an e-Ticket”
 - Backbone is 6 Large stories = 48 SPs, so need 144 SPs
 - Looks like an initial version of this is a M-Sized Use Case, so need 150 SPs
 - So, we want 150 SPs
- “Check Status of Flights”
 - Don’t really know how hard this is
 - If data is already in CUTLASS, is a really small Use Case
 - Willing to dedicate 50 SPs, but
 - 10 SPs dedicated to figuring out CUTLASS interface (need this anyway, for Buy an e-Ticket)
 - 40 SPs for Check Status, but no guarantee of making it
- “Pilot Timesheets”
 - Have no idea, but want to do 20 SPs worth of investigation

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Negotiating the Budgets

- Note that the Team thinks it needs 220 SPs, but the Capacity calculations show we only have 178 SPs to play with – Oops... Now what?
- Negotiation, arriving at the following table... and we also got Business Values from SirJeff for the ones he cares about...

Capability/Item	BV	Baseline
Buy an e-Ticket	80%	108SP
Investigate CUTLASS interface/capabilities		10SP
Investigate the basics of Pilot Timesheets	10%	20SP
Check Status of Flights	10%	40SP
SouvSite Maintenance (before Release Sprint)		21SP
Chores (before Release Sprint)		76SP
Release Sprint (includes SouvSite Maint and Chores)		60SP
Total	100%	335SP

risky

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Developing the Contract

Vision/Roadmap

Required Capacity and Price

Release Plan

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Release Goal, Strategy, Game Plan

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Finally, we have the info we need

- So, Release 1 Goal
 - Initial Release of CatAir website. Must be able to sell a ticket on the web
- Strategy:
 1. Learn How to use CUTLASS
 2. Get a minimal “Buy e-Ticket” as fast as possible
 - We know SP budget is risky
 - But this Epic is the most important
 - But don’t gold-plate – pay attention to “minimal”...
 3. Then, if Sprint 6 hasn’t begun yet, start “Status of Flights”
 4. Focus Sprint 6 on determining how hard “Pilot Timesheets” are
 5. If it’s possible to get a releasable version of “Status of Flights” *after* investigating “Pilot Timesheets”, do so
 6. If not, get more functionality for “Buy e-Ticket” (make it prettier, for instance)
- Both the Goal and Strategy are negotiated, and agreed to, with SirJeff and the Scrum Team (including PO, of course)

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danube And we Come Up With a Game Plan

Release Game Plan (SPs)

The chart displays the distribution of StoryPoints (SPs) across seven sprints. The tasks are stacked from bottom to top: Chores, SouvSite Maintenance, Investigate CUTLASS Interface, Investigate Pilot Timesheets, Check Status of Flights, Buy an e-ticket, and Release Activities.

Sprint	Chores	SouvSite Maintenance	Investigate CUTLASS Interface	Investigate Pilot Timesheets	Check Status of Flights	Buy an e-ticket	Release Activities	Total
1	5	0	0	0	0	10	0	15
2	5	0	0	0	0	10	0	15
3	5	0	0	0	0	10	0	15
4	5	0	0	0	0	10	0	15
5	5	0	0	0	0	10	0	15
6	5	0	0	0	0	10	0	15
7	5	0	0	0	0	10	0	15

- Note that we decomposed the Release Sprint into pieces, too, in order to manage “Release Activities”

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Any Questions?

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Monitoring the Release

Release BurnUp
 Earned Value Metrics
 Earned Business Value
 Tracking SirJeff's Release

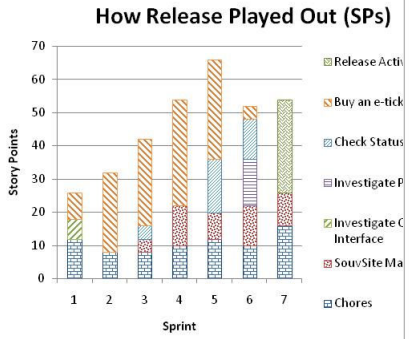


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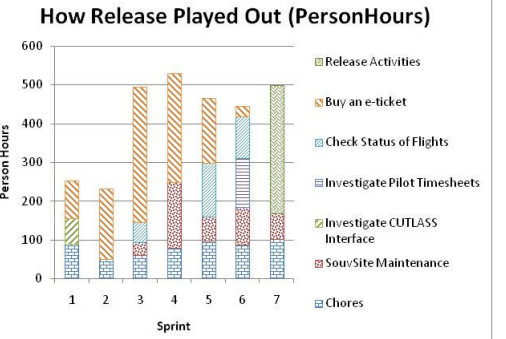
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How the Release Actually Played Out


How Release Played Out (SPs)



How Release Played Out (PersonHours)



Sprint	1	2	3	4	5	6	7	Total
Hours	253	233	495	530	467	445	498	2921
SPs	26	32	42	54	66	52	54	326



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Release BurnUp

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Release BurnUp

Correction
In Sprint 3

- We are delivering capabilities and Stories
- But what we are managing is (largely) StoryPoints
- The BurnUp graph shows our production of StoryPoints
 - It shows our SP velocity graphically
 - It shows how many SPs we have "to go"
 - It shows our inventory of SPs that are "ready to go"
- And it's easy to calculate

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Earned Value Metrics (SPI and CPI)

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Agile Earned Value Management (AgileEVM)

- First of all, it's not about value as in "goodness" or "business value" – it's value as in "actually done" – and the emphasis is on "earned"
- EVM is about measuring project performance, comparing budgets to actuals in scope, schedule, and resource
- The genius of AgileEVM is the realization that stories are an appropriate thing to measure and count for EVM purposes *
 - In fact, stories are better than the activities we normally measure in software... done is better defined
 - The unit of value that we are measuring is the "earned StoryPoint"; that is, we are measuring stories that are "done"

* <http://www.solutionsiq.com/PDF/Sulaiman-AgileEVM.pdf>

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The Metrics

- CPI answers the question “are we paying what we expected for each SP?”
 - The ratio $CPI = (\text{baseline } \$/SP) / (\text{actual } \$/SP)$
 - In our case, \$ is person-hours, and (baseline \$/SP) is calculated cumulatively, sprint by sprint
- SPI answers the question “are we getting the SPs at the rate we expected?”
 - The ratio $SPI = (\text{actual } SP/\text{sprint}) / (\text{baseline } SP/\text{sprint})$
 - In our case, our baseline velocity is also calculated cumulatively, sprint by sprint
- We like CPI and SPI to be ≥ 1 in standard EVM
- You’ll have to trust me on the derivations* 😊

*http://danube.com/system/files/Monitoring+Scrum+Projects+with+AgileEVM+and+Earned+Business+Value+_EBV_+Metrics.pdf

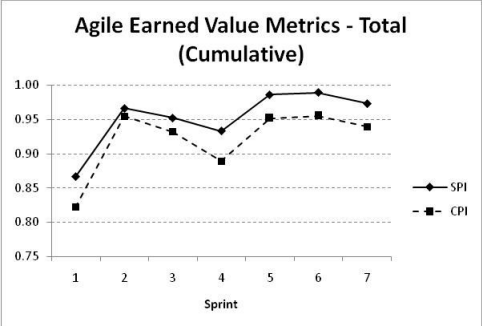


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CPI and SPI for SirJeff

- This graph shows our SPI and CPI as we move through the sprints
- The values are calculated cumulatively, not one sprint at a time



Sprint	1	2	3	4	5	6	7	Total
Hrs (B)	240	240	480	480	468	432	480	2820
SPs (B)	30	30	45	60	58	52	60	345
Hrs (A)	253	233	495	530	467	445	498	2921
SPs (A)	26	32	42	54	66	52	54	326



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danube AgileEVM is Very Powerful, and Very Dangerous

- The metrics give good early information allowing appropriate adjustments in scope and resources
- However, trying to modify behavior to “get good metrics” is very risky
 - Everything is constrained except quality, so it is the only variable to play with
 - Playing with quality invariably forces Technical Debt
 - Not reporting “real” actuals in time spent (to improve CPI) leads to working at an unsustainable pace, which also forces Technical Debt
- **Playing with these metrics makes Technical Debt a real possibility**

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Earned Business Value (EBV)

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However...

- In an agile project, we are not paid to produce StoryPoints, we are paid to produce Business Value
- Business Value is subjective, and based on our Stakeholder's needs for this Release
- Here are the features with BV in this release

<i>Goal/Feature/Capability</i>	<i>BV</i>	<i>Baseline</i>
Buy an e-ticket	80%	108 SP
Investigate the basics of Pilot Timesheets	10%	20 SP
Check Status of Flights	10%	40 SP


- As we deliver Stories within a feature, the Earned Business Value (*EBV(feature)*) increases, and is a percentage of the Feature's Business Value (*BV(feature)*)



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Value in Software

- It is a truism in software that if you don't have:
 - A test to prove something works, and
 - A regression test to prove it continues to work, then
 - You don't really have the feature
- So, the basis of proving you have value is running tests. You need a regression test suite to prove you still have the value.
- There are many ways of using this fact, but on the next page we'll discuss Earned Business Value (EBV).




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Calculating Earned Business Value

- Each capability has its own Business Value
 - “S-shaped” curve if there’s an architectural component
 - “80/50” curve if there isn’t
- It is the PO’s job to be smart, and agile, enough to stay on this curve
 - But the curve is very forgiving
 - Is based on baseline SP budget for Capability
 - Minimal releasability is 2/3 of the way down, so have a checkpoint...
- And total EBV just uses the BVs of the capabilities themselves to calculate a weighted total as we go along



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Here’s our Philosophy

- For each capability, our Release Plan has a Baseline SP budget
- Our goal is to use agility to provide business value the best way we can
 - 80/20 rule is valid in hindsight
 - 80/50 rule is reasonable to expect as we move forward
 - Actually two different curves
 - We’ll see them next
- We expect the last third (EBV > 90%) of our Baseline budget for each capability to be our buffer
 - Using agility, we manage each buffer
 - And tradeoff SPs between capabilities
 - When in a pinch, must be calm and focus on agility and “doneness”
- This is kindof like the Buffer Management from TOC...



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"S-Shaped" Curve

- That have an architectural element to them
- In our Case, we use this curve for
 - Buy an e-ticket
 - Check Status of Flights

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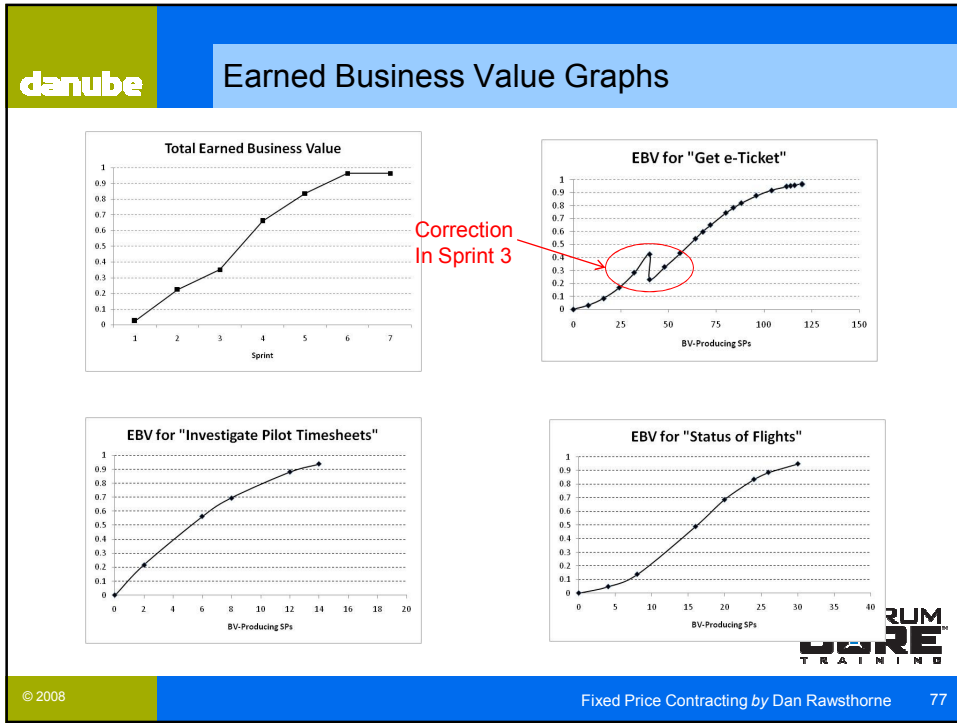
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"80/50" Curve

- Without an architectural element to add this Release
- In our Case, we use this curve for
 - Investigate the Basics of Pilot Timesheets

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Any Questions?

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Summary

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- Large projects can be managed by a hierarchy of scrum teams
 - Development Teams
 - Integration/Management Teams
- The “Wisdom of the Crowd” and the “Law of Large Numbers” allow us to some pretty sophisticated and accurate release Planning
 - But we must be agile as we do the work
 - It’s a baseline strategy, not a plan
- We can monitor against this baseline with some pretty good metrics

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Any Final Questions?



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Thank You Very Much!



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